General Architectural Planning Guidebook:

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I. Floor Numbering:

a) The first livable floor should be numbered as follows:
round down(Distance of first livable floor bottom slab from ground / floor-to-floor height of typical floor) e.g. In Bellissimo, first livable floor would roundup (17.5/3.2) = 6, and then numbering would continue.
b) The entry/ground level above the highest podium/basement level should be numbered P0 and then as we go lower towards grounds, the digit no. should increase viz. the lowest level of the podium if there were 4 levels of podium would be P4.

II. Parking Numbering:

a) Each parking will have a four-digit numbering, as follows:
Digit No. – Digit component of the Podium / Basement / Ground numbering eg. P4 parking would have parking nos. 4 _ _ _. Ground parking would have 0 _ _ _. The remaining three digits will start from the 1st parking as 001 and then move along the said level. E.g. P3 podium with 98 parking would have numbering 3001 – 3098. Then P4 podium numbering will again start from 4001-4_ _ _.
b) In the event that there are different types of parking on a given level (e.g. Stilt vs. Open), the same will be qualified by an alphabetical character at the end of the 4-digit parking number e.g. An open parking on ground level would be 0001O (alphabet O) and a stilt parking on the same level would be 0009S. Please note that the 4-digit numbering system will not restart on a given

level for different types of parking i.e. we cannot have 0001O an 0001S. The 4-digit parking numbers on a given level will be mutually exclusive.

III. Road Design:

a) Minimum width of a (one-way) driving lane should be 3 m and max. 3.5 m
b) Minimum width of a footpath / walkway designed for regular use should be 1.5 m and max. 3 m
c) Minimum width of a footpath / walkway / walking track designed for recreational use should be 1.2 m and max. 3 m
d) Minimum width of landscape buffer for tree growth should be 1.5 m and minimum width of landscape buffer for shrub/lawn growth should be 0.9 m
e) The Guard house at entry should be on the same side of the road as the 'Driving In' Direction.
f) The footpath at entry should be on the same side of the road as the 'Driving In' direction, to enable the Guard house to control both car and pedestrian entry simultaneously.
g) Preferably, there should be a tree / shrub / lawn buffer between the driving land and the footpath / compound wall.

IV. Pooja room in Residential

All residential units shall have either:
a) Pooja ledge (1'6" depth., 3'-5' width, starting from 3 ft' above ground level to ceiling)
b) Pooja room – small rooms with sliding door having area of min. 20 sq. ft. and sufficient for a person to sit down and do Pooja

V. Utility / Drying Balcony in Residential

All residential units shall have a utility and drying balcony area. It can either be an area accessible through a common passage and having light and ventilation or can be accessed though a toilet (preferably the common toilet). The utility area shall have a drain and a water connection for the washing machine.

VI. Location of common toilet in Residential

Preferably, the common toilet of a residential unit should be so located such that it can be combined with the bedroom which does not have an attached toilet, if desired by the purchaser.

VII. No. of toilets

a) Residential:
Minimum no. of toilets will be equivalent to the no. of full bedrooms, with one toilet serving as the common toilet (accessible from a common area outside a bedroom).
In Luxury, a powder toilet will be compulsorily provided and all bedrooms will have attached toilets. In Hi-end and Aspirational, a powder toilet can be considered.

b) Office: As per latest National Building Code (NBC) norms
c) Retail: As per latest National Building Code (NBC) norms, including special norms for Multiplexes/cinemas.

VIII. Type and Size of Residential Toilets:

a) Luxury - Min. size of 50 sq. ft. for all toilets (except powder toilet, which can have min. size of 20 sq.ft.). The master bedroom toilet should be either 4-fixture (shower cubicle, bathtub, WC, basin) or better.
b) Hi-end - Min. size of 40 sq. ft. for all toilets (except powder toilet, which can have min. size of 20 sq.ft.). The master bedroom toilet should be either 4-fixture (shower cubicle, bathtub, WC, basin) or better.
c) Aspirational - Min. size of 35 sq. ft. for all toilets (except powder toilet, which can have min. size of 15 sq.ft.). Master bedroom toilet should be minimum 40 sq. ft.
d) Others - Min. size of 30 sq. ft. for all toilets

IX. Size of Residential Bedrooms:

a) Luxury – Minimum size of 140 sq. ft.; bedroom should have walk-in wardrobe if feasible.
b) Hi-end – Minimum size of 140 sq. ft.; master bedroom should have walk-in wardrobe if feasible.
c) Aspirational - Minimum size of 120 sq. ft. for full bedroom and 50 sq. ft. for half-bedroom
d) Others - Minimum size of 80 sq. ft.

X. Type and Size of Residential Kitchen:

a) Luxury – Minimum size of 140 sq. ft.; Preferably two-opposite sided platforms; separate store area of min. 25 sq. ft.; separate dry and wet kitchen, if feasible
b) Hi-end – Minimum size of 100 sq. ft.; Preferably two-opposite sided platforms; separate store area of min. 25 sq. ft., if feasible
c) Aspirational - Minimum size of 70 sq. ft.; Preferably two-opposite sided platforms; separate store area of min. 20 sq. ft., if feasible; Kitchen entry not to be visible from entry and from passage between entry to living
d) Others - Minimum size of 48 sq. ft.; Preferably two-opposite sided platforms; Kitchen entry not to be visible from entry and from passage between entry to living

XI. Residential finishing to be provided:

a) Luxury – Bare shell, with finished toilets, balconies, lift lobbies and common areas, servant areas and utility/drying balcony. Electrical wiring up to DB and sleeves in room walls to allow for laying of electrical cables. Main door provided. Security System (linked to Central Security) room should be provided. Home automation and air-conditioning system may be provided.
b) Hi-end –Finished with best amenities including Flooring, Security, Air-conditioning, Home Automation etc. Finished toilets, balconies, lift lobbies and common areas, servant areas and

utility/drying balcony. Fitted kitchen and/or wardrobes may be provided. Ample no. of electrical points will be provided (no light fittings). False ceiling will not be provided. No loose furniture to be provided.

c) Aspirational – Finished toilets, Doors, Windows, Finished Balcony, Flooring, Kitchen Platform, limited no. of light points (no light fittings). Security System will be provided. Air-conditioning, home automation, fitted kitchens may be provided.
d) Others - toilets, Doors, Windows, Finished Balcony, Flooring, Kitchen Platform, limited no. of light points (no light fittings). Security System, fitted kitchens may be provided.

XII. Air-conditioning for Offices:

a) Hi-side air-conditioning to be provided, with equipment up to the AHU room.
b) Water-cooled air-conditioning systems to be preferred over air-cooled systems. However, air-cooled systems may be used if water supply is a concern / issue.
c) Common (central) air-conditioning system to be installed to reduce installed capacity required and increase redundancy in Excelus and iThink. Individual systems preferred in Supremus.

XIII. Generator Backup for Offices:

a) 100% backup generators to be provided for estimated power consumption of the office space and common area.
b) Common (central) generator system to be installed to reduce installed capacity required and increase redundancy.

XIV. Club House/ Recreational facilities:

a) Residential: Must-have for Luxury, Hi-end and Aspirational. Optional for Others.
    a. Must-Have's
        i. Swimming Pool
        ii. Coffee Shop / Restaurant with Kitchen
        iii. Multipurpose Hall
        iv. Business Centre
        v. Gymnasium
        vi. Indoor Games Room (Cards, Table Tennis, Chess, Carom, Snooker/Pool etc. or some of these)
        vii. Toilets (and Changing Rooms for Swimming Pool)
        viii. Library
    b. Can-Have's:
        i. Tennis Court
        ii. Volleyball Court
        iii. Badminton Court
        iv. Basketball Court
        v. Cricket Nets
        vi. Squash Court
        vii. Steam

viii. Jacuzzi
ix. Multiple Pools – Adult, Children, Tots, Jacuzzi etc.
x. Yoga / Meditation hall
xi. Convenience Store
xii. Lounge / TV room
xiii. Conference Rooms
xiv. Children's crèche

b) Office: Optional
   a. Must-Have's
      i. Business Centre
      ii. Gymnasium
      iii. Indoor Games Room (Cards, Table Tennis, Chess, Carom, Snooker/Pool etc. or some of these)
      iv. Toilets
      v. Library
      vi. Concierge Desk

   b. Can-Have's:
      i. Auditorium / Multipurpose hall
      ii. Swimming Pool (with changing rooms)
      iii. Coffee Shop / Restaurant with Kitchen
      iv. Tennis Court
      v. Volleyball Court
      vi. Badminton Court
      vii. Basketball Court
      viii. Cricket Nets
      ix. Squash Court
      x. Steam
      xi. Jacuzzi
      xii. Yoga / Meditation hall
      xiii. Convenience Store
      xiv. Lounge / TV room
      xv. Conference Rooms

c) Retail: Not required

XV. Niches

a) Residential – Should be incorporated in bedroom design where permissible and feasible based on elevational requirements and area constraints.
b) Office – Should be incorporated across external façade where permissible and based on elevational requirements.

XVI Facilities to be provided on typical floor in Office Building:

a) Toilets, Male and Female
b) AHU Room
c) Server room
d) Precision AC ledge
e) Smoking Ledge
f) Pantry

XVII. Structural grid in Office Buildings:

a) The structural should be either 8.5 m x 8.5 m or 11 m x 11m to facilitate parking below the building (if feasible)
b) The columns along the external façade should be 300 mm away from the external façade to ensure that the façade is clear and columns are not visible from outside.

Design Management Policy ~~(Scheduling Policy)~~

The goal of the Design team is to ensure 'innovative, value creating design which can be executed in a timely and cost effective manner'. In order to achieve this, one of the key improvements areas for the design team is to ensure orderliness and timeliness of the drawings issued by us. Some of the areas to work on include:

a. Process/rigor of Concept – IDD – FDD – VFC being followed.
b. VFC Design being released in packages (not piecemeal drawings).
c. Getting agreement from consultants on the agreed Project Plan.
d. Tracking of deliverables as per the agreed Project Plan.

In addition, following areas require continuous improvement:

1. **Quality of drawings** – technical content and completeness to ensure understandability of each issued drawing.
2. **Clarity of Specifications** - The material (or workmanship) specifications need to be finalized and released along with the respective FDD package. Design Specifications need to be finalized keeping in mind whether aesthetic or functional part of the material matters. If the aesthetic matters, we should specify both functional as well as aesthetic elements (e.g. Brand, color etc.). If only functional matters, we should restrict ourselves to only specifying the functional specifications / performance outcomes desired and let the detailed specifications be decided by Procurement (without further reference to design). We need to avoid the twin dangers of over-specification (leads to less ability to negotiate) and under-specification (leads to choice of materials which do not serve the desired functional and/or aesthetic goals). We should be prepared to have Design Specifications which are somewhat less 'direct' than Procurement specifications – Procurement Specifications can be finalized by taking Design Specifications, ensuring they are met, and then adding any further constraints, based on negotiation process.

Other Clarifications:

1. Concept plan needs to be shared with:
    a. Construction Management (Level 0 or 1 in-charge of the project) to enable their inputs w.r.to Constructability and allow them to start planning w.r.to site logistics and sequencing.
    b. Marketing – For inputs
    c. Procurement – For inputs & value engineering
    d. Cost Management – For inputs & Value engineering + preparation of Concept budget

e. Planning - For inputs & Value engineering + preparation of Concept Schedule

2. Based on inputs from 3 (and assuming most of them are incorporated), IDD & FDD to proceed ahead. FDD packages to be shared with following to enable reconciliation with plan, appropriate budgeting and value engineering:
   a. Cost Management – For value engineering & FDD budget finalization.
   b. Procurement – For information only.
   c. Planning – For information only.
   d. Construction Management - For information only.
3. The dates mentioned in the project plan are the dates when the said drawing package is to be delivered to site in hard copy, after appropriate checking / verification.
4. It is important to have the Project Consultants aware about the overall construction schedule of the project (and not just the design deliverable schedule). Their knowledge of the overall picture will enable them to suggest changes to the package schedules which may enable better project progress while allowing them to best utilizing their resources. We should be open to this discussion PRIOR to the finalization of the agreed design deliverables schedule.
5. Every wing (and its immediate construction vicinity e.g. up to expansion joint) shall be treated as a separate project for purposes of drawing release and monitoring. All areas outside building line in any given site shall be clubbed together as a project under 'Infrastructure – Name of Project as per Marketing'.
6. All drawings for any given project, can be broken into 6 packages – all drawings are required to be release/incorporated into one of these 6 packages (e.g. Building lighting will form part of the facade package):

   i. Enabling Works (will include all works required to be done prior to start of excavation works e.g. site setup, site protection etc.)
   ii. Civil
   iii. Services
   iv. Façade
   v. Finishing
   vi. Landscape
7. The various types of drawings forming part of the overall requirements for a project are:
   a. Concept (project level)
   b. IDD (project level)
   c. FDD (package level)
   d. Tender drawings / BOQ (package level, maybe further broken down if a package is procured in multiple tenders)
   e. VFC drawings (tender level) / Shop drawings - VFC drawings which are submitted by vendor and vetted by Design team (tender level).

8. Irrespective of any other policy/norm, till date of issue of excavation VFC drawings to site, the Design Deliverables timelines (as per policy) will be the control/governing factors of the schedule ('forward pass'). Thereafter, the timelines of Construction Activities will become the control/governing factors of the schedule ('backward pass').
    a. Till issue of excavation VFC: Design Deliverables → Contract Deliverables → Mobilization Lead time / Material Supply Lead Time → Construction timelines.
    b. Post issue of excavation VFC: Design Deliverables ← Contract Deliverables ← Mobilization Lead time / Material Supply Lead Time ←Construction timelines.
    (In case of conflict between Construction Timelines and Procurement / Design Deliverables, we shall first try to optimize the construction duration to the extent possible without changing the marketing possession date (and ensuring that the construction completion date is no later than marketing possession date – 50% of specified buffer). Thereafter, if the conflict continues, the period required to meet the schedule shall be reduced 2/3rd from the specified Design timelines and 1/3rd from the specified Procurement timelines).
9. All coordinated drawing packages are to be released to any concerned internal stakeholder (site, other operation departments) only the the Project Designer (Architect). Project Engineer will provide all drawings to the Project Designer.

The basic rules governing the preparation of the project plan and setting of drawing deliverable targets are as below:

1. Design Guidelines:

The various projects shall be classified into small, medium, large and very large based on the matrix below

For purposes of classification of the project under the 'project type', please take the construction area of the entire phase (including all wings, parking etc.), not individual wings

Project Type	**Total Construction Area (sq. ft.)**
Small	< 2 L
Medium	2 L – 8 L
Large	8 L - 25 L
Very Large	> 25 L

For Very Large projects, the total construction area shall be taken for 'applicable phases', if any.

In order to achieve the aforesaid goals, the suggested time durations for various sequential *Design Deliverables* is as follows:

i. (all figures in weeks; all figures are period from the previous milestone; Day 0 is the day on which land is in the company's possession)

No.	Project Type / Milestones	Small	Medium	Large	Very Large
1	Land Info	1	1	2	2
2	Concept Design	5	6	8	12
3	IDD	5	6	6	8
4	Excavation VFC	2			
5	Civil FDD (work shall start immediately after IDD)	4	6	8	10
6	Services FDD	6	6	8	8
7	Façade FDD	NA	4	4	4
8	Finishing FDD	8	8	8	8
9	Landscape FDD	As per site requirements, subject to FDD being received minimum of 24 weeks prior to start of landscape-driven construction activities.			

ii. In case of Small projects or buildings with height of 30 m or less, no Façade FDD shall be issued and the relevant details shall be combined with the Finishing FDD.

iii. Marketing Package shall be made available to marketing within 4 weeks of completion of Concept Design or 2 weeks before soft sales launch, whichever is later. Launch can be done at any time after completion of Concept Design, subject to readiness of sales office/sample flat (if applicable) & Marketing Package (as per aforesaid timelines).

iv. Design shall have to coordinate for sales office / sample flat to be ready by Sales launch - dates to be discussed and agreed between marketing and design.

v. Tender drawings + BOQ's + material specifications:
   a. In case of Civil tender, the tender drawings + BOQ's + material specifications are to be made available within 2 weeks from completion of IDD;
   b. In case of the Windows component of the façade, tender drawings + BOQ's + material specifications for the same are to be made available within 6 weeks from completion of Civil FDD;
   c. For All other tender drawings + BOQ's + material specifications for respective packages to be made available within 2 weeks of completion of respective FDD.

vi. Construction (VFC/Shop) drawings:

a. Civil
   - Sub-Structure VFC: 2-4 weeks from Civil FDD. Maybe broken into 2 parts if there is more than one basement.
   - 50% Super-Structure VFC: 6-8 weeks from Sub-Structure VFC (provided VFC drawings are received at site at least 2 weeks prior to scheduled completion of plinth).
   - 100% Super-Structure VFC: 12-14 weeks from 50% Sub-Structure VFC. 100% Super-Structure VFC shall be combined with 50% Super-Structure VFC for Small projects and buildings < 30 m.

b. Services
   - Shop Drawings: 6-8 weeks from award of respective tender.
   - VFC (where applicable): 6-8 weeks from Services FDD.

c. Façade (if not merged with Finishing):
   - Windows VFC (where applicable): 12 weeks from Civil FDD.
   - Shop Drawings: 6-8 weeks from award of respective tender.

d. Finishing
   - VFC: 6-8 weeks from Finishing FDD.

e. Landscape
   - VFC: 6 weeks from Landscape FDD, subject to same being a minimum of 6 weeks prior to start of landscape-driven construction activities.
   - Shop Drawings (where applicable): 6-8 weeks from award of respective tender.

2. Procurement Guidelines:

i. In case of *Contract Deliverables*, following would be the applicable lead times:

(Format a; b where a is period in days for Contract award from date of availability of tender drawings +BOQ; where b is period in days for mobilization of contractor at site with adequate resources from date of Contract award viz. mobilization period):

Project Type / Nature of Contract	Small	Medium	Large	Very Large
Procurement awarded prior to start of Sub-structure civil works (e.g. enabling works, shore piling, excavation)	2-7;2-7	2-7;2-7	2-7;2-7	2-15;2-15
FML Procurement or PML Contract with significant portion of materials (>80% of value) in scope of Contractor	45;30	45;30	75; 30	75; 30
All other Procurement	30;15	30;15	45;15	45;15

ii. In case of Procurement which involved significant off-site production in the scope of the Contractor, following additional norms shall apply post date of Contract Award:

(days from previous milestone)

Contract / Milestone	Elevators	Façade (excluding windows)	Windows	Other such Procurement (eg. DG, Home Automation)
Shop Drawings	42-56	42-56	NA	NA
Major material arrival commencing at site	120-150	120-180	42-56	42-84

iii. In case of electrical procurement, it may be noted that the electrical conduiting works for up to the first 5 slabs (including any basement slabs) may be done by a specialist conduiting agency (and not necessarily the main electrical contractor). While it is preferable to have the main electrical contractor do the electrical conduiting from the 1st slab itself, this exception maybe used in case of the start of electrical conduiting is leading to unsustainable timelines for design and procurement of the services package (or any part thereof).

iv. Materials Procurement:

a) Only key materials (those forming top 80% of the estimated value spent) will be tracked in the Final Schedule.
b) Material Specifications are needed -15 days from date of start of procurement (to Cost Management).
c) Material quantities are needed -3 days from date of start of procurement (from Cost Management).
d) Procurement Lead Times (Period between Start and End of Procurement viz. negotiation and finalization period):

Estimated Value of the said Material for the Project (INR Lacs)	Procurement Lead Time (No. of Days)
< 5	3
5 – 50	7
50 – 500	15
> 500	30

e) Delivery Time (Period between End of Procurement and delivery of material onsite) shall be shall be as per the 'net' lead times defined by Procurement department + a 20% variance buffer.
f) Material Procurement Schedule shall be derived from Indenting Schedule and forwarded to Procurement Dept. in advance for helping them in their Procurement planning & negotiations.
g) For material procurement in Lodha's scope, where material has to be procured from outside the country, min. period of 180 days is to be considered between material specification availability and date of delivery of said material at site. For local procurement, standard lead times to be considered as per "*Procurement Lead Time.doc"* from the Procurement department.

PLANNING DEPARTMENT

The Object :

1. To act as back bone of the organization
2. To conceptualize project and plan for the minor to major milestone of the project
3. To visualize various stages from commencement of the projects to completion of the project.
4. To provide the details of the project to internal department.
5. To coordinate with external agencies like architects, structural consultants, services consultants etc.
6. To provide the input to the project management team to run their site and complete the project within the prescribed time and other resources.

The Structure of Planning Department :

1.	Director	
2.	Vice President	
3.	Architect Cell	1. Chief Architect 2. Senior Architect 3. Architect 4. Draughtsman
4.	Project Coordination Cell	1. Manager – Project Coordination 2. Project Engineer – Coordination 3. Engineer – Project Coordination 4. Sr. Engineer / Engineer – Scheduling
5.	Contract Cell	1. Contract Manager 2. Assistant Contract Manager 3. Contract Engineer 4. Assistant Contract Engineer 5. Quantity Estimator

Director :

To guide the planning team to achieve the highest standards in the industry.

Vice President :

1. To coordinate between the various cells of the planning department
2. To coordinate with the heads of the department in the organization
3. To coordinate with the heads of the outside consultants.
4. To coordinate with the heads of the various projects.
5. To personally supervise the progress of the sample flat.
6. To finalize the tender and award of the contract.
7. To take decision about the appointment of the external consultants for the project in consultation with the Director.

The Architect Cell :

- Architectural design
- Landscape design

1. Prepare a design brief to be given to the consulting architect during the first meeting for the project based on the feed back from the marketing.
2. To prepare a brief note based on the liaisoning issue to be taken care during the project planning and forward it to the consulting architect.
3. To interact regularly with the representative of Architect's office during the design development stage.
4. To finalize the plan in consultation with VP as well as Director.
5. To calculate carpet, built up area and saleable area (as per the project based on company's policy).
6. To make available the material to be provided to Communication department for the preparation of the brochure and publicity like elevation, rendered plans, different views, design brief etc.
7. To coordinate with marketing department and provide them the final document containing all the details which is essentially required for the sale.
8. Finalization of specifications of architecture and landscape.
9. Issue of VFC drawings (all architectural, structural, services & landscape)
10. To organize meeting among the consultants to expedite the project progress at all the levels.
11. To attend weekly / fortnightly (depending upon the size of the project) site meetings to resolve the site related issues along with the project coordinator from project coordination cell.
12. To ensure that all the necessary services are incorporated in the architectural drawing.
13. To arrange for AS BUILT drawing from architect.
14. To prepare the agreement plans.
15. To obtain BOQ's from architect & landscape architect.
16. To communicate design brief to landscape architect.
17. To coordinate & finalize design with landscape architect.
18. To coordinate on site with reference to architecture & landscape issues.
19. To obtain tender drawings for architecture and landscape as per schedule.

Project Coordination Cell :

- Services
- Structure
- Cost monitoring
- Schedule monitoring

1. To involve himself into the design development and start a thought process from services point of view.

2. To ensure the timely appointment of consultants other than the Architects.
3. After finalization of the basic plan interact with structural consultants and finalize a structural scheme.
4. After finalization of basic scheme of structure involve the services consultants and take their design basis report.
5. To finalize a list of drawings with respect to the project, circulate it to all the consultants and take the individual's confirmation for the dates and regularly follow up for the same.
6. In achieving the target as decided above resolve any issue (municipal / legal / sale / site restriction / cost effectiveness etc.) in consultation with the immediate senior in the department.
7. To attend weekly / fortnightly (depending upon the size of the project) site meetings to resolve the site related issues along with the project Architect from architect cell.
8. Issue of building and activities initiation certificate.
9. To prepare project construction schedule in consultation with Project Manager / GM (Project) / VP (Project).
10. To prepare with the help of scheduling engineer a project schedule with the specific requirements: - (1) Drawing schedule (2) Indenting schedule (3) Contractor appointment schedule.
11. To monitor the project with respect to the prepared schedule & work with site planning to overcome issues.
12. To issue the progress report as required by the sale customer care department.
13. To ensure that all the necessary services are incorporated in the architectural drawing & coordinate with architect cell for issue of VFC drawings for services & structure.
14. To obtain BOQ's from all structural & service consultants.
15. To coordinate on site respect to services & structural issues.
16. To finalize service related specifications.
17. To obtain tender drawings for structure & services, as per schedule.

The Contract Cell :

1. To prepare a project budget & monitor the same on monthly & contract-wise basis.
2. To maintain a data base of contractors.
3. To maintain a standard rate list for the routine kind of work.
4. To take the feed back from the coordination cell for the future works contracts to be awarded for the respective project.
5. Arrange from the respective consultant the required tender document.
6. To calculate the quantities for the tender purpose – Quantity survey.
7. To carry out a rate analysis for the activity and interact with the person who is handling the negotiation for those items of work with contractors.
8. Study the tender documents and ensures the contents are satisfactory with respect to the work and fitting into the parameters based on which we want to issue the work orders.
9. To float the tender for the required work, preliminary interview of the contractor and preparation of the comparative statement.
10. To give feed back to Senior / VP and arrange the meeting with team for negotiations.

11. To note the discussion during the above meeting and ensure its incorporation into the work orders.
12. Award of the work order.
13. Forward the copy of the work orders to site – PM, Accounts, Purchase (as per the case).
14. To ensure the quantity reconciliation with the help of site & stores.
15. To award contracts within cost parameters set by the Project Coordination cell.
16. To award contracts within quality specifications specified by QA cell.
17. To prepare & forward BOQ on quarterly basis, for all projects requirements, to purchase at least 30 days prior to start of quarter.

Policy to Send the Architect's Certificate for Marketing Dept.

1) Architect's progress certificate will be issued to marketing dept. between 1st to 5th of every month.

2) The co-ordination to arrange the certificate from architect, will be done by Lodha project architect.

3) The schedule engineer will provide the progress report and proform certificate to be arranged from the architect to Lodha project architect.

4) The schedule engineer will submit this certificate to marketing and inform V.P. (Planning).

Policy to Send the List of Amenities to Legal Dept.

The Planning department will provide the list of amenities to legal department.

Key Services for Livability

In addition to the general services which are normally covered by the MEP consultants viz.

1. Electrical
2. Plumbing
3. HVAC
4. Drainage
5. STP
6. Fire Fighting

Following important services/elements are necessary to plan at the design stage itself for the necessary functionality/livability of the development:

1. Security (including access control for humans and vehicles)
2. Home automation (if applicable)
3. IBMS with relevant details about what elements/aspects will it cover (if applicable)
4. Voice and video connectivity between parts of the development viz. video door phone OR intercom
5. Mobile signal boosters (applicable in all buildings with height > 30 m)
6. Data & voice access systems viz. cable TV, internet (including Wi-Fi / broadband), landline phone system
7. Garbage & solid waste management
8. Lighting control of common areas
9. Piped gas (if applicable)
10. PA system (if required as per CFO requirements)
11. AV systems (including music / videoconferencing) in key common areas
12. Scent (and other ambience) control systems in key common areas

All **Project Architects** & the **MEP Team** are requested to ensure that these issues have been thought off/addressed in all projects currently under construction and appropriate measures are taken to implement the same before possession. **Cost Management team** will also ensure that the costs in relation to these are built into the budget and MEP package team from procurement will put efforts into finding competent vendors for the same.

Design Inputs for Sale agreement

Floor Plan

The plan will be a wall diagram fit to scale printed on the Legal Size paper.

The number must be designated in each unit at appropriate location e.g. in residential at the main entry, in commercial in the centre of the shop, in Industrial unit centre of the industrial unit. Each staircase will have Up or Down arrow properly marked on it. Lift should be shown 'LIFT'.

Below this Name of the Project, Building Name, Wing will appear e.g.

LODHA PARADISE, THANE	VICTORIA	_____ WING	_____ FLOOR	FLAT NO. _____

A note should mention at bottom left hand corner. '*Plan not to the scale. For accurate measurements of carpet area, please follow polyline method. The carpet area is calculated assuming unfinished surfaces and any finishes may reduce the physical area accordingly. Carpet area may vary by +/-3% on account of construction or design tolerances.*"

Saleable area or Built-up area not to be stated on any plan. Internal room dimensions not be stated on any plan.

1. Agreement plans for all typical levels to be shown separately.
   Ex. Typical floor plan/ Refuge floor plan/ ground floor plan etc.
2. Every type of unit will have separate agreement plan.
   Ex. If there are 4 units on typical floor, it will have 4 agreement plans.
3. Unit number and respective floors will be mentioned on the plan.
   Ex. Unit no.1 , Floors – 2^{nd} to 4^{th} .
4. Each unit will have separate hatch for RERA and EBVT area.(preferably RERA with slant lines and EBVT with cross lines)
5. We will not mark or show Private garden or any other exclusive use area in any manner in agreement plan or any other document.
6. Room nomenclature in agreement plan needs to be same as approval plan.
7. Non editable file which will be sent to CC will have unit type as file name.

Any deviation in above points to be approved by design HOD

Refer **Annexure B** plans

Lodha Logo will appear on the plan. Project Architect should ensure that the agreement plan should match with the municipal approved plan. In the event that there is any difference between the sale plan and the approval plan, it should be ensured that the agreement floor plan is as per the approval plan in terms of boundaries (descriptions can be added / deleted).

Agreement Amenity List (should be used for RERA)

a. Should be fact based and avoid flowery language / subjective terms (eg. grand, designer, finest finishes). Should be simple and cover facts, not over the top.
b. Should include all relevant physical amenities / facilities stated in the marketing amenity list.
c. Rooms or spaces within a unit should not be mentioned – this is covered by unit plan in agreement.
d. Specific details of building or unit like area / no. of levels should not be mentioned.
e. Brands should be stated only where they are extremely important from the perspective of the customer and should always be marked with * with explanation at bottom:' * - or equivalent'.
f. See '*Amenity & Facilities List – Format guidelines'*
g. Should be finalized by level 0/1 of Architecture who is involved with the project.
h. Amenity and Facility list cannot be amended by Legal (at insistence of Sales, CC, Marketing or otherwise) unless Design approves/recommends the same.

Carpet Area Calculation

The carpet area in approval plan should match the carpet area being mentioned in the agreement (+/-3%) (does not apply to EBVT area/net area which will not be shown in approval plan). It is joint responsibility of Lodha's internal Project Architect and Lodha's Liaison incharge of the project to ensure this.

Note:

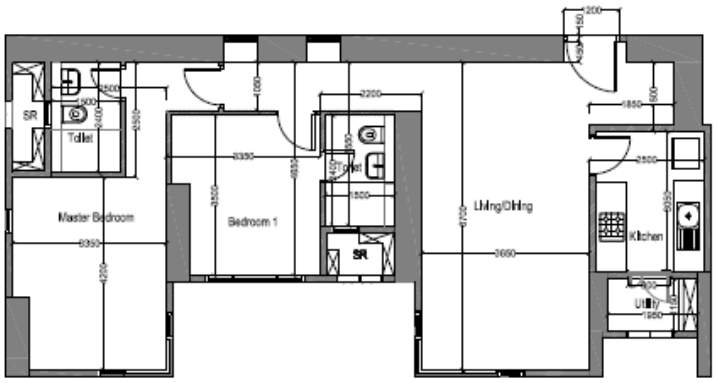
i. Legal to ensure that in the agreement it is captured that 'the Purchaser/Lessor is aware that certain parts of the building shall be allocated for exclusive use of certain users/residents. The price of this unit has been determined taking this into consideration and the Purchaser/Lessor waives his right to raise any dispute in this regard.'

3 to 6 months prior to OC, Design shall take measurement certification of carpet and EBVT area of all typical and atypical units (including minor details like door jamb etc.) from the Project's External Architect (local)/similar and the said plans will be kept with the Project Architect (Lodha) (see Annexure A for sample). The said plans shall be made available to CC before/at time of commencement of possession.

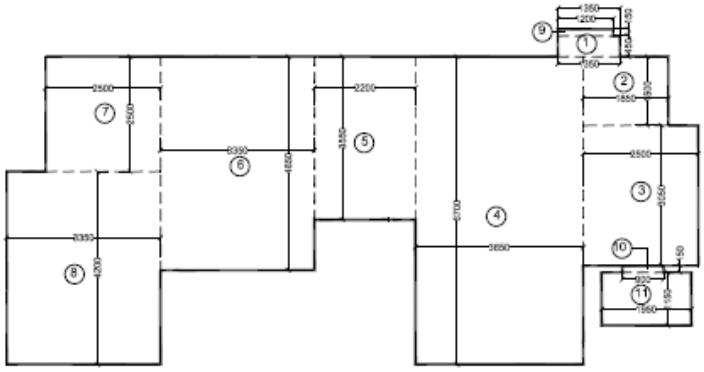
Multiple units combined together for single buyer

Preferably, in such cases, agreement for each unit has to be registered separately. However, these can also be registered together, at request of Customer Care/Sales, provided all above guidelines are adhered to and specifically, if there is a passage between the units in approval same should not be shaded and nor should it be made part of the carpet area.

Annexure A



FLOOR PLAN



CARPET AREA DIAGRAM & STATEMENT

LODHA PARKSIDE WING A	FLAT NO.4 - 2BHK ZONE -1 (8th - 21st)					
	X	Y	CARPET AREA		EVBT AREA	
			SQ. MT.	SQ. FT.	SQ. MT.	SQ. FT.
1	1.35	0.45	0.61			
2	1.85	1.50	2.78			
3	2.50	3.05	7.63			
4	3.65	6.70	24.46			
5	2.20	3.55	7.81			
6	3.35	4.65	15.58			
7	2.50	2.50	6.25			
8	3.35	4.20	14.07			
9	1.20	0.15	0.18			
total			79.35	854.12		
				855		
10	0.90	0.15			0.14	
11	1.95	1.15			2.24	
total					2.38	25.59
						26.00

CARPET AREA = 855 sq.ft. (A)

EVBT AREA = 26 sq.ft. (B)

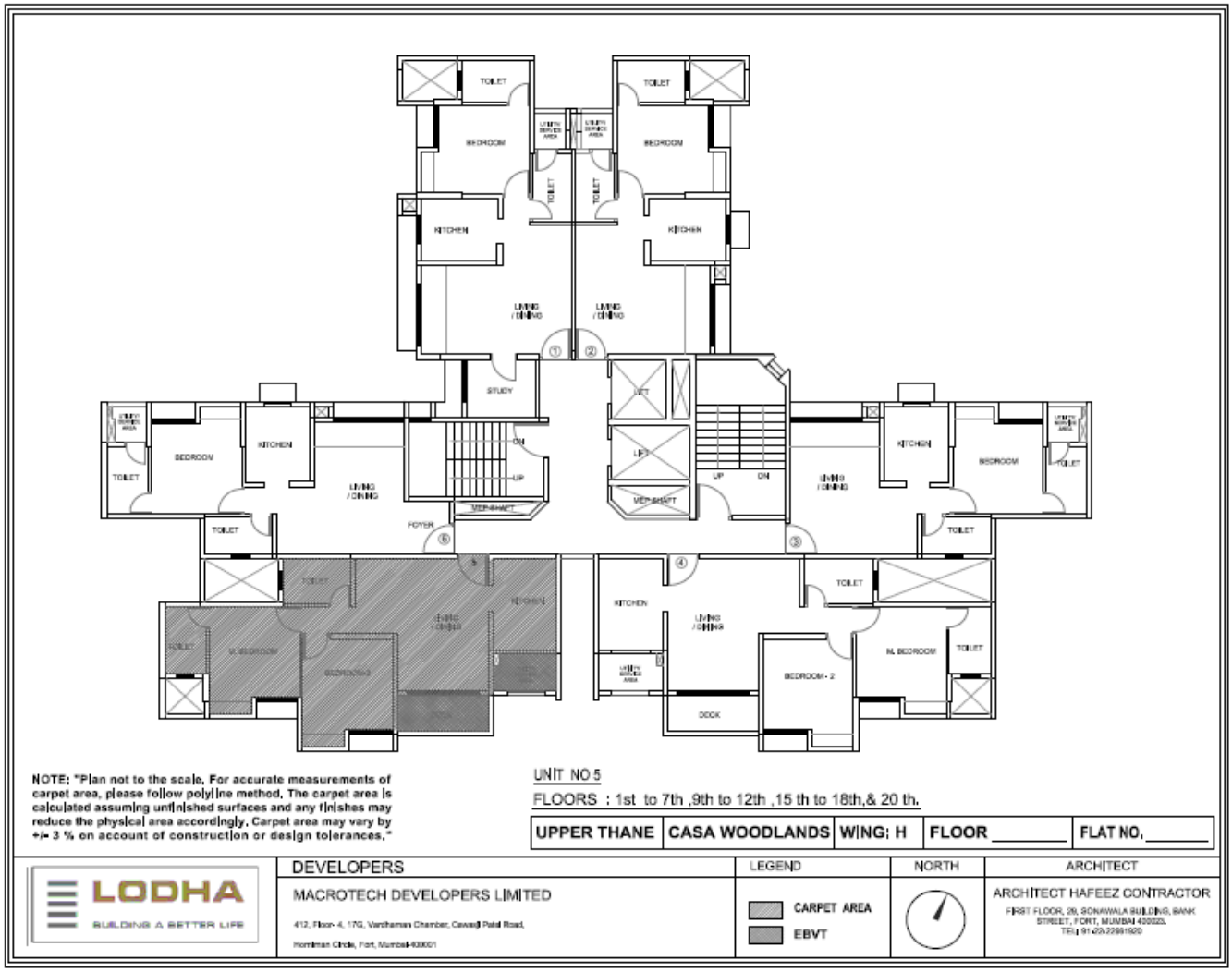
(A+B) = 881 sq.ft.

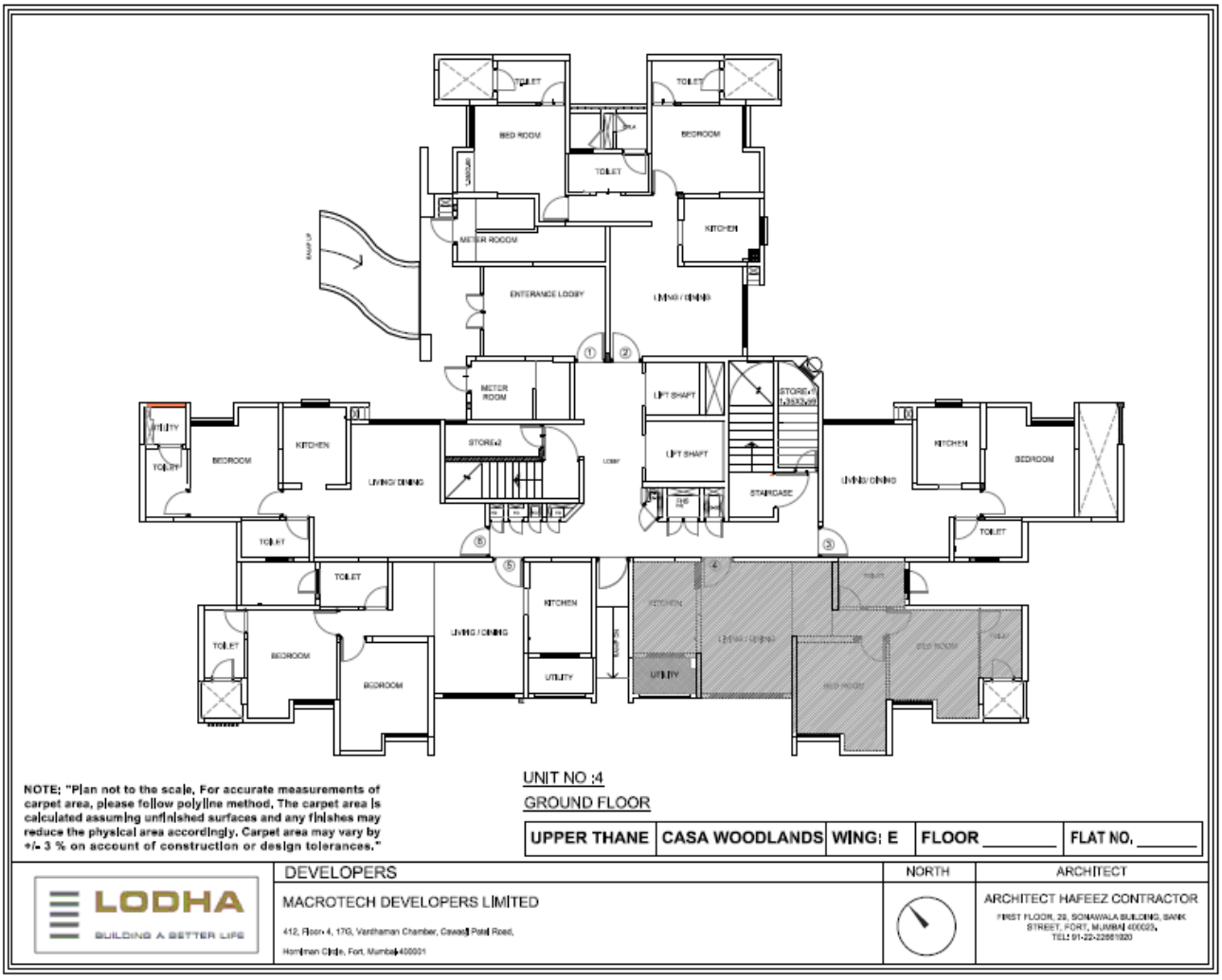
Note: All dimensions are measured on bare shell basis. Please ensure that following areas are taken into account while calculating Carpet + EBVT area: door & window jambs, decks/balconies, area under internal walls and thickness of wall finishes (upto 300 mm for toilet ledge walls and upto 50 mm for other walls) on external walls which are not included in Carpet or EBVT area. Variation as specified in agreement may occur due to design and construction tolerances. For area comparisons, please plot on computer software like AutoCAD for accurate measurements.

N

LODHA PARK
LODHA PARKSIDE
WING A - FLAT NO.4
ZONE 1 - 8TH TO 21ST FLOOR

Annexure B


TOILET
BEDROOM
KITCHEN
LIVING / DINING
STUDY
FOYER
UP
DN
M. BEDROOM
BEDROOM - 2
DECK
NOTE: "Plan not to the scale, For accurate measurements of carpet area, please follow polyline method, The carpet area is calculated assuming unfinished surfaces and any finishes may reduce the physical area accordingly. Carpet area may vary by +/- 3 % on account of construction or design tolerances."
UNIT NO 5
FLOORS : 1st to 7th ,9th to 12th ,15 th to 18th,& 20 th.
UPPER THANE
CASA WOODLANDS
WING: H
FLOOR _____
FLAT NO. _____
DEVELOPERS
MACROTECH DEVELOPERS LIMITED
LEGEND
CARPET AREA
EBVT
NORTH
ARCHITECT
ARCHITECT HAFEEZ CONTRACTOR


TOILET
BED ROOM
BEDROOM
KITCHEN
METER ROOM
ENTRANCE LOBBY
LIFT SHAFT
STAIRCASE
LIVING / DINING
UTILITY
NOTE; "Plan not to the scale, For accurate measurements of carpet area, please follow polyline method, The carpet area is calculated assuming unfinished surfaces and any finishes may reduce the physical area accordingly. Carpet area may vary by +/- 3 % on account of construction or design tolerances."
UNIT NO :4
GROUND FLOOR
UPPER THANE
CASA WOODLANDS
WING: E
FLOOR _____
FLAT NO. _____
DEVELOPERS
MACROTECH DEVELOPERS LIMITED
NORTH
ARCHITECT
ARCHITECT HAFEEZ CONTRACTOR

Parking Guidelines

Lodha's internal standards:

4WP – Four wheeler parking; 2WP – Two wheeler parking

Segment	Total No. of Car Parks Required	Max constructed area per covered car parking (sq. ft.)	Max. Cost per sq. ft. for covered parking	Ratio of different types of 4WP bays
Luxury	No. of 4WPs per unit = no. of bedrooms per unit + 10% guest 4WP (subject to max. = lower of no. of flats/5,25 per marketing project (MP))	425	1200	10% Very Large, 90% Large
Hi-end	No. of 4WPs per unit = no. of bedrooms per unit (-) 1 + 10% guest 4WP (subject to max = lower of no. of flats / 10, 50 per MP)	425	1200	100% Regular
Aspirational	Studio / 1 BHK – 1 4WP / unit 2 BHK - 1 4WP / unit 2.5 BHK - 1.25 4WPs / unit (allocation shall be 1/unit for the lower 75% units and 2 per unit for the upper 25% units) 3 BHK and larger - no. of bedrooms per unit (-) 1 + 10% guest 4WP (subject to max = lower of no. of flats / 10, 50 per MP)	350 (avoid basements as far as possible)	1000	100% Regular
Casa	Studio / 1 BHK – 1 4WP / unit 2 BHK – 1 4WP / unit 2.5 BHK – 1 4WP / unit 3 BHK – 1.25 4WPs / unit (allocation shall be 1/unit for the lower 75% units and 2 per unit for the upper 25% units) 4 BHK or larger – No. of 4WP per unit = (no. of bedrooms / 2) + 10% guest 4WP (subject to max = lower of no. of flats / 20, 100 per MP)	325 (avoid basements as far as possible)	NA	100% Small
Crown	Studio / 1 BHK: 1 2WP / unit 2 BHK: 1 4WP / unit + 5% guest 2WP (subject to max = lower of no. of flats / 20, 100 per MP) + 5% guest 4 WP, (subject to max = lower of no. of flats / 20, 25 per MP)		NA	100% Small
Excelus	1 4WP per 1000 sq. ft. of leasable area + visitor = 10% of	375	1200	1% Very Large (min.

	Occupier 4WP, subject to cap of (max (100, 5% of Occupier 4WP)) + 2WP (as per availability) + 1 bus 4WP for every 1,00,000-2,00,000 sq. ft. of leasable area.			5), 99% Regular
Supremus	Premium & Luxury locations: 1 4WP per 1000 sq. ft. of leasable area Mid-Income & Affordable locations: 1 4WP per 1300 sq. ft. of leasable area + Visitor = 10% of Occupier 4WP, subject to cap of (max (100, 5% of Occupier 4WP))+ 2WP (as per availability)	425	1200	100% Regular
iThink	1 4WP per 1300 sq. ft. of leasable area + visitor = 10% of Occupier 4WP, subject to cap of (max (100, 5% of Occupier 4WP))+ + 2WP (as per availability) + 1 bus 4WP for every 1,00,000 - 2,00,000 sq. ft. of leasable area.	350 (avoid basements as far as possible)	1000	100% Regular
Signet (Formerly Boulevard) (Retail & Offices)	**Dedicated parking:** Mid-Income & Affordable locations: 4WP for ~10% of total no. of units + 2WP for rest of units Premium & Luxury locations: 4WP for ~65% of total no. of units + 2 WP for rest of units **Pay & Park** (within 10 min walking distance from building entrance lobby) which can be used for owners as well as visitors: Mid-Income & Affordable locations: 4WP = ~25% of no. of units + 2WP = ~25% of no. of units Premium & Luxury locations: 4WP = ~35% of total no. of units Total no. of units = all office and retail units as per design intent	375	NA	Mid-Income & Affordable locations: 100% Regular; Premium & Luxury locations: 100% large

	(prior to any merging of units)			
Experia (Mall)	1 4WP per 350-450 sq. ft. of leasable area	350	1200	100% Medium (note: if targeted to luxury customers, 100% Large)

Parking bay Sizes (LxW):

- **Small Car Bay– 4.5 m x 2.3 m** for parking of small cars like Honda City, Toyota Etios (max vehicle length: 4.45 m, max vehicle width – 1.8 m, max vehicle height – 1.85 m)
- **Regular Car Bay – 5 m x 2.4 m** for parking of regular cars like BMW 5 series, Mercedes E-Class, Audi Q7 (max vehicle length: 5 m, max vehicle width – 1.95 m, max vehicle height – 1.85 m)
- **Large Car Bay – 5.5 m x 2.5 m** for parking of large cars like BMW 7 series, Mercedes S-Class Regular, Mercedes GL 350 SUV (max vehicle length: 5.25 m, max vehicle width – 1.95 m, max vehicle height –1.85 m)
- **Very Large Car Bay – 6.25 m x 2.75 m** for parking of very large cars like Mercedes S Class LWB, Maybach, Rolls Royce Phantom, Hummer (max vehicle length: 6.1 m, max vehicle width – 2.2 m, max vehicle height – 2.1 m) (in case of automated car park systems, these maybe accommodated on surface parking)
- **2WP – 2m x 1m**
- **Bus bay – 12 m x 3.3 m**

In case of dead wall (i.e. obstruction to opening of door), bay size to be increased by 0.2 m per side obstructed. Further, in case of odd no. of cars between columns, add 0.05 m in car bay adjacent to each column.

1. The aforesaid cost guidelines are based on costs as on 1.1.2010 and will need to be revised annually based on inflation (eg. the CPI (Consumer Price Index)).
2. If regulatory requirements for no. of parking is higher (including any visitor parking requirement), try to optimize and then same has to be provided for. For such incremental car park over Lodha internal standards, stack/tandem parking is permitted. The extra car parks available for regulatory reasons (i.e. beyond Lodha internal standards) to be classified as usable (including those that maybe stack or tandem) and not usable. The additional usable car parks can also be alloted if there is consumer demand for the same.

Notes

a) Parking refers to 4-wheeler parking, unless otherwise stated.
b) Please avoid 'stack/ tandem/similar' types of parkings for car parks as per Lodha internal standards (**however, such 'stack/tandem' can and should be used for the incremental car parks over Lodha internal standards i.e. for regulatory standards – (less) Lodha internal standards, since it is cheaper to use these types rather than build regular car parks**). For Lodha internal standards, if there is significant difficulty in doing normal car parks, max. 5% of total no. of customer allocable parkings (calculate on no of tandem/stack car parks, not bays) can be tandem/ stack etc. provided both parkings are allocated to the same unit.
c) In case of any 'fractional' no. of parkings per unit (eg. 1.25, 1.5 etc.) as per norms, the aforesaid table shall have the rounded down no. of car parks allocated for each unit (eg. If 1.25 car parks per

unit, allocate 1 per unit in aforesaid table) and the surplus designed car parks shall go into the count of 'Surplus usable car parks allocable to any unit for extra value'.

d) Atleast 30 days prior to commencement of possession of a given plant, Design will provide CC with a parking plan and info as per **Annexure A** for each plant in AutoCAD which will enable CC to allocate the parkings to customers. The parking layout or nos cannot by changed by Design after this information is communicated to CC and hence, Design should verify that said slots are/will be physically usable (no impediments like columns, service pipes etc.). CC shall ensure that the parking no. are informed to customer in *possession letter*. The *possession letter* will contain clarity that '*the aforesaid parking slots are your permanent slots. Since construction maybe ongoing at site, customer maybe allotted alternative slots, on temporary basis, for upto 12 months from your Key Handover – the details of the alternative slots, if applicable, will be informed to him at the time of your Key Handover'*.
Prior to giving the parking allocation to CC, Design will take inputs from CM on the aforesaid permanent parking plan and ensure that CM is aligned wrt the readiness of the permanent parking slots. Linked to this, CM will need to ensure that all permanent parking for a given wing are ready within 11 (not 12) months from date of first PDL for that building and in the interim, sufficient no. (basis likely possessions + atleast 50% of the final no. of guests parking) of temporary parking slots are available for the use of the customer. The temporary parking slots will be fixed (till the permanent slot is made available) and will not be on first-come-first-serve / rotational basis. Further, temporary car parking slot allocation is linked to KHO and not usage of the unit / parking. HPM shall be responsible for ensuring that the temporary parking allocation is done in a timely (at KHO) and thoughtful manner (working with CM to ensure that the temporary parking is safe, reasonably accessible (travel distance from building lobby to further car park not to exceed 500 m walk) and in hygenic condition).

e) Parking bay slot marking to be done with yellow/other appropriate colour thermoplastic paint in continuous full line on all sides of parking slot (no L or T marking).

f) Cat-eye reflectors – to only be placed at the point where driveway abuts a parking bay (and nowhere else).

g) Car-stopper to be provided only for parking bay's along the building perimeter/parapet at distance of 600 mm from the parapet/perimeter (only for Luxury projects).

h) Clear height required for parking is only 2.1 m (except if service vehicles are expected to enter the said parking level). Overall parking level FTF height ought not to exceed 3 m. This does not apply to PPL/GCP where norms of PPL/GCP shall apply.

i) To allow easy opening of doors, the columns should finish within 1 m of the start of the length of the parking bay. The balance length upto end of parking bay should be free of structural encumbrance. Also, column should be offset by atleast 200 mm from the driveway.

j) In case of special types of parking slots eg. those with electric charging points, there should generally be 'non sold' parking viz.guest/visitor parking and should be marked with signage as 'Electric Car Parking only. Please use with consideration for your fellow electric car users.'

k) Parking Numbering:
   i. Each parking will have a five-digit numbering, as follows:
   First two digits. – Podium / Basement / Ground name eg. P4 parkings would have parkings nos. P4xxx. Ground parking would have first two characters as G0. The remaining three digits will start from the 1st parking as 001 and then move along the said level. Eg. P3 podium with 98 parkings would have numbering P3001 – P3098. Then P4 podium numbering will again start from P4001-P4xxx. This may need to extend to 6 digits, if a given level has more than 999 parking slots eg. P30001-P32000.
   ii. In case of designated two wheeler parking, the number shall follow with a suffix T at the end of the aforesaid number eg. P4001T. The two wheeler numbering series for each level shall start after the end of the 4-wheeler numbering series for that level eg. If there are 40

4 wheelers on a level and 10 2-wheelers, it shall be P4001-P4040 for 4 wheelers and P4041T-P4050T for 2-wheelers.

iii. In case of parking plan to be given to CC as per d above, following detail will be inserted after each parking number (not to be used for signage or any external communication) '- Parking Type abbreviation' (see Annexure A for abbreviations). Eg. P4001 will be written as 'P4001-CR' in the parking plan.

iv. In case any car parks are meant to be used for guest / service use only, the words 'Guest use only' OR 'Service use only' should be painted/stated in the parking bay at appropriate location.

l) Please also refer to the 'Podium & Basement Design Guidelines'.

m) In case of parallel parking, the slot **length** should be increased by 1 m eg. for small car parking, instead of 4.5 m, 5.5 m length should be provided and so on. Does not apply for 2 wheeler parking.

n) 4-wheeler double parking lane should not be less than 6 m and single parking lane should be 5m in width.

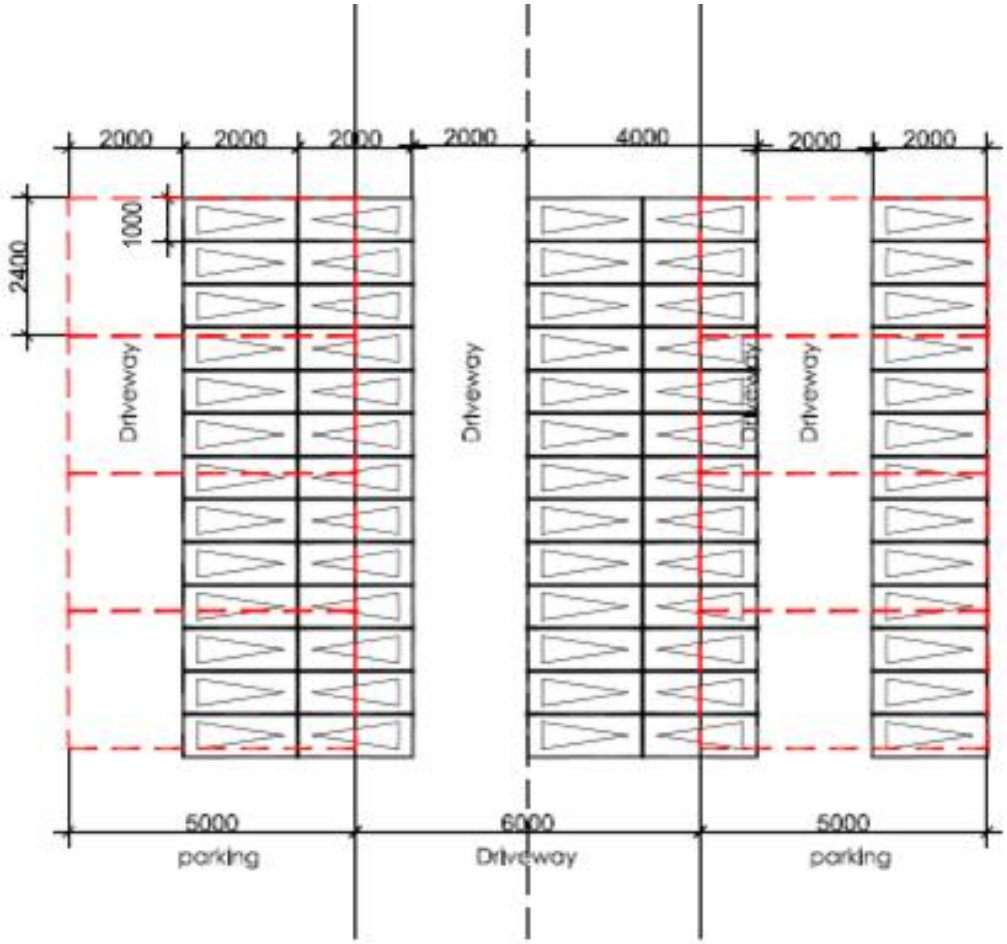
o) There should be easy, weather proof access from parking location to the lobby of the concerned building. In case of MCLP, the access can be a covered walkway of min. 2.4 m width with sufficient weather protection on the sides and top. The sides of such walkway need to be covered from top to the extent of 1/3rd of the vertical opening (i.e. if height of vertical opening is 2.1 m, the overhang from top should be atleast 0.7 m) so that the rain water ingress is avoided. Alternatively, the horizontal canopy can be extended by the same extent outside the 'core walkway zone' so that the rain ingress is cut off.

p) Entry of any parking building can be located < max. 500 m (max. 300 m for hi-end residential developments and 100 m for luxury residential developments) from the main lobby of the building which it serves. There should be a weather protected (rain and sunshine) protected walking path from the main lobby of the building to the entry of the parking building (optional in case of Casa developments). Further, no parking slot can be located > 500 m (horizontal travel distance) from the main lobby of the building which it serves.

q) While location two wheeler parking, ideally locate at dead ends (and also used off corners) so that not only the car parking bays but also the driveways can be used to maximize the 2-wheeler parking, since parking driveway for 2-wheelers can be as low as 2m for single as well as double parking. In such spots, one can fit upto 8 two-wheelers in lieu of each car parking bay (including usage of part of the driveway). (Refer diagram - I.)

r) Value engineering ratios:
   a. Ratio of Open to Total Car Parks (Open / Total Car Parks) – Maximize
   b. Area per covered car park (Total covered area for parking (including ancilliary parking and service areas) / No. of covered car parks)

Diagram – I


2000
2000
2000
2000
4000
2000
2000
1000
2400
Driveway
Driveway
Driveway
Driveway
5000
parking
6000
Driveway
5000
parking

Annexure A

Parking related information to be given by Design to CC along with plant-wise parking plan, atleast 30 days prior to commencement of possession:

Plant: _____		
Abbreviation	**Car Park Type**	**No. of usable car parks**
OR4	Open Regular	
OS4	Open Stack	
OT4	Open Tandem	
CR4	Covered* Regular	
CS4	Covered* Stack	
CT4	Covered* Tandem	
2WP	2 wheeler parking	
Total no. of usable car parks		
Of which,		
- Allocated to units as per Lodha standards**		
- Guest car parks as per Lodha standards (non-allocable)		
- Surplus usable car parks allocable to any unit for extra value		

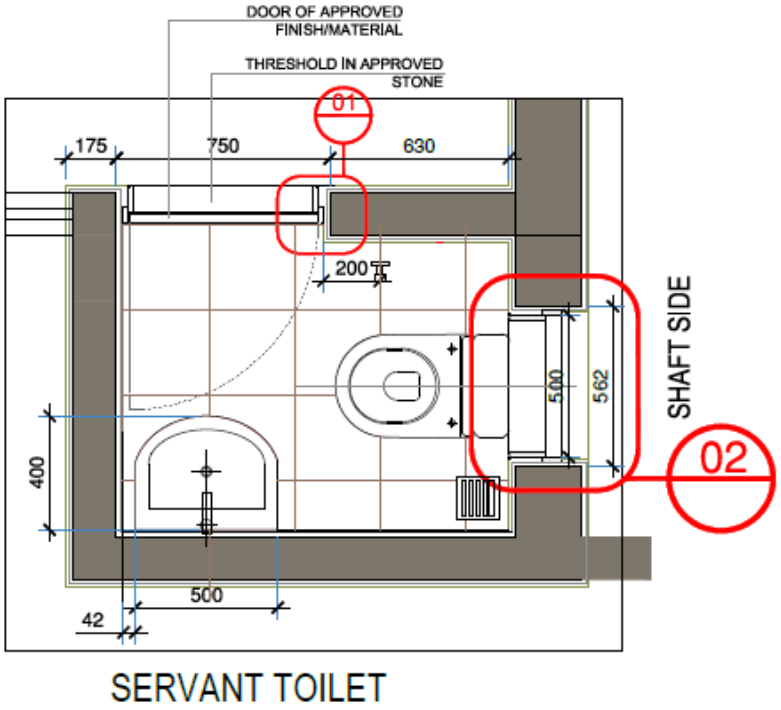
* Podium / Basement / Multi-level car park / similar

** In case of fractional allocation per unit as per Lodha policy, rounded down no. considered and surplus included under 'Surplus usable car parks allocable to any unit for extra value'

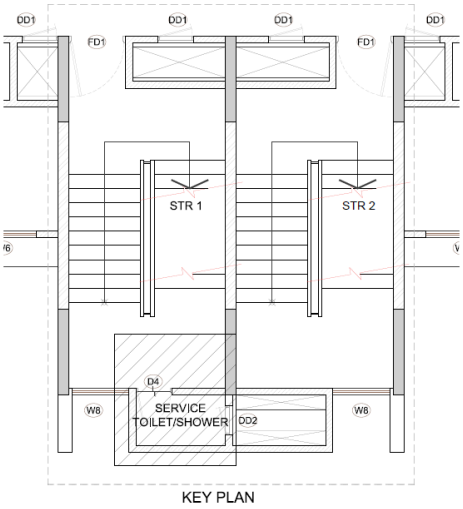
Servant's toilet(Common):

a. This policy is applicable for common servant's toilet viz. earmarked for use by two or more residences. This is not applicable for servant toilets which are meant only for use by one residence.
b. One Servant toilet + One Servant Shower for every 8 – 12 residences in non-Casa and every 30-40 residences in Casa (can go up to 50 residences in low-rise (<= 30 m) buildings). All other areas which are located in the servant toilet stack may be earmarked and sold to purchasers as stores.
c. Please see respective DC Regulations wrt the area of each servant toilet permitted free of FSI. Generally, we should not be wasting FSI for this purpose.
d. Servant Toilet shall have: (Refer Annexure A.a)
    a. European WC with flush (exposed type permissible)
    b. Washbasin with mirror
    c. To avoid spillage of water from this room to the outside/mid-landing, please ensure that there is a proper threshold at the door junction.
    d. Dado up to height of 1050/1200 mm only
    e. Door with aldrop from outside and tower bolt from inside
    f. Exhaust fan
    g. One/two bulb sockets (as needed).
    h. No electrical socket needed.
e. Servant Shower shall have: (Refer Annexure A.b)
    a. Tap with mixer
    b. Geyser (3 – 5 L running type)
    c. One towel hook behind the door
    d. A small ledge (preferably using the window ledge) where one can place soap etc. while using the shower
    e. To avoid spillage of water from this room to the outside/mid-landing, please ensure that there is a proper threshold at the door junction.
    f. Full height dado (1800 mm)
    g. Door with aldrop from outside and tower bolt from inside
    h. One/two bulb sockets (as needed).
    i. No electrical socket needed.
    j. No Exhaust fan needed

Annexure A.a :

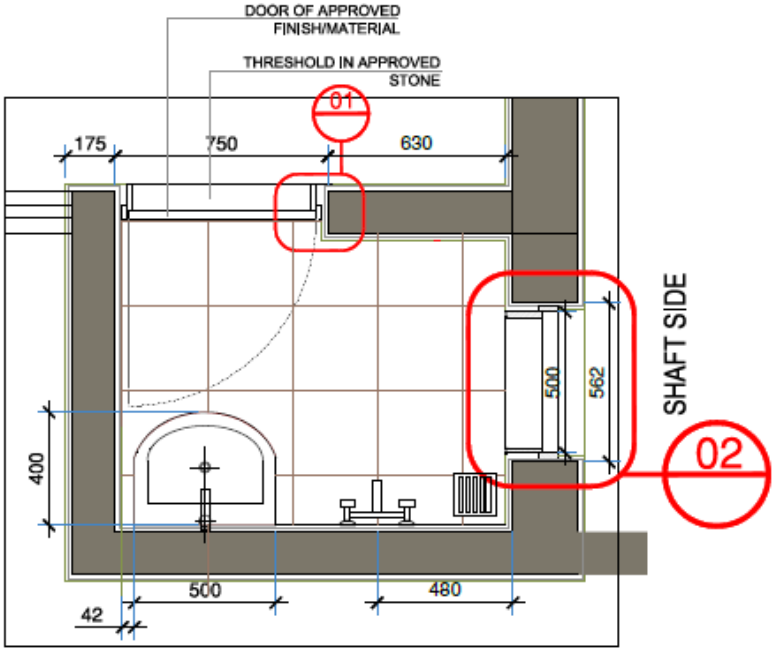


SERVANT TOILET



KEY PLAN

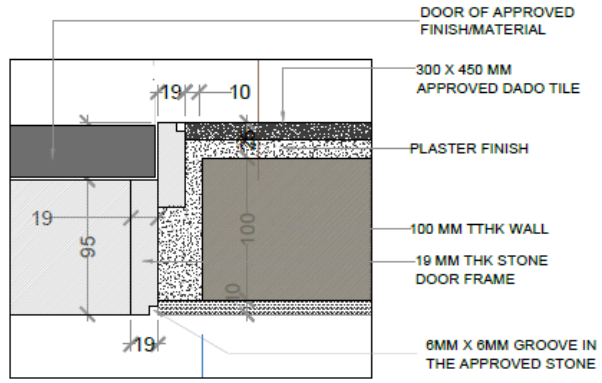
Annexure A.b :



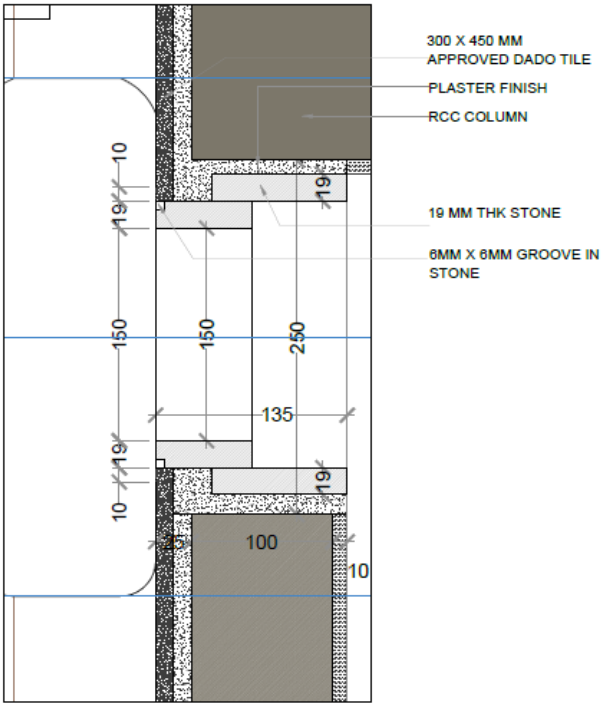
SERVANT SHOWER

Note: BUA of Toilet/Shower counted excluding common wall between Staircase & Toilet/Shower as the same shall be a part of staircase premium.

Details:



01 – DETAIL



02 DETAIL

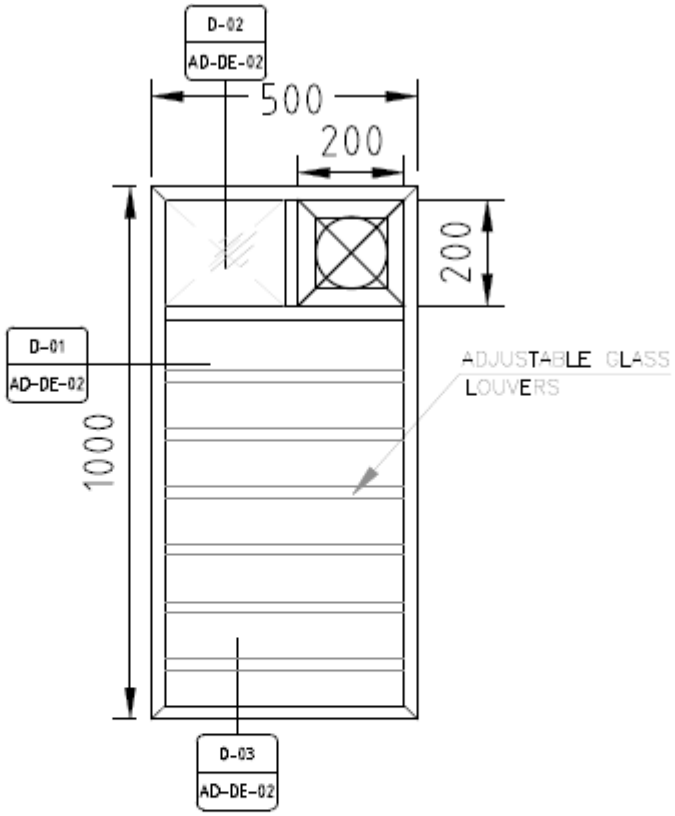
LIST OF SERVANTS TOILET FINISHING, CP SANITARY AND ELECTRICAL APPLIANCES LIST:

SERVANT'S TOILET FINISHING, CP SANITARY AND ELECTRICAL APPLIANCES LIST				
MATERIAL WITH IMAGE	DESCRIPTION	COMPANY	CODE	LANDED RATES
WASH BASIN AREA				
	WALL HUNG BASIN ;SIZE 500X400	PARRYWARE	INDUS C0471	462
	PILLAR TAP	RYBO		525
ALLIED PRODUCTS				
	BOTTLE TRAP	JOYOU	NO CODE	650
	WASTE COUPLING 32MM SIZE HALF THREAD	JAQUAR	ALD-709	235
	ANGLE COCK WITH WALL FLANGE	JOYOU	NO CODE	216
WB BRACKETS		LOCAL	NO CODE	425
CONNECTOR		LOCAL	NO CODE	230
WC AREA				
	WALL MOUNTED BASIN WITH FLUSH TANK ; SIZE 600X 380	PARRYWARE	INDUS C0265	3851
ALLIED PRODUCTS				
	HEALTH FAUCET WITH 8 MM DIA, 1 MT LONG FLEXIBLE TUBE & WALL HOOK	JOYOU	NO CODE	900
	ANGLE COCK WITH WALL FLANGE	JOYOU	NO CODE	216
WC BRACKETS		LOCAL	NO CODE	600
	6" X 6" SIZE	NOWAY	NW -005	340

SHOWER AREA				
	WALL MOUNTED MIXER	JAQUAR	FLR-5273UPR	2800
	WALL MOUNTED OVER HEAD SHOWER	JOYOU	NO CODE	410
	SHOWER ARM	JOYOU	NO CODE	660
				12520

ELECTRICAL APPLIANCES				
EXHAUST FAN	8" X 8"	INDO	FLATRON	920
GEYSER	6 LITRE GEYSER	RACOLD	PRONTO PR - VI	
FINISHING SPECIFCATONS				
FLOORING TILE	300 X 300 MM GRAY MATT FINISH TILE	BONZER	PRISMA SLATE	36
DADO TILE	300 X 450 MM - WHITE GLOSS FINISH	BONZER	PEARL WHITE	36

FAÇADE Details:

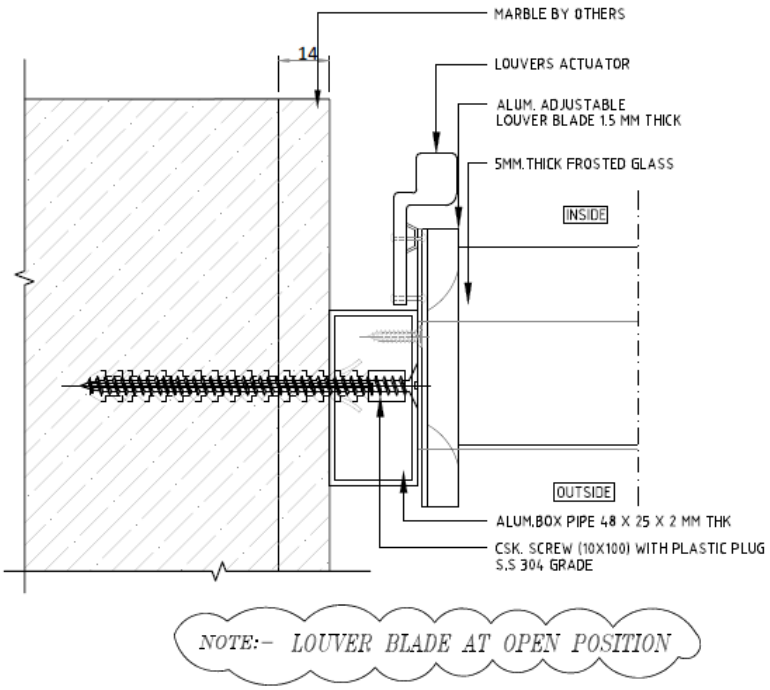


ADJUSTABLE GLASS LOUVER TOP FIXED WITH EXHAUST FAN

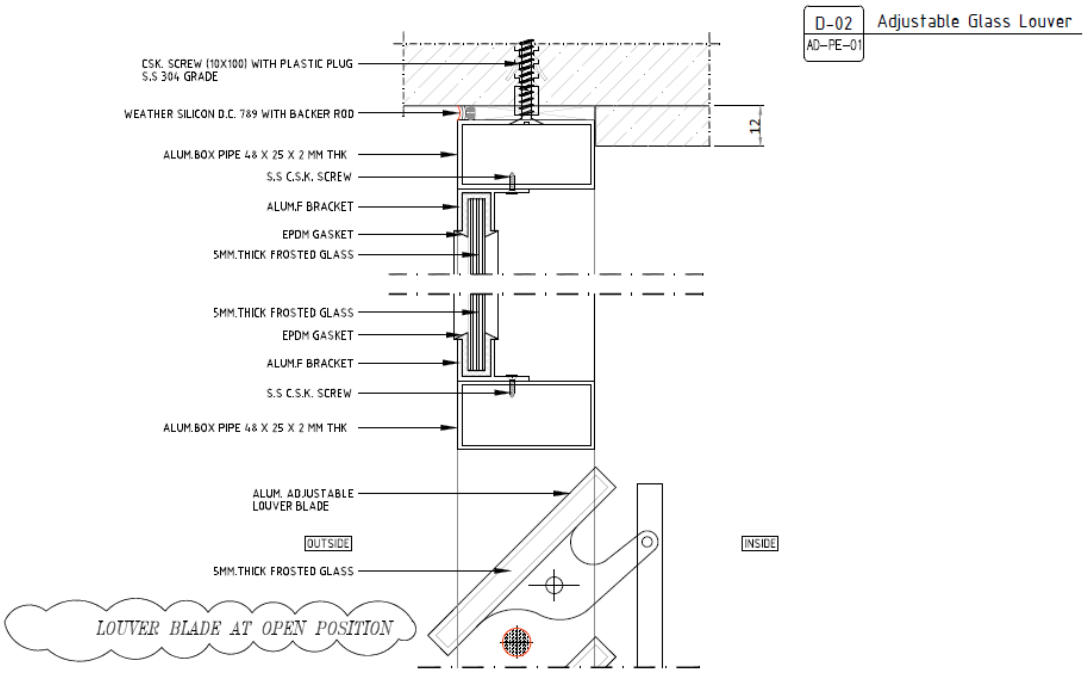
ADJUSTABLE GLASS LOUVER JINDAL OR APPROVED EQUIVALENT.					
UNIT TYPE	LOCATION	WIDTH	HEIGHT	SILL HT	LINTEL HT
V1	TOILET	500	1000	1100	2100

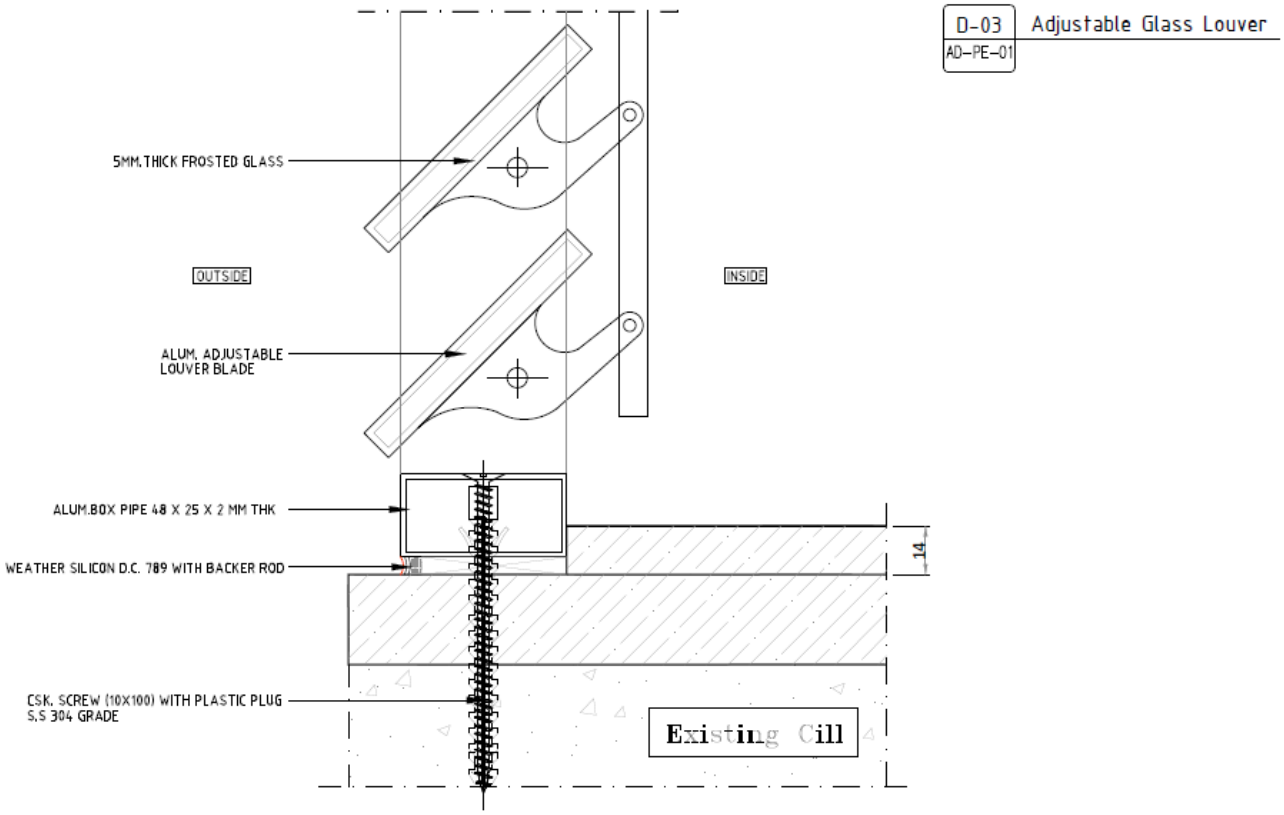
ELEVATION

D-01 Adjustable Glass Louver
AD-PE-01



NOTE:- LOUVER BLADE AT OPEN POSITION


D-02
AD-PE-01
Adjustable Glass Louver
CSK. SCREW (10X100) WITH PLASTIC PLUG S.S 304 GRADE
WEATHER SILICON D.C. 789 WITH BACKER ROD
ALUM.BOX PIPE 48 X 25 X 2 MM THK
S.S C.S.K. SCREW
ALUM.F BRACKET
EPDM GASKET
5MM.THICK FROSTED GLASS
5MM.THICK FROSTED GLASS
EPDM GASKET
ALUM.F BRACKET
S.S C.S.K. SCREW
ALUM.BOX PIPE 48 X 25 X 2 MM THK
ALUM. ADJUSTABLE LOUVER BLADE
OUTSIDE
INSIDE
5MM.THICK FROSTED GLASS
12
LOUVER BLADE AT OPEN POSITION


D-03
AD-PE-01
Adjustable Glass Louver
5MM.THICK FROSTED GLASS
OUTSIDE
INSIDE
ALUM. ADJUSTABLE LOUVER BLADE
ALUM.BOX PIPE 48 X 25 X 2 MM THK
WEATHER SILICON D.C. 789 WITH BACKER ROD
CSK. SCREW (10X100) WITH PLASTIC PLUG S.S 304 GRADE
14
Existing Sill

Guidelines for completion of common areas:

All common areas will be finished in all respects by the Design and Construction Management team, prior to handover to Facilities Management.

All capital items (except as noted in Annexure A below) required for the common areas, shall be finalized by Design and procured as part of the Const Mgmt budget (indicative list provided in Annexure B below), prior to handover.

After handover, all replacement of capital items and all operational items shall be managed / procured by Facilities Management.

In case of sales office and sample flats, the items to be handed by FM shall be handled by Admin.

Annexure A

Capital items to be procured directly by Facilities Management:

1. Music CD's for playing in common areas
2. Lodha Branded Towels
3. Lodha Branded Hand towels / napkins
4. First Aid Box
5. Security Access cards (for humans and vehicles)

Annexure B

Indicative list of capital items to be procured for finalization of common areas by Design / Project Management:

1. Art
2. Telephones
3. Flower Vases
4. All Furniture (indoor and outdoor) (to be clarified whether we are providing or operator is providing; to be procured if we are providing). In case of party hall, provide chairs (@ 50% of the hall capacity in pax.), tables (around which 25% of the hall capacity in pax. can sit) and buffet counter/service table. Generally, associate furnishing for these (like table cloth, napkins, cutlery etc.) shall be provided by the operator. Cushion to be avoided on out-door swimming pool deck furniture, to be replaced by Cane/other exterior grade seating materials.
5. Loose furniture eg. newspaper holder, towel holder, soiled towel basket etc.
6. Standardized set of pantry equipments (in case there is not a full-fledged café / restaurant with its own kitchen) i.e. 1 Microwave, 1 Mini-refrigerator, 1 Hot plate (single vessel size), 1 toaster; open racks and standardized cutlery / crockery items to be provided in pantry area. In case there is a full-ledged café / restaurant with its own kitchen, the kitchen will need to be designed to have all equipment for full-service usage (a kitchen consultant may be engaged, if needed, and design finalized based on restaurant / café capacity and key menu items). In either case, it should be clarified with FM, whether we are providing or operator is providing the equipment and these items to be procured only if we are providing).
7. Customer facing IT equipment for Business Centre (and other common areas)
8. Books for library (standardized set)
9. DVDs for movie lounge (standardized set)
10. Carpets
11. Door mats (standardized for wet and non-wet areas)
12. All key equipment (including gym, play area, indoor games, equipment for other activity areas eg. yoga mat, gym mats etc.) (For Gym equipment - to be clarified whether we are providing or operator is providing; to be procured if we are providing)
13. Signage
14. Security related equipment (Card readers, intercom, cameras, baggage scanners, handheld scanners, metal detectors etc.)
15. Dustbins
16. All Audio-visual equipment (including any required CD's / DVD's for theatre room – standardized set)
17. Clocks
18. Soap Dispensers
19. All fixed items in bathrooms – towel hooks / rods, clothes handing hooks / rods, lockers, soap dish, mirror, toilet paper holder, paper napkin holder etc.

Intra Department Communication Policy

For good order and to foster appropriate communication and information flow at all times, members of the Planning dept. are hereby advised to note that a copy each of all important letters / Inter-Office Memos, Work Orders etc. addressed to Project Managers / Sites shall be endorsed to **Project's VP/GM/AGM**, as the case may be, henceforth without fail.

Policy for Nomenclature of Service Areas

1. The area outside kitchen should be called as '**STORE'**.

   The area outside a bathroom having a depth of minimum 3'-6" should be called as '**UTILITY'**. This should preferably be outside common bathroom. Area outside other bathrooms should be called as '**SERVICE SLABS**'.

2. In the event that there is a separate store area provided, area outside kitchen can be named as '**UTILITY'** and area outside bathrooms can be named as '**SERVICE SLABS**'.

Changes to unit design as per customer request, post launch (including PL)

Our philosophy is to focus on delivering high volumes at high quality within target timelines. Hence, we are not setup for customization. However, we do not want to lose sales due to our inability to customize and this document provides some options which allow customization without impacting our 'high volume, high quality, within target timelines' philosophy.. The below table also specifies the approval required at different stages of construction of the building

Customization Requested	Change Code	Details of what we will do	Approvals before selling	
			Before slab work is complete	After slab work is complete
Combination of 2 units (horizontal) – with finishes	C001	Remove the wall between the two units, convert one kitchen into a bedroom/study but no changes to the electrical layout and no addition of waterproofed areas.	NA	Design
Combination of 2 units (horizontal) – bare shell	C002	Remove the wall between the two units	NA	Design
Combination of 2 units (vertical) – with finishes	C003		RCEO and Design	RCEO and Design
Combination of 2 units (vertical) – bare shell	C005	We will do a cut out between the two floors for a staircase (and if specifically requested and feasible, for a lift)	Design	RCEO and Design
Combine rooms within a unit - with finishes	C004	Remove the wall between rooms but no changes to the electrical layout and no addition of waterproofed areas.	Design	Design
Provide unit which would otherwise be finished on bare shell basis	C006	Finish as per bare shell basis i.e. only kitchen and bathroom walls, with electricity up to one point in the unit	RCEO	RCEO and Design

Finish bare shell unit as per pre-determined standards	C007	Finish unit (not FFE) as per applicable Lodha or designer design.	RCEO and Design	RCEO and Design
Other	C008	As maybe approved; customer costs = incremental Lodha costs x 1.5	RCEO and Design	RCEO and Design

Responsibilities of Sales

1. Get relevant approvals over email as specified in table above in case where customization is requested at point of sales.
2. Update change category with approvals in SFDC. This may be updated by admin in case the slab work for the building has already been completed.
3. Get confirmation from customer in form of signature on agreed layout.

Responsibilities of CC

1. Update design document. Take confirmation of customer on agreed layout if already not taken by Sales.
2. Admin to publish MIS twice a month on customizations done. This needs to be shared with design, CC Mh
3. Registration team to check for "modified" tag" before initiating registration. Need to use applicable agreement draft basis the customization category.

Responsibilities of Design

1. Update allocation sheet
2. Intimate PD & Document controller about the change along with VFC document.

Notes:

a. Discount from standard finish to bare shell will be calculated as applicable costs which would not be incurred due to this change x 1.33 (margin).
b. Additional cost from bare shell to finished unit will be calculated as incremental Lodha costs which would be incurred due to this change x 1.5 (margin including the additional effort of design). in such cases agreement possession date should be 12 months after date of sale or scheduled (/updated) marketing possession date, whichever is later
c. Generally 'Other' (C008) is to be avoided unless there is a significant business gain as a result of the same.
d. All change requests will be routed by Sale (if prior to BAII) or CC (if after BAII) to Design and Design will respond within following timelines:
    a. If before BAII (i.e. booking is held up because of this): Within 14 days (2 weeks) of request being made
    b. After BAII: Within 28 days (4 weeks) of request being made
e. @ - See Annexure A
f. Planned Jodis (see Annexure B) are not to be considered as 'Changes to be made as per customer request'. Detailed on treatment of such units is covered in Annexure B.

Annexure A

@ - Non pre-planned i.e. units which will be constructed as Jodi flats, if and only if, two adjacent (horizontal or vertical) units are purchased by the same purchaser and request to be combined.

	Non-Pre Planned Jodi
Nomenclature	As per the base unit which is being combined eg. 1 BHK Jodi or 3 BHK duplex
Plan	As per regular plan of the base unit with following changes only: • One kitchen converted to same finish as non-master bedrooms. • Single DB and electric meter • Single door bell / VDP • Single automation system (if applicable) <u>Horizontal Combination (Jodi):</u> • Common wall (if structural, then only non-structural part can be removed) between units removed and flooring made contiguous <u>Vertical Combination (Duplex)</u>: • Standard-size opening in the slab between the two flats, at a location to be decided by the Design team (mostly in the living/dining area) shall be provided by us, where the purchaser may install a staircase post-possession.
Location	Anywhere in the building where the base unit is available
Approval	As per base unit (i.e. separate units). If specific request is received from purchaser to get approved as one unit and he is willing to bear the cost for the same, same will be discussed with liaison and if liaison approves, Jodi/duplex shall be approved as single unit prior to OC. Cost shall be recovered from Purchaser by CC.
Front Door	Two (one may not be openable)
Electric Meter & DB	Single
Agreement	Separate (or even single is possible, if customer so desires, with both unit nos been written). In either case, at time of registeration, standard letter to be taken from the customer that he wants to combine the two units into a single unit.
Carpet Area	As per that of individual base units added together
Intimation Timing	At anytime prior to 9 months from scheduled date of possession of the building (as per estimate available at time of request being made to Design). If within aforesaid limit, intimation in writing / email from CC to Design (Project Architect) (who in turn will communicate to Project Office (DMS)).
Cancellation	In such cases, company incurs heavy costs and no waiver of the cancellation amount shall be permitted. If cancelled, CC to intimate Design and Design to have converted back to base unit.
Check which flats to build as Jodi	CM incharge of the plant (level 2 or above) to specifically check with design at time of commencement of finishing works.
Post Possession Changes by Customer	As per applicable policy (with no changes permitted to structure or MEP)

Annexure B

Planned Jodi i.e. it is certain that the flats will be built in such combination, irrespective of whether the timing of sale. These units shall not be called as 'jodi' flats and shall be known by the resultant typology.

	Planned Jodi
Nomenclature	These units shall not be called as 'jodi' flats and shall be know by the resultant typology.
Plan	As per specific plan done by design prior to launch
Location	As per location decided by Design (after taking input from Marketing) prior to launch of the plant – generally these shall be at the floors where it is difficult to sell the lower sizes typology. These should not exceed 5% of the total carpet area of the plant. Also any requests received in first 3 months from launch (not pre-launch) for such pre-planned jodis on other levels shall be considered by Design based on feasibility and response given to Sales/CC within 7 days.
Approval	As single unit
Front Door	Single
Electric Meter & DB	Single
Agreement	Single
Carpet Area	Increases to extent of the common wall between two units, which is removed
Intimation Timing	No intimation needed; unit shall be built as per Design identified units. Design (Project Architect) will check with CC on the % of such planned jodis which are sold 6 months after launch and if % of sales is low, can consider reconversion back to standard (non-combined) units after discussing with Marketing. This process to be closed within 6 months after date of launch (not pre-launch). In case of any changes from original design intent, Design (Project Architect) will inform Project Office (DMS).
Cancellation	Permitted as per CC norms.
Check which flats to build as Jodi	No need to check. These will be pre-designed.
Post Possession Changes by Customer	As per applicable policy (with no changes permitted to structure or MEP)

Policy Decision for Shutters

As per the feedback from Lodha Paradise (Thane site), following material is to be considered for all Lodha Projects :

1) Terrace Door Shutter should be in MS (with Aluminium sheet outside)
2) Meter Room Shutter should be in MS (with Aluminium sheet outside)
3) Lift Machine Room Shutter should in MS (with Aluminium sheet outside)
4) ITA gold stone should not be used in any projects

F&B Area Guidelines

For office developments:

1. Food outlets (eg. Coffee Bean):
    a. Size: 1000 – 2200 sft indoor carpet area.
    b. Interior Finish: Bare shell with provision for plumbing and drainage in a small portion of the space.
    c. Toilet on the same level as the outlet (not needed within the outlet).
2. Food Court:
    a. Size: 5000+ sft leasable.
    b. Interior Finish: Stall front and common area including the dining/seating areas finished – back of house and cooking areas bare shell with plumbing and drainage facility in cooking area for each stall; If entire space is being given to one operator: Bare shell with provision for plumbing and drainage in the cooking portion behind the stalls.
    c. Toilet on the same level as the Food Court (not needed within the Food Court).
    d. See Food Court Design Policy.

For residential developments (generally located in clubhouse):

1. Cafe – if external access is not allowed:
    a. Size: 250-500 sq. ft. indoor carpet area + Pantry OR Cafe Kitchen (as per Kitchen Setup & Interiors policy).
    b. Interior Finish: Fully finished with cafe like ambience.
    c. Toilet on the same level as the cafe (not needed within the outlet).
    d. These will generally be operated by an FM agency eg. ISS or a caterer, not a restaurant operator.
2. Fine Dining / Restaurant – only if external access is allowed and location is prominent enough to encourage external users to come:
    a. Size: 800-2000+ sft indoor carpet area + Full service kitchen (as per Kitchen Setup & Interiors policy).
    b. Interior Finish: Finish done as per discussion with the restaurant operator.
    c. Toilet on the same level as the Fine Dining / Restaurant.
    d. These will be operated by a well-known restaurant operator.
3. Party Hall:
    a. Size: ~10 sq. ft. of carpet area per person (min. 600 sq.ft.) + Cafe Kitchen (as per Kitchen Setup & Interiors policy) w/o equipment if serving <=200 pax; larger version of Cafe Kitchen w/o equipment if serving > 200 pax. Kitchen should have easy access since food provider will often be outside caterer. If fine dining / restaurant is planned in the same development, kitchen may be shared with the same and the fine dining / restaurant operator will also act as the Party Hall's de-facto caterer.
    b. Interior Finish: Fully finished, along with food service counter.
    c. Toilet on the same level as the Party Hall.

Policy to send the Standard List of Documents to Marketing Dept. before start of sales for any Office or Retail project

Standard List of Documents to be given to marketing before start of sales/lease for any office or retail project:

If for sale, this is to be provided 30 days before sales start date (generally close to construction start). If for lease, close to lease start (about 12 months before OC).

1. Site Layout with landscape details
2. Building Lobby Plan
3. Floor plans for all leasable floors
4. Detailed furniture layout for each office typology with count of how much manpower and in what type (cabin, cubicle, workstation etc.) <not applicable to retail>
5. List of Specifications
6. Allotment List (As per standard allotment list format)
7. Combinability Criteria (only if there are more than one units on each floor, what is possible to be combined or not).
8. Payment Schedule (to be provided by Marketing)
9. Schedule of Construction (for the stages appearing in the payment schedule) (to be provided by Marketing in coordinating with Planning cell in COO's office)
10. CGIs (views) as per '*Standard List of CGIs'*; models as per '*Model-related Guidelines'*.
11. Parking details in following format:

Marketing Project: _____		
Abbreviation	**Car Park Type**	**No. of usable car parks**
OR	Open Regular	
OS	Open Stack	
OT	Open Tandem	
CR	Covered* Regular	
CS	Covered* Stack	
CT	Covered* Tandem	
SR	Stilt Regular	
SS	Stilt Stack	
ST	Stilt Tandem	
Total no. of usable car parks		
Of which,		
- Allocated to units as per Lodha standards**		
- Guest car parks as per Lodha standards (non-allocable)		
- Surplus usable car parks allocable to any unit for extra value		

* Podium / Basement / Multi-level car park / similar
** In case of fraction, rounded down

These nos cannot be reduced after launch, unless there is commensurate reduction in no. of units.

- No. of parkings per unit viz. __ parkings for office size A , ___ parkings for office size B, ____ parkings for office size C etc <not applicable to retail>
- Whether parking is on 'allocated/ownership basis' or 'pay and park basis' or 'other specific model'.

Calculation of Gross weight

With implementation of RERA wef 1.5.17, the policy is being updated to reflect the change in the definitions as per the regulation. Definitions as per RERA:

- Carpet Area: "carpet area" means the net usable floor area of an apartment, excluding the area covered by the external walls, areas under services shafts, exclusive balcony or verandah area and exclusive open terrace area, but includes the area covered by the internal partition walls of the apartment.
- Exclusive balcony/verandah/open terrace area: "Exclusive balcony/verandah/open terrace area" means the area of the balcony or verandah or open terrace, as the case may be, which is appurtenant to the net usable floor area of an apartment, meant for the exclusive use of the allottee.

Please note that in this document, the term 'carpet area' refers to the carpet area calculated as per RERA norms. The Pre-RERA carpet area, where applicable, is specifically written a 'Pre-RERA Carpet Area'.

The guidelines below are applicable to MMR and will need to be separately finalized for other geographies eg. Pune.
The Gross weight will be calculated as follows:

Gross weight = (RERA) Net Area * (1+Loading Factor), **rounded up** to 0 decimals (rounded up to 9)

Residential

- Multi floor development

No. of Floors above ground	**Loading Factor**
Upto 70 m (low/mid-rise)	60%
Above 70 m (high rise / super high rise)	65%

In the event that the building is lower in height than comparable buildings in the vicinity, the applicable loading factor shall be the loading factor as per the normal building height in the vicinity or the loading applicable as per aforesaid table, whichever is higher.

Further, in the event that the plan is such that there is only one unit per core, then the above loading %'s will stand increased by 5% and if there are two units per core, then the above %'s will stand increased by 2.5%.

Independent unit (bungalow/row house): Loading factor = 49.9%

Office
Gross weight = Carpet Area / Efficiency, rounded off to 0 decimals

Project segment	Efficiency
Signet	60%
Supremus	60%
Excelus	65%
iThink	70%

Retail

No gross weight shall apply. Shall be sold on carpet area basis only.
If gross weight is needed for non-leasing purposes (eg. Investor communication), the same shall be (the sum of the carpet areas of all the units / efficiency of 60%).

General

Calculation of carpet area - clarification:

1. Refer attached illustration No. 2 and 3 for clarification of the walls to be considered as "External Wall" and "Internal Wall"
2. Illustrations 4, 5, and 6 provide clarity on carpet area and exclusive balcony/verandah/open terrace areas.
3. Any area which is deliberately kept outside the unit (wasted) when main door direction is changed due to Vastu reasons shall be counted as if its is part of the unit, since customer can always take door to regular location (non-Vastu) and this outer limit of the unit shall be marked with a second main door in dotted line.
4. All inaccessible (difficult to access) areas inside a unit (eg. Flower bed, a/c ledge, service slab which is not capable of being accessed on daily basis) having top slab and bottom slab are counted @ 0%.
5. All ledge walls (full or half) to be counted in carpet area.
6. All areas which are outside the boundary of building line/window line of the unit (other than balconies/verandah/decks), which have a bottom slab/natural ground and no top slab are counted @ 0%.
7. Lift shafts are to be counted in carpet area @ 100% for only the lowest level on which there is a landing. The area of any other void shall not be counted in carpet / built-up area.
8. Staircases in Duplex/Villas are to be counted in carpet area @ 100% for each level on which there is a landing.
9. Any garden or similar exclusive rights area (i.e. not counted in FSI) are not to be counted in the unit's carpet area and are to be stated separately.
10. Carpet area is counted on bare shell basis i.e. prior to application of any finishes. This applies to Pre-RERA carpet area also.
11. In case of buildings where there is change in the column dimensions leading to variation in the area of units (which are otherwise the same), the same carpet area is to be assumed for all units in the stack and this is calculated as minimum of (area of largest unit in the stack, area of smallest unit in the stack/0.98).

12. Similarly, if there are multiple designs of the same unit type (eg. 3 type of 2 BHK optima) in the same wing / MP and the areas of these are within +/-2% (smallest to largest), the net area of all such units to be taken as average of the largest and smallest.

For such calculations:

a. if unit's actual net area is > (greater than) the average net area, please reduce the difference from the carpet area eg. If net area of unit is 590 sq. ft., carpet area is 500 sq. ft., EBVT is 90 sq. ft. and average net area is 585 sq. ft., the allotment list will state carpet area of 495 sq. ft, EBVT of 90 sq. ft. and net area of 585 sq. ft.
b. If unit's actual net area is < (less than) the average net area, please add the difference to the EBVT area eg. If net area of unit is 580 sq. ft., carpet area is 490 sq. ft., EBVT is 90 sq. ft. and average net area is 585 sq. ft., the allotment list will state carpet area of 490 sq. ft, EBVT of 95 sq. ft. and net area of 585 sq. ft.

Calculation of BUA: Total built-up area to be calculated as per p-line, excluding only ducts. For clarity:

a. Staircases and staircase lobbies, Refuge terraces to be included in built up area.
b. Lift well to be included in built up area.
c. All services areas like STP, Water Tank, Pump Room, IBMS Room, Facility Management Room, D.G. Room, and Fan Rooms etc. to be included in BUA.
d. Service slabs in shafts to be included in built-up area.
e. Chajjas will not be counted in built-up area.

Decimals:

All figures to be reported in 0 decimal in sq. ft.eg. XX and 1 decimal in sq. mtrs eg. Xx.y

Rounding Up to 9

Once the Gross weight is determined, it should be rounded up such that the total of the digits adds up to 9 eg. Carpet area of 780 sq. ft. in a S+7 building will give a Gross weight of 1034 (1033.50 rounded off to 1034) sq. ft., which will be rounded off to 1035 sq. ft. (1+0+3+5 = 9). If sales/leasing is to be done on carpet area basis, same rounding up to be done for carpet area.

Combination of Units

When office or retail units are combined, the carpet area should be calculated again before the sale/lease is done to take advantage of the reduction in party walls. This does not apply for non pre-planned 'jodi' residential flats but applies for 'pre-planned jodi', which actually operates as a separate typology.

Splitting of Units

When office or retail units are split, it should be ensured that the sum of carpet area of the split units is equal to the carpet area of the original unit and any loss due to additional party walls is allocated pro-rata to the split units.

Multipliers to be used for calculation of Gross Weight:
In case of non-standard heights or equivalent, the applicable carpet area shall not change but the following multipliers shall be used while calculating Gross weight:

50%:

a. All areas which have a top and bottom slab but have FTF height lesser than 2.1 m

125%:

a. All areas which have top and bottom slab but do not have full-height side enclosure on all sides (excluding balconies or decks), and have FTF height greater than 4.2 m

150%:

a. All areas which are enclosed (bottom slab, top slab, and full-height side enclosure on all sides) + balconies or decks and have FTF height greater than 4.2 m (in case of retail, this shall not apply)

RERA Transition Process:

a. Wef 1st April 2018, Gross Weight shall be calculated on basis of (rera) net area for all unsold units. Wrt sold units, the area shall also be updated similarly in the system (but the CV etc will not change for the said unit).

1 sq. mtr = 10.764 sq. ft.; Carpet Area and Exclusive balcony/verandah/open terrace area calculated as per RERA norms on bare shell basis (i.e. prior to application of any finishes)'

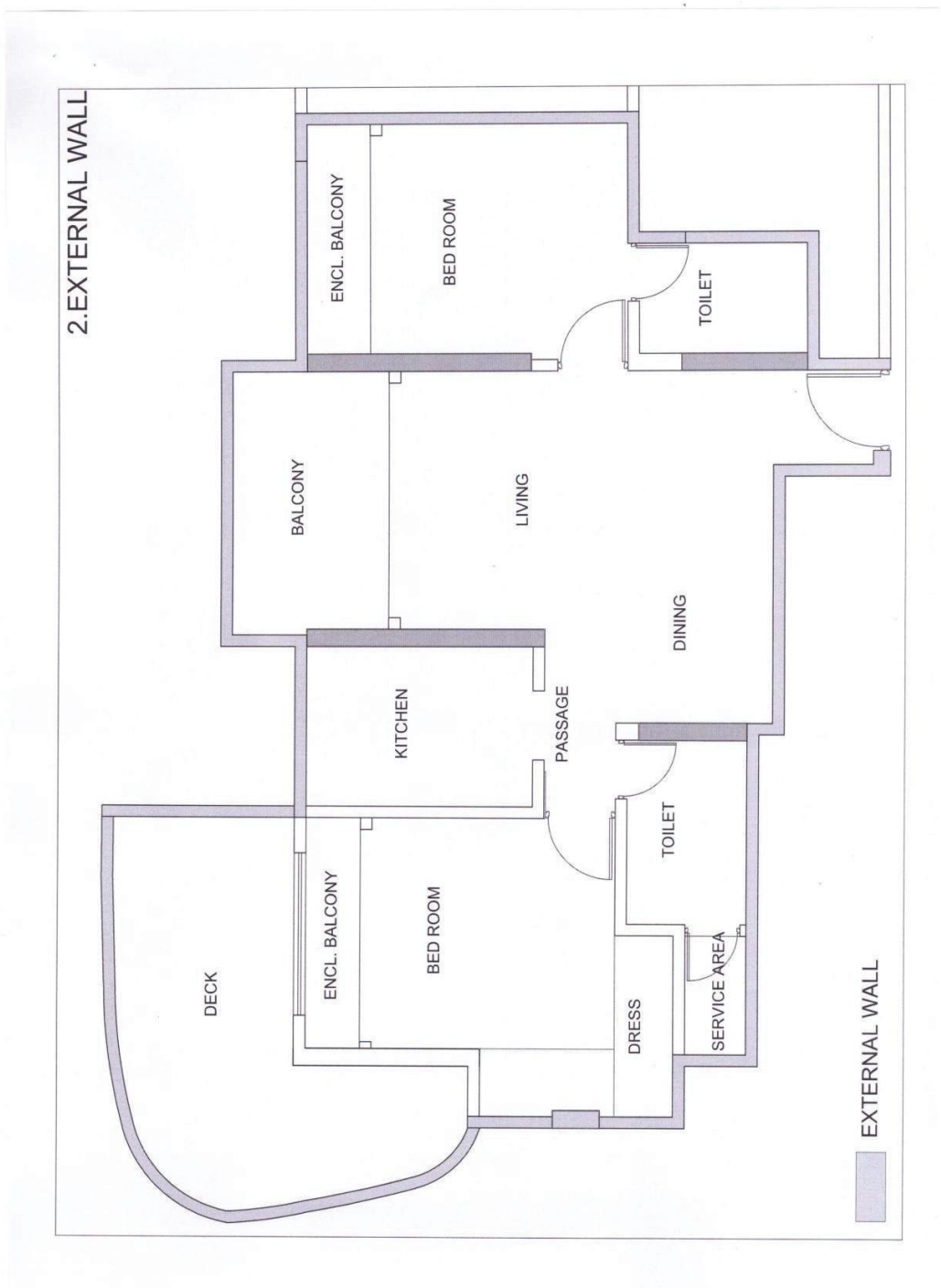
b. For 'Type' use marketing nomenclature.
c. For purposes of conversion to sq. mtrs. (eg. For RERA and price sheet), divide figure in sq. ft. by 10.764 and **round off** to one decimal.
d. Design shall also calculate the pre-RERA carpet area in aforesaid table for purposes of cost benchmarking and efficiency calculations, but the same shall not be shared with marketing.
e. Refer to '143 Allotment List format.'

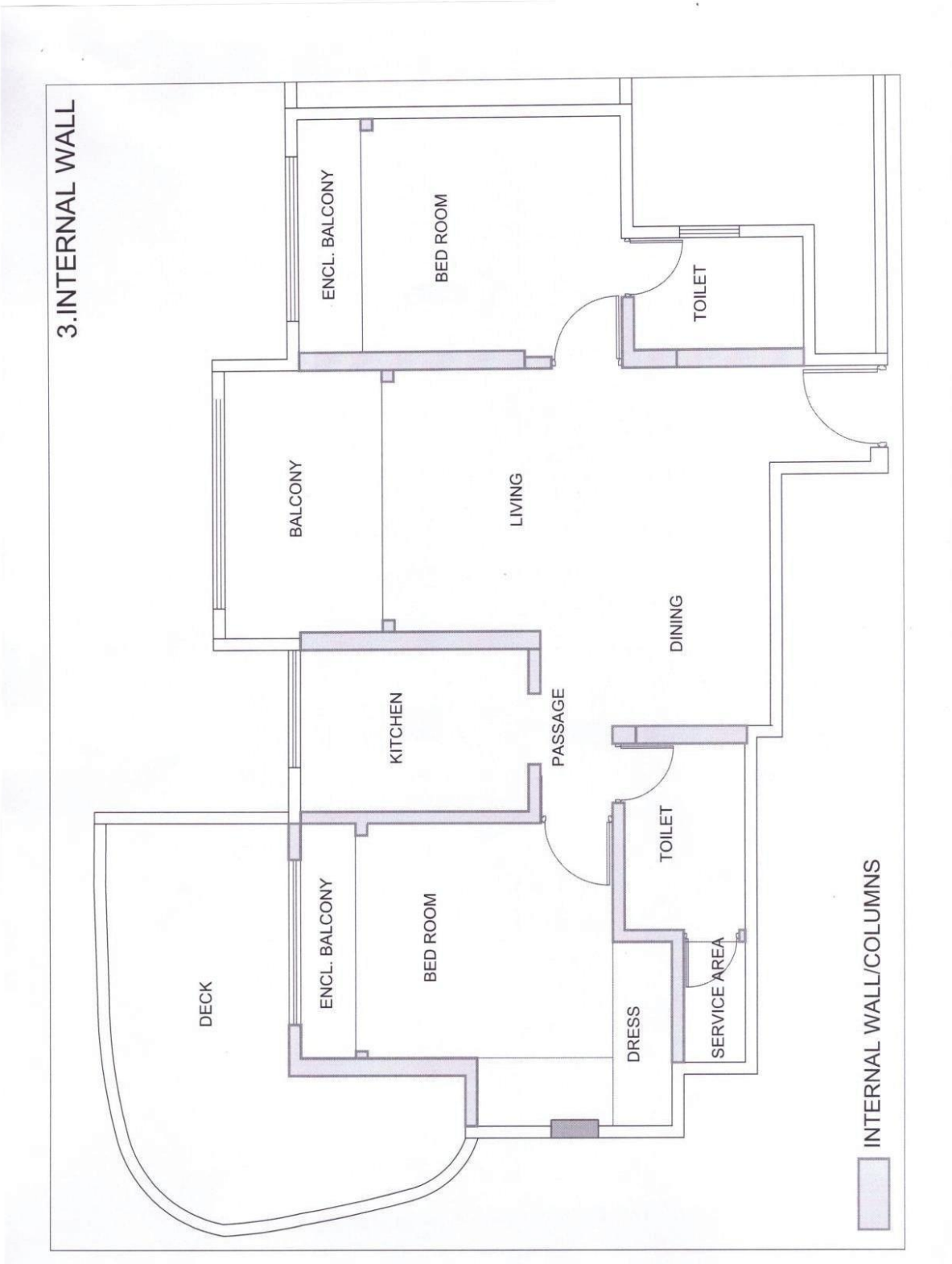
Implementation Note for previous changes (other than RERA change):

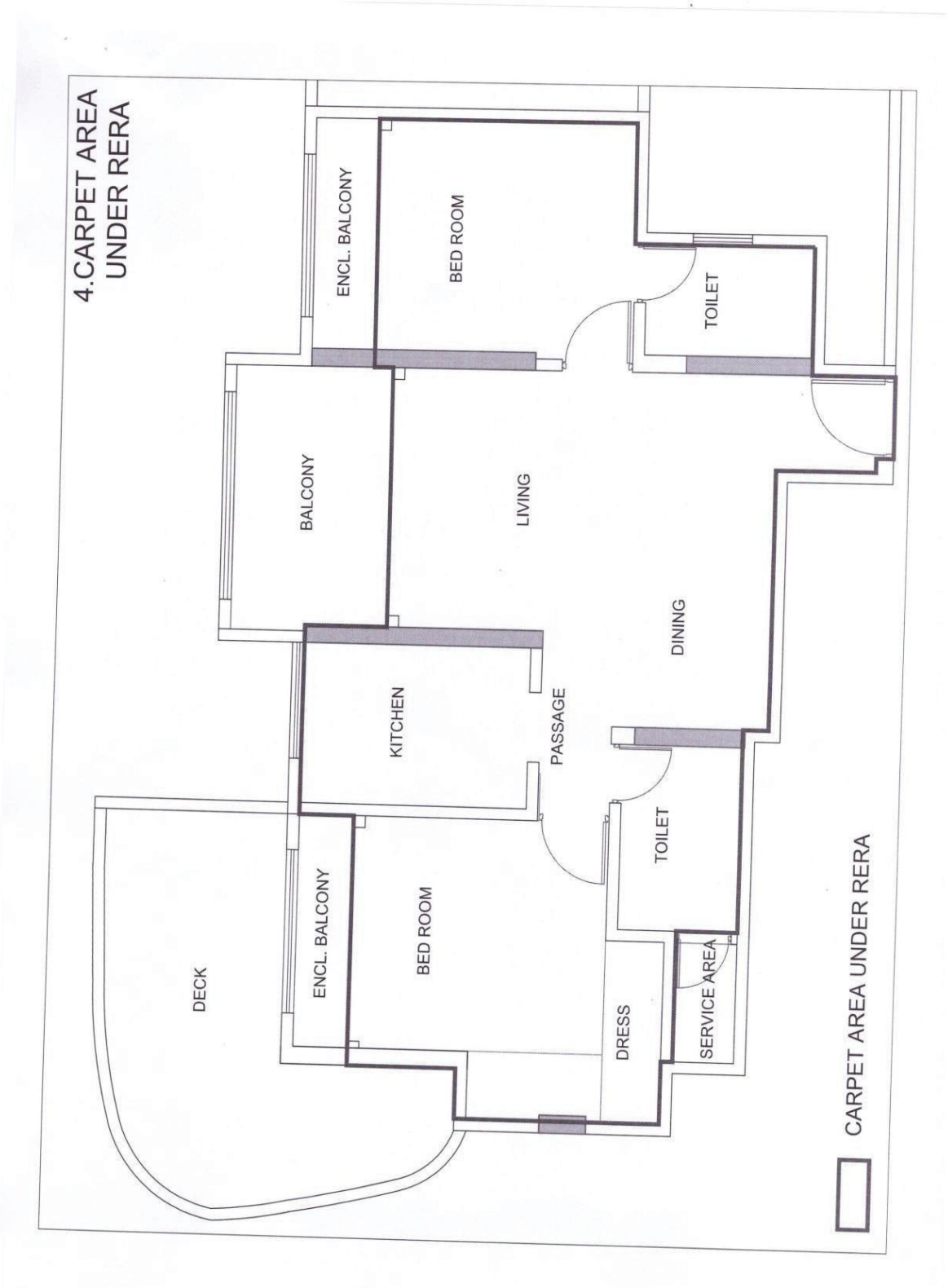
1. The changes in loading made on 6.1.15 shall be applied as follows (MMR projects only):
    a. Buildings where no sales have been done to date – loading to be done as per new policy
    b. Buildings where sales have been done of<=80% of the Gross weight – loading as per new policy subject to a maximum increase of 10% over the loading last released to Marketing/Sales.
    c. Buildings where sales have been of >80% of the Gross weight – no change
    d. Any exception to be discussed with Director-Operations before implementation.
2. For projects outside MMR, the loading factor as per policy dated 29.6.2011 will continue to apply.
3. Changes made on 12.2.15 are only applicable to those marketing projects where sales have not commenced as on 12.2.15.

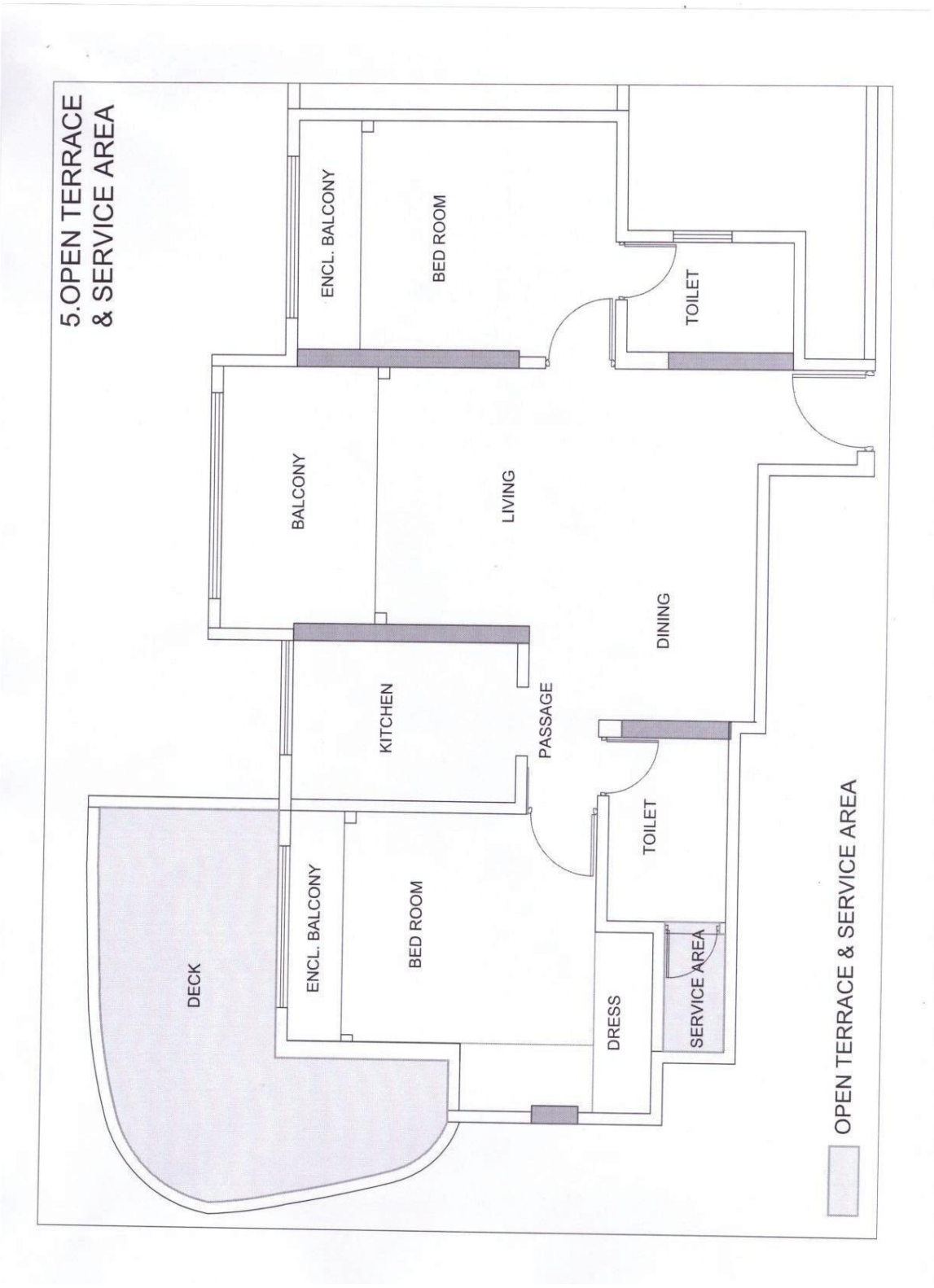
4. Between RERA implementation (1.8.17) and 31.3.18, Gross Weight was calculated using (pre-RERA) carpet area

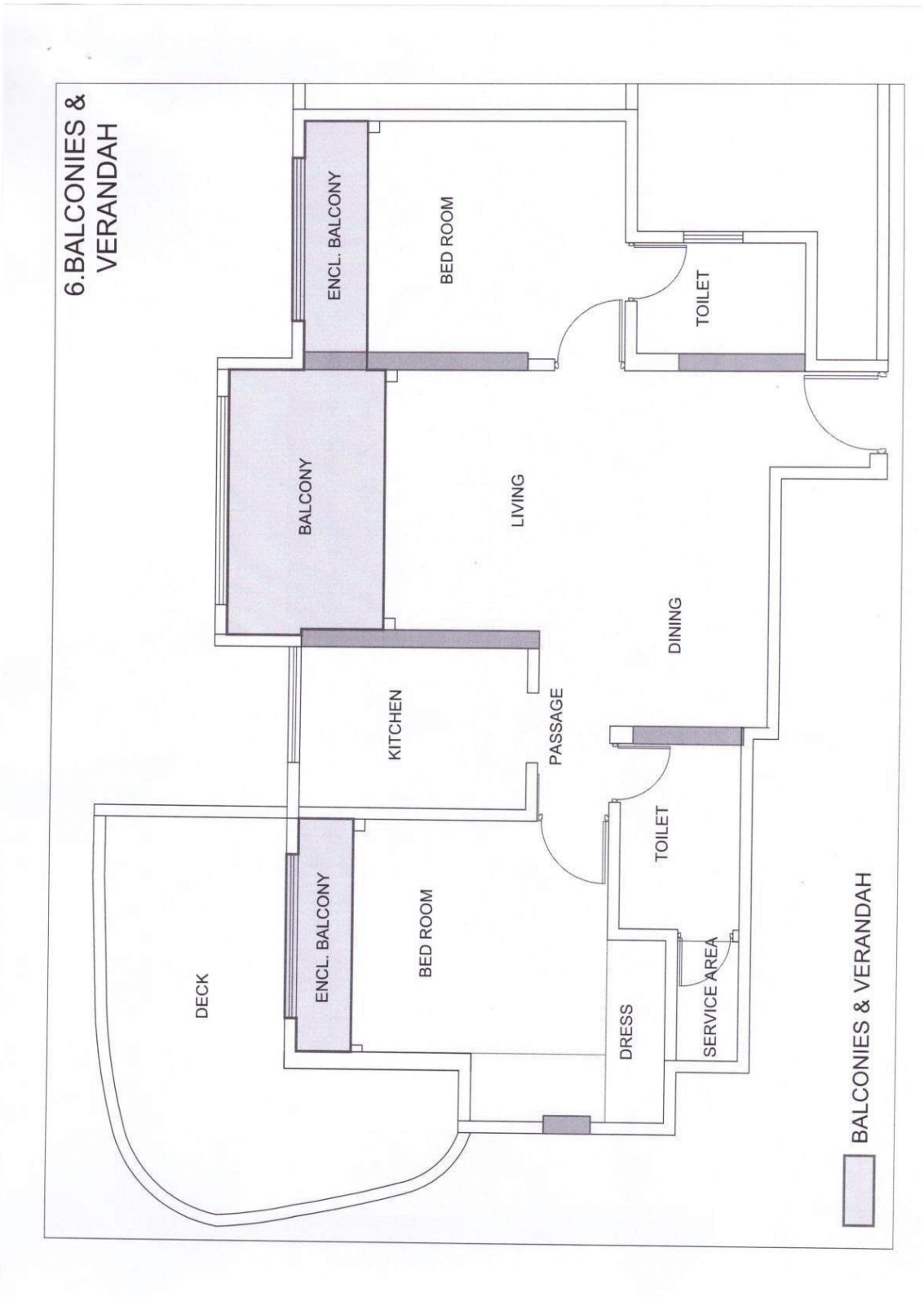
Illustrations for calculation of carpet area from Maharastra RERA authority (June 17) are given below:




3.INTERNAL WALL
ENCL. BALCONY
BED ROOM
TOILET
BALCONY
LIVING
DINING
KITCHEN
PASSAGE
TOILET
ENCL. BALCONY
BED ROOM
DECK
DRESS
SERVICE AREA
INTERNAL WALL/COLUMNS


4.CARPET AREA
UNDER RERA
ENCL. BALCONY
BED ROOM
TOILET
BALCONY
LIVING
DINING
KITCHEN
PASSAGE
TOILET
ENCL. BALCONY
BED ROOM
DECK
DRESS
SERVICE AREA
CARPET AREA UNDER RERA


5.OPEN TERRACE
& SERVICE AREA
ENCL. BALCONY
BED ROOM
TOILET
BALCONY
LIVING
DINING
KITCHEN
PASSAGE
TOILET
DECK
ENCL. BALCONY
BED ROOM
DRESS
SERVICE AREA
OPEN TERRACE & SERVICE AREA


6.BALCONIES & VERANDAH
ENCL. BALCONY
BED ROOM
TOILET
BALCONY
LIVING
DINING
KITCHEN
PASSAGE
TOILET
DECK
ENCL. BALCONY
BED ROOM
DRESS
SERVICE AREA
BALCONIES & VERANDAH

Policy to send Final Package to Marketing Dept. before start of sales for any Residential project

Final Package to be given to marketing before start of sales for any Residential project:

1. Site Layout plan with landscape details
2. Building Lobby Plan
3. Unit Plans for each type of unit with furniture layout
4. Floor plans for all type of floors
5. List of Technical Specifications
6. Allotment List (As per Standard Allotment List format
7. Payment Schedule (to be provided by Marketing)
8. Schedule of Construction (for the stages appearing in the payment schedule) (to be provided by Marketing in coordinating with Planning cell in COO's office)
9. CGIs (views) as per '*Standard List of CGIs'*; models as per '*Model-related Guidelines'*.
10. Plan and amenity benchmarking with key competitor projects (format as per Annexure A below)
11. Parking details in following format:

Marketing Project: _____		
Abbreviation	**Car Park Type**	**No. of usable car parks**
OR	Open Regular	
OS	Open Stack	
OT	Open Tandem	
CR	Covered* Regular	
CS	Covered* Stack	
CT	Covered* Tandem	
SR	Stilt Regular	
SS	Stilt Stack	
ST	Stilt Tandem	
Total no. of usable car parks		
Of which,		
- Allocated to units as per Lodha standards**		
- Guest car parks as per Lodha standards (non-allocable)		
- Surplus usable car parks allocable to any unit for extra value		

* Podium / Basement / Multi-level car park / similar

** In case of fraction, rounded down

Annexure A : Z:\41-POLICY COMMON FOLDER\POLICIES FOR DESIGN CELL\ARCH + INT CELL\POLICY FOR ARCH + INT CELL-FOLDER\POLICIES FOR ARCH + INT CELL AS PER INDEX\Annexures References\18 ref Lodha NIBM_benchmarking.pdf



Lodha NIBM_benchmarking

Filing Policy

MODE OF FILLING	FILE NO.	FILE NAME	FILE CONTAINS	MAINTAIN BY
Box	LGC/Project name/01	SURVEY PLAN / GEO-TECHNICAL SURVEY	This file contains Physical survey, Contour survey, property card details for areas and soil investigation report with seperation flaps.	Architect/P.C
Box / Spring	LGC/Project name/02	DESIGN DEVELOPMENT / SPECIFICATION / AMMENITIES	This file contains Architect and client design development and design inputs details project wise. Communication between clients and consultants till the plan is finalised with specifications and ammenities. The top of the page will be final plan.	Architect
Box	LGC/Project name/03	CORPORATION APPROVED PLAN	This file contains IOD, CC and copy of Architectural approved plan and any correspondence related to corporation.	Architect/P.C
Box	LGC/Project name/04	WORKING DRAWING FILE	This file contains all latest working drawings of the particular project. All the old revisions will be removed from it and move to superceded file.	Architect
Box	LGC/Project name/05	TENDER DRAWING FILE (ARCHITECTURE / STRUCTURAL)	This file contains all architecture and structural tender drawings with separate flap.	Architect/ Contracts
Box	LGC/Project name/06	a)SUPERCEDED DRAWING FILE (Architectural drawings) b)SUPERCEDED DRAWING FILE (Structural drawings) c)SUPERCEDED DRAWING FILE (Plumbing drawings) d)SUPRCEDED DRAWING FILE (Electrical drawings)	This file contains all the obselete drawings	Architect
Box	LGC/Project name/07	STRUCTURAL DRAWING FILE	This file contains all the details of structural drawings and specifications and if any design calculations.	Architect/P.C
Box	LGC/Project name/08	ELECTRICAL DRAWING FILE	This file contains all the electrical drawings, specifications and related details	Architect/P.C
Box	LGC/Project name/09	PLUMBING DRAWING FILE	This file contains all the plumbing drawings, specifications and all related details	Architect/P.C
Box	LGC/Project name/10	LANDSCAPE DRAWING FILE	This file contains all the landscape related details, specifications and drawings.	Architect/P.C
Box/ Spring	LGC/Project name/11	SAMPLE FLAT / SITE OFFICE RELATED FILE	This file contains all the sample flat / site office details, specifications and drawings	Architect/P.C
Box	LGC/Project name/12	HVAC DRAWING FILE	This file contains HVAC drawings and details if that project is applicable	Architect/P.C

Note: 1. Every one has keep one personnel file for individual intimations/informations.
2. Any quaries regarding this filling contact V.P (Planning).

MODE OF FILLING	FILE NO.	FILE NAME	FILE CONTAINS	MAINTAIN BY
Spring	LGC/Project name/13	PARKING PLANS FILE	This file contains parking plans, specifications and related details and communication with customer care department for parking.	Architect
Spring	LGC/Project name/14	SALE PLAN FILE	This file contains sale plans, specifications and related details along with communication with sales department	Architect
Box	LGC/Project name/15	QUOTATION FILE	This file contains Quotations of all the items which are properly segregate itemwise and proper flaps should be provided for seperation.	Contracts
Box/ Spring	LGC/Project name/16	WORK ORDER FILE	This file contains all the work orders of the project with separation flaps	Contracts
Box/ Spring	LGC/Project name/17	ESTIMATION FILE	This file contains all the quantities	Quantity surveyor
Box	LGC/Project name/18	TRANSMITTAL FILE	This file contains transmittals of the all the drawings	Architect
Box/ Spring	LGC/Project name/19	SCHEDULE FILE	This file contains schedule of the project, material, manpower and cost. The schedule must have a demarcation about the final schedule	Schedule Engineer
Box/ Spring	LGC/Project name/20	DAILY / MONTHLY PROGRESS REVIEW FILE	This file contains daily / monthly progress reviews, tracking and backlogs	Schedule Engineer
Spring	LGC/Project name/21	INTER OFFICE MEMO FILE	Any communication other than site, i.e. with finance/purchase/liasioning/ Addmin/legal will be in this file	All planning members
Box/ Spring	LGC/Project name/22	CORRESPONDING WITH CONSULTANTS	This file contains all the consultants correspondings	Architect/P.C
Spring	LGC/Project name/23	ACTIVITY INITIATION / SITE COMMUNICATION FILE	All communication with site will be in this file	P.Cordinater members
Spring	LGC/Project name/24	MINUTES OF MEETING FILE	Any meeting attended about the project by any planning team member will be kept in this file	Architect / P.Cordinater
Spring	LGC/Project name/25	INTERNAL MINUTES OF MEETING / CORRESPONDENCE FILE	Any meeting held with in the planning department / correspondence with Director or V.P.	Architect / P.Cordinater
Box	LGC/Project name/26	MISCELLANIOUS / GENERAL FILE	This file contains the things which are not related to above files	Architect / P.Cordinater
Box	LGC/Project name/27	FIRE FIGHTING RELATED FILE	This file contains all the firefighting related details, specifications and drawings.	P.Cordinater members
Box	LGC/Project name/28	LIFTS / ELEVATORS RELATED FILE	This file contains all the lifts/ elevators related details, specifications and drawings.	P.Cordinater members
Box	LGC/Project name/29	FAÇADE/ DOOR / WINDOWS / STP FILE	This file contains all the Façade / Doors / Windows / STP Details files	P.Cordinater members
Box	LGC/Project name/30	LEED DOCUMENT FILE	This file contains all the LEED Doc. details, specifications	Architect
Box	LGC/Project name/31	SERVICE CONTRACTOR FILE	This file contains all the Service Contractors Annexures.	Architect / P.Cordinater
Box	LGC/Project name/32	CO-ORDINATED FILE	This file contains all the Co-ordinated Services Layouts, drawings	P.Cordinater members

Note: 1. All these files should be maintained Project wise
2. Each file should contain file number, File name. It should be labelled neatly in front of the each file as well as on sides, to read in uniform direction.
3. All CDs should be labelled and kept in a CD cover project wise. CD must be marked with permanent ink marker.
4. The use of file either Box or Spring is recommended. The scale of project will decide which file to be used.
5. Project Co-ordinator who is other than Project Architect an Engineer associated with the project in planning department.
6. The Person designated in column- (maintained by) is solely responsible for the particular file and at the time of handover of project / chanching over the project / leaving the orgnisation / at the time of appraisal, he will be solely responsible.

BROCHURE / INFORMATION CLOTH FOLDERS

FILE NO.	FILE NAME	FILE CONTAINS
1	QUALITY ISSUES	All the brochures related to quality, presentations and seminars
2	SAMPLE FLAT	All the brochures related to sample flat
3	FLOORING	All the brochures related to flooring material like Marble, Granite, Italian Vetrified, wooden flooring, ceramic etc.
4	SANITARY	All the brochures related to sanitaryware, pipes, fittings
5	AIR CONDITIONING	All the brochures related todifferent types of Air conditions
6	LIFT	All the brochures related to different models of the lifts.
7	HARDWARE	All the brochures related to hinges, locks, fittings etc.
8	DOORS / WINDOWS	Different types of Doors / Windows
9	ELECTRICAL RELATED	Brochures like switches, wires, fitting, cables etc.
10	GLASS / FACADE	Brochures related to different types of glass/façade.
11	PAINTS / POLISH / WALL FINISHES	Brochures related to Paints/Polish/Wall finshes
12	MODULAR FURNITURE	All the modular furniture brochures
13	KITCHENS	All the kitchen & accessories like modular kitchen, chimneys & hobs etc.
14	SECURITY RELATED	All the security related brochures
15	ARCHITECTS PROFILE	All External Architects profile
16	CONTRACTORS PROFILE	All external contractors profile
17	SERVICES CONSULTANT FILE	All services consultant profile
18	MISSLLANIOUS FILE	The folder contains the things which are not related to above folders.
19	FIRE FIGHTING	All the brochures related to fire fighting works
20	GYM EEQUIPMENT	All the brochures related to Gym Equipments

Note:1. This brochures are bulk, foldable and already spiral, due to this all brochures should be kept in cloth folder.
2. This folders should contain numbers and related name flaps for easy identification.
3. Any planning member are equally responsible for maintaining for the above folders.

Possession Policy

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1. Vision

All projects shall now be handed over only for Final Possession (mentioned as Possession henceforth). Furniture Possession shall not be offered for any projects of any category or segment. Exception of Fit-out possession is only allowed for iThink & Excelus offices and Experia Retail.

The entire building shall be complete in all respects at the time of offer for possession. The items that don't affect livability of the residents/ occupants e.g. – Occupation certificate, piped gas connection, certain non-critical infrastructure items like clubhouse, landscape, main entry gate can be completed no later than 180 days from the date of offer for possession.

2. Guiding Principles

The guiding principles to be followed for giving a building for possession are:

A. Entire building shall be complete in all respects

B. Key infrastructure elements required for livability like clean and direct access to building, parking, electricity, water, fire fighting, shall be complete in all respects

C. Commissioning and testing of all common services and all key building systems shall be completed

D. FM services and team should be fully operational

E. No labor access within the building

F. Any pending deliverables (outside building) which aren't significantly affecting the livability of the residents shall be completed no later than 180 days from offer for possession

   a. Construction area for these elements shall be completely separable from customer area.

   b. Entrance and exit for customers shall be completely separated from work access area and same has to be fully protected.

G. Society formation and handover to the society shall be completed within 12 months from the date of offer for possession

3. Requirements for Possession

Based on the guiding principles, requirements to be satisfied at the date of offer for possession -

Flat

1. All works inside all flats must be finished 100% and envelope of the unit shall be closed
2. Occupation Certificate, if not acquired at the date of offer for possession, shall be acquired within 180 days from the date of offer for possession

Common Services

1. All the common services like electricity, water, drainage, fire fighting system, emergency lighting, HVAC, garbage disposal system or STP, water treatment plant, etc. shall be completely operational with full capacity
2. Permanent sources of water and electricity
3. All elevators including service elevator shall be fully operational
4. Building maintenance system and building automation shall be fully operational
5. FM team with adequate training shall be in place
6. Adequate FM services including promised facilities (like housekeeping, security, concierge, valet, etc.) shall be in place
7. Piped gas, if not installed at the date of offer for possession, shall be installed within 180 days from the date of offer for possession

Common Areas

1. All common areas inside the building like lift lobbies, staircase block, sky gardens, entrance lobby, terrace, service shaft, meter room, FM office, etc. shall be fully completed
2. Approach road to the building from the main entry to the site shall be completed
3. Façade work and external painting of the building shall be completed

4. Parking (as required for the said building) with proper signage shall be completed in all respects
5. All common areas outside building with the exceptions of non-critical elements shall be completed in all respects
6. Non-critical infrastructure items (outside building) like clubhouse, landscape shall be completed within 180 days from the date of offer for possession

4. Exceptions in Fit out possession

Fit out possession will be allowed only for iThink offices, Excelus offices and Experia retail. Tenants will be given possession for fit-out purposes 4 months prior to the date of offer for possession. Tenants cannot start operating in the building prior to the date of offer for possession. Requirements at date of offer for possession will remain same as defined for all projects above.

Key requirements to be met during fit out possession -

a) The floor is structurally completed and envelope (façade) is sealed on the said floor and the floor above.
b) Water, electricity and drainage at one point on the floor. Sufficient capacity to carry out fit out works
c) One elevator is functional to the floor being given for fit-out.

Note: Common services like water, electricity, etc. will be fully commissioned only at possession. Hence, any issues that arise in the services at time of possession can be addressed by us but, we will not be liable for any damage to works done by the customer during fit out possession period.

Protection of finished surfaces prior to handover:

As per the perceived value matrix, finishing is the most important element for the customer wrt his/her perception of the product. However, it has been observed that while we spend huge amounts of money on finishing materials, they are poorly stored, handled, fixed and protected (post-fixing) leading to significant deterioration in their appearance/functionality and causing customer dissatisfaction.

All project managers are to take special efforts and care to ensure that the finished product is protected such that no damage occurs to any finished surface from follow-up trades which are working within the finished area. Also Procurement is to ensure that the contract is structured in a manner which makes the contractor responsible for the proper fixing of the protective materials (material may be provided by Lodha or the contractor, based on terms agreed in the contract).

The below stated protection measures apply to all unit areas, key common areas, typical floor lift lobby and landscape areas:

Material/Surface	Key Measures to be taken to Protect / Prevent Damage
Any Hard (Stone / Vitrified Tile / Palladio etc.) Flooring or Dado	Once material is laid and pre-final polishing (if applicable) is completed, entire surface should be covered with protective covering (For horizontal surfaces: Pref 1: Bubble paper; Pref 2: Thick plastic/cloth; For vertical surfaces: Pref 1: Adhesive Plastic Sheet (for metal/glass); Pref 2: Bubble paper; Pref 3: Ply) which covers the entire surface. Special care to be taken that the pasting material is strong (eg. electrical tape) and entire surface is covered. Covering to be removed only after final coat of painting if completed. When cutting holes in hard stone / wood etc. (for fixing switch plates / nahani trap fixing etc.), special care to be taken that holes are cut to such a size that they are not visible after fixing of the plate / trap and in case of nahani trap, cutting is done using a pre-made 'farma' to ensure cutting in proper shape. Solution is to procure rotary cutters with carbon or tungsten Bits. This will ensure cut is perfect to the trap size. Cutters are relatively inexpensive and simple to use. When rough surface stones (e.g. flamed granite) are used, special precaution should be taken to protect them as soon as their laying is complete, because they are extremely difficult to clean / repair if they get damaged. For flamed stone, its always a good idea to have it coated with wax or oil. This stops grout and cement bonding to the finished surface. The oil / wax can be easily cleaned at the time of handover.
Wooden Flooring	To be laid only after final coat of painting is completed. If laid prior to final coat of painting, follow protection as underlined

	portion above.
Wooden Vertical surfaces or ceilings	Follow protection as underlined portion above.
Door Frames	Follow protection as underlined portion above.
Doors	Follow protection as underlined portion above.
Window frames	The Aluminium window sections shall be covered with low adhesion polythene sheet by the manufacturer & ensure the cover shall not be removed till final handover. For openable type windows, all handles should be installed and mechanisms checked to ensure the unit is operating then handles should be revolved and leave the window in a locked position. A major form of damaged observed is windows opened beyond the Hinge limits and twisted hinges.
Window Glass / Glass Partitions / Other Glass works	Glass work shall be protected with adhesive polythene sheet from both sides to avoid scratches & stains. This should be included in the scope of the material vendor. No grinding or cutting to be done near the glass. The hot grinds leave pit marks in the glass and are permanent blemishes.
Mirrors	Quick and easy protection is four dabs of silicone to the mirror and a 2mm ply stuck over the face. The dabs of silicone are easily removed at handover. Ply should be 10mm larger clearance than the mirror surface. Further, the 4 corners should be provided with some type of protective corner cover to prevent breakage/cracks at the corner.
Walls	Final coat of painting to be done only after customer takes possession.
SS Works	Shall be protected with Paper tape or low adhesion tape to avoid scratches & stains.
Sanitary Ware	To be installed only after completion of floor/dado polishing, ceiling painting including light fixtures etc. Follow protection as underlined portion above.
Modular Kitchen (including platform) & Modular Wardrobes	To be installed only once all works in kitchen (flooring, tiling, painting, electrical etc.) are 100% completed and kitchen is lockable. If kitchen is not lockable (with temporary/permanent door), modular kitchen to be installed only when flat is 100% completed. In either case, follow protection as underlined portion above.
Electrical switch plates/ fixtures	Electrical switch plates/Fixtures shall be covered with Polythene sheet & cello tape. To be installed after final paint coats and to be installed by electricians with clean hands and latex gloves.

CP Fittings, loose furniture, curtains and other high value visible user interfaces (VDP, HA panel, any appliances etc.)	Not to be installed till customer takes possession. Once installed, follow protection as underlined portion above.
Elevators	22m Ply covering on timber bats on all internal surfaces (including floor and ceiling – with cutout for light/fan, if so needed). Floor to have double layer of ply. Doors – with adhesive polythene sheet on both sides. Also consider glued laminate sheets, glued to the door, if manufacturer is in agreement. Post-handover, FM/PC needs to ensure that cleaning of the SS surfaces of the lift is done with due care to avoid scratching.
Other Precautions	1. When painting/polishing any wall, the adjacent edges of other materials should be covered with paper tapes to prevent the paint/polish from spilling over to the adjacent materials. 2. In case of shortage of other protective materials, even cardboard can be used. 3. Proper storage of materials (with protective covering, in proper packaging, boxes with the correct side up etc.) in pre-installation phase (stores, at worksite) is extremely important.

In addition to the above, the contractor and the Const Mgmt team need to be aware of the fact that protection is the key to ensuring a high value of finishing and hence, all practical measures needed to reasonably protect the materials need to be taken.
Some reference images are below:

1. Flooring/Dado and related activities:

Illustrations of recommended methods for protection of completed flooring and dado works









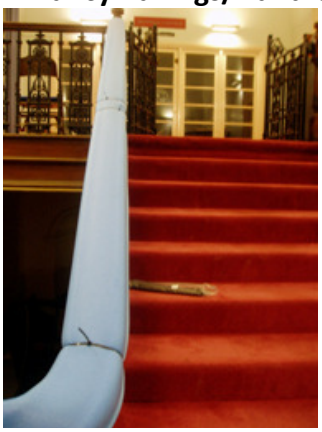
2. Glass Work



4. Aluminium Window:



4. Fancy Railings/Handrails:



Bathtub Guidelines:

1. Length cannot be less than 5 ft. clear (inside dimensions of tub at its longest point).
2. Trapdoor must be provided for servicing. Material used for the trap door should be sturdy (no warping or damage during service).
3. The flooring material used for the dado (tub side) and patti adjacent to dado should match.
4. For bathtubs with Jacuzzi which have controls mounted on the ledge or for other bathtubs which have bath mounted accessories like hand shower, filler and controls, the orientation of the control panel / accessories (RHS/LHS) on the bathtubs would need to be specified by Design, prior to placement of order.
5. The handing / orientation of the Jacuzzi to be taken into consideration while ordering so that motor is always on the trapdoor side
6. Fire proof coating to be checked on the bath tub visible surface
7. Jacuzzi power shall be through 10 m A RCD/ELCB

Clubhouse design guidelines:

1. Clubhouse is one of the most important area which enhances the value of the project and sufficient care should be taken in its design and finishing to project a luxury image. **It is necessary that the clubhouse and its reasonable immediate vicinity (preferably including the swimming pool) is ready no later than 24 months from the date of sales launch of the project** (or date of this policy viz. 25.7.13, whichever is later). In order to achieve this, placement of the clubhouse should be done at appropriate location (requiring minimum construction below club area) and this area should be given 2nd highest priority (after sale towers) wrt design finalization.
2. Review 'Master List of Amenities to Choose From'.
3. Use KCA Brief Format.
4. In Casa clubhouses, minimize airconditioning. Likely air-conditioned areas: Gymnasium and AV Room.
5. Air-conditioning of individual areas should be controllable individually in those areas.
6. Music systems:
    a. Should not be combined with PA systems.
    b. Should be a separate for each of the following - Gym, theatre and party hall (and separate for discotheque, if planned).
    c. Can be a common one for all other areas, playable from the reception.
7. No alarm or fire fighting systems are needed.
8. Access control systems are needed only if planned in the overall development. Basic security features like CCTV @ reception to monitor entry/exit will be needed in every clubhouse.
9. Separate Admin office is not needed – club will generally be manned by the Reception and the back-of-house operations run by the FM.
10. Plan indoor children's play area if feasible, even if not promised.
11. Plan the active areas (Eg. gym, indoor games) on the upper level .
12. Use terrace(s) for some activity if feasible.
13. No lifts to be planned, except in hi-end/luxury clubhouses.
14. Follow policies wrt:
    a. Theatre/Cinema
    b. Gym
    c. Kitchen
    d. F&B Areas (Cafe/Restaurant/Party Hall)
15. Generally, kitchen between cafe/restaurant and party hall can be shared if they are co-located. If not co-located, kitchen for party hall will be provide only with a platform and a ground level sink (mori), so that caterers can come and setup their own arrangements

whenever they have to cater to parties. Such party hall kitchens will not have major cooking, merely warming and last-minute cooking.

16. Yoga rooms are not really used and can be combined with gym or Activity Room
17. If possible, TV in gym should be located in such a manner that users of the cardio machines (eg. treadmill, exerbike etc.) can see if while using the machine. This is not needed if the cardio machines have their own TV (but that is quite an expensive option).
18. Limit no. of entry/exit points of the club – ideally should not exceed 1.
19. In casa clubhouses, snooker/billiards can be avoided and indoor games can focus on TT, Carrom, Chess etc.
20. Generally, library, business centre ounge can be combined into one entity like a 5-star hotel's 'Club Floor Lounge', with one TV placed here. For Business centre functionality, there has to be atleast 1 computer with internet access and a 4-in-in (fax, printer, copier, scanner). Due to growth in WFH, appropriate WFH setup (cabins, separated workstations and meeting room, scale shall be determined by development size) should be planned in all clubhouses (sample: Club Saint Amand, World One 2019). If such 'WFH space' is planned, business centre will be merged into this (no separate business centre requirement).
21. Gym Flooring:
    a. Heavy weights area: Rubberized flooring / wooden flooring with rubberized mats
    b. Rest of gym: Can be wooden or rubberized.
22. Design should ensure that all furnishing items as per 'Policy wrt final completion of common areas' are provided by Design.
23. No Fire Fighting or PA provisions to be made, except:
    a. CO_2 -type 5 kg Fire extinguisher at appropriate locations
    b. Heat detector in kitchen / pantry
24. Special design efforts to be made to reduce energy/water consumption of these spaces. Following steps to be studied/implemented:
    a. AC's with low energy consumption (4-star equivalent)
    b. Lights with low energy consumption. Suggested measures include:

        1. Providing Lighting Voltage Controller to reduce lighting energy consumption in common area. Since, lighting is the linear load optimizing the input voltage supply shall reduce the electric energy consumption of the same. Provided lamps must be installed with dimmable chokes or ballast. For implementing the same, separate lighting supply feeder is must and all the lighting load in common area should have supply from voltage controller.

        2. Consider using LED lights instead of tubes/bulbs (PLs/ tube lights / foot lamps) in common areas (if cost effective) OR Use lamps with low

watt loss copper choke or dimmable electronic choke, instead of electronic non-dimmable chokes.

3. Consider usage of motion sensors in passages and toilets (with 5 min timer).

c. AC's and Lights controllable from individual rooms.
d. CP and Sanitary fixtures which are water efficient.
e. Limiting openings on east and west façade to minimize heat gain and where possible, using shading devices/curtains etc on openings on these facades.
f. Using roof for solar power generation (maximizing quantity of solar power as much as possible, upto extent of peak consumption of clubhouse during day time).

25. Areas used for toilets should be minimized. Ideally, main toilets (including changing rooms) should be located on the ground floor so that swimming pool can be easily accessed. On the other floor, 1 or 2 unisex toilets (WC + washbasin) should be provided.
26. If Theatre/Cinema is planned for >= 50 seats, it should be planned in a manner that it can also be used as an auditorium/performance venue **with stage** (has been done at Lodha Splendora, Thane in 2014).
27. Following livability amenities to be included in clubhouse (unless provided elsewhere in development):
    a. ATM (lobby type) - ~20 sft (for large and very large residential projects)
    b. Medical Centre with separate external access – 200 to 300 sft (for large and very large residential projects)
    c. Convenience Store – 300 to 500 sft (for medium residential projects; in larger projects this shall be standalone)
    Also see '*Provision for livability retail in residential, office (and mixed use) developments'* policy (architecture) for additional details.
28. Indicative distribution of spaces:
    a. Ground floor
        1. Reception
        2. Main toilets / changing room / health club
        3. Any double height sports courts (eg. Squash, Basketball, Badminton etc.)
        4. Livability Amenities (as applicable)
    b. 1st Foor
        1. Indoor games
        2. Theatre/Cinema
        3. Guest rooms (if applicable)
        4. 1/2 unisex toilets
    c. Either Floor
        1. Gym (preferable to have it close to the main toilets on the ground floor, but can also be on the 1st floor)
        2. Party hall (locate where large outdoor area can be joined eg. Party lawn on ground floor or Party terrace on 1st floor)

3. Indoor kids play area (locate where outdoor area can be joined eg. lawn on ground floor or terrace on 1st floor)
4. Restaurant / Café (on same level as Party hall so that kitchen can be shared) (if applicable)
5. Kitchen / Stores (on same level as Restaurant / Café)
6. Lounge / Business Centre / Library

d. Terrace

1. Should be planned as a flat roof and use as sports court / terrace / outdoor café etc.

29. The main circulation staircase within the clubhouse should generally be 2 m wide (if multiple staircases, the others can be 1/1.2/1.5 m wide, as required by regulations).
30. Café / Restaurant should only be planned if said development (i.e. using that clubhouse) will have 500 or more units (in case of weekend home development, this limit shall be 100 units). This is due to minimum occupancy requirement for a café to be run by a good operator. In case of office development, space shall be provided for branded café / restaurant with external access permitted based on retail footfall potential (min. 1 for any office development with > 2500 planned occupancy) – foodcourt shall be planned if occupancy is expected to exceed 10,000 occupants in single shift in said campus.
31. All washbasins and showers should have hot and cold water supply.
32. Guest rooms (5 – 10 nos.) should be planned in all aspi, hi-end and luxury developments with > 500,000 sq. ft. Gross Weight.
33. For signage guidelines, please refer to '*Signages Guidelines for Residential Projects*'.
34. For snagging guidelines, please refer to 'Snagging and setup of KCAs - guidelines'

Indoor Games Area Guidelines:

Following features/items are recommended:

Basic (Casa/Aspirational):

1. Table Tennis
2. Carom
3. Table for board games with following board games available at reception – Cards, Scrabble, Chess
4. Foozball (table football)

Advanced (Hi-end/Luxury):

1. Table Tennis
2. Carom
3. Table for board games with following board games available at reception – Cards, Scrabble, Chess
4. Foozball (table football)
5. Snooker or Pool table with overhead light (not billiards)

Please note that while Snooker/Pool should not be promised in future Casa/Aspirational developments, decision to provide the same or not should be discussed with Director-Design, if they are currently promised.

For items 1,2,3 Above, the number should be calculated on the basis of no of apartments in the township . For clubhouses which serve less than 1000 units, 2 nos of each should be provided.

No. Of units served	No of TT tables	Carrom	Multi-use (Chess, Cards etc)
1000-4000	3	3	3
4000-8000	4	4	4
8000+	6	6	6

The number of tables provided in the cluster club (if applicable) will be in addition to the above tables.

Occupation Factor Norms

Residential:

Segment / No. of Bedrooms	Luxury	Hi-end	Aspirational	Casa
1 BHK	NA	NA	4	4
2 BHK (and 1.5 BHK)	5	5	4	4
3 BHK (and 2.5 BHK)	5	5	5	5
4 BHK (or larger)	7	7	6	NA

Basis of Calculation:
2 occupants in master bedroom + 1 additional occupant of each additional bedroom (2 additional occupant if 2 BHK only) + 2 full-time domestic help in all 4 BHK or larger apartments in Luxury/Hi-end category / 1 full-time domestic help in all 2/3 BHK apartments in Luxury/Hi-end category and 3 BHK or larger apartments in Aspirational or Casa category, subject to minimum of 4 occupants and maximum 7 occupants (including any full-time domestic help).

% of occupation shall be estimated at 80%.

5 occupants per unit are used for municipal/government purposes.

Office:

Segment	1 person per ___ sq. mtrs. of carpet area (at peak)	% of occupation to be assumed at peak	% of Absentees assumed at peak
Excelus	8.8	90%	10%
Supremus	8.8	90%	10%
iThink	8.8	90%	10%

1 user per 10 sq. mtrs. of built-up area is used for municipal purposes.
Reference occupancies of competitor developments (2018) are enclosed in Annexure A.

Retail:

Segment	1 Full-time person per ___ sq. mtrs. of carpet area	1 Visitor per ___ sq. mtr. of carpet area during peak hour (one hour)
Boulevard	10	7
Experia	10	5

Parking Building eg. MLCP:

- Assume 1 person per car slot.
- Peak occupancy of 80% of the no. of car slots available being used in 2 hour peak. (Occupancy for elevator purposes = Total no. of car slots x 80% / 2)

Occupation in parking building is only for purposes of entrance, parking and exit and total usage duration is unlikely to be > 10 minutes from entrance to exit. Hence, usage of toilet facilities shall be minimal (and only restricted to drivers and housekeeping staff, which sizing is covered by 'Key Conveniences in Parking & Other Common Areas' policy).

Annexure A

Occupancy at competitor office developments (2018)

Developer	Type	Occupancy sqft/person	Absenteeism	Maximum occupancy sqft/person	Base	Remarks
AECOM - Tata Realty	IT/ITES	70	10%	77.8	Pline*	Same in Mumbai and Gurgaon
AECOM - Reliance Twin Towers, Ghansoli	Corporate Office	80	10%	88.9	Pline*	Reliance's own office
AECOM - Kohinoor Square, Mumbai (upper floors)	IT/ITES	80	10%	88.9	Pline*	Selling as Premium space
AECOM - Kohinoor Square, Mumbai (lower floors)	Supremus, mix	60	10%	66.7	Pline*	
AECOM - TCS, Thane	IT/ITES	70	10%	77.8	Pline*	
AECOM - TCS, Thane	BPO	35	10%	38.9	Pline*	
Grune - Embassy, Bengaluru	IT/ITES	65	10%	72.2	Pline*	Manyata Business Park
Buro Happold - Godrej, BKC	Corporate Office	100	20%			
Buro Happold - Piramal Agasthya, Kurla - Phase 1	Corporate Office	100	20%			Reducing in Phase 2 to 65sqft/person
AHC - Infosys	Corporate Office	120	not specified			
AHC - Infosys	IT/ITES	80	not specified			
KAPL reference	Corporate Office	80-100	not specified			
KAPL reference	IT/ITES	50-60	not specified			
* excluding AHU rooms and toilets						

Policy wrt Brand / Signage Placement of Occupiers (Owners / Leasees) of Office Premises

1. Policy wrt Façade Signage
    a. Façade signage opportunities shall only be provided to the major occupants of a wing / building.
    b. Following will be the criteria to be fulfilled in order to qualify to obtain a façade signage opportunity:

Brand	**Min. % of Total leaseable area occupied in the concerned wing / building**	**Max. no. of Façade signage opportunities in a given wing / building**
Excelus	25%	3
Supremus	50%	1
iThink	50%	2

    c. The location, dimensions (L x W x H), colour restrictions and type (backlit, Neon, non-lit) etc. of the permissible façade signage shall be decided solely by Lodha (Design) and informed to Sales at the time of launch of booking. No changes in the same shall be permitted under any circumstances whatsoever.
    d. All works related to the façade signage fabrication & installation shall be done by Lodha (CM).
    e. All works related to the electrification of the signage (if any) shall be done by Lodha (CM).
    f. In case of any damage / repairs to the signage, post installation, such works shall be carried out by Lodha (FM).
    g. In case of all expenses related to d-f, Lodha shall charge the Occupier at Cost + 25% - charges related to d and e shall have to be paid by the Occupier, at least 6 months prior to possession. All such charges shall be collected by Customer Care (head to be decided by Customer Care).
    h. All works related to the maintenance / electric consumption (if any) of the signage during operation phase shall be done by Lodha (FM) and charged as a separate monthly fee to those having the Façade signage. The said monthly fee shall be decided by FM from time to time on cost + margin basis.
    i. In case a building is entirely occupied by a single occupier, the entire signage space available (in terms of the numbers given above), shall be made available to the said tenant, who can put up one sign of any size which fits within the said available area.

2. Policy wrt Open Signage
    a. Open Signage (poles etc.) shall be installed only in case of large campuses, where several occupiers have their own individual buildings.
    b. In such cases, Signage Pole shall be installed at prominent location at entrance of the campus and each full building/wing occupier (or occupier occupying at least 50% of an individual building / wing) shall be entitled to one signage on the same. The maximum no. of available slots shall be '**no. of wings planned on campus* 1.5**'.

c. The location, dimensions (L x W x H), colour restrictions and type (backlit, Neon, non-lit) etc. of the façade signage shall be decided solely by Lodha (Design) and informed to Sales at the time of launch of booking. No changes in the same shall be permitted under any circumstances whatsoever.
d. All works related to the façade signage fabrication & installation, shall be done by Lodha (CM).
e. All works related to the electrification of the signage (if any) shall be done by Lodha (CM).
f. In case of any damage / repairs to the signage, post installation, such works shall be carried out by Lodha (FM).
g. In case of all expenses related to d-f, Lodha shall charge the Occupier at Cost + 25% - costs related to d and e shall have to paid by the Occupier, atleast 6 months prior to possession. All such charges shall be collected by Customer Care (head to be decided by Customer Care).
h. All works related to the maintenance / electric consumption (if any) of the signage during operation phase shall be done by Lodha (FM) and charged as a separate monthly fee to those having the Open signage. The said monthly fee shall be decided by FM from time to time on cost + margin basis.

3. Policy wrt Signage in Building Lobby
   a. Each occupier (irrespective of area occupied) of a building / wing shall be entitled to one signage per floor (or part thereof) occupied by them, displaying its name / logo on the name list in the lobby of the building / wing.
   b. The name list shall be prepared floor wise, with space for name / logo plates to be slid in / out. The x-dimension (horizontal) length of the name board shall be such that name / logo plates can be put in for the maximum planned no. of occupiers on that floor.
   c. The occupier shall be required to provide its name / logo to be installed in the name list in electronic format at time of registration of agreement. Customer care shall collect the same for all customers and forward to Project Architect three months before date of scheduled possession.
   d. The size, type, material etc. of the name list and name / logo plates shall be decided solely by Lodha (Design).
   e. This policy shall not apply in the case of those buildings where it is known (atleast 3 months before possession) that it is a single occupier building, in which case no name list shall be put in the lobby.

4. Specific attention to be paid wrt having **well-designed & attractive/fun signage** in common areas (designed & finished by Lodha) to encourage desired behavior in identified focus areas (2019 – sustainability, wellness and collaboration) eg. No smoking, hand washing, food nutrition content, staircase usage, carpooling, switching off lights etc. . However, care to be taken not to appear like a 'nanny'

In all other areas, policy guidelines as applicable for residential building signage shall be followed (see *Signages Guidelines for Residential Projects*)

Vastu - Offices

Principles

1. Vastu functions on the principle of direction of energy flow with energy believed to come in from where the levels are the lowest and not being allowed to come in from where the levels are the highest.
2. The directions are determined in reference to the centre of the place whose Vastu is being looked.
3. There are eight key directions on the Vastu Compass – North, North East, East, South East, South, South West, West, North West) forming 8 quadrants with different characteristics:

	North	**North East**	**East**	**South East**	**South**	**South West**	**West**	**North West**
Energy Flowing In	+	++	+	-	-	--	+	+
For Entry	+	++	+	-	-	--	+	+
Level to be kept		Lowest				Highest		
Linked Element		Water		Fire		Earth		Wind
Considered Appropriate For		Place of Worship, Open Spaces, Entry		Pantry		Cabins of high ranking employees, Storage		Toilets
Considered Inappropriate For		Kitchen, Toilets, Cabins of high ranking employees. Storage						

Guidelines

Plot:

1. Ideal plot would are rectangular / square in shape with all four angles at 90. In the event of irregular shaped plots, a NE extension (angle < 90) is considered favorable and a NE or SW cut (angle > 90) is considered non-favorable.
2. Highest structures should be in the South West Corner and lowest in the North East Corner.
3. Geographical centre of the site to be kept unloaded (empty) (court yard concept).
4. Construction to preferably start from the South West and proceed towards the North East (such that the South West is always higher than the North East).
5. Heat generating utilities (electric substation, receiving station etc.) to be preferably placed in the South East or North West.

6. Waste Generating utilities (Garbage collection, Sewage Treatment Plant) never to be place in the North East and preferably not in the South West.

Building:

7. Main entrance to be such that a person does NOT face South while exiting the building.
8. Staircases to climb up clockwise. If possible, no. of steps (risers) should be odd.
9. South west quadrant of building to be highest (Overhead water tank can be placed in South or the West but not exactly in the South West quadrant).
10. North East quadrant of the building to be lowest (underground water tank can be placed in the NE quadrant).

Units:

11. Person should NOT face South while exiting the unit. Preferably person should face East or West while exiting. North is also acceptable. (**Must have**)
12. Main Cabins / Cabins of high ranking employees should preferably be placed in the South West and never in the North East. (**Must have**)
13. Toilets, Storage, Server Room, Electric/utility Room should be avoided in North East corner of the unit. Storage is preferred in the South West and toilets, server room, Electric/Utility room in the South east. (**Nice to have**)
14. Pantry should never by placed in the North East (**Nice to have**) and may be placed in the South East (1^{st} pref) or North West (2^{nd} pref)
15. Entry to the unit should be avoided from the South and South West quadrant. It is preferred from the North East quadrant.
16. North east cut to the unit should be avoided.
17. Server Room, Electric/utility Room should be avoided in Geographic centre of the unit.
18. While locating the WC, it should be attempted that the user does not face east while sitting on the WC.

Vastu - Residential

Principles

1. Vastu functions on the principle of direction of energy flow with energy believed to come in from where the levels are the lowest and not being allowed to come in from where the levels are the highest.
2. The directions are determined in reference to the centre of the place whose Vastu is being looked.
3. There are eight key directions on the Vastu Compass – North, North East, East, South East, South, South West, West, North West) forming 8 quadrants with different characteristics:

	North	**North East**	**East**	**South East**	**South**	**South West**	**West**	**North West**
Energy Flowing In	+	++	+	-	-	--	+	+
For Entry	+	++	+	-	-	--	+	+
Level to be kept		Lowest				Highest		
Linked Element		Water		Fire		Earth		Wind
Considered Appropriate For		Place of Worship, Open Spaces, Entry		Kitchen		Master Bedroom		Kitchen (2nd pref), Non-Master Bedroom
Considered Inappropriate For		Kitchen, Toilets		Master Bedroom		Servant's quarters, children's bedroom		

Guidelines

Plot:

1. Ideal plot would are rectangular / square in shape with all four angles at 90. In the event of irregular shaped plots, a NE extension (angle < 90) is considered favorable and a NE or SW cut (angle > 90) is considered non-favorable.
2. Highest structures should be in the South West Corner and lowest in the North East Corner.
3. Geographical centre of the site to be kept unloaded (empty) (court yard concept).
4. Construction to preferably start from the South West and proceed towards the North East (such that the South West is always higher than the North East).

5. Heat generating utilities (electric substation, receiving station etc.) to be preferably placed in the South East or North West.
6. Waste Generating utilities (Garbage collection, Sewage Treatment Plant) never to be place in the North East and preferably not in the South West.

Building:

7. Main entrance to be such that a person does NOT face South while exiting the building.
8. Staircases to climb up clockwise. If possible, no. of steps (risers) should be odd.
9. South west quadrant of building to be highest (Overhead water tank can be placed in South or the West but not exactly in the South West quadrant).
10. North East quadrant of the building to be lowest (underground water tank can be placed in the NE quadrant).

Units:

11. Person should NOT face South while exiting the unit. Preferably person should face East or West while exiting. North is also acceptable. (**Must have**)
12. Toilets should be avoided in North East corner of the unit. (**Must have**)
13. Kitchen should never by placed in the North East (**Must have**) and may be placed in the South East (1st preferred) or North West (2nd preferred).
14. Master Bedroom should preferably be placed in the South West and never in the North East. (**Nice to have**)
15. Entry to the unit should be avoided from the South and South West directions.
16. North east cut to the unit should be avoided.
17. Ventilation should be highest from North and North East and if possible, South West should offer least ventilation.
18. Pooja Area / Room should be located such that the Deity faces east or west.
19. Heavy storage / electric utility inlet should be avoided in Geographic centre of the unit.
20. While locating the WC, it should be ensured that the user does not face east while sitting on the WC.

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Efficiency of design Guidelines

a) Unit Carpet Area – Total Carpet area inside all the units on the relevant floor. Calculation on RERA basis
b) Unit Passage Area – Sum of the (not practically usable) passage areas inside all the units (on the floor / building) as relevant
c) Saleable Area – Saleable areas for the units, based on the unit carpet area * applicable loading factor.
d) FSI – FSI used for building, including enclosed balcony, wardrobe, Fungible FSI, TDR or equivalent. Excludes lift, lift lobby, staircase and ET.
e) Floor BUA – BUA of a given floor (excluding any parking, entry and service / MEP levels)
f) Building BUA – Sum of the built-up area of all floors in the building (excluding any parking-related areas).
g) FSI Efficiency (FE) – ΣUnit Carpet Area / FSI (building level)
h) Typical Floor Inefficiency (TFI) –Floor BUA / ΣUnit Carpet Area (typical floor)
i) Building Inefficiency (BI) –Building BUA / ΣUnit Carpet Area (building level)
j) Passage Inefficiency (PI) – ΣUnit Passage Carpet Area / ΣUnit Carpet Area (typical floor)

(for norms regarding the calculation of the any BUA, please refer to the applicable 'Gross Weight calculation basis')

Segment	**Target FSI Efficiency (FE)**	**Typical Floor Inefficiency (TFI)**	**Building Inefficiency (BI)**	**Passage Inefficiency (PI)**
Luxury	T: >97% Min: 94%	T: <135% Max: 145%	Max: TFI + 5%	T: <3%, M: 6%
Hi-end	T: >94% Min: 91%	T: <135% Max: 145%	Max: TFI + 5%	T: <3%, M: 6%
Aspirational	T: >94% Min: 91%	T: <135% Max: 145%	Max: TFI + 5%	T: <3%, M: 6%
Casa	T: >94% Min: 91%	T: <135% Max: 145%	Max: TFI + 5%	T: <3%, M: 6%
Supremus	T: >96% Min: 93%	127%	Max: TFI + 5%	NA
Excelus	T: >98% Min: 95%	117%	Max: TFI + 5%	NA
iThink	T: >98% Min: 95%	120%	Max: TFI + 5%	NA
Boulevard	T: >96% Min: 93%	143%	Max: TFI+1%	NA
Experia	T: >96% Min: 93%	112%	Max: TFI+1%	NA

- In case of Luxury & Hi-end residential and Supremus office, the Floor and Building inefficiency can be by upto 10% higher than the stated target, if the increased cost of construction of the incremental core/service/entry area can be justified by increase in saleable area from the same base FSI.
- In all other segments, the actual Floor and Building inefficiency should be <= Target.

It is mandatory to have all 4 (in)efficiencies (FSI, Floor, Building, Passage) calculated and agreed, prior to finalization of concept.

Notes:

1. The Floor inefficiency is an indicator of the surplus built-up area on the said floor, compared to what counts towards unit carpet.
2. The Building inefficiency is an indicator of the surplus built-up area in the building, compared to what counts towards unit carpet.
3. The FSI efficiency is an indicator to how much structure + space outside the unit is counted towards FSI.
4. (Floor BUA - Unit Carpet Area) indicates the area available for core and structure (other than structural elements within the unit away from its external face) on habitable floors. The goal is to ensure that almost 100% FSI is used toward unit carpet area.
5. (Building BUA – Floor BUA – Unit Carpet Area) indicates the area available for entry and service areas.
6. Higher efficiency is better, lower inefficiency is better!
7. Every floor plan which is under design/review should have following table:

FSI (building level) (A)	ΣUnit Carpet Area (building level) (B)	ΣUnit Carpet Area (typical floor) (C)	ΣUnit Passage Area (typical floor) (D)	BUA (typical floor) (E)
Building BUA (F)	FE(B/A)	TFI (E/C)	BI (F/B)	PI (D/C)


Core Optimization - Comparisons - Lodha

Project Const Cost Guidelines **Updated with inflation upto 1.4.18** 15.5.18 Version: 4

psf rera carpet		Luxury	Hi-end	Aspirational	Casa	Excelus	iThink	Supremus	Experia	Boulevard	Notes
Consultants	<=	2%	2%	2%	2%	2%	2%	2%	3%	2%	Add 1% for projects with saleable area < 200,000 sft OR if there is a specific desire to building an iconic building; in case of marketing alliances, the consulting fee portion to be determined taking into account the equivalent cost of top firm for that service.
Civil	<=	2630	2370	1370	1260	1570	1190	1790	2440	1410	a. psf carpet b. Increase by average of RBI CPI+WPI inflation in previous FY on 1st April of each FY. Costs to be determined on starting date of the plant c. avoid buildings > 150 m and minimize basements d. In case of buildings with advanced structure construction techniques (eg. steel/composite), civil premium to be determined based on time saving NPV.
MEP	<=	2110	1320	890	630	810	650	920	1350	920	a. psf carpet b. Increase by average of RBI CPI+WPI inflation in previous FY on 1st April of each FY. Costs to be determined on starting date of the plant.
Façade	<=	1,840	790	320	240	870	430	980	270	270	a. psf carpet b. Increase by average of RBI CPI+WPI inflation in previous FY on 1st April of each FY. Costs to be determined on starting date of the plant c. Avoid cladding/glazing in resi building other than luxury.
Finishes		5240	3210	1310	690	430	360	520	540	300	The budget targets here are a 'backward calculation' for the others. These are key areas of consumer value. Don't compromise on quality but ensure that value is obtained by having clarity on what customer will pay for/value.
KCAs											
Other Infra	<=	2630	2630	1260	790	1630	1080	1630	920	810	a. Special focus on softscape which can low cost and high value b. Ensure parking is optimized and costs moderate c. Huge monies being spent here and great scope for value engineering.

Max total cons cost (including infra) per sq. ft. of habitable carpet area		14740	10530	5260	3680	5420	3790	5960	5690	3790	a. if designer residences, add Rs. 1000 psf carpet b. excludes costs related to any FSI generation buildings (eg. PPL, Rental etc.) c. Increase by average of RBI CPI+WPI inflation in previous FY on 1st April of each FY. Costs to be determined on starting date of the plant d. Cost budgets maybe upto 20% lower depending on location and economics thereto.
Efficiency		60.61%	60.61%	62.50%	64.56%	65.00%	70.00%	60.00%	60.00%	60.00%	
Implied max. cost psf saleable		8,933	6,382	3,288	2,376	3,523	2,653	3,576	3,414	2,274	

Whether Foreign Architect can be used?		Yes	No	No	No	Yes	No	Yes	Yes	No	Foreign architects tend to have high façade costs.
Whether specialist ID firm can be considred for common area interiors?		Yes	Yes	Yes	No	Yes	No	No	Yes	No	
Whether specialist ID firm/alliance can be considered for unit interiors?		Yes	Yes	No	No	No	No	No	No	No	
Whether foreign landscape design firm can be considered?		Yes	Yes	No	No	Yes	No	No	Yes	No	

Likely height limit (m)		150	150	100	45	100	45	70	24	10	Avoid basements as far as possible.

Other Cost Targets

Type	Cost psf of BUA (including related infra)	
Parking	1200	
Non-Sale resi buildings	2000	
Schools	2500	Excluding FF&E

Other Comments

a. Const costs need to be continuously benchmarked against 'like' projects. To determine like projects, consider 'height', 'segment' and 'city' as key factors

VEE team shall review these benchmarks and change the cost norms, if needed, on 1st April of each FY.

b. The goal is to achieve cost goals at the plant level and any changes within packages can be made with approval of HoD-Design, as long as overall cost goals are met.

c. For new type of projects (where Lodha has not completed atleast 2), seek external benchmarking for cost and design eg. Hospital, mall etc.

d. See 'Perceived Value Matrix'.

Wall Solutions Policy
(Replaces Wall Thickness Policy)

The following are the key goals while selecting the type of wall material and their thickness (in order of priority):

1. **'Fit for purpose' for entire lifespan of building**. Purpose for external walls (including wall between two units and/or walls of a unit which are accessible from a common area) is weather protection, leakage prevention and safety. Purpose of internal walls within unit is sound control (transmission from one room to another should be close to almost nil at 50 Db source sound), division of rooms and ability to use walls for tasks like hanging art, mounting TV etc. Additionally, the wall system should have fire resistance as prescribed by statutory/code requirements.
2. **Maximize carpet area inside the unit** viz. minimize wall thickness, as long as the increase in value of the carpet area offsets the additional costs, if any, of the wall solution.

3. **Improve Constructability:** The system selected must be as easy to construct as possible. In general, it must eliminate need of other trades, dependencies and specialized treatments., the wall system selected should provide maximum ease of construction with minimum impact on timeline;
    a. Additional trade / coating: External plaster must be avoided for buildings > 30m in height as far as possible
    b. **Interface & impact on Other Trades:** System selected must have minimum dependencies on other trades (for e.g. Facade or MEP)
    c. **Special Treatment:** System selected should have minimum requirements for special treatments such as specialized water-proofing treatment & insulation treatments

4. **Reduction in structural load:** Walls form a significant portion of the dead load of a building and hence, influence the structural design. The lighter the wall system, the lesser the loading on the structural frame and consequently, some savings in structural cost are possible.

5. **Customer Experience / Usability:** System should be able to meet Customer mindset and provide flexibility to install fixtures /paintings/ TV at any location without special tools / modification

USAGE GUIDELINES:

Table A

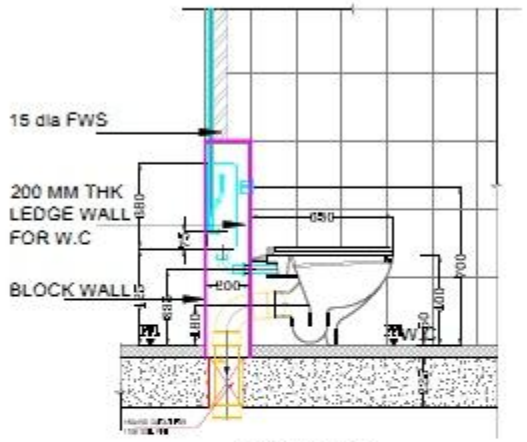
(note raw widths in mm)	**Light Weight Block (LWB)**	**Comments**
Walls between rooms	100mm	
Walls between units	150 mm	
Walls between unit & passage	150 mm	Typically, very small wall (entrance lobby section) in most of our designs
Wall facing external face of building (exposed to weather)	150mm	
Toilet Wall	WC: 150mm + ledge wall Shower: 150mm	Minimize offsets except for ledge / shower strip
Kitchen Wall	150 mm wall	All kitchen walls (and kitchen door) should be designed with 1 hour fire rating or as mentioned in the Fire NOC
Main entrance	150mm	
DB (90mm)	150mm	Can be further reduced if DB location (e.g. Wadala in store-room) or if planning a "cover" like World One.
Other Parameters		
Installation Time / floor (~5000 sft) (days)	20	
Labour required for a single floor (nos.)	20	
Total time per floor (man days)	400	
Finished Thickness (mm)*	Raw Width + 20 mm	
Weight of Light Weight Blocks	600 to 700 kg/cum	
Assumed cost (including all taxes and finishing coat on the wall)	Rs. 103 -140 psf for 100 -150 mm	

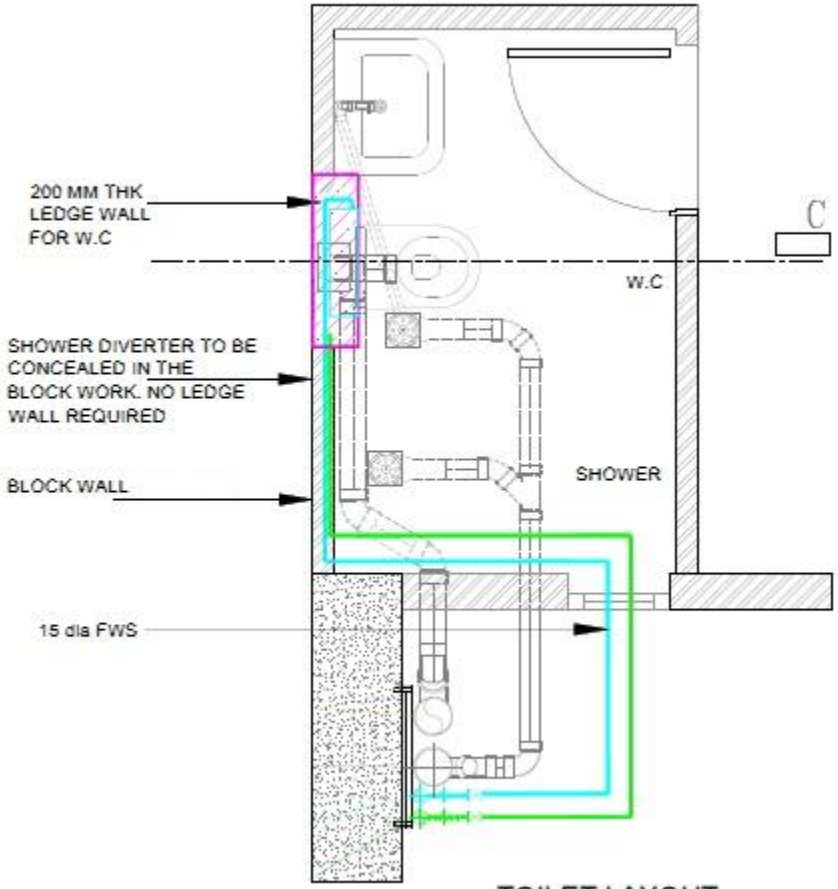
Note:

1. As of June 2016, it is recommended that all internal walls shall be designed for Light Weight Blocks with thin (2-3mm) bed fixing material (such as Fixoblock, Accoplast, etc.). This policy must be reviewed every year in order to accommodate other possible (thin, light-weight, and more constructable) solutions that the Procurement/Design team may recommend.
2. The revised Wall Solutions Policy is to be read in conjunction with Policy for Calculation of Saleable Areas.

3. Exceptions to this policy can be made for specific projects/towers, wherein the Project Director along with key stake-holders feels there is a justified need for Dry Wall System and prepares a supporting business case, subject to approval by the COO and/or Regional CEO. Such decision is to be made prior to completion of construction of plinth level for the concerned wing.
4. For specific wall termination conditions at slab soffits, please refer to the diagrams shown in the annexure.

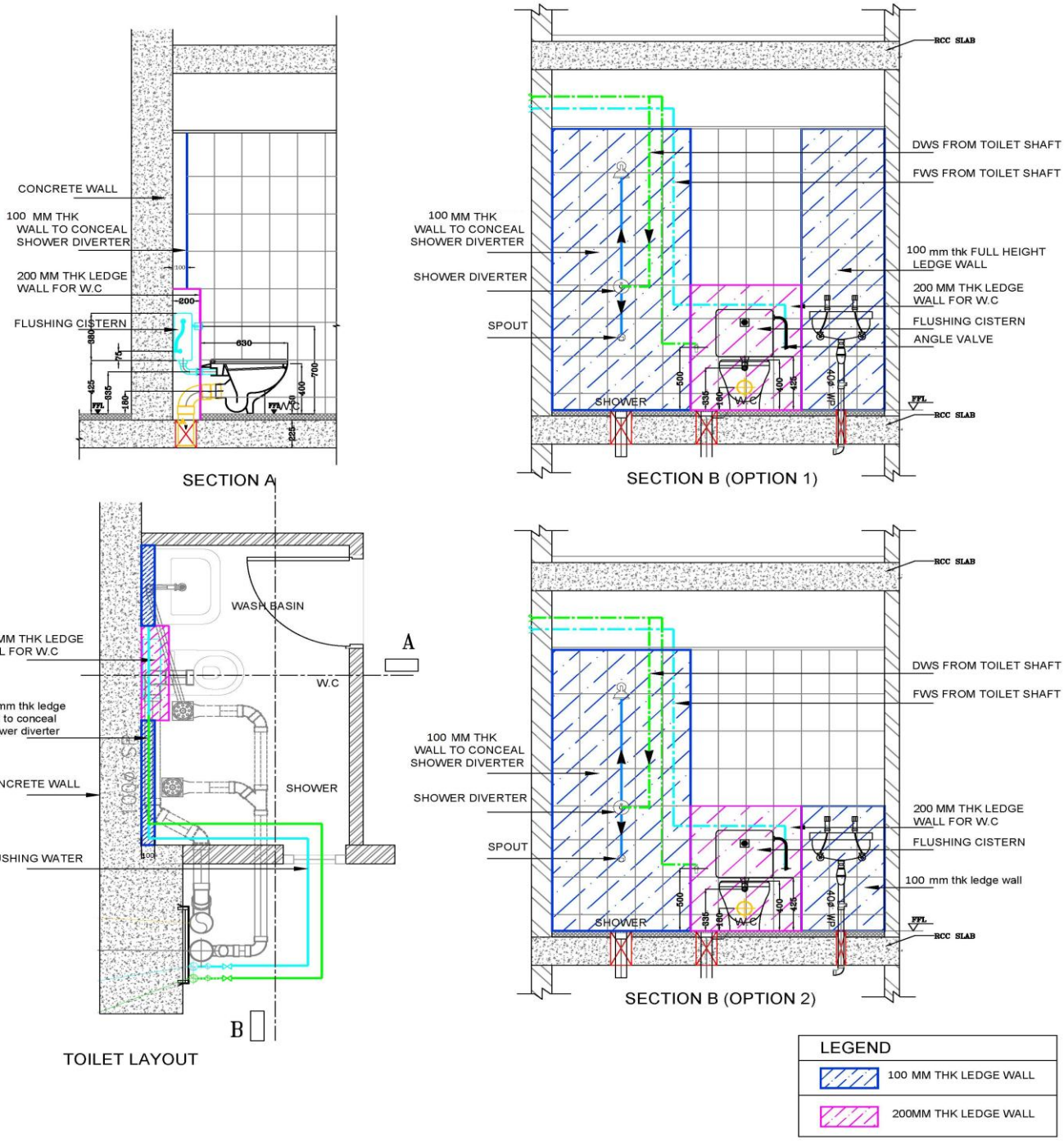
Annexure A:


15 dia FWS
200 MM THK
LEDGE WALL
FOR W.C
BLOCK WALL
SECTION C


200 MM THK
LEDGE WALL
FOR W.C
C
W.C
SHOWER DIVERTER TO BE
CONCEALED IN THE
BLOCK WORK. NO LEDGE
WALL REQUIRED
BLOCK WALL
SHOWER
15 dia FWS
TOILET LAYOUT

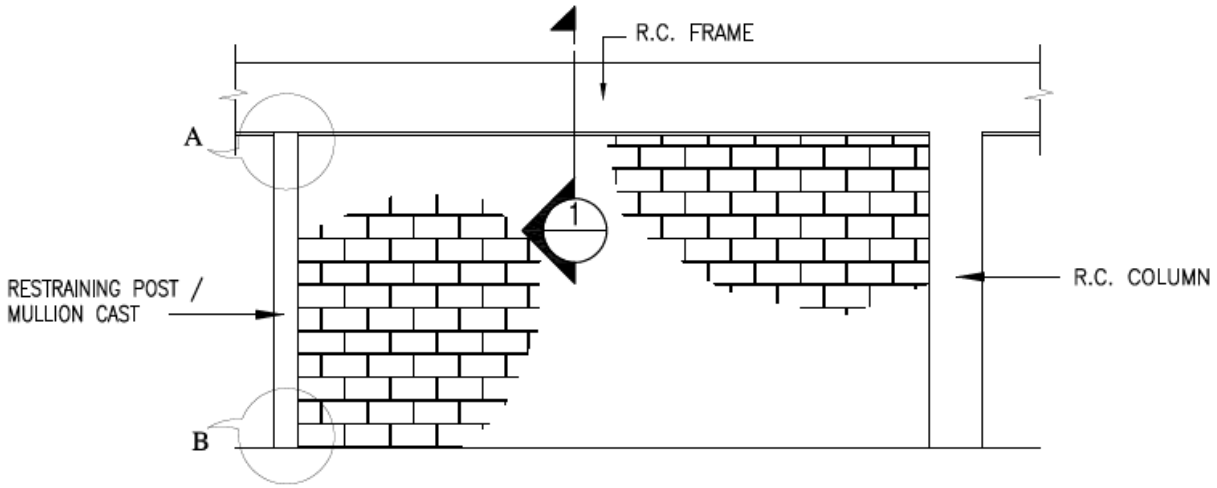

LEGEND
200MM THK LEDGE WALL

Annexure B:

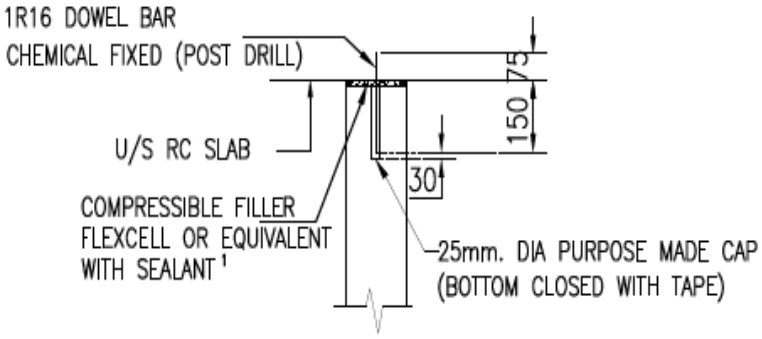

CONCRETE WALL
100 MM THK WALL TO CONCEAL SHOWER DIVERTER
200 MM THK LEDGE WALL FOR W.C
FLUSHING CISTERN
SECTION A
RCC SLAB
DWS FROM TOILET SHAFT
FWS FROM TOILET SHAFT
100 MM THK WALL TO CONCEAL SHOWER DIVERTER
SHOWER DIVERTER
SPOUT
100 mm thk FULL HEIGHT LEDGE WALL
200 MM THK LEDGE WALL FOR W.C
FLUSHING CISTERN
ANGLE VALVE
SHOWER
W.C
SECTION B (OPTION 1)
WASH BASIN
200 MM THK LEDGE WALL FOR W.C
W.C
100 mm thk ledge wall to conceal shower diverter
CONCRETE WALL
SHOWER
FLUSHING WATER
A
B
TOILET LAYOUT
SECTION B (OPTION 2)
100 mm thk ledge wall
LEGEND
100 MM THK LEDGE WALL
200MM THK LEDGE WALL

Annexure C:

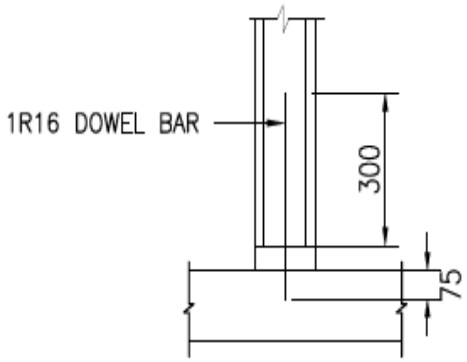
Typical joint details for Block Wall:



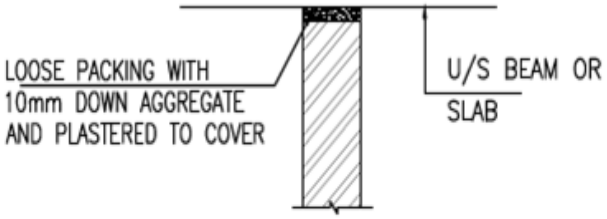
INTERNAL WALL PANEL



DETAIL AT `A'

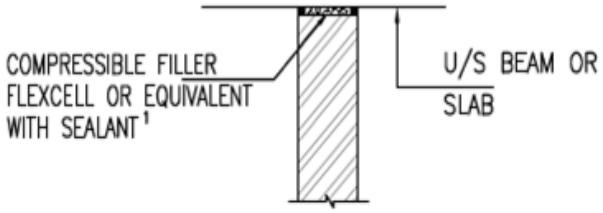


DETAIL AT `B'.



SECTION 1-1

(FOR SPANS UP TO 5.0m)



SECTION 1-1

(FOR SPANS > 5.0m)

SPAN	GAP ABOVE BLOCK WALL
UPTO 5.0m	15 mm
5.0 TO 7.0m	20 mm
ABOVE 7.0m	AS PER DESIGN

1. SEALANT
   - FIRE RATED – HILTI BRAND FS–ONE MAX OR EQUIVALENT
   - NON FIRE RATED – PROFLEX OR EQUIVALENT

Signage Guidelines- Residential Projects

A Standard Signage Program for any Residential project shall include the following Sign Types & the basic signage guidelines. The following may vary to a certain extent from case to case :

1. **Entrance Branding Sign:**
   - The Logo of the project (symbol and name, no tagline), generally in English, will be placed at the main entrance of the project in a size and manner that is clearly visible for someone who is driving or walking (before the pass the entry point). This shall be lit for easy visibility at night. In case the project name doesn't not have the name Lodha (eg. The Park, iThink), the Lodha logo (5 bar + Lodha) should also be prominently placed at the entrance (eg. The Park entrance – 2015 – image below).
   - If any requirement for regional language signage, the same will be done in a less prominent fashion (eg. a well done board with moderate size font) on the main entrance. While this is a 'compliance', we will do it in a gracious and aesthetically pleasing manner (though size and cost will be kept under control).



2. **Wing Signage:**
   - Generally, wing identification shall be placed prominently next to the main entrance lobby of the wing (eg. 'C'). If the wing's name is difference from the name used at the 'Entrance Branding', the said name will also be listed along with the Wing (eg. 'Artica C' at Casa Rio) in a It should be sized and placed manner that is clearly visible for someone who is driving or walking (before the pass the entry/drop-off point). This is also to be put on any other level / side where large no. of residents/guests are expected to enter the building eg. Podium/landscape level, parking level if the said level is different from the entry level,

3. **Reception Building Sign:**
   - 5 bar Lodha Logo shall be used, on/close to the reception table.
   - If there is a motif / symbol developed as a support graphic for signage scheme, that may or may not appear on the reception branding

4. **Building Directory:**
   - Not to be used – no building directory is required.

5. **Destination Signs:**
   - All the destination signs will either be represented in the form of pictograms or text consistently across all sign types

- Any signage on footpaths / circulation paths should be placed parallel to the same so that it doesn't obstruct movement. If perpendicular is required, same should be placed above 1.8 m.

6. Public Washroom Signs:

- The washroom signs will have pictogram OR text representation.
- Nomenclature will be Ladies, Gentlemen / Gents (or appropriate pictogram). If unisex, will be called 'Washroom' (or appropriate pictogram).

7. Areas within KCA's – signage nomenclature:

- Use text or appropriate pictogram.
- Text suggestions:
  - Gymnasium
  - Cinema
  - Kids Club
  - Meeting Room
  - Dining Room
  - Massage
  - WC <for WC inside a larger mens or ladies changing room>
  - Steam
  - Shower

8. Lift Numbering Sign:

- If there is more than one passenger elevator, the same shall be numbered starting with A. The numbering shall be marked inside the passenger elevator and only on the main entrance level (in a discreet manner only such that in times of emergency it is possible to know which lift is represented by which Alphabet). In case of destination dispatch / equivalent system, lift numbering signage is needed on all levels served by such lifts.
- Service Lift (if any) shall be marked separately as Service Lift only inside the elevator.
- Whichever elevator is earmarked as 'Fire Lift' shall be marked with suitable signage indicating 'fire lift' inside the elevator and on the main entrance level in the lift lobby.

9. Staircase sign:

- Fire exit staircases will have a sign which is Photo-luminescent

10. Floor Indicator In Lift Lobby:

- We will not provide floor indicators in lift lobbies

11. Floor Indicator In Staircase:

- Provide a floor indicator sign in staircase at landing level, preferably in paint since staircase is a back of house area. For floors on which refuge levels are located, the word 'Refuge' should be stated next to (adjacent, above or below) the floor number in a clearly visible manner, preferably in paint/material which is visible in the dark (eg. Photo luminescent paint).

12. Flat Number :

- Provide Flat Number sign. Generally will be integrated with Name Plate (see 11. Below).

13. Name Plate :

- Name plate shall be provided. Middle of plate should be placed at 62" above FFL, height of name plate to be ~2.5".(refer figure 1 below)
- Customer name shall be displayed as First Name_Last Name. First name shall be designed for maximum of 9 characters and Last name for maximum of 9 characters. If name is longer, font size shall be changed. (No provision shall be made for initials, accordingly the plate can be sized accordingly), Material used for names shall be such that the names can be changed reasonably easily at time of resale of unit.

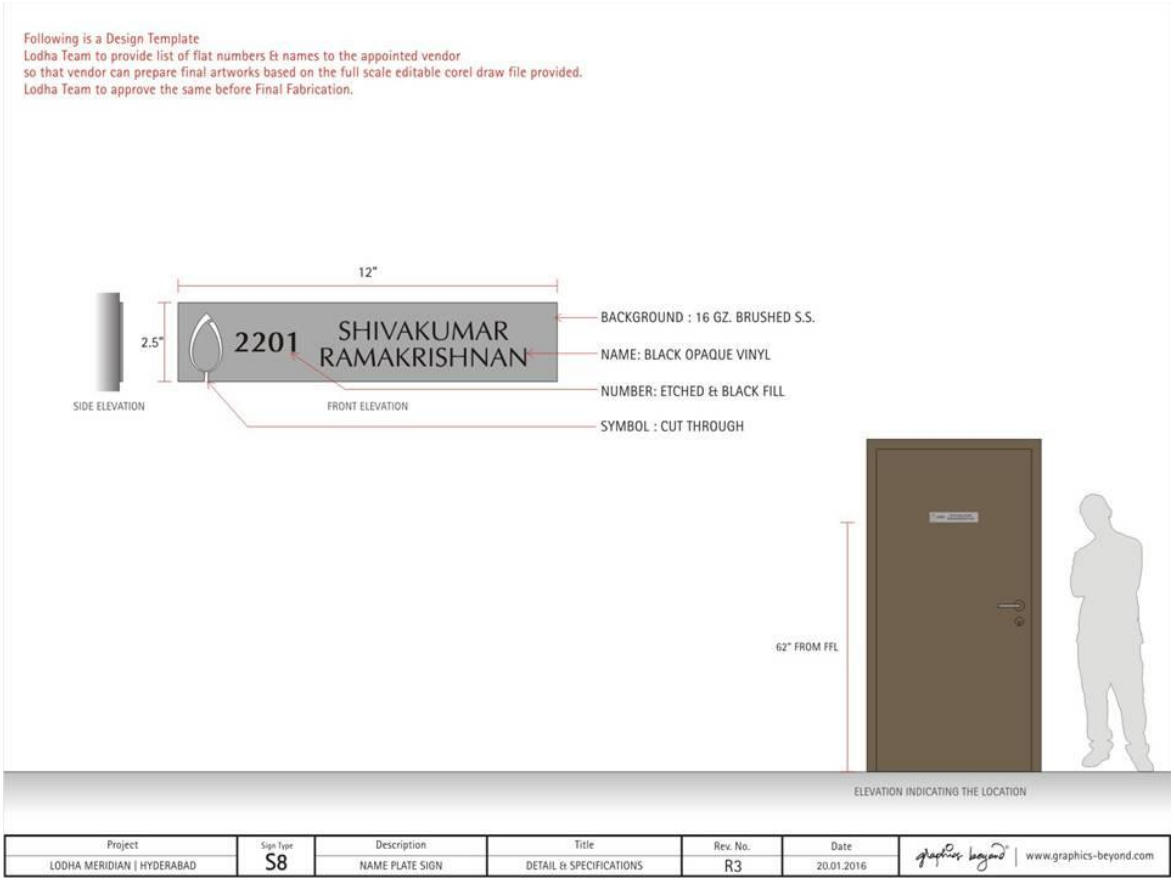


Figure 1

14. Service Room Sign :

- All Service rooms (not ducts) should be provided with appropriate signage (keeping in mind that these are generally Back-of-house).

15. Duct Sign:

- Only fire fighting duct will have a sign on each floor. For other ducts, the details of which duct serves what function will be available with the FM team.

16. Car Slot No. Sign:

- Car slot numbers will be fixed onto wall / column or will be painted onto flooring / kerb with epoxy reflective paint.

- For open parking, parking no shall be painted onto the flooring/kerb with epoxy reflective point.

17. Lifts Sign on Parking Levels :

- Sign Directing to the Lifts will be either represented in the form of pictograms or text Consistently across all sign types

18. Parking Direction Sign :

- Provision of Parking Direction Signs will vary from project to project.

19. Building Top Sign :

a) In general, the name 'Lodha' (font and colour will be as per the relevant brand signage i.e. Lodha Luxury / Lodha) with no logo shall be displayed on the building facade or terrace in a prominent manner, preferably in a material which is visible at night too (eg. neon, LED).

b) The height of the letter ''L" should be between 5 to 10 feet tall (5 feet at 70 m and thereafter growing proportionately based on distance from ground up to maximum of 10 feet) and everything else should be proportionately sized. Some examples of usage of current Lodha name are shown in Annexure 1 here in below (location height and sizing is not as per policy and should only be used for reference).

c) The location of this signage should be such that visibility is maximized as follows:
   i. Signage should generally be placed above last habitable floor.
   ii. In case of multi-building developments, this shall be done on the building which has best visibility wrt access roads / other prominent locations and project name shall be used. This signage shall be put up only once in each marketing project (Casa Bella is one marketing project, GolfLinks is another marketing project).
   iii. The signage shall be oriented such that it is most visible from the access roads / other prominent locations.

d) The initial design of the façade / terrace level and structure will make necessary provisions for the installation, electrification (if applicable), maintenance and cleaning of this signage. As far as possible the fixing methodology should avoid visible supporting framework for the signage and should be as inconspicuous as possible (may be achieved by leaving inserts/Halfen anchors at the time of casting the terrace parapet).

e) The quality and material selection of the sign is very important since it reflects our brand identity to the world at large. As such, we must select good quality materials, vendors and have strict norms for maintenance and DLP arrangements in the signage contract

f) This signage should have separate electric meter in name of LDPL.This allows us to run the signage even after society handover without any commercial implication. Similarly, at the time of society handover, HFM team to ensure that the society handing over document specifically mentions the terms for accessing the sign for its upkeep, maintenance, etc. and that the signage belong to LDPL and Society cannot obstruct or remove it.

19. Under Construction Signage:

- Project Name and other branding (flex / other material) to be located at entrance of Sales office/Show Flat (Resp: Marketing).
- For towers which have height > 70 m (high rise and very high rise), one tower in every neighbourhood/independent marketing project to have signage which rises as the building rises eg. Lodha

Venezia (2015) (Resp: Design). The purpose of such signage is to get visibility for the project and showcase progress. Such signage shall generally be:

- Logo (without tagline) of the neighbourhood/marketing project (not just Lodha logo).
- Placed on the formwork (or any other surface wherein it moves up as the building moves up). The face chosen shall be the one which has high visibility for nearby roads.
- Be visible at night.
- Such signage shall be executed before the time the first tower in the neighbourhood/marketing project crosses height of 30 m.
- Expenses shall be to Marketing budget
- Cost shall be kept moderate since this signage is temporary and shall be removed once the final signage (Lodha only) for the neighbourhood / marketing project is installed. If feasible, reuse maybe considered for the Building Top sign (see 18 above).
- Other guidelines (size etc.) to be as per those of Building Top Sign (see 18 above).

20. Complex level signage (covering developments with > 1 building):

- All complex level signage (i.e. outside the building and its car park) has to be divided into 2 groups:
    i. Car-usage: Should largely be placed on levels which are motorable and guide those in car to key destinations eg. Exit; and ~15 s driving distance before fork point/turns, direct to select destinations/buildings which are reached by taking the said fork/turn.
    ii. Walk-usage:Generally maps (5 min radius & if applicable, 15 min radius) showing key destinations (buildings, KCAs, entry/exit) and clearly marking 'you are here'. Can be placed at key fork points / turns or after every 400-600 m walking on longer routes.

21.

Notes:

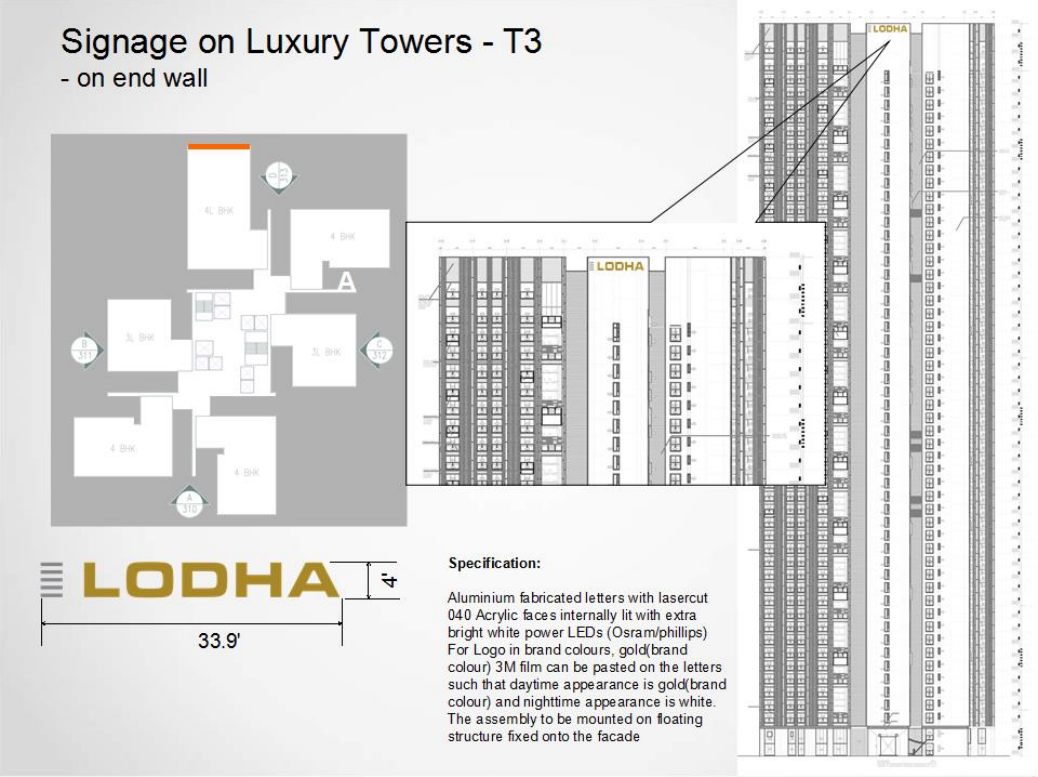
a. Materiality:
    i. Other than the 'First Name_Last Name' part of the name plate, all other signage lettering shall be in permanent material (i.e. not sticker or equivalent, which can be easily removed). This is particularly important in common areas where the tendency to 'play around' with non-permanent signage is high.
    ii. The rest of the material of the signage has to be determined taking into account the level of weather exposure to ensure that the signage does not look 'old' for minimum of 10 years.
b. Content – 'less is more'
    i. Signage has to work for 90% of people – it cannot be designed to serve the youngest or least intelligent.
    ii. From a content perspective 'less is more' eg. Instead of writing 'World Crest Lobby', one can write 'World Crest' and same is sufficient because everyone understands that the entry to a building is generally through the lobby. Similarly, things which are self-evident eg. Mandir, playground etc. don't need an identification signage to mark them (will need direction signage but not identification signage when you get there) unless there is a specific reason / request to provide it.
c. Mock up to **test functionality and content usability** of the signage – this has to be done on site (covering atleast 25% of the key signage points) to ensure that these two critical aspects are at 90% or better satisfaction level.

d. For all nomenclature/brands which are used in public communication eg. Neighbourhood name, building name – strictly follow the brand terminology for the said brand eg. 'Trump Tower Mumbai' is to be written as such, not 'Trump' and with the relevant logo unit. Ensure that design terminology does not get into signage, signage is a customer facing (and hence, brand led) design item.

Annexure 1 (note: 5 bar logo was dropped wef 18.7.16 and hence, should be ignored in the examples below)**:**



CASA ROYALE



NCP-T3

22. Complex Signage

- Older guidelines (follow pt titled Complex level signage, in case of conflict between below and the contents of 'Complex level signage' pt) - For Larger Complexes like Aqua the Following Sign Types shall be incorporated:
    1. You Are Here Upstand (with location / key map) – refer figure 1
    2. Direction Upstand to key common areas and buildings
    3. Cluster Upstand (if needed)
    4. Building Upstand (if needed)

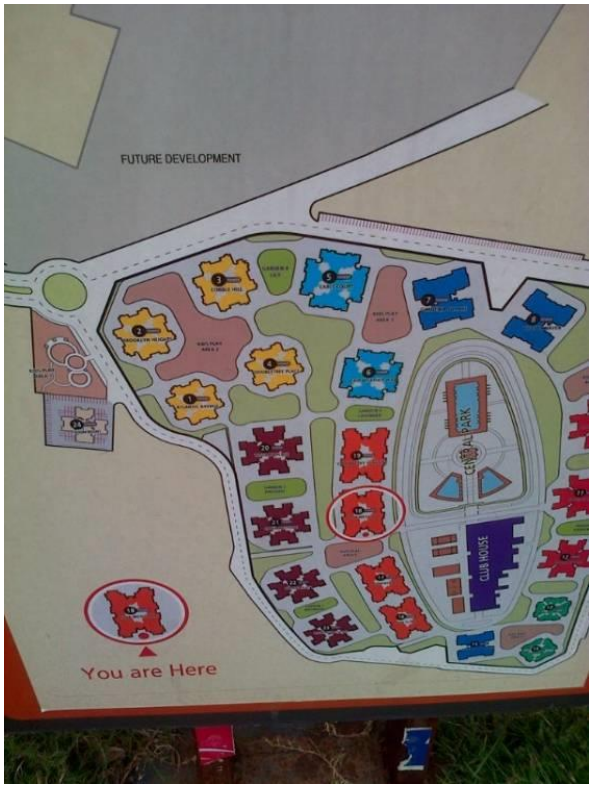


Figure 1

In general, signs are to be painted onto permanent surface or screwed / pasted onto wall / column surface. Hung signs are to be avoided (due to theft concerns).

Exceptions wrt bare shell buildings

This policy notes the exceptions from regular policies that apply to a bare shell building. ALL REGULAR POLICIES SHALL APPLY UNLESS SPECIFICALLY EXEMPTED BELOW.

Wrt which buildings to design and sell as bare shell, following guidelines apply:

	Luxury Resi	Hi-end Resi	Aspi Resi	Casa Resi	Excelus office	Supremus office	iThink office	Experia retail	Boulevard retail
Finish	100% bareshell	75-80% finished, 20-25% (by area) to be bareshell – bareshell units identification: 3 BHK or bigger (subject to min. price of 4 cr (2018, adjust for inflation)), located in upper half of the building.	100% finished	100% finished	100% bareshell	100% bareshell	100% bareshell	100% bareshell	100% bareshell

Any exceptions to the above have to be approved by RCEO within 6 months of DSC (Date of Start of Construction). Beyond this, no changes will generally be permissible and if necessary, approval of Director will be required.

This policy is applicable to any marketing project where a full plant (or at least 80% of the volume (saleable area) is being sold on bare shell basis to customers. In select cases, parts of larger MPs (e.g. Villas at Belmondo or select but significant no. of floors at T5 World Towers or Hi-end project as per table above) maybe sold on bare shell basis and in those cases, this policy will apply to the floors/parts of MPs which are sold on bare shell basis (with any exceptions due to the mixed nature to be reviewed and clarified by Ops Strategy and Design at the stage of DD finalization).

Package	**Exception from regular policies**
Civil	1. Internal walls - No internal walls within the unit (i.e. excluding party walls, external façade wall/elements and shaft walls) shall be provided by Lodha. Note: For OC, certain partition walls (kitchen, toilets) may need to be constructed – see '*Occupation Certificate Requirements'* (Liaison Policy). 2. Wet areas – to be designed as sunk slab (NOT flat slab with underslung piping).

	3. Waterproofing – For Unsold units (at Possession start date) - Base-coat waterproofing shall be done by Lodha in all the areas of the unit including decks/balconies/utilities. For all Sold units, only basecoat waterproofing shall be done by Lodha in the wet internal areas of the unit i.e. kitchens and bathrooms; and decks / balconies / utility areas if any. Customers to be informed in possession demand letters to execute the waterproofing for the full unit latest by Possession + 3 Months.
Façade	1. No exception (entire façade has to be watertight and aesthetically complete). However, no finishes (eg. Flooring, lighting) shall be done by Lodha on the external areas which are for the exclusive use of the unit eg. Balcony, save and except any element which is integral to the façade (eg. Column cladding).
MEP	1. Clarification (not exception) - All firefighting works, including inside the unit, shall be done by Lodha (as is done in bare shell offices). 2. Unit HVAC shall NOT be done by Lodha. 3. For electrical services, we will complete all hi-side works up to (and including) isolator with adequate capacity for further works to be done by unit owner. 4. For plumbing, we will complete all works in shaft including and up to providing one inlet & outlet (as the case maybe) in each wet area for drinking / bathing water, flushing water, soil / sewage. For clarity, all works related to drainage and rain water of external areas of unit (e.g. Balcony, service slab) shall be done by Lodha. 5. We will design with sunk slabs in wet areas for residential bare shell (not flat slab with underslung piping) to avoid issues of residents having to access each other's units. In case of Supremus offices, it can either be sunk slab or step up in wet areas, but not underslung. Underslung with flat slab is permissible in other bare shell office or retail developments. 6. No unit level home automation or unit only VDP shall be provided by Lodha. 7. If there is any centralized systems across multiple units (eg. Exhaust for non naturally ventilated toilet, intercom/VDP/other security system which connects to reception/security desk/other units), entire system is to be provided by us including what is inside the unit. 8. Bare shell building should have separate service lift and service lobby (even if policy doesn't otherwise require this), so that access for residents can be separated from fitout access. Service lift dimensions should be able to equivalent or bigger than what is required to accommodate a stretcher (so that it is suitable for fitout logistics). 9. Where not clear, use bare shell office as benchmark/reference.
Finishing	1. Passenger lift lobby on any habitable floor for residential – if only one residential unit is served by a given lift lobby, said lift lobby shall NOT be finished by Lodha and the area of the passenger lift lobby shall be counted in the carpet area of the said unit. In such cases, Lodha shall provide only the fire doors which serve the said passenger lift lobby. To further clarify, even if there are multiple passenger

lift lobbies on a given floor and each serves only one residential unit, this provision shall apply. 'If all the units served by a given lift lobby are owned by a single person or a family, the lift lobby shall not be finished by Lodha. The flat owner will be informed about this arrangement at the point of sale.' All service lift lobbies (if applicable) shall be finished by Lodha. <note: in case of office or retail with one unit per floor, the passenger lift lobby will be finished by Lodha and the area for the same will not be counted towards carpet area of the office or retail unit>.

Table A – Passenger Lift lobby finishing

Scenario	**Bareshell / Finished**	**Carpet area inclusion in AFS**
One unit served per lift lobby	Bareshell	Yes
All units owned by single person/family served by the given lift lobby	Bareshell	No
Multiple units owned by different person/ families served by given lift lobby.	Finished	No

2. Servant toilet and/or room – shall not be finished if the said toilet is dedicated to one unit. Shall be finished if intention is to use by greater than one planned unit.
3. For finishing work required to be done for OC purposes, see 'Occupation Certificate Requirements' (liaison policy)
4. Unit interior –nothing shall be finished by Lodha other than exceptions specifically mentioned above. Final main door of the unit shall not be provided by Lodha and only a locakable door of temporary nature shall be provided for security purposes (which client can remove when final main door is installed by client).
5. For clarity, even the finishing elements of the deck/balcony/utility area eg. Flooring, lighitng shall NOT be done by Lodha – however, all elements of the external façade in this area shall be finished by Lodha (eg. Railings, windows, cladding, external paint etc.)
6. For the finishing by the residents, follow **Bare-shell Fitout Guidelines (Annexure A).**
7. Design should ensure that sufficient thought is given to the fitout logistics (access, storage, disposal) while designing the building and ensure that there is walkable pathway (no steps, slope/ramp is acceptable) of min. 1.5 m (preferably 1.8 m) clear width from stopping point for service vehicles to staircase and service elevator of each bare shell wing.

Infra	No exception
KCAs	No exception

Annexure A

Bare-shell Fitout Guidelines

(Draft for Lodha Altamount in 2017 - to be modified in a limited manner by Ops Strategy, as per specific project)

DDMMYY

Dear Valued Resident,

Welcome to your unit at Lodha _____. As you are aware, your unit is being handed over to you in bare shell condition and the guidelines below will enable you to design and finish your unit in the quickest possible manner, with minimal changes on account of to-fro for approvals.

We have adopted the approach of '*no approvals needed*' and within the scope of these guidelines, you are free to proceed without any additional approvals from us. These guidelines have been developed to give you maximum flexibility while ensuring that the building and other residents are not adversely affected. Since these guidelines are uniformly applied to all units, we regret that no exceptions or special approvals will be possible and our teams do not have the ability to review such requests.

In the interest of safety and well-being of the residents we request you to ensure that all your designers, staff and workmen strictly adhere to these guidelines – in case of any violation, we reserve the right to stop all works in the unit and will be forced to undo the works done in violation of these guidelines and restore them to the original condition at your risk and cost (calculated as actual costs incurred (including taxes) x 125%). Further, if the guidelines are found to be violated, then a fine of Rs. 10,000 per instance shall be levied, in addition to any cost recovery. All funds thus collected (after payment to 3rd parties) shall be credited to the building's CAM account.

We look forward to you moving into your unit soon.

Yours Sincerely,

(_____, Building Manager)
E: _____ m: +91 _____

Subject	Guidelines to be adhered during fitouts of your unit
General	1. All works carried out by your contractors or any other person claiming to act on your behalf are your responsibility. 2. You are requested to ensure that the highest standard of EHS (Environment, Health and Safety) are adhered to while the works are carried out. 3. You are requested to ensure compliance with all applicable laws and regulations.
Basic EHS	1. Ensure that prior to starting other fitout works, there is at least one operational toilet in your unit for use by contractors. Toilets used by contractors within the unit should be cleaned as per use, minimum once a day. 2. Ensure that contractors have a clean place in the unit with appropriate seating to eat and rest during their breaks. 3. No stagnant water should be stored or > 24 hours. 4. All contractors must wear appropriate personal protection equipment (PPE). 5. No welding works are allowed to be done using gas cylinder. No gas cylinder or diesel/kerosene/petrol/similar are allowed to be taken into the building any reason whatsoever. 6. Appropriate and sufficient fire extinguisher(s) should be placed in the unit at all times. The fire extinguisher(s) should be tested at least once a month by DM. 7. Fire sprinkler and alarm in your unit should be kept in working mode at all times during fitout (and after). 8. Do not use any equipment that is like to create heavy power load / surge, high voltage surges, noise, vibration, or mechanical disturbance – in case of queries, consult BM.
Contractor & workmen rules	1. All your vendors, their staff and workmen are jointly referred to in this document as 'contractors' (where relevant to context). 2. You will have to appoint one person as the 'designated manager (DM)' who will be the single point of contact for all interaction with the Building's Management team (BM). The said person should provide his/her government issued photo ID, photograph (3 passport size photos) and contact details to the BM prior to start of works. The DM will be given an induction covering all key elements of carrying our works and logistics and is expected to instruct your contractors accordingly. **The DM will need to be on site at all times that the works are being carried out in your unit and will be responsible for adherence with all the guidelines stated herein and any others that may be issued by BM from time to time, in the interest of health and safety of the residents and the building.** The BM will interact only with the DM for resolution of any issues. In case of change in DM, Unit owner should intimate the BM in writing and new DM has to follow aforesaid procedure. 3. Contractors, their staff and workmen can only access the building during the working hours specified below + 30 minute window on either side. 4. BM reserves the right to frisk the workmen randomly and to ask for photo identification proof. Any workmen who do not have valid government issued photo ID may be denied entry into the building.

	5. Following activities are prohibited within the building or its compound: a. Smoking b. Consumption of alcohol or drugs c. Chewing tobacco d. Cooking
Working Hours	1. Monday – Saturday (excluding Bank Holidays): 9 am to 9 pm 2. Sundays & Bank Holidays: a. 9 am to 9 pm, only if the floors above and below the said unit are not occupied. b. If any unit on the floor above or below the said unit is occupied, work on Sunday or bank holidays may be carried out only with the written consent of the occupied units on the floor above and below you. This said consent has to be obtained by you. If written consent is not given by any occupied units of the floor above/below the said unit, work shall not be allowed to be carried out on Sundays and Bank Holidays. BM reserves right to alter these hours with prior notice of 7 days.
Water proofing	1. Prior to start of any wet works, the entire unit should be water proofed by any of the contractors stated in **Exhibit A**, as per the specifications that Lodha has prescribed to them or higher.
Façade	1. No changes whatsoever are permitted to be done to any external facade of the building. 2. All internal partition walls or storage hitting the façade must only be terminated on the facade mullions and if not, it should be kept at a distance of at least 150mm away from the façade. 3. No signage or advertisements can be placed on the façade. 4. Do not change or tamper with the ceiling light points in your residence's balconies as they are part of the building's façade. 5. Do not install any equipment or fixture (eg. solar panels, dish antennas) which will mar the façade. 6. Train your staff to ensure that clothes are dried within the utility area and are not visible from the façade.
Structure	1. Ensure that all finishes, furniture etc. are within the permitted design loads of the structure: Max. live load: 200 kg / sq.m (400 kg/sq.m on podium levels) **Ensure that these limits are not breached at any time during fitouts or after, since this can threaten the structural integrity of the entire building**. 2. Suggestion to ensure that your design adheres to the aforesaid load limits: a. Material of floor finish (including any adhesive or binding material) does not exceed 50 mm. b. Internal partition walls should be made with high quality dry wall OR with Light weight AAC Block upto the height of 3.2m with RCC mullion extending upto the metal deck/steel beam and surface finished in gypsum plaster 3. Avoid drilling into deck slabs: a. False ceilings can be fixed using wedge nuts from JSW (or similar). 4. Do not alter or tamper with the external walls of the residence, toilet shaft walls, toilet exhaust shaft walls or any other walls between the adjacent units under any circumstances.

	5. No changes / cut-outs whatsoever area permitted to be done to any structural member - column, wall, beam, slab (see exception under 6. below) etc. 6. In case your own multiple units and wish to combine them in any manner by cut-out of slab (excluding beam) between your own units, same can be done with prior written approval of the building's structural consultant, M/S Sterling Engineering Consultants Pvt. Ltd. which shall also be approved separately by Lodha structure design team. Such works once done will need to be certified by the said structural consultant and certificate submitted to BM. Their review and post works certification fee shall need to be paid directly by you. In case any municipal approvals are required for the same, same are to be obtained prior to start of works by the building's approval architect, M/S Spaceage Consultants Their fees shall need to be paid directly by you. 7. Ensure that fire protection of structural steel members is not damaged – **this can threaten the structural and fire integrity of the entire building.**
Plumbing	1. While installing sanitary fixtures, make sure all the water, waste and vent pipes are connected to the stub out points provided. 2. Access door to the shaft should remain accessible after fitouts, as access to the shaft from the internal toilet area will be necessary for maintenance. 3. No changes should be made to the pressure release valve (PRV). 4. Under slung piping for bathrooms has been done at the earmarked locations as per the drawings (access doors for this piping should be kept accessible after fitouts for maintenance purposes). No changes are allowed to be made to this underslung works. No additional under slung piping is permissible and if there are any other plumbing needs, same can only be done above your own floor level. 5. Drainage riser and tap off's are already executed and cannot be modified/tampered for additional connections.
Electrical & ELV	1. Maximum demand load provisioned: a. 3 BHK – 55KW b. 4 BHK – 65KW c. 5 BHK – 85 KW It is not possible to increase this. 2. Power supply has been provided with an isolator in the utility area. All further distribution is to be planned by the unit. 3. Single point connection for voice and data, and a single point connection for TV/DTH unit with a splitter unit have been provided in the utility area. 4. Fire alarm and voice evacuation are provided in the apartment and commissioned. 5. Do not tamper or change emergency light points given in Refuge areas. 6. Do not undertake dismantling of fire alarm devices / cutting of fire alarm cables. Any changes required shall be done solely by BM.
Fire Fighting	1. Sprinklers and fire detectors installation to be done as per National Building Code (NBC). 2. If you would like to make any modifications to the fire sprinkler line, inform the BM beforehand so that the tap-off can be accordingly isolated. No changes to fire sprinkler line should be done without such isolation

	being done by BM. 3. Fire hose cabinet located in the service lobby shall not be used for any purpose other than fire fighting. 4. The unit's main door(s) and doors from the service lobby have a 2 hour fire rating. If you change these door, ensure that the 2 hour fire rating is maintained. 5. Ensure that the path to the fire escapes i.e. staircases and fire escapes themselves are kept free at all times and no material or debris is stored there.
HVAC	1. Containment provisions have been made for the condensate drain pipes – these are to be connected to the assigned drain provision. 2. The HVAC system of each unit is independent from the other units and the building. We recommend use of VRV AC units with the outdoor units located in the utility area of your unit. 3. Fresh air and exhaust air required for kitchens have to be planned by respective unit. 4. Treated fresh air is provided in the lift lobby and inside each apartment. 5. Do not close the TFA/pressurisation ducting in the lift lobby.
Piped Gas	1. Your kitchen design should allow for piped gas meter installation and piping. Piped gas is expected in the building in future, when the utility provider (MGL) extends its network to this area. 2. Provision has been left in the utility risers for gas piping.
Common Area on your floor and other parts of the building	1. All common areas on your floor should be wet mopped and cleaned by your contractors every evening upon stoppage of works. 2. No signage or advertisements can be placed in the common areas.
Works in areas adjacent to elevators	1. Lift doors/tracks are to be covered with protective material prior to start of works and during entire duration of works: a. Elevator doors need to be fully covered to avoid damaging the finish. 2. Special care needs to be taken to ensure that the there is no flow of any water/slurry/dust into the lift shaft from your floor: a. Use a 150 mm-high upstand to keep the dust and debris from entering the elevator shafts. 3. Interior design should allow access to elevators after fitouts through access panel/similar for maintenance/emergency rescue.
Debris disposal	All debris is to be disposed by your contractor directly outside the building. While there is a small area earmarked for intra-day debris storage on ground floor (indicated in **Exhibit B** as **X**, subject to change by BM), any debris left overnight in that said area or in any area outside your unit may be disposed off by the building and aforesaid charges will apply.
Logistics	1. All material can enter the building through the drop-off point indicated on **Exhibit B** as **Y**. 2. Since this is a busy road, all material deliveries should ensure that the vehicles park at permitted areas only and do not hamper flow of traffic. 3. Movement carts are available for use for maximum of 60 minute at a time, on first come first serve basis, at the drop off point. DM should ensure that the carts are returned expeditiously to enable other users to use the same. 4. 2 staircases and 2 service elevators are available for taking contractors /

	material /debris through the building. No passenger elevators can be used for contractors / material / debris movement. 5. The logistics route into the building should be studied by the DM to ensure that the materials are ordered in sizes that can go up through the building. The service elevator can accept maximum dimensions as follows: a. For flat objects (like sheets): 1.2 m x 2.4 m b. For 3 dimensional objects: 1.5 m x 1.1 m x 2 m There may be possibility to take somewhat bigger objects through the staircase which the DM will need to verify directly. 6. Due to large volume, service elevator cannot stop at any floor for > 10 minutes.
Security	1. Ensure that your unit is locked before and after start of works. 2. Ensure that contractor workmen do not loiter outside your unit. 3. BM shall not be responsible for any theft or damage in your unit.
As built drawings	1. Copy of 'as built' drawings, covering plan, section and all service shall be provided to the Building manager prior to the unit being occupied for permanent use.
Approvals from Authorities	1. We will generally not be involved in the process of obtaining interior approval from the authorities. 2. However, if the same is agreed to (generally by Sales), the following norms shall apply: a. Charges related to approval shall directly be payable to the Approval Architect (2019 – M/S Spaceage consultants, Rs. 500,000 + GST per unit per instance of submission; to be intimated by OS to CC & HPM – plans will be put up for authority submission only after payment is received). b. The customer will need to confirm in writing / over email that: *i. The interior plans given for submission to authority are in accordance with the fitout guidelines provided by the Developer. If the plans are not in accordance with the said guidelines, the Customer shall be solely responsible for ensuring that the fitout guidelines are adhered to. Approval of interior plans by the Authority will not entitle the Customer to violate the fitout guidelines in any manner.* *ii. All charges / costs / bank guarantees payable to Authority shall be directly paid for by the Customer, within 5 working days of the same being requested by the Developer / Approval Architect.* iii. *Developer is submitting the plans for approval to the authorities at the request of the Customer and has no responsibility/liability in relation to the same. Customer shall be solely responsible for ensuring compliance with both the approved plan (including terms & conditions thereto) and fitout guidelines.* iv. *Customer is aware that the Completion certificate shall be obtained by the Approval Architect if and only if both the approval plan and the fitout guidelines are complied with and the works are completed no later than 18 months from the date of first approval of interior plans for the*

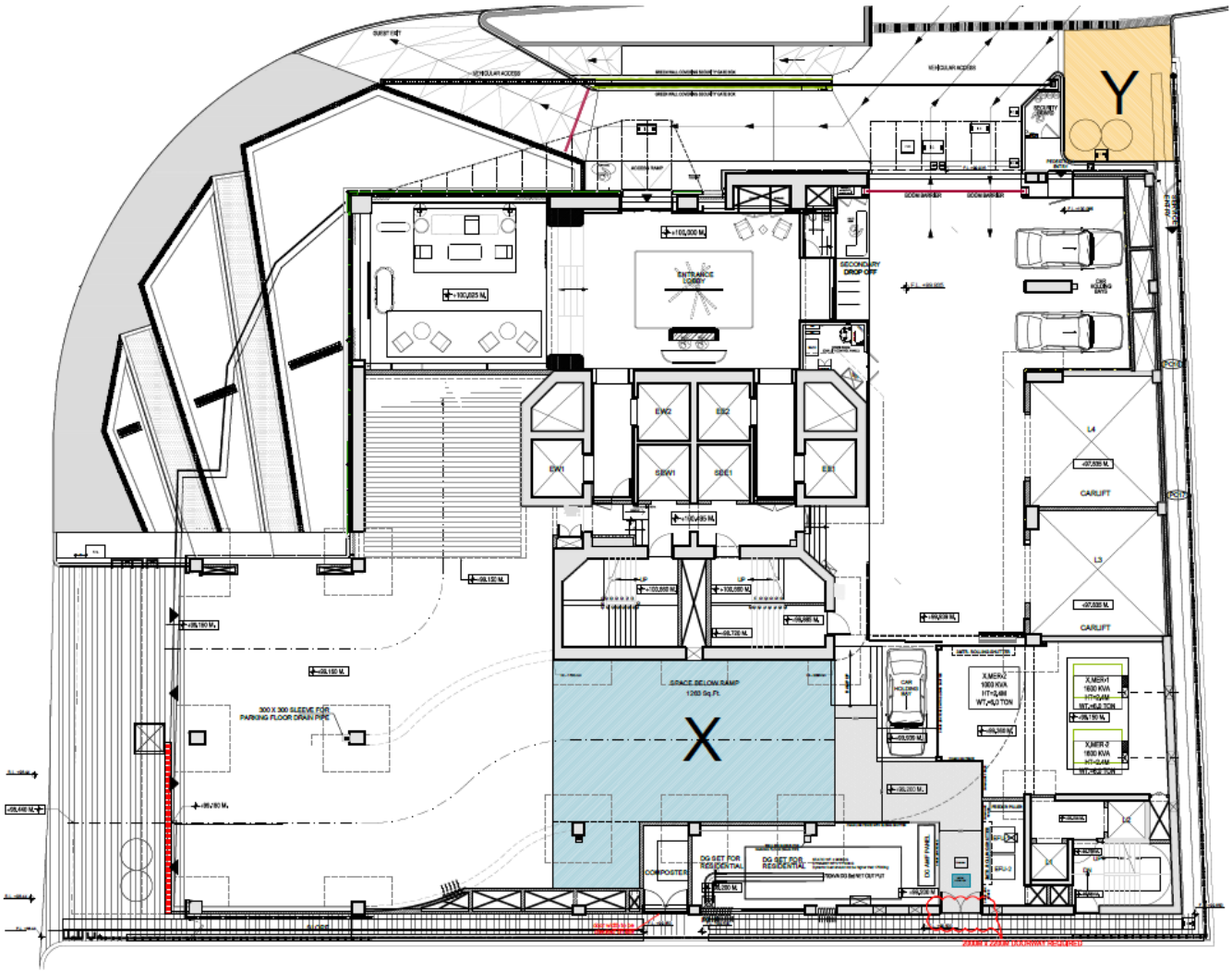
	said unit. "
Fit Out Period	First 6 months (/longer if so decided by RCEO with CC) from first day of month after date pf first PDL shall be 'fit out period' during which period no CAM costs shall be payable. During this period, purchasers will be focused on fitout of their units and shall NOT be living in the building. To help the purchasers save costs, we shall man the building with very limited 'fitout sufficient' resources and charge a fixed monthly 'fitout period charge' which shall be between 25-33% of the full CAM shall be payable by the sold units only (not charge payable by unsold units till such time that they are sold and possession offered). It will also be clarified to purchasers that they can only move in to start living in the building at the end of (and not during) such 'fit out' period. If there are select finished units in the same wing, appropriate resolution will need to be found for them (eg. Rent compensation during 'fit out' period) taking into account the overall goodwill for the larger number of 'bare shell' customers who will save significant moneys. For clarity, during the 'fit out' period any government levies like Property Tax shall be payable as per government norms.

Exhibit A

List of approved waterproofing vendors (as on April 1, 2017):

- Nina Waterproofing Solutions (Pidilite Industries).
- BASF (through their authorised applicator).
- Chowgule Industries.

Exhibit B


Y
X
ENTRANCE LOBBY
SECONDARY DROP OFF
SPACE BELOW RAMP
1283 Sq.Ft.
300 X 300 SLEEVE FOR PARKING FLOOR DRAIN PIPE
DG SET FOR RESIDENTIAL
DG SET FOR RESIDENTIAL
COMPOSITE
CARLIFT
CARLIFT

Compound Wall policy

For any Casa / Aspirational Residential or iThink Office or Boulevard Retail Project:

1. For the less-visible sides (in relation to the surrounding access roads), the compound wall shall be done in 400 mm thick UCR masonry, 1 meter in height above ground level * with 2 feet high MS railing (including sharp pointed top) above. For indicative section of compound wall refer attached image – **Annexure A**. The cost of the same (as worked out by Cost Management in March 2009) was in the range of Rs. 4900 /-per running meter. The section below the ground level may vary for different projects as per the prevailing soil condition and hence needs to be cross verified with the structural engineer of the respective projects.
2. In case of certain rural areas where there is severe risk of theft of MS members, we will go with 400 mm thick UCR masonry, 1 meter in height above ground level * with cut sharp glasses on top. For indicative section of compound wall refer attached image – **Annexure B**. The cost of the same (as worked out by Cost Management in March 2009) was in the range of Rs. 3600 /-per running meter. The section below the ground level may vary for different projects as per the prevailing soil condition and hence needs to be cross verified with the structural engineer of the respective projects.
3. The visible side(s) of the compound wall shall be as per the project architect's design. The cost of the same not to exceed 1.5 times the cost of the less-visible side compound walls (as per 1 / 2 above, whichever is applicable).

For any Luxury / Hi-end Residential or Excelus/Supremus Office or Experia Retail Project:

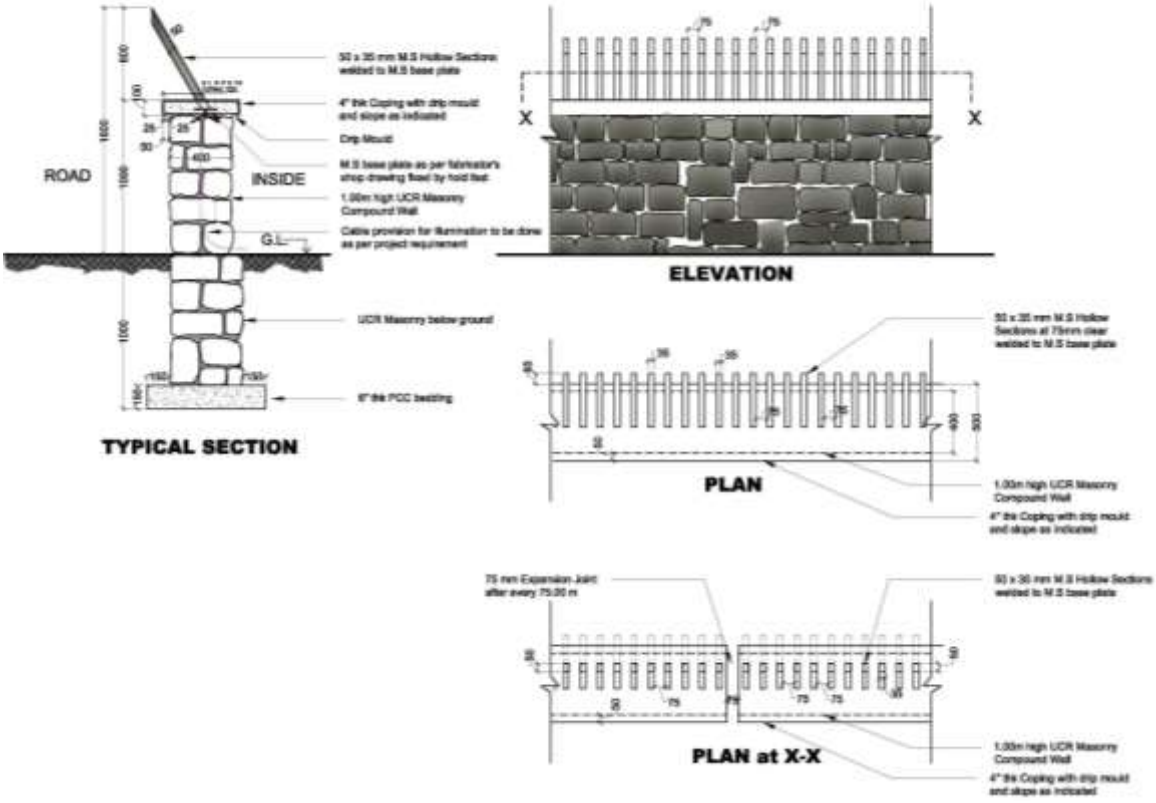
4. The design of the compound barrier (wall or any combination of wall and other secure barriers) shall be as per the project architect's design. The above may be considered as guidelines. The compound barrier shall have minimum height 1.5 meters above ground level*.
5. The average cost of the compound wall (including all aesthetic elements) shall not exceed 1.5 times the cost of the suggested less-visible compound wall as per 1 hereinabove.

Please note that any costs of electronic security and lighting for the compound wall are not included in the aforesaid cost estimated.

* The height of the compound wall shall be measured from the finished ground level of the plot or finished ground level of the adjacent road/footpath, whichever is higher. The design shall be such that that there is **no steppable surface** between the reference ground level and the (minimum) prescribed height and if there is an interim steppable level the minimum height shall be calculated from that level.

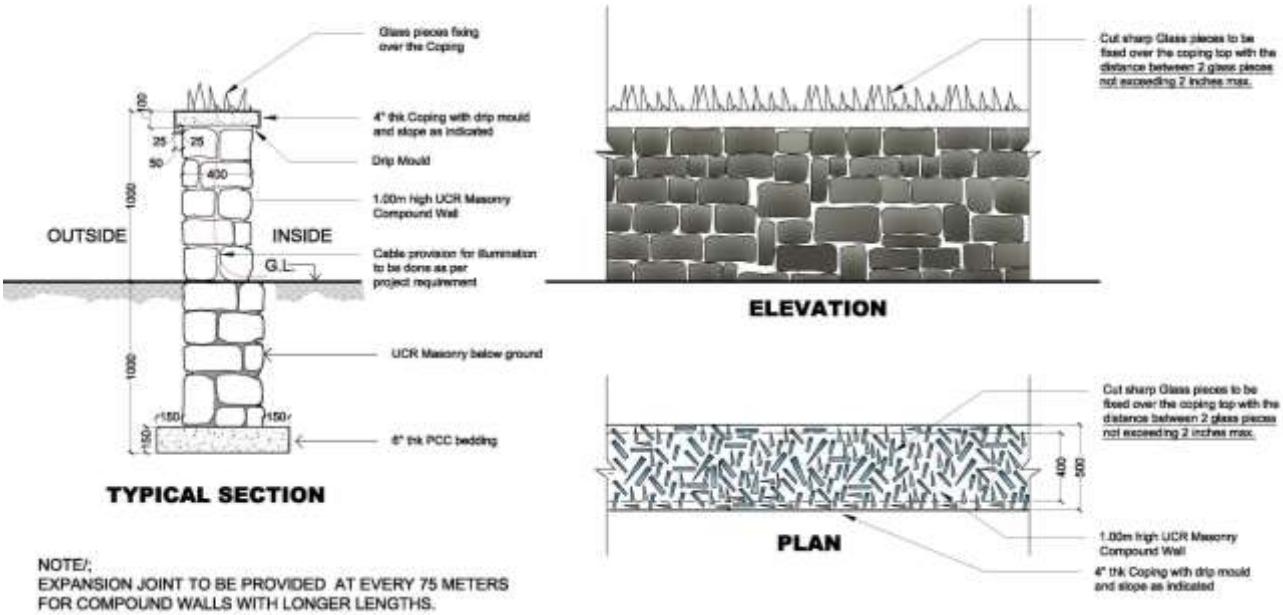
COMPOUND WALL POLICY

ANNEXURE - 'A'



COMPOUND WALL POLICY

ANNEXURE - 'B'



NOTE/:
EXPANSION JOINT TO BE PROVIDED AT EVERY 75 METERS FOR COMPOUND WALLS WITH LONGER LENGTHS.

Key Conveniences to be provided in Parking / Other Common Areas of each likely 'Society' (except Retail development):

1. Driver's Room: Generally one driver's room is to be provided for every 1000 nos. of car parks (or part thereof). Room should be well lit. (not applicable in Casa Residential; can be shared between multiple societies in the same development).
    a. Equipment: Fan, Intercom, PA system which connects to the Security guard at the main entry, Chairs/benches (equal to 10% of the no. of car parks served). Beds equal to 1% of the car parks served (min. one), TV, 3-4 electrical sockets (for charging mobiles), and attached / adjacent/attached access toilet, Well lit. Toilet to be male only with size as per NBC norms assuming no. of users equal to 10% of the car parks which is being served by this toilet (+ if housekeeping staff is to use this toilet, a separate female toilet is also needed based on size to serve 50% of housekeeping staff)– max toilet size (M: 3 WC, 6 urinal, 3 basins F: 4 WC, 3 basins).
    b. Size: As needed, generally not less than 100 sq. ft. and not more than 500 sq. ft. (this shall be counted in FSI and hence, should be optimized)
    c. Location: if there are multiple wings in a development and multiple driver rooms, ensure that the driver rooms are spread out (not all located in one building).

2. Society-cum-FM office (attached toilet not needed if easily accessible within 5 minute walking distance). Ideally this office should be located close to the areas where the key service equipment is located (DG, HVAC etc.) but should also be reasonably accessible for residents / users. This office should also have a small store room located nearby for storage of key FM-related consumables. (also applicable to Retail developments).
    a. Equipment: Fan, One cabin (not needed in small or medium development), 2 workstations (only 1 needed in small or medium development), 2 (only 1 needed in small or medium development); Intercom, Moderately Lit.
    b. Size: As needed, generally not exceeding 200 sq. ft.
3. Security-cum-BMS room (in case there are electronic security features requiring monitoring and/or a BMS system in building), preferably located adjacent to Society-cum-FM office. (also applicable to Retail developments).
    a. Equipment: AC, Chair for one (or two, if large no. of screens) person, intercom, Well lit with lights placed in a manner to avoid glare on the screens.
    b. Size: As needed, generally not exceeding 200 sq. ft.
4. Changing room maintenance staff (housekeeping, security etc.), with). (also applicable to Retail developments).
    a. Equipment: Fan, Hooks on the wall for hanging clothes, One mirror, nearby accessible toilet (can be shared with Driver's room, if appropriate), Lockers (min. 24'' tall) – min. 5 to max. 50 nos. (based on discussion with FM), Well lit.
5. Service vehicle drop-off bay, with access to the service lift. (also applicable to Retail developments; can be shared between multiple societies in the same development).
6. Visitor Parking (As per policy, with min. 2 nos.) (can be shared between multiple societies in the same development).

7. Domestic Help / Staff toilet and shower facilities if the same is not provided in atleast 90% of the units. If the same is provided at periodic intervals in the mid-landing of the staircase, usage should alternate between a. WC + Basin and b. Shower with atleast one set of WC+Basin and Shower for every 20 units. In case they are provided at a single level, separate a. WC + Basin and b. Shower is to be provided, with capacity equal to NBC norms catering to 25% of the no. of units served. Separate male and female toilets are needed – max toilet size (M: 3 WC, 6 urinals, 3 basins, 4 showers F: 4 WC, 3 basins, 4 showers).
8. Landscape Stores (approx. 100 sq. ft.) – at the level where the major landscape is located or with easy access to that level.
9. FM stores (approx. 300-500 sq. ft.) – preferably on same level as the Society-cum-FM office.
10. Garbage room & Dumpster – as per the requirements and system decided in line with the 'Garbage Handling Guidelines'.
11. MEP areas like meter room, pump room, sub-station, water tank, DG etc.
12. Water outlet and appropriate provisions for filling buckets (cordoned off so that water spillage is minimized) to be provided such that no car park is > 500 m walking distance from any water outlet. At each outlet, no. of taps = min(approx. no. of car parks served / 100, 4).These water outlets are to be used to provide water for car washing using wet cloth.

FSI usage for such conveniences

It should be ensured that the total FSI consumed for these areas + any other non-saleable/leaseable areas eg. Club is no more than 0.5% (preferably 0%) of the total FSI of the relevant plant(s). This can be achieved by understanding the DC rules of the applicable area appropriately and ensuring that design is done bearing these in mind eg.

Following are available free of FSI in MCGM area:

- As per DCR 2034:
  - Club is allowed free of FSI upto 15% of the RG area (10% on ground and 5% on 1st floor) for resi development. Min. RG area has to be 1000 sm. Alternatively, 2% FSI + Fungible is allowed for fitness centre per society (a large development can have multiple societies) for resi development.
  - 20 sm of society office per society.
  - Electrical and fire duct of width not more than 0.45m and not abutting to habitable room. If needed, these can be made C shaped so that we get 0.45 m from all sides. Ideally accessed from passage itself so that no additional walkway/slab is needed within the duct.
  - Area of service duct abutting sanitary block, kitchen not exceeding 1.2 m in depth. In case of high rise height / width as per requirement and design approved by Commissioner but not exceeding 2.0m.
  - Water treatment Plant and, sewerage treatment plant as per MPCB.
  - Area covered by elevated/ underground water reservoir/tank, electric substation, distribution sub station, pump house, facility for treatment of wet waste in situ.

- Area of DG set at stilt and podium level as per dcr 37(31). This is also permitted in front and rear open space subject to CFO.
- Electric meter/ service utility having area 10 sqm per 50 tenement at basement/ ground/ stilt/ podium. In case of high rise meter room can be allowed on higher floor / every floor as per specific requirements of electric supply company.
- Refuse chute and garbage shaft as per reg 37(12).
- Area required for rain water harvesting, non- conventional energy system as per regulation.
- Area required for cooling towers/ chilling plant open to sky beyond required marginal open space or on terrace.
- Room with max area of 5 sqm at basement or on terrace for battery backup for solar heater and / or common lighting.
- AC plant room/AHU in basement.
- One toilet of 2.2 sm on each parking level for 200 cars or part thereof (also 2.2 sm servant toilets are allowed on each mid-landing, including podium levels).
- Canopy (no additional columns) or porch (with additional columns) which does extend to > 5.5 m from building line and height <=7.2 m.

Note: See (see 'Norms for deciding grouping of units for purposes of Society formation') to determine how many societies are likely to be formed in each development.

Staircase Policy:

This policy shall apply to all common staircases (excluding any ornamental staircase).

Design:

1. Staircase Width:

1. Clear width of staircase shall be as per DCPR (Table 16) / UDCPR (9.28.8) or as per CFO NOC.

2. For Mumbai [as per DCPR 2034]

Table No: 16

Minimum width of common Stairways/Corridors for various occupancies.

Sr. No.	Type of Occupancy	Minimum width of stairway/corridor (in meters) for buildings upto 70.00 m height	Minimum width of stair- way/corridor (in meters) for buildings more than 70.00 m height
1	Residential buildings-		
	(a) General	1.50	2.00
	(b) Row housing (2 storeyed) or internal staircase in duplex flat	0.90	-
	(c) Hotels	1.50	2.0
2	Educational buildings		
	(a) Upto 32 m high	1.50	-
	(b) Over 32 m high	2.0	-
3	Institutional buildings	1.50	2.0
4	Assembly buildings	2.0	2.0
5	Mercantile storage, hazardous buildings	1.50	2.0
6	Industrial Building	2.00	

3. For Maharashtra (except Mumbai Region) [as per UDCPR 2020]

9.28.8 Width of stair case

The minimum width of staircases/ corridors for various buildings shall be as below.

Table No.9G-Minimum width of staircase

S. No	Use of Building	Minimum width of Stair Case (in m.)
1	Residential Buildings a) Individual Housing upto G + 2 storeys b) Multi-storied Residential Building upto 15 m. height c) Multi-storied Residential Building above 15 m. & upto 24 m. height	 0.75 1.00 1.20
	d) Multi-storied Residential Building above 24 m. height	1.50
2	Residential hotel buildings	1.50
3	Assembly Building likes auditorium, theatres, cinemas, multiplex, mangal karyalaya, marriage halls, etc.	2.00
4	Institutional &Educational Buildings.	2.00
5	All other buildings excluding Sr.No. (1) to (4) above	1.50

2. Treads, Risers and Clear Headroom

Following norms shall apply w.r.t Treads, Risers and Clear Headroom in the staircase:

For Mumbai Region[as per DCPR 2034]

Segment	**Breadth of Tread mm (with nosing)**	**Height of Riser – preferred (range) mm**	**Maximum No. of risers per flight**	**Minimum Clear Headroom**
Residential	250 min; For Fire Escape 300 min	165 (150-175 max)	12	2.2m
All other building occupancy	300 min	165 (150-175 max)	12	2.2m

For Maharashtra (except Mumbai Region) [as per UDCPR 2020]

Segment	Breadth of Tread mm (with nosing)	Height of Riser – preferred (range) mm	Maximum No. of risers per flight	Minimum Clear Headroom
Residential	250 min	165 (150-175; max 190)	15 (Max 12 as per NBC)	2.2m
All other building occupancy	300 min	150 max	15 (Max 12 as per NBC)	2.2m

3. Staircase pressurization [as per NBC]:

Table 6 Pressurization of Staircases and Lift Lobbies
[*Clauses* 4.4.2.5 (b) *and* E-2]

Sl No.	Component	Height of Building		
		Less than 15 m	15 m to 30 m	More than 30 m
(1)	(2)	(3)	(4)	(5)
i)	Internal staircase not with external wall	Pressurized except for residential buildings (A-2 and A-4)	Pressurized	Pressurized
ii)	Internal staircase with external wall	Pressurized except for residential buildings (A-2 and A-4) or Naturally ventilated	Naturally ventilated or Pressurized	Cross-ventilated or Pressurized
iii)	Lift lobby	Not required at ground and above. However lift lobby segregation and pressurization is required for lift commuting from ground to basement	Naturally ventilated or Pressurized[1)]	Cross-ventilated or Pressurized[1)]

NOTES
1 The natural ventilation requirement of the staircase shall be, achieved through opening at each landing, of an area 0.5 m^2 in the external wall. A cross ventilated staircase shall have 2 such openings in opposite/adjacent walls or the same shall be cross-ventilated through the corridor.
2 Enclosed staircase leading to more than one basement shall be pressurized.

[1)] Lift lobby with fire doors (120 min) at all levels with pressurization of 25-30 Pa is required. However, if lift lobby cannot be provided at any of the levels in air conditioned buildings or in internal spaces where funnel/flue effect may be created, lift hoistway shall be pressurized at 50 Pa. For building greater than 30 m, multiple point injection air inlets to maintain desired pressurization level shall be provided. If the lift lobby, lift and staircase are part of firefighting shaft, lift lobby necessarily has to be pressurized in such case, unless naturally ventilated.

Currently (2021), for Mumbai Region, in the case of staircase, lift lobby, fire lift lobby if naturally ventilated then neither pressurization nor cross ventilation is required.

4. Notes:

a. Avoid void/stairwell between the two flights.
b. Depth of landing / midlanding should be equal to (max. 200 mm less than) width of the staircases (single tread).
c. The flight width shall be taken from edge to edge as per a. (no additional adjustment for space taken by handrail etc.)
d. In case of floors having FTF height <= 2.1 m, the staircase should be designed as follows:
    1. Take height of the said 'less than full height floor' (h1) and add the height of the floor immediately below (h2). Take this height (h = h1+h2) and divide by 2 (h/2).
    2. There will be 2 full stairwells (2 landings + 2 mid-landings + 4 flights), each climbing a height of h/2, which will enable a person to climb from the floor below 'the less than full height floor' to the floor above 'the less than full height floor'.
    3. See reference section below as **Annexure B**, which is based on example of a building with typical FTF height of 3.15 m and fire check floor of 2m FTF height. In such case, h is 5.15 m and h/2 is 2.575 m.
e. In any building with more than one staircase, the purpose of the additional staircase is to provide an alternate means of escape if there is fire in one of the staircases. Hence, the staircases should be located in a manner such that there is maximum distance between the entries to the two staircases and there is minimal chance of fire from one staircase spreading to the other. As far as possible, the two staircases should be located diagonally or atleast, horizontally opposite to each other and should not be located on the same side of the core. If the two staircases are to be located on the same side of the core for any reason, explicit approval of HoD-Design or Director-Design should be taken.
f. All attempts should be made to reduce non-public area staircase area and costs, since it is a purely functional part of the development, with limited aesthetic value.

Construction:

a. Factory made pre-cast staircases in all buildings with height > 70 m viz. where crane and man/material hoist is available,
b. Cast in-situ staircases in all other buildings.

Finishes:

a. If Factory made pre-cast staircases are used: No further finish, just clean raw concrete. It is to be ensured that the specifications of the treads are such that they come with appropriate nosing and grooves. The said staircases shall also have pre-cast joints (or equivalent) for the railing fixitivity.
b. If cast in-situ staircases are used:
    i. For Treads: Use 300 x 300 x 9 mm or 300 x 265 x 9 mm, Vitrified Tiles from Pavit/Zealtop or equivalent with appropriate nosing and treads.
    ii. Raw Risers, kept either raw or finished with grey plaster. No paint to be applied to this surface.
    iii. Landing/mid-landing finished with vitrified tiles 300 X 300 X 9 mm, from Pavit / Zealtop or equivalent.
    iv. Good quality cement paint (grey)), approx., INR 6 – 7 psf , which is difficult to write on, upto full height on the staircases walls, ceiling & staircase waist slab. Prior to painting, adequate surface preparation to be done by grinding, hole filling etc.

c. If a particular level of the staircase of likely to be used frequently by residents eg. To access the garden on the terrace level, then one of the staircases for such usage is to be identified as a front of house staircase and finishing is to be upgraded as follows:
   i. For Treads: Granite / other stone with appropriate nosing and treads.
   ii. For Risers: Granite / other stone with appropriate nosing and treads.
   iii. Landing/mid-landing finished with granite/other stone.
   iv. Good quality paint on walls and ceiling.

Signage:

The floor numbers shall be **painted** on one of the walls (preferably at the landing) at a height which is easily visible (eye-level) &at such suitable place to be distinctly visible from the staircase flights.

Railing:

a. Height of 1000mm above finished tread.
b. Should support a continuous load of 50 plf (75 kg-m) or a concentrated load of 200 pounds (90 kg). Max. tolerance for this is -20% viz. continuous load of 60 kg-m or concentrated load of 72 kg.
c. Located on the side away from the staircases parapet walls.
d. Material: MS section or equivalent, with paint (red/black/yellow etc.)
e. Railing shall be fixed with vertical members on mid-landing and landing (not on the side of the stair), without any holes/openings to be made on the finishing material of tread. If the tread is finished with pre-cast cement treads, the screws/bolts should be so designed that they get fixitivity into the base concrete layer.
f. Please refer to **Annexure A** for reference images/detail.
g. No handrail shall be provided on the staircase parapet wall side, except in case of buildings having height > 150 m above ground in which case such handrail shall be provided bolted onto the parapet wall.

Doors:

a. All doors to the any staircase which serves as a fire exit should be FRD doors (with 2-hour fire rating), if building height is more than 30 m above ground.
b. These doors shall have:
   i. paint finish on the staircase side; and
   ii. On passage/lobby side, have finish matching the general finish.
   iii. The doors of the staircases to open in the direction of emergency exit (inside the stairwell). They should preferably be planned in such manner that they do not hamper the public movement on the staircase.

Staircase Windows:

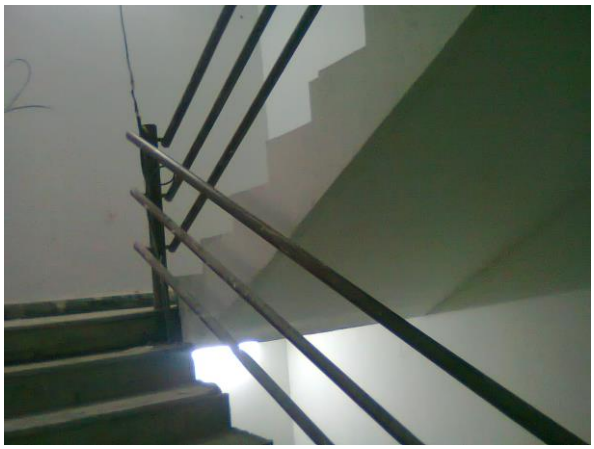
Hinges of windows to be selected & adjusted in such a way that the window (regular openable or top/bottom hung, whichever is most cost effective) should not open more than 30 degrees.

Note: For ornamental staircases which are visible in/from public areas and likely to be frequently used (eg. main staircases in mall, the staircases for L1 to L2 in Lodha Excelus, Mahalaxmi), finishes shall be as per standards prescribed by the Project Architect.

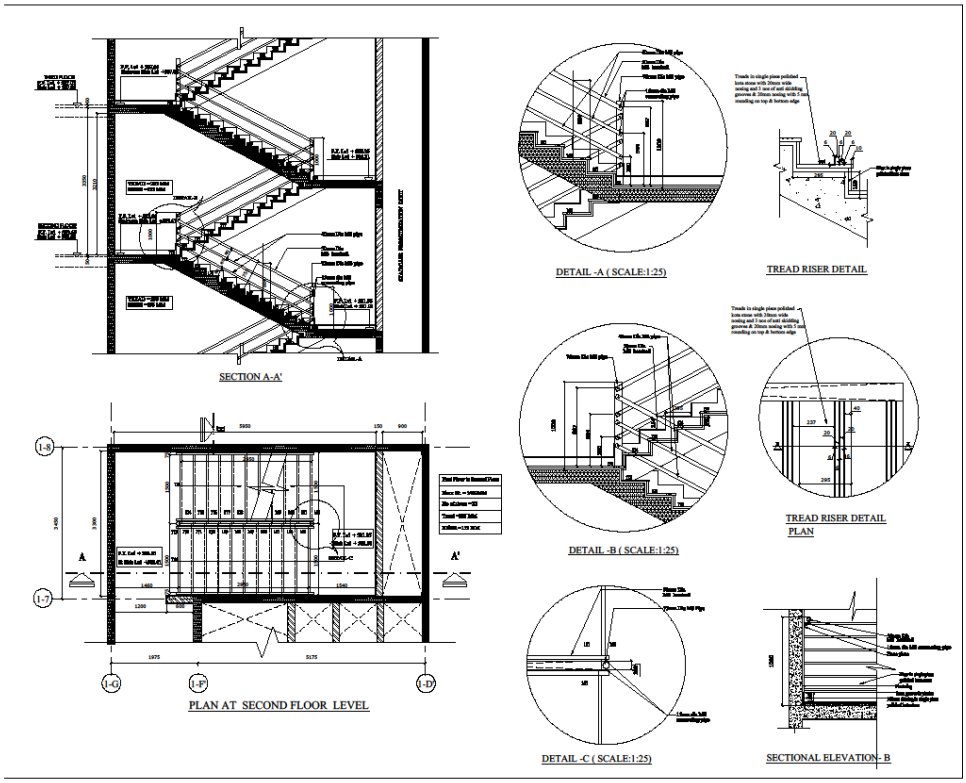
Annexure A



Image is not exact in the fixing details of the railing and the well being present, but is indicative of the nature of the staircase.

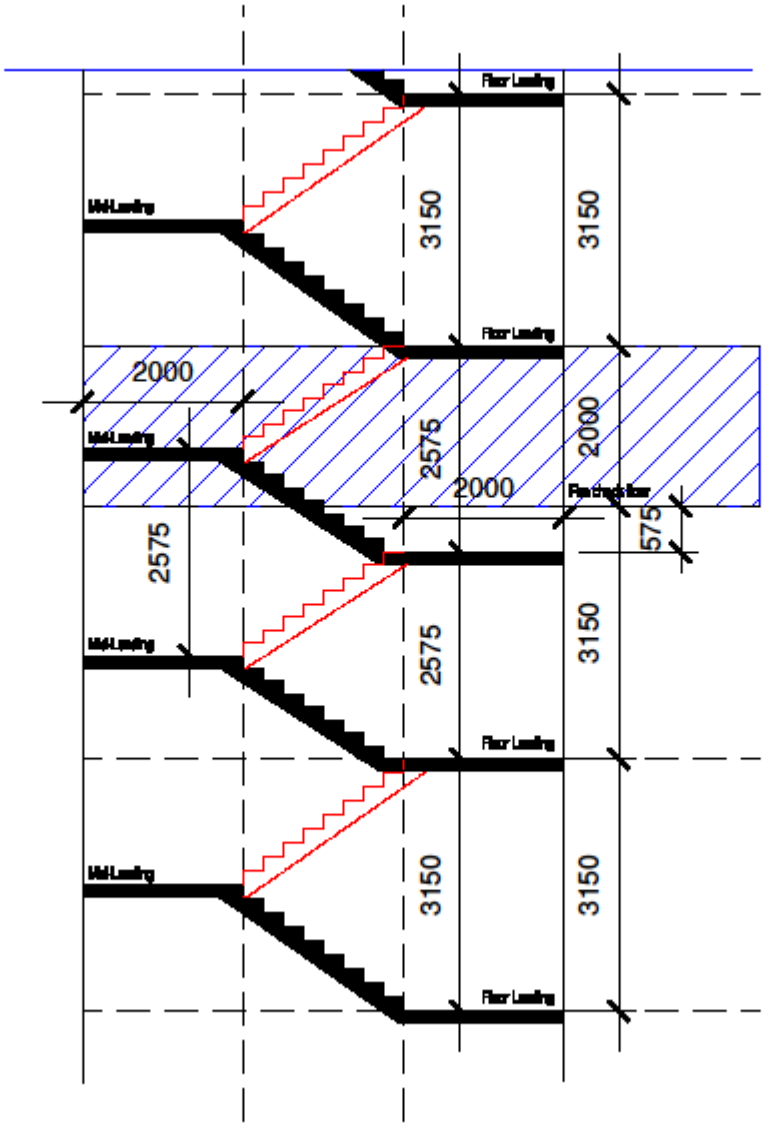


Railing as per details below done at Lodha Bellezza, Hyderabad



ANNEXURE B

Sample of design of staircase to serve floors <= 2.1 m FTF height



Policy No. Arch 39
Date w.e.f.
01/12/2010
Ver. No. 6
Ver. Date
28/06/2018
Pages 1-26

Policy for Doors & Door Frames for Residential & Office Buildings

Objective:-

Objective of this policy is to standardize specifications of doors for different grades of projects inventories hardware for each of type of door and establish acceptance criteria. The policy shall also stipulate guidelines on methods of installation of door frame and stages when these will be installed. This policy deals with wooden doors only.

RESIDENTIAL PROJECTS :
These are categorized in four groups viz.,
(1) Luxury
(2) High end
(3) Aspirational
(4) Casa

OFFICE PROJECTS:
(1) Excelus
(2) Supremus
(3) I-Think segments.

Types of doors in each of above categories are:-
(1) Fire doors - FD
(2) Entrance door
(3) Internal door
(4) Doors for wet areas or
(5) Doors exposed to rain

A. FIRE DOORS FD:

1. Used where?
   Fire doors shall be provided at locations specified in fire NOC and are required in buildings taller than 24 meters. These will be generally required for:-

   a. Entrance to an apartment including Servant room entry from the Lobby
   b. Kitchen door (if provided)
   c. Escape stairway entrance
   d. Electrical shaft (if opening into staircase)
   e. Electrical meter room
   f. Plant rooms

2. Rating of fire doors shall be as stipulated in fire NOC.

3. 2 hours or more fire rated doors may be in steel.

4. Fire rated flush doors and frames shall conform to requirement of IS 3614.

5. All fire doors supplied at site shall have CBRI test certificate for specified fire rating.

6. Escape doors shall be provided with panic bars from inside.

7. Wherever fire doors are access controlled, provision shall be made to disable the access control in case of fire (signal from FA panel can disable access control).

8. Glass used for vision panel in fire rated door (if any) shall have the same fire rating as that of the door.

9. All escape doors shall be provided with an intumescent strip in such a way that in case of fire, gap between shutter and frame is completely sealed to prevent smoke entering into escape area.

10. Above specifications will be applicable for all grades of projects.

11. Finishing / Architrave treatment will differ according to project classification.

12. All main doors and bed room doors shall be provided with cover moulding or architrave. In case of luxury and high end projects these will be provided to toilet doors to.

13. For Buildings >30m height, fire doors to have door closers to keep them closed at all times. For important public areas they shall be concealed type and on other non public/prominent areas they shall be exposed type door closers.(This shall also be applicable for any retail building, even if height is<30m)

B. ENTRANCE DOORS:

1. Minimum wall thickness required shall be 150mm.

2. Door shutter shall be solid hot pressed flush door with thickness not less than 38mm.

3. Door frames shall preferably have provision of an additional rebate on outer side so that second door shutter (safety door shutter) can be installed at a later date by the customer without any alteration to existing door.

4. The door frame shall be fixed flush with outer face of the wall and joint between the frame and masonry (concrete) shall be treated with an architrave except in lobbies where wall paneling is provided.

5. In area where wall panelling is provided, door frames shall be fixed in such a way that door shutter is flush with finished wall panelling.

6. Care shall be taken to ensure that door shutter finish is identical with that of wall panelling (i.e., colour, stains or groove of the veneer) and that grooves match accurately.

7. In case of building above 70 meters in height, entrance doors shall be provided with friction hinges or concealed door stopper or door restrictor.

8. The width of the main door shutter should not exceed 3’ 6". In case where width of the door shutter exceeds 3’ 6", floor spring shall be used instead of door hinges.

9. In all buildings with height over 70 m, the architrave shall be placed at the junction of the door frame and the wall to ensure that cracks are not visible.

10. Factory made door shutters shall have solid infill with peripheral framing and lock rail, each 100 mm wide (Refer typical construction detail of factory made shutter below). Also, pre-cut provisions for locks & hinges in the door shutter to be done at factory during manufacturing process. One sample of approved locks & hinges are required to be sent to the factory prior to commencement of production. Procurement shall coordinate with Design for the same.

11. For Casa & Aspi buildings, concrete door frames may be considered given the cost advantage. If these are selected, necessary precautions for ensuring that the civil door opening is of proper size is to be taken by the CM team since it would not be possible to alter the size of the door frame or the door shutter (factory-made).

12. RCC mullion(size as per structural design- width to be restricted to align with wall thickness)to be provided at the junction of adjoining flats(common wall between units) to strengthen fixing of door frames.

C. INTERNAL DOORS:

1. Doors to bed room, study room will fall in this category.

2. Door shutters shall be solid hot pressed flush doors with thickness not less than 32mm (not applicable to the rated kitchen doors).

3. Door frame sections shall not be less than 125 x 58mm in case where frames are in teak wood and not less than 94 x 58mm where these are in red meranti. For Casa & Aspi buildings, concrete door frames may be considered given the cost advantage. If these are selected, necessary precautions for ensuring that the civil door opening is of proper size is to be taken by the CM team since it would not be possible to alter the size of the door frame or the door shutter (factory-made).

4. In case of imported factory manufactured doors, door frames shall be in MDF or HDF. Use of LDF will not be allowed.

5. Factory made door shutters shall have solid infill with peripheral framing and lock rail, each 100 mm wide (Refer typical construction detail of factory made shutter). Also, pre-cut provisions for locks & hinges in the door shutter to be done at factory during manufacturing process. One sample of approved locks & hinges are required to be sent to the factory prior to commencement of production. Procurement shall coordinate with Design for the same.

6. Adhesive glue shall be phenol formaldehyde or equivalent.

7. No alterations to door shutters shall be permissible at site.

8. All shutters shall be factory made. Wherever laminate or veneer finish is specified, the veneer or laminate shall be continuous over the lipping. Thickness of laminate or veneer shall not be less than 1mm. Where paper veneer is specified, its thickness should not be less than 0.5mm.

9. When two sides of door shutters have different finishes, the edge of the shutter will have the finish of external face of the shutter.

10. In all buildings with height over 70 m, the architrave shall be provided at the junction of the door frame and the wall to ensure that any cracks are not visible.

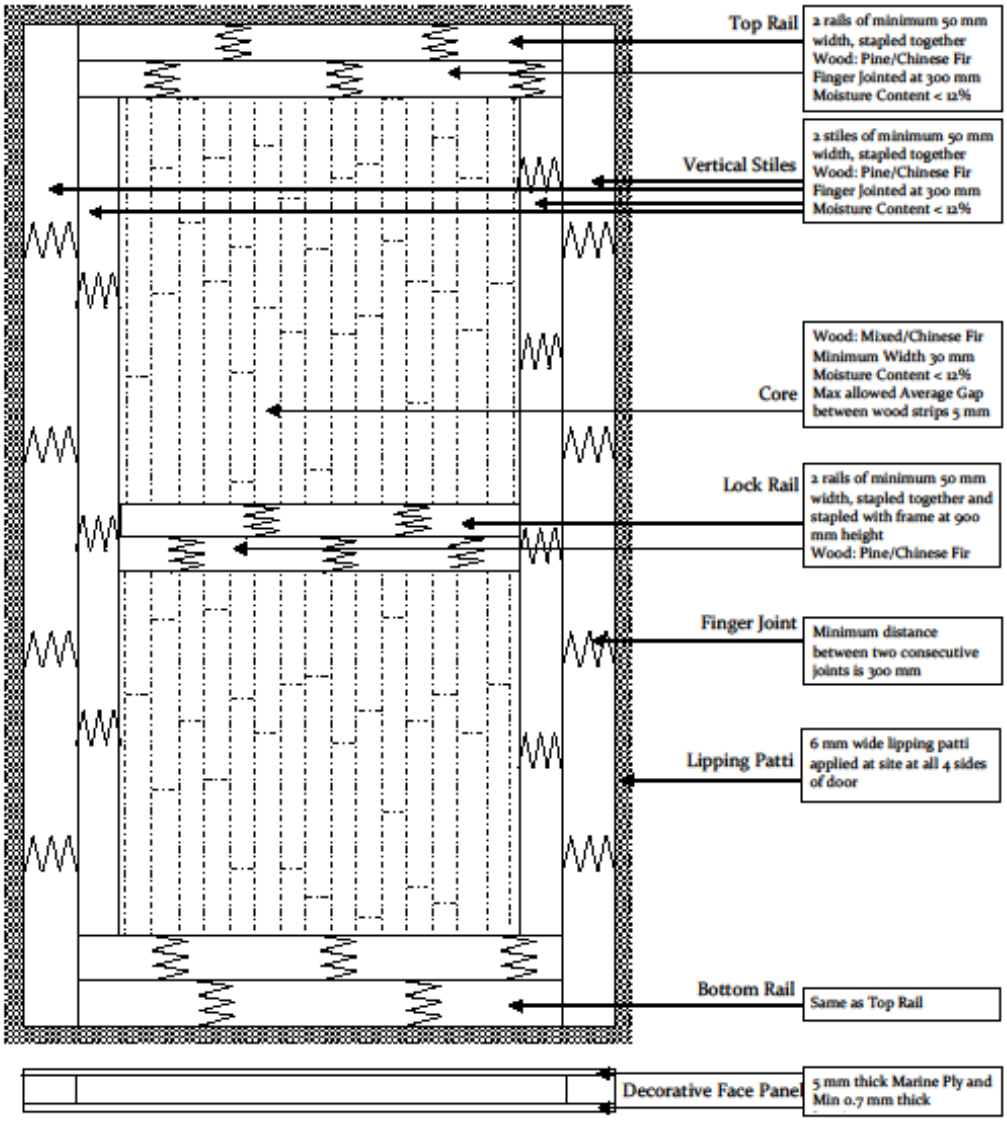
Typical Construction Detail of Factory Made Door Shutter (sourced from China)

Wooden Doors – PALAVA II (Both side Laminated)

Drawing and Technical Specifications

March 11, 2015

LODHA



Total Height and Width should be as specified in the purchase order
Doors are cold pressed with suitable water based adhesive
Decorative Face panels should be prepared by cold pressing first and then should be cold pressed on both sides of core
Use of one single piece of wooden batten for rail & stiles is avoided due to very high probability of bend
No engineered wood/mdf/hdf/particle board/plywood/honeycomb allowed for core
Finger joints should be at a minimum distance of 300 mm

D. DOORS FOR WET AREA:

1. Bath room and wash area doors will fall in this category.

2. Door frames shall be in Teak wood or Red Meranti with section not less than 94 x 58mm . In case of Casa and Aspi, Concrete door frames may also be considered as alternative, subject to execution issues being satisfactory .

3. In case of imported factory manufactured frames, only HDF or composite of wood pulp and PVC is permissible. MDF and LDF shall not be allowed.

4. Door shutters shall be 32mm thick solid core hot pressed door with phenol formaldehyde or marine grade adhesive and BWR grade plywood facing.

5. Factory made door shutters shall have solid infill with peripheral framing and lock rail, each 100 mm wide (Refer typical construction detail of factory made shutter). Also, pre-cut provisions for locks & hinges in the door shutter to be done at factory during manufacturing process. One sample of approved locks & hinges are required to be sent to the factory prior to commencement of production. Procurement shall coordinate with Design for the same. Resin shall be phenol formaldehyde or equivalent.

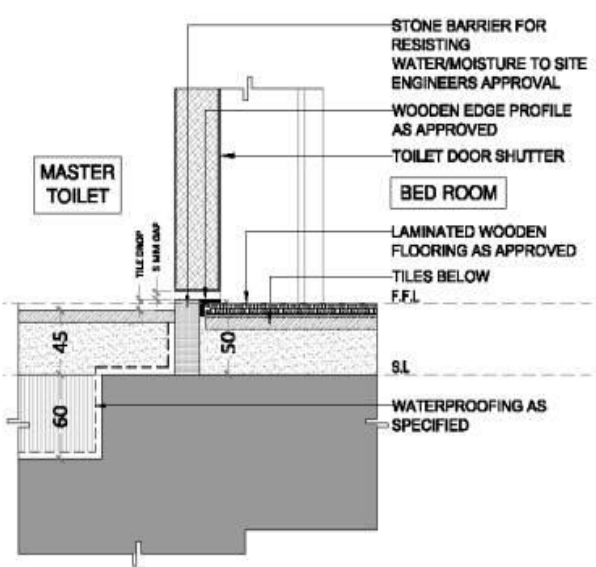
6. Door frames shall be fixed flush with the external face of bath room wall.

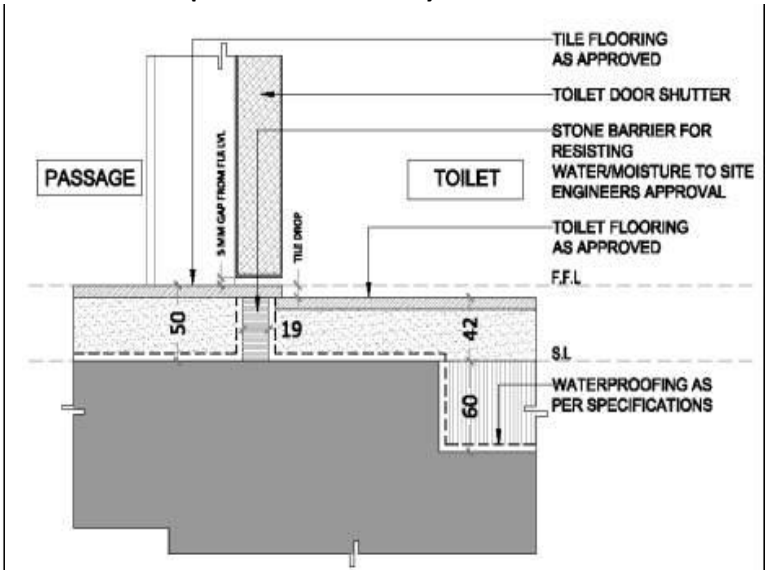
7. Non-factory made door shutter shall be provided with 2mm thick aluminium capping on the bottom edge to prevent water ingress.

8. Frames shall be provided resting on the finished floor of area external to the bathroom.

9. Flooring of the bed room or area external to bathroom shall be continued all the way up to external face of the bath room door shutter and shall be kerbed with marble / granite threshold in such a manner that ;-

   a. Threshold falls exactly under the bathroom shutter and hence is not visible when door is in closed position.
   b. Thickness of the threshold shall be more than the difference in floor levels of wet & dry area (i.e., drop in floor for wet area) at the threshold. ***(See Sketch below)***





10. Bathroom door shutter will have provision to unlock from outside in case of emergency.

11. External finish of bathroom shutter will match with the internal finish of bedroom door. Internal finish of bathroom door shall be in laminate or waterproof panel or veneer with PU polish.

12. Gap between door frame and wall on external side shall be treated with Architrave in case of high end and luxury apartments.

E. DOORS EXPOSED TO RAIN:

1. Door opening on terrace or opening out of the covered area of building will fall into this category.

2. All such doors shall have RCC chajja protruding atleast 2’ beyond external face of wall.

3. Door frames and shutters will have same specifications for bathroom doors except that external facing shall be of marine ply.

4. Doors shall be fixed at least 30cm above the finished terrace/pavement level so that wall below can be waterproofed with watta.

5. External face of both shutter and frame need to be protected with PU paint.

6. Door shutter will have drip mould fixed at the bottom on its external face so that water does not enter inside.

7. All doors shall be compulsorily provided with door closers.

OFFICE PROJECTS:

Detailed Specifications for Excelus,Supremus and i-Think segments are outlined in table 1,2,3 respectively, some broad guidelines are outlined:

1. Door Frames size for all Office projects is now finalized to 58 X 119mm.
2. The Joint of the Wall & Door Frame on both Sides is covered by a Lipping Patti & a Corner patti.
3. Red Meranti Wood shall be used for Door Frames.
4. Special care needs to be taken for the level/threshold detail where there is possibility of Water Ingress from one area to another. Eg: Lobby to Toilet, Lobby to Pantry, Lift Landing to Lift Lobby, etc
5. Similarly, Door Shutters are specified according to Frame Sizes.
6. Special care needs to be taken for Shutters exposed to Water/Moisture.
7. While designing any door which provides access to the building/unit, any linkage to security should be considered and design of the door/its movement system be designed accordingly.(eg. If there is access control, the door should be integrated with the access control)
8. The Staircase Door Frame & Shutters need to be minimum 2 hr fire rated.
9. FRD Policy:
    a. Excelus & Supremus: In case of FRD which are visible for Public Areas(eg. Main Lobby, Lift Lobby,etc), we will use Fire Doors which have Finishing co-ordinated with the Interiors. In case of FRD which are not visible from Public areas(eg, in Servcice Areas, etc) we will use readymade FRD with Fire Resistant Coating.
    b. I-Think: To Use readymade FRD with Fire Resistant Coating.

General Notes:
All the opening sizes are clear Masonry sizes.
All the wooden members sizes are finished sizes.
Lipping patti provided for Shutter adjustment is to be finished with 3 coats of Polish to match Shutter Finish.
All shutters to be of Water Proof Quality.
Architects to check CFO NOC for the thickness of the Shutters(Main Door) before Finalizing the Door Schedule.
The Shutter sizes mentioned are with the Lipping ‘Patti’ on all sides as per Detail.
Internal doors in the toilet are Modular Partition systems.
All dimensions are in mm.

GUIDELINES FOR FIXING DOOR FRAMES:

FOR CONCRETE DOOR FRAMES:

1. While laying internal walls, due care should be taken to ensure that the size of the door opening is within +/- 5 mm ofthe design size, since no alteration is possible in the door frame or the door shutter (factory-made).

2. Concrete frames are to be installed along with masonry by anchor fasteners/coach screws & polyurethane foam between the frame & masonry.

3. Coach Screws shall be fixed as follows:
    - 3 Nos. on either side of the frame, 1' from top and bottom of the frame and third at the centre.
    - 2 Nos. on the top member of the frame.

4. Alignment of the frame is checked with respect to the starter layer of the masonry keeping allowance for internal wall plaster / gypsum.

FOR NON-CONCRETE DOOR FRAMES:

1. Frames shall be fixed:
    a. Prior to internal plaster where no sub frames are provided. This will typically be applicable to an Aspirational and high end category projects.
    b. After gypsum plaster where sub frames are provided. Provision of sub frames shall be compulsory in luxury residential projects.

2. Imported factory manufactured frames can be fixed only after completion of internal plaster and flooring (including initial coat of polish).

3. In case of (1a) ;
    a. Dimensional integrity of masonry opening shall be maintained by use of a template.
    b. Alignment of frame is maintained in line with plaster with the help of levelling strips of gypsum plaster or with plaster stop beads.
    c. Frames shall be fixed with coach screws or anchor fasteners suitable for masonry/concrete.
    d. Gap between the masonry and the frame is sealed with PU foam.

4. In case of (1b);
    a. After completion of masonry sub frames are fixed to define outer dimension of the frame (sub frame will therefore provide accurate "finished" masonry opening).
    b. Masonry opening shall be left with;

W = width of door frame + 2 x thick of sub frame
H = height of door frame + 1 x thick of sub frame
('H' is always measured from FFL).

c. Sub frames shall be fixed with expansion screws or expansion bolts.
d. Sub frames can be fabricated from salwood or marine plywood or any other hardwood and will have same thickness as of internal plaster.

e. After completion of internal plaster and flooring (including initial polishing) frames are fixed into the finished opening with coach screws or anchor bolts suitable for masonry or concrete as the case may be.
f. Imported factory manufactured door frames are fixed with PU foam (manufacturer's instructions need to be followed).
g. If door section has architrave sections, these can be fixed after fixing door shutters.

IMPORTANT CHECK LIST :

At P.O.:-

1. Provision of procurement policy for frames & shutters will apply.
2. It will be ensured that timber scantlings obtained from cutting rebate in the frame, is supplied along with the frame. These can be used on architrave. (Manufacturers are stating that they use this for packaging and hence, cannot supply free of cost - need to verify).

In Godown:-

1. All frames and shutters shall be stored 1' clear off the floor.
2. Frame and shutters will be stacked horizontally with at least 3 supports.
3. Distance between supports and height of stack shall be as per manufacturer's instructions.
4. No material shall be stacked above door frame / shutters.

At site:-

1. Protect the edges of door frames by taping cardboard or foam rubber.
2. Do not remove protection plastic from factory manufactured doors until handover.
3. Should any wet work become necessary after doors are fixed, then protection plastic has to be provided.
4. Always keep the door shutter in 'closed' position when not in use.
5. Provide rubber bush and magnetic door stopper immediately after fixing door shutter.
6. Ensure that in fully open position, magnetic door stopper has full contact between strike plate and magnet.

Schedule of door hardware:-

1. Schedule of door hardware shall be as per Annexure - C enclosed.
2. Make and material of hardware shall be as per Architect's approval.

Acceptance criteria:-

1. Acceptance criteria, sampling frequency and tests to be carried out along with permissible deviation limits are given in Annexure - B & C hereto
2. Any dispute regarding acceptability shall be referred to Head Procurement whose decision shall be final and binding on the supplier.

Please refer Annexure A1, A2, A3 and A4 for standard door frame dimensions and other details. Dimensions given in above annexure may be changed only with approval of HOD-Design.

Acceptance criteria for door shutters- Please refer Annexure B1

Acceptance criteria for door frames - Please refer Annexure B2

Schedule of hardware - Please refer Annexure C

Annexure A1

Segment – Luxury																	
Sr. No	**Module**	**Type**	**Masonry Opening**		**Door frame**	**Frame Specs**	**Rebate in Frame**	**Grooves in Frame**	**Shutter size**			**Shutter Specs**	**Architrave**		**Remarks**	
			Width	**Height**	**Size (in mm)**				**Width**	**Height**	**Thickness**		**Size (in mm)**	**specs**		
			C	**D**	**X x Y**				**E**	**F**			**A x B**			
1	Main Door	Single leaf flush door	1200	2450	180 X 58	Teakwood factory manufactured frame finished in 3 coats of Polish to match shutter finish	**51 x 12**	**Specification required**	1102	2400	48 mm	40 mm thk solid core shutter with 4 mm thk **recon** veneer on both sides finished with 3 coats of Polish	na	na	The Door Frame size and design needs to be coordinated with the Lobby design in specific .	The frame size mentioned is the minimum dimension .
2	Service / Servants Entry	Single leaf flush door	1050	2450	143 X 58	Teakwood factory manufactured frame finished in 3 coats of Polish to match shutter finish	**41 x 12**	**Specification required**	952	2400	38 mm	30 mm thk solid core shutter with 4 mm thk recon veneer on both sides finished with 3 coats of Polish	na	na	The Door Frame size and design needs to be coordinated with the Lobby design in specific .	The frame size mentioned is the minimum dimension .
3	Pooja area		-	2450	-	-			-	-	-	-	-	-		
General Notes :																
All the Opening sizes are clear masonry sizes. (|The dimension above FFL are 50 mm less then what are mentioned above)																
Kitchen* - kitchen door is applicable only for air conditioned residences.																
lipping patti provided for shutter adjustment is to be finished with 3 coats of polish to match shutter finish																
All shutters should be as per quality norms defined by QC & purchase department.																
Architects to check CFO NOC for the thickness of the Shutters (kitchen/ Main door) before finalizing the Door Schedule...																

The Shutter Sizes mentioned are with the Lipping 'Patti' on all the sides as per detail . Lipping 'Patti' to be in Teak wood - size 8 mm.

Annexure – A2:

Segment - High End															
Sr.No	Module	Type	Masonary Opening		Frame	Frame Specs	Rebate in Frame	Grooves in Frame	Shutter size			Shutter Specs	Architrave		Remarks	
			Width	Height	size				Width	Height	Thickness		Size (in mm)	specs		
			C	D	X x Y				E	F			A x B			
1	Main Door	Single leaf flush door	1200	2450	180 x 58	Teakwood frame finished in 3 coats of Polish to match shutter finish	**51 x 12**	**Specification required**	1102	2400	48 mm	40 mm thk solid core shutter with 4 mm thk Veneer on both sides finished with 3 coats of Polish	75 x 12	Teakwood Architrave finished in 3 coats of Polish		accessories details
2	Other rooms	Single leaf flush door	1050	2450	143 x 58	Teakwood frame finished in 3 coats of Polish to match shutter finish	**41 x 12**	**Specification required**	952	2400	38 mm	30 mm thk solid core shutter with 4 mm thk Veneer on both sides finished with 3 coats of Polish	75 x 12	Teakwood Architrave finished in 3 coats of Polish		
3	Pooja area		-	2450		-			-	-	-	-	-	-	As per design	
4	Kitchen	Single leaf Sliding door	900	2450	143 x 58	Teakwood frame finished in 3 coats of Polish to match shutter	**41 x 12**	**Specification required**	965	2400	38 mm	30 mm thk solid core shutter with 4 mm thk Veneer on both sides finished with 3 coats of Polish	75 x 12	Teakwood Architrave finished in 3 coats of Polish		
5	Toilets	Single leaf flush door	900	2450	143 x 58	Teakwood frame finished in 3 coats of Polish to match shutter finish	**41 x 12**	**Specification required**	802	2400	38 mm	30 mm thk solid core shutter with 4 mm thk Veneer on both sides finished with 3 coats of Polish	75 x 12	Teakwood Architrave finished in 3 coats of Polish		
6	Powder Toilet	Single leaf sliding door	800	2450	na	Top hung system			865	2400	12 mm	**12 mm thk** Toughened Glass Shutters .			Sliding flush door can also be opted	
7	Utility	Single leaf	1100	2450	143 x 58	Teakwood frame finished in 3 coats of Polish to match shutter finish	**41 x 12**	**Specification required**	1002	2400	38 mm	30 mm thk solid core shutter with 4 mm thk Veneer on both sides finished with 3 coats of Polish	75 x 12	Teakwood Architrave finished in 3 coats of Polish		
7	Store	Single leaf door	1100	2400	143 x 58	Teakwood frame finished in 3 coats of Polish to match shutter finish	**41 x 12**	**Specification required**	1002	2350	38 mm	12 mm thk Toughened Glass Shutters .	75 x 12	Teakwood Architrave finished in 3 coats of Polish		
8	Shaft Doors for Dry balcony	Single Shutter	600	1500	na	Stone frame from all sides	**asper design**	**as per design**	548	1450	30 mm	30 mm thk solid core shutter with textured Paint same as the sorrounding wall colour.	Stone Jambs & Cill to protrude by 15 mm outside the wall face.	na		
General Notes :																

All the Opening sizes are clear masonary sizes . (The dimension above FFL are 50 mm less then what are mentioned above)
All the wooden members sizes are finished sizes.
Kitchen* - kitchen door is applicable only for air conditioned residences.
lipping patti provided for shutter adjustment is to be finished with 3 coats of polish to match shutter finish

All shutters to be of water proof quality
Architects to check CFO NOC for the thichness of the Shutters (kitchen/ Main door) before finalizing the Door Schedule...
APD - As per design

Annexure – A3

Standardization of Doors and Frames																			
Segment – Aspirational																			
Sr. No	Module	Type	Masonary Opening		Door frame size	Frame Specs	Rebate in Frame	Grooves in Frame	Architraves for Frames		Shutter size			Shutter Specs	Details	Dimensions are from the Bottom of the Shutter.				Notes
			Width	Height							Width	Height	Finished Thickness			Height of Handle	Height of Latch	Height for the name plate location	Height for the Eye piece	
			C	D	X x Y				L1	L2	E	F								
1	Main Door	Single leaf flush door	1100	2250	119 x 58	Red Miranti frame finished in 3 coats of Polish to match shutter finish or Concrete Door Frame finished in 3 coats of Cement Primer + Wood Polish to match shutter finish	45 x 12	No Grooves	Out of 19 x 19 (refr drg)	38 x 6	1008	2205	42 mm	34 mm thk solid core shutter with 4 mm thk veneer on both sides finished with 3 coats of Polish	refer Annexure 1, 3, 7 - dig 1 & Annexure 4/5 for end condition	1000	900	1680	1500	Civil Work : "Return" of wall by 6" is desirable . A Threshold needs to be planned to prevent Dust & Water enrty .
2	Other rooms	Single leaf flush door	900	2250	94 x 58	Red Miranti frame finished in 3 coats of Polish to match shutter finish or Concrete Door Frame finished in 3 coats of Cement Primer + Wood Polish to match shutter finish	35 x 12	No Grooves	Out of 19 x 19 (refr drg)	38 x 6	808	2205	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 3, 8 - dig 4 & Annexure 4/5 for end condition	1000	900	na	na	For flats Above 90 Mtrs all the internal Doors to have Door Closer .
3	Kitchen*	Single leaf Sliding door	900	2250	N / A	Stone frame. Polished	na	No Grooves	NA	NA	1000	2250	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 6, 8 -dig 3, Annexure 3 dig 2 / 3	1000	900	na	na	To ensure clear opening size for the movement of the Kicthen/dry balcony Gadets (Washing machine /fridge etc0
4	Utility next to the Kitchen	Double leaf un equal shutter .	1100	2250	N / A	Stone frame. Polished	na	No Grooves	NA	NA	as/design	as/design	as per detail	Aluminum Sliding Folding Door as per detail Drawing .	NA	as/design	900	na	na	To ensure that the clear opening is enough for the movement of Washng machine .
5	Utility away from kitchen	Single leaf flush door	900	2250	94 x 58	Red Miranti frame finished in 3 coats of Polish to match shutter finish or Concrete Door Frame finished in 3 coats of Cement Primer + Wood Polish to match shutter finish	35 x 12	No Grooves	Out of 19 x 19 mm (refr drg)	38 x 6	808	2205	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 3 & Annexure 4/5 for end condition	1000	900	na	na	Tile drop should be planned on the outer side of door . Please refer the drawing.
6	Store in the Kitchen	Single leaf Openable	800	2250	N / A	Stone frame. Polished	Single Rebate (Size to be determined)	No Grooves	NA	NA	708	2205	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 3 & Annexure 4/5 for end condition	1000	na	na	na	
		Sliding Door	750	2250	na	Stone frame. Polished	No Rebate	No Grooves	NA	NA	850	2250	32	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 6, 8 - dig 3, Annexure 3 dig 2 / 3	1000	na	na	na	
6	Store away from Kitchen	Single leaf flush door	800	2250	94 x 58	Red Miranti frame finished in 3 coats of Polish to match shutter finish or Concrete Door Frame finished in 3 coats of Cement Primer + Wood Polish to match shutter finish	35 x 12	No Grooves	Out of 19 x 19 mm (refr drg)	38 x 6	708	2205	32	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 3 & Annexure 4/5 for end condition	1000	na	na	na	
5	Toilets	Single leaf flush door	800	2250	94 x 58	Red Miranti frame finished in 3 coats of Polish to match shutter finish or Concrete Door Frame finished in 3 coats of Cement Primer + Wood Polish to match shutter finish	35 x 12	No Grooves	Out of 19 x 19 mm (refr drg)	38 x 6	708	2205	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 3 dig 2 / 3 & Annexure 8 -dig 4	1000	900	na	na	Threshold to be planned for the tToilet door which is abutting bedroom with wooden flooring.
			750	2250	N / A	Stone frame. Polished	Specification require	No Grooves	na	Na	710	2225	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 3 dig 2 / 3 & Annexure 8 -dig 4	1000	900	na	na	Stone frame can be used where the frame is not in continuation with other door Frames .
6	Shaft Doors in Deck	Single Shutter	600	1500	na	Stone frame. Polished	Specification require	No Grooves	na	Na	560	1460	32 mm	30 mm thk solid core shutter finished with textured paint same as the external wall finish.	refer Annexure -3 dig 2 / 3	1000	as/design	na	na	

General Notes :
All the Opening sizes are clear masonary sizes . (The height above FFL is 50 mm less then the mentioned height)
All the wooden members sizes are finished
sizes.
Kitchen* - kitchen door is applicable only for air conditioned residence
All shutters should be as per quality norms defined by QC & purchase
All dimension mentioned are in mm .

Annexure – A4

Segment - CASA																			
Sr.No	Module	Type	Masonary		Door frame	Frame Specs	Rebate in Frame	Grooves in Frame	Lipping "Patti"		Shutter size			Shutter Specs		Dimensions from the bottom of the Door shutter				
			Width	Height	Size						Width	Height	Thickness		Details	Height of Handle	Heig ht of Latch	Height Of the Name Plate	Eye piece	Notes
			C	D	X x Y				L1	L2	E	F								
1	Main Door	Single leaf flush door	1100	2250	119 x 58	Red Miranti frame finished in 3 coats of Polish to match shutter finish or Concrete Door Frame finished in 3 coats of Cement Primer + Wood Polish to match shutter finish	43 x 12	No Grooves	Out of 19 x 19 (refr drg)	38 x 6	1008	2205	40 mm	40 mm thk solid core shutter finished with 0.8 mm thk textured laminate on both sides	refer Annexure 1, 3, 7 -dig 1 & Annexure 4/5 for end condition	1000	900	1680	1500	
2	Other rooms	Single leaf flush door	900	2250	94 x 58	Red Miranti frame finished in 3 coats of Polish to match shutter finish or Concrete Door Frame finished in 3 coats of Cement Primer + Wood Polish to match shutter finish	35 x 12	No Grooves	Out of 19 x 19 (refr drg)	38 x 6	808	2205	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 3, 8 -dig 4 & Annexure 4/5 for end condition	1000	900	na	na	
3	Kitchen*	Single leaf Sliding door	900	2250	Specifica tion required	Stone frame. Polished	Specification required	No Grooves			1000	2250	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 6, 8 -dig 3, Annexure 3 dig 2 / 3	1000	900	na	na	
4	Utility next to the Kitchen	Double leaf unequal shutter .	1100	2250	Specifica tion required	Stone frame. Polished	Specification required	No Grooves			APD	APD	as per detail	Aluminum Sliding Folding Door as per Drawing .	NA	APD	900	na	na	
5	Utility away from kitcheb	Single leaf flush door	900	2250	94 x 58	Red Miranti frame finished in 3 coats of Polish to match shutter finish or Concrete Door Frame finished in 3 coats of Cement Primer + Wood Polish to match shutter finish	35 x 12	No Grooves	Out of 19 x 19 (refr drg)	38 x 6	808	2205	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 3 & Annexure 4/5 for end condition	1000	900	na	na	
6	Store in the Kitchen	Single leaf Openable	800	2250	Specifica tion required	Stone frame. Polished	Single Rebate (Specification required)	No Grooves			760	2230	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 3 & Annexure 4/5 for end condition	1000	na	na	na	
		Sliding Door	750	2250	Specifica tion required	Stone frame. Polished	No Rebate	No Grooves			850	2230	32	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 6, 8 -dig 3, Annexure 3 dig 2 / 3	1000	na	na	na	
6	Store away from Kitchen	Single Leaf Door	800	2250	94 x 58	Red Miranti frame finished in 3 coats of Polish to match shutter finish or Concrete Door Frame finished in 3 coats of Cement Primer + Wood Polish to match shutter finish	35 x 12	No Grooves	Out of 19 x 19 (refr drg)	38 x 6	714	2207	32	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 3 & Annexure 4/5 for end condition	1000	na	na	na	
5	Toilets	Single leaf flush door	800	2250	94 x 58	Red Miranti frame finished in 3 coats of Polish to match shutter finish or Concrete Door Frame finished in 3 coats of Cement Primer + Wood Polish to match shutter finish	35 x 12	No Grooves	Out of 19 x 19 (refr drg)	38 x 6	714	2207	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 1, 3 dig 2 / 3 & Annexure 8 -dig 4	1000	900	na	na	
			750	2250	Specifica tion required	Stone frame. Polished	Specification required	No Grooves			710	2230	32 mm	30 mm thk solid core shutter finished with 1 mm thk laminate on both sides	refer Annexure 3 dig 2 / 3 & Annexure 8 -dig 4	1000	900	na	na	
6	Shaft Doors in Decks .	Single Shutter	600	1500	Specifica tion required	Stone frame. Polished	Specification required	No Grooves	na	na			32 mm	30 mm thk solid core shutter finished with textured paint same as the external wall finish.	refer Annexure -3 dig 2 / 3	1000	APD	na	na	

General Notes :
All the Opening sizes are clear masonary sizes . (The height above FFL is 50 mm less then the mentioned height)
All the wooden members sizes are finished sizes .

19 mm Stone considered for the " stone frames ".
Kitchen* - kitchen door is applicable only for air conditioned residences.
lipping patti provided for shutter adjustment is to be finished with 3 coats of polish to match shutter finish
All shutters should be as per quality norms defined by QC & purchase department.
Fire rated Door set can used for staircases where the door is not directly seen from the lobby .
Where the Door is directly in the lobby the Door needs to follow the Specification of the Main door of the Flats But.
The Shutter Sizes mentioned are with the Lipping 'Patti' on all the sides as per detail . Lipping 'Patti' to be in Teak wood - size 8 mm.
APD - As per design

Table 1: Office Door - Lodha Excelus

Sr.No	Module	Type	Masonry Opening		Door Frame Size(in mm)	Frame Specs	Shutter Size			Shutter Specs	Architrave		Accessories		Details	Remarks
			Width	Height			Width	Height	Thickness		Size(in mm)	Specs	Handle of Handle	Height of Latch/Key		
			C	D	X x Y		E	F			AXB					
1	Main Lobby- Office Entrance Door	Double Shutter Glass Door	2100	2400	As per Design	As per Design	As per Design	As per Design	As per Design	12 mm thk Toughened Glass Shutters	As per Design	As per Design	1000	900	Na	The Door Needs to be planned & Designed to accommodate the Access card reader near to the Door.
2	Staircase Door	Single Leaf Flush Door	1100	2250	119X 58*	2 hrs Fire Rated Door with Frame or as per CFO	1002	2200	48mm	48mm thk flushed door finished with Veneer or laminate as per co-ordination with Lobby Design	NA	Teakwood Architrave finished in 3 coates of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	To be in-line with the FRD door policy
3	Service Lobby Door	Single Leaf Door	1100	2400	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	1002	2350	38mm	30mm thk Solid Core shutter with 4mm thk Veneer on both Sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
4	Electrical & LV Shaft door	Single leaf door when Shaft is in Meter Room	1100	2400	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	1002	2350	34mm	30mm thk Solid Core shutter with 4mm thk Veneer on outer Side finished with 3 coats of Polish on both sides	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	The Finishing Material of the Door on External side needs to be co-ordinated with finishing material of the Lobby
		Double Leaf door(when shaft is opening in Lobby or Common space)	1100	Floor to floor	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	1002	As per design	34mm	30mm thk Solid Core shutter with 4mm thk Veneer on outer Side finished with 3 coats of Polish on both sides	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	The Finishing Material of the Door on External side needs to be co-ordinated with finishing material of the Lobby
5	Meter Room Door	Single leaf Door	1100	2250	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	1002	2200	34mm	30mm thk Solid Core shutter with 4mm thk Veneer on outer Side finished with 3 coats of Polish on both sides	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	The Finishing Material of the Door on External side needs to be co-ordinated with finishing material of the Lobby
6	Toilet Door	Single leaf Door	1100	2250	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	1002	2200	38mm	30mm thk Solid Core shutter with 4mm thk Veneer on both Sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
7	Plumbing Shaft Door	Single leaf door	900	2250	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	802	2200	34mm	30mm thk Solid Core shutter with 4mm thk Veneer on Outer side& finished with 3 coats of Polish on both sides	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	The Finishing Material of the Door on External side needs to be co-ordinated with finishing material of the Lobby
8	Handicap Toilet Door	Single Leaf Flush Door	1200	2250	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	1102	2200	38mm	30mm thk Solid core shutter with 4mm thk Veneer on both sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	

9	AHU Doors	Single leaf Flush Door	1500	2250	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	1402	2200	38mm	30mm thk Solid core shutter with 4mm thk Veneer on both sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
10	Server Room Doors	Single Leaf flush door	1100	2250	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	1002	2200	38mm	30mm thk Solid core shutter with 4mm thk Veneer on both sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
11	Fire Hydrant Shaft door	Singlt Leaf door with Vision panel	900	1500	N.A	N.A	N.A	N.A	N.A	Readymade MS Door with Louvers	N.A	N.A			N.A	Readymade MS Door including Frame

***. Frame Size remaining the same, the rebate size changes due to thickness of Door.**

Table 2: Office Door -Lodha Supremus

Sr.No	Module	Type	Masonry Opening		Door Frame Size(in mm)	Frame Specs	Shutter Size			Shutter Specs	Architrave		Accessories		Details	Remarks
			Width	Height			Width	Height	Thickness		Size(in mm)	Specs	Handle of Handle	Height of Latch/Key		
			C	D	X x Y		E	F			AXB					
1	Main Lobby- Office Entrance Door	Single Shutter solid Door	1200	2400	As per Design	As per Design	As per Design	As per Design	As per Design	38mm thk Flush Door	As per Design	As per Design	No Handle	900	Na	Door will open outside & will require a portal, as it will be kept open during office working hours.
2	Staircase Door	Single Leaf Flush Door	1100	2250	119X 58*	2 hrs Fire Rated Door with Frame or as per CFO	1002	2200	48mm	48mm thk flushed door finished with Veneer or laminate as per co-ordination with Lobby Design	NA	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	To be in-line with the FRD door policy
3	Service Lobby Door	Single Leaf Door	1100	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	1002	2200	38mm	30mm thk Solid Core shutter with 4mm thk Veneer on both Sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
4	Electrical & LV Shaft door	Single leaf door	1100	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	1002	2200	34mm	30mm thk Solid Core shutter with 4mm thk Veneer on outer Side finished with 3 coats of Polish on both sides	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	The Finishing Material of the Door on External side needs to be co-ordinated with finishing material of the Lobby
5	Meter Room Door	Single leaf Door	1100	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	1002	2200	34mm	30mm thk Solid Core shutter with 4mm thk Veneer on outer Side finished with 3 coats of Polish on both sides	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	The Finishing Material of the Door on External side needs to be co-ordinated with finishing material of the Lobby
6	Toilet Door(External)	Single leaf Door	1100	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	1002	2200	38mm	30mm thk Solid Core shutter with 4mm thk Veneer on both Sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
	Toilet Door(Internal)	Single leaf Flush Door	800	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	702	2200	38mm	30mm thk Solid Core shutter with 4mm thk Veneer on both Sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
7	Plumbing Shaft Door	Single leaf door	900	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	802	2200	34mm	30mm thk Solid Core shutter with 4mm thk Veneer on Outer side& finished with 3 coats of Polish on both sides	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	The Finishing Material of the Door on External side needs to be co-ordinated with finishing material of the Lobby
8	Handicap Toilet Door	Single Leaf Flush Door	1200	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	1102	2200	38mm	30mm thk Solid core shutter with 4mm thk Veneer on both sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
9	AHU Doors	Single leaf Flush Door	1500	2250	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	1402	2200	38mm	30mm thk Solid core shutter with 4mm thk Veneer on both sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
10	Fire Hydrant Shaft door	Singlt Leaf door with Vision panel	900	1500	N.A	N.A	N.A	N.A	N.A	Readymade MS Door with Louvers	N.A	N.A			N.A	Readymade MS Door including Frame

***. Frame Size remaining the same, the rebate size changes due to thickness of Door.**

Table 3: Office Door - Lodha iThink

Sr.No	Module	Type	Masonry Opening		Door Frame Size(in mm)	Frame Specs	Shutter Size			Shutter Specs	Architrave		Accessories		Details	Remarks
			Width	Height			Width	Height	Thickness		Size(in mm)	Specs	Handle of Handle	Height of Latch/Key		
			C	D	X x Y		E	F			AXB					
1	Main Lobby- Office Entrance Door	Single Shutter solid Door	1200	2400	As per Design	As per Design	As per Design	As per Design	As per Design	38mm thk Flush Door	As per Design	As per Design	No Handle	900	Na	Door will open outside & will require a portal, as it will be kept open during office working hours.
2	Staircase Door	Single Leaf Flush Door	1100	2250	119X 58*	2 hrs Fire Rated Door with Frame or as per CFO	1002	2200	48mm	48mm thk flushed door finished with Veneer or laminate as per co-ordination with Lobby Design	NA	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	To be in-line with the FRD door policy
3	Service Lobby Door	Single Leaf Door	1100	2400	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	1002	2350	38mm	30mm thk Solid Core shutter with 4mm thk Veneer on both Sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
4	Electrical & LV Shaft door	Single leaf door	1100	2400	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	1002	2350	34mm	30mm thk Solid Core shutter with 4mm thk Veneer on outer Side finished with 3 coats of Polish on both sides	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	The Finishing Material of the Door on External side needs to be co-ordinated with finishing material of the Lobby
5	Meter Room Door	Single leaf Door	1100	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	1002	2200	34mm	30mm thk Solid Core shutter with 4mm thk Veneer on outer Side finished with 3 coats of Polish on both sides	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	The Finishing Material of the Door on External side needs to be co-ordinated with finishing material of the Lobby
6	Toilet Door(External)	Single leaf Door	1100	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	1002	2200	38mm	30mm thk Solid Core shutter with 4mm thk Veneer on both Sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
	Toilet Door(Internal)	Single leaf Flush Door	800	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	702	2200	38mm	30mm thk Solid Core shutter with 4mm thk Veneer on both Sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
7	Plumbing Shaft Door	Single leaf door	900	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	802	2200	34mm	30mm thk Solid Core shutter with 4mm thk Veneer on Outer side& finished with 3 coats of Polish on both sides	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	The Finishing Material of the Door on External side needs to be co-ordinated with finishing material of the Lobby
8	Handicap Toilet Door	Single Leaf Flush Door	1200	2250	119X58*	Red Meranti frame finished in 3 coats of Polish to match shutter frame	1102	2200	38mm	30mm thk Solid core shutter with 4mm thk Veneer on both sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
9	AHU Doors	Single leaf Flush Door	1500	2250	119X58*	Teakwood frame finished in 3 coats of Polish to match shutter	1402	2200	38mm	30mm thk Solid core shutter with 4mm thk Veneer on both sides finished with 3 coats of Polish	75X12	Teakwood Architrave finished in 3 coats of Polish	1000	900	Refer Annexure 1a,2 – fig1,2 & 4&Annexure 4/5 for end condition	
10	Fire Hydrant Shaft door	Singlt Leaf door with Vision panel	900	1500	N.A	N.A	N.A	N.A	N.A	Readymade MS Door with Louvers	N.A	N.A			N.A	Readymade MS Door including Frame

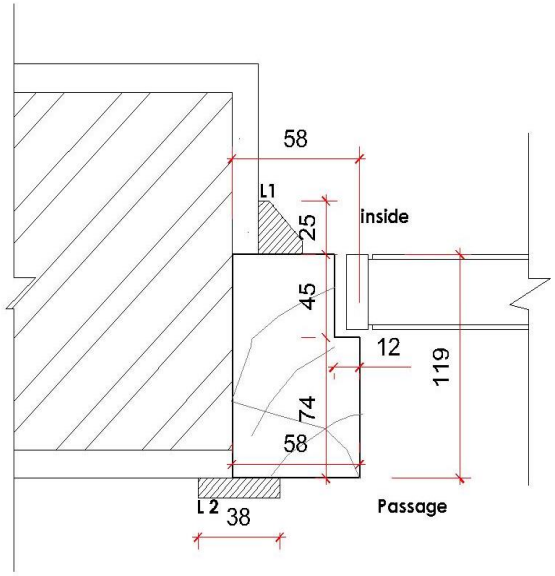
***. Frame Size remaining the same, the rebate size changes due to thickness of Door.**

Annexures – 1,2,3,4 & 5:

ANNEXURE - '1'

Door frame size policy

Segment - I Think / Supremus / Excellus



Shutter Frame detail

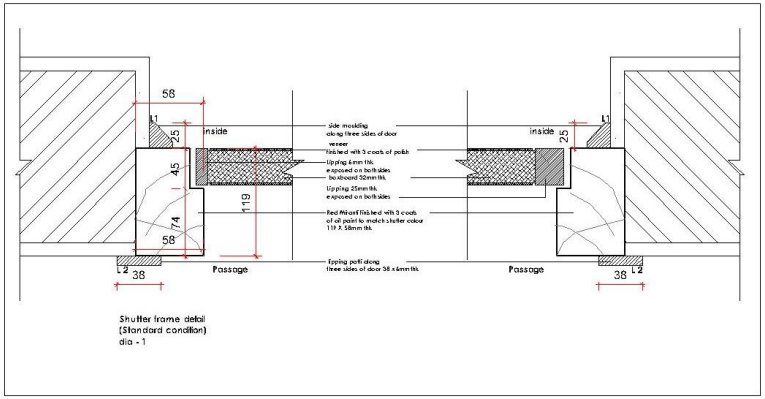
DIA 1

SEGMENT :	I Think / SUPREMUS / EXCELLUS
FRAME SIZE :	119X59
MATERIAL:	RED Miranti
REBATE:	ON ONE SIDE
LOCATION:	MAIN

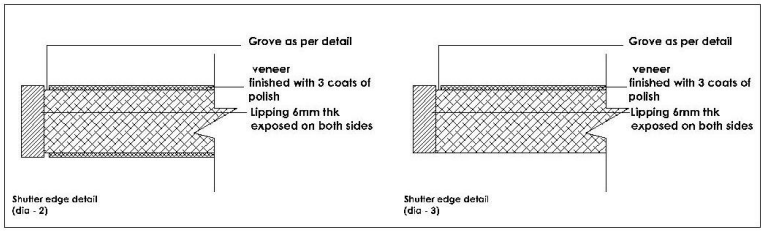
ANNEXURE - '2'

Segment - I Think / Supremus / Excellus

Shutter frame & Shutter edge detail

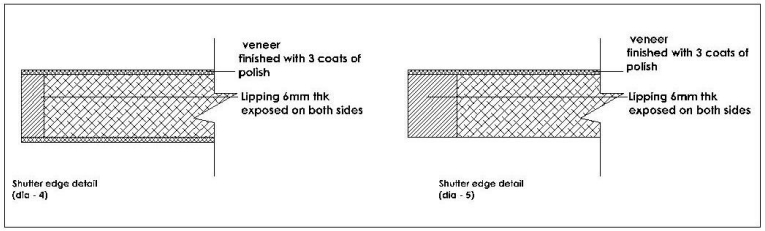


Shutter frame detail
(Standard condition)
dia - 1



Shutter edge detail
(dia - 2)

Shutter edge detail
(dia - 3)

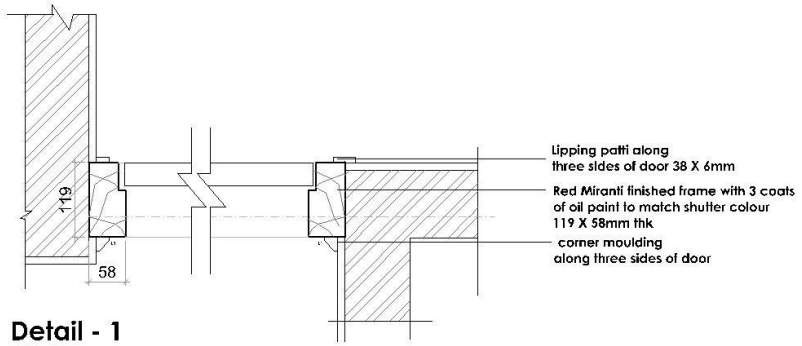


Shutter edge detail
(dia - 4)

Shutter edge detail
(dia - 5)

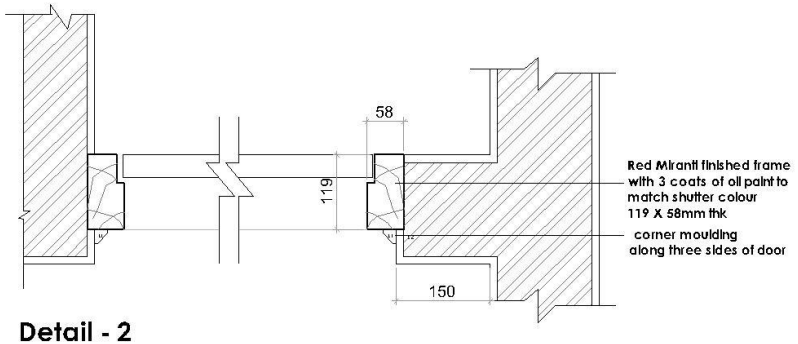
ANNEXURE - '3'

Shutter related edge detail for Internal doors policy
Segment - I Think / Supremus / Excellus



Detail - 1

**Door in between two perpendicular walls &
a wall parallel one perpendicular walls**

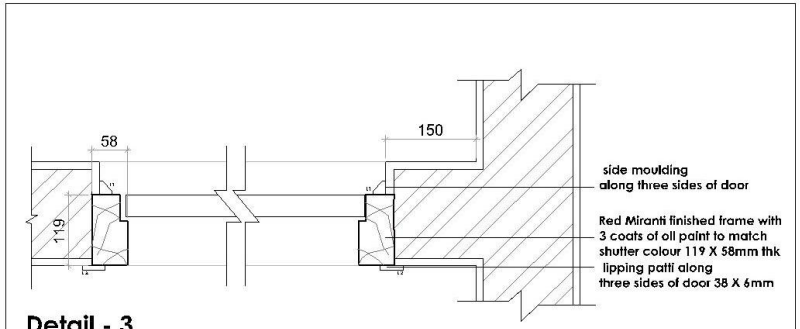


Detail - 2

**Two parallel walls with 150mm
wall along one side**

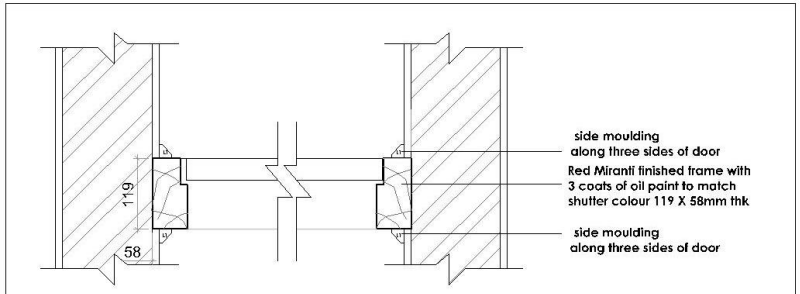
ANNEXURE - '4'

Shutter related edge detail for Internal doors policy
Segment - I Think / Supremus / Excellus



Detail - 3

**Two perpendicular walls with
150mm wall along the junction**

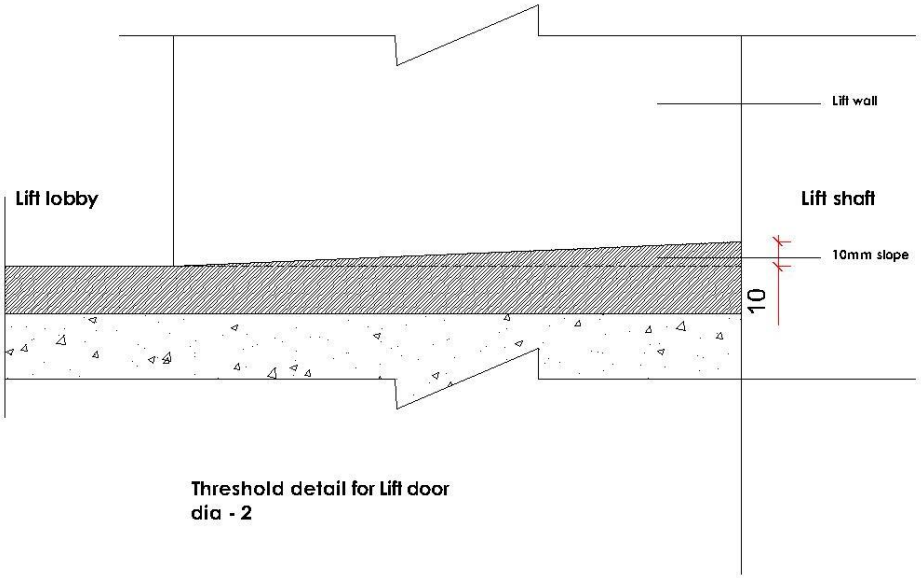


Detail - 4

Two parallel walls

ANNEXURE - '5'

Thresh hold detail
Segment - I Think / Supremus / Excellus



Threshold detail for Lift door
dia - 2

Annexure – B1

ACCEPTANCE CRITERIA FOR DOOR SHUTTERS							
Related IS code : As per IS 2202 (part- 1) - 1999							
Testing Criteria : As per IS 4020 (part 1 to 16) - 1998							
Test Frequency : one door sampel for Lot size upto 300nos and 2 door samples for above 300 numbers							
SR. No.	**NAME OF THE TEST**	**PROCEDURE**	**TO BE CONDUCTED WHEN**	**TO BE CONDUCTED WHERE**	**ACCEPTENCE CRITERIA**	**OUTCOME OF FAILURE (Action to be taken in case of test failure)**	**Action to be taken in case of Performance Failure (i.e. after installation of doors)**
1	Dimensions and squareness	Measure the Height, width, thickness & squareness of the door sample	After material arrived at site	At site by QC personnel / Random door sample send to external laboratary	The dimensions of nominal width and height shall be within a limit of +/-5mm. The door shutter shall not deviate by more than 1mm on a length of 500mm. The thickness of the door shutter shall be uniform throughout with the permissible variation of not more than 0.8mm between any two points. the nominal thickness of the shutter shall be within a limit of +/- 1mm	Lots not confirming will not be put to use and will be returned back to the supplier	PHASE I If item fails during first 24 months from delivery, the following to be recovered from supplier a) Replacement cost b) Penalty recovery from supplier (Penalty will be 10% of the failed door value which includes door installation cost) Recovery to be enabled through a recurring performance bank guarantee which shall be taken from the suppliers. The applicable peformance bank guarantee will be 5 lakhs for the suppliers having annual turnover of more than 30 lacs from lodha and 2 lacs for the suppliers having annual turnover of less than 30 lacs from Lodha. Phase II: (Deadline 31 Dec 2010) At least 10 suppliers to be evaluated and ranked jointly by quality and purchase dept. Standard manufacturing procedures and incentive methods to be developed for the suppliers to manage our quality standards. It will help us to eliminate "Failure in test" clause. Quarterly audits to be made jointly with purchase and quality department for selected suppliers.
2	General Flatness	Measurement of Twist: the door shutter is held freely in vertical plane or mounted vertically so that there is no external restraint.Any three corners of this face determina a plane of reference. The deviation of the fourth corner is measured with respect to this plance with a plumb bob. Measurement of Warping and cupping: Measurement of warping and cupping on one of the faces of the door shutters is measured with respect to straight lines parallel to each edge and located 20mm or less from the edge. The distance of the face from these straight lines is measure.	After material arrived at site	Random door sample send to external laboratary	The twist, cupping and warping shall not exceed 6mm	1% devaluation on P.O amount	
3	Local planeness test	The door shutter shall be placed in a horizontal position or held freely in convenient position. Squares of 200mmx200mm shall be drawn, spread over the entire area of the shutter for measurement purpose. A suitable measuring device suitably fixed at the centre of a straight edge of 150mm length shall be placed on the ten different squares on the face of the door shutter. The depth at each point shall be measured to an accuracy of 01mm	After material arrived at site	Random door sample send to external laboratary	The depth of deviation measured at any point shall not be more than 0.5mm	1% devaluation on P.O amount	
4	Impact indentation test	the door shutter shall be placed horizontally resting on a suitable frame equally on all the four edges. A steel ball of about 50mm diameter and weighing 500+/- 10g shall be allowed to fall freely from a height of 750 +/- 5mm at any randomly selected 10 different points on both the surfaces of the door shutter leaving distance of 75mm from the deges. The depth of indentation shall be measured to an accuracy of 0.1mm	After material arrived at site	Random door sample send to external laboratary	No defects such as cracking, tearing or delamination and the depth of indentation shall not be more than 0.2mm	1% devaluation on P.O amount	
5	Flexure test	The door shutter shall be held firmly along one long edge and the adjacent short edge and it shall be ensured that the three fixed corners are in one horizontal plane. Loading shall be done on the top corner of the door shutter 50 mm from the free edge, resulting deformation in the vertical plane of the door shutter. The loading shall be done in steps of 100 N (10 kgt) upto a maximum of 500 N (50 kgf) and unloaded after 15 min in the same steps. The deflection shall be measured initially and after 15 min with the load and finally after 3 min of the removal of the load. All deflections of the free corner shall be measured to an accuracy of 0.1 mm with reference to the diagonally opposite fixed corner.	After material arrived at site	Random door sample send to external laboratary	There shall not be any residual deflection of more than one tenth of the maximum deflection. The deflection at the maximum load shall not be more than one thirtieth of the length and one fifteenth of the width, whichever is less.	1% devaluation on P.O amount	
6	Edge loading test	The door shutter shall be hung vertically, bearing or with 12 mm dia pivot supported at the top and bottom or hinged on one longitudinal edge. The load shall be applied on the top of the other longitudinal edge parallel to the plane of the door shutter at a distance of 25 f 5 mm from the edge. The loading shall be done in steps of not more than 200 N (20 kgl) at a time until a load of 1 000 N (100 kgf) is reached and kept constant for a period of 15 min. The deflection at the loaded edge at the end of 15 min shall be recorded. The deflection shall also be measured 3 min after the removal of the load to an accuracy of 0.1 mm.	After material arrived at site	Random door sample send to external laboratary	The deflection of the edge at the maximum load shall not be more than 5 mm. On removal of the loads, the residual deflection shall not be more than 0.5 mm, failing which the test may be repeated on the other edge in the reverse direction. Also there shall be no lateral buckling by more than 2 mm during loaded condition and no residual lateral buckling after removal of the load.	1% devaluation on P.O amount	
7	Shock Resistance test	The door shutter shall be hinged in a vertical plane flush with a fixed frame. The rope with a leather ball of approximately 200 mm in dia and containing 50 N (5 kgf) of sand hung vertically by a rope required for giving the shock for soft and light body impact. for soft and heavy body impact A spherical leather sail cloth bag of approximately 350 mm in diameter is filled with sand until it reaches a mass of 300 N	After material arrived at site	Random door sample send to external laboratary	There shall be no visible damage in any part of the door after twentyfive blows on each end. Door shutters, when tested in accordance with 3.1 of IS 4020 (Part 8), the normally hung shutter, with angings, fixings and fastenings hould with stand without any significant permanent deformation and without deterioration the five impacts on both	1% devaluation on P.O amount	
8	Buckling test	The door shutter shall be placed in a rigid rig and fixed in a way similar to actual	After material	Random door sample send	sides of the shutter	1% devaluation on	

		installation. The door shutter shall be opened to an angle of 90 * 5′ and secured at its top free corner to prevent any lateral movement. A typical method of attachment of the load and its location is shown in Fig.1 for guidance. A load of 400 N (40 kgf) is applied at 1000 f 5 mm from the bottom of the door at right angles to the plane of the door shutter and in the direction of opening, in increments of 100 N each. Incremental load is applied only after stabilization of the deformation created by the previous loading. The deformation at the lower free corner is measured to an accuracy of 1 mm 5 minutes after the application of the load and 15 minutes after unloading.	arrived at site	to external laboratary	Shall not show any detoriation and any residual deformation more than 5 mm after 15 minutes of unloading and the initial deflection also shall not be more than 50 mm.	P.O amount	
9	Slamming Test	Suitable fixture shall be made to hold the door shutter horizontally flat and hinged on one long edge and resting freely on a wooden rail 50 mm from the other long edge. The door shutter shall be placed in a horizontal position suitably hinged at three equidistant places or at the discretion of the manufacturer on one of the long edges. The other edge is lifted up so as to form an angle of not less than 30″ at the hinged edge and allowed to drop under its own weight, 50 times on the rail at the rate of 4-5 drops per minute.	After material arrived at site	Random door sample send to external laboratary	Shall not have any visible damage in any part of the door at the end of 50 successive impacts. Only superficial damage of laminate is accepted	1% devaluation on P.O amount	
10	Misuse test	Suitable frame to hold the door simtter vertically in a manner similar to its installation in practice shall be made. The door shutter shall be hinged on one long edge to the frame. A hard wood slip such as Laurel,Sal, Bijasal of 50 mm x 50 mm and of thickness, adequate to match the thickness of the door shutter shall be placed vertically at the bottom of the hinged stile of the frame in such a way as to keep the door ajar at 70 f 5′. The force is applied progressively to the handle or equivalent position and at right angles to the plane of the frame in the direction of closing until it reaches	After material arrived at site	Random door sample send to external laboratary	There shall not be any permanent deformation of the fixing or any other part of the door set in hindering its normal working after the test.	1% devaluation on P.O amount	
11	End Immersion Test	200 N (20 kgt) The door shutter shall be immersed to a minimum depth of 300 mm in water at ambient temperature for 24 hours and then allowed to dry for 24 hours at ambient temperature. This cycle shall be repeated eight times.The door shutter shall be examined for any delamination in the immersed portion of the shutter	After material arrived at site	Random door sample send to external laboratary	Shall have no delamination at the end of the test. This test shall be carried out on door shutters only after they pass in glue adhesion test.	1% devaluation on P.O amount	
12	Glue Adhesion Test	Two square sections, 150 mm x 150 mm shall be cut from the corners of the door shutter. These corner sections, as cut from the door shutter, shall be submerged in a pan of water at ambient temperature, care being taken that the pieces do not touch the bottom of the pan. The water shall then be brought to the boiling temperature and maintained at this temperature for 4 hours and then dried in a chamber at 27 f 2°C and relative humidity of 65 f 5 percent for 24 hours. At the end of the drying period the samples shall be examined for delamination. Glue lines in all the four exposed edges of the plywood on both faces of a specimen and the glue lines between the plywood faces and the stile and rail shall be examined for delamination.	After material arrived at site	Random door sample send to external laboratary	Shall be considered to have passed the test if no delamination has occurred in the glue lines in the plywood or if no single delamination of more than 50mm in length and more then 3mm in depth has occurred in the assembly glue lines between the plywood faces and stile and rail. Delamination at a knot, knot hole, a pitch pocket and worm hole or other permissible; wood defects shall not be considered in assessing the sample. A door shutter shall be deemed to have passed the test if both the specimen tested passed the test.	2% devaluation on P.O amount	
13	Screw withdrawal Resistance Test	This test shall be carried out on three test specimens of size 150 mm x 75 mm cut along the longitudinal edge of upper/lower half portion of the door shutter, using a suitable test equipment having an arrangement to pull the screws fixed on the specimen so as to measure the maximum load required for complete withdrawal. Prior to testing, the test specimen shall be conditioned at 27 f 2°C and at relative humidity of 65 f 5 percent for one week. Two prebores of 3 mm diameter shall be made along the stile at an interval of 50 mm on the face and along the edges of the specimen. Screws of size No. 8 and 50 mm length (see IS 6760) shall be fixed at these points to a depth of 25 mm. The specimen shall then be placed on the test equipment and load applied at the specified rate of 2 mm per minute for withdrawal of one screw at a time. The maximum load required for complete withdrawal shall be noted in each case.	After material arrived at site	Random door sample send to external laboratary	The required load to withdraw the screw completely shall not be less than 1000 N. On withdrawal, there shall be no visible damage to the surface either by delamination or extra chipping off at the points of withdrawal.	1% devaluation on P.O amount	
14	Knife test	The test shall be carried out on a stout table to which is screwed a wooden batten against which the edge of the test specimen is placed. The knife is inserted with its cutting edge parallel to the grain of the outer veneer and worked into, or if possible, along a glue line and the veneer is prised upward. It is essential that the knife be firmly guided along the glue line.	After material arrived at site	Random door sample send to external laboratary	The adhesion is excellent when it is difficult to find the glue line and impossible to keep the tool within it for more than 6 mm without cutting into adjuncent wood. On prising upwards, the veneer/facing sheet usually breaks off over a width only slightly greater than that of the tool.	1% devaluation on P.O amount	

Notes:

All the shutters visually inspected for Test 1, Bubbles, Undulations, scraches etc. at site

For laboratory test, quality team will select and stamp the flush door from the lot being manufactured at supplier's factory. The selected flush door will be sent by supplier to our site with remaining quantity. From th

All the tests at external laboratory should be conducted without decorative veneer / laminate.

All the shutters should be packed with Polyethyelene bags and Tightly strapped with corrugated sheets.

ANNEXURE - B2

ACCEPTANCE CRITERIA FOR DOOR FRAMES

Type of Wood : Teak / Red meranti **Checking Criteria : As per IS 4021 :1995**

Test Frequency : For each frame

S.NO.	NAME OF THE TEST	PROCEDURE	TO BE CONDUCTED WHEN	TO BE CONDUCTED WHERE	ACCEPTENCE CRITERIA (Second Grade)	OUTCOME OF FAILURE(ACTION to be taken)
1	Moisture content	With Electronic Moisture meter. 1.The moisture meter reading shall be taken at 6 points along the length of the each frame. 2.To take the average of 6 readings. 3. The average reading must comply with the acceptance criteria	After the material has arrived at site	On site by CM personnel.	Between 1st july and 30th September upto 22% and for the rest of the period upto 20% moisture content is allowed.	Lots not confirming will not be put to use and will be returned back to the supplier
2	Sound knots and live knots	Visual inspection/Physical Measurement Sound knot: A tight knot free from decay, which is solid across its fact, and at least as hard as the surrounding wood. Live knot: A knot free from decay and other defects, in which the fibers arc firmly intergrown with those of the surrounding wood.	After the material has arrived at site	On site by CM personnel.	Maximum 3 knots/meter with permissible size of Maximum 60mm	Accept/Reject based on meeting the alongside criteria. No devaluation.
3	Sap wood	Visual Inspection Sap wood: The outer layers of the log, which in the growing tree contain living cells and food material. The sapwood is usually lighter in color and is readily attacked by insects and fungi	After the material has arrived at site	On site by CM personnel.	Total not exceeding 25% on each surface area	Lots not confirming will not be put to use and will be returned back to the supplier
	If there are 3 knots of more than 35 mm per meter then only 10% Sap wood is allowed in a particular member of the frame.					
4	Decayed knots, dead knots and knots holes	Visual inspection Dead knots :A knot in which the layers of annual growth are not completely intergrown with those of the adjacent wood. It is surrounded by pith or bark. The encasement may be partial or complete.	After the material has arrived at site	On site by CM personnel.	Not more than 10mm size centrally located and not more than 2 knots/meter. These shall be completely filled and tightly plugged with seasoned timber of the same species and properly glued.	Accept / Reject the frames based on criteria. No devaluation.
5	Pin holes	Visual Inspection Pin holes: Hole not over 2 mm in diameter, usually darkly stained and not containing bore dust or frass.	After the material has arrived at site	On site by CM personnel.	Should not be in cluster. In finished frames all other pinholes shall be completely filled and tightly plugged with seasoned timber of the same species and properly glued.	If live termites found in the pinholes the timber will be rejected. Accept / Reject the frames based on criteria. No devaluation.
6	worm holes	Visual Inspection of Worm holes	After the material has arrived at site	On site by CM personnel.	Not Permitted.	Accept / Reject the frames based on criteria. No devaluation.
7	Checks	Visual Inspection/Physical Measurement Checks : separation of fibers along the grain which is confined to one face of a piece of wood.	After the material has arrived at site	On site by CM personnel.	One fourth of the total thickness of piece or 6mm whichever is less, provided it is fully stopped	Accept / Reject the frames based on criteria. No devaluation.
8	Cracks	Visual Inspection	After the material has arrived at site	On site by CM personnel.	Hair cracks upto 12" in length; Major cracks - length 6", width upto 1 mm and depth upto 10mm. The cracks shall not occur at joints.	Accept / Reject the frames based on criteria. No devaluation.
9	Dimensions, construction and workmanship	Visual Inspection / Physical Measurement	After the material has arrived at site	On site by QA/QC personnel.	Dimensions +3mm -2mm for width and +2mm - 3mm for thickness. The length tolerance will +5mm. All members of frame shall be exactly at right angles. All members of frame shall be straight without any warp or bow and shall have smooth, well-planed on three sides exposed at right angles to each other.	Accept/Reject based on meeting the alongside criteria. No devaluation acceptable.
11	Antitermite treatment	Type of preservative - Organic solvent. Recommended preservative chemicals - Copper naphthenates / copper abietates / zinz naphthenates / zinc abietates / synthetic pyrethroids / chlorpyrifos procedure - As per Manufacturer's specifications and application procedure	For Ready made frames - After the frames has arrived at site For wood - After the material has arrived at site and Before doing the joinery work for frame	On site by contractors	Copper naphthenates/abietates recommended absorption shall be 0.5 kg/cum as per IS 401-2001 table no -2 Zinc naphthanates/abietates recommended absorption shall be 0.8 kg/cum as per IS 401- 2001 Table No-2 Chlorpyrofos / synthetic pyrethroids recommended absorption shall be as per manufacturer's specifications	Copper naphthenates/abietates recommended absorption shall be 0.5 kg/cum as per IS 401-2001 table no -2 Zinc naphthanates/abietates recommended absorption shall be 0.8 kg/cum as per IS 401-2001 Table No-2 Chlorpyrofos / synthetic pyrethroids recommended absorption shall be as per manufacturer's specifications

NOTES

All the frames should be immediately unloaded and visually inspected when received. Rejected material to be handed over to the supplier immediately.

Detail checking should be completed by the end of next working day after delivery. On detail checking, site CM should give a report on Acceptance / rejection which should be conveyed to the suppliers.

All frames will be bought in finished form. (Polishing will be done on site by contractors)

In certain cases, based on practical implications inspection will be conducted at supplier's factory based on the mutual agreement between Supplier and purchase department.

SCHEDULE OF IRON MONGERY / DOOR HARDWARE

ANNEXURE - C

DESCRIPTION	ENTRANCE DOOR			BEDROOM & PASSAGE			KITCHEN			BATHROOM			TERRACE		
	C	A	H & L	C	A	H & L	C	A	H & L	C	A	H & L	C	A	H & L
Friction hinges for building height > 70 mtrs	Y	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N
Railway type hinges for building height < 70 mtrs	N	Y	Y	N	Y	Y	N	Y	Y	N	N	N	N	Y	Y
Ordinary butt hinges for building height less than 70 mtrs	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y	Y	N	N
Night latch with lock	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N
Night latch with multipoint magnetic lock	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
Decorative handle from outside	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N
Door stopper (magnetic / manual leg operated)	Y	Y	Y	Y	Y	Y	NA	NA	NA	N	N	N	N	N	N
Door buffer (rubber bush)	N	N	N	N	N	N	NA	NA	NA	Y	Y	Y	N	N	N
Internal tower bolt	Y	Y	Y	N	N	N	N	N	N	N	N	N	Y	Y	Y
Cylindrical lock	N	N	N	Y	Y	Y	N	N	N	Y	Y	Y	N	N	N
Aldrop bolt	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y
Latch	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	N
Door closer	N	N	Y	N	N	N	N	N	N	N	N	N	Y	Y	Y
7 Lever mortice lock as an option to cylindrical lock	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N
Eye piece	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N

ABBREVIATIONS :- C- CASA, A- ASPIRATIONAL, H – HIGH END, L - LUXURY

NOTES:

1. Standard heights for fixing door hardware
   All locks and lock bolts - 900 mm above FFL.
   All door handles - 1050 mm 1bove FFL.
   Eye piece - 1500 mm above FFL.
   Bottom end of the tower bolt - 1800 mm above FFL.

2. Provision of panic bar to escape staircase door shall be as specified by the architect.

3. All service shaft doors shall have Allen key locks.

4. No of hinges to be used:
   a. Min. Size of hinges to be 4" across all door types. If required higher size of hinges may
   be prescribed by the Architect / Interior Design Team for larger doors
   b. 4 nos of 4" hinges for should be used in doors with shutter dimension greater than 2350mm in height or 950mm width (2 hinges at top, one in middle and one at bottom
   as standard)
   c. Tower bolt to be eliminated in doors greater than 2350mm in height

Interior Finishes: - Value Engineering Suggestions.

1. **Use of Semi Vitrified Tiles in Service areas instead of Kota Stone.**
   i. Semi Vitrified tiles are available in the market at a cost of Rs. 45- 50 per Sq Ft.
   ii. These tiles come in standard size and thickness of 600mm X 600mm X 10mm Thickness, unlike Kotah stone tiles that come in size of 575mm X 575 mm and thickness varying from 20 – 35 mm.
   iii. All Semi Vitrified tiles come in perfect right angles unlike Kotah tiles which need cutting on site hence there is less wastage. Due to the uniform thickness of these tiles the bedding mortar is of uniform thickness and the finish is neat.
   iv. Since the tiles are factory finishes they need not be polished unlike Kotah stone tiles that need polishing after being fixed.



SEMI VITRIFIED TILE



KOTAH STONE TILES

2. **Use of Wet Cladding using Chemicals instead of Dry cladding in lobbies up to 7m Ht.**
   i. Regular wet cladding can be used for heights upto 3 m.
   ii. For heights above 3 m (and below 7 m), the availability of superior high performance bonding chemicals through agencies like MYK Laticrete/ ARDEX Endura has enabled the use of Special Adhesives for wet stone cladding to walls.
   iii. The thickness of marble/ Granite required for wet cladding is 16mm as against dry cladding that requires a thickness of 25- 30 mm.
   iv. Wet cladding has less dead load on structure due to lesser stone thickness and also saves space in comparison to dry cladding that usually required 35- 50 mm extra space behind the stone to accommodate the SS Brackets.
   v. Wet cladding is cost efficient and quick in installation time as compared to dry cladding and can be safely done up to 7m height.
   vi. Dry Cladding is Preferred above 7m Ht.

3. Avoid Application of OBD/ CEMENT PAINT over Birla Putty in service area ceilings.

i. The current practice for finishing of ceiling of service areas involves applying a coat of Birla Wall-care on the raw slab soffit of 2-3 mm thickness to get a smooth finish and painting the same with 2 coats of OBD paint for easy maintenance.

ii. It is proposed to only apply Birla Wall care putty on the ceiling and leave it without the top paint coat.

iii. The Birla wall-care putty is protective putty that gives a smooth white finish. After application of putty it is redundant to apply 2 coats of OBD paint on ceilings of service areas since there is no issue of Aesthetics and the ceiling is not prone to staining by people touching it.

4. Use of Recon Veneers Instead of Natural Veneers for Common Areas of Office Buildings.

i. The Price of standard Natural veneer ranges from Rs 75/- per Sq Ft to Rs 150/- per Sq Ft depending on the wood species and cut. Whereas the cost of recon veneers is anywhere between Rs. 40/ - to Rs. 75/- per Sq Ft.

ii. Natural Veneers come with a lot of variations and no two lots are identical hence for big areas like lobbies it is a challenge to get matching lots of veneers, where as Recon veneers being manmade using reconstituted wood, it come in uniform finish and pattern.

iii. Recon veneers also come with uniform flitch thickness and do not have sap wood patches or knots hence upon polishing give a uniform and rich look.



RECON OAK VENEER



Natural OAK Veneer

By implementing these changes we can save on the overall cost of finishing works and also achieve a better finish.

The standardized Lodha Service & Material masters should be referred to for the detailed lists of each of the above mentioned points.

Security Design / Setup Guidelines

Applicable for **Hi-end** and **Luxury** Residential and **Excelus** and **Supremus** Office projects:

1. **General principle:** Deter Criminal Action through detailed design and communication of prevention systems, reduce impact of any criminal action (if it were to occur), detain criminals (by reducing no. of entries / exits and securing them).
    a. All systems to be designed after taking into account real threat to the building – no need to create a fortress out of every building.
    b. Separation of all humans and vehicles into 3 categories and appropriate system to deal with each of the 3 categories differentially: Registered, Visitor, Service.
    c. Limited no. of entries into each building.
    d. Limited no. and strictly controlled exits from each building.
    e. Vehicle checking at entry to development (/segregated part thereof).
    f. Pedestrian / human checking / control at entry (lobby / service lobby) of each building.
    g. Balance to be struck between convenience of residents / registered users and security concerns.
    h. No system can be 100% fail-proof. We should be sure it prevents criminal intent 95% of the time and will detain criminal, if criminal action were to occur, in the balance 5%.
    i. System should rely minimally on security / control personnel acting 100% correctly all the time.
    j. Checking of vehicles and humans to be made as time-short and human-independent as practically possible / budget permits.

2. Controlled boom barrier access into main building entry area for non-service vehicles. Prior to opening of barrier, vehicle scanning to be conducted (for likely threats). If possible, return lane should be provided for those vehicles found not-safe. No vehicle authorization shall be conducted at this point, except for checking.
3. Visitor & Resident vehicle lanes:
    a. If there are two entry lanes, then Visitor and Resident lanes to be segregated (ideal).
    b. Visitor lane to be ideally adjacent to the Security Cabin (for necessary security checks).
    c. Signage/s should be located in advance to guide the Visitor vehicles to the Visitor lane in order to segregate traffic and avoid congestion. (Refer Annexure A for reference photograph). Depending upon the entrance design and site conditions of each project, the signage is required to be designed and located appropriately.
    d. Signage ('Visitor' & 'Resident') also to be installed on the boom barrier of Visitor & Resident lanes. (Refer Annexure B for reference photographs). Size of signage, material to designed with graphic designer. 'Exit' signage may also be included on the boom barrier of the exit lane
4. CCTV monitoring of all key common areas.
5. All owners / registered vehicles equipped with RFID tags, providing secure access to parking areas.

6. Either dedicated / controlled visitor parking space to be provided with a location where visitor car can register and collect entry authorization card (with some monetary deposit to ensure return at time of leaving). In case this is incorporated, appropriate space to be earmarked for guest vehicles to wait during registration process without disturbing traffic. Alternatively, Special valet parking service to be provided for pre-registered guests, so that guests cannot drive into parking areas. Alternatively, guest parking to be provided in open to sky area, close to main entry / drop-off.
7. Appropriate thought to be given for drop-off location from public transportation vehicles (viz. Taxis / Rickshaws), their waiting areas and their movement within the development. Generally, they can be checked like visitor vehicles and will have no access to any parking areas, except designated waiting areas (if any).

8. Either dedicated / controlled visitor parking space to be provided with a location where visitor car can register and collect entry authorization card (with some monetary deposit to ensure return at time of leaving). In case this is incorporated, appropriate space to be earmarked for guest vehicles to wait during registration process without disturbing traffic. Alternatively, Special valet parking service to be provided for pre-registered guests, so that guests cannot drive into parking areas. Alternatively, guest parking to be provided in open to sky area, close to main entry / drop-off.
9. Appropriate thought to be given for drop-off location from public transportation vehicles (viz. Taxis / Rickshaws), their waiting areas and their movement within the development. Generally, they can be checked like visitor vehicles and will have no access to any parking areas, except designated waiting areas (if any).
10. Separate service lane(s) should be provided inside large developments, if feasible. In such cases:
    a. Service vehicles (except fire tender) not to be allowed to enter into main road(s) / lane(s). This may be achieved through lane width controls or such other means.
    b. In the dedicated service lane(s), appropriate measures to be placed for stopping, checking (and return for those not deemed to be authorized / safe) of every service vehicle.
11. Separate service / goods drop-off bay to be provided in every development, which should have easy access to service lifts. Often this can act as the service / domestic help entry. These areas should be especially well-monitored and have tight entry / exit controls.
12. All human metal detectors to have associated frisking station, to ensure that all that the metal detectors act effectively and those considered risky can be ‘frisked’.
13. No. of entries into main lobby to be limited – preferably 2 gates – one for residents / registered workers and one for guests. Resident / Registered Workers gate operable with issued access / ID cards only.
14. Controlled access to entrance lobby with human scanning (metal detectors), frisking and baggage scanners for all non-residents / non-registered users. If dedicated access for residents / registered workers not feasible as per 10 above, scanning / frisking / baggage scanner shall be applicable for them too.
15. Mandatory registration of all guests, at which time authorization will be conducted by Reception desk and Visitor ID card issued. Pre-authorization facility should be available in system.
16. Separate dedicated service / domestic help entrance with dedicated security controls.

17. All lifts operated through card readers:
    a. Residents / registered workers have access to all floors.
    b. Guests have access only to specified floors.
    c. Domestic help and Service staff to only use service elevator with access to Owner's Floor, Club level and Exit.
18. If lift control through card readers not possible, turnstile control to main lobby should be incorporated to ensure that visitors and service staff / domestic help cannot enter lifts without proper authorization.
19. All lifts equipped with monitored CCTV's to ensure all travel is documented.
20. Exit only fire doors on staircases (to prevent usage of fire stairs for uncontrolled / unauthorized movement). However, all fire stairs shall have two-way doors on the refuge levels, to allow entry into refuge levels in case of fire.
21. To deal with 2-way entry on refuge levels, special precautions to be taken on refuge levels, including CCTV monitoring of passages and refuge areas + intercom and panic button facility in refuge areas.
22. Visitor authorization system (preferably e-based / alternatively intercom based) with central control at Reception desk.
23. Video doorphone at entrance to each residence (residential buildings only).
24. Biometric main lock for each residence (residential buildings only).
25. Panic button inside each residence in case of emergency (residential buildings only).
26. Any key common areas (parking, podiums, main lobby) which may be possible to be accessed by 'non-authorized / not yet authorized' personnel shall be monitored by CCTV, along with adequate CCTV monitoring back-end.
27. To achieve 1 c. and d., special attention to be paid to entry into building from parking areas. As far as possible, all users from parking areas, should be made to come to main lobby, prior to entering into any other part of building / accessing vertical transport (elevator / staircase).
28. The intercom/video doorphone voice connectivity shall be to all units within the same society (issue needs to be discussed as to what wings / clusters would constitute a society), subject to maximum of 750 units – if there are more than 750 units in a society, further breakdown of the intercom connectivity shall be done into smaller logical groups. Further, there would be voice (and in select cases, video) connectivity to following points in the wing / society:
    a. FM office (same as Society office)
    b. BMS room
    c. Lobby reception
    d. Guardhouse at Main gate of complex
    e. Clubhouse / other key common areas
    f. Any other point of access control (eg. visitor control, service staff control)
29. All alarms (panic, lift alarm etc.) / emergency communication should send signal to FM office (same as Society office) and/or the BMS room, which shall be monitored 24 x 7.
30. ID cards (for residents / guests / service staff etc.) can either be swipe cards (with magnetic swipe) or proximity cards. As in 2010, swipe cards are much cheaper and much easier to print / program

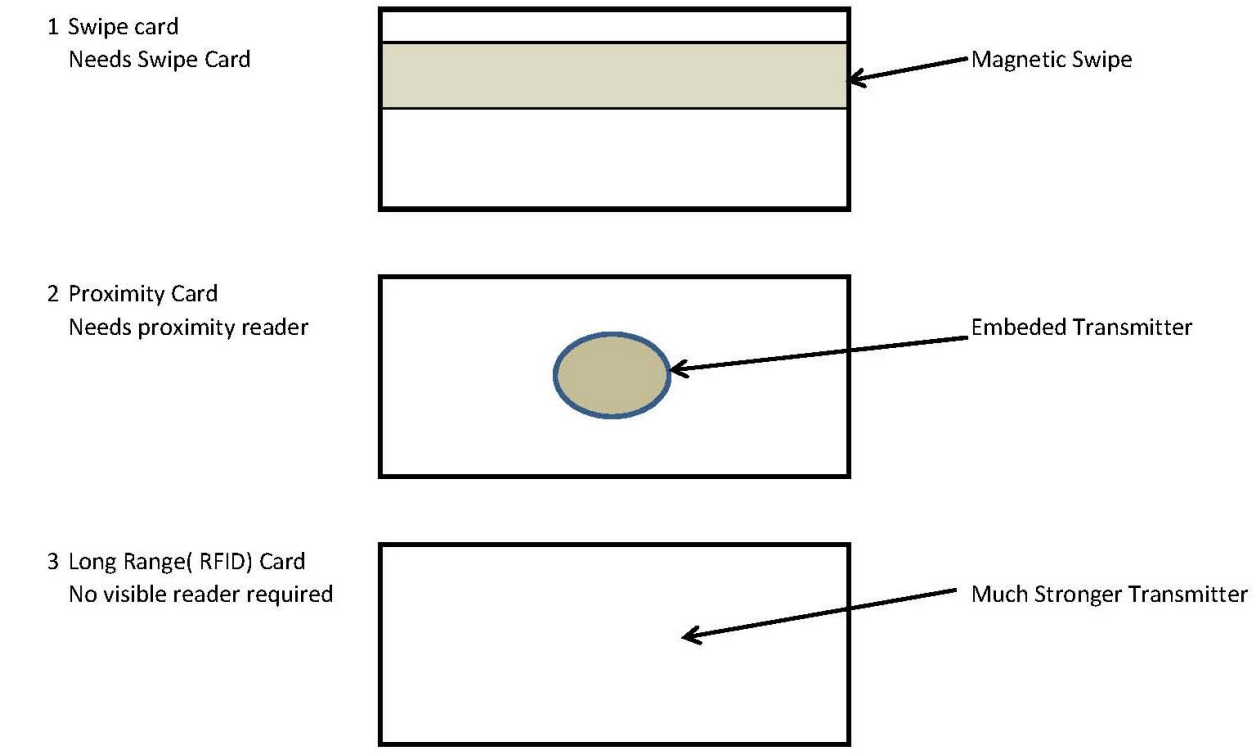
than proximity cards and hence, preferred currently. (see file 'Security Design Guidelines - Type of Access Cards.pdf' for details).

31. While designing security process / system, one should try to minimize (to the extent practical) the no. of human guards / supervisors who would be needed to make system function effectively. Ofcourse while doing this reduction the cost v. benefit tradeoff of higher capital investment v. lower operational cost (due to lower no. of security guards) needs to be weighed such that company's capital expense is not significantly increased.

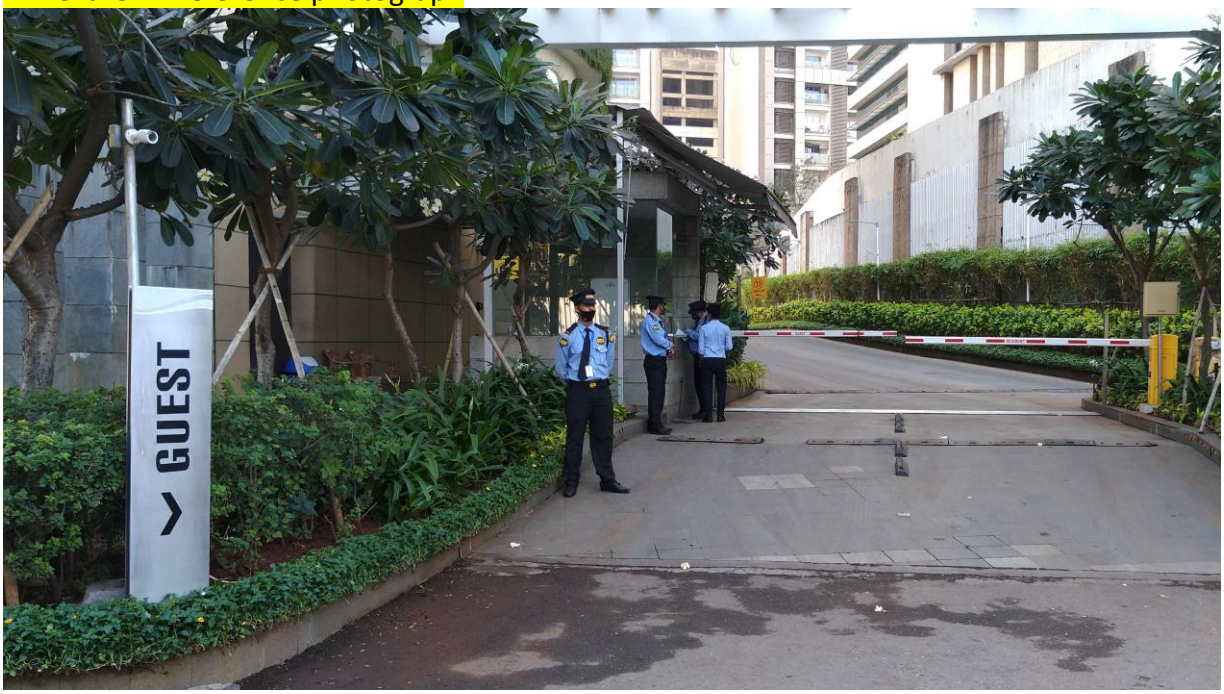
Relevant provisions from the aforesaid guidelines can also be applied to other segments of our developments (Residential – Aspirational and Casa, Office – iThink, Retail – Mall and Shopping Centre).

Above guidelines to be updated based on technological innovations and security situation evolution, keeping general principles constant.

Types of Access Cards



Annexure A: Reference photograph



Annexure B: Reference photographs




GUEST

External Facade Finishes Policy:

1. Finish on the external facade/paint of a building plays an important functional and aesthetic role. The functional role primarily revolves around providing an additional layer of water protection/leakage prevention for the building and the material(s) chosen should be detailed to ensure this.
2. Any external finish should not require replacement for at least 10 years (paint may require repaint every 5 years).
3. On the external facade of any building, it is preferred that (other than windows and railings) not more than one material is used (max. 2).
4. For commercial buildings, on ground level in high pedestrian traffic areas, external facade should be finished in a hard & difficult to spoil material (e.g. stone) to avoid damage from passer-bys.
5. When external paint is to be used, it should be a texture (or equivalent) paint with strong water repelling qualities. When external paint is used, the manufacturer will need to guarantee the appearance e for at least 3 years.
6. In high monsoon locations or locations with proximity to water bodies, special care needs to be taken w.r.t fungal formation on texture paints and manufacturer needs to guarantee against the same by introducing required chemicals/coatings in the painting process.
7. It should be ensured that the external façade is broken through projections (outwards, at terrace parapet level, have min. external depth of 100 mm with slope towards terrace) so that rain water doesn't hit the main vertical faces of the building directly, avoiding the stain marks on the building surface. This can also be considered at intermediate levels of the building on dead walls.

8. While designing the dead wall elevation of buildings, care should be taken not to provide grooves in the external plaster that coincide with natural joint between RCC and brick wall. This then forms the weakest link and allows water ingress on the inside surface. If groove has to be provided, it should be in the beam area only, atleast 100 mm above/below beam bottom. Also depth of groove should not exceed 6 mm. Groves should be minimized (max. 1 grove per face per floor, ideally 1 groove per face every 2 floors).

9. If buildings are set at an angle to each other and if the building requires external plaster, the buildings should be places in such a manner that there is always a distance of 2.5 or more feet between the building faces, to enable the external plaster to be done properly.
   In case there is any horizontal projection > 100 mm beyond the window line, the same should be sloped so that water does not collect on this surface.

10. In buildings where external plaster is likely to be done, attempt should be made to use the scaffolding erected by the external plaster vendor for installation of the finishes of the external facade. This will save significant cost and time, but requires co-ordination effort from both Procurement and Const Mgmt.

Norms for deciding grouping of units for purposes of Society formation

It is necessary that there is a one-to-one co-relation between the responsibility for each part of the development in its operational phase and a singular governance entity. Any part of the development which is either not governed by any governance entity or is governed by multiple governance entities, ends up moving towards 'non-performance'.

Governance can only be handled by entities which have:

a. Sources of monetary revenue
b. Powers to impose their rules (or powers to impose consequences if rules are not obeyed)

In the present scenario, the three clear entities who can govern any part of a development are:

1. Unit owner
2. Society
3. Local government (e.g. Municipal authority)

A group of societies working together to manage certain common areas through an umbrella entity viz. 'federation / MOFA company' is an interesting idea, which would reduce the dependence / load on the local government. However, the appropriate framework to implement a. and b. hereinabove is imperative for this idea to function – such framework has not yet been developed / implemented to date, except in rare instances wherein 'enlightened' society members have come together to impose these requirements (a. and b.).

The largest issues of lack of governance / accountability are seen in those parts which are private to the development (and hence, not governed by the Local government) and are not unique to any one society viz. common to multiple societies. In relation to such areas, the developer should follow the principle of:

i. Minimizing the extent / no. of such areas
ii. Understand and build into its cost base, the responsibility for maintaining such areas for an elongated time period

In case of certain types of larger developments (eg. SEZ, Megacity, Special Township), the state government has decided to empower the developer to play the role of the Local government. In such cases, overall upkeep of the common areas of such developments shall become much easier, if the developer is committed to (and builds in the financial costs, over and above the leviable municipal taxes) the long term maintenance of these areas.

In view of the aforesaid, the principles to be followed for purposes of which units should be brought together under one society are:

1. A single society should cover as large a part of the development as feasible. The lower the no. of societies, the lower shall be the areas which have to the handled / maintained by the developer. This does not apply to SEZ, Megacity, Special Township where developer has intent to maintain common areas for a longer duration.
2. The extent of a society should be limited to/by following norms:
    a. Buildings which have maximum of 30 months gap between their respective possessions dates viz. the last planned possession of units constituting a society should be no more than 30 months from the date of the first planned possession.
    b. The total no. of units in the society does not exceed 500 nos. (max. 550 nos). Any higher no. can be approved by RCEO only if the contiguous wings share > 550 units.

c. Buildings which are no more than 500 mtrs. physical distance from each other (viz. the crow-fly distance between the furthermost buildings of a society should not exceed 500 mtrs.).
d. None of the facilities outside the building periphery (viz. building footprint and 6 m around it) should be excluded from usage of any member of the society (regardless of which building he/she resides in). This norm shall not be applicable to parking spaces, which may be allocated to individual members.
e. Excluding the top 10% largest units (by saleable area), the saleable area of the largest planned unit (excluding the top 10% as stated and excluding any combinations/jodi resulting from customer choosing to do so) in the society should ideally not be more than 2 times the saleable area of the smallest planned unit in the society.
f. The land/area on which the society is physically spread should be demarcable / separable from that of other societies (this is NOT related to FSI allocation and nor will this result in proportional FSI allocation) (though it is possible that certain areas (on which habitable buildings are not standing) are shared between societies and the same shall then be governed by the local government / developer / federation / MOFA company (if workable)).

The issue related to which buildings shall constitute a society should be thought about and resolved prior to completion of master plan / concept layout for any development by Design and the same should be communicated to Sales & Documentation at time of launch.

- This shall also serve as an input to the design / no. / size of the common / facility management facilities including Society (/FM office), BMS Control Centre (including all safety and security related monitoring), entry gates, communication interconnectivity between units etc. (see 'Key Conveniences in Parking & Other Common Areas' policy).
- FM should ensure that BCAM is calculated in such a manner than we are comfortable running the society (without financial losses) for the period that the BCAM is pre-collected.
- For any development which is a single society development, the developer should collect BCAM for 60 months in advance.
- For any development which is likely to have multiple societies and hence, by definition, some areas will be common to multiple societies, the CAM will be split into two portions. The developer should:
    a. Collect 'BCAM' for 60 months in advance. This will be used to service all costs related to the areas covered which singularly belong to the society (and to no other society). Once society is formed and handed over, these areas shall be run by the society itself.
    b. Collect 'Federation CAM' for 60 months in advance. This amount shall be used to maintain the areas common to multiple societies. Prior to end of such 60 month period, Lodha shall ensure that it either collects FCAM for one year in advance or it is out of the overall development and maintenance of the areas common to multiple societies is handed over to an efficient 3rd party agency. Federation / MOFA companyDocuments for the formation of Federation / MOFA company should be gotten executed simultaneously with the documents for the formation of society. Agreement for sale with customers should contain relevant clauses w.r.to:
        i. Provisions for collection of such FCAM and consequences of non-payment thereof (ability to turn-off water connection to a defaulter society)
        ii. Conveyance of land shall be executed in favor of the Federation / MOFA company once the last society in the development is formed and not to individual societies (individual societies can be given conveyance of their structure as per RERA after society handover).
        iii. Nominees of the developer will be the Chairman and Secretary of the Federation / MOFA company till such time that the conveyance is executed.

iv. The Chairman and Secretary of each society would automatically become ex-officio members of the Federation / MOFA company. It would be their duty to ensure that the member of the respective society (directly or through the society) pay the applicable Federation / MOFA company CAM to the Federation / MOFA company.

c. In such multi-society developments, FM will have to break up the CAM estimate into two parts – BCAM (Society CAM) and FCAM (Federation CAM), taking into account the areas which will fall outside the purview of any one society.

d. Process of formation of society and federation / MOFA company shall be handled by Documentation cell (Legal) with assistance of Customer Care cell. Once society/federation / MOFA company is formed, Documentation shall provide the necessary documents to FM for handing over the Society. Conveyance of the land in favor of society/federation / MOFA company shall also be dealt with by Documentation. Legal (non-litigation team) to prepare the draft of conveyance of structure within a period of three months of OC of the each building and the draft of conveyance of layout within a period of three months of OC of last bldg.

- Timelines:

	Formation (Documentation)	**Handover of affairs (FM)**
Society	Application to be made within 3 months of 51% of units being sold (registered). To be completed no later than 3 months after first possession (viz. -3 to -6 months from the total duration of Society CAM collected)	To be completed 36-48 months after first possession (viz. -12 months from the total duration of Society CAM collected) or extended with mutual consent of society and Lodha HFM.
Federation / MOFA company (if applicable)	To be formed simultaneousy with first society.	To be completed 54-57 months after first possession (viz. -3 to -6 months from the total duration of Federation / MOFA company CAM collected) or extended with mutual consent of all societies in the federation/MOFA company and Lodha HFM.

- **Nature of management body to be formed**: Condominium for Lodha Luxury residential projects; society for all other projects).
  If >1 societies/condominiums on contiguous land, the overall governing body shall be company. The MOFA company will take name for the 'land' eg. Apollo Mills Land Company Pvt. Ltd. The conveyance shall be executed in favour of such company. All relevant terms and conditions wrt Federation / MOFA company shall be incorporated into the Articles/Memorandum of the Company or Federation / MOFA company. Some of the terms shall be:

  a. Each society shall be a member.
  b. Each member shall have 1 vote.
  c. Each society shall have select 'reserved open areas' earmarked for its exclusive use and control – no other society shall interfere in the use of these areas. Any open areas (outside the building) not earmarked as a 'reserved open area' shall be deemed to be a 'common open

area'. Details of the 'reserved open areas' shall be marked on the plan annexed to the Articles of the Company.

d. No member shall have any direct or indirect interest or say in the affairs which are related to the building/structure and reserved open areas of any other member society. Any such right/claim is explicitly deemed to be waived.
e. Each society is free to carry out repairs/renovation/redevelopment of its own building/structure and 'reserved open areas'. Each society alone shall be responsible for all costs related to the upkeep / safety etc. of these areas.
f. If there is any increase in FSI, each member society shall be entitled to such increased FSI In proportion of the FSI used for each member society as on the date of incorporation of the Company.
g. The 'common open areas', if any, shall governed by the by the decision of the Company. The members shall contribute to the expenses related to these areas in proportion of the FSI used for each member society as on the date of incorporation of the Company.

- Process of formation of Ultimate organization i.e. MOFA company:
  - Form MOFA company around the same time that first society is formed for a development. At this stage, Directors will be from Lodha.
  - All conveyance, where there is > 1 society, to be done to MOFA company (instead of federation).
  - As and when each society is formed (and before handover), allot it shares in the MOFA company in proportion of its estimated FSI (not carpet area). Allocate on basis of share out of 90% so that 10% is available for any changes or increases in FSI.
  - Each society shall have one director on the Board. Each directors shall have 1 vote.
  - Once all societies are formed, conveyance to be executed to MOFA company.
  - Whenever all societies are ready, Lodha directors will resign from MOFA company and society directors can takeover after election (or can make each society chairman a director and they can elected the Managing Director).
- Period for conveyance:

	Conveyance of building structure (may exclude podium/basement) to society/condominium	**Conveyance of land to society/condominium/company/ federation / MOFA company**
Single building only	Within 18 months of OC	Along with conveyance of building strucure
Layout/ Contiguous Land with more than one building	Within 18 months of OC of relevant building with limitation as per RERA	Within 18 months of OC of last building in the layout/contiguous land

Sample Flat & Sales Office (including landscape and other associated areas)

Process Responsibility:

Process	Responsibility
Design, execution, preparation and handover*	Interior Design sub-cell + Finishing sub-cell + Const Mgmt
Maintenance / cleaning / upkeep on day-to-day basis (post handover from Interior Design sub-cell)	Admin
Monthly inspection and highlighting any issues / damage / replacement needs to Contracts (Sample Flat, Sales office and Clubhouse team)	Admin
Monthly inspection and report of any issues / concerns to Contracts (Sample Flat, Sales office and Clubhouse team)	Sales
Getting issues resolved within 30 days of reporting from Admin / Sales (help of Project Architect and/or Project Manager and/or Finishing sub-cell and/or Interior sub-cell may be taken as needed)	Contract (Sample Flat, Sales office and Clubhouse team)

* It will be assumed that all elements of the sample flat will be given to the customer, unless explicitly stated otherwise. In general, a disclaimer will be placed at/near entry of the show flat stating 'This is an exact replica of the *<Type (eg. 3 BHK)>* residence, except *<Elements (eg. Furniture, fixtures, wall treatments and automation)>* which do not form part of the actual residence.' Note: this can be changed/adapted as needed based on site specific circumstances.

Scope of Work of Planning Cell, Pre-Construction Team (formerly known as Scheduling cell)

Corporate Team:
Members: HOC, 2 * level 2, 2/3 * level 3

Key Responsibilities:

1. Setting of level 1 and 2 schedules.
2. Communication of Concept and Delivery Schedule to concerned, as per policy timelines and formalize sign off and agreement with internal stakeholders (Design, Procurement, Contracts, Project Lead, Director in charge and COO).
3. Communication of Marketing Schedule for launch.
4. Collating and providing following reports:
    a. Monthly site Progress report & Exceptions Report to COO / Director.
    b. Payment-linked Stage Initiation report, along with Architect Certificate, to Customer Care, along with forecast of when next two payment-linked stages would become due + monthly update if this forecast of next two payment-linked stages is likely to change by more than 15 days.
5. Training and guidance to all site-based Planning associates.
6. Review and updation of policy.
7. SAP-related activities eg. WBS structure input.

Site Associate (Planning & Co-ordination Engineer):
1 level 2 / 3 associate will be dedicated as Planning Engineer at all Large and Very Large sites (viz. sites with BUA > 8 lakh sq. ft.). The role of this Planning Engineer will be to be a 'left-hand' man of the Project Manager.

Key Responsibilities:

1. Preparing, monitoring and updating level 3 and 4 schedules for the site.
2. Preparation and management of 3-month forward looking schedule.
3. Co-ordination, on behalf of Project Manager, with all operational departments (Design, Pre-Const, Procurement, FM, Stores, QC) to ensure that pre-requisites / critical path items of 3-month forward looking schedule are focused upon and done as per plan.
4. Basic QS for resource planning purposes.
5. All co-ordination and planning related activities as may be required by Project Manager from time-to-time.
6. Communication at site (oral, visual, written) of key goals and targets.

Swimming Pools

Main pools (outdoor):

1. Minimum internal dimension of 15 m x 6 m. Ideal internal dimension of 25 m x 12 m.
2. If pool is not rectangular in shape, at least one swimmable length (in one direction) should not be less than 15 m.
3. Ideal clear water depth of 1.2m (maximum 1.35 m).
4. Easy access to the water is provided from at least two locations in the pool.
5. Ensure that appropriate pool furniture is placed on site, prior to FM handover.
6. Shower point / area (may be open / covered) should be located in close proximity with easy access from pool.

Kids pool:

1. Minimum internal area of 20 sq. mtrs.
2. Minimum clear water depth of 0.750 m.
3. Easy access to the water is provided from one location in the pool.

Indoor Pool:

1. For use by adults/all ages: Minimum dimension of 12.5 m x 5 m (3 lanes). Ideal dimension of of 25 m x 9 m.
2. If only for use by kids, follow the norms under 'kids pool' above.
3. Ideal clear water depth of 1.2 m (maximum 1.35 m)
4. Temperature controlled

Other common pools may be designed as per requirements of landscape consultant and usage patterns.

Private pools:

1. Minimum clear water depth of 1.05 m and ideally, 1.2 m
2. Minimum internal dimensions of 5 m x 1.8 m (if pool is rectangular- ish in shape).
3. If pool is not rectangular in shape, at least one swimmable length (in one direction) should not be less than 5 m.
4. These norms do not cover private Jacuzzi's or private kids pools, which may be smaller / less deep.
5. Consider use of pre-fabricated pools to ensure quality and operational consistency/ease.

All length and width dimensions are clear swimmable dimensions, excluding any swimming impediments eg. Staircase protruding into water, waterproofing and tiling etc.

For all public pools:

1. Architecture to ensure Sign board containing following content is to be placed, close to entry to the pool area/deck (to be made part of Signage package):

"IMPORTANT – PLEASE READ BEFORE ENTERING POOL:

- All users agree to use the pool solely at their own risk and liability. The society and/or management shall not be held responsible in any manner whatsoever.
- Maximum water depth: ___ feet.
- No lifeguard on duty.
- This pool is meant for recreational use only.
- No diving permitted.
- Children below 12 year of age are allowed to use the pool only if accompanied by an adult.
- All users are requested to have shower before entering the facility.
- Do not use facility in case of rainfall or inclement weather."

2. Sign board for kids pool:
    - Maximum water depth :_____ feet
    - For use by children <= 12 years old.
    - All Users agree to use the pool solely at their own risk and liability. The society and/or management shall not be held responsible in any manner whatsoever.
    - No Lifeguard on Duty.
    - This pool is meant for recreational use only.
    - No diving/jumping permitted.
    - All users are requested to have a shower before entering the facility .
    - Do not use the facility in case of rainfall or bad weather.

3. Engineering to ensure that pool can be operated without tanker water. Necessary equipment to be included in design to ensure appropriate comfort levels (eg. pH, Chlorine, hard salts) and to enable the operator to measure the same (Water quality measurement instrumentation in the plant / filtration room).
4. FM to ensure following (once facility is operational) :
    - Blackboard to be placed in close proximity to pool area/deck, at easily visible location, displaying daily readings for:
        i. Temperature
        ii. pH level of water
        iii. Chlorine content of water
    - Pool Towels
    - Used Towel collection basket
    - Pool supervisor / guide during operational hours (not necessarily a trained lifeguard, but should know swimming to deal with emergency situations; preferable if he has some knowledge of CPR / life saving techniques and can also operate the pool's filtration and other systems)
    - Water testing kit
    - First aid kit

- At least one (ideally 2-3) ring buoy or similar floating device shall be kept ready with an attached throw rope with a length at least equal to the maximum width of the swimming pool or 15 m, whichever is less.
- A light strong pole not less than 3.6 m long, including a body hook.

For all pools:

1. Engineering to ensure that appropriate arrangements are made for filtration, water overflow / circulation and lighting while finalizing the pool design. It is to be ensured that bottom of pool is visible even during darkness.

2. Engineering to ensure that appropriate sealant is used to seal the joints of the finishes on surfaces in contact with water.

3. Appropriate space and access to be left for serviceability of pool and filtration system.

4. Wherever steps (not ladder) have been provided for ingress/egress from the pool, a SS handrail must be provided for support

5. For Pools with area of 150 sq.m or higher, use of Bigger size Mosaic chips (50mmX50mm, 75mmX75mm) is recommended, though not compulsory. For Pools having area less than 150 sq.m, smaller size Mosaic chips(25mmX25mm) can be used. (Reference image below-figure 1).

6. Indoor pools (common use or private) should have heating system (since water can get quite cold inside). Also if pool is located in any place where ambient air temperature falls below 24 C for > 2 months/year, the outdoor pools should also have heating system. In case of luxury or hi-end residential developments, the outdoor pools should have provision for heating, irrespective of climatic conditions.

7. To calculate the depth of swimming pool structure, take clear water depth + 30 mm (tiling) + 150 mm fill above slab for pipes etc (50 mm if no pipes are required on pool's horizontal bottom) + slab thickness (generally 200-250 mm).



Figure 1

8. Swimming pool depth to be engraved on the peripheral stone flooring-refer image 1 & 2 below, not to be painted.



Image 1

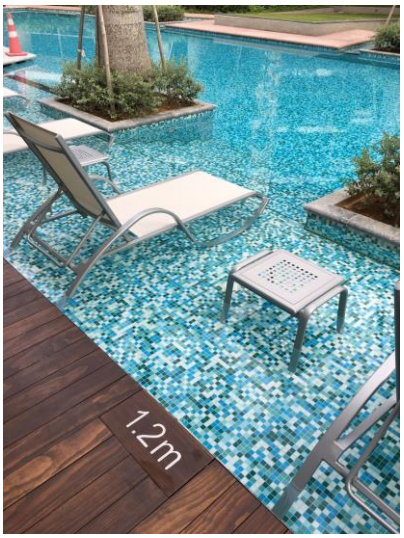


Image 2

9. Protuding columns within the swimming pool width to be avoided.Refer image 3

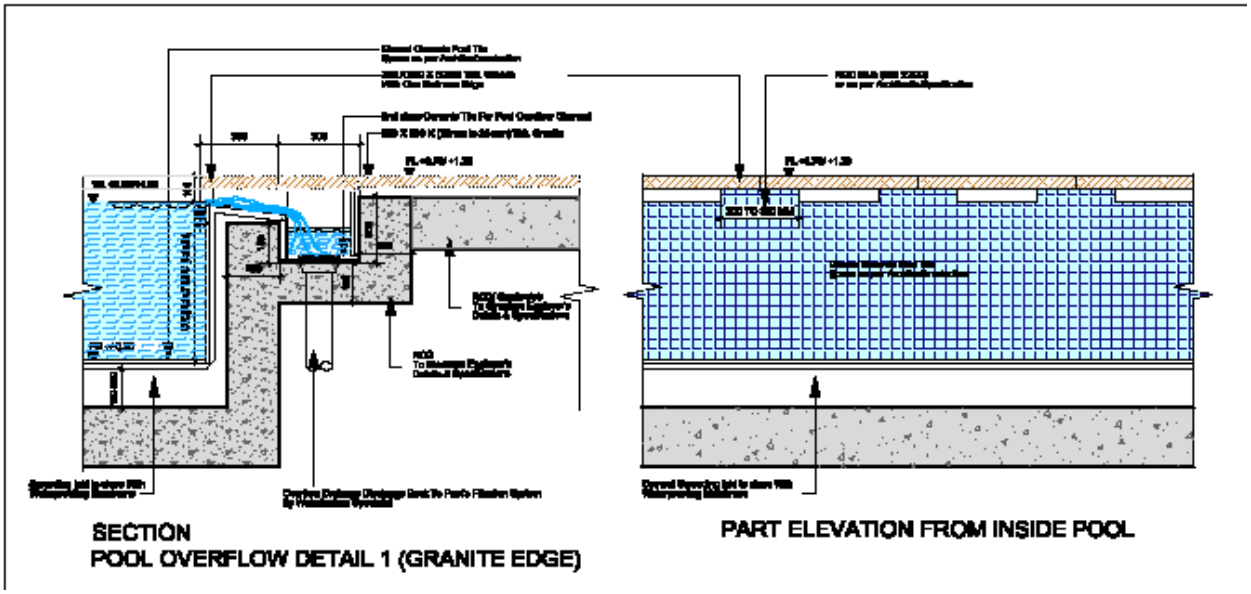


Image 3

10. Pool edge detail to be avoided:
    The top of deck slab matching with top of water level should not be preferred to avoid any nuisance by birds. (Refer attached photographs below)



11. Pool edge to be followed:
    a. Pool Overflow detail:
    Snapshot below.

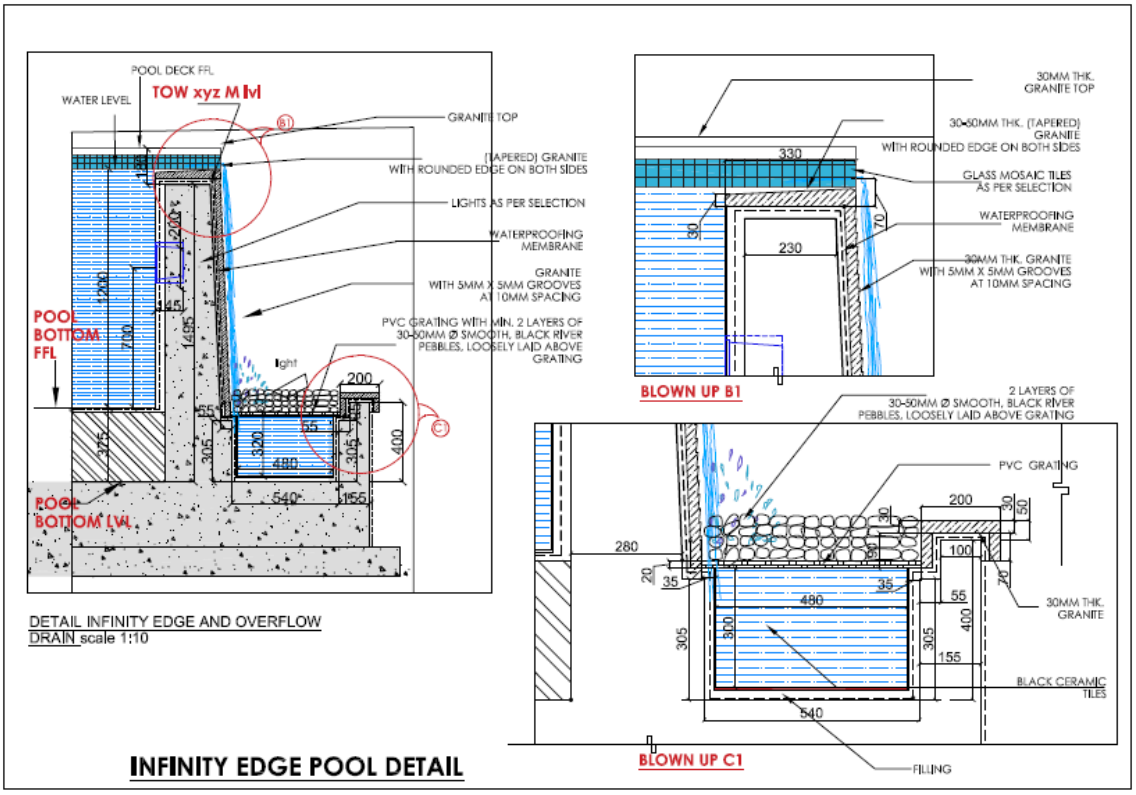


Please refer below link for the pdf file

edge detail 1.pdf

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b. Infinity edge detail:
Snapshot below.



Please refer below link for the pdf file

PDF

infinity edge 1.pdf

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Policy wrt Gymansium (and allied services – Health Club & Spa):

	Cluster Gym (multiple within a development): Carpet Area: 400-600 sq. ft.	**Type I (for 'Small' & 'Medium' residential projects): Carpet Area : 700 to 1000 sq. ft. (excluding Health Club & Spa area)**	**Type II (for Supremus, Excelus, iThink offices and 'Large' and 'Very Large' residential projects greater than 100 units): Carpet Area > 2500 sq. f t. – 4000 sq. ft. (excluding Health Club & Spa area)^**
Treadmill	1	1-2	3-6^
Exercycle / Bike	1	1	2^
Stepper / Climbing Machine	0	0	1 -2^
Crosstrainer / Cross over	0	1	1-2^
Rowing Machine	0	0	1^
Free weight dumbbells – 2 nos each (2.5 kg, 5 kg, 7.5 kg, 10 kg, 12.5 kg, 15 kg, 20 kg, 25 kg, 30 kg, 35 kg) with stacking stand.	1	1	1 (no. of plates to increase by 2 x) ^
Free weight plates: 2.5 kg – 2 nos 5 kg – 4 nos 10 kg – 4 nos 20 kg – 2 nos.	0	1	1 (no. of plates to increase by 2 x) ^
Adjustable Bench (flat, decline, incline)	0	2	3^
Bench Press (preferably with free weights, with adjustable usage possible for flat, incline and decline press)	0	1 (however, may be deleted if covered in the extensive multi-gym)	1-2^
Pectoral Machine	0	0	1^
Chest Press	0	0	1^
Yoga Mats	2	2	4 ^
Ab crunch (free standing equipment)	1	1	0
Ab ball	2 (55 cm and 65 cm)	2 (55 cm and 65 cm)	2 (55 cm and 65 cm)^
Crunch Bench	0	0	1^

Abdominal Crunch	0	0	1^
Hyper extension machine	0	0	1
Cross over cable	0	0	1^
Power cage rack (squat rack)	0	1	1
Chin Dip	0	0	1^
Leg Curl	0	0	1^
Leg Extension	0	0	1^
Leg Press	0	0	1^
Bars (for arm exercises)	0	2-3 nos. (different types, with stand)	2-3 nos. (different types, with stand) ^
Arm Curl	0	0	1^
Arm Extension	0	0	1^
Lat Pull down	0	0	1 ^
Shoulder Press	0	0	1^
Upper Back	0	0	1^
Pulley (for back)	0	0	1^
Juice Bar	0	0	1^
Towel Rack & bin	1	1	1^
Water Fountain (with 'up' spout so that no glasses are required)	1	1	1^
Intercom	1	1	1
Weighing machine (digital / regular)	1	1	1
Clock (digital / regular)	1	1	2-3 (1 in each of the major sections)
TV with settop box/cable	1	1	1
Attendant Desk	0	0	1
Multipurpose room (for yoga / aerobics etc.)	0	0	1 (approx. size of 250 sft), with wooden/rubber flooring, adequate mirrors and separate music and AC controls); if there is a designated activity room in the Club, this can be avoided and the said Activity Room can be used for yoga/aerobics etc.
Toilet (WC + Basin) (only if no attached Health Club and no Changing Facilities	2 nos. (male and female) ← this should be	1 nos. (unisex) ← this should be within/same level as	2 nos. (1 male, 1 female) ← this should be

in +/- 1 level)	within/same level as gym; these will also serve as the changing rooms	gym	within/same level as gym
Changing Facilities (only if no attached Health Club in +/- 1 level)	NA	Male - 1 shower + wet area outside + 1 WC + 1 basin + 6-10 nos. racks / small lockers; Female - 1 shower + wet area outside + 1 WC + 1 basin + 6-10 nos. racks / small lockers	Male - 2 showers + wet area outside + 2 WC + 1 changing cubicle + 2 basins + 12-16 nos. racks / small lockers; Female - 2 showers + wet area outside + 2 WC + 1 changing cubicle + 2 basins + 12-16 nos. racks / small lockers;
Health Club (where ;feasible) (carpet area of 700-1200 sq. ft. per sex)	NA	Male - 1 shower + wet area outside + 1 (dry) changing cubicle + 1 WC + 1 basin + 6-10 nos. racks / small lockers + 1 steam + 1 jaccuzi tub; Female - 1 shower + wet area outside + 1 (dry) changing cubicle + 1 WC + 1 basin + 6-10 nos. racks / small lockers + 1 steam + 1 jaccuzi tub; 1 attendant desk	Male - 2 showers + wet area outside + 2 WC + 2 urinals + 1/2 (dry) changing cubicle + 2/3 basins + 12-16 nos. racks / small lockers + 2 steam cubicles + 1 jaccuzi tub + 1 cold tub; Female - 2 showers + wet area outside + 2 WC + 1/2 (dry) changing cubicle + 2/3 basins + 12-16 nos. racks / small lockers + 2 steam cubicles + 1 jaccuzi/hot tub (not for Casa) + 1 cold tub (not for Casa); 1 attendant desk
Spa (where promised, always with Health Club)	NA	Treatment room (1 nos.)	Treatment room (2-3 nos.) ; larger spa can be planned if 3rd party access is permissible AND grade A operator is brought in.

Notes:

1. All aforesaid nos. are guidelines and minor changes are acceptable in line with gym size and other conditions.
2. Different brands for the aforesaid equipment shall be finalized based on project segment.
3. Mirrors should be widely used. In free weight area, start at height of 0.75-1 m above FFL.
4. Flooring material should be non-crackable (eg. wood, rubber mats etc.).
5. Separate and adequate provision for good quality music system (speakers, amplified, media player etc.) should be made for the gymnasium, with controls within the gymnasium.
6. If possible, TV in gym should be located in such a manner that users of the cardio machines (eg. treadmill, exerbike etc.) can see if while using the machine. This is not needed if the cardio machines have their own TV (but that is quite an expensive option).
7. All treadmills should be provided with UPS to ensure that machine does not stop suddenly in case of power outage, since sudden stoppage of an in-use machine can lead to serious injury.
8. Appropriate mood lighting should be used.
9. Air conditioning vents should be located so as to maintain even temperature and air-distribution – ideally, the vents should have horizontal throw above head level. AC capacity should be suitable (20-25% higher than what would be used in a normal office area of same size) to adjust for the heat generated during workout.
10. Gym Flooring:
    a. Heavy weights area: Rubberized flooring or wooden flooring with rubberized mats
    b. Rest of gym: Can be wooden or rubberized.
11. Adequate provisions to be made for back of house areas:
    a. Staff changing and eating rooms
    b. Staff toilets
    c. Storage
12. For reference images of equipment, see technogym website at www.technogym.com or website of any other leading manufacturer.
13. ^ - where there is a range eg. 1-2, use upper end of range if > 1000 units. If serving > 2000 units, use 1.5 times (rounded down) of the upper end of the range/prescribed number if no range. If serving > 4000 units, use 2 times (rounded down) of the upper end of the range/prescribed number if no range.
14. Shoe rack and shoe changing seating area required outside the gym.
15. Free weight section should be more spacious as members require space, as walking space should be there if someone is doing workout.

Classification of Projects:

Office Projects:

Segment	Min. leasable/saleable area (sq. ft.) per unit	Max. no. of offices planned on a typical floor	Segment Served
Excelus	10,000	2	Front office for large corporate, MNC's and professional firms
Supremus	1000	4 or more	Small/medium businesses and professionals
iThink	10,000	2	Back of house operations of large businesses (including IT/ITES)
Signet (formerly Boulevard)	150-400 (Carpet area), Typical range 200-300	10 or more	Small businesses and professionals

In case of an MP which has floors/buildings which qualify under multiple segments, the classification will be according to the nature of 70% or more of the carpet area.

Retail Projects:

Segment	Total leasable Area (sq. ft.)
Experia (or other project specific name) (mall format)	=> 200,000 sq. ft.
Boulevard (neighbourhood shopping centre format)	<= 50,000 sq. ft.

Residential Projects:

1. Shall be based on NCR in any project at time of launch of project (based on expected psf rate at time of start of project).
2. Shall be decided on Marking Project basis
3. In case of an MP which has buildings which qualify under multiple segments, the classification will be according to the nature of 70% or more of the carpet area.
4. The limits in MMR (as on date of pre-launch / launch of the respective MP) are as follows:

Segment	Average Unit NCR (Rs. Lakhs) in the MP (as on 1st April 2017) in MMR
Crown	**20 – 40**
Casa	40 – 100
Aspirational	100 – 400
Premium	400 – 1500
Luxury	1500+

The aforesaid limits shall be reset on 1st April of every even year basis housing price inflation.

Project Definition by Size

Nomenclature	BUA under construction in next 12 months
Small	0 – 2 L
Medium	2 – 8 L
Large	8 – 25 L
Very Large	25 L – 50 L

a. For any VL project having BUA > 50 L under construction in next 12 months, the area above 50 L sft BUA is to be treated as a separate project and categorized appropriately.

Product Mix

Residential product mix for each segment is as follows (2021, subject to update every 2-3 years):

Segment	**Product Mix**			
Luxury	3 BHK w/ study	4 BHK w/ study		
Premium	2.5 BHK (2 BHK w/ half bedroom)	3 BHK w/ study	4 BHK w/ study	
Aspirational	2 BHK	2.5 BHK (2 BHK w/ half bedroom)	3 BHK	3 BHK w/ study
Casa	1 BHK (w/ external kitchen)	2 BHK smart (w/ external kitchen) *(Crown room sizing permissible)*	2 BHK	2.5 BHK (2 BHK w/ half bedroom)
Crown	1 BHK Smart (w/ internal kitchen, preferably separate)	2 BHK Smart (w/ separate internal kitchen)		

In a market with dominant Gujarati/Marwari/ business buyers and/or market has seen uptake of Jodi typologies in past – Identify the Jodi layout and have the same ready as a standard plan.

How to decide asset class and segment mix:

a. **Small or medium project**: Choose one segment and deliver the product mix for that segment. From a unit type perspective, always ensure that any one unit type (eg. 2 BHK) is not more than 70% of the area in the project. Try to maximize value through some amount of retail.

b. **Large or Very Large project**:

Generally, the goal should be to have an asset class mix + mix within residential which helps maximize NPV (Net Present Value), by putting together different asset classes (which are apt for location and complimentary) and different segments within residential (if the same can be created as distinct MPs)

i. **Step 1**: Review which assets classes and segments are best fit for the location. Prioritize as 'must have' (MH) and 'can have' (CH).
   i. While residential is our mainstay, we should evaluate office / retail / logistics in the location and decide allocation for these asset classes. Within residential, identify the main / core segment and 70-80% of the residential supply (by area) should be of the core segment.
   ii. Balance residential supply can be one segment higher or lower (and/or) with informed choice on what part of the product mix to design for this +/- 1 segment. Each segment to be treated as its own separate project (in rare cases, separation can be vertical eg. Lodha Ciel v. World One) with separate entry, lobby and amenities. Parking can be shared with one level higher or lower or be separate. eg. In Palava, the core segment is Casa and the +/- segment will be Crown and Aspi. Similarly, at World Towers + Park, the core segment is Premium and we are doing

Luxury (Lodha Ciel /World Villas & Lodha Maison) but we don't have Aspi (which in hindsight we should have planned).

ii. **Step 2**: Review the maximum size of each MH and CH segment using following parameters:
   i. Max. size of 1 phase = Likely sales in first 6 months from pre-launch / 0.4
   ii. Max. size of any segment = 2 phases i.e. Max. size of 1 phase x 2

Cross-check that any phase will get sold out within OC + 12 months incorporating following:

1. When studying market volume, launch v. non-launch sales volume to be differentiated for competitors and self. Cannot extrapolate launch year volume to be steady state volume.
2. Market share to be assumed to be **max.** 40% [of relevant TG's (Target Group's) demand basis unit type] in first 12 months from pre-launch and **max.** 20% thereafter in efficient market. Can be higher only in case of inefficient market or innovative product.

iii. **Step 3**: Basis the overall size of the development, see which MH and CH will fit and their recommended sizes. If there is any additional area / land beyond the optimal size of the MH and CH, the said area / land can be considered as 'TBD Future Phase(s)'. For such future phases, ~proportionate land to be left and parking provisions to be thought through (can be part of parking planned for segments which are decided or designed later).

iv. **Step 4:** For each of the identified segments that we intend to build, we should decide the unit type mix (see below). For the unit types that we are likely to do in each segment, see 'Product Mix' above.

How to decide unit type mix for a residential MP:

First decide whether the market is Efficient (sufficient no. of credible competitors – now or in last 3 years) v. inefficient market. This will give a good sense on how much to rely on past performance data in that market.

1. Study unit type from market mix of efficient market. If market is not efficient, will need to decide mix basis unit types NOT served by credible developers.
2. Generally, the approach is to serve the 'gap in the market' for markets which are not served well by credible developers. This requires careful analysis of what has sold in the said market (or its vicinity) in the past, what is happening in terms of customer preference (bigger or smaller units), what is available in the market now (and upcoming supply) and thus, what is the 'gap in the market'. In markets which are well served by credible developers, the approach is to serve the broader market basis supply gap by unit type [MI (Months of Inventory) for all credible developers].
3. Further, also explore possibility of bringing in innovative/new product to the market (eg. LQH in Thane, Park (tight 2 and 3 BHK) in Central Mumbai).
4. The larger the volume (as % of demand for that unit type in that market) to sell of a given unit type in given phase, the smaller has to be the unit size for that unit type (and vice versa).
5. If a new tower is being designed as part of existing residential development take learnings from existing velocities to tweak product mix/sizes; If a smaller/ efficient layout of a unit type is being introduced – MI of existing should be very low (otherwise may impact velocity of existing development). However, it may need to be done if competition has or is likely to do the smaller size soon.

Basis aforesaid guidelines, the CEO along with BD, Marketing, Sales and Design should finalize the product recommendation and share with MD. With MD inputs, RCEO should share the same with design – suggested format below:

Asset Class	Segment	Must Have (MH) / Can Have (CH) / Not Desirable (ND)	Desired Project Sizing (max. 2 phases) of MH and CH (lakh sq. ft., saleable area)*	Desired unit mix		
				Unit Type	Net Area sft*	% of units of said segment
Residential	Luxury					
	Premium					
	Aspi					
	Casa					
	Crown					
Office	Signet					
	Supremus / Signet Supremus Combo					
	IThink					
	Excelus					
Retail	High Street					
	Experia					
Logistics	City Warehousing					
TBD Future Phase(s)						

*+/- 10% variance permissible basis regulatory and design constraints

PPL (Public Parking Lot) Specifications

Area/Item	Specifications
Parking Area	LMV – Upto 50% small car (4.5 x 2.3 m), balance large car (5.5 x 2.5 m) LCV – 2.5 x 7.5 m HMV – 3.75 x 12 m
Height	LMV – 2.4 m below beam LCV – 4.2 m below beam HMV – 5.2 m below beam
Ramp width	LMV – 7.5 m two way/4.0 m one way with max. slope of 1:10 and internal turning radius of 4.0 m. Driveway allowed with 6 m two way and 4.5 m one way. LCV – 9 m two way / 6.0 m one way with max slope of 1:12 and internal turning radius of 6.0 m. Driveway allowed with 9 m two way and 7.5 m one way. HMV – 12 m two way/ 9.0 m one way with max slope of 1:12 and internal turning radius of 12 m. Driveway allowed with 13 m two way and 9 m one way.
Staircase	At least one separate staircase from those of the sale building. Distance between fire exits of 90 m with sprinklers.
Lift	At least one dedicated passenger lift if greater than 2 levels
Ticketing system	Automated ticketing system with no/minimal manual intervention: a. When car drives in, a manual operator will issue ticket with bar code based on type of vehicle (this should be replaced with an automated issue system if the PPL is meant only for one vehicle type viz. any one of LMV/LCV/HMV). The ticket will also have directions to the nearest available slot for that vehicle type which will become the designated slot for the said vehicle. At time of entry, the vehicle's plate no will be entered into the system (preferably through camera, which should be linked to the under car scanning system – if this is not possible, then entry to be done by operator manually) such that the ticket and plate no. are matched together, which will enable the security to check whether the car has been parked in its designed slot. No of such operator booths/automated entries should be one per 1000 vehicles (rounded off, or as per detailed traffic study) and there should be one lane for each operator. b. There will be separate payment counter(s), located at easily accessible locations (not at exits). It is suggested to have one payment location for every 500 cars, subject to minimum of 2. The vehicle driver is expected to make payment at these counters and then exit using the ticket through automated exit gates within 15-20 minutes of payment depending on the no. of levels in PPL. c. The exit system should be automated – the driver will show the paid ticket and the machine will read the bar code and open the boom barriers. The no. of exit lanes should be same as no. of entry lanes (or as per proper traffic analysis) and each lane should have one automated machine. The exit boom barrier should be strong enough such that if a person tries to drive through

	those without paying significant damage will be caused to the vehicle. d. Also if a person reaches a exit point without pre-paying, he should be allowed to exit after pressing a 'call attendant' button at which time a person will come, take ticket to a nearby payment machine, process payment at rate + handling charge of Rs. 25/- and come back allowing the vehicle to exit. The advice to pre-pay at designated automated machines and additional charge if they try to exit without having pre-paid should be suitable printed on the ticket at time of issue. e. The entry/exit system should be able to generate log of each vehicle's usage details (including time period and slot used) and give snapshot of all vehicles within the PPL at any given point.
Fire Fighting	a. Addressable zone-wise alarm system, which should be linked to the zones of the fire compartments. The fire curtains (wall + water curtain) should work hand-in-hand with the alarm system. b. The alarm system should be controlled/monitored in the Security room (see details on security below).
Toilets	a. Use good quality CP and Sanitary fittings (not branded) but decent looking. b. Use good quality tiles. c. Doors should be of good quality. d. Toilets should have hand faucets. e. Space for janitor's material viz. janitor closet should be provided. f. Light controls should be centrally located so that mischief makers cannot switch of the lights easily. g. Soap dispensers and hand dryers (or tissue holders) should be provided
Key Common Areas (eg. Waiting Hall, Main external entry from road, Any food service or other prominent public use areas, Any government offices within PPL)	**a. Finished to standard of Lodha's Aspirational product.** b. Air-conditioned, if feasible. c. Good furniture and flooring. d. Consider piped music. e. The finish of the façade (external wall at the main entry to PPL) should be of Lodha standard with proper signage for PPL (e.g. MCGM Public Parking Lot, Apollo Mills). These spaces should not appear to be 'government' spaces. Should be like key common area in a Lodha Aspirational building.
Signage	a. Clear readable signage (along with appropriate lighting to ensure readability in the dark) showing directions to different levels and exit (readable when a person is driving).

	b. Each parking slot should be marked with a no. painted at the floor level in an easily visible paint. If slot is earmarked for LCV or HMV that should also be stated along with the no. c. Directions to toilet, staircase, exit points and payment points should be marked at eye level (readable when a person is walking). d. Each level should be marked at the staircase landing and lift lobby e. The signage in the parking area at Lodha Excelus, Mahalaxmi (not the Apollo PPL) is a good example of well-conceived signage. f. If the design is such that driveways have two-way movement, clear lane markings should be done
Parking Availability Display	a. Level wise availability display at entrance (total across all vehicle categories). b. Radio controlled remote parking display board which can be placed anywhere within 1 km of the site with an appropriate power point, which can show total no of available slots in full PPL. These are to be located as per Jt CP NOC conditions.
Flooring	a. Floater finish with no additional concrete(to slope only at periphery to address rain water ingress),no slope in the interiors.
Wall finishes	a. Gypsum / cement putty to ensure smooth finish + paint upto height of 1.2 m below slab. Bottom portion to be left as bare concrete. b. Colour should be a non-white colour since the upkeep of the space is not likely to be very good and white shows dirt very easily. c. Paint used can be Flat enamel or Oil Bound Distemper (OBD).
Ceiling finishes	Single coat white putty finish.
Security	a. CCTV cameras (with ability to see after sunset, with internal lighting) – in the levels below ground, night vision cameras aren't required as long as the camera used can capture image for the given illumination level inside the PPL. b. Well finished Security room (air conditioned, if feasible) with good quality monitor screens (3-4 screens minimum) should be used to monitor the CCTV cameras. The same room should be provided with all other BMS functions. c. One watchman cabin at each entrance from road of the PPL. d. If Jt CP NOC, requires a car scanner / explosives detector, provision for same has to be made in all 'in' lanes. Car scanner can be used instead of explosives detector. Monitoring room for car scanner should be near the entrance so that can suspect vehicles can be immediately identified. Camera used for car scanning can also be used in conjunction with Ticketing system.
Services	As far as possible, following services need to be separate for the PPL: a. Water tank b. DG Sets STP and Transformer can be shared if needed OR STP can be avoided by considering PPL as a separate unit and taking discharge directly to municipal drain (for this in-principle ok from Liaison is needed). DG sets should be sufficient to take fire fighting system load and ensure needed ventilation during fire – based on this sizing, during

	normal power outage, the load can be allocated first to ticketing system, then mechanical ventilation system (if any) and thereafter, select lights.
Car wash facility	a. If car wash is asked for in the LOI/Jt CP NOC, adequate space for car wash facility with sufficient water points, hose pipes and drainage shall be planned inside the PPL. b. The space designated for car wash should be separated from rest of PPL to ensure that water doesn't flow across or should have a gradient such that water drains out.
Other Provisions	a. Adequate space for housekeeping stores should be provided. b. Column guards should be provided for all columns. If structural columns of the sale building are exposed in the PPL, special safety measures should be taken at those columns (possibly including concrete strengthening or buffer wall creation) to ensure that the sale building is not affected in case of any collision or attempted sabotage of these columns. Also see "Podium & basement design guidelines" c. Flexi posts or any other protection should be provided for parking slots which are adjacent to driveways and there is a chance that driver may confuse it with driveway (e.g. – slot on the immediate left of the main ramp in Apollo PPL). d. Following conveniences to be provided (with furnishing): a. Staff changing room with lockers, clothes hooks and mirrors (on basis of 20 staff per shift per 1000 cars) b. Staff dining area with tables and chairs (~200-300 sq. ft.)

a. All aspects of the NOC from Jt. CP. Traffic are to be studied and one should comply to the best extent feasible. If any items is not going to be complied with or going to be complied with in a manner different from what is stated in the NOC (due to cost/practicality reasons), a written note for the same should be prepared and consent of Director-Operations/COO/HOD-Design (any one) taken.
b. For any norms not stated here, refer to (in order of priority):
    a. Finishing of Back of House Common Areas
    b. Podium and Basements Design Guidelines

    For abundant clarity, in case of any conflicting norms, the norms of this policy (PPL – Public Parking Lot – Specifications) shall apply.
c. Please refer the below mentioned documents for Design Intent & Draft BOQ along with this policy:
    1. Parking Management System_v3_20.05.2014.
    2. Draft BOQ for Parking Management System.(excel sheet)_v2_01.05.2014

Toilet Related Norms
(Replaces Toilet finishing policy)

Finishing
We will finish only the following elements in any toilet inside residential units:

1. Flooring
2. Dado
3. C.P. fittings
4. Sanitary ware
5. Wash Basin Counter (if applicable)
6. Ceiling finishing (may/may not be false ceiling) – if false ceiling is to be provided, MR ceiling board should be used. Max. 600 mm x 600 mm readymade access panel should be provided for servicing. No trap door to be provided.
7. Light points & non-decorative fittings and control switches
8. Electrical points/sockets and switch/socket/plates.
9. Water heating system (geyser / other)
10. Exhaust system (e.g. Exhaust Fan / Mechanical ventilation etc.)
11. Motion detectors (if applicable)
12. Select Bath fitments – Mirror above basin - luxury and hi-end projects only
13. Glass partition in shower area in 4-fixture or larger toilets with glass door – luxury, hi-end projects and designer residential developments only.
14. 3 fixture Toilet should not have a bath Tub
15. The wall above the wash-basin counter should be finished with a full size mirror, instead of providing marble/tile dado for all non-Casa, non-Aspi projects – this will reduce the area of dado stone usage.

Nothing else in the toilet shall be provided by Lodha. The aforesaid policy may be modified, in case of projects which have 'brand name' interior designers, but keeping overall budget goals in mind.

Location
In order to ensure that façade area is used for habitable rooms and consequently, façade costs are moderated and layout flexibility is increased, we will go with mechanically ventilated toilets located away from the façade as far as possible. Following exceptions shall apply:

a. Casa projects – decision on location (inside or on façade) to be made by HoD-Design based on market practice and long-term maintenance concerns.
b. Luxury or Hi-end projects – Project Designer may consider naturally ventilated toilets for 4-fixture or larger toilets in order to increase the luxury quotient by providing natural light and views. In such toilets, due care to be made so that view and natural light are maximized and not blocked significantly by shafts/pipes.

For shaft sizing for both naturally and mechanically ventilated toilets, see 'Plumbing Guidelines'MEP policy.

Note: Sleeve to be provided in the shafts (with margin in error of verticality of construction) to allow running of services pipes. Cut-outs not to be provided. Zone-wise sizing of sleeves to be considered for provision of sleeves.

Fitments

Project Type	Type of bathroom	Fixtures
Residential	3-fixture	Shower with tap and mixer, Basin (preferably with small counter), WC
	4-fixture	Shower with tap and mixer, Basin (preferably with large counter), WC, bathtub
	5-fixture	Shower with hand shower and mixer, 2 basins Basin (preferably with large shared counter), WC, bathtub
	6 fixture	Shower with hand shower and mixer, 2 basins Basin (preferably with large shared counter), WC, bathtub, Additional WC or Bidet.
	Staff toilet (attached to a residence)	a. European WC with single flush (exposed type permissible). Either a hander washer OR a tap (cold water only) for use with the WC. b. Washbasin c. Shower + Tap with mixer (for bathing) - need to ensure there is reasonable space for a person to stand without much difficulty and take a bath. A sample layout to achieve this without increasing area of servant toilet too much is annexed hereto as *Annexure A*. Other: d. Geyser (see 'hot water system policy' in MEP Design policies) e. To avoid spillage of water from this room to the outside, ensure that there is a proper threshold at the door junction. f. Dado height up to lintel top only g. Door with aldrop from outside and tower bolt from inside h. Exhaust fan. i. One/two bulb sockets (as needed). j. No electrical socket needed.
	Common Staff toilet (inside building)	See Servant's toilet (common) policy.
Office	Executive bathroom inside Office	WC, Basin (preferably with small counter) – Provision only
	Common toilet inside office footprint in Excelus or iThink	As per NBC norms - Provision only
	Common toilet on	As per NBC norms, subject to following:

	each floor of Supremus or in entrance lobby/other common area of iThink or Excelus buildings	○ Maximum WCs per toilet: ▪ Male: 3 ▪ Female: 4 ○ Maximum Urinals per toilet: ▪ Male: No. of WCs + 2 ▪ Female: NA ○ Washbasins: Round ((No. of WC's + Urinals) x 50%,0), max: 4 See 'Washroom Guidelines for KCA' (ID policy).
Retail	Common toilet in retail buildings	As per NBC norms, subject to following: ○ Maximum WCs per toilet: ▪ Male: 4 ▪ Female: 6 ○ Maximum Urinals per toilet: ▪ Male: No. of WCs + 4 ▪ Female: NA Washbasins: Round ((No. of WC's + Urinals) x 50%,0), max: 6 • Maximum one sets of toilets on each floor (two sets can be considered if travel distance is > 400 m on a floor) • Provision should also be made for diaper changing station (in both male and female toilets). In mall retail, toilets on ground level can be avoided. • 1-2 water outlets (drinkable quality water, see **Water Cooler (ID)** policy) to be provided on each floor, preferably within 25 m of the male & female toilet exit.
General	Common toilet in lobby of residential buildings (applicable to Luxury and Hi-end only) and Supremus office	WC + Basin (powder toilet format, unisex). See 'Washroom Guidelines for KCA' (ID policy).
	Toilets used by service staff	See 'Finishing of Back of House Common Areas' & Key Conveniences in Parking & Other Common Areas'.

For guide on which type of bathroom to use for a given unit/bedroom in residential buildings, please refer to *'Residential Room Sizing Guidelines' policy.*

Following standards to be followed in relation to placement of fixtures:

Fixture	Placement Guidelines

Shower	• Height of shower rose bottom(minimum) above FFL:
	  o 1.Wall mounted:2050mm variable above 50mm or nearest tile joint*(refer annexure B.i)*
	  o Ceiling mounted : 2200mm variable above 50mm or nearest tile joint*(refer annexure B.ii)*
	• Distance of shower head edge from wall surface:
	  o Wall mounted: as per fixture. *refer annexure B.i*
	  o Ceiling mounted : 375mm.*refer annexure B.ii*
	• Fixtures to be provided:
	  o Spout (for CASA projects only)
	  o Handshower(for Aspi,Hi-end & Luxury projects)
	• Ensure that shower cabinet door open outside or if it opens inside, the shower head doesn't affect the movement.
	• Tap with mixer for hot and cold water to be provided (unless noted otherwise in policy eg. Staff toilet where no shower is to be provided)
	• Consider providing integrated shower panel in Luxury and hi-end developments, which also incorporates hand shower and some additional features

WC	• Height of seat above FFL(excluding seat cover):
	  o Top flush: 400mm (or nearest tile joint). *refer Annexure B.i*
	  o Front flush: 400-450mm (or nearest tile joint). *refer Annexure B.ii*
	• Min. clear distance from other fixtures to outer edge of seat: 230mm
	• Hand Washer (connected to hot water system / geyser in luxury developments to allow user to control water temperature with mixer)
	• Space for toilet roll holder (to provide or not shall be as per 'Finishing' norms hereinabove)
	• Type of flush:
	  o Casa & non-resi – Single Flush
	  o Aspirational, Hi-end and Luxury resi – Half and Full flush options
	• Ledge wall:
	  o Max depth from thickest structural member on wall on which the flush is mounted :150- 175 mm
	  o Height:
	  • Top flush: +850mm above FFL (matching with Wash basin top, seat cover to be max.440mm length, fixture to be selected accordingly). *Refer Annexure B.i*
	  • Front flush : +1050mm(max) above FFL or as per aesthetics, *Refer Annexure B.ii* (avoid build up of ledge wall above this height)
	  • In shower area if there is a RCC wall behind the fixtures, full height ledge wall to be considered.

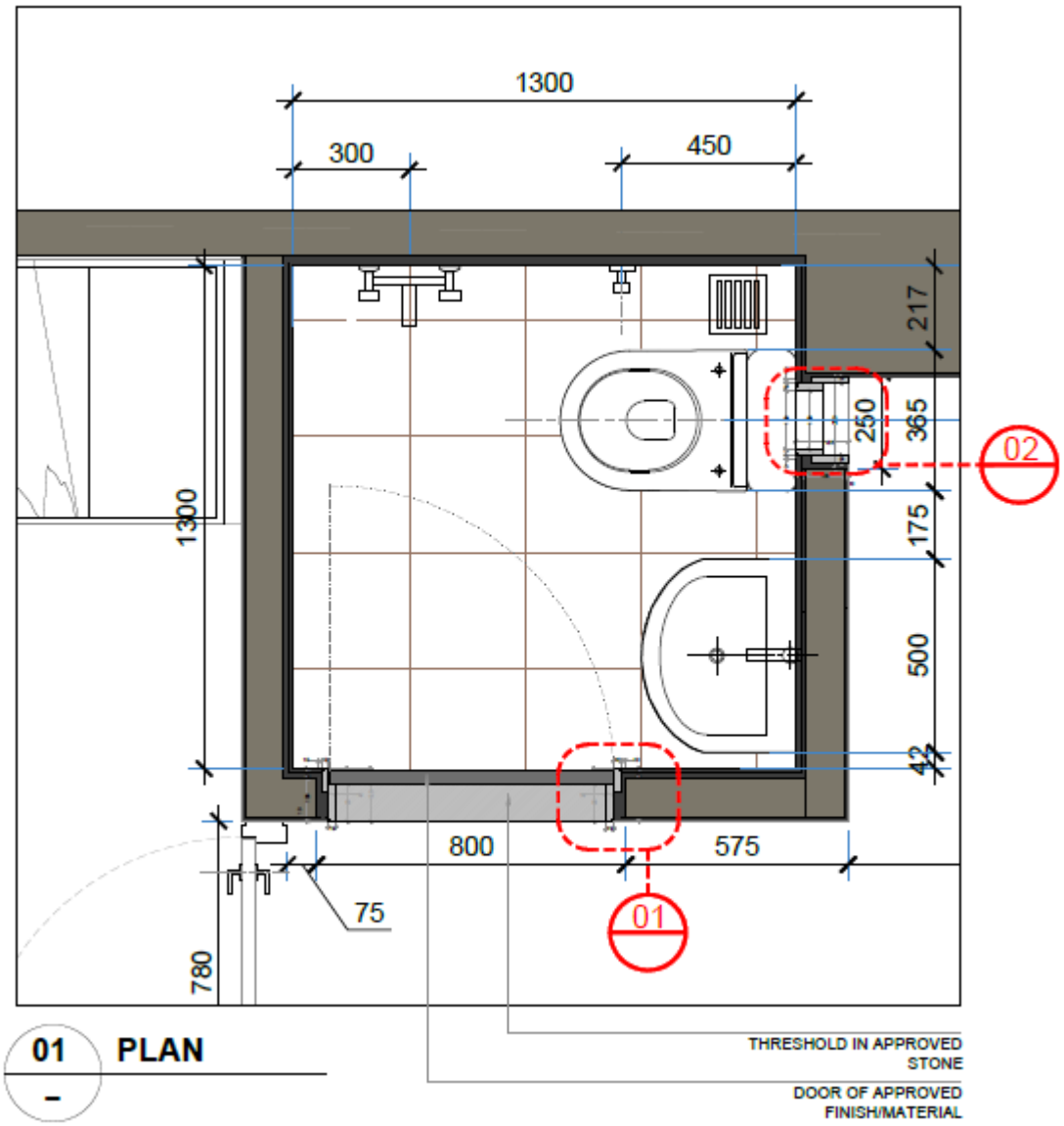
Bathtub	• Min. clear length inside tub:
	  o For Casa & Aspiration: min. 1500mm
	  o For Hi-end,Luxury projects: min.1650mm

	• Min. clear Width inside tub:
	  ○ For Casa & Aspiration: min. 620mm
	  ○ For Hi-end, Luxury projects: min.670mm
	• Fixtures to be provided:
	  ○ Spout
	  ○ Mixer
	  ○ Hand shower (luxury and hi-end projects only)

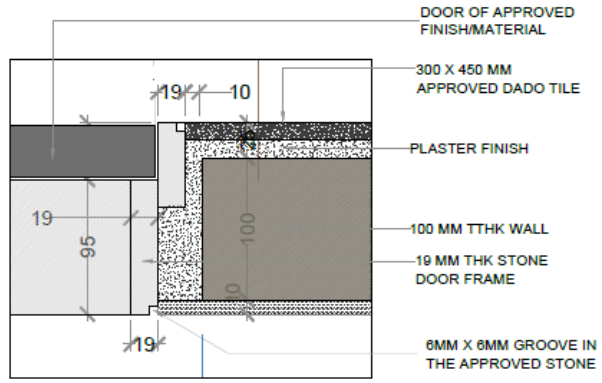
Basin	• Height of basin bowl top above FFL:
	  1. Built-in wash basin : +850mm(matching with counter top ht). *refer Annexure B.i*
	  2. Counter top wash basin : +850mm(top of basin). *Refer Annexure B.ii*
	• Min depth of bowl (from basin bowl top to level where water falls):100 mm
	• Height of Wall mounted basin mixer(in case of counter top basin): min. 150mm, +/- 25mm max, above wash basin top(or align with nearest tile joint)
	• Tap with mixer
	• Counter width (if provided) : min -100mm(on three sides of wash basin counter)
	• No pop-up set to be provided

Door	• Toilet doors to have non ball-bearing hinges

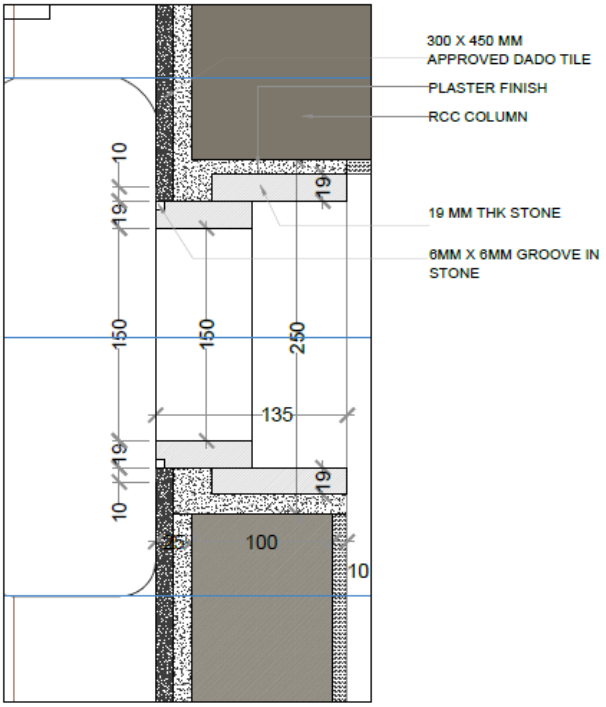
Annexure A


1300
300
450
217
250
365
02
1300
175
500
42
800
575
75
01
780
01
PLAN
–
THRESHOLD IN APPROVED STONE
DOOR OF APPROVED FINISH/MATERIAL

Details:

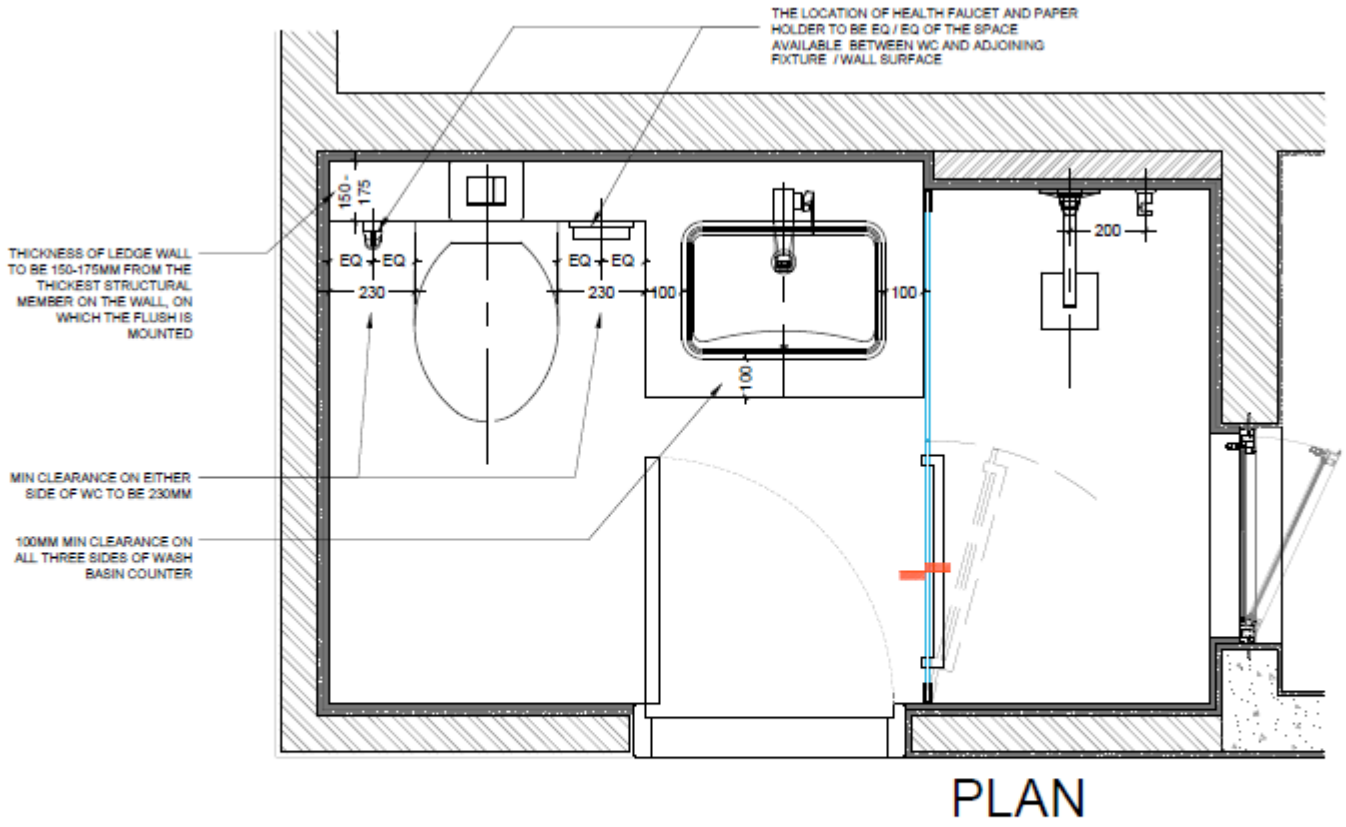


01 DETAIL
–



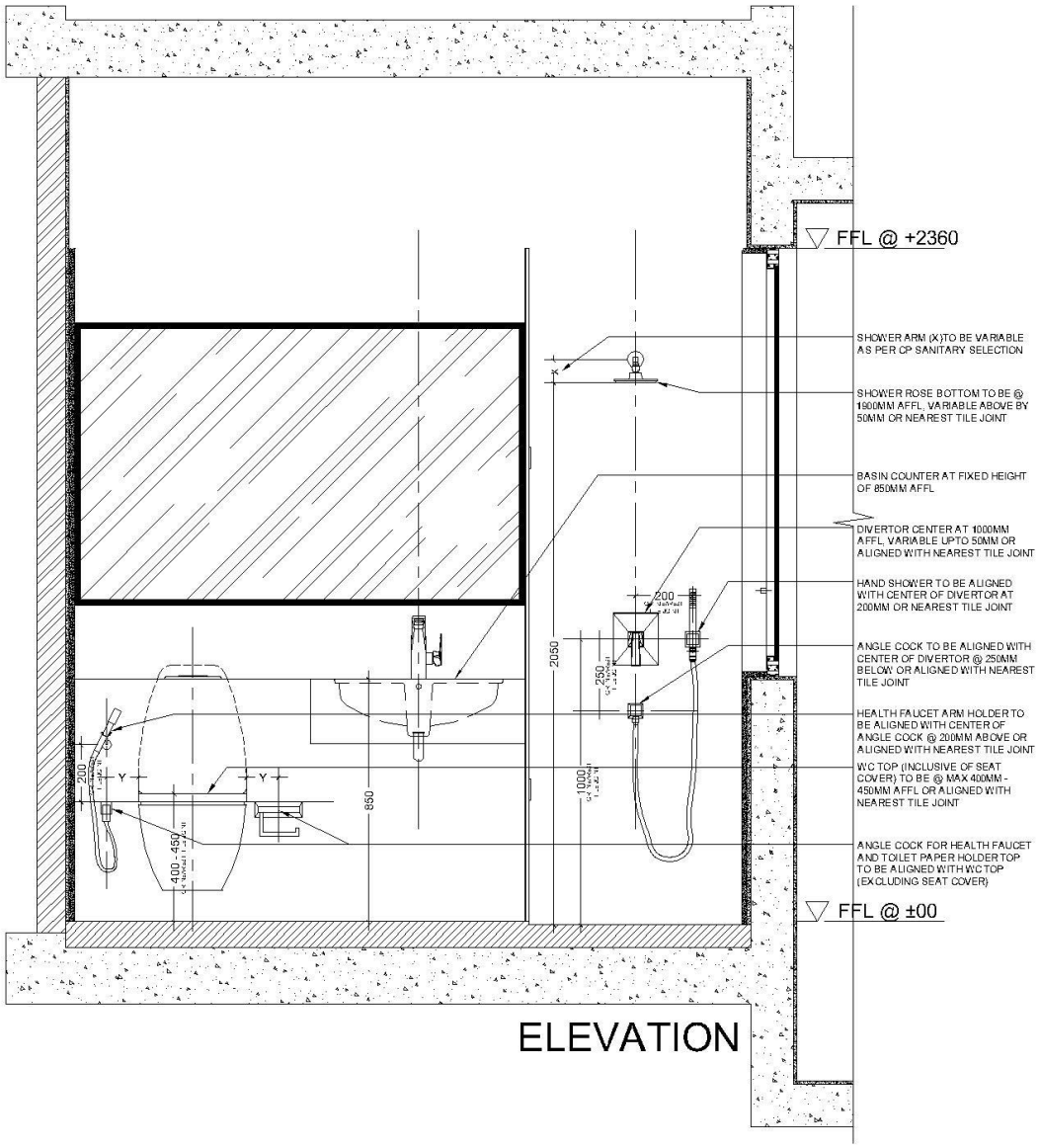
02 DETAIL

Annexure B i:



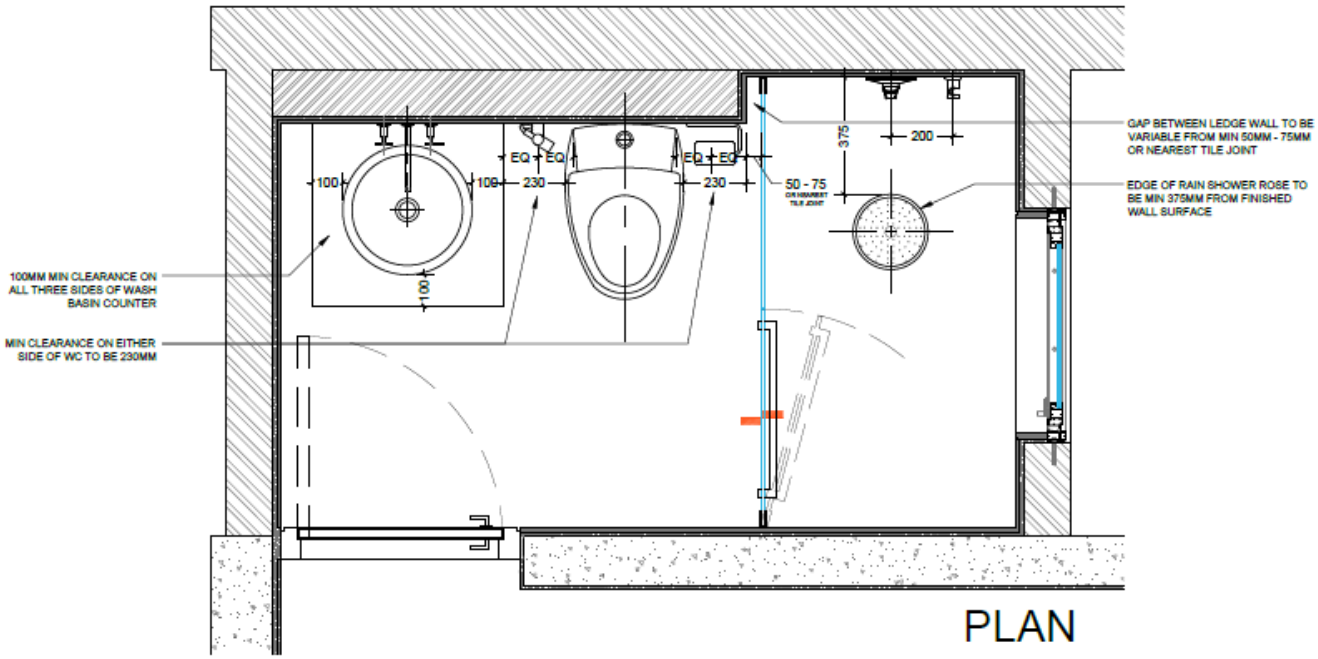
BATHROOM - 1 with

1. WALL MOUNTED SHOWER
2. COUNTER MOUNTED BASIN MIXER
3. TOP MOUNTED FLUSH PLATE


FFL @ +2360
SHOWER ARM (X)TO BE VARIABLE AS PER CP SANITARY SELECTION
SHOWER ROSE BOTTOM TO BE @ 1900MM AFFL, VARIABLE ABOVE BY 50MM OR NEAREST TILE JOINT
BASIN COUNTER AT FIXED HEIGHT OF 850MM AFFL
DIVERTOR CENTER AT 1000MM AFFL, VARIABLE UPTO 50MM OR ALIGNED WITH NEAREST TILE JOINT
HAND SHOWER TO BE ALIGNED WITH CENTER OF DIVERTOR AT 200MM OR NEAREST TILE JOINT
ANGLE COCK TO BE ALIGNED WITH CENTER OF DIVERTOR @ 250MM BELOW OR ALIGNED WITH NEAREST TILE JOINT
HEALTH FAUCET ARM HOLDER TO BE ALIGNED WITH CENTER OF ANGLE COCK @ 200MM ABOVE OR ALIGNED WITH NEAREST TILE JOINT
WC TOP (INCLUSIVE OF SEAT COVER) TO BE @ MAX 400MM - 450MM AFFL OR ALIGNED WITH NEAREST TILE JOINT
ANGLE COCK FOR HEALTH FAUCET AND TOILET PAPER HOLDER TOP TO BE ALIGNED WITH WC TOP (EXCLUDING SEAT COVER)
FFL @ ±00
200
250
2050
1000
850
200
400 - 450
Y
Y

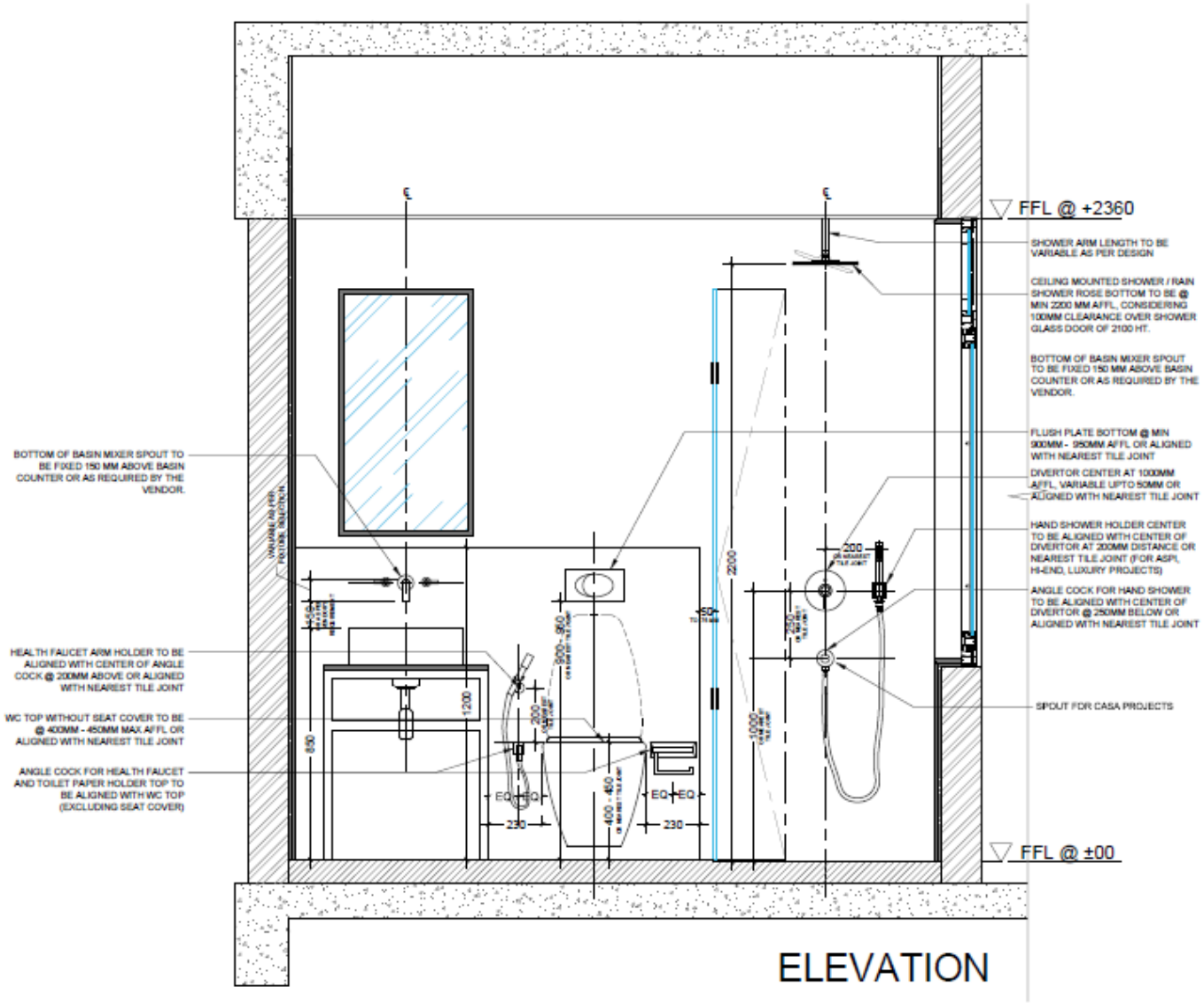
ELEVATION

Annexure B ii:



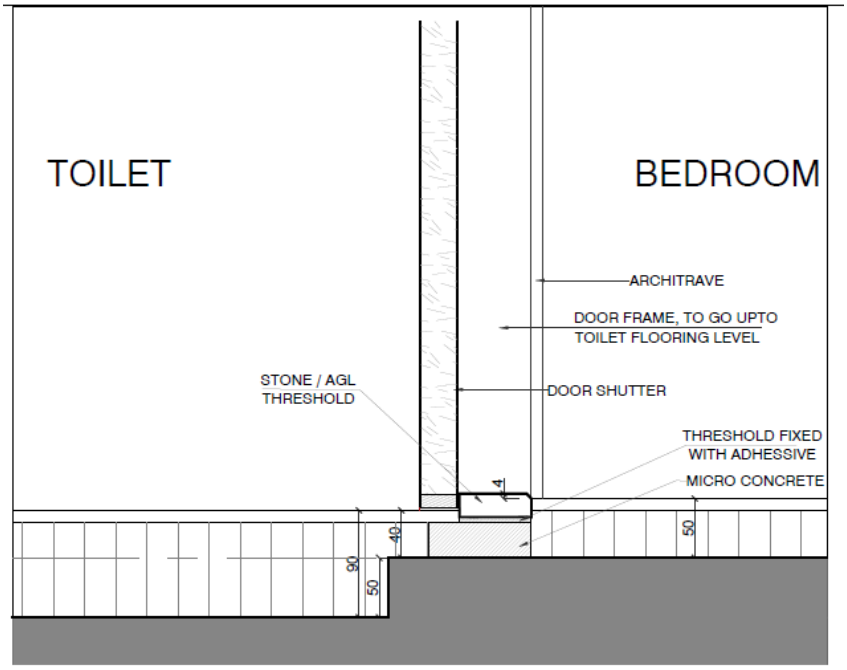
BATHROOM - 2 with

1. CEILING MOUNTED RAIN SHOWER
2. WALL MOUNTED BASIN MIXER
3. FRONT MOUNTED FLUSH PLATE

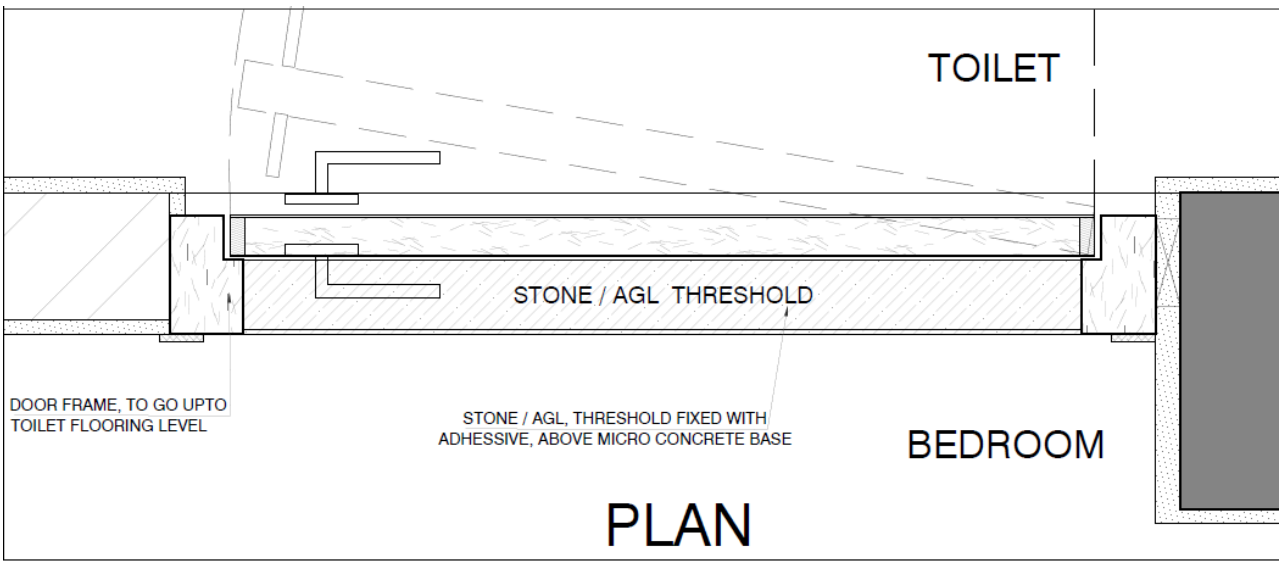

FFL @ +2360
SHOWER ARM LENGTH TO BE VARIABLE AS PER DESIGN
CEILING MOUNTED SHOWER / RAIN SHOWER ROSE BOTTOM TO BE @ MIN 2200 MM AFFL, CONSIDERING 100MM CLEARANCE OVER SHOWER GLASS DOOR OF 2100 HT.
BOTTOM OF BASIN MIXER SPOUT TO BE FIXED 150 MM ABOVE BASIN COUNTER OR AS REQUIRED BY THE VENDOR.
FLUSH PLATE BOTTOM @ MIN 900MM - 950MM AFFL OR ALIGNED WITH NEAREST TILE JOINT
DIVERTOR CENTER AT 1000MM AFFL, VARIABLE UPTO 50MM OR ALIGNED WITH NEAREST TILE JOINT
HAND SHOWER HOLDER CENTER TO BE ALIGNED WITH CENTER OF DIVERTOR AT 200MM DISTANCE OR NEAREST TILE JOINT (FOR ASPI, HI-END, LUXURY PROJECTS)
ANGLE COCK FOR HAND SHOWER TO BE ALIGNED WITH CENTER OF DIVERTOR @ 250MM BELOW OR ALIGNED WITH NEAREST TILE JOINT
SPOUT FOR CASA PROJECTS
BOTTOM OF BASIN MIXER SPOUT TO BE FIXED 150 MM ABOVE BASIN COUNTER OR AS REQUIRED BY THE VENDOR.
HEALTH FAUCET ARM HOLDER TO BE ALIGNED WITH CENTER OF ANGLE COCK @ 200MM ABOVE OR ALIGNED WITH NEAREST TILE JOINT
WC TOP WITHOUT SEAT COVER TO BE @ 400MM - 450MM MAX AFFL OR ALIGNED WITH NEAREST TILE JOINT
ANGLE COCK FOR HEALTH FAUCET AND TOILET PAPER HOLDER TOP TO BE ALIGNED WITH WC TOP (EXCLUDING SEAT COVER)
FFL @ ±00
ELEVATION

Annexure C:

Thresholds is to be fixed with adhesive above the micro concrete base, at the entrance of Toilets. The threshold to be above the bedroom floor by 4 mm. The threshold to be chamfered and polished from Bedroom side. Inside edge will be 'pencil round' and 'edge polished'. The toilet door's frame to go up to the toilet flooring level.



SECTION



PLAN

LIST OF SERVANTS TOILET FINISHING, CP SANITARY AND ELECTRICAL APPLIANCES

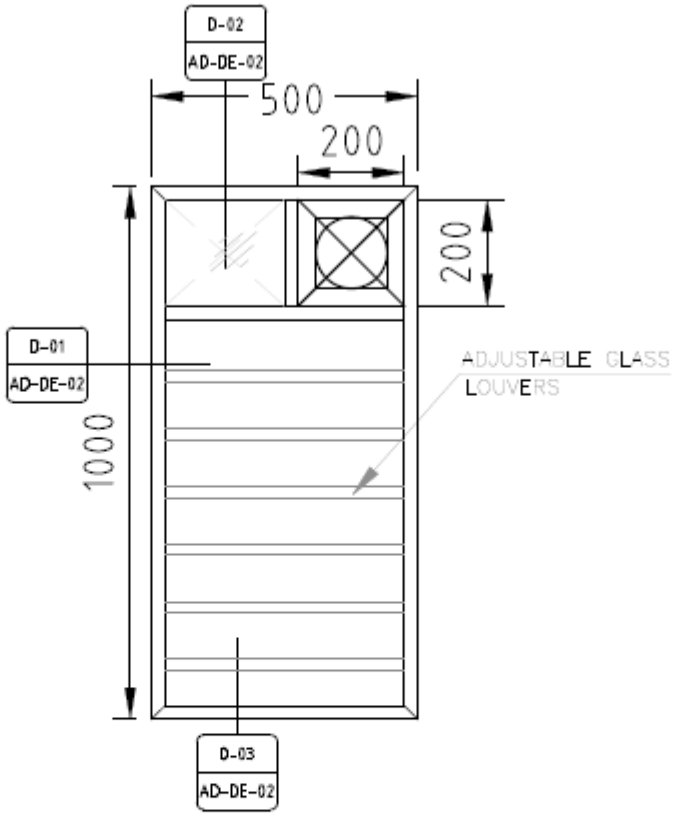
LIST:

SERVANT'S TOILET FINISHING, CP SANITARY AND ELECTRICAL APPLIANCES LIST				
MATERIAL WITH IMAGE	DESCRIPTION	COMPANY	CODE	LANDED RATES
WASH BASIN AREA				
	WALL HUNG BASIN ;SIZE 500X400	PARRYWARE	INDUS C0471	462
	PILLAR TAP	RYBO		525
ALLIED PRODUCTS				
	BOTTLE TRAP	JOYOU	NO CODE	650
	WASTE COUPLING 32MM SIZE HALF THREAD	JAQUAR	ALD-709	235
	ANGLE COCK WITH WALL FLANGE	JOYOU	NO CODE	216
WB BRACKETS		LOCAL	NO CODE	425
CONNECTOR		LOCAL	NO CODE	230
WC AREA				
	WALL MOUNTED BASIN WITH FLUSH TANK ; SIZE 600X 380	PARRYWARE	INDUS C0265	3851
ALLIED PRODUCTS				
	HEALTH FAUCET WITH 8 MM DIA, 1 MT LONG FLEXIBLE TUBE & WALL HOOK	JOYOU	NO CODE	900
	ANGLE COCK WITH WALL FLANGE	JOYOU	NO CODE	216
WC BRACKETS		LOCAL	NO CODE	600
	6" X 6" SIZE	NOWAY	NW -005	340

SHOWER AREA				
	WALL MOUNTED MIXER	JAQUAR	FLR-5273UPR	2800
	WALL MOUNTED OVER HEAD SHOWER	JOYOU	NO CODE	410
	SHOWER ARM	JOYOU	NO CODE	660
				12520

ELECTRICAL APPLIANCES				
EXHAUST FAN	8" X 8"	INDO	FLATRON	920
GEYSER	6 LITRE GEYSER	RACOLD	PRONTO PR - VI	
FINISHING SPECIFCATONS				
FLOORING TILE	300 X 300 MM GRAY MATT FINISH TILE	BONZER	PRISMA SLATE	36
DADO TILE	300 X 450 MM - WHITE GLOSS FINISH	BONZER	PEARL WHITE	36

FAÇADE Details:

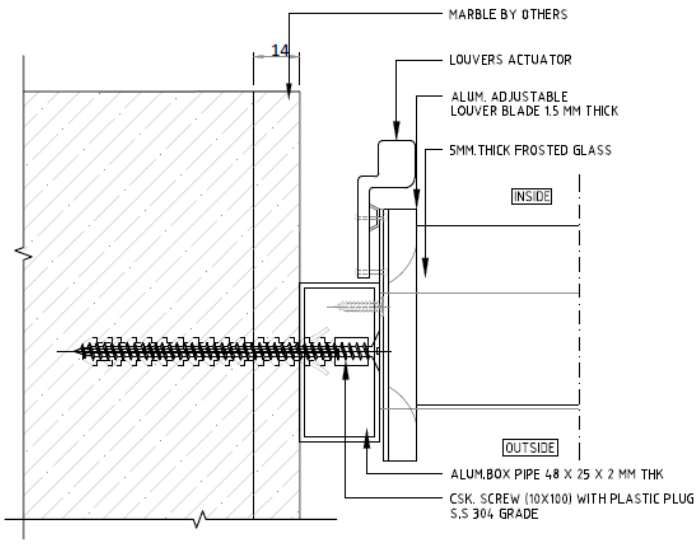


ADJUSTABLE GLASS LOUVER TOP FIXED WITH EXHAUST FAN

ADJUSTABLE GLASS LOUVER JINDAL OR APPROVED EQUIVALENT.					
UNIT TYPE	LOCATION	WIDTH	HEIGHT	SILL HT	LINTEL HT
V1	TOILET	500	1000	1100	2100

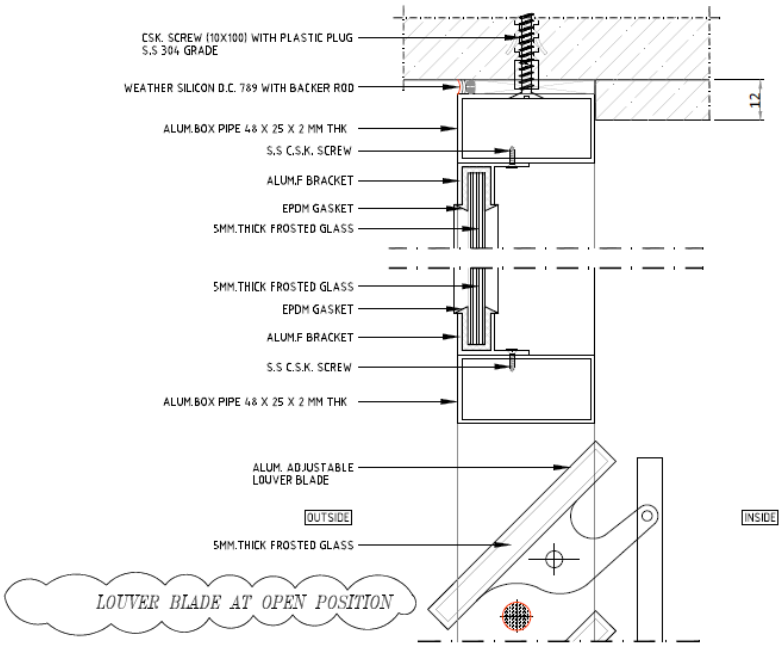
ELEVATION

D-01 AD-PE-01 Adjustable Glass Louver

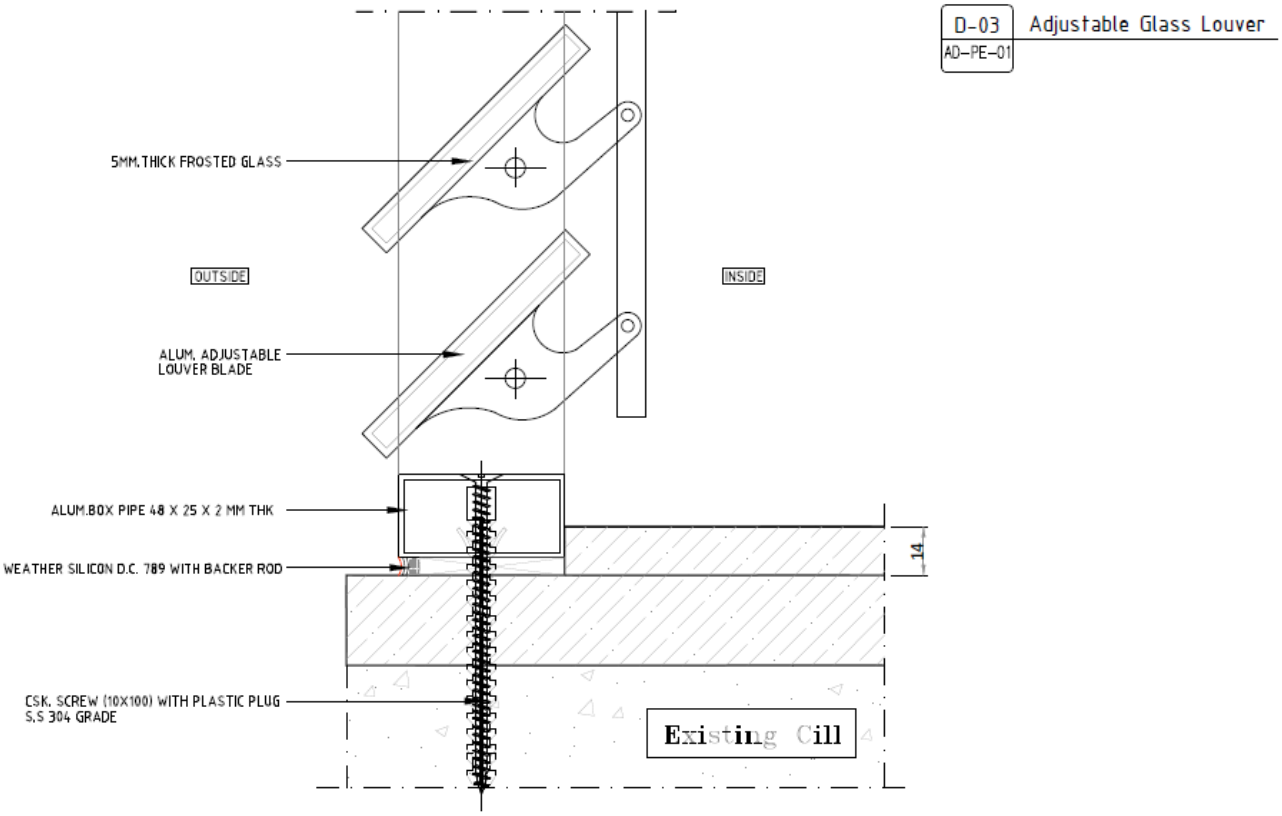


NOTE:- LOUVER BLADE AT OPEN POSITION

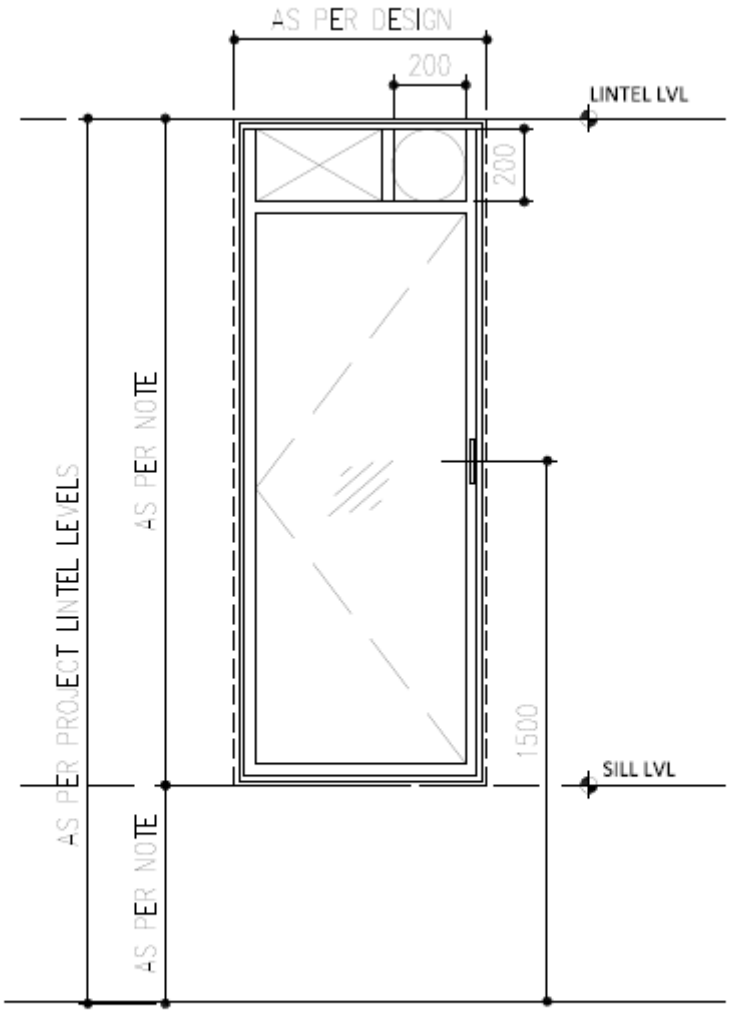
D-02 AD-PE-01 Adjustable Glass Louver



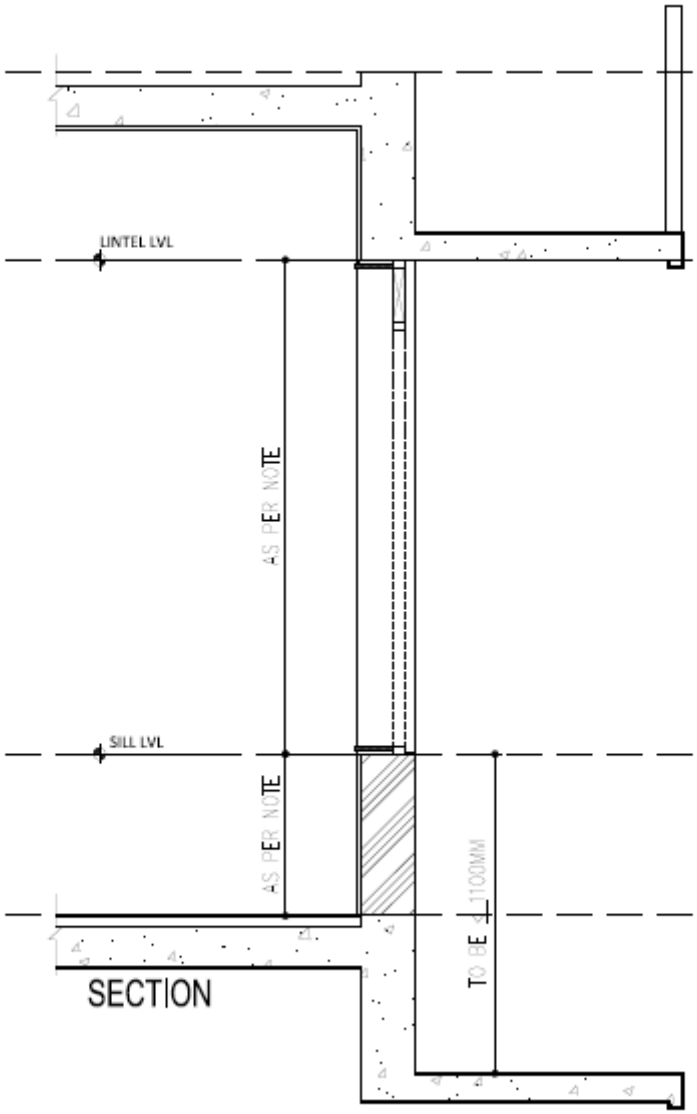
LOUVER BLADE AT OPEN POSITION


D-03
AD-PE-01
Adjustable Glass Louver
5MM. THICK FROSTED GLASS
OUTSIDE
INSIDE
ALUM. ADJUSTABLE LOUVER BLADE
ALUM.BOX PIPE 48 X 25 X 2 MM THK
WEATHER SILICON D.C. 789 WITH BACKER ROD
14
CSK. SCREW (10X100) WITH PLASTIC PLUG S.S 304 GRADE
Existing Sill

Note: In case of accessible service shafts outside toilet, sill height can be lowered such that difference between top of service slab & top of sill ≤ 1100mm with openable shutter instead of adjustable louvers. Design of the Outdoor unit bracket to allow easy jumping in/climbing up during maintenance.
Refer drawing below:



INTERNAL ELEVATION


LINTEL LVL
AS PER NOTE
SILL LVL
AS PER NOTE
TO BE 1100MM
SECTION

(MOM) Policy wrt minutes of operational meetings

All key discussions and decisions at all operational meetings (involving 4 or more attendees) shall be minuted and circulated to all participants + any other relevant person.

Circulation of minutes should be completed no later than 2 working days from the date of the meeting and if any recipients have any suggestions/changes, same should be communicated back to the 'Minutes Preparer' within 24 hours of circulation, failing which the minutes shall be taken as being final.

The responsibility for preparation, circulation and finalization of minutes would follow the following priority order (based on presence at meeting):

1. Project Architect (or any direct report)
2. Project Engineer (or any direct report)
3. Project Director / Project Manager (or any direct report)
4. Project Procurement Lead (or any direct report)

In case none of the aforesaid are present at the meeting, the senior most Lodha representative (by level) shall be responsible for the preparation and circulation of minutes.

The above responsibility can be fulfilled by doing it himself/herself or by coordinating with someone else to get it done, as long as some is in adherence with time limits.

Key Common Area (KCA) – Scope of Responsibility

Key Indoor Common Areas viz. area fulfilling all of the following criteria:

1. Spaces which have minimum size > 2000 sq. ft. of carpet area.
2. Area which are frequently visited by a large number of visitors / residents.
3. Make a significant impression on the overall value of the development.
4. Are indoor/enclosed spaces

Eg.

i. Entrance lobby (if carpet area > 2000 sq. ft.)
ii. Clubhouse (and all related/attached indoor components including Gym / spa / health etc.)
iii. Sample Flat
iv. Sales office

If area falls within the habitable building:

Design			Procurement			Execution		
Civil	Services	Interiors	Civil	Services	Interiors	Civil	Services	Interiors
A+E	E	ID	PPT	PPT	IPT	CM	CM	CMF

If independent structure falling outside the habitable building:

Design			Procurement			Execution		
Civil	Services	Interiors	Civil	Services	Interiors	Civil	Services	Interiors
A+E	E	ID	IPT	IPT	IPT	CM	CM	CMF

In case of such independent structure, the immediate periphery of these structures (viz. approx. 20 m periphery) shall also be handled as per the aforesaid responsibility allocation. In case of sales offices and sample flats which are independent structures outside the building line, the entire landscape area shall be handled as per the aforesaid responsibility allocation.

Abbreviations used:

A – Architecture
E – Engineering
ID – Interior Design
PPT – Project Procurement Team
IPT – Interiors Procurement Team
CM – Construction Management Team
CMF – CM Finishing Team

Notes

i. The ID team has overall coordination responsibility for the key indoor common areas.

ii. For aforesaid purposes, the scope of 'Services' is what would normally be the scope in case of a core and shell / bare shell development. The scope of 'Interiors' is what would be the normal scope of the client in case of a core and shell / bare shell development.

iii. In case of hi-end and luxury residential projects and Experia retail, the interior design of the KCAs should be done by external firms who have significant expertise in designing relevant interiors (even if architectural firm is used, HOD-Design should ensure that they have requisite interior experience and their interior-oriented personnel are working on the KCA). KCAs in other projects can be handled by the project's Architecture firm, subject to them having the comfort of doing a good job and putting their interior focused personnel for the same or in rare instances, it can be done in house by Lodha ID cell (with approval of HOD-Design). This scope should be clarified at time of appointment of the concerned firms.

Interior Samples

The time taken to create 'sample flat' inside the building finishing is too long and the learning limited because:

a. Work is not done by the actual contractors (we employ specialist interior contractors who are not really concerned with the actual work).
b. Designers use this flat to change/updated design, which role can easily be done using 3D modeling (e.g. BIM).

In view thereof, following practices shall be adopted for office/residential/retail projects:

a. Interior design of the 'final' unit (as it shall be handed over to the customer) and typical lift lobby shall be modeled on 3D software (or any other such technology allowing clash detection and design oversight finding) for all key elements of the interior including flooring, tiling/dado, electrical fittings/switches/conduits, AC – outdoor and indoor unit locations and cable routing, plumbing fixtures and cutouts etc. By doing this properly, large % of design clashes can be understood and corrected at the design stage itself, prior to issue of working drawings.

b. This places great responsibility on the Project Design team to study and review the interior drawings comprehensively before release.

c. Based on the aforesaid final design, Const Management will, using actual contractors and final materials, get the interiors of <u>one typical unit and one typical lift lobby</u> done, before work progresses substantially (though minor works like flooring can start) in other units. **This will not be a 'sample flat' but more of a 'Construction Learning Unit'.** This **'Construction Learning Unit'** will be reviewed / approved by the Project Designer within 7 days of Construction Management informing them that the 'Construction Learning Unit' is ready. Based on the learning w.r.to workmanship, detail, minor design updates etc., the other units/lobbies shall be executed – however, no change in material palette shall be allowed on account of the 'Construction Learning Unit', except with the consent of HOD-Design.

d. It is clarified that all Procurement (material ordering and Contract award) can and should proceed ahead without waiting for the completion of the 'Construction Learning Unit'. The main purpose of the 'Construction Learning Unit' is to make the Construction team visually aware of the target final quality of the product and to show the key do's/don't s. The **'Construction Learning Unit'** is not a tool for major design improvements.

   In case of 'vital common areas' (in non-Casa residential projects) like Main entrance lobby of the wing, Clubhouse and any other such vital common areas, the interiors will be handled by the Interior Design Team and they shall take necessary measures to get sampling etc. done appropriately for the interior works in these vital common areas.

Pre-launch interaction between Marketing/Sales and Design:

Project Planning:

1. Marketing Brief (in standardized format) – covering target audience, sale price targets, product mix and area inputs, competition analysis, any key inputs in terms of desired amenities / facilities; other thoughts from Marketing & Sales - Within 14 days of plot acquisition/design to commence design. **Resp: CEO** (including taking Sales feedback and input).
2. Concept Design Review with Marketing and Sales **Resp: Architecture**.– To be held atleast 21 days prior to CP meet. Covering key customer forward elements and project USP's. Detailing likely amenities, facilities, product mix and areas and clearly stating any major deviations from marketing brief and why. Architecture will send a presentation atleast 2 days prior to this meeting to help the attendees prepare their thoughts. At this meeting, senior external and internal design leaders (architecture, landscape and interiors (if relevant)) and senior external and internal marketing & sales leaders should join (ideally in person, else virtually) and workshop their way to understand how to unify the design concept and marketing direction. Meeting to help understand the USPs of the development and agree on positioning/direction of marketing – this is to then inform the codename/project name, tagline, CGI content, model, ad campaign, sales office setup, sales pitch etc – such that the customer seamlessly feels the 'unity' of the design concept and marketing direction. This meeting has to be attended by Level 0 / 1 of concerned teams and as far as possible, all issues should be resolved across the table, rather than emails later. Any unresolved issues to be closed with input of CEO/MD within 7 days of this meeting.
3. Marketing Package – To be issued to Marketing atleast 7 days prior to CP meet. **Resp: Architecture**.

Sales Office/Sample flats:

1. In general, normal template shall be followed by Architecure and there shall be limited input taken from Marketing/Sales.
2. However, CEO/Marketing/Sales shall be free to give any specific input / ideas wrt the Sales office/sample flat, to Architecture at time of providing Marketing Brief (as per 1 above). Architecture shall ensure that they take these ideas into the design of the sample flat/sales office or give feedback to Marketing, within 7 days of receipt of the suggestions, of what ideas shall not be incorporated. Any unresolved issues to be resolved post discussion with Directors in 7 days thereafter.
3. Within 15 days of the layout of the sales office/sample flat being finalized, Architecture shall share same with Marketing for purposes of design of communication elements. Within 7 days of sharing of these plans, any feedback wrt requirement for communication purposes shall be given by Marketing to Architecture and Architecture shall either incorporate the same and/or give clarity to Marketing of what cannot be done. Any unresolved issues to be resolved post discussion with Directors in 7 days thereafter.

Handicapped Facilities Policy

1. Every building/ wing shall have a Handicapped access ramp at one location in the building, with following parameters:
    a. Only located on any one level, preferably the vehicle drop-off level.
    b. Access should be by means of ramp with
        i. Slope ratio of 1:16.66
        ii. Clear ramp width of 1.2 meters (can be increased to 1.5 meters in office and retail projects, if space permits).
    c. No railing is required on the ramp.
    d. There should be clear passage equivalent to the clear ramp width from the Handicapped ramp to one of the passenger elevators (except in case of retail developments).
    e. In case of any turns in the ramp, minimum turning radius of 1.5 meters is needed.
    f. The finishing of the ramp surface should be such that it provides sufficient grip / traction (rough surface).
2. In all public buildings viz. office and retail projects, there should be 1 nos. of handicapped toilet, with appropriate sizing and internal fixtures, on the same level as the handicapped access ramp.
3. Applicable to all projects in which possession commences after **30.4.2011.**

Music/sound system Guidelines for key common areas:

For key common areas, in which no individual room exceed 2500 sq. ft.:

1) The music system will have the following components:
    a. Speakers
    b. Amplifier
    c. Music Source: I pod dock/CD Player. In case there is a computer planned at the reception desk/concierge desk, then the computer will act as the source and no separate source will be required.

2) Speakers will always be in pairs. The no of speaker pairs is calculated as "One pair per 250 Sq Ft" for "Ordinary" speakers. A minimum of one Amplifier is required (can be shared across multiple rooms / lobbies) but the no of amplifiers will not increase as long as the no of speaker pairs does not exceed four (In the case of ordinary speakers). In case the no of speaker pairs is more than 4 but less than 10, then "High Impendence" speakers will need to be used instead of Ordinary speakers – In this case the same amplifier can support up to 10 pairs. If a multi-room design requires more than 10 speakers, it either has to be broken into multiple systems with separate amplifiers (each with less than 10 speakers) or a custom design has to be done using a consultant.

3) The above calculation is valid for all heights subject to the condition that in case of height being more than 12 ft, then the speakers will need to be placed on the wall at a height not exceeding 12 ft from the floor.

4) The speakers to be used will be "p-Audio" brand (Hi end/ Luxury/Supremus). P-audio is Taiwanese make. The cost of p-Audio is 4500/- per pair. Wherever High impudence speakers are to be used (as per point 3), there will be no cost difference but the lead time for the same is higher (3-4 weeks) since stocks are not readily available.

5) The Amplifier to be used will be of "Sonotone" make – The cost of an amplifier is around 15,000/-.

6) Cost of a basic ipod & dock will be in the range of Rs 10,000/-

7) It is important to ensure that the locations of the speakers and the Music source as per the above is frozen prior to start of flooring & plastering works since the conduiting/wiring will need to be put in place for the same.

8) Please note that the music system speakers cannot be the same as the PA system required for fire fighting. However, it is possible to connect a mike to the amplifier used in a music system and use this system for general announcements.

If the room size increases beyond 2500 Sq ft, then the system will have to be custom designed using a consultant, which can be required from the MEP package team.

Sound- PA System in common areas

In all Lodha projects (wherever applicable), following guidelines should be adhered to in design / usability of sound systems:

1. In key public areas (e.g. entrance lobby), public recreational areas / amenities wherever music is to be played (e.g. gym, mediation / yoga room, etc.), an appropriate sound system with speakers capable of providing decent sound quality has to be provided.
2. System should have ability to have separate music / tracks in following areas:
    a. Entrance Lobby (generally soft, melodious music). This can be shared with areas like party lounge, yoga room, business centre, library, etc. where soft melodious music is generally preferred.
    b. Gym (could be loud, 'filmy' music).
    c. Movie / theatre halls will have any separate sound system other than the one installed for purposes of movie playing.
3. This in addition to the public address system speakers which may be installed in these areas as PA system speakers do not offer good sound quality.
4. Once in use, FM should ensure that appropriate music is played (standardized music CDs for common areas) in these areas at suitable timings.

POLICY FOR PROVIDING BARE SHELL FLATS

This option shall only be available in Luxury and Hi-end category residential projects.

1. Request for bare-shell Flat shall be communicated in advance, at least by the time of casting of slab.

2. All external faces shall be provided 'finished' by Lodha,
   Generally, no changes will be allowed in façade, structure, any common area/lobby, any relocation of brick walls onto any location which does not have a beam to support the brick wall, services. i.e location of plumbing or electrical lines (except internal extensions), location of wet/waterproofed areas like balconies, windows, sun-decks, drying balconies, any elevation feature & etc. Any changes on the external façade of the building (outside window line) would only be permitted if the same is not visible from outside the building from any angle. Any such proposal should be submitted to the Project Architect for approval and work can only proceed after obtaining their approval. Any such works on the external façade, if approved, shall be permitted to be executed only upon payment of a fee of Rs. 25/- per sq. ft. of saleable area of the flat. The said fee shall be payable to Lodha FM (or building society, once society takes over functioning of the premises).

3. If any grill is provided by the Lodha, the same will not be altered.

4. Lift lobbies and common areas shall be finalized by Lodha.

5. Main Entrance Door shall be provided by Lodha along with all accessories and name plate, and the Customer will be required to maintain the same.

6. Electric wiring shall be provided up to D.B. only; conduits/sleeves will be available for the customer as per the standard/regular flat.

7. Inside the Flat, no Brick work and Plaster shall be carried out by Lodha.

8. No partial work will be carried out by Lodha on any request.

9. In the event that the project has any Central Security System / Video Door phone / Other Security related features, the same will be mandatorily done in the bare shell flats too. No rebate shall be given on Security related systems / features. In the event that the project has any Home Automation Features, which are solely inside the flat and have no connection with the Security System, such features will not be provided in the bare shell flat. If the project has an integrated Security + Home Automation system, Lodha will make available the concerned Security system Vendor to the Flat Owner for a 6 months from the date of offer of possession. Lodha will not be responsible for completing the said connections to the Flat beyond the said time limit.

10. Toilets and kitchen sunk shall be provided with base coat and plumbing in-let and out-let. Customer will be required to get water proofing done from pre-empanelled water proofing agency by the company. This name shall be informed by Design to HFM at time of commencement of possession of the wing. Any changes in location of wet areas or any other areas which are waterproofed (e.g. decks) shall be subject to approval of the Project Architect. Any such changes shall only be approved if the client agrees to have the waterproofing done by the same agency which has done the overall building's water proofing, at his own cost and risk.

11. Customer should take approval of the internal layout from the Builder before commencement of the interiors of his flat.

12. **Combining two adjacent flats**: See combination flats policy.

13. **Rebate for the bare shell**: Planning will work out the rebate for bare shell option on per flat type basis at time of start of project (Hi-end and Luxury category) and inform to marketing along with the rest of the marketing package. The rebate will be based on actual cost of materials + labour basis, with no deduction for supervision and other expenses.

Indoor Kids Club – Design Guidelines

Preface

The indoor kids club is a key part of any club. It is focused on kids from 2-10 years and helps them interact with and build bonds with kids of similar age. Further, it allows parents to leave their kids in a safe, indoor environment and focus on / attend to other things. In essence, it acts like a crèche.

Typical size should be between 500-1500 sft (depending on development size) of indoor space + relevant outdoor space.

What should be co-located / close by:

a. Outdoor kids play area (See Outdoor Children's Play Area Guidelines) which is enclosed by a fence/similar so that kids can have a safe indoor/outdoor experience.
b. Seating area for nannies / waiting parents.

The operations of the Kids club are very important and require a smart and trained female operator(s), preferably someone with teaching experience with kids of similar age, who can use the physical space to engage kids and get them to both play and learn.

This is one of the most important elements of a development (design, operations and maintenance/upkeep), since if the kids are happy, parents will be happy. Good creative thought is needed to make these well at reasonable cost.

Design Guidelines

The design of this area is a specialist job and requires understanding of what kids want and what is the latest in the market. A normal interior designer will need to be pushed to do this well since a lot of thought is required to get this required.

Some of the highlight elements which can be incorporated are (to see physically visit World Tower Mumbai (2017) and Lodha Belmondo Pune (2016)):

1) **Indoor rock climbing** - Kids as young as 4yrs old can experience indoor rock climbing. Climbing is for every level of fitness and gives kids an opportunity to learn and develop skills of communication, trust and confidence. The one provided in the Kids Club is safe and does not require full time monitoring. Auto belay system to be added as a safety measure depending upon the available heights for installation.



2) **Active indoor play zone –** Consist of their own fun park within the indoor club. The area is designed with a single slide and few rotating pods and seats made out of high quality plastic and metal mainly keeping the child safety in mind. It can add colours to the interiors too. A fun safe playground environment stimulates child's minds and allows for their cognitive, physical, and social development.





3) **Lego Wall** - Lego promotes fine motor skills. Children need to connect Lego pieces of different sizes and shapes onto a tiled lego baseplate wall/surface. The baseplate is plastic as a material, can be glued to the ply backing with specialised adhesive to make the surface of desired size. The sizes of the baseplate are fixed and hence important to have a specific installation size. Far more than just a fun toy, LEGO bricks and similar building blocks can be a powerful learning tool for all levels, from preschool all the way to college.



4) **Interactive Floor** –The virtual play allows multiple players to interact with colourful graphics/play surfaces along with the sounds that are projected onto the floor or surface. It is the cost-effective surface for kids & can convert any space into an unforgettable fun-filled experience. A healthy way of blending mental and physical activity unlike traditional methods. It is hygienic, safe and reliable and no-wear-and-tear system. Improves collaboration, participation and cognitive skills in kids. The installation requires a projector and seamless white flooring in matt finish (either a vinyl or paint). The projector has a manual switch and an inbuilt capacity of 30 games selected from a wide range of online available games and can be

remotely selected /updated /purchased. There should be some ventilation provision for the projector so that the hot air is not trapped inside the unit. Lighting needs to be controlled in the area and should be dark enough to provide clarity onto the surface.



Ref website _ http://www.touchmagix.com/interactive-floor-interactive-wall-play

5) **Story telling room / reading cocoons –** Books teach kids about relationship, personalities, situations and what is good and what is bad in the world they live in. Fantasy books provide material for their imagination and free play. Fairy tales / superhero books fascinate them and help them distinguish between what is real and what is not.







6) **Art & Craft /Toy Room –** This room is the perfect place for kids to express their creativity. It can be designed with different shelves and module to hold the toys with addition of some kiddie décor to enhance the space. Several toy shelves invite kids to play and can hold the selection of fun & educational board games.







7) Sleeping /Quiet area



8) **Washroom Design** – This washroom can be designed for multiple age groups in mind if the space available. Basins can be in two height options, making them the perfect specification for younger and the elder kids. The space can be designed with bold themes and interesting details.





9) **Flooring material –** Preferable to have an EPDM floor with cushioning for child safety. 30mm thk SBR granule with 6mm EPDM in-situ rubber flooring for indoor fulfils the above requirement. It can be with creative design, joint free, long life along minimal wastage. It has resistance to abrasions, slipping indentation and ignition & is virtually maintenance free.

Other elements to be considered:

a. For active kids – indoor slide OR indoor castle / train or equivalent
b. TV with DVD player and good mix of children's dvd's and music cd's
c. Loose play equipment (balls, toys etc.)
d. Children's books, stacked in easily accessible shelves
e. Children's games, stacked in easily accessible shelves
f. Blackboard/whiteboard for kids to scribble on
g. Low tables and chairs / seating for the kids
h. If toilet is attached, low fittings for easy use by the kids
i. An adult chair for the supervisor

See attached images. Searching web for kids play area or children's play area or soft play area can give you lots of ideas.

Some reference links of manufacturers:
http://www.softplay.com/
http://www.playwell.in/















Drawings to Customers (Release of editable format drawings):

In general, the company follows a policy of not releasing any drawings in editable (eg. AutoCAD) version to any customers. If plans are to be given to customers, they are only given in a non-editable (eg. PDF) format.

However, following exceptions shall apply:

Office space or Retail transactions (other than Supremus office): Autocad file can be shared, as per customer request.

Residential or Supremus Office:

a) Can be issued anytime after 95% of CV is received.

b) Issue may be done only if customer so requests or to all customers, if Customer Care so decides.

Following norms shall be followed in case of issue of such AutoCad files:

a) Design will release the **'as-built' built-up architectural drawings as per final unit being handed over to customer** (not showing any liaisoning or other features / comments), with adequate plumbing, electrical and firefighting details, in editable format, to Customer Care, who shall then hand it to the qualifying customers.

b) Plans will be marked with note (in small but visible font) "

Note: All dimensions are measured on bare shell basis. Please ensure that following areas are taken into account while calculating Carpet + EBVT area: door & window jambs, decks/balconies, area under internal walls and thickness of wall finishes (upto 300 mm for toilet ledge walls and upto 50 mm for other walls) on external walls which are not included in Carpet or EBVT area. Variation as specified in agreement may occur due to design and construction tolerances. For area comparisons, please plot on computer software like AutoCAD for accurate measurements.(same note to be used for any non-editable plans issued to customers).

c) Unit No. and Building Name (marketing name eg. Lodha Marquis, not Marquis) should be stated in plan.

d) Direction should be marked on plan.

Services Shafts & Rooms:

1. On typical floor, as far as possible, location of electrical shaft should not be adjacent to fire escape staircase.
2. On floor where any of the service rooms (eg. Meter room, Pump room, BMS room, Fire Control Room) are located:
    a. These rooms should be located as close to the relevant/related service shafts as possible, to avoid unnecessary crossing of cables/wires eg. meter rooms should be located very close to the electrical shaft. This will save unnecessary expense and provide greater space for other uses on the said floor where service rooms are located. This is especially important on the ground/entry floor to ensure that the height of the entrance lobby is not compromised.
3. Electrical meter rooms should have a fire door and frame with 2 hours fire rating. Fire resistance door and frame of 2 hr rating to be used in case of Electrical ducts, in case they have door opening into/inside a fire escape staircase.
4. Ideally for all plumbing/water verticals passing through a deck/utility area/service slab/other accessible area inside the unit, only shaft (not sleeve) should be provided which is sized rationally and to the minimal sized needed. As far as possible, instead of having pipes on both sides of a balcony/utlility/service slab, try to locate as many of the pipes as feasible onto one side. It is to be ensured that the plumbing and electrical provisions in a utility area are on the same side of the utility area to allow a washing machine to be installed and operated easily.
5. The floor level opening of the shaft in any areas which are accessible by humans should be protected with a 1 ft high brickwork / mesh to prevent material or small children from falling into the shaft. All such accessible shafts must be sealed with vermiculite concrete at terrace level, below the first habitable level, and at each refuge level of the building (top and bottom of all shafts at floor on which each refuge is located).
6. For all shaft doors which are exposed to weather / on external facade, the door should be of such material that it does not get spoilt by exposure to rain or sunlight (eg. wooden doors coated with polyeurathene-based paint OR steel door).
7. While designing the service routings, it is to be ensured that no wet services pass through the electrical or meter rooms.
8. Following services rooms should be air-conditioned:
    a. LV Electrical room in residential buildings with height > 100 m (maintain to 30 C), all commercial with height > 24 m and retail mall (not Boulevard shopping centre) buildings.
    b. Lift Machine Room (LMR) to the desired temperature of the manufacturer specification (generally 30 C) for all lifts > 1.5 m/s.

9. Cable trays (or any other form of trunking) should be used for vertical runs of service cables in all very high rise buildings (> 150 m). However, no of cable trays / encasing should be moderated by combing various cables on the same cable tray (if they don't interfere with each other due to proximity). Fire alarm cable should be placed in GI trunking to ensure appropriate fire resistance duration.
10. Doors of service shafts on habitable / public access areas:
    a. All doors to service shafts should be kept as small as practically possibly (max. height of 1 mtr.).
    b. To reduce costs- In parking areas, all service shaft doors to be in metal with paint finish to match the wall surface around the shaft opening
    c. These doors should be lockable with a LNKey whenever they are located in a publicly accessible area (eg. passage, staircase) or inside a habitable unit. They should be kept locked at all times, except when under service by the FM department. All keys for these ducts should only be handed over to the FM department/society and not to the individual unit occupants.
    d. In order to provide easy access to the fire duct in case of a fire emergency, the LNKey should be placed in a 'fire breakable' box close to the fire duct.
    e. Inside the unit, the service door should be so located that they are atleast 0.600 m above the slab level, to avoid falling of object/humans slippings in the shaft area. The service junctions inside the shaft should be planned accordingly keeping in the mind the service door height and location.

Provisions in Refuge Areas:

All refuge areas in building shall be provided with following:

a. 2-hour fire rated partition separating the refuge area from adjacent internal areas of the building (if any, on the same floor). This shall include a FRD Door with 2-hour fire rating.
b. The refuge area should have reasonable sized permanent openings (non-window) on its external face, to allow easy egress/ingress of firemen from the outside – the area of these permanent opening should be equal to at least 25% of the surface area of the refuge on the external face. At the location of these permanent opening, the ledge wall/fall protection element, should be 0.9-1.2 m high (to permit easy access in/out from the refuge area and simultaneously provide reasonable safety from falls).
c. Appropriate chemical based water-proofing (for the entire floor area and to be turned to minimum of 1' on sill of permanent openings described in b.), drainage provision and slope to deal with the rain water which is likely to come in during the monsoon on account of the permanent openings described in b. Please also refer to the water-proofing policy for further details.
d. Finishing as per the provisions of BOH finishing policy- Arch 70.
e. In addition, in all buildings with height greater than 70 m above ground:
   One tap where fresh water is available (need not be purified but should be connected to drinking water/municipal water line). Also this has to be open (no enclosure which may be constituted as FSI violation).
f. If building has intercom system, intercom connection in refuge area.
g. All external openings should have a bird net installed from the inner face of the external window wall, so as to prevent birds and rodents from entering the refuge space. The net should have good quality and be appropriately installed to withstand wind pressure.
h. There should be clear walkable access (min. width 1.5 m, min. height 2.4 m) from fire staircase(s) to the refuge area on each refuge level.

Maintenance Systems for Flower Beds

In all Lodha projects where flower beds are provided (inside flat area or outside flat area), following guidelines should be adhered to in their design:

1. Flower beds, which have plantation, must be accessible for servicing and maintenance from within the building (within the flat in case flower beds are inside flat area)

2. In Hi end / Luxury segment projects, all flower beds, which have pre-provided soil and plantation, must have automated system of irrigation. If flower bed is provided vacant (viz. without soil and plantation), then automated irrigation is not needed.

Use of Branded/Specific Source Materials

The brand/source of the following materials is considered key to creating a luxury feel in the consumer's mind:

a. CP Fittings
b. Sanitary Fittings
c. Modular Kitchen
d. Flooring material inside unit

For all future projects (hard launch not done till 5.5.11):

Material	Non-Casa Residential	Casa Residential	Office	Retail
CP Fittings	Branded fittings to be used only for Wash basin mixer and shower / tub diverter in toilets inside the unit (excluding any service toilets). All other CP Fittings (including all those that are not visible) to be used from non-branded companies with high functional standards.	Branded fittings to be used only for Wash basin mixer and shower diverter in toilets inside the unit (excluding any service toilets). All other CP Fittings (including all those that are not visible) to be used from non-branded companies with high functional standards.	Toilets exclusively belonging to an office are not finished by Lodha. Common toilets, which are finished by Lodha, to use non-branded C.P. fittings with good aesthetics and high functional standards.	Toilets exclusively belonging to a retail outlet are not finished by Lodha. Common toilets, which are finished by Lodha, to use non-branded C.P. fittings with good aesthetics and high functional standards.
Sanitary Fittings	Branded sanitary fittings to be used for following locations in the toilets inside the unit (excluding any service toilets): Wash basin, WC, Bathtub (if applicable)	No branded sanitary fittings to be used; alternatively brands to be mentioned as per new vendors being developed in Low-cost Countries.	Toilets exclusively belonging to an office are not finished by Lodha. Common toilets, which are finished by Lodha, to use non-branded Sanitary fittings with good aesthetics and high functional standards.	Toilets exclusively belonging to a retail outlet are not finished by Lodha. Common toilets, which are finished by Lodha, to use non-branded Sanitary fittings with good aesthetics and high functional standards.

Modular Kitchen	Only hi-end brands to be used (if modular kitchen is to be provided).	Consider usage of non-branded modular kitchen, if it is found that modular kitchens can add value.	Not provided by Lodha.	Not provided by Lodha.
Flooring Material inside unit	Use of wooden/bamboo flooring (or equivalent) to be extended to all bedrooms. **In Hi-end & Luxury:** Imported Natural marble flooring (or equivalent) to be continued in living/passage areas. **In Aspirational:** Use of Agglomerated marble to be continued currently in living/passage – based on market acceptability of 'super size' designer flooring in Casa, same may be considered for Aspirational. In visible common areas (eg. entrance lobby, lift lobby), use of 'super size' designer flooring (750+ x 750+ vitrified tiles) / regular size vitrified tiles may be considered based on aesthetic considerations.	Use of 'super size' designer flooring (750+ x 750+ vitrified tiles), instead of agglomerated marble in living/passage. Use of laminated wooden flooring (or equivalent) to be extended to all bedrooms. In visible common areas (eg. entrance lobby, lift lobby), use of 'super size' designer flooring (750+ x 750+ vitrified tiles) / regular size vitrified tiles may be considered based on aesthetic considerations.	No flooring inside unit is provided by Lodha.	No flooring inside unit is provided by Lodha.

Flooring Policy

OBJECTIVES AND BENEFITS

1. Standardize flooring material selection process in key common areas, Occupier-oriented non-key common areas, back-of-house common areas and low interaction areas inside unit across Lodha projects.

   Benefit: *Consistent material selection for similar areas across projects will allow for scale benefits and simplification of design and procurement process*

2. Establish guidelines for supply and usage of flooring material: standard supply sizes, wastage norms to be included in contracts and reconciliation policy.
   Benefit: Standard per-cut sizes of flooring material will simplify design and procurement process. Supply of Pre-Cut sizes at sites will reduce design wastage at site due to lower need of cutting. Supply of Pre-Cut sizes will simplify reconciliation process as issued quantity to contractor will be free of any design wastage. Any wastage during execution of contract by contractor will be on account of handling only.

3. Define technical specifications for commonly used flooring material
   Benefit: Common understanding of technical specification across Design, Purchase, Contracts and contractors

The policy applies to any space that uses natural or manufactured flooring material or equivalents. The policy will not apply to areas that are handed over as bare shells (e.g. toilets, pantries in Supremus, Excellus and select residential units.

KEY POLICY IMPLICATION

Department	Activity	Implications
Design	Room sizes	• Going forward, to enable lower design wastage of flooring materials, Design to try and keep room sizes for flooring to be in multiples of 150 mm (where possible)
	Material selection	• For Common areas, back-of-house areas and low interaction areas, selection of flooring materials for every project to be as per this policy instead of current selection process (project-by-project decision) • For high interaction area within the flats/office, material selection continued to be decided by project architect; to be in line with overall budget as defined by Cost management
	Flooring drawings	• Standard cut sizes as defined in policy for Agglomerate marble (4'X2'), vitrified tiles, ceramic tiles and Kota stones to be used to prepare flooring drawing., Natural stone size per piece to be upto 6 sqft- instead of current practice where flooring pattern sizes vary across projects • Flooring drawing to be prepared (including calculated design wastage in conjunction with CMD) and made available to contracts team prior to flooring contract award instead of current practice where sometime flooring contract is awarded without flooring drawing
	Flooring area statement	• Detailed area statement for each area within a building to be prepared clearly estimating total flooring, skirting and DADO area

Purchase	Material procurement	• All flooring items to be procured only in pre-cut sizes to minimize need for cutting at site ***(Feasibility for getting pre cut Natural Marble under exploration-To be updated)*** instead of current practice of procuring in slab form and cutting on-site.
	Updating material budget	• Procurement to update Cost Management team with annual price range for standard flooring materials to be used in low interaction areas
Contracts	Tender process	• During contract tendering and negotiations, flooring drawings to be shared with the contractor (including design waste calculated by CMD team) to ensure that contractor is able to estimate and understand implications of wastage norms and penalty clauses being set in contracts
	Standardize wastage norms in flooring tenders	• Wastage norms and clauses to be standardize across flooring contracts; with pre-cut and reduced size of material, only handling wastage and small design waste (estimated from drawings) need to be given to contractor.
	Enforcement of contract	• Contractor to submit the reconciliation report along with each bill • In case of exceeding wastage norms penalty to be enforced strictly on the contractor
Construction management	Issue of material	• Stores to able to quantify net material issues to contractor (total material issues to contractor-total material returned back in perfect condition) to aid reconciliation process
	Material Reconciliation report	• Reconciliation report to be prepared for each flooring material category at all the sites before submission of final contractor bills • Reconciliation report to be checked and approved by the project manager
Cost Management	Quantity attachment	• Detailed area statement for each area within a building to be prepared clearly estimating total flooring, skirting and DADO area • Total Material quantity to be attached should include wastage only as per standard wastage norm for respective materials
	Budget preparation	• Ensure that updated annual price range for flooring materials (to be used in low interaction areas) as provided by Purchase is used to prepare project budgets/attachments

Area classification-Category Definitions*

Key Common Areas:

1. Sample Flat & Sales / Corporate Office (including any adjacent outdoor areas)
2. Main entrance lobby
3. Club house (& other amenities of such nature eg. temple, business centre, restaurant) (including any adjacent outdoor areas)
4. Any other vital public area (eg. Theatre at Geeta)
5. Ornamental Staircase (eg. From L1 to L2 at Lodha Excelus, Apollo Mills)

Occupier-oriented Non-Key Common Areas:

1. Level / area where drop-off to main entrance lobby occurs
2. Landscape areas other than those covered under 'Key Common Areas'
3. Occupier Lift lobby on each floor
4. Passage from Occupier Lift Lobby to units on each floor
5. Common Toilet (primarily meant for passenger use)
6. Society-cum-FM office
7. Mail room/Mail box

Back-of-house Common Areas (areas where occupiers/their guests are unlikely to come frequently):

1. Common Staircases (including landing) (excluding any ornamental staircase)
2. Refuge Area
3. Service Lift lobby and adjacent passage thereto
4. All parking areas (eg. podium, stilt, basement etc.) (this does not include the level / area where drop-off to main entrance lobby occurs)
5. Parking lift lobby and adjacent passage thereto
6. Service floor / area / room
7. Driver's room
8. Security-cum-BMS room
9. Staff changing room
10. Common Toilet (primarily meant for service use)
11. Any other areas forming part of the service core

Low interaction areas within residential flats:**

1. Kitchen dado under the counter
2. Servants room
3. Servants toilet
4. Store room
5. Utility area

The above is the list indicating the types of areas which fall in each category and if any areas are not specifically covered above, the Design team will have to make a call into which of the aforesaid 4 categories do they fall into.

*As per Common Area-Category Definition document dated 9.6.11

**As per work done earlier on flooring standardization

1. Flooring policy for key common areas:

For Key Common Areas, agglomerated marble would be a ruled out option. While there is no restriction on flooring material selection for these areas (could be indicative budget guidelines), vitrified tiles (800mm x 800mm) would be a recommended alternative wherever agglomerated marble has been previously chosen. For projects where agglomerate marble is being used, the alternative should be considered in such areas where works has not yet commenced prior to date of circulation of this policy.

Key Common Areas (except in Casa Projects) shall be designed by the Interior Design team and executed by the CM-Interior team

2. Flooring policy for Occupier-oriented Non-Key Common Areas:

For all 'Occupier-oriented Non-Key Common Areas' in all segments 800mmX800mm Vitrified tiles would be a recommended option. Design would be free to choose any material which is less than its costs in terms of CTC (including wastage, laying etc.). Agglomerated marble would be a ruled out option viz. negative list. In following segments (Excelus, Supremus, Luxury Resi, Hi-end Resi) more expensive materials like natural marble may be selected by design for the Occupier-oriented Non-Key Common Areas (however prescribed size of natural stones cannot exceed 6 sq. ft. per piece. Of this at least one dimension should be 600 mm or lesser)

Occupier-oriented Non-Key common areas shall be designed by the Project Design group and executed by the CM team.

*As per Common Area-Category Definition document dated 9.6.11

3. Flooring policy for Back-of-house Areas (areas where occupiers/their guests are unlikely to come frequently):

For all back-of-house areas, flooring material selection to be done as per table below:

Flooring Standardization in Back-of-house areas					
Back-of-house areas flooring finishes/Segment	**Residential (Affordable/Aspirational/High End/Luxury) and Commercial**				
	1st Preference		**2nd Preference**		**Approximate Price target Rs/SFT***
	Material Type	**Size/Specification**	**Material Type**	**Size**	
Common Staircases including landing (excluding any ornamental staircase)	Pre-cast staircase with clean raw concrete finish (treads with appropriate nosing and grooves)	As per Staircase policy (Policy No. 38 Revision 4)	Treads: Pre-cast cement treads with nosing and grooving Risers: Raw concrete Landing/Midlanding: Cement Tiles	As per Staircase policy (Policy No. 38 Revision 4)	Pre-cast staircase: TBD Pre-cast treads: TBD Risers: TBD Cement Tiles: TBD
Refuge areas	2nd class Ceramic Tiles	TBD (proposed: 1'X1')	Wastage Stone (from building flooring work)	crazy pattern	Ceramic Tiles: Rs.31-35 per sqft
Service lift Lobby and adjacent passage thereto	2nd class Ceramic Tiles	TBD (proposed: 1'X1')	Wastage Stone (from building flooring work)	crazy pattern	Ceramic Tiles: Rs.31-35 per sqft
Parking lift lobby and adjacent passage thereto	2nd class Ceramic Tiles	TBD (proposed: 1'X1')	Wastage Stone (from building flooring work)	crazy pattern	Ceramic Tiles: Rs.31-35 per sqft
All parking areas (e.g. podium, stilt, basement) except level/area where drop off tp main entrance lobby occurs)	Cement Tiles	TBD (proposed: 18"X18")	Chequered Tiles/Wastage of sufficient strength/Epoxy paint over concrete (to be considered if cost effective)	NA	TBD
Service Floor/Area/ room (including entry)	Wastage stone (from building flooring works)	crazy pattern	2nd class Ceramic Tiles	TBD (proposed: 1'X1')	Ceramic Tiles: Rs.31-35 per sqft
Drivers room	Wastage stone (from building flooring works)	crazy pattern	2nd class Ceramic Tiles	TBD (proposed: 1'X1')	Ceramic Tiles: Rs.31-35 per sqft
Security and BMS room	Wastage stone (from building flooring works)	crazy pattern	2nd class Ceramic Tiles	TBD (proposed: 1'X1')	Ceramic Tiles: Rs.31-35 per sqft
Staff changing room	Wastage stone (from building flooring works)	crazy pattern	2nd class Ceramic Tiles	TBD (proposed: 1'X1')	Ceramic Tiles: Rs.31-35 per sqft
Common Toilet ((primarily meant for service use)	Wastage stone (from building flooring works)	crazy pattern	2nd class Ceramic Tiles	TBD (proposed: 1'X1')	Ceramic Tiles: Rs.31-35 per sqft
Any other areas forming part of the service core	Any of the 4 preferred materials above (2nd quality ceramic/wastage stone/cement tiles/pre-cast raw concrete) based on material characteristics being suited to the use of the said area				As per selection

**The budgeted rates will be subject to annual price revision to account for rate inflation; rates indicated includes VAT; excludes Octroi*

Back-of-house areas shall be designed by the Project Design group and executed by the CM team. Design can give both preferences and decision on actual usage can be made on site level, based on availability/site conditions. In cases where there is a choice between Wastage Stone and 2nd class Ceramic tiles, Project Managers should plan for usage of full extent of wastage stone available and order 2nd class Ceramic tiles only for the balance areas.

*As per finishing of back-of-house common areas policy dated 9.6.11

4. Flooring policy for Low customer interaction areas within flats:

For all low interaction areas, flooring material selection to be done as per table below:

Flooring Standardization in low interaction areas										
Segment/Low interaction area	**Affordable**		**Aspirational**		**High End**		**Luxury**		**Approximate Price target Rs/SFT***	**Remarks**
	Material Type	**Size**	**Material Type**	**Size**	**Material Type**	**Size**	**Material Type**	**Size**		
Kitchen Dado under the counter	Non Branded Tiles (equivalent to Gujrat Tiles)	300mm X 300 mm	Non Branded Tiles (equivalent to Gujrat Tiles)	300mm X 300 mm	Non Branded Tiles (equivalent to Gujrat Tiles)	300mm X 300 mm	Non Branded Tiles (equivalent to Gujrat Tiles)	300mm X 300 mm	17.50 - 20.00	Price for Size - 300mm x 300mm
Servants room	Ceramic	1'x1'	Ceramic	1'x1'	Vitrified (SS)/ceramic	2' x 2'/1' x 1'	Vitrified (SS)/ceramic	2' x 2'/1' x 1'	Ceramic :31.00 - 35.00 Vitrified Tiles: 34.50 - 37.00	
Servants Toilet	Ceramic	1'x1'	Ceramic	1'x1'	Ceramic	1'x1'	Ceramic	1'x1'	31.00 - 35.00	
Terrace w/o amenities	China Mosaic	-	China Mosaic	-	China Mosaic	-	China Mosaic	-	5175 - 5225	Rate per MT
Store Room	Ceramic	1'x1'	Ceramic	1'x1'	Ceramic	1'x1'	Ceramic	1'x1'	31.00 - 35.00	
Utility Areas	Ceramic	1'x1'	Ceramic	1'x1'	Ceramic	1'x1'	Ceramic	1'x1'	31.00 - 35.00	

**The budgeted rates will be subject to annual price revision to account for rate inflation; rates indicated includes VAT; excludes Octroi*

Low interaction areas shall be designed by the Project Design group and executed by the CM team.

*As per previous draft on standardization of low customer interaction areas dated 7.1.11

Guidelines for supply and installation of flooring materials

Objective: To further minimize wastage in flooring work, clearly define standard sizes for material supply, allowable wastage limits for flooring contractors at sites (target to ensure all flooring material supplied to site in pre-cut sizes such that wastage by contractor is primarily on account of handling) , wastage measurement formula and material reconciliation policy for flooring material

Benefit: Wastage norms at site (in scope of contractor) can be reduced as supply of flooring material in pre-cut sizes will reduce design/cutting wastage that happens due to procurement of material in larger slab form.

Standard sizes for material supply and allowable wastage norms for contractors

Flooring Material	Standard sizes (to be supplied at site)	Allowable wastage limit for contractors
Imported Natural Marble	Upto 6 sqft Pre-cut feasability in progress	Feasibility of procuring pre-cut marble being explored – will be updated.
Agglomerate Marble	1200mmX600mm-Precut	7% (in recent Dombivli contract where design wastage was 1.5%)
Granite	Pre-cut as per project	4.50%
Kota stone	22"X22"-Precut	4.50%
Indian stone	Pre-cut as per project	4.50%
Vitrified Tiles	600mmX600mm	4.50%
Ceramic Tiles	300mmX300mm	4.50%
Wooden Flooring-Laminate	190mmX1200mm	0%
Wooden Flooring-Deck (Tile form)	300mmX300mm	0%
Wooden Flooring-Deck (Plank form)	95mmX600-1800mm	0%

Wastage calculation formula: (Net quantity issued to contractor by stores-Total laid quantity)/Total quantity issued to contractor by stores)

Net quantity issued to contractor= Total quantity issues – Total quantity returned back to stores without any damage
Total laid quantity=total flooring area +Total skirting area + Total dado area

Reconciliation policy for flooring material – FLO (where we supply material)

1) Every third bill and final bill from flooring contractor should be accompanied by flooring material reconciliation report approved by respective Project Manager

2) For sales office + sample flats where time takes precedence over cost and hence, reconciliation may only be with final bill as well as aforesaid wastage norms maybe exceeded (determined by design and procurement)
3) For key common areas every final bill should be accompanied by floor material reconciliation report approved by respective Project Manager.
4) Reconciliation report should capture following details for each flooring material in scope of contractor: Net quantity issued to contractor by stores (easy to determine as all material including marbles supplied at site in pre-cut sizes), Total laid quantity, Estimated wastage percentage, Allowable wastage percentage, Excess wastage quantity to be debited to contractor, material rate per sqft to be considered for debit*, total amount to be debited

** material rate per sqft to be considered for debit=actual price of material + 15% of material cost towards incidental charges*

Material specifications by category

Below mentioned are standard flooring specifications to be followed for all the major material categories which are being used.

3.1 Natural Marble

Thickness - 16mm & 20mm (for some imported materials)

Slab Size – Depending on availability (current procurement practice)

Cut Size- Upto 6 sqft with one dimension less than 600mm (procurement feasibility in progress)

No IS standard defined, main check for aesthetics and absence of cracks

3.2 Agglomerate Marble

Thickness - 12mm (for cladding) & 14mm (for flooring) (16 mm thickness not to be used any more. HOD approval required in case usage is imperative)

Precut slab size – 2' x 4' (all material to be procured in this pre-cut size from the suppliers)

Water Absorption - Less than 0.2%

Linear Coefficient of Thermal Expansion - Less than 15

Surface Hardness - 3 - 4 Mohr scale

Density - 2.5 Gm / Cu Cm

Compressive Strength - More than 100 Mpa

Flexural Strength - 150-250 Kgs / Sqcm

Glossiness - Greater than 70%

As per EN 99, EN 103, ASTM C97, ASTM C170, EN 100, EN 102

3.3 Vitrified Tiles

Size – 600mm x 600mm (use of 900mm x 900mm to be stopped completely)

Thk - 9.2mm/ 10.00 mm (+/- 0.2mm)

Finish - Glossy

Type - Soluble Salt/double charged (only in high-end/luxury projects)

Requirement as per IS 13006, 10545

Deviation in length & width - Max ± 0.6%

Deviation in thickness - Max ± 5%

Surface Flatness (curvature & warpage) - ± 0.5 %

Shade Variation - No deviation

Water Absorption - < 0.5%

Mohr's Hardness - > 6

3.4 Ceramic tiles

Size: 300mm x 300mm

Thickness: 8.2 mm

Finish: Glossy/Satin

Type of tile: Ceramic

Requirement as per IS 15622,13630,13711,13712

Deviation in length & width - ± 1 mm

Deviation in thickness - ± 0.5 mm

Surface Flatness (curvature & warpage) - ± 0.2 mm

Shade Variation - No deviation

Water Absorption - ≥ 10%

Mohr's Hardness - 3 Min

3.5 Wooden Flooring (laminated)

Grade - AC3

Plank Size - 190mm x 4' long

HDF Density - More than 850 Kgs/Cumtr

Thk - 8mm to 8.3mm

Abrasion Resistance - equal or greater than 6000

Resistance to cigarette burns - No visible change

Resistance to staining - No visible stain

3.6 Wooden Flooring (Deck: Tile form)

Type - Tile Form with pvc net at the bottom

Size - 300 x 300 mm

Pattern - Four strips in each tile without groove (Each strip 70mm wide x 18mm thk with a clear gap of 6mm between two strips)

Height of PVC net - 15mm

Total Thk - 33mm includes of plastic netting

Wood species - IPE (Brazilian Walnut) OR Green heart

3.7 Wooden Flooring (Deck: Plank form)

Type - Plank Form with SAL wood batted at the bottom

Size of plank - 95mm wide x 18mm thk

Pattern - In long form without groove (Length of plank may vary from 2' to 6')

Wood species - IPE (Brazilian Walnut) OR Green heart

Mainly quality check from aesthetic point of view and on physical dimensions

Norms for Procurement Specifications by Design:

1. Specifications for Procurement are to be provided by Design at time of completion of respective package FDD (format to be agreed). Once these specifications are issued, changes will be kept to minimal by Design and by Procurement. (Procurement would have had opportunity to give their inputs at time of Concept Design review + Cost Mgmt would have reviewed these at concept and FDD stage).

2. Any specification change during the tendering process (once tender is issued) will require approval of min. Level 1 of the Procurement team + the Project Designer (level 2 or above).

3. In general, design should provide only functional (end outcome) specifications, rather than specific brand or aesthetic specifications. (How should it work / how should it look, rather than which company should it come from).

4. Brand or aesthetic specifications should be given only in following cases:
    a. Customer touches/sees item directly.
    b. Even if customer does not touch/see item directly, it is a high-technology item and there is significant scope for performance deviation unless the acceptable brands are specified.
    c. In such cases if brand is being specified, min. 2 acceptable brands should be specified by design, as far as possible, to maximize negotiation power. Requirement for 2 acceptable brands can be reduced to 1 if Design confirms on spec sheet that the specific brand is the only acceptable option and there would be negative customer impact if any other brand / unbranded is considered.

5. This process places significant onus of ensuring desired functional outcomes are achieved on the Procurement team. Procurement team will need to take significant care to ensure that:
    a. Functional outcomes are measurable and the process of measurement / acceptance is specified in the tender / contract document.
    b. Payment of the contractor should be significantly linked (min. 20%) to the measurement / acceptance of the functional outcomes by the end user viz. Const Mgmt and FM.
    c. Significant mental effort is put in by the Procurement team to ensure that the flexibility given by not specifying brands is not misused by the Contractor.

Fire Resistant Door

Fire resistance door and frame of 2 hr rating to be used at following locations:

- Staircase opening on all floors
- Refuge area (If applicable)
- Meter room
- Electrical ducts, in case they have door opening into/inside a fire escape staircase

To be implemented in all buildings having height more than 30 m (where possession date is scheduled on/after 1.1.12).

Note: The Door shutter finish can be paint on the inside and matching the general look of the outside area on the outside.

Electrical Points in an apartment

This policy defines the number, location and level of electrical points in finished residential developments.

Number of points:

When multiple points are located adjacent to each other, it is preferable to merge them onto a larger single plate and backbox, rather than multiple plates – applicable for all areas. Only exception can be made for specialist points which require isolation eg. AV point.

Location of electrical points shall be as follows:

1. Master Bedroom
    a) Light switches
        i. One light switch shall be within 3ft from the entry door
        ii. (In case of Hi end and Luxury projects) If the distance between this switch and the bed is more than 4ft, then a two way switch to be provided at the bed side table location
        iii. All other light switches shall be on the bedsides
    b) Fan regulator (no switch to be provided)
        i. To be placed at the bed side table location closest to the entry door
    c) Deck light switch (if applicable)
        i. To be placed at the bed side table location closest to the deck
    d) AC switch
        i. To be placed at the bed side table location
    e) Power Sockets
        i. Hi end and Luxury Projects – 2 switched socket on one side and one switched socket on other side of the bed
        ii. Aspi and Casa – 1 switched socket on each bedside

f) TV point
   i. The TV power socket & the set top box TV outlet to be on either of the side behind the TV. (refer annexure A for details)

2. Other Bedroom
   a) Light switches
      i. One light switch shall be within 3ft from the entry door
      ii. (In case of Hi end and Luxury projects) If the distance between this switch and the bed is more than 4ft, then a two way switch to be provided at the bed side table location
      iii. All other light switches shall be on the bedsides
   b) Fan switch/regulator
      i. To be placed at the bed side table location closest to the entry door
   c) Deck light switch (if applicable)
      i. To be placed at the bed side table location closest to the deck
   d) AC switch
      i. To be placed at the bed side table location
   e) Power Sockets
      i. 1 switched sockets on each bed side
   f) TV point (not applicable in casa projects)
      i. The TV power socket & the set top box TV outlet to be on either of the side behind the TV. (refer annexure A for details)

3. Living Room
   a) One light switch shall be placed within 3 ft from the entry door, if there is an entrance passage then the same switch shall be 2 way with the other way switch at the switchboard next to sofa
   b) Following points to be kept along the sofa side tables at 550mm height:

i. Light switches for the lights in the Living area
ii. Power point (switched) at each side table location
iii. Telephone point
iv. Intercom point
v. Fan regulator for the fan of the living area
vi. AC Switch

c) Following points to be kept at the TV location
   i. The TV power socket & the set top box TV outlet to be on either of the side behind the TV. (refer annexure A for details)
   ii. 2 power points controlled by single switch
   iii. Data point*

d) Following points to be kept near the dining table at 1200mm height
   i. Light switches for the lights in the Dining area
   ii. 1x Power Socket (switched)
   iii. Fan point (if applicable based on interior layout)

* One data point to be provided with the living room TV point for apartment size upto 1000sqft ca. For each incremental 1000sqft ca of the apartment one data point+power socket to be added, with a maximum of 3 points in any unit

Note: Wherever ELV points (tel, data, tv) are coming in a backbox common for lighting and power there should be a partition between elv and other points

Levels for electrical points within a unit to be as follows:

1. Bed level (for all switches which are likely to be used while being on the bed : +550mm AFFL bottom of the back box.

2. Standing level :

For all switches/sockets @ door entry to be +1200mm AFFL bottom of box.

3. TV level (for all switches, sockets other than tv, data which are likely to be used in relation to the TV and associated equipment):. +550mm AFFL bottom of the back box.

4. All other switch sockets provided adjacent to Sofa/Relaxation modules shall be +550mm AFFL bottom of the back box.

5. In Kitchens
   - All power outlets should be placed 1500mm away from wash basins/sinks if installed @/below level of sink faucet.
   - All power outlets above kitchen platform should be placed +450mm above platform level (to avoid water/food spillage)
   - Refrigerator outlet should be place +1300mm AFFL bottom of box.
   - All power sockets in the kitchen shall be switched

6. Toilets
   a) **Residential**
      i. All washroom switches for lighting and geyser to be placed adjacent to door entry, inside washroom, +1200mm AFFL bottom of box.
      ii. 1 nos sockets/Power outlets should be placed +450mm (minimum) bottom of box above wash basin platform (or +450 minimum bottom of box above top level of basin if no platform). If the washbasin is within 3ft from the main switchboard then the power socket can be placed with the main switch board.
      iii. In all buildings where occupancy sensor is provided in toilet, toilet lighting to be controlled by PIR(Passive Infra Red)/Occupancy sensor with single bypass switch
      iv. In all yet to be launched buildings there shall be no motion sensors promised and installed anywhere inside the apartment

   b) **Commercial**

i. Generally, only common area toilets are finished by Lodha in Commercial buildings. All toilets meant for single user use are finished by the occupant themselves, with Lodha making reasonable provision for connection to electric, water and drainage facilities).
ii. For toilets finished by Lodha, washrooms lighting to be controlled by PIR/Occupancy sensor with single bypass switch @ door entry outside of washroom +1200mm AFFL bottom of box.
iii. 1 nos. Power outlets should be provided at +1200 mm from bottom of box, adjacent to door inside the toilet.
iv. Hand dryers to be avoided. If provided Hand dryers should be located on opposite wall of wash basin mirror/ 1000mm away from wash basin. Switch should be installed together with lighting switches and power outlets (spur/outlet connection) to be placed +1000mm AFFL bottom of the box.

7. Exhaust fan level (for all switches/sockets which are used in relation to the exhaust fan): Two options
   i. For Aspirational buildings: Exhaust fan outlet(ceiling rose) to be placed adjacent to exhaust fan, controlled by a common switch of light & exhaust fan +1200mm AFFL bottom of box inside Washroom
   ii. For High end and Luxury buildings: Exhaust fan outlet(ceiling rose) to be placed adjacent to exhaust fan, controlled by a separate switch grouped in the same box +1200 mm AFFL bottom of box inside Washrooms.

8. For commercial buildings lobby + corridor – power outlets in common area should be placed +400mm AFFL bottom of box.

9. For all car parks + plant rooms- if power outlets are provided same shall be placed +1200mm AFFL bottom of box (weather proof- metal clad/polycarbonate). If exposed all conduiting should be in GI and away from the Driving Directions.

   Above specified heights can be varied by up to (+/_) +20 mm based on design considerations for any particular building. However, the heights that are set shall remain same throughout the said building.

It should be ensured that all switches/sockets are specified at any one of the above 8 prescribed levels and not at any other level.

Notes:

a. AFFL – Average Finished Floor Level of the particular room.

b. Location of switches/sockets should be avoided in areas with depth less than 2 ft. that are likely to be used for storage by the occupier (closet space, wardrobe space, puja niche etc.)

Annexure A

(a) High End/Luxury Development

FACILITY TABLE FOR 2 BHK FLAT (HIGH END + LUXURY BRAND)

S.No.	Name of location	Light Point			Fan Point		6A Power point			16A Power point							AC							
		Light Point	Strip Light	Wall Bracket light	Ceiling	Exhaust	General	Water Purify	Hob	Hood	Dish Washer	Fridge	Geyser*	Oven	MICROWAVE	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	10	60	60	60	100	100	100	500	1500	600	2000	2000	1000	1500	1500	0	0	0	0	0	0	0
1	Living room/Dinning	4	0	2	3	0	6	0	0	0	0	0	0	0	0	0	2	1	1	1	1	1	0	0
2	Deck	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Passage	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4	Puja	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Kitchen	1	3	0	1	1	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
6	Utility	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7	Store	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Bed Room 1	2	0	2	1	0	4	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
9	Common Toilet	1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
10	Master Bed	3	0	2	1	0	6	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
11	Master Toilet	2	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	Total number of fixtures	19	3	8	6	3	22	1	1	1	1	1	3	1	1	1	4	1	3	1	1	1	1	0

FACILITY TABLE FOR 3 BHK FLAT (HIGH END + LUXURY BRAND)

S.No.	Name of location	Light Point			Fan Point		6A PP			16A PP							AC							
		Light Point	Strip Light	Wall Bracket light	Ceiling	Exhaust	General	Water Purify	Hob	Hood	Dish Washer	Fridge	Geyser*	Oven	MICROWAVE	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	10	60	60	60	100	100	100	500	1500	600	2000	2000	1000	1500	500/t	0	0	0	0	0	0	0
1	Living room/Dinning	6	0	3	3	0	6	0	0	0	0	0	0	0	0	0	2	1	1	1	1	1	0	0
2	Deck 1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Deck 2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Passage	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
5	Puja	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Kitchen	2	3	0	1	1	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
7	Utility	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8	Store	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Bed Room 1	3	0	2	1	0	4	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
10	Common Toilet	1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
11	Bed Room 2	2	0	2	1	0	4	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
12	Bed Room 2 Toilet	1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
13	Master Bed	3	0	2	1	0	6	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
14	Master Toilet	2	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
15	Walkin Wardrobe	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Powder Toilet	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Servant Room	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Servant Toilet	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total number of fixtures	33	3	13	8	5	30	1	1	1	1	1	4	1	1	1	5	1	4	1	1	1	1	0

FACILITY TABLE FOR 4 BHK FLAT (HIGH END + LUXURY BRAND)

S.No.	Name of location	Light Point			Fan Point		6A PP			16A PP							AC							
		Light Point	Strip Light	Wall Bracket light	Ceiling	Exhaust	General	Water Purify	Hob	Hood	Dish Washer	Fridge	Geyser*	OVEN	MICROWAVE	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	20	60	60	60	100	100	100	500	1500	600	2000	2000	1000	1500	1500	0	0	0	0	0	0	0
1	Living room/Dinning	7	0	3	3	0	6	0	0	0	0	0	0	0	0	0	2	1	1	1	1	1	0	0
2	Deck 1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Deck 2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Deck 3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Passage	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
6	Puja	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Kitchen	2	3	0	1	1	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
8	Utility	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
9	Store	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Bed Room 1	4	0	2	1	0	4	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
11	Common Toilet	1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
12	Bed Room 2	3	0	2	1	0	4	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
13	Bed Room 2 Toilet	1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
14	Bed Room 3	3	0	2	1	0	4	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
15	Bed Room 3 Toilet	1	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
16	Master Bed	4	0	2	1	0	6	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
17	Master Toilet	2	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
18	Walkin Wardrobe	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Powder Toilet	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Servant Room	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Servant Toilet	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total number of fixtures	42	3	16	9	6	35	1	1	1	1	1	5	1	1	1	6	1	5	1	1	1	1	0

(b) Aspirational Development

FACILITY TABLE FOR 1.5BHK FLAT (ASPIRATIONAL)																				
S.No.	Name of location	Light Point		Light Point		6A Power			16A Power					AC						
		Light Point	Wall Bracket light	Ceiling	Exhaust	General	Hob	Water Purify	General	Fridge	Geyser	MICROWAVE/OVEN	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	60	60	60	100	100	100	500	600	2000	2000	1000	1500	0	0	0	0	0	0	0
1	Living room/Dinning	3	2	2	0	6	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0
2	Passage	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
3	Puja	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Study	1	1	1	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
5	Kitchen	2	0	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0
6	Utility	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7	Common Toilet	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8	Master Bed	2	2	1	0	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
9	Master Toilet	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Total number of fixtures	14	7	5	3	16	1	1	0	1	2	1	1	3	1	2	1	1	1	1	0

FACILITY TABLE FOR 2BHK FLAT (ASPIRATIONAL)

S.No	Name of location	Light Point	Light Point	Light Point	Light Point	6A Power	6A Power	6A Power	16A Power	16A Power	16A Power	16A Power	16A Power	AC							
		Light Point	Wall Bracket light	Ceiling	Exhaust	General	Hob	Water Purify	General	Fridge	Geyser	MICROWAVE/ OVEN	WASHING MACHINE	A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	60	60	60	100	100	100	500	600	2000	2000	1000	1500	0	0	0	0	0	0	0
1	Living room/Dinning	3	2	2	0	6	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0
2	Desk	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
3	Passage	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4	Puja	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Bed room-1	2	1	1	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
6	Kitchen	2	0	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0
7	Utility	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8	Common Toilet	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
9	Master Bed	2	2	1	0	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
10	Master Toilet	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Total number of fixtures	16	7	5	3	18	1	1	0	1	2	1	1	3	1	3	1	1	1	1	0

FACILITY TABLE FOR 2.5BHK FLAT (ASPIRATIONAL)

S.No.	Name of location	Light Point		Light Point		6A Power			16A Power					AC							
		Light Point	Wall Bracket light	Ceiling	Exhaust	General	Hob	Water Purify	General	Fridge	Geyser	MICROWAVE/ OVEN	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	60	60	60	100	100	100	500	600	2000	2000	1000	1500	0	0	0	0	0	0	0
1	Living room/Dinning	3	2	2	0	6	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0
2	Desk	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Passage	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4	Puja	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Study	1	1	1	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
6	Bed room-1	2	1	1	0	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
7	Bed room-1 Toilet	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8	Kitchen	2	0	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0
9	Utility	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
10	Common Toilet	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11	Master Bed	2	2	1	0	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
12	Master Toilet	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Total number of fixtures	18	9	6	4	21	1	1	0	1	3	1	1	4	1	3	1	1	1	1	0

FACILITY TABLE FOR 3BHK FLAT (ASPIRATIONAL)

S.No.	Name of location	Light Point		Light Point		6A Power			16A Power					AC							
		Light Point	Wall Bracket light	Ceiling	Exhaust	General	Hob	Water Purify	General	Fridge	Geyser	MICROWAVE/ OVEN	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	60	60	60	100	100	100	500	600	2000	2000	1000	1500	0	0	0	0	0	0	0
1	Living room/Dinning	3	2	2	0	6	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0
2	Desk	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Passage	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4	Puja	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Bed room-1	2	1	1	0	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
6	Kitchen	2	0	1	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0
7	Utility	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8	Common Toilet	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
9	Bed room-2	2	1	1	0	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
10	Bed room-2 Toilet	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
11	Master Bed	2	2	1	0	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
12	Master Toilet	1	1	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Total number of fixtures	19	9	6	4	23	1	1	0	1	3	1	1	4	1	4	1	1	1	1	0

(c) Casa Development

FACILITY TABLE FOR 1BHK FLAT (CASA)																			
S.No.	Name of location	Light Point		Fan Point		6A PP		16A PP											
		Light Point	Wall Bracket light	Ceiling	Exhaust	General	Water Purify	Fridge	Geyser	MICROWAVE/ OVEN	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
		Light Point	Wall Bracket light	Ceiling	Exhaust	General	Water Purify	Fridge	Geyser	MICROWAVE/ OVEN	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	60	60	60	100	100	400	3000	2000	600	1500	0	0	0	0	0	0	0
1	Living room/Dinning	3	1	2	0	6	0	0	0	0	0	1	1	1	1	1	0	0	0
2	Passage	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
3	Puja	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Kitchen	1	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0
5	Utility	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
6	Common Toilet	1	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
7	Master Bed	1	1	1	0	4	0	0	0	0	0	1	0	1	0	0	0	0	0
	Total number of fixtures	9	3	4	2	13	1	1	1	1	1	2	1	2	1	1	0	1	0

FACILITY TABLE FOR 1.5BHK FLAT (CASA)

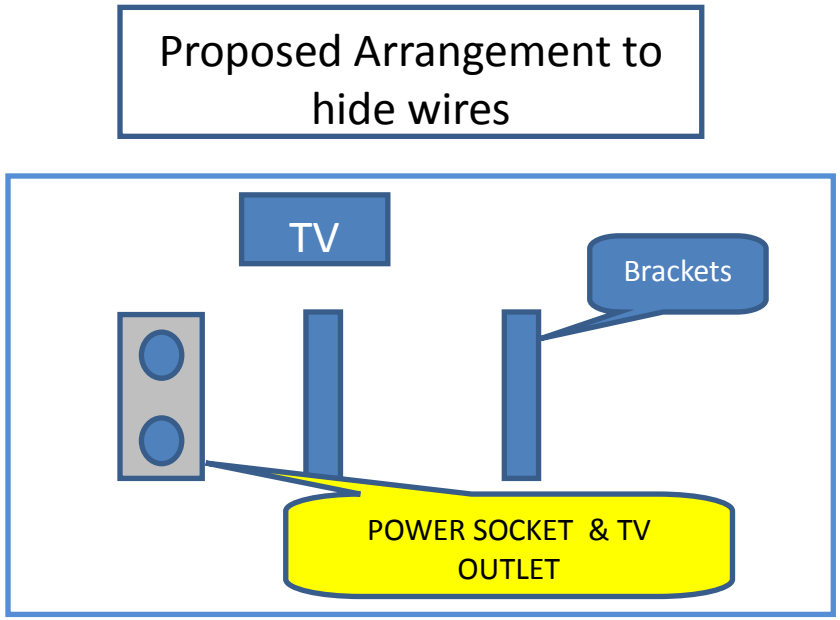
S.No.	Name of location	Light Point		Fan Point		6A PP		16A PP											
		Light Point	Wall Bracket light	Ceiling	Exhaust	General	Water Purify	Fridge	Geyser	MICROWAVE/ OVEN	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	60	60	60	100	100	400	3000	2000	600	1500	0	0	0	0	0	0	0
1	Living room/Dinning	3	1	2	0	6	0	0	0	0	0	1	1	1	1	1	0	0	0
2	Passage	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
3	Puja	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Study	1	0	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0
5	Kitchen	1	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0
6	Utility	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7	Common Toilet	1	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
8	Master Bed	1	1	1	0	4	0	0	0	0	0	1	0	1	0	0	0	0	0
9	Master Toilet	1	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
10	Deck	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total number of fixtures	12	4	5	3	16	1	1	2	1	1	3	1	2	1	1	0	1	0

FACILITY TABLE FOR 2BHK FLAT (CASA)																			
S.No.	Name of location	Light Point		Fan Point		6A PP		16A PP											
		Light Point	Wall Bracket light	Ceiling	Exhaust	General	Water Purify	Fridge	Geyser	MICROWAVE/ OVEN	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	60	60	60	100	100	400	3000	2000	600	1500	0	0	0	0	0	0	0
1	Living room/Dinning	2	2	2	0	6	0	0	0	0	0	1	1	1	1	1	1	0	0
2	Deck	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Passage	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4	Puja	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Bed Room 1	1	1	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0
6	Kitchen	2	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0
7	Utility	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8	Common Toilet	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
9	Master Bed	2	1	1	0	4	0	0	0	0	0	1	0	1	0	0	0	0	0
10	Master Toilet	1	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Total number of fixtures	14	5	5	3	16	1	1	2	1	1	3	1	2	1	1	1	1	0

FACILITY TABLE FOR 2.5BHK FLAT (CASA)

S.No	Name of location	Light Point		Fan Point		6A PP		16A PP											
		Light Point	Wall Bracket light	Ceiling	Exhaust	General	Water Purify	Fridge	Geyser	MICROWAVE/ OVEN	WASHING MACHINE	20A point A.C. (1500W/TR)	Tel	TV	Intercom	Data	VDP	Bell	Motion Sensor
	Typical Wattage	60	60	60	60	100	100	400	3000	2000	600	1500	0	0	0	0	0	0	0
1	Living room/Dinning	2	2	2	0	6	0	0	0	0	0	1	1	1	1	1	1	0	0
2	Deck	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Passage	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4	Puja	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Study	1	0	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0
6	Bed Room 1	2	1	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0
7	Kitchen	2	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0
8	Utility	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
9	Common Toilet	1	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
10	Master Bed	2	1	1	0	4	0	0	0	0	0	1	0	1	0	0	0	0	0
11	Master Toilet	1	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Total number of fixtures	16	6	6	3	18	1	1	2	1	1	4	1	2	1	1	1	1	0

Annexure A


Proposed Arrangement to hide wires
TV
Brackets
POWER SOCKET & TV OUTLET

Natural Stone Usage

Natural Stones: Any material which is quarried from a natural stone including marble, granite, kotah etc.

Objectives:

a. To ensure high degree of aesthetic elegance.
b. To minimize wastage of material.
c. To minimize processing at site.
d. To ensure ease of handling at site.

Guidelines:

1. Prescribed size of natural stones cannot exceed 8 sq. ft. per piece. Of this at least one dimension should be 2 ft (600 mm) or lesser and another dimension should be 900 mm or more. Rectangular pieces are preferable over square pieces.
2. In the specified dimensions, flooring design should be issued such that variation of upto 10% in each dimension, rounded to nearest 25 mm can be accommodated eg. For 600 x 900, we can have variability of 550 to 650 in the width and 800 to 1000 mm in the length.
3. Similarly, skirting should also be brought with pre-cut height OR alternatively, natural stone skirting can be avoided by using aluminium (or other equivalent) non natural stone skirting.
4. Pre-polishing may be considered if feasible, else polishing may be done after installation at site.

This policy shall apply to all buildings (not projects) where flooring works have not commenced as on 30.6.2011.

Common Areas – Category Definitions

Key Common Areas:

1. Sample Flat & Sales / Corporate Office (including any adjacent outdoor/landscape areas)
2. Main entrance lobby of building/wing (except in Casa projects)
3. Club house (& other amenities of such nature eg. temple, business centre, restaurant) (including any adjacent outdoor areas)
4. Any other vital public area (eg. Theatre at Geeta)
5. Ornamental Staircase (eg. From L1 to L2 at Lodha Excelus, Apollo Mills)

Occupier-oriented Non-Key Common Areas:

1. Level / area where drop-off to main entrance lobby occurs
2. Landscape areas other than those covered under 'Key Common Areas'
3. Occupier Lift lobby on each floor
4. Passage from Occupier Lift Lobby to units on each floor
5. Common Toilet in/near entrance lobby (primarily meant for passenger use – needed only in non-residential buildings)
6. Society-cum-FM office
7. Mail room/Mail box

Back-of-house Common Areas (areas where occupiers/their guests are unlikely to come frequently):

1. Common Staircases (including landing) (excluding any ornamental staircase)
2. Refuge Area
3. Service Lift lobby and adjacent passage thereto
4. All parking areas (eg. podium, stilt, basement etc.) (this does not include the level / area where drop-off to main entrance lobby occurs)
5. Parking lift lobby and adjacent passage thereto
6. Service floor / area / room
7. Driver's room
8. Security-cum-BMS room (only where there is a BMS or Security system requiring monitoring and security system is not small enough to be incorporated into Security cabin)
9. Staff changing room
10. Common Toilet (primarily meant for service use)
11. Any other areas forming part of the service core

The above is the list indicating the types of areas which fall in each category and if any areas are not specifically covered above, the Design team will have to make a call into which of the aforesaid 3 categories do they fall into.

a. Key Common Areas + Occupier Lift lobby on each floor + Passage from Occupier Lift Lobby to units on each floor shall be designed by the Interior Design team and executed by the CM-Finishing team (For Key Common Areas in Casa Projects, Interior Design team shall be involved for areas where the interior design has not been significantly completed as on 30.8.12).
b. Occupier-oriented Non-Key common areas (excluding Occupier Lift lobby on each floor + Passage from Occupier Lift Lobby) and Back-of-house common areas shall be designed by the Project Design group and executed by the CM team.
c. For the back-of-house common areas, it is important to ensure functionality but design and finish them with a utilitarian perspective, rather than a 'wow'/ aesthetic perspective. The Policies and design specification should reflect this thought.

Finishing of back-of-house Common Areas:

Flooring

Preferred materials:

1. Wastage natural /agglomerated stone (basic polish, not mirror polished after installation). Characteristics: High strength, low cost, limited quantity
2. Tremix (for large parking areas): Moderate strength, moderate cost, low labour intensity, quick timing for execution
3. Cement tiles. Characteristics: High strength, moderate cost, easy staining, attracts dust
4. 2nd class Ceramic tiles / semi-vitrified tiles. Characteristics: Moderate strength, moderate cost

Pre-cast cement tread (for staircases only): High strength, higher cost

Back-of-house area	1st preference	2nd preference
Common Staircases (including landing) (excluding any ornamental staircase)	Raw with factory made pre-cast staircases.	Refer Policy for Staircase finishes. Policy no 38
Refuge Area	2nd class Ceramic tiles / semi vitrified tiles	Wastage stone
Service Lift lobby and adjacent passage thereto	2nd class Ceramic tiles / semi vitrified tiles	Wastage stone
Covered parking areas (eg. podium, stilt, basement etc.) (this does not include the level / area where drop-off to main entrance lobby occurs)	Wastage stone (if available); else if total parking area in project < 50,000 sq. ft.: Cement Tiles; if total parking area in project > 50,000 sq. ft.: Floater finish (with appropriate slope)	NA
Open Parking Areas	Tremix (on polythene (750/1000 gauge) laid on subbase/WMM of 150 mm ; thickness to be higher in case of poor ground conditions)	Paver blocks on sand layer over 100 mm PCC bed (with subbase/WMM of 150 mm compacted thickness or 230 mm soling; thickness to be higher in case of poor ground conditions); break pavers with pre-cast beam after every ~15 m.
Parking lift lobby and adjacent passage thereto	2nd class Ceramic tiles / semi vitrified tiles	Wastage stone

services/MEP rooms (with equipment) (DG/DSS/Pump room etc)	Polished Kota	_____
Driver's room	Wastage Stone	2nd class Ceramic tiles / semi vitrified tiles
Security-cum-BMS room	Wastage Stone	2nd class Ceramic tiles / semi vitrified tiles
Staff changing room	Wastage Stone	2nd class Ceramic tiles / semi vitrified tiles
Common Toilet (primarily meant for service use)	Wastage Stone	2nd class Ceramic tiles / semi vitrified tiles
Any other areas forming part of the service core	Any of the 4 preferred materials above based on material characteristics being suited to the use of the said area.	

Design can give both preferences and decision on actual usage can be made on site level, based on availability/site conditions. In cases where there is a choice between Wastage Stone and 2nd class Ceramic tiles / semi vitrified tiles, Project Managers should plan for usage of full extent of wastage stone available and order 2nd class Ceramic tiles / semi vitrified tiles only for the balance areas.
All services/MEP rooms where equipment are placed, polished kota to be used for flooring.
IPS/vitrified/2nd class ceramic tiles should not be used.

MEP

Lighting

To be designed by Lodha MEP+OEMS Design team, based on functionality desired. Only local light fittings to be used (or any imported option which is lower cost). Consider following options for minimization of electricity operational costs in large back of house common areas eg. parking basement/podium, rather than having lights on at all times:

- Provide DB with timer control for controlling the lights instead of Motion sensors and control can be done % wise as per timings. i.e 6 p. m to 9 pm – 100 % lighting, 9 pm to 11 pm – 70%, 11 pm to 6 am – 20 %, 7 am to 6 pm – 0% lighting etc. Settings shall be altered / decided as specific to the project needs in consultation with FM at time of project takeover.
- Provide motion sensors for ~70% of lights

Back-of-house area	Light Fixture Details	Image	Remarks
Common Staircases (including landing) (excluding any ornamental staircase), Refuge Area, Staff changing room, Covered parking areas (eg. podium, stilt, basement etc.) (this does not include the level / area where drop-off to main entrance lobby occurs), Service floor / area / room (e.g, Substation, UGT pump room, LMR, etc), Security-cum-BMS room, Driver's room	LED Batten 20W – CCT 3000K (warm white), Output 1800lumen, Length 4 Ft. Brand – Panasonic, Philips, Wipro		Price Range is Rs.250-350/no
Service Lift lobby and adjacent passage thereto AND Common Toilet (primarily meant for service use)	LED Recessed Down Light – CCT 3000K (warm white), Brand – Panasonic, Philips LED Surface Mounted Down light - CCT 3000K (warm white), Brand – Panasonic, LED Recessed Panel light - CCT 3000K (warm white), Brand – Panasonic,	   	Available Wattages to be selected as per design intend (10W,12W, 12.5 W, 15W, 18W). Price Range is Rs.450-750/no (differing based on Wattage) Available Wattages to be selected as per design intend (10W, 20W). Price Range is Rs.800-1200/no Available Wattages to be selected as per design intend (10W,12W, 15W,

	Philips, Wipro		18W). Price Range is Rs.400-600/no
Terrace @ Door	LED Bulk head IP 65 rated, 6.5W, CCT 4000K, cool white		It is replacement of 60W conventional bulk head Price is Rs.900/no
IP 65 rated surface mounted fixture for STP, WTP etc.	2X28 W conventional tube light encased in IP 65 cover, with Acrylic cover with Ballast		SIZE 100 X 90 X 1215 MM, Make – Philips Price Rs. 2200/no

Location and housing of Common Area Electrical Panels

Electrical panels for common areas must be ideally placed in locations that are not easily visible or accessible to general public. Wherever they are placed in podiums/parking area with easy access, they must be covered with a lockable access shutter so as to prevent any mischievous or inadvertent disruption.

Drainage channels

Gratings used in all Storm-water drainage channels in visible common areas i.e. Basements/Ramps/Podiums to be of FRP type instead of MS/Precast Concrete gratings so long as the cost remains favorable as compared to MS Grating (including enamel painting)

Rainwater:

For parking areas: Rain Water down take to be planned only in parking bays along the periphery. Internal Rain water down take pipes to be minimized for large footprints.

Signage

Design should be aesthetically pleasant and consistent with that of the rest of the building. However, paint would be preferred application medium and special plates / fabricated signage should be avoided to the extent feasible.

C.P. Fittings / Sanitary ware

Non-branded (local or lower-cost imported makes) with decent functionality. In the common toilet / servants toilet, mixer should be avoided and two separate taps can be provided (hot and cold) since geyser is being provided.

Internal Paint

Walls - Use Flat enamel paint or Oil Bound Distemper (OBD). In case of covered parking area or other back of house common areas which are not occupied full-time, paint (bright colours) can be limited to height of 1.2 m below slab level in a colour like red/black to define the upper edge.
Ceiling - For those areas that are continuously occupied. eg. Driver's rooms, putty ceiling is sufficient. For areas that are not occupied permanently eg. Parking areas, use whitewash on ceilings, post` remedial works (if required) by civil contractor
Service Lobby, if separated from passenger lift lobby, to be treated as Back of House Areas and finished accordingly.
For Staircase Internal Paint finishes refer Policy No 38, Staircase Policy

Toilets (for use by service staff / FM staff / Drivers etc.)

Such toilets will be based on requirements as per 'Key Conveniences in Parking & Other Common Areas'. See indicative finishing guidelines stated in 'Servant's toilet (common)' policy. It should be ensured that these toilets are well lit, well ventilated and decently finished with assumption of heavy long term use.

Internal Paint Specification

Following norms are to be followed wrt specification of internal paint typology to ensure an appropriate standard of finish and perception of good quality work by the consumer.

Project Type	**Inside Unit**	**Key Common Areas**	**Occupier-oriented Non-Key Common Areas**	**Back-of-house Common Areas***
Luxury	Plastic (with Plastic in ceilings)	Lustre (with option of Plastic in ceilings#)	Lustre / Plastic (with option of OBD in ceilings)	Flat Enamel / OBD
Hi-end	Plastic (with Plastic in ceilings)	Lustre (with option of Plastic in ceilings#)	Lustre / Plastic (with option of OBD in ceilings)	Flat Enamel / OBD
Aspirational	Plastic	Plastic (with option of Plastic in ceilings#)	Plastic (with OBD in the ceiling)	Flat Enamel / OBD
Casa	Plastic (with OBD in the ceiling)	Plastic (with OBD in the ceiling#)	Plastic (with OBD in the ceiling)	Flat Enamel / OBD
Excelus	NA	Lustre	Lustre / Plastic	Flat Enamel / OBD
Supremus	NA	Lustre	Lustre / Plastic	Flat Enamel / OBD
iThink	NA	Lustre	Plastic	Flat Enamel / OBD
Experia	NA	Lustre	Lustre / Plastic	Flat Enamel / OBD
Boulevard	NA	Lustre	Plastic	Flat Enamel / OBD

Aforesaid are the minimum standards and any better/equivalent quality paint specification can be chosen with approval of HOD-Design.

It has been observed that in several projects (more in conventional, less in aluminium formwork) the ceilings have a lot of undulations and the junction of the wall and ceiling looks especially bad. To improve the finishing of this junction, gypsum punning 8-10 mm think (reduced to zero) is recommended for a band of 300 mm along each wall. This should be included as a rate item in the gypsum vendor's scope at the time of order so that we don't have to negotiate prices later.

* on walls only, ceilings can be finished with putty (no paint) or bare concrete – kindly refer Finishing of Back of House Common Areas policy.
* For Staircase Finishes refer Policy No Arch 38.

Floor & Unit Numbering Policy

For residences and offices

Floor numbering

1. The main entrance lobby/drop off level should be numbered P0 and then:
    a. If there are any levels below P0, they will be numbered in ascending order as 'Bxx' viz. one level below P0 will be B1 and three levels below P0 will be B3.
    b. If there are any levels above P0 and below the 1st habitable floor, they will be numbered in ascending order as 'Pxx' viz. one level above P0 will be P1 and three levels above P0 will be P3 (upto the 1st habitable floor).
2. The first habitable floor should be numbered as the next number following the last Podium floor number. Eg: if the last Podium floor number is P6 then the habitable floor just above the same would be floor 7. This will ensure the approval floor numbering and Civil floor numbering up to first habitable floor is consistent.
3. Any level which has FTF height <=2.4 m (this primarily applies in case of service floors) and consequently elevators will not stop at the level, shall not be counted as a 'floor' for purposes of floor numbering. The number of the half floor if any will be done as the lower floor number with a Suffix A or B. eg: the habitable floor below the service floor is floor 17 then the service floor will be named as 17A and the next habitable floor above it will be 18. The number with suffix is acceptable in approval submittals. However, if there are two consecutive floors which have FTF height less than 2.4 m and elevator is stopping at one of these levels, then the level at which the elevator is stopping shall be counted as a 'floor' for the purposes of floor numbering and the other level shall not be counted as a 'floor' for the purposes of floor numbering.
4. No floor is to be numbered '13'. The floor immediately after 12 shall be numbered as 14. **If feasible, same should also be incorporated into the approval drawing and if not, this will be the only difference between sale list and approvals.**
5. In case there is difference between approval drawing and sales flooring numbering, a certificate will need to be taken from approval architect will be made available to CC within 30 days of approval of plans – format as per **Annexure A.**
6. VFC floor numbering (Architectural/Structure etc.) and Sale floor numbering should be the same. Project's design architect and internal Lodha architect will be responsible for ensuring this.

   This applies to all buildings, other than Casa residential, where sales have not commenced as on 1.3.15.

For Retail

1. If all visitor entry (excluding service entry) is at a single level, the said level will be numbered as 'G'.

2. If there is visitor entry at two levels, the said levels shall be numbered as LG (lower drop-off level) and UG (upper drop-off level).
3. All habitable levels above G / UG shall be numbered sequentially in ascending order as 1, 2,3 etc, upto the terrace level.
4. If there are any non- habitable levels directly above G / UG and below any other habitable level, they will be numbered in ascending order as 'Pxx' viz. first non-habitable level directly above G/UG will be P1 and three levels above G/LG will be P3.
5. If there are any levels below G/LG, they will be numbered in ascending order as 'Bxx' viz. one level below P0 will be B1 and three levels below P0 will be B3.

Unit Numbering:

1. Units to be numbered Clockwise after stepping out of the staircase (leftmost staircase, if 2 or more staircases on a floor) on lobby level.
2. Skip unit no. 13 on any floor i.e. after unit 12 there will be unit 14.

Annexure A



Letter to be taken from liaison architect

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Retail Design Guidelines

a. In a mall, use of all stores is to be considered as regular retail, unless specifically earmarked for other purpose like F&B, multiplex, entertainment. Such earmarking is to be finalized by Commercial leasing team at time of closure of concept design of the mall. Units can be provisioned for multiple uses eg. retail / F&B and in such case, the higher of the two requirements are to be provided – this is an added expense and hence, no. of such multi-use possibility units is to be minimized.
b. All high-street retail units (i.e. with direct street frontage and access) are to be designed to serve as retail as well as F&B unit. Any exception will require prior approval from Commercial leasing team.
c. Min. frontage: Shop fronts to be designed as minimum 6 mtrs. (can be smaller if unit size if <= 600 sft).
d. Unit frontage to depth ratio should ideally be 1:2.5 and max. 1:3 for unit with carpet area upto 3000 sft. Thereafter, depth can be greater.
e. Having outdoor seating area (~3-6 m wide) outside high street retail locations which are F&B oriented is significantly value adding. Of this, ~1.5-1.8 m can be for pedestrian flow and balance for tables – keeping such minimum space for pedestrian flow to be specified in the sale/lease/usage arrangement with the unit occupier.
f. Ideal unit size:
    a. F&B: 900-1000 sft carpet, combinable into larger units.
    b. Non-F&B: ranges from 300 sft carpet onwards and upto 1800 sft carpet, combinable into larger units.
g. Shop front, demise wall façade, signage and canopy
    a. Demise wall will be done by us and typically made of granite or any other material.
    b. Shop front will be done by occupier (both in sale and lease model) retaining the demise wall façade as it is. Exceptions can be allowed if occupier buys or leases multiple shops, with due approval from design architect.
    c. Signage as per '*Retail Signage (and frontage) Guidelines*'.
    d. In case a canopy is provided by us, the occupier needs to retain the canopy as is. In projects where we are not providing canopy and the occupier wants to do one, we shall share guidelines for the same and the design will be subject to the guidelines and to be approved by us. In this case, the cost for canopy will be borne by the occupier.
h. Rolling shutter – Rolling shutter will be provided in high street retail units. The shutter will be located right outside the lease line and the shutter box will be covered in branding signage/ design element.
i. Upper occupied floor drainage / waste water pipes are not to be designed / allowed to be taken through the retail unit.
j. All the external block work walls of retail unit need to be plastered externally with water proofing process.
k. All openings / shafts provisioned to cater tenant MEP requirement, needs to be water tight.
l. Some retail units are double height with a provision of mezzanine floors, the extent of the mezzanine shall be frozen to allow for accurate occupancy estimation. The occupancy shall be estimated as per the seat count which shall be shared by the architects

m. Services and related requirements:

	F&B outlets	**Non-F&B outlets**
Gas connection (piped gas / gas bank)	Needs to be provisioned. In case of piped gas from MGL, space to house MGL gas meters is required, ideally near to the retail unit. In case MGL piping is envisaged in the future, the route of the gas pipe from the corridor upto the shop's kitchen shall be coordinated in advance. In case of LPG gas bank for an F&B unit having 900 sqft, should have open to sky space to house atleast 8 cylinders.(4 active + 4 standby). The cylinders space shall increase proportionally as the restaurant carpet area increases beyond 900 sqft. In both cases, The piping of the gas lines needs to be terminated till the F&B kitchen area.	No
Exhaust and fresh air provision in kitchen	Terrace / open to air Space *(carpet area required - 25 sft per fan)* for Exhaust and fresh air fans unit needs to be provisioned. An access with ladder and staircase to safely service the fans unit is must. For calculating the size of ducts, The capacity of fans to be calculated as 3 cfm per sq. ft. of **outlet carpet** area. *e.g. - if the F&B outlet carpet area is 900 sqft, then the fresh air and exhaust air fan capacity is to be considered as 2700 cfm each.* Respective Structural / civil wall cut-outs to be planned in architectural and structural drawings for installing the duct from F&B unit till terrace / open area. The distance between fan ODU and tenant F&B kitchen to be kept ideally at max. 10m. The exhaust and fresh air fans will be installed by occupier on designated spaces mentioned in the architectural and MEP drawings. Project specific termination zones for the fresh air and exhaust, (allocation by Lodha; works by the tenant), shall be pre-coordinated and shared with	No

	the tenant through the tenant's guidelines. No common fresh air and exhaust shall be done by Lodha, it shall always be routed directly from the retail unit to the facade / slab cut-out by the tenant. Makeup/Fresh Air shall be taken at ambient temperature (treated fresh air is not applicable).	
HVAC	Needs to be provisioned (; to be installed by retailer in case of non-mall), space needs to be earmarked for keeping ODU units on terrace or open space. Shafts / cut-outs with Sleeves to be provided to take the copper pipes and cables from Indoor unit to outdoor unit. Maximum distance between split AC units (Indoor and outdoor) should ideally not exceed 15 meters. The same is applicable to chiller / freezer unit of Super markets. An access with ladder or staircase to safely service the ODU unit is must. The ac equipment (AHU, IDU, ODU, Scrubber, etc.) shall not be provided by Lodha. d. In case of central chiller the BTU meter shall be provided by Lodha. The access to the BTU meter shall be from the common area.	Similar Provisions needed as mentioned for F&B unit.
Potable water inlet tap-off	a. Separate water supplies shall be provided for potable (and flushing if there is provision for in store toilets) of min 25 mm dia inlet at the rear / back wall of store. b. Water supplies to each retail outlet shall be terminated at a valve, and shall be metered through a mechanical water meter . Sharing of residential society UGTs is not recommended. UGTs for high street retail can be avoided when sufficient pressure is available in the main ring to feed the individual OHTs.	Yes (for units >= 900 sft carpet area)
Drainage tap-off for kitchen / wet areas	Ideally Sunken slab to be provided for kitchen. 150 mm dia outlet	Yes (for units >= 900 sft

	a. Toilet and kitchen areas shall be adequately earmarked and preferably sunken, so the tenant can undertake the drainage piping within their premises, while we can provide only a connection point. Where sunks cannot be allowed, adequate raise (and weight) shall be provisioned in the structure and the same shall be covered in the tenant's guidelines. b. Grease traps shall be provided by the F&B, restaurant shop owner inside the premises (under the sinks) (shall be covered in standard tenant guidelines).  c. Additionally there shall also be a common grease trap provided by Lodha for each independent cluster of retails.	carpet area)
Toilet provision	Ideally Sunken slab to be provided for toilets . Needed minimum 100 mm dia soil & waste water pipe tap-off	Yes (for units >= 900 sft carpet area)
Service access	Needed from rear side of all F&B stores with area of >= 900 sft carpet with min. clear width of 1.2 m (preferably 1.5 m) from service vehicle drop-off to the service entrance of the F&B unit (all units to be considered to be F&B units unless otherwise confirmed with Commercial BU – level 1 or higher); appropriate arrangement for dry and wet garbage storage till disposal shall be required. If the service corridor is planned to take the plumbing pipes of F&B units from below it, slab	To be provided to super market / departmental stores >= 2000 sqft.

	level to be adjusted such that level above the pipes allows easy ingress/egress into the units.	
Outdoor seating and chairs with table having umbrella	Good to have if possible. (see n. below) In outdoor plaza area, appropriate electrical points to be provided to enable occupiers to plug in things like heaters/lighting.	No
Storage area (about 5% of the main unit area subject to min. 150 sft)	Good to have if possible, need not be co-located with the unit	No
Clearly visible signage space on shop front	Needed –	Needed
Electrical load (Refer table below)	Needed. Provisions / sizing of cable and panel / meter, accessories to be made by Considering load as tabulated below for retail usage. The DB / isolator inside the premises needs to be installed on the back wall of the retail unit	Similar Provisions needed as mentioned for as F&B unit.
DG backup	Needed 100%. For Mall and shops in Commercial buildings. DG meters & panels to be provisioned for separate billing to tenants. For highstreet retail shops 100% backup is not needed	Similar Provisions needed as mentioned for F&B unit.

n. Plan for 2.4-3 m depth (x by shop width) of dedicated space outside all ground floor shops for removable external seating (or similar removable items for revenue generating activities), s**ubject to this depth being no more than 50% of the footpath/open space outside the unit**. If depth possible is <1.5 m, dedicated outside space should not be planned for such units. Commercial note: Charging can be @ rev share if on rent (with some MG). If on sale, we can take as per Exclusive right to use valuation (33%-50%), with document being as per ERT (rental @ Rs. 1 per annum / similar).

Other provisions:
Power - Single point connection (isolator) shall be provided inside the shop.
Refer policy MEP-07 for lighting and equipment power densities provisioned in a retail space.
Telephone, Data, TV - Containment shall be provided such that the service provider can directly access the retailers premises and provide connectivity.
Fire Fighting and Fire Alarm Provisions – Refer policy MEP 05

Kitchen Setup & Interiors

Kitchens can be classified into 3 types:

a. Pantry Kitchen – Primarily to serve light snacks and drinks.
b. Cafe Kitchen – To serve pre-cooked/lightly cooked food (all meals but limited menu) and drinks.
c. Full-service Kitchen – To cook food from basic raw ingredients with all meals / full menu.

	Sales office Kitchen	**Pantry Kitchen**	**Cafe Kitchen**	**Full-service Kitchen**
Likely Usage	• All sales offices	• Clubhouse of small & medium projects	• Clubhouse of large and very large projects • Banquet facility with capacity of 150+ shall have attached café kitchen (no additional store) to allow 3rd party catering	• Full-service restaurant (standalone or in a clubhouse) with seating for min. 100 pax.
Suggested Size (cannot be more than 10% smaller than this)	• Area: 60-80 sq. ft. • Width: ~8 feet	• Area: 200 sq. feet • Width ~10 feet • To be completed along with rest of facility	• Area: 250 sq. feet (excluding any separate store area) • Width ~10 feet • To be completed along with rest of facility (except for equipment which shall follow note below)	• Area: 600-900 sq. ft. (excluding any separate store area). • Space is to be left bare shell (except for the mandatory equipment below) and finished as per operator design once operator is appointed.
Equipment List	1. 2 stove hob 2. Full-size Refrigerat	Mandatory: 1. Microwave 2. Hot plate 3. Juicer / blender	Mandatory (for club's main kitchen and banquet kitchen): 1. Large Double Sink /	Mandatory: 1. Gas bank 2. Pot wash / Dish wash area

	or Domestic two door refrigerator 275 lit 3. Sink / washing area 4. Garbage disposal 5. Exhaust fan with appropriate ventilation 6. Water purification machine (aquaguard type based on direct water supply, assuming there will be a potable water connection; if unlikely to be available, mineral water (50 ltr) dispensing machine) 7. Some storage shelves	4. Full-size Refrigerator- 2 door commercial fridge- 2 nos 5. Sink / washing area 6. Garbage disposal 7. Exhaust fan with appropriate ventilation 8. Water purification machine (aquaguard type based on direct water supply, assuming there will be a potable water connection; if unlikely to be available, mineral water (50 ltr) dispensing machine) 9. Pop-up Toaster / & Sandwich Griller 10. Storage shelves 11. Salamander 12. Small table top oven	washing area 2. Garbage disposal 3. Exhaust system (fan / chimney) To be discussed with operator and then finalized (only for club's main kitchen, not for banquet kitchen): 4. Microwave 5. Hot plate / electric hob- Commercial inductions-4 nos 6. Juicer / blender / Grinder 7. Full-size Refrigerator - 2 door commercial fridge- 3 nos 8. 9. Deep Freezer, Commercial Oven 10. Water purification machine (aquaguard type based on direct water supply, assuming there will be a potable water connection; if unlikely to be available, mineral water (50 ltr)	3. Exhaust system (fan / chimney) 4. Garbage disposal To be discussed with operator and then finalized: 5. Hob / Stoves 6. Juicer / blender / Grinder 7. Full-size Refrigerator - 2 door commercial fridge- 3 nos 8. Freezer 9. Microwave 10. Oven / & Tandoor 11. Bain Marie 12. Water purification machine (aquaguard type based on direct water supply, assuming there will be a potable water connection; if unlikely to be available, mineral water (50 ltr) dispensing machine) 13. Electric Tandoor 14. Pop-up Toaster / Sandwich

			dispensing machine) 11. Pop-up Toaster / Sandwich Griller 12. Salamander note: for banquet kitchen, only platform and washing/sink to be provided.	Griller 15. Others as may be decided with operator 16. Walk-in refrigerator 17. Deep freezer 18. Deep fat fryer
Estimated staff working inside	1-2	2	3-4	4+ 8+
Reference Sample			Sales Office @ Lodha Place, Upper Worli Amara Clubhouse Lodha Place Sales office 2010	Clubhouse @ Lodha Goldcrest, Lonavala Lodha Park Club house Goldcrest Club Kitchen 2011

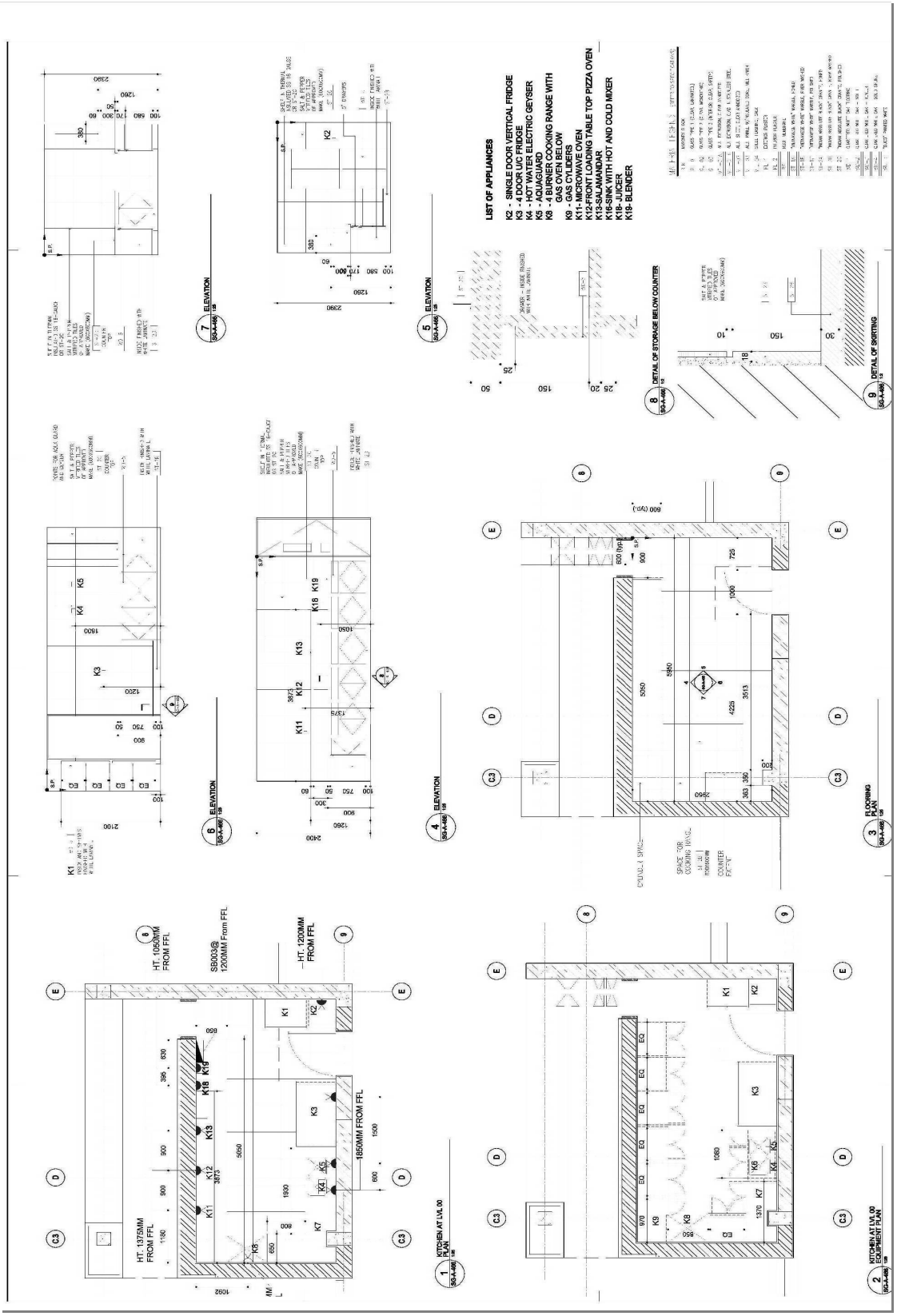
All kitchens should have:

a. Ample storage (preferably with an attached store room for Cafe Kitchens and Full-service Kitchen).
b. Space/provision for staff to sit down when they are not working.
c. Sufficient (if in doubt, extra) sockets/plug points and electrical load.
d. Ample white light / Well-lit. Lux level- 500
e. Nearby location for staff to change.
f. Nearby toilet for staff use.
g. Wet area (sink/washing) located as far away as feasible from gas/hot plate and other electrical equipment.
h. Maximum counter length.

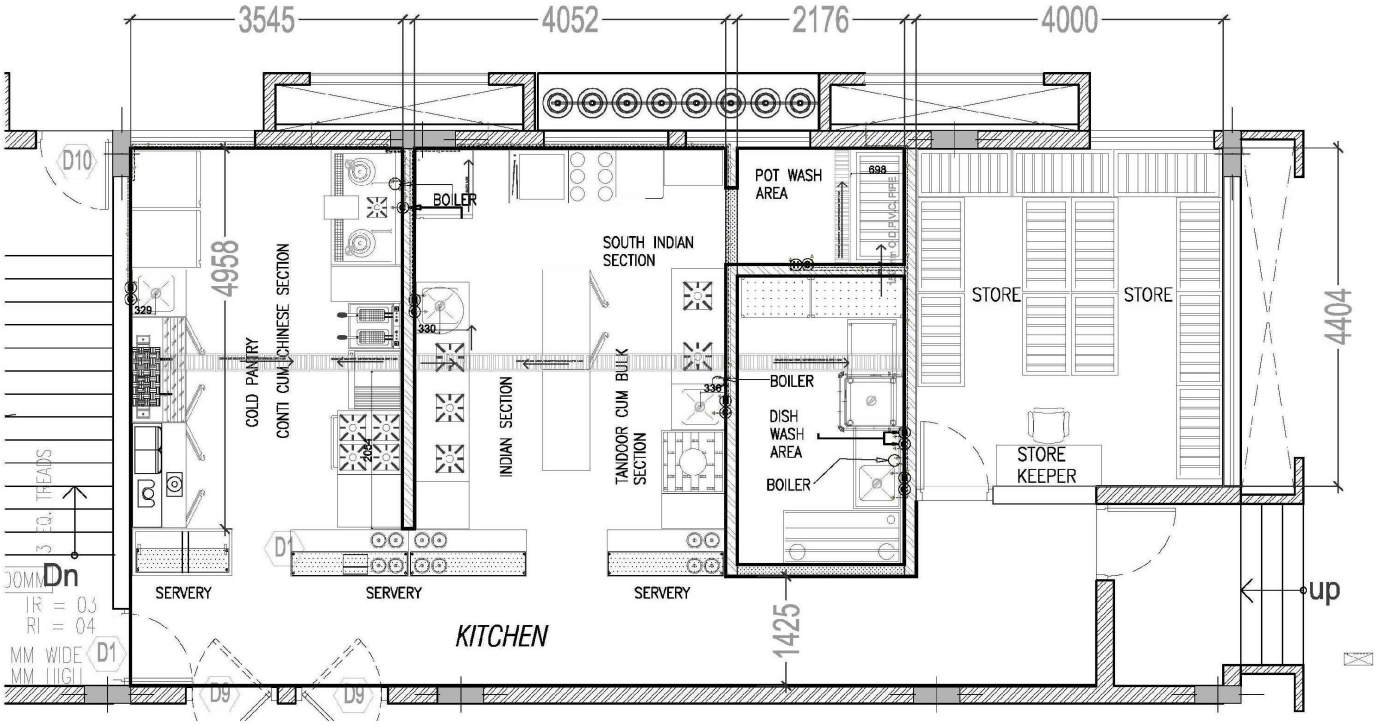
Notes:

1. Operator to be determined at least 45 days before opening for Pantry Kitchen and Cafe Kitchen and min. 3 months before opening for Full-service kitchen. This operator can be St. Amand or 3rd party.
2. In case of kitchen for banquet hall, we will only provide appliances 1,2 and 3 under 'Café Kitchen' and platform. Rest of the cooking equipment shall be brought by the caterer. If St Amand is catering, they will use the main club of the kitchen for most of the cooking.
3. Equipment to be provided by Lodha v. Equipment to be brought by vendor will be determined during commercial negotiation. As far as possible, Lodha to ensure that maximum equipment is brought by the operator (leading to better long-term maintenance). **No equipment to be purchased ordered by design/CM, except what is required to be 'built in' i.e. installed in permanently fixed location. Any equipment in Lodha scope to be ordered by Hospitality / Admin in consultation with operator; such equipment shall be paid out of Construction budget if ordered prior to or within 3 months of operationalization of the relevant KCA.**
4. Equipment capacity and make to be determined in discussion with the operator, based on menu and likely quantum of customers served.

Annexure-1


LIST OF APPLIANCES
K2 - SINGLE DOOR VERTICAL FRIDGE
K3 - 4 DOOR U/C FRIDGE
K4 - HOT WATER ELECTRIC GEYSER
K5 - AQUAGUARD
K8 - 4 BURNER COOKING RANGE WITH GAS OVEN BELOW
K9 - GAS CYLIDERS
K11- MICROWAVE OVEN
K12-FRONT LOADING TABLE TOP PIZZA OVEN
K13-SALAMANDAR
K16-SINK WITH HOT AND COLD MIXER
K18- JUICER
K19- BLENDER
7 ELEVATION
5 ELEVATION
8 DETAIL OF STORAGE BELOW COUNTER
9 DETAIL OF SKIRTING
6 ELEVATION
4 ELEVATION
3 FLOORING PLAN
1 KITCHEN AT LVL 00 PLAN
2 KITCHEN AT LVL 00 EQUIPMENT PLAN
HT. 1050MM FROM FFL
HT. 1200MM FROM FFL
HT. 1375MM FROM FFL
1850MM FROM FFL

Annexure-2


3545
4052
2176
4000
4958
4404
1425
D10
BOILER
SOUTH INDIAN SECTION
POT WASH AREA
698
STORE
STORE
COLD PANTRY
CONTI CUM CHINESE SECTION
INDIAN SECTION
TANDOOR CUM BULK SECTION
BOILER
DISH WASH AREA
BOILER
STORE KEEPER
SERVERY
SERVERY
SERVERY
KITCHEN
Dn
up
D1
D9
D9

Weather Protection outside external openings

This policy is applicable in respect of external openings which are partly/fully openable e.g. regular windows, bathroom windows, ventilation fan opening etc. This does not apply to external opening which are permanently closed (e.g. non-openable portion of glazing).

a. Weather project member (chhajja or deck or service slab) of preferably 1.2 m (minimum 0.75 m) to be incorporated outside all external openings(including those of shafts at terrace level).
b. On the side of the building from which monsoon is likely to be most severe (viz. South and West in MMR region), the weather protection member should be minimum of 1.2 m.
c. In general, on account of the saleable area and aesthetic / functional usage advantages, min. 1.2m deck is the most preferred mode of weather protection in habitable rooms (as compared to chajja). Service slab is appropriate outside non-habitable rooms like bathrooms and utility slab outside kitchen.
d. In rare instances / existing projects where min. 0.75 m weather protection is not possible, following steps to be taken:
    a. Window sill to be fixed on min. 3 sides of the window (bottom and both sides) from outside (to prevent water ingress).
    b. Special attention to be paid to grouting of the joints between the structure and the window sill.
e. The chajja should be sloped such that water doesn't collect on the chajja top (generally the slope is created not in RCC but in the coping/waterproofing).

Theatre Guidelines

- Room should generally be rectangular in shape with the length (depth from screen) being more than the width. None of the ratios (H x W x L) should be perfect multiples of each other. Good ratios are 1 x 1.3 x 1.7 OR 1 x 1.3 x 1.9 or .9 x 1.3x1.6.
- Key equipment:
  - Screen
  - Projector
  - Amplifier
  - Sound system / speakers
  - Media (DVD/Blu Ray etc.) Player
- The theatre room should be acoustically confined such that sound from outside is not heard inside and similarly sound from inside is not heard outside. NC 30 ambient noise level is desirable; NC 40 is max. acceptable. (Maximum permissible sound heard on the other side of the source is 40 dB.)
- Room should be dark with no natural light.
- Particular attention should be given to the ceiling colour - use a dark non-reflective colour; go for black if your big screen size is such that the upper part of your home theater screen is very close to the ceiling.
- For theatres located at residential projects (non-sales office), a group of films/shows (DVD/other format) shall be provided by Lodha. In such theatres, Cable/Satellite TV connectivity shall also be provided.
- If Theatre/Cinema is planned for >= 51 seats, it should be planned in a manner that it can also be used as an auditorium/performance venue with stage and green rooms (has been done at Lodha Splendora, Thane in 2014).
- Area of the hall should be about 15-17 sq. ft. per seat. In order to achieve this, seat to seat distance should be kept optimal such that once seat is unfolded for seating, gap to the back of the next seat is 12”-15” (this clause does not apply to gold-class seating where the area per seat and seat-to-seat gap will be larger).
- Note: Theatre/Auditorium – Protruding columns from the wall surface housing the screen to be avoided so as to allow mounting of speakers behind(in the cavity between Wall & Screen) .In case protruding cannot be avoided – location of speaker will be compromised leading to fall in audio output, which shall not be acceptable.
- Recommended reference documents:
  http://www.practical-home-theater-guide.com/home-theater-room-design.html#part-1

Home Theatre Seating Guide 2011

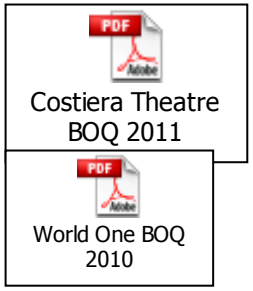
Home Theatre Design Guide r2 2011

Different types of theatres:

	Small Luxury	**Small Mass Market**	**Medium Luxury**	**Medium Mass Market**	**Full Size Theatre**
Likely usage	Luxury / hi-end residential having < 100 units; Sales office of Luxury and Hi-end projects	Sales offices of Aspirational and Casa Projects	Luxury / hi-end residential having > 100 units	Casa and Aspirational projects	Malls; Specialized Theatre
No. of seats	8-16	8-16	20-36	30-50	100+ (typically 200-300)
Type of Seats	Gold class – wide; electronically controlled reclining upto 150° -160° recline – however, in Sales office recline should be restricted/like regular seats; plush; with dining tables (one for each site or one between two seats) and individual drink holders; preferably (faux) leather	Regular with individual drink holders	Gold class – wide; electronically controlled reclining upto 150° -160° recline; plush; with dining tables (one for each site or one between two seats) and individual drink holders; preferably (faux) leather		Gold class/Regular – dependent on likely usage and geographical location.
Riser	12 '' (to enable every row vision)	6-8'' (to enable dual row vision)	12 '' (to enable every row vision)	6-8'' (to enable dual row vision)	As per theatre design consultant
Internal Access to seats	Side aisles to maximize viewing dynamics	Central aisles to maximize efficiency	Side aisles to maximize viewing dynamics	Central aisles to maximize efficiency	Central aisles to maximize efficiency
Internal	**Reflective materials – hard surfaces such as** wooden or ceramic tile flooring, gypsum partitioning and concrete ceilings				

finishes	**Absorptive materials – soft surfaces such as carpet, curtains,** **1] Carpeting** is essential especially between the front speakers and the listener to catch the first reflective sound waves. **2]** The use of **acoustical wall paneling** or curtains close to the front speakers will also help in this respect. However, do not fall into the temptation of painting the acoustic paneling - this will only reduce their effectiveness. **3]** Other **soft furnishings** such as sofas and cushions will also contribute to absorb some of the echo. **4]** On the other hand, the **ceiling** should preferably be an all-hard surface so as to carry the sound from front to back while helping to further diffuse the surround within the room. As a **rule of thumb**, the home theater room design should aim at having some 50% of the total room surface area - wall, ceiling, and floor area, **absorptive**. Most of these absorptive surfaces should be within the front part of the home theater room. The rear part of the room should contain surfaces that are more **reflective**; this will help diffuse better the surround sound within the room from the rear speakers.				
Wow Factors	Picture quality; Fancy Popcorn machine; personal pillow and blankets for each seat	NA	Picture quality; Fancy Popcorn machine; personal pillow and blankets for each seat	NA	
Nearby facilities	Toilets (even a unisex toilet is ok)	Toilets (even a unisex toilet is ok)	Toilets (male and female)	Toilets (male and female)	Food Stalls; Toilets (male and female)

Reference Image					
Lodha reference project	Costiera			Aria (slightly smaller)	
Whether theatre design consultant is to used	No	No	No	No	Yes
Whether special AV consultant is be used	Yes (however, if similar existing plans / AV details are available, same may be used / built upon)	No (maybe needed first time for one-time knowledge again)	Yes (however, if similar existing plans / AV details are available, same may be used / built upon)	No (maybe needed first time for one-time knowledge again)	Yes
Referenc		Good brands but not		Good brands but not	As per theatre

e equipment / BOQ	 Top performance brands.	necessarily for name value (eg. Bose is not needed unless cost effective).	Top performance brands. 	necessarily for name value (eg. Bose is not needed unless cost effective).  Aria Theatre BOQ 2011	design consultant
Reference Plan					As per theatre design consultant
Reference Public Theatre		INOX, Nariman Point	Big Cinema Metro Ebony Lounge, Mumbai	INOR, Nariman Point / PVR, Phoenix Mills	

Guidelines for design of podium / basements for parking and services:

1. Basements are much more difficult and expensive to build than podium. All other things being equal, podium should be preferred and basements avoided. If basements are to be constructed since podiums are insufficient, following norms to be followed:
    a. Basement sizing should be such that ratio of footprint (BUA in sq. ft.) / Perimeter (length in meters) should be > = 100 (ideally >= 125).
    b. Max. no of basements should be determined only after soil investigation (separating strata into soil, rock and sheet rock) such that following is adhered to:
        i. Of total excavation volume, ratio of sheet rock should not exceed 30%.
        ii. Soil ratio out of total excavation volume should be maximum and in any event, should not be less than 30%.
2. Basement & podiums with regular parking (i.e. ramp accessed parking) below residential plant (building) footprint are inefficient (due to closely spaced columns and shafts) for parking and should be considered only last resort. If this is done, due care should be taken to ensure that Parking efficiency is benchmarked to other projects & policy and ratios maintained. Further, where in such circumstances, other solutions like automated/robotic parking should be evaluated wrt cost and efficiency before embarking on doing significant parking below residential building footprint.
3. Natural ventilation should be used as much as feasible. Even for basements, usage of natural ventilation (in part) is possible through measures like wind scoops.
4. As far as possible, service vehicle access to the basement/podium should be avoided for security and height reasons. Service vehicles should be allowed to drop-off/deliver at the periphery of these areas.
5. Whenever there are landscape areas located on top of the basements/podiums, design should be such that it:
    a. Minimizes dead load on the slab, by limiting fill (soil or otherwise) to the extent really needed.
    b. The entire slab should NOT be sunk by the required depth of the tree pits. General slab should be designed for a 0.6 m soil depth for regular landscape (+0.05 m for waterproofing) and tree pits should be located judiciously, as per landscape design and at these locations, the soil depth should be increased as per requirement (subject to c. below) by localized lowering of the slab.
    c. Maximum depth for tree pits should not exceed 1.5 m (generally 1.2 m) ((+0.05 m for waterproofing in either case). (except in very specific cases of certain must-have trees which would not work with 1.5 m tree pits – in such limited cases, 1.8 m (+0.05 m waterproofing) is permissible which may be designed by building up above ground).
    d. In specific cases where extra depth is required (eg. 4 c. hereinabove or in case of swimming pool etc.), if there is parking located below such structural members, the clear height of parking can be reduced to as low as 2.05 m and the services can be routed around such sunk area, so that there is no excessive increase in height of that level.
6. Basements/podiums should be designed with as low as possible floor-to-floor height. As per current prevalent practice, a clear height of 2.1 m for cars is sufficient (except for PPL where different heights are required as per 'PPL Specifications'); (total height for parking oriented areas

should be limited to ~2.75-2.8 m (below and above ground), including allowance for services and structure; this may increase somewhat in those slabs where there is landscape above to accommodate localized tree pits). Calculation of FTF height for parking areas serving passenger vehicles is suggested as follows:

a. FTF: 2750-2800 mm
b. Clear height (below column capital or services to finished floor): 2100 mm (in MCGM, we need to show 2400 mm below column capital to unfinished floor Please check Annexure B)
c. Services: max. 400 mm for basements using induction fans; max. 250 mm for podiums which generally don't require mechanical ventilation (can be more in the non-driveway areas. Majority of the Services to be planned in the areas between column capitals to avoid reduction of clear height available for cars below. (Avoid large dia pipes below column capitals)

d. Floor Finish (including slope): 50 mm
e. Slab (excluding column capital): 200 mm (say)
f. Total: 2750 (may slightly vary based on slab thickness)
g. In case of the lowermost level (level just above the foundation), following additional requirements are to be provided (below the floor level of the lowest floor):
    i. 0.45 m for drainage (if there is car parking or other activities which require water drainage on this level)
    ii. 0.2 m – 0.5 m for raft (based on structural design) above the PCC (will vary in case of piling)
    iii. 0.1 m for PCC above soil/rock (will vary in case of piling).

7. The efficiency of the space built in these areas is very important, since it is not a saleable space or a space that customers value highly. The lower the area, the better the economic feasibility. Some suggested measures:
    a. Prior to completion of Structure DD, draw up a plan of each level and earmark every inch of space for usage, including parking, back-of-house common areas and services. If any space is left unallocated, one should consider how to use this either for key common areas OR creation of area which can be sold at value to customers (eg. Store rooms) OR attempt should be try to reduce the area (including leaving voids so that horizontal structure costs are avoided).
    b. Columns in parking grid should be planned such that they are as slim as possible along the length of the parking grid (depth would be available) and hence, take as little space along the length as feasible. Preferred car parking grid is for 3 to 4 cars between columns.
    c. Parking columns should be placed that they finish within 1.0 mtr of the start of the parking bay, in depth.
    d. Follow the Parking policy guidelines and ensure optimal usage of permissible allowance of small and medium cars.
8. It is very important to pay special attention to the structural design of these areas, since structure comprises more than 60% of the cost of these areas. Given that these areas are generally low rise and are primarily meant only for passenger vehicle (not service vehicle or heavy load vehicle) use,

there are significant optimization possibilities in the structure design which are generally overlooked by structural consultants.

9. The basement and podiums are a back-of-house area (does not apply to the lift lobbies in the area which are to be treated as front of house). Relevant policies for finishing should be followed in this regard (see 'Finishing of Back of House Common Areas' policy) Following additional tips on finishing:
    a. In general , Car wheel stoppers are NOT required - they shall only be placed in Luxury or Hi-end residential or Excelus or Supremus office in parking slots which are along with perimeter/edge of the parking area. Further, in case of PPL (or equivalent), these shall be placed (for perimeter/edge parking bays only) only if specifically required in the approval order/NOC.
    b. Column guards – 4 of these strips are to be placed on each column in a parking area, which is likely to be accessible by a vehicle. In case of a square/rectangular column, these shall be placed at the 4 edges ..I.The guards shall be 600mm in height,+300mm above FFL. In case of round columns, column guards which cover the entire column shall be used, shall be 100mm in width, placed at +450m above FFL(centre) Refer figure below:



    c. Speed breakers (manufactured, not in situ concrete/PCC) shall be used taking into account their high costs. Suggested usage:
        i. On driving lanes, 5-10 m before intersection with another driving lane.
        ii. After placement of 8 c i., every 150-250 mtrs in each driveway to avoid cars speeding up too much.
10. Security and lighting of these areas should be thought of in advance (Prior to DD completion) to ensure optimization of costs and ensure good functionality.
11. In basements, to ensure that water doesn't gush in from the vehicle ramps and flood basements, following precautions are suggested:
    a. Any ventilators/openings should be atleast 1 m above adjacent finished ground level.
    b. Drain with reasonable depth at the start of the ramp
    c. Drain with reasonable depth at the end of the ramp
    d. Ramp level going up by around 300/450 mm from its entry point and then sloping down to prevent water of adjacent ground from entering the basement through the ramp.
12. Where possible, the levels of the 1st basement should be decided in a manner such that the top of the basement slab is slightly (1.5 m) above surrounding ground level to enable it to be naturally ventilated with openings of atleast 1.2 m. This will reduce/eliminate the need for mechanical

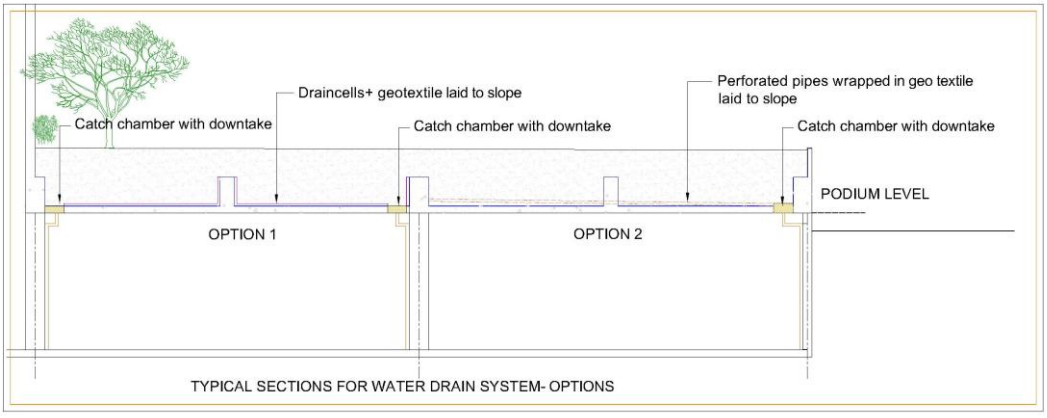
ventilation in the first basement and save both capital and operational costs. This can be achieved through a combination of raising the plinth of the building and lowering ground level in the areas close to the basement periphery. In cases where this system of natural ventilation of the 1st basement is followed, adequate measures should be taken ensure that rain water ingress into the basement through the ventilation openings is minimized, including by usage of storm water drains along the basement periphery.

13. In case of parking grid design, following guidelines to be followed:
    a. Square (or as close) to square grid is preferable. The longer dimension governs the structural costs of a grid.
    b. Given Lodha's parking dimension, ideal grid is 3 cars viz. 7.5 – 7.7 m.
    c. Generally, regardless of any cost calculation, for top slab which takes soil load, use of beam slab should be preferred (PT can be used in the beams to reduce beam size). In such case, embedded PVC sleeves should be provided in the beam for FF pipes.
    d. As in 2013, for all slabs other than top slab:
        i. For regular car loads, regular RC slab is more cost effective upto 7.5 m governing (max of the 2) dimensions.
        ii. Above 7.5 m governing dimension, PT should be considered. Unbonded PT is generally cheaper for governing dimension upto 10 m. Above 10 m, bonded PT is generally cheaper.
        iii. For heavier loads (eg. Bus parking), PT will be cheaper that regular RC slabs even if governing dimension is as 6.5 m or higher.
    e. In general, for any project the cost evaluation of all 3 options (RC, unbounded PT and bonded PT) should be done by the consultant and then final decision taken. This cost evaluation should be vetted by Cost Management before final choice of RC v. PT is made. RC is the preferred option as long as its structural cost is upto 5% more PT i.e PT should be more than 5% cheaper than RC to go with PT option.
    f. If PT is chosen, quotes should be taken on per kg of tendors, rather than per sq. ft. Also all designs of PT consultants should be approved by structural engineer.

14. It is necessary to have a concept landscape design outlining following, before finalizing structural design of any basement/podium slab which is expected to have landscape on it:
    a. Fire tender movement path
    b. Swimming pool or any other sunk feature havingdepth > 0.6 m
    c. Grids which are expected to have trees (soil fill of 1.05 / 1.2 m)
    It is necessary not to design all grids for fire tender load (Only the parts that are mandatorily required for fire path are loaded) and/or tree load. It is also suggested that, if feasible, trees be placed on column top so that they have minimal impact on structural design and hence, cost. The density of the wet soil for load calculation is 2000 kg/m3. Live loads to be considered as per structural consultants inputs.
15. In order to minimize waterproofing costs and issues, it is suggested that the slab be designed as a flat slab or with the beams protruding in the direction away from the surface which is to bear the soil load / waterproofing viz. conventional beams (facing downwards) for basement / podium top slab.

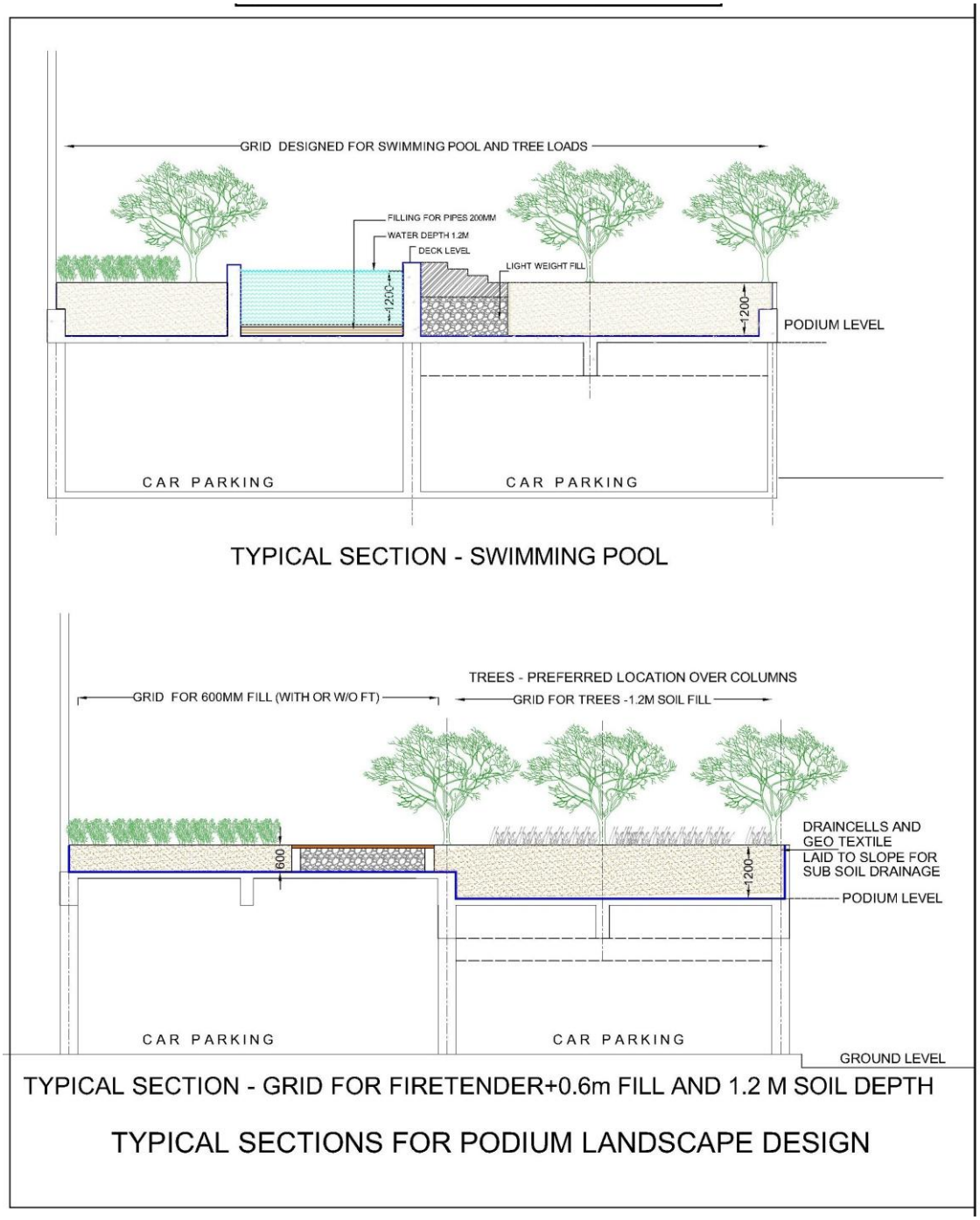
16. Prior to finalization of the structural design for such structure which is expected to bear fire tender and/or landscape load, Each grid should be marked as one of the following 3:
    a) Grid Tree (T) – 1.05 / 1.2 m soil fill (also suitable for swimming pool)
    b) Grid Grass (G) - 0.6 m soil fill (also suitable for shallow water bodies)
    c) Grid Fire Tender (F) – based on fire tender load as per fire NOC (generally 48 MT/ 12 KPA) + any other requirements for soil fill as per landscape design (max. 0.6 m soil fill in fire tender movement areas).
17. The fire-tender movement path should be marked with appropriate signage (maybe subtle) to ensure that it doesn't move on the grids not designed for taking up the FT loads.
18. Conceptual structure design for such basement / podium with landscape are provided in Annexure A below for ready reference.
19. <u>Water drainage systems (Podium gardens) are to be given special attention during design of landscape areas on top of podium/basement slab:</u>
    a. The surface water and sub soil water drainage system should be designed with extreme care to avoid any stagnation of water or prevent leakages later.
    b. In case of landscape development over inverted beams, the beams should be adequately lowered to have the minimum soil cover required for the plantation. In case, the soil depth at these stretches is shallow, the plants should be selected accordingly – patches if grasses, small shrubs and ground covers.
    c. All surface drains of hardscape areas should be clearly marked on the drawing to ensure no water stagnation in any area. Landscape VFC's should show the drainage outlet points of sub-soil drainage and take into account the loss of depth while providing slopes in the water proofing layer of the base slab. The slope provided for this layer is 1" to 6'.
    d. In case of inverted beams, the water drainage of the troughs created should be well planned. In case, draincells + geo-textile are used, the indivisual troughs should be drained with a catch chamber. This may not be possible in case of close network of beams and hence number of smaller troughs. A network of perforated pipes wrapped in geo-textile can be proposed in this case. The co-ordinates of these pipes to be marked well in advance, for leaving appropriate sleeves during casting of beams.
    e. The slabs / beams in such cases shall be designed as uncracked sections. Alternatively, post tensioning can be introduced for limited purpose of closing the cracks.

    Ref for design of landscape slab drainage:

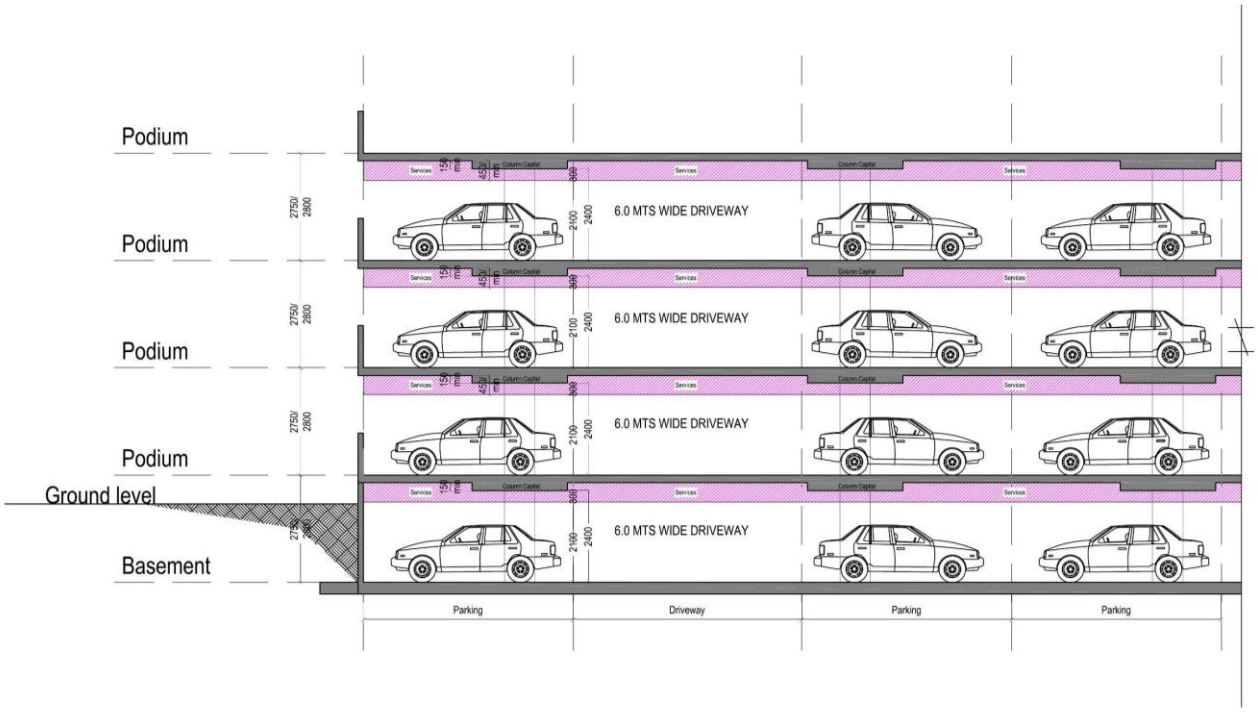


20. The travel distance for a vehicle from the start of the ramp on the highest and lowest level of the parking structure to the nearest vehicular exit out of the structure should not exceed 500 m (max. travel time of 5 min assuming average travel speed of 10 km/hr). Further, no. of ramp turns for any parking structure should not exceed 5 (for a driver to feel that he/she is only climbing up by max. of 5 levels). In order to achieve both of these objectives, in parking structures which have large no. of levels, consider use of double / triple floor ramps and ensure that that the start of the connecting ramp (at the end of one ramp) is no more than 20 m travel distance from the end of the of the last ramp and in such cases the no. of levels served before the next turn shall be numbered Alphanumerically eg. If there is a ramp serving 3 levels at a time, the numbering shall be P0, P1A, P1B, P1C, P2A, P2B, P2C and so on.
21. In any parking structure having any form of controlled entry (eg. Paid, RFID controlled boom barrier etc.), ensure that there is waiting space for atleast 2 vehicles (3 if total no. of parking slots in parking structure is > 1000) before the controlled entry and similarly, there is waiting space (after the controlled exit) for atleast 2 vehicles at the junction with the nearest road at time of exit.
22. Entrance to parking area (can be ramp or flat) to be treated as FOH area (like done for first flight of staircase) for first 15-20 m, in line with standards expected in lobby and first flight staircase for development of that nature. This is to give impression of higher quality.
23. Details of parking area painting:
    a. On non-flat (eg. curved) surfaces, use one colour to prevent issues wrt junction between two colours
24. If there are 3 or more turns to get from entry to top level, we need to draw attention away from driving time. In order to do this, 25% - 50% (ideally ~ 33%) of the ramp length to be designed with colours / graphics etc to make the driving time appear to be less than what it really is. Refer Annexure C for sample graphics
25. Ramp graphics or colour coded / painted surfaces along the ramps should be located ideally 450-600 mm above floor level to avoid staining by carbon deposits from vehicles. The lower portion could be bare finish or be painted in a dark shade to address this issue.
26. Circular ramps should be avoided if travel is 4 levels or more (i.e. acceptable for upto 3 levels). If circular ramp is required for 4 or more level travel due to space limitations, preference is to have the ramp as one-way with two-way being used in extremely rare instances. Further, for all circular ramps (even if travel is less than 4 levels and one-way or two-way) need to have protection zone of 2 feet (i.e. 0.6 m) each way between the driveway and the boundary/edge wall. Also in two-way circular ramp, solid divider (min height of 0.45 m) is required between the two sides of the driveway. Accordingly minimum ramp width shall be as follows:
    a. One-way: 4.5 + 0.6 = 5.1 m
    b. Two-way: 6 + 0.6 + 0.6 + 0.3 (divider) = 7.5 m

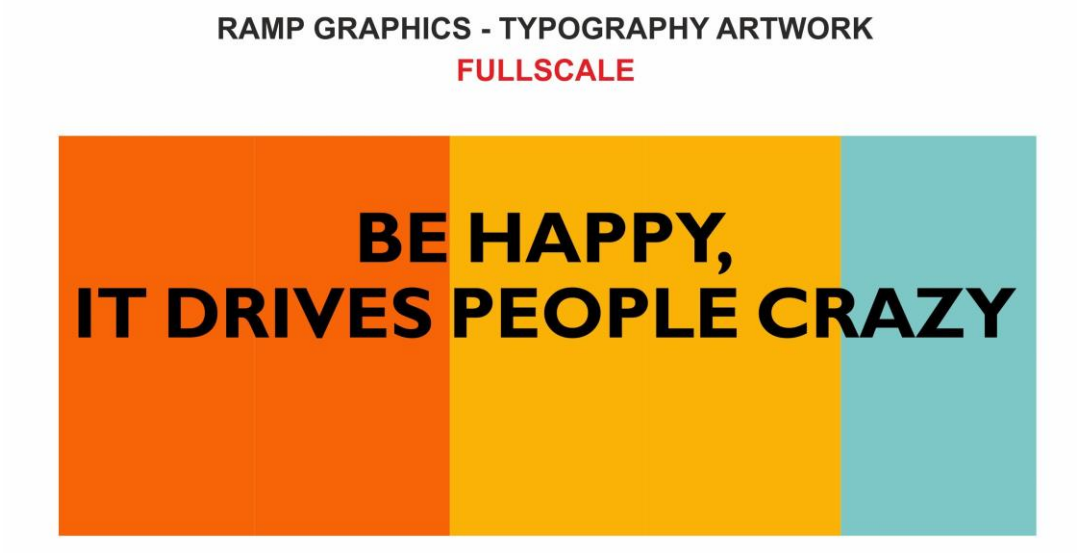
Annexure A – Conceptual Structural Design for podium/basement slab with landscape



Annexure B (only for MCGM)



Annexure C: Reference Sample design
(The Park)



Floor to Floor Heights Policy

a. Casa Residential: 3000 mm (all internal beams, door opening top and window opening top standardized @ 2150 above raw slab level).
b. Aspirational Residential: 3150 mm (all internal beams, door opening top and window opening top standardized @ 2150 above raw slab level).
c. Hi-end Residential: 3450 / 3600 mm (all internal beams, door opening top and window opening top standardized @ 2450 above raw slab level).
d. Luxury Residential: 3600mm (all internal beams, door opening top and window opening top @ 2450 above raw slab level).
e. Excelus / Supremus / iThink Office: 4050 mm (Max. glazing panel height to be limited to 2450 mm (preferably 2150 mm); all internal beams, door opening top and window opening top (if applicable) to be standardized @ 2450 above raw slab level).
f. Experia Retail: Stores to have clear height (false ceiling to raw slab level) of 3300-3450 mm. For this purpose, FTF height of 4200-4500 m may be considered, with maximum of 4200 on 3rd floor and above. Hypermarket will require a height of 3900-4000 mm below beam bottom (excluding column capital) and for this, higher FTF height may be needed. In case of luxury retail, higher FTF height of upto 5500 mm may be considered on Ground and 1st Level, if permissible without extra FSI.
g. Boulevard Retail: 3600 mm if standalone; Same/similar FTF height as the building typical floor if at the base of a building. (all internal beams, door opening top and window opening top (if applicable) to be standardized @ 2450 above raw slab level).

Notes:
Aforesaid FTF heights may be reduced by up to 150 mm with approval of HoD Design, if there is an overall height restrictions on the site (civil aviation, high rise etc.) which inhibits consumption of available FSI – however while reducing it may be noted that the more the FTF height (and related FTC height), the more attractive the unit is likely to be to live in.

The above levels for door & window openings assume a floor finishing of 50 mm above raw slab level so that clear height of 2100/2400 are achieved.

Floor to Ceiling Heights:

- In residential units, it is necessary to ensure that the Floor to Ceiling (top of finished floor to bottom of finished ceiling (even if we are not providing finished ceiling)) is appropriate. Generally, **FTC height should be FTF height – (less) 350/400 mm** (this would comprise of 200-250 mm for the slab, 75 mm for the flooring and 75 mm for the ceiling) in the main rooms (living/dining and bedrooms) and decks eg. With FTF of 3.15 m, the FTC would generally be

around 2.75 m. FTC may reduce by additional 200-300 mm in the passage, toilet and service/utility areas.

- In KCA's, the difference between FTF and FTC should be max. 500-600 mm. Structure and MEP should be designed accordingly.

Note: to achieve these, it is necessary to ensure that beams are either at the periphery of the unit or at least at the periphery of the rooms and as far as possible, any service routings are dealt with in a pre-planned manner through sleeves inserted in the beams.

- In commercial (office & retail) developments, FTC should be **FTF – (less) 600-750 mm**, depending on the HVAC system.

External Openings – Fall Protection policy

a. Steppable surface is any surface where a human being can step on with reasonable ease – generally, the accessible foot landing space of this surface should be at least 75 mm in depth.

b. For safety reasons, it is to be ensured that the height of the fall protection for all external openings is at least 1050 mm from the final height (finished) of the last steppable surface (if building height exceed 100 m above ground, 1200 mm fall protection to be used).

c. To ensure that last steppable surface is not above the finished floor level, adequate care needs to be taken with respect to the structural design (because edge beams / ledges can raise the last steppable surface) and the location of the railing (should be as close as feasible to the point where the structure becomes higher than the general finished floor level).

d. If there is a deck/accessible surface of min. 1.2m depth outside the window line, a railing is to be provided at the edge of the deck/accessible surface (height as per b.).

e. If there is no deck/accessible surface outside the window line (or these is a flower bed or equivalent < 1.2m), following options are available:

   i. Window should start only at height of 1050/1200 mm (see applicable height as per b.) above the last steppable level. In such cases, grill as per ii. below is required only from if needed from marketing perspective, but not from fall protection perspective.

   ii. In exceptional cases, if window start at height < 1050/1200 mm (see applicable height as per b.) above last steppable surface , following options can be used:

      1. An internal railing with location such that the floor level inside the room becomes the last steppable surface and the height such that the requirements of b. above are fulfilled.
      2. Alternatively, if the window is not a sliding window and has restricted opening (max. 200 mm) such that no child > 2 years can possibly go through the opening, the railing shall not be needed. It should be noted that in such cases, the window is itself acting as railing/protection due to its limited opening.

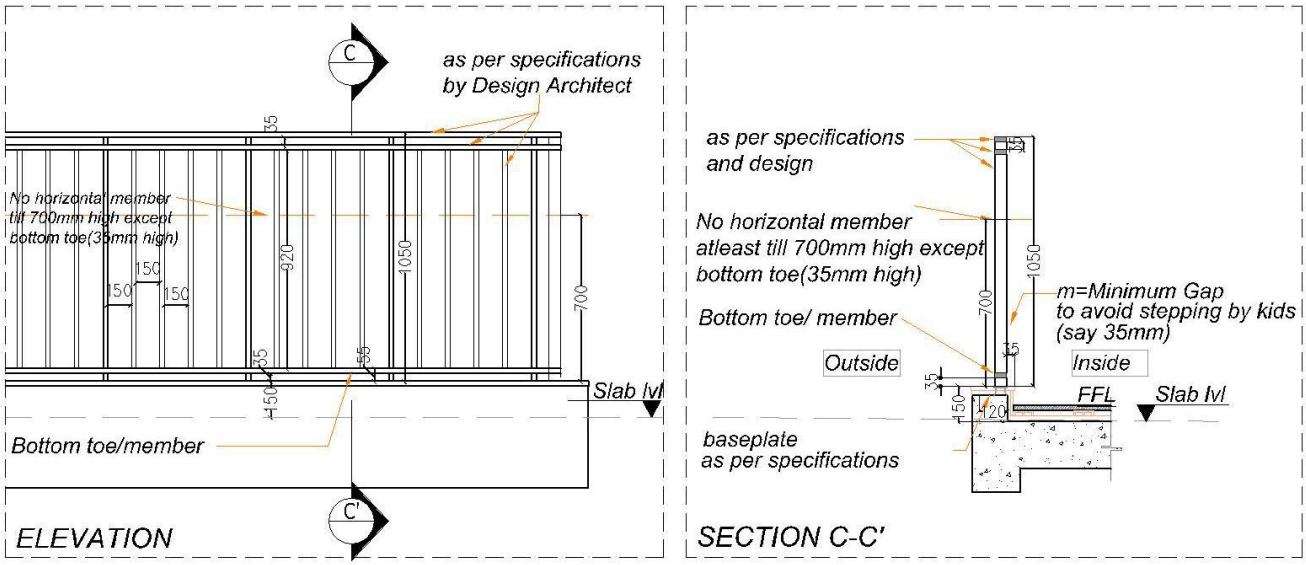
Guidelines for railing design:

a. For any area falling outside a wall+window enclosure eg. decks, utility etc., following types of railing/edge protection are to be used:

	Casa (or Aspirational)	**Aspirational, Hi-end, Luxury**	**Office (all types)**	**Retail (all types)**
Deck / Sky Garden / equivalent	MS railing	SS +Glass railing	SS +Glass railing	SS +Glass railing
Utility with AC ODU's, Service slab with AC ODU's	If said area is <u>not</u> visible from road side (external or internal), then MS railing only with height as per External Openings – Fall Protection Policy. If the said area is visible from road side (external or internal), then full height fins/louvers are to be used to 'block the view' and two horizontal MS railing bars are to be placed for 'safety', with upper one as per top height required as per External Openings – Fall Protection Policy and second bar at halfway between the top bar and the finished floor level.			
Utility without AC ODU's, Service slab without AC ODU's	RCC Parapet wall with height as per External Openings – Fall Protection Policy. If the said area is visible from road side (external or internal), then fins/louvers are to be used to 'block the view'.			

b. **For MS or SS railings, MS plate inserts are to be placed in the RCC at time of RCC casting, in order to receive the MS or SS railing vertical members.** The vertical members are to be welded prior to floor finishing, so that the welding joint is hidden through the floor finishing.
c. These inserts are to be placed at 900-1200 mm apart, in multiples of 50 mm, depending on the dimensions of the area. This spacing has to be decided by the Architect.
d. In case of railing with vertical members (not glass), the members should not be more than 150 mm (clear) apart. In case of railing with horizontal members, the clear gap between railing members should not be more than 250 mm.

e. Illustrative Diagram for MS Railing:



Water Body Design & Procurement Guidelines
(replaces 'Water Body Guidelines')

Design:

a. Water bodies (other than swimming pool) should be avoided in Casa residential, Boulevard retail and iThink Office projects and should be minimized in Aspirational residential projects. See Landscape Design policy *'Guidelines for incorporation of water bodies in Lodha projects'.*
b. The entire water body (for all water body types) along with the up stand should be in RCC (not brick / block).
c. The light fixtures should NOT be engineered by Lodha – the consultant/designer should be given the list of Lodha approved Indian/international vendors and should have freedom to decide from the standard product of such vendors. Value engineering and choosing amongst options of such approved/reputed vendors is permissible but it is not permissible to take a fixture from a reputed vendor and assume that it will get locally engineered. Budget should reflect this fact.
d. Water sources for the water bodies should be clearly identified and finalized prior to DD completion (as per Water sources demand types and treatment options policy)
e. A specialist water body expert should be appointed for engineering and design of water bodies (except very minor ones). The concept shall come from the landscape designer/architect.
f. Technical guidelines:

    1. Three types- water against gravity/water that falls with gravity/static water aerated by bio - organisms.
    2. A sump that is not part of the water body is a must- never within the water body.
    3. All sumps must have washout valves and a fill up connection.
    4. Piping/ Headers to be UPVC or SS. (GI /PVC over long run never works)
    5. All piping on the water body floor, to be laid in a false filling, post the water proofing/ implying there by that if the piping is to be repaired, the water proofing is never damaged.
    6. Pump selection should be usually with modified impellers/ and or essentially low head/high discharge pump.
    7. Only submersible pumps to be used.
    8. All water bodies must drain dry once shut. This is a hygiene issue.
    9. Filters to be provided in all cases, unless water body is very small.
    10. Water bodies that work with gravity are preferred since lesser maintenance.
    11. If against gravity, nozzle selection should be a simple broad bore jet, and as such those jets that can get clogged easily to be avoided .
    12. Still water bodies must be designed with right soil layer and fish that are bottom/mid/surface breeders.

13. Vendor/Designer should help in preparing a maintenance guideline for each body specifically at time of T&C and same to be handed over to HFM.

Procurement:

a. Suggested Methodology of Procurement
   - RCC (including waterproofing): Lodha
   - Flooring/tiling: Nominated sub-contractor provided by Lodha
   - Lighting: Water System contractor (key light fittings can be supplied through a nominated vendor)
   - Electrical works: Water System contractor
   - Hydro-pneumatic: Water System contractor
   - Overall testing and commissioning: Water System contractor
   - Engineering / Design of the system: Water System contractor
     - Lodha will need to specify all output/performance parameters at time of award and water system contract will be responsible for engineering and design of the system to meet these output/performance parameters.

b. Procurement should ensure that atleast 15% of the value of the Water System contract is payable only upon satisfactory testing and commissioning of the entire water body.

c. Procurement should ensure that either the Water system agency OR a specialist agency is identified for maintenance of the water body for a period of (min.) 12 months from commencement of possessions. The cost for this is to be debited to HFM budget and should not form part of capital expenses.

A. Design Parameters required from Principle Architect/Landscape architect.

Sl No	Water Body Type	DETAILS REQUIRED	Reference Pictures/Video
1	Lap Pool/ Family Pool/ Reflection Pool	Dimensions, Sectional Depth, Water inlet type, Wave pools requirement, Overflow Type/Skimmer type, Vanishing/Infinity edge details, Pool drain type and location, Lane width and numbers, Pool internal wall finishes, Pool ladder type and overflow drain location, requirements of sanitizers with levels, etc. Pool lighting requirements, material of construction for all visible aesthetical elements	Pool Picture/Video required together with overflow channel, pool drain type and picture of design intent of lighting. Above should be look alike showing the closest design intent.
2	Spa Pool	Dimensions, Concept of Spa pool - salt water pool/hydrotherapy pool, etc. Temperature of operation, Requirement of sanitizers with levels, return water concept, etc. , Overflow Type/Skimmer type, Pool lighting requirements, material of construction for all visible aesthetical elements	Spa pool Picture/Video required together with design intent of lighting. Above should be look alike showing the closest design intent.
5	Rain Pool	Dimensions, Sectional Depth, Size of the Rain Shower curtain required, Rain shower pools separation, number of seats/details of seating arrangement, rain shower head details/drawing, etc , Overflow Type/Skimmer type, Pool drain type and location, Pool internal wall finishes, Deck finishes and overflow drain location, requirements of sanitizers with levels, etc. Pool lighting requirements, material of construction for all visible aesthetical elements	Rain shower Pool picture/video required together with design intent of lighting and rain shower head sample picture. Above should be look alike showing the closest design intent.
6	Hamam	Dimensions, Sectional Depth, number of beds/seats and details of seating arrangement, shower, foot Massaging requirements- Air/Water/combined system, cold/hot water system requirements, Nozzle head details / drawing, etc, Temperature requirements, Outlet pressure requirements, Drain type and location, Seating/bed wall finishes, Finishes and drain location, requirements of sanitizers with levels, etc. Pool lighting requirements	Hamam picture/video required together with nozzle head sample and design intent of lighting picture. Above should be look alike showing the closest design intent.

7	Water Jet Pool	Dimensions, Sectional Depth, Water inlet type- Laminar/Normal Jets, Laminar thickness/Jet Dia with throw distance and height, Overflow Type/Skimmer type, Nozzle type, Pool drain type and location, Pool internal wall finishes, Deck finishes and overflow drain location, requirements of sanitizers with levels, etc. Pool lighting requirements, material of construction for all visible aesthetical elements	Pool Picture/Video required together with water inlet- Laminar/ Normal Jets nozzle/outlet, design intent of lighting and drain picture Above should be look alike showing the closest design intent.
8	Kids Pool	Dimensions, Sectional Depth, Water inlet type, Overflow Type, Pool Ladder and drain type and location, Pool internal wall finishes, Deck finishes and overflow drain location, requirements of sanitizers with levels, requirements of bubblers and type etc. , Overflow Type/Skimmer type, Pool lighting requirements, material of construction for all visible aesthetical elements	Pool Picture/Video required together with bubbler head, design intent of lighting and drain picture. Above should be look alike showing the closest design intent.
9	Water Feature Cascading/ Water walls/ Water curtains	Dimensions, Sectional details with return channel, Water wall/Cascading sections details, slope, etc with dimensions, Laminar flow/divided flow details, thickness of water sheet, requirement of air infusion, details of inlet head, etc. Ejector Jets requirement, Lighting requirements, return overflow Type/Skimmer type, requirement of anemometer, material of construction for all visible aesthetical elements	Video and Picture of Water Feature together with picture for all visible aesthetical elements and design intent of lighting. Above should be look alike showing the closest design intent.
10	Water Fountains/ Normal/Jumping water spouts/ Dry Deck Interactive /etc	Dimensions, Sectional details with trough depth, combination of cascading return with sections details, slope ,etc with dimensions, Laminar flow details, requirement of air infusion, height of the fountain, grouping, details of inlet head, etc. requirement of anemometer, Lighting requirements, material of construction for all visible aesthetical elements	Video and Picture of Water Feature together with picture for all visible aesthetical elements and design intent of lighting. Above should be look alike showing the closest design intent.

B. Scope of Work for Design and Build Contract is divided into following major phases.

1. Tendering
2. Schematic design
3. Detailed Design with Construction Documentation
4. Supply and Installation
5. Testing, commissioning and Handover

1. Tendering

i. Phase 1 shall be controlled mainly by Procurement and Contracts with technical and capability analysis by Lodha Design (Architect+MEP) and Principle Design consultants.

ii. Bidders to quote on the design intent of the Principle Architect/Landscape architect as shown in documents and drawings.

iii. Quote should be divided into Design, Supply and Install, Test and commission with Handover to Facilities Management.

iv. Bidders to include all components/system under Hydromechanics and lighting with accessories, cabling, etc. Pool/Water feature architectural finishes to be excluded from bidder scope however all hydromechanics aesthetical items viz nozzle, fountain head, drain head, skimmer, lighting, etc included in scope of the bidder.

v. Bidders to verify the space allocation for plant room, submerged pump rooms, etc and system requirements and provisions allocated. Bidders to provide detailed BOQ considered for the quote. Since this package is design and build all items to be included in the scope of bidder as per this document. Power, water supply and drainage shall be provided for the system at one point in the plant room (for swimming pools additional drainage point shall be provided below the pool base), further distribution and system integration is the responsibility of the water body vendor on board.

vi. Bidders to provide physical sample board and technical cut sheets of all aesthetical hydro mechanical items viz, nozzle, fountainhead, skimmer, drain head, lights, etc for architect approval.

vii. Bidders to provide list of makes (maximum two) for all aesthetical and lighting items considered during quote for technical approval. On award water body vendor to comply with the two makes.

viii. Bidders to list down the system description with a brief schematic drawing with space allocation requirements together with the quote. Without the documents technical evaluation shall not be taken and bids shall be considered as null and void.

ix. All query to accomplish implementation of architect design intent to be listed as Request for Information (RFI) during bidding stage.

x. Bidders to list down all exclusions in a separate sheet with the quote. Any equipment/system miss out during tender stage shall be deemed included in the scope of contractor post award.

xi. Bidders to list down the quantity of spares and consumable considered during bidding stage.

xii. During the contract period co-ordination with all Design consultants, Lodha Design, Other trade contractors, Construction Management and Lodha Facility management is deemed included in the scope of the bidder.

2. Schematic Design

i. Phase 2 shall be controlled mainly Lodha MEP Design for hydromechanics, Lodha Architect Design for aesthetical and Principle Design consultants.

ii. On successful award of job to Water Body vendor for Design and Build contract, vendor to start with schematic design based on the design intent on Architectural, Structural and MEP VFC/DD.

iii. Design basis report to include hydro mechanical calculations, overall process flow schematics diagram, water supply input flow rate and pressure required, system description and equipment schedule.

iv. Establish Preliminary Machine Room information, including room size and location (2 options to be included), ventilation requirements, and power, water, and draining requirements.

v. Prepare a set of schematic design drawings sufficient to convey the Scheme. Deliverables include: video and other illustrative materials to describe feature's water action / motion design, site plan, sections and elevations.

vi. Participate in teleconference/videoconference (at Lodha) with the Design Consultant to clarify desirable design directions.

vii. Revise the design in response to comments from Design team, as required.

viii. Vendor to update the final presentation for the schematic and submit hard copies (3nos) + soft copies (CAD/PPT/Excel/Word) present the work to Lodha Design and Design Consultant's.

ix. On confirmation from Lodha Design and Design consultants Water Body Vendor to proceed to Detail Design Phase.

3. Detailed Design and Construction Documentation

i. Phase 3 shall be controlled mainly Lodha MEP Design for hydromechanics, Lodha Architect Design for aesthetical, Principle Design consultants with inputs from Lodha Construction Management for constructability.

ii. Vendor to prepare a set of design and engineering drawings based on project Architectural/Structural/MEP VFC drawings to provide detailed design development as per approved schematic design. Vendor to submit 50% and 100% stages of completion for approval from Lodha Design and Design Consultants. Deliverables include: General Sheets, Site Plan, Basin Plan, Finishes Plan, Finishes Schedule, Sections, Elevations, Details, Physical samples and cut sheets of all items for aesthetical components of water body for Architect approval. Drawings should include Builders works drawings and co-ordinate services drawings for approval and site execution. All deliverables should be submitted in soft copies for approval and henceforth hard copies (7sets) for approval and circulation to site.

iii. Engineering Deliverables include: Equipment Schedule (with specifications), Detailed Piping and Instrumentation Diagram (Piping Schematic – indicating pipe sizes, equipment sizes with ratings and capacity, rating of motor with power requirements), Single-Line Diagram (Electrical Schematic), Electrical Panel Schedule, Pump Room Plan and Sections with proper setting out dimensions. Plant room co-ordinated services drawings. Quantities as per item 3(i)

iv. Revise Construction and Maintenance Cost Estimates in accordance with the developed work.

v. Vendor to ensure that all items under the design development are included in the final tendered BOQ.

vi. Vendor shall not be entitled to claim any variation unless otherwise basic design intent of the Principle Architect/Landscape consultant is changed.

vii. Vendor to submit final approved Design Development drawings(A3)- 2 sets with all technical documents, calculations, picture of approved water body aesthetical samples, etc for records in spiral binding.

4. Supply and Installation

5. Testing, Commissioning and Handover

i. Phase 4 and 5 shall be controlled by Lodha Construction management team with the involvement of Lodha Facilities Management team.

ii. Vendor to provide method statement, material submittal, procurement schedule and equipment delivery schedule together with ITP schedule to respective site for approval.

iii. Phase 4 shall be commencing on approval of 50% DD.

iv. Vendor shall call for part, complete, integrated testing and commissioning of water body systems.

v. Before final handover of the system vendor to submit 2 copies of Operation and Maintenance manuals consisting of as built drawing for the water bodies, material availability, fast moving consumables and spares parts list, address/contact information for local vendors for spares availability.

vi. Contract terms should retain sufficient amount as retention in terms of the guidelines for 'Design and Build' contract.

Method statement for installation of marbles and granites

This policy is a must read for all the members of CM team and also other concerned departments like Design, Procurement, Cost Management, etc.

Finishing protection policy (dated: 24 Nov, 2011) is a must follow up read for this policy.

Objective:

The objective of this policy is to lay down uniform and standard process for preparation of surface, preparation of tile and installation of marble / granite for flooring / cladding.

This policy shall apply to all buildings (not projects) where flooring works have not commenced as on 30.6.2011.

Table of Contents

1. Natural stone usage guidelines
2. Processes and best practices for installation of various types of stones
3. Guidelines for cutting of marbles / granites
4. General guidelines

Natural stone usage guidelines:

Natural Stones: Any material which is quarried from a natural stone including marble, granite, kotah, etc.

Objectives:

- To ensure high degree of aesthetic elegance
- To minimize wastage of material
- To minimize processing at site
- To ensure ease of handling at site

Guidelines:

- Prescribed size of natural stones cannot exceed 8 sq. ft. per piece. Of this at least one dimension should be 2 ft (600 mm) or lesser. Rectangular pieces are preferable over square pieces.

- As far as practical, natural stones should be brought in pre-cut tile format to site.
- Similarly, skirting should also be brought with pre-cut height OR alternatively, natural stone skirting can be avoided by using aluminum (or other equivalent) non natural stone skirting.
- Pre-polishing may be considered if feasible, else polishing may be done after installation at site.

Processes and best practices for various types of stones:

Type of stone / Process	**White colored imported marble (e.g. Sattuario)**	**Other imported marble (e.g. Armani brown; Riviera grey)**	**Agglomerated marble - flooring / cladding**	**Granite – wet fixing (e.g. ramps, kitchen slabs, etc)**	**Dry fixing on vertical surfaces - typically granite (e.g. water walls, entrance portal, etc)**
Preparation of surface	Floor bedding shall consist of white Port land cement and Gujarat river sand in the proportion (4:1 ratio by volume).	For Armani brown marble the bedding to be prepared in river sand and grey cement in proportion 4:1 by volume. For Riviera grey or other lighter and porous stones, use Gujarat White sand and Port land white cement for bedding.	River sand and cement (6:1 ratio by volume) slurry shall be used in bedding for flooring. Scratch coat plaster shall be applied on the wall for cladding. For light shade agglomerated marble, bedding is same as the one for white marble. In case of light shade agglomerated marble being used for wall cladding, use white cement slurry and rendering.	For normal dark shade granite use, river sand and cement (in ratio of 6:1 for horizontal surface; in ratio of 4:1 for vertical surface) slurry shall be used in bedding. Ratio may vary depending on weight of granite slab. For wet fixing of grey / light tone granite on a horizontal surface, Gujarat river sand and white cement slurry shall be used for bedding. As this granite has tendency to absorb the bedding material, this system will prevent stains coming on the granite surface. White cement slurry shall be	RCC pockets shall be provided in masonry at cleat locations and gridlines are marked on the wall.

				used for light tone granite on vertical surface.	
Preparation of tile	A coat of aqua seal or similar sealant shall be applied to the marble (on the bottom surface and all the four edges) before installation to avoid stains.	A skim coat of white cement shall be applied on the marble tile (on the bottom and edges) immediately after removing fiber marble backing to avoid color change or any sand impurities. In case of expensive (> Rs. 500 psf*) marble or those deemed to be highly susceptible to discoloration, a coat of aqua seal or similar sealant shall be applied to the marble (on the bottom surface and all the four edges) before installation to avoid stains. *As in 2012, subject	White cement paste shall be uniformly applied on the back as well as the edges of the marble tile for flooring. A uniform layer of chemical adhesive shall be applied on the backside of marble tiles for cladding.	Granite (esp. flamed ones) shall be sealed with an oil-repellent penetrating sealer (e.g. Bellinzoni, Dupont, Stone care, Akemi) to prevent staining and reduce soiling. Sealing the stone is a wipe on, wipe off procedure. The surface shall be clean before sealing. Any sealer residue from the surface shall be completely removed after it has absorbed into the pores below the surface.	SS 316 angle cleats (40 x 40 x 25 x 4.5 mm) OR MS angle painted with metal oxide paint OR galvanized coating to the MS angle (0.85 microns) shall be used for anchoring. The angle shall be anchored to block wall with expansion bolts or SS screws (with rawl plug) or equivalent. The expansion bolts thickness and length shall be determined based on the weight of the said slabs. Holes as per pin diameter are drilled into edge of stone. Holes shall be drilled in bottom edges for all marbles except in the base row. Porous stones shall be edge stiffened by gluing hard stone strip along edges.

		to normal inflation in natural stone costs.			
Laying	Only Port land white cement slurry shall be used for laying the marble.	Marble tile shall be fixed using cement slurry.	Marble tile shall be fixed on the floor using white cement slurry spread uniformly on the horizontal surface. Cladding shall be done using epoxy adhesive/any other chemical adhesive. Slab shall be fixed on the wall using a prop with cloth padding / anchor fastener system. Epoxy based grouts shall be used to finish the work.	Tile shall be fixed using cement paste mixed with @ 20% Neeru and chopped jute hemp to control shrinkage cracks. Plastic spacer pins shall be used to maintain uniform joint width. Joints shall be grouted with white cement or other grouting material like epoxy depending on type of granite and surface.	Stone is placed in its position starting from the lowest row and holes are filled with adhesive (araldite). SS pin is inserted through the cleat into the hole drilled into the starter slab. After base row is done, marble in the next row is seated by socketing the slab onto the pin protruding half length above cleats in the first row. A cornice/capping shall be put to seal gap between the wall and any other surface at the top (say ceiling). Joints shall be filled with silicon sealant.
Protection	After penultimate polishing of surface, entire surface shall be covered with bubble wrap or thick plastic / cloth in case of horizontal surfaces and adhesive plastic sheet or bubble wrap or ply for vertical surfaces (in order of preference). Any cutting for nahani trap or switch plates shall be done using a pre-made 'farma' to ensure cutting in proper shape; rotary cutters with carbon or tungsten bits are ideal for these cutting procedures. For flamed stone (granites generally), the surface shall be coated with wax or oil to stop grout and cement bonding to the finished surface. The oil / wax shall be cleaned at the time of handover.				

Guidelines for cutting of marbles / granites:

It is preferable for pre-cut slabs to be delivered to site, rather than having on-site cutting (see 'Natural Stone Usage' guidelines, reproduced above):

For whatever cutting is required to be done at site, following precautions shall be taken while cutting marble / granite slabs:

- Ensure that the blades are new in order to reduce the loss of dimension due to cutting and to avoid any damage to the edges
- Adequate clean water supply shall be available for cooling in order to avoid any stains
- After cutting, the slabs shall be kept on a soft surface so that the edges of the cut tiles are not damaged
- For fine work machine, the edges shall be slightly champhered and sanded

General guidelines:

Following guidelines shall be followed while installing marble / granite slabs:

- The properties of marble or granite being used shall be studied before commencing the bedding on the said surface
- It shall be ensured that the marble or granite bedding is laid on proper reference level before commencing the work
- For large area flooring, expansion and contraction joints shall be left between marble/granite tiles at proper distance
- A small gap (~6mm) shall be left between the top face of the flooring and underside of skirting
- Grouting shall not commence until slabs/tiles have been laid for a period of 2-3 days
- Grout shall be done for at least 2/3rd of the depth of the tile and the sides of tiles shall be clean before grouting
- Excess grout shall be removed using a wet sponge with soap water
- It shall be ensured that the mason always uses the protection cover attached with the handheld marble cutter machine
- Masons shall be instructed to wear safety groves and safety goggles at the time of cutting or grinding any marble / granite stone

Master list of Facilities to Choose From

1. Sports
    a. Indoor
        i. Squash
        ii. Badminton*
        iii. Basketball*
        iv. Multi-purpose (sized appropriately for 2 badminton with overlapping basketball and volleyball)*
        v. Rock climbing*
        vi. Ice Skating*
        vii. Indoor skiing*
        viii. Associated toilets and changing rooms

    b. Outdoor
        i. Tennis – with or without night lights
        ii. Basketball – with or without night lights
        iii. Volleyball
        iv. Multipurpose (sized appropriately for tennis along with overlapping volleyball and basketball) – with or without night lights
        v. Badminton – not advisable outdoor, but can be considered for cost reasons
        vi. Putting Green (Golf)*#
        vii. Football field – full / half
        viii. Cricket – pitch / ground with some seating
        ix. Jogging Track
        x. Golf Course
        xi. Athletics Track
        xii. Rock climbing
        xiii. Private/Artificial Beach (2016 – The Alef, Dubai; Sobha Median, Dubai)
        xiv. Associated toilets and changing rooms
        xv. Dog Spa* (could be indoor) (2016 - 15 Hudson Yards, NYC)/ Dog Run (2016 - fifty third and eight, NYC)

2. Health
    a. Gymnasium
        i. Indoor
        ii. Outdoor / garden
    b. Spa* / **
    c. Parlor
    d. Barber's shop
    e. Massage room
    f. Steam (Sauna is not suitable for Indian skin type)
    g. Jacuzzi – indoor / outdoor
    h. Hamam*(2016 – 520 West 28th, NYC; Brickell City Centre, Miami)
    i. Ice shower*
    j. Salt Therapy Grotto*
    k. Swimming Pool
        i. Indoor & temperature controlled – may consider restricted access for ladies and children only*
        ii. Outdoor
            1. Temperature Controlled
            2. Regular
            3. Children
            4. Toddlers
            5. With water slides
3. F&B
    a. Café
    b. Branded restaurant**
    c. Juice Bar
    d. Wine Cellar
    e. Party / Banquet hall
    f. Party Lawn
    g. Rooftop party deck / observatory*
    h. Private dining room(s)*
    i. Barbeque / picnic area
    j. Outdoor seating for café/restaurant
    k. Associated Kitchen areas
    l. Associated Storage Areas

4. Children's play areas
    a. Indoor
        i. Crèche / Play zone for 1 to 5 years
        ii. Play zone for 5 – 12 years
        iii. Tween/Teen zones
    b. Outdoor
        i. General
        ii. Specialized for 1 to 5 years
        iii. Specialized for 4 to 10 years
        iv. Tree House

5. Relaxation
    a. Temple
    b. Seating areas – various types
    c. Walking area
    d. Yoga / Meditation
        i. Indoor
        ii. Outdoor

6. Performing arts
    a. Amphitheatre
    b. Auditorium
    c. Town hall
    d. Art Gallery
    e. Art Studio* (2016 – The Ritz Carlton Residences Miami Beach)
    f. Music room / Recording Room / Jamming Room (sound proof)*

7. Conveniences
    a. ATM
    b. Pre-school
    c. School
    d. Laundry
    e. Grocery / convenience store / supermarket
    f. Medical Room
    g. Hospital

8. Other Club components
    a. Lounge (with reading, web access/printing and food facilities)
    b. Library
    c. Indoor games room
        i. Table Tennis
        ii. Carrom
        iii. Chess
        iv. Snooker / Billiards / Pool
        v. Foosball / Air Hockey / equivalent
    d. Private Theatre
    e. Toilets / Changing Rooms
    f. Cigar room
    g. Business Centre / Conference Facilities/ Private office cabins

9. Gardens - various types, sizes and varieties

10. Water bodies - various types, sizes and varieties

11. Other outdoor components:
    a. Pet walk / area
    b. Organic Farm

* Only for hi-end or luxury residential
** Only if external access is permissible
\# Consider for Excelus office

Usage of LED lights, instead of CFL

In view of the significant operational cost savings from LED lights (electricity cost is about 35%-40% of CFL), it is suggested to **use LED lights at all locations where Lodha is going to be paying for the electricity cost for 4 years or more** and this cost is not being covered by CAM.
This would include:

a. Sales offices of long-term projects (e.g. DLF, Shreeniwas)
b. Sample flats of long-term projects (excluding any lights which are to be provided in the final/actual unit)
c. Company's permanent offices e.g. Corporate office, Thane office, Dombivali BD office
d. Sites offices of long-term projects (only if their location is fairly fixed).
e. Select facilities where benefit of electricity cost saving would accrue directly to Lodha e.g. Schools, Pune Club, Palava Pavilion, Geeta Cinema – Banquet facilities and theatre

Garbage Handling Guidelines

1. Garbage should be segregated at source into two groups – wet and dry at source. Space will be provided in the kitchen for a two bucket dustbin.
2. The Facilities Management (FM) will provide dual colored garbage bags – blue for compostable wet garbage and black/white for dry garbage. The bags should be such that they can be easily tied (e.g. with drawstring / stickable flap).
3. The residents and staff will be trained about the need and method of segregation at time of possession. A detailed note on handling of garbage will also be provided to each resident at time of possession.
4. Garbage can be collected in any one of two fashions:
    a. Human collection: Door to door collection by human using a movable garbage bin and thereafter, the garbage bin is emptied into an external waste receptables (dumpster).
    b. Garbage Chute: The resident (and/or their domestic help) will drop their garbage (likely on daily basis) into the garbage chute after properly tying the bag. The garbage chute will empty into a (movable) plastic (or equivalent) garbage trolleys on the ground/other floor. The garbage room on the ground floor of each wing/cluster will have space for at least two trolleys. The trolley will have a cover so that the garbage can be covered at time of movement of the trolley. The trolley will be such that its height is 2.4 mtrs. or less and it can move easily in the path from the location of the garbage trolleys in the building to the external waste receptables/dumpster. The garbage trolley will be collected each night (after 9 pm) and then again in the morning (before 6 am) by the collection staff and taken to the dumpster through a pre-determined, which should be decided such that interaction with the key common areas and other areas frequently used by the owners is minimized. The garbage chute, if provided, inside the building will have a sprinkler system and the entire chute shall be sprinkled each day around 7 am (after removal of the previous day's garbage bags from the ground level). Further, the garbage chute shall be fumigated at least once a month by a professional agency.



Reference image of a movable garbage trolley (size not indicative)

5. It is expected that each home will produce 2 bags of 0.018 cu. m. each day – assuming 80% occupancy, calculate the total garbage trolley capacity required, assuming that garbage is collected only twice a day.
6. If the segregation is working efficiently, (based on the residents' adherence to the segregation norms) the collection staff will segregate the bags into two dumpsters, separating wet and dry garbage. The wet garbage should be used to create compost/manure which will be used in the landscape and the garden. Suitable space for storage of wet garbage and conversion into manure (bio-composting/mechanical composting) should be planned in the landscape. All excess wet garbage (based on usage patterns) will be moved to the dry garbage dumpster. The dry garbage (and excess wet garbage) will be collected by the municipal collection truck each morning – the dumpster used for the same should be capable of being easily lifted by the municipal truck. Total dumpster capacity required would be equivalent to a day's garbage generation. Adequate parking space is to be provided for the municipal truck so that it can easily lift the dumpster.



Reference image of a dumpster (size not indicative)

7. Garbage cans shall also be placed at appropriate locations in the landscape area, as well as other common facilities, to ensure that garbage is appropriately thrown by users at all times.
8. The garbage path shall be duly mopped and cleaned after the garbage trolley has been taken through it to the dumpster.

Communication Setup Guidelines for the design team:

1. At start of every project, the Project's Lead internal Architect shall setup the following email groups (IT help can be used) within 30 days of the start of design for any new project:
    a. For large and very large projects:
        i. Projectname.Architecture@lodhagroup.com
        ii. Projectname.Structure@lodhagroup.com
        iii. Projectname.MEP@lodhagroup.com
        iv. Projectname.Facade@lodhagroup.com
        v. Projectname.Landscape@lodhagroup.com
        vi. Projectname.Design@lodhagroup.com

    ID's i-v will cover all associates from each cell within design working on that project. ID vi. Shall be a combined ID of ID's i-v.
    b. In case of small and medium projects, only ID vi. shall be created.
    c. The projectname shall be the marketing name eg. if project name is Lodha Belmondo, it shall be 'belmondo.design@lodhagroup.com'. If marketing name is not known at time of email ID creation, the projectname shall be a short description of the project location eg. 'pune.design@lodhagroup.com'.
    d. At end of each month, the Project's Lead internal Architect should ensure that the email ID's are updated for any associate who is added/leaves the Project's design team.
2. All design partners and the internal Lodha teams should be advised to mark all emails to anyone of the aforesaid groups, with ID vi. being used ONLY IF ABSOLUTELY NECESSARY. Of course, this shall not apply to personal or confidential correspondence or emails which only require to be sent to select individuals in the opinion of the sender. Design partners and the internal Lodha teams should be advised to mark emails only to the concerned groups and refrain from using ID vi., unless absolutely necessary.
3. Marking too many people on an email or using 'reply all' should be avoided, since unnecessary marking of emails to people who are not directly concerned leads to productivity loss and lack of clarity on who is supposed to respond.
4. The highest level person working from each cell on a given project shall nominate one person from their own cell who shall be the 'Communication Lead' for each one of the aforesaid email IDs. No 'Communication Lead' shall be nominated for ID vi. in case of Large and Very Large Projects.
5. The role of the Communication Lead shall be:
    a. To read all emails marked to the relevant group ID.

b. Forward the said email to any member of the Lodha Design team who has not been marked on said email and who needs to be informed about the contents of the email (in the opinion of the Communication Lead).
c. Upload all finalized VFC drawings/details/specifications, linked to the cell, to the DMS. Uploading can also be done by other design team members, after taking due care to ensure that double uploading of same document is not done.

6. Documents in DMS should be stored using the standard naming format and recommended systems of the DMS – pls refer to 'Document Mgmt Guidance Manual - Aconex 2010.pdf' for further details.

Procedure for Sampling

It has been found that a lot of time and energy is gone to get sampling done for finishing/landscape/external paint works. Often, it is also found that sampling is done AFTER choosing the contractor, rather than before. This leads to a situation where a contractor completely controls the quality of work and we have no reference to tell him what the expected works should be.
In order to ease and speed up sampling (including External Paint shade etc.) and also ensure that sampling for the contract is done & approved BEFORE award, following process shall be followed:

1. Procurement has identified certain contractors as pre-selected contractors for sampling as per Annexure A. The list shall be updated and circulated by HOC-Finishing package Procurement annually (around Diwali each year).
2. These contractors may or may not be the final contractors for the job but they will conduct the necessary sampling as required by Design.
3. It has been agreed to pay them at Direct Cost (materials and direct labour, excluding any overhead) + 20%.
4. When giving instructions for the sampling, Design should ensure that all details/decisions required for execution are available at site. Further, Design should ensure that no. of options/iterations are limited, else costs will keep escalating.
5. Contractor has agreed that on receipt of written/email instructions from Design or CM (level 2 or above), they would start the activity within 7 days and would complete the sampling activity in maximum 3 weeks. No work order shall be required for such sampling activities.
6. On approval of the executed samples, Contractor would submit bill to CM, who shall verify and send the bill as per agreed rate of Direct cost + 20%. Cost shall be paid from Construction Discretionary Budget.
7. If later required by Procurement, the Contractor shall submit detailed costing to Procurement, to enable Procurement to better understand costs for the entire project.
8. Once Design approves samples, the specifications and scope of work will serve as a part of the tenderable specifications.
9. The approved samples should be retained at site, preferably till the end of the actual works of the relevant contract, so that the reference sample is always there to compare against the final works done. In order to ensure this, CM should preferably allocate a space for sampling where it would not be required to remove the sample before the end of the said building/project.
10. The single point contact for any issues with the sampling contractor shall be – Smita Jadhav (smita.jadhav@lodhagroup.com, extention 4906 at Corp Office).

Annexure A

Updated as on **30.11.12**

Project Segment	Category	Contractor	Contact Person	Contact Details	Email
Luxury/Hi-end residential + Excelus/Supremus/iThink office + Experia retail; All clubhouses/sample flats/sales offices	Interior Finishes, including typical lobby sample etc.	Zigma Enterprise	Mr Sharnappa	9821012960	zigmaenterprise@gmail.com
		Racheta Interiors	Mr Satish Tamba	9867390584	satish.tamba@racheta.in;
		Ami Constructions	Mr Dipesh Naik	9820046438	amiconstruction@yahoo.co.in
Aspirational/ Casa residential + Boulevard retail	As Above	Hansram Mistry	Mr Suresh Mistry	9987087836	sureshnsuthar1981@gmail.com
		Sai Shraddha Interior Works	Mr Sarwan Chourasiya	9833575799	saishraddha2000@rediffmail.com
All Projects	Landscape:- Hardscape and External Cladding	Hansram Mistry	Mr Suresh Mistry	9987087836	sureshnsuthar1981@gmail.com
		AG Constructions	Mr Mahender Gour	9820573075	agconstruction1365@gmail.com
		Praval Interiors	Mr Jitesh Manial	7738267777	jmanial@gmail.com
All Projects	External Paint Finishes	Damani Dyestuff	Mr Ashish Damani	9820307366	ashish@renovocoatings.com
		Akzonoble	Mr Rajesh Nair	9167716565	nair.rajesh@akzonoble.com
		Asian Paints	Mr Varun Somaiya	9820745464	varun.somaiya@asianpaints.com

These will cover MMR and Pune site. Names for Hyderabad site shall be circulated to Hyderabad Design and CM teams by **6.12.12**

Communication of significant changes in Design in post launch phase

In the event that there are important changes viz. **those that change the key USP's of the project from a customer perspective**, the same should be communicated using following guidelines:

a. A brief note should be prepared explaining the reason for the change and the + and – impacts of the changes. Post-launch changes have to be 'marketed' well and their positives explained, rather than just 'informing' marketing that this is what it is.
b. Note and communication strategy should be discussed with Director-Operations or HOD-Design, prior to giving to marketing.
c. Changes should be communicated in person to marketing/sales, rather than over email. The note should be handed over at such meeting.
d. If there are things on which marketing/sales has major pushback, same should be noted and discussed with HOD-Design OR Director-Operations. Closure should be brought on the issue within 7 days of meeting with Marketing/sales.

This does not apply to minor changed which have no significant customer impact eg. parking layout, structural design, MEP system design, lift lobby design etc. It primarily applies to changes in following:

a. Addition of significant buildings in overall layout
b. Unit Layout
c. Building height by greater than 3 floors
d. Floor to floor height by greater than .15 m (if FTF height has been an important part of the marketing)
e. Significant location changes/deletion for Key Common Areas
f. Key common areas size reduction by > 5% (if size has been stated in brochure)
g. Landscape size reduction by > 5%

Concept note: Neighborhood Retail in Residential developments

1. Neighborhood retail has twin objectives of enhancing the livability in residential developments and profit maximization
    a. Livability objective: limited to up to six amenities which have significant livability impact viz. supermarket, medical clinic, ATM, F&B with quality operator (as part of club services), Laundry (select hi-end and luxury project only), Pre-school (select hi-end and luxury project only). Preferably will be on lease / revenue / profit share basis with option of leasing being below market rate in first term and increasing over subsequent terms time as operations become more viable. These amenities should be present at all large and very large projects (unless already available within 1 km driving distance). Select may be considered for small and medium projects.
    b. Profit maximization objective: applicable to all other retail categories/ amenities. These units should be sold.

Summary of commercial model:

Objectives	Sold/ Leased	Key commercial terms	Roles and Responsibilities
Livability	Leased	• Full tenure: typically 3 years to max. 5 years • First term: limited to max. 1 year • Commercial rates: lease / revenue / profit share, sale should be avoided unless absolutely necessary; First term lease rate can be discounted up to 50% of current market rate; Term should be kept as reasonably short as possible so that betters commercials can be negotiated with the operators once viability is established.	Retail strategy + Retail sales to jointly identify retailers and finalize commercial terms. Should ensure that these are operational within 6 months of commencement of possessions. Deal execution: Retail sales team
Profit max.	Sold	• As per sales plan	Retail sales team

2. Preference of placing retail units in design plan
    a. Livability categories should preferably be placed in the free of FSI areas, where we will not seek to derive commercial value (e.g. Podium where permissible, Clubhouse etc.). If not feasible, can be placed in FSI area.
    b. Rest of the categories should be placed in FSI space

3. Scope of what we provide in the retail units will be similar to finishes in shopping arcades. Includes the following:
    a. Core & Shell, basic flooring, 1 coat of paint, rolling shutter
    b. Electricity and Water (if applicable) up to single point in the unit. Separate meters to be installed, and charging will be on actual.
    c. Provision for Telephone line up to single point in the unit. Retailer to apply for telecom connection on their own as required.
    d. No centralized HVAC, fire fighting will be provided. Retailers to make provisions on their own as required.
4. Common areas outside the retail units will be managed by FM. CAM same as that for residential development will be applicable to the retail units.
    a. For leased units, CAM will be collected on quarterly basis.
    b. For sold units, CAM will be pre-collected for 18 months (or as per the CAM period for the residential development).

Note: These are directional guidelines and DD/PD/Retail Sales Head/Retail Business Head can evolve these further to maximize value to company.

High Rise Committee (HRC) requirements

1. Architecture drawings – Resp: Project Architect
    a. Layout
    b. All floor levels
2. Structure drawings Resp: Project Structural Designer
    a. Foundations
    b. All floor Levels
    c. Structural Load calculations
    d. Wind tunnel test report (not desktop study) if building > 250 m or if building height > 150 m + aspect ratio > 8.
3. Environmental report (to be prepared by specialist consultant, not the MOEF consultant) Resp: Internal Project Architect
4. CFO NOC (Resp: Liaison)

Internal Project Architect shall ensure that following are submitted to Liaison HRC coordinator within 3 months of start of design, to enable the HRC process to commence:

1 a. & 1 b.
2 a., 2b. and 2c.

All other requirements should be ready 7 days prior to first HRC presentation date.

This is applicable for all buildings having height above ground (upto last habitable floor) greater than 70 m and located in BMC limits.

Indoor Sports Court Guidelines

These guidelines cover indoor sports courts which are used for following games:

a. Basketball
b. Volleyball
c. Badminton
d. Tennis
e. Squash
f. Table Tennis

Basketball, Volleyball, Badminton, Tennis

i. Height should not be less than 6 mtrs clear (below light / AC fixtures)
ii. If possible, natural lighting provision should be made by providing fixed windows above height of 4.5 m.
iii. Court should be air-conditioned, except for Casa projects where natural ventilation can be considered.
iv. Standard dimensions for various courts:
    a. Basketball: 94 feet x 50 feet (half basketball: 47 feet x 50 feet)
    b. Volleyball: 18 m (59 feet) x 9 m (29.5 feet)
    c. Badminton: 44 feet x 20 feet
    d. Tennis: 78 feet x 27 feet (singles) or 36 feet (doubles)

    In addition to the above, movement/playing space of min. 2.4 m on the longer dimension of the court (both sides) and 1.2 on the shorter dimension of the court (both sides) should be provided.

    All dimensions stated are finished and clear dimensions (excluding structure).Proper care to be taken by the design team while coordinating structure, as for competitive sports/competitions the clear dimensions are verified by appropriate authorities

v. If a court is to be used for multiple sports, it is essential to ensure that the Courts are fitted on plan to see how it will be possible to use the court for multiple uses (either at same time or otherwise). If full basketball court is not feasible, half basketball court is possible. Ideally, a multi-purpose court should be sized according to the size of the sport which requires maximum space and atleast two additional courts/sports should be accommodated therein.
vi. The line markings for each sport should be done in different colours.
vii. The flooring should be a 6 mm thick PVC (or equivalent).
viii. The court should be well-lit for use during all times and the lighting arrangement should take into account the impact of glare on all sports that are planned to be played on the court.
ix. Upto height of 1.8 m (max. 2.1 m) from ground, a foam/equivalent packed wall panelling should be provided so that when the ball/players bits the wall he/she is not injured and the ball doesn't leave a mark on the wall.
x. Colour of wall and wall panelling should be such that dirt is not easily seen.

Squash

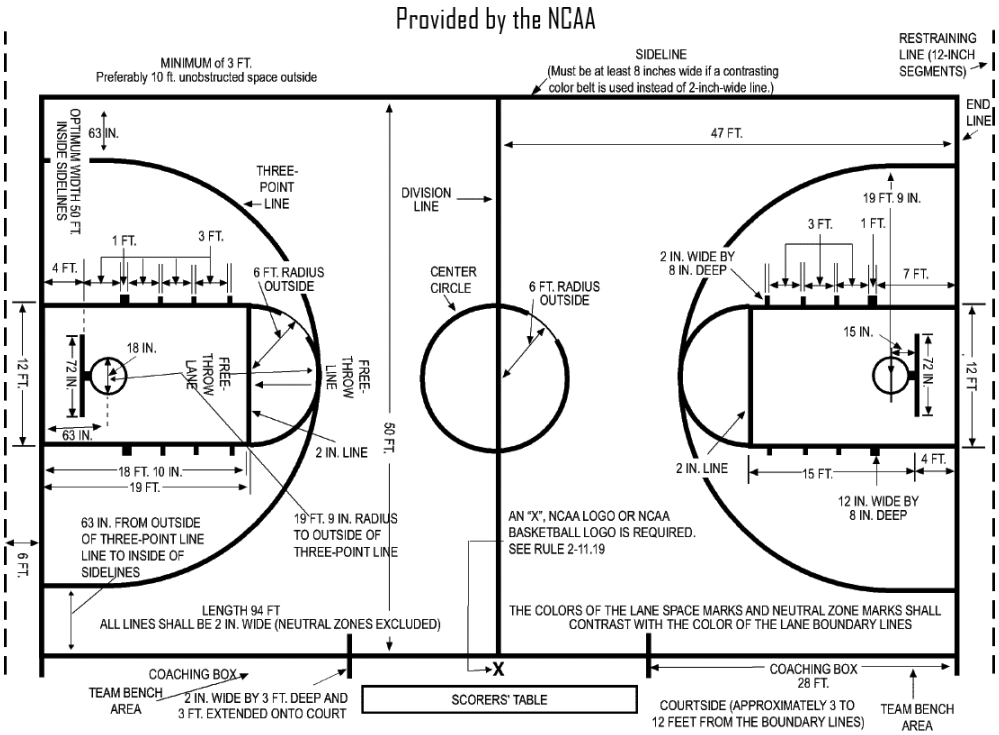
i. Standard Dimensions for Singles Court: 6.4 m (21 feet) x 9.75 m (32 feet) with clear height of 5.64 m (18 feet 6 inches)). The clear height shall be measured to the underside of the lowest obstruction including lights.
ii. Flooring: Maple wood floorboards (WSF certified).
    a. Sub base of IPS, with Anti-termite treatment followed by 6 mm Vapour barrier.
    b. Wooden sleepers with cushion pads below are laid on the surface.
    c. Maple wood floorboards are installed and a sealer coat applied.
iii. Court Markings: All court markings shall be 50 mm wide and contrast in colour to adjoining surfaces, all wall markings shall be the same colour and all floor markings shall be the same colour.
iv. Walls:
    a. The front and 2 side walls shall be in solid blockwork and shall have a Rebound Hard Plaster coating. A 0.48 m high Tin (Sound board) to be installed at the bottom of the front wall. The Tin may have advertising, logos, club or sponsors names.
    b. The 12 mm thick toughened rear Glass Wall to have a glass door in the middle.
v. Windows: There shall be no windows or other areas of glazing over any part of the court. If windows are provided in any walls above or adjoining the court they shall be provided with blinds.
vi. Lighting: The court shall be lit by artificial light. The minimum level of illumination measured 1000 mm above the finished floor shall be 300 lux.

Table Tennis

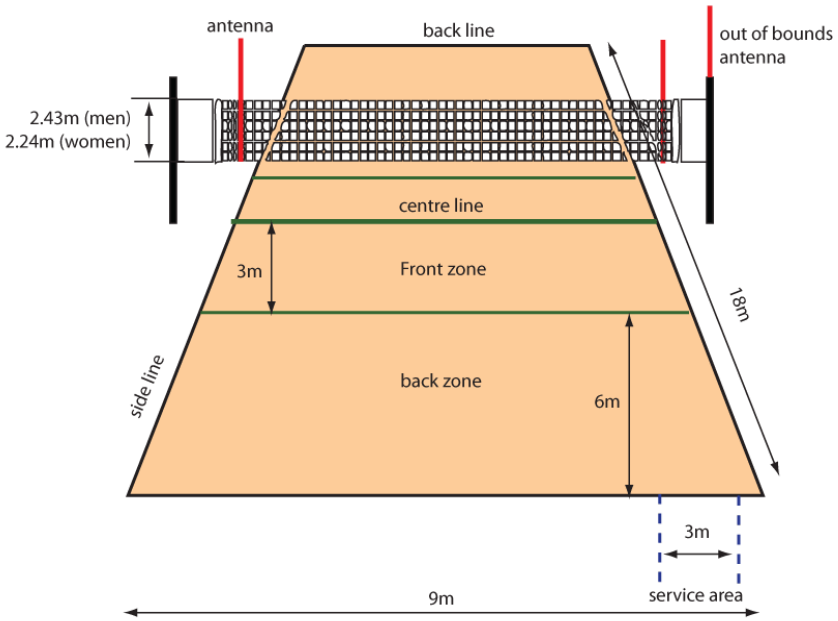
The table is 2.74 m (9.0 ft) long, 1.525 m (5.0 ft) wide, and 76 cm (2.5 ft) high. The table or playing surface is uniformly dark coloured and matte, divided into two halves by a net at 15.25 cm (6.0 in) in height.
The ITTF approves only wooden tables or their derivates.
For a full size **table** that is 9 feet long and 5 feet wide, clear **space** at least 19 feet long and 11 feet wide is required for play without feeling too cramped.

Appendix:

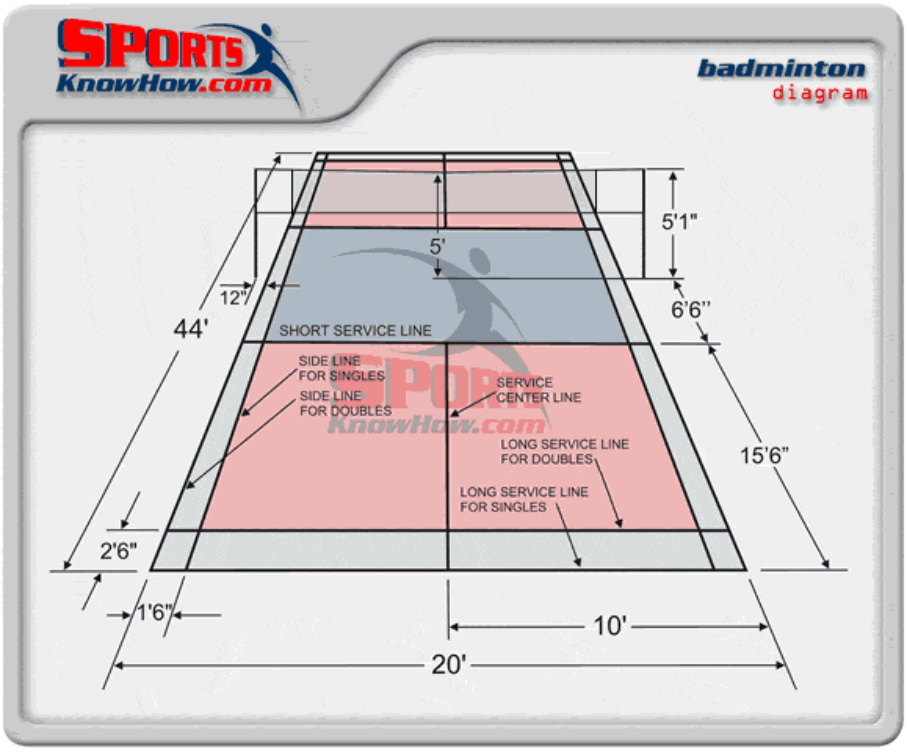
Basketball Court



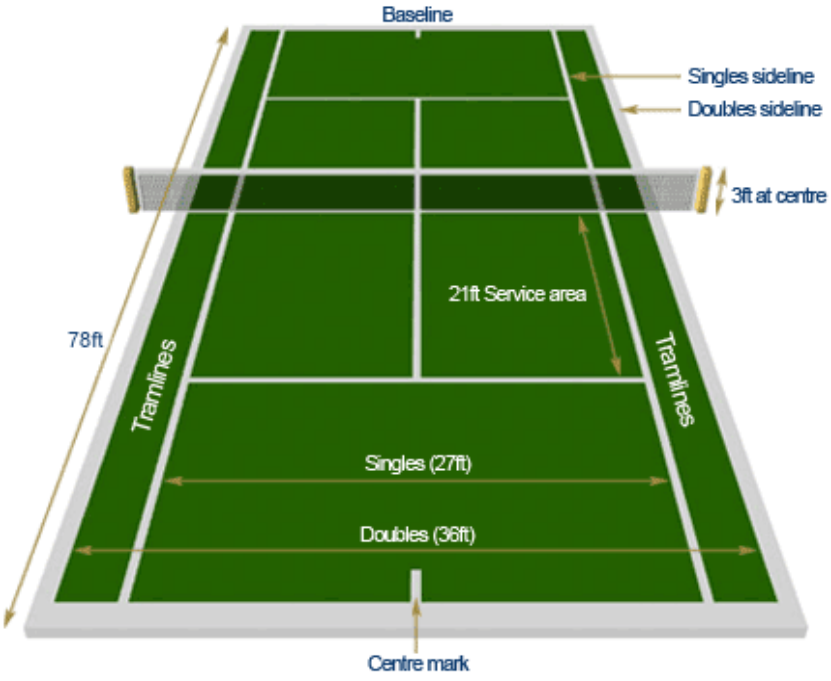
Volleyball Court



Badminton Court



Tennis Court



Squash Court

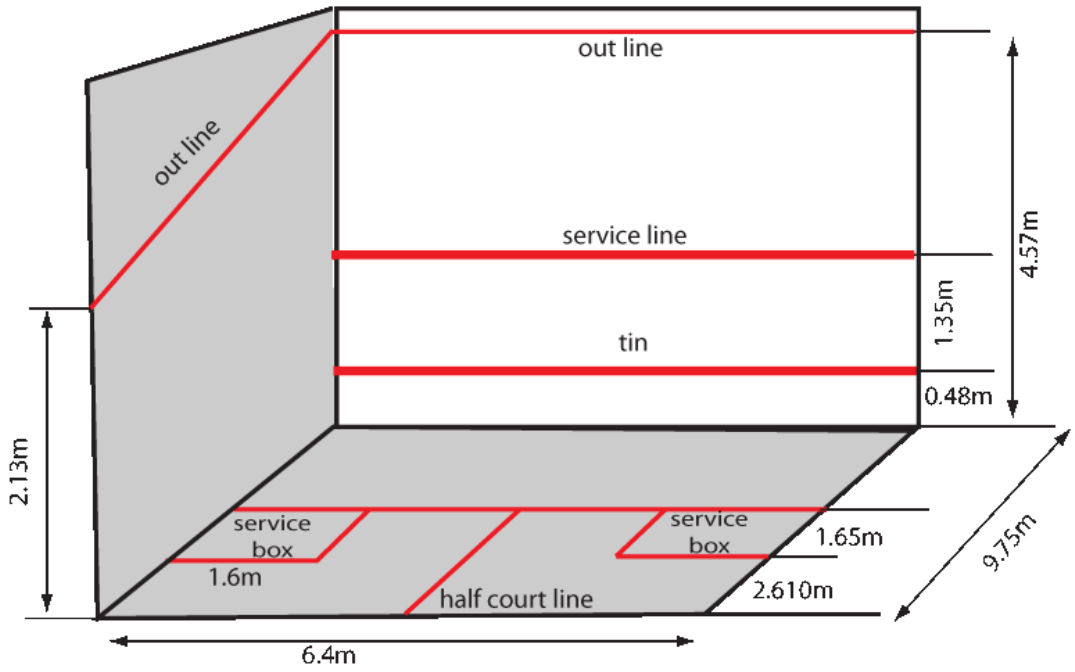
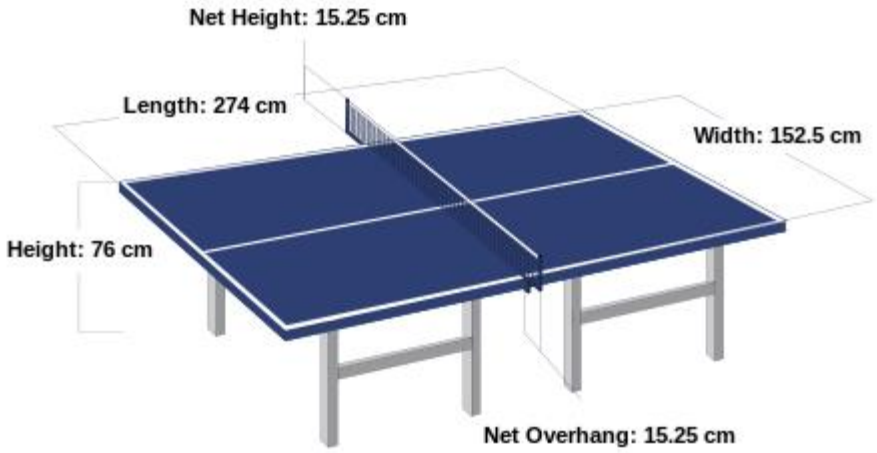


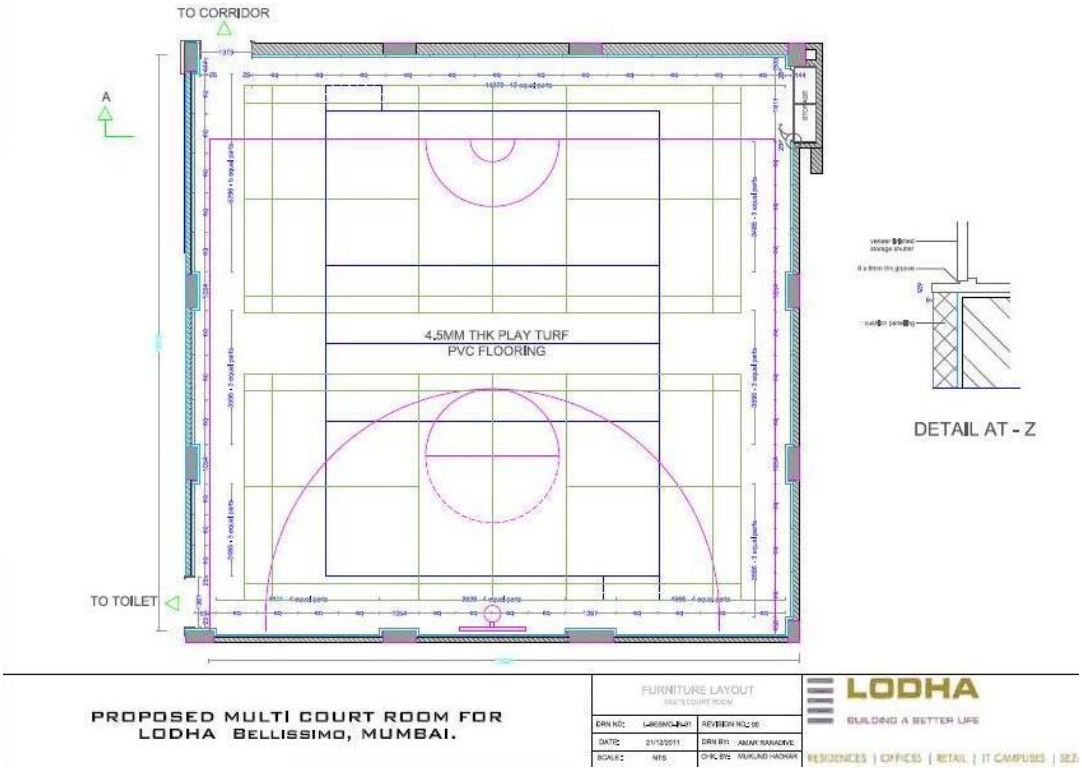
Table Tennis



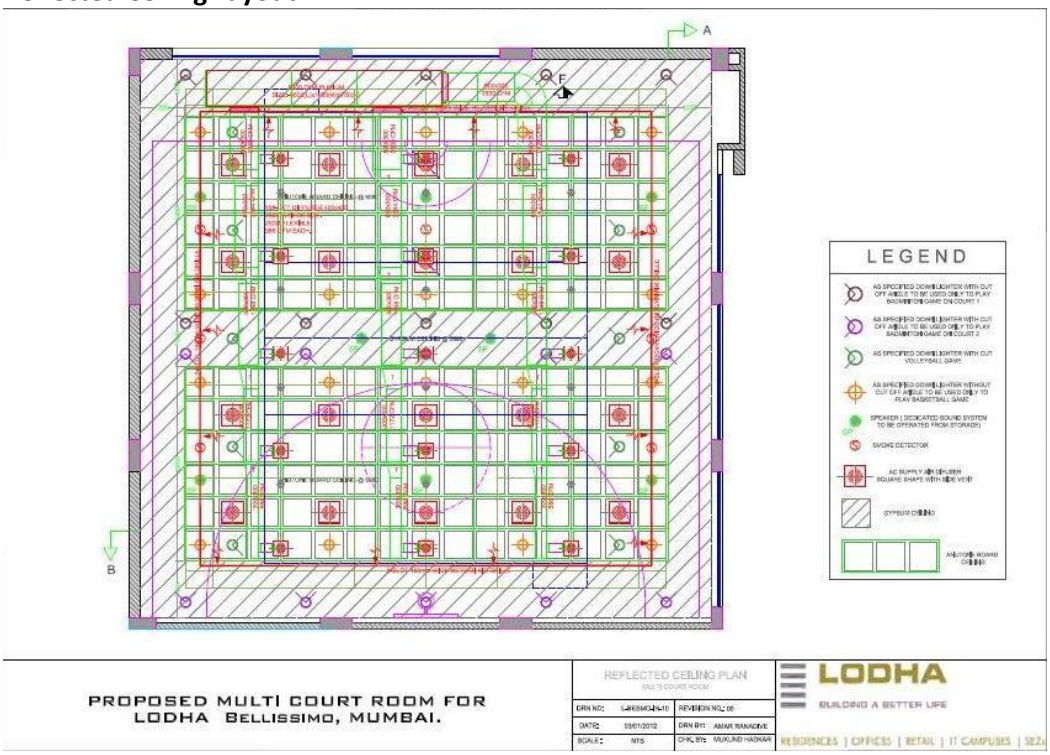
Multipurpose Hall at Lodha Bellissimo, Mahalaxmi – some details

Note: this hall was not ideally planned and has several areas of improvement in the plan. The finishing and other details are quite good. It currently accommodates a half basketball court, a volleyball court and two badminton courts. At any given time, one can play two games of badminton OR one game of volleyball or one game of basketball.

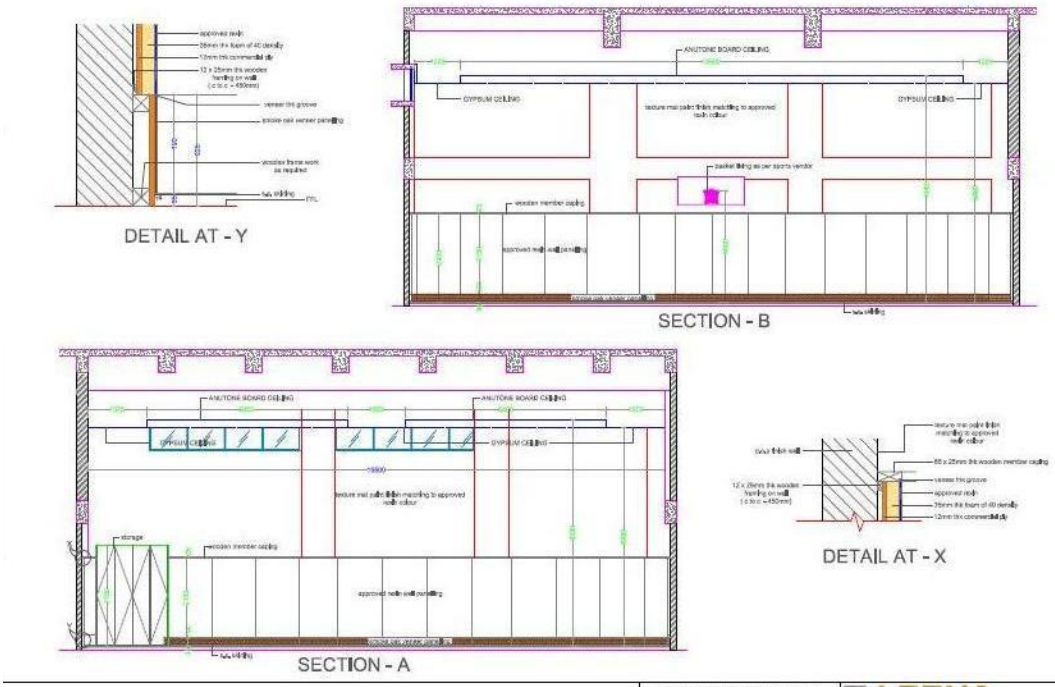
Plan



Reflected Ceiling Layout



Section



Finished Photo



Slab Checking Policy:

Following slabs are to be checked by Design team for each wing:

1. All non-typical slabs, including but not limited to:
    i. 1st slab cast
    ii. Terrace level slab
    iii. Any other non-typical floor slab (if such slab occurs more than once in the building eg. refuge level, then checking to be done only once on the first level on which same 'exact' slab is cast)
2. 1st typical slab and every 20th slab thereafter

For the aforesaid slabs, the checking should be conducted by:

i. One member from Lodha's Architecture team
ii. One member from the external architect
iii. One member from the external structural engineer

For the 1st typical slab and any service/mechanical floors, following additional members shall also be part of the checking:

iv. One member from Lodha's MEP Design team
v. One member for the external MEP engineer

For Lift Machine room slab, the checking should also involve the Lift vendor.
Regardless of what is stated hereinabove, every slab has to checked and approved by an authorized representative of the external structural engineer, authorized CM associate and authorized CM-MEP associate.

Steps to be taken in case of Major Changes to Project Design after start of Construction of the concerned wing/building

Following changes, if made after the approval of concept design, shall be classified as a Major change for a given plant:

a. Change in the no. of levels of any building exceeding 2 levels.
b. Change in the user of a saleable building or part thereof (>10% of the BUA of the building).
c. Change in the footprint of the building by > +/- 5% (in terms of BUA).
d. For Infra Package - Addition of a new plant to the layout
e. Changes due to FSI requirements or liaison requirements resulting in addition or removal or modification in unit Typology or configuration, changes in floor plate layout or sizing, Structural framing, floor to floor height, relocation of Refuge, Fire check floors, water tank relocation within tower footprint
f. Changes due to Addition or removal or re-location of major KCA/Infra Amenities such as Clubhouse, party hall, banquet, swimming pool , water bodies etc
g. Addition of New Phase /Building within physical limits of current marketing project

Classification of any other modification as a major change shall require approval of HOD-Design OR Director-Design

Any item classified as a major change shall impact the target dates of the linked drawing packages by upto 8 weeks.

The major change and the list of packages affected (DD/VFC) shall be agreed in writing/online by the HOD-Design and the Project Architect (external and internal), within 2 weeks of such major change request being made.

1. Any such request shall be directed to the Project Architect, who shall act as the coordinator of the change request. Such change may be requested by any part of the Lodha organization.
2. Before starting any work in relation to this change request, Project Architect shall discuss the same with the HOD-Design and take his/her approval as to whether to proceed ahead with investigation of the same.
3. Subject to such approval from HOD Design, co-ordinator shall prepare initial feasibility summary(with inputs as may be required from Planning, RCEO's office, COO's Office, Procurement , DCO /PCA , Marketing teams) covering:
    a. Time Implications
    b. Cost Implications
    c. Implications on customer commitments eg. room dimensions, flat areas, amenities, views etc.
    d. Procurement implications
    e. Liaison Implications
    f. Any other implications which are important in view of the coordinator.
    Such feasibility shall also require basic discussion with the Project's External Architect and possibly, with any other external consultant whoose design is likely to undergo large change.
4. Based on this feasibility summary, a joint meeting shall be convened with following participants:
    a. Director-Operations
    b. COO

c. RCEO
d. Project Head – Const Mgmt
e. HOC's of all design cells / representative(s)
f. HOC-Planning / representative
g. HOC-Cost Management / representative
h. Liaison representative
i. Procurement representative

The coordinator shall ensure that such meeting is held no later than 4 weeks from the date of receipt of request for the said Major change. This group shall decide whether the request is to be proceeded ahead with in same/modified form.

5. Post the decision under 4, co-ordinator shall issue instructions to the concerned consultants to make amendments to the VFC drawings. The co-ordinator shall also inform Procurement of the proposed changes and ask them to hold necessary discussions with the concerned vendors/consultants. In the event that the proposed changes have major customer implications, the same shall also be discussed with Sales and Customer care and necessary actions taken to update the marketing and legal documents.

Change Request Form for Design Changes

- Date of change request: ___/___/20___
- Request made by (name and department):
- Nature of change (describe in 100 words or less):
  _____
  _____
  _____
  _____
  _____
  _____
- Does this change qualify as a 'major change' (see policy): ____
- Assessment of impact (estimate at time of decision to proceed with change):
  - Additional time for release of design packages (state time in weeks and name of package):
  - Net delay in possession date / KCA completion date (state in weeks):
  - Change in Construction Costs (Rs. Lacs):
- Reasons for change:

Reason	**Applicable (Yes / No)**	**Estimate +ve Impact**	**How can changes of this nature be avoided during construction phase in future**
Regulatory / Liaison Reason		NA	
Time Saving		____ weeks	
Cost Saving		____ Lacs	
Customer Benefit			
Brand Standards			
_____			

Decision: **Approved / Declined;** On : ___/___/20___ ; By: _____ (state name and department; min. Level 2 of Design / if 'major change' approval of min. Level 1 of Design)

Note:

a. This form applies to all requests for design changes, not just major changes.
b. Decision on all change requests is to be made within 30 days of the date of request.

Design – Liaison Coordination Timelines & Process

Criteria:

a. **Completion of construction (with OC) in 3 y 9 m from date of land being available (with min. required consent in case of tenanted properties).**
b. **Once construction is started at site it should not be stopped till OC.**

In order to achieve these criteria, following steps/measures are required for coordination between design and liaison:

1. Before concept design is progressed, the design team shall discuss with Liaison teams about the DCR and policy of approvals of that area and land details and the physical area. Design team to plan the buildings stringent of physical and revenue records, which overlap line shall be given on AutoCad by Liasion within 2 weeks of project design team asking for the same.
2. HoD-Design should meet with the key Internal Liaision leads atleast once a week – both need to treat each other as key stakeholders.
3. All Lodha drawings are to be done (including from external architects) in commercial version of the software.
4. All approvals drawings should be done using the design drawings as base (not recreate from scratch).
5. As soon as concept design for a project has reached a phase of some maturity/90% certainty (including Façade), the same should be shared by Design with Liaison, so that Liaison can initiate long-lead approvals which require broad information but not detailed design eg.
    a. Civil aviation clearance (if applicable) (GPS Survey to be done at start of project)
    b. Environmental clearance (if applicable*) < Design team to give the approx. BUA, Construction area and the Tenement details etc for submission to SEAC at this time. Generally, environmental clearance takes about 2-3 months before our turn comes and in this period, design should be able to complete concept design and other details required for environmental clearance.>*
    c. CRZ clearance (if applicable)
    d. Similar
6. There will be only 2 rounds of plan approval for each building:
    a. Round 1 (to be submitted for approval max. 6 months after date of land being available):
        i. Design covenants:
            1. Should accurately cover all works that are to be done in first 6 months from start of construction.
            2. Carpet area of each unit should be within +/-3% of its final carpet area.
            3. There should be no change to plinth from the design as per Round 1 approved plan OR plinth CC should be > 6 months after Round 1 approval.

4. At this stage, the non-saleable building areas such as club house, parking etc. can be 'dummy' plan (but preferably the location and area should be 90% accurate).
5. Prior to submission to authorities, submission drawings shall be given by Liaison (Internal Team) to Design for review and Design shall ensure that such review is done within 2 working days and any comments/discrepancies pointed out to Liaison (Internal Team).
6. Building cannot be opened for sale without Round 1 approvals (and if it is to be opened, approval of Director-Liaison has to be taken).

ii. Liaison covenants:

1. On receipt of Round 1 plans Liaison (Internal team) will ensure detailed feedback on anything which may require to be changed for regulatory perspective including CFO, Civil Aviation etc. within 2 weeks.
2. When Round 1 approval is taken, liaison should take CC upto maximum no. of floors (eg. top of podium).
3. Liaision incharge should maintain list of items which are deviations in round 1 from actual design intent, so that the same is streamlined in Round 2.
4. Round 1 approval (including CC) should be obtained within 2 months from submission i.e. max. 8 months from date of land being available.
5. Liaison + Ops Strategy to explain to Design as to what 'non saleable' building (if any) eg. fire station, EWS will be needed to be ready for FSI release/OC and Design to take cognizance of these timelines.

b. Round 2 (to be submitted for approval approx. 4 months after Round 1 approval):

i. Design covenants:

1. Once Round 1 approved plans are received, they should be thoroughly scrutinized by the Project Architect (Design Team) and it should be ensured that all deviations from actual design intent is discussed with Liaison (internal team) and agreement reached on what is finally to be built – we can only build what is approvable in Round 2 approvals (no post OC / no 'will not be seen' so build).
2. This will be the final approval and should cover 100% of building as it is to be built, including parking, BOH areas(Refer Policy # 37 key Conveniences in Parking and other common areas), above terrace design etc.
3. There should be no change in units carpet area which exceeds +/-3% from Round 1 approvals wrt any sold units.

ii. Liaison covenants:

1. Should incorporate all deviations from design intent which were not incorporated for Round 1. Prior to Round 2 submission to authorities, submission drawings shall be given by Liaison (Internal Team) to Design for review and Design shall ensure that such review is done within 2 working days and any comments/discrepancies pointed out to Liaison (Internal Team).(Drawing format to be discussed with Liasion Team.
2.
3. Round 2 approval (including further CC) should be obtained within 2 months from submission i.e. max. 14 months (6 for Round 1 submission + 2 for Round 1 approval + 4 for Round 2 submission + 2 for Round 2 approval) from date of land being available.

c. Future approvals should only be about payments of premiums / loading of TDR etc. and this should be optimized basis effort and cost of approval v. cost of premiums/TDR.

7. **Operations Strategy/RCEO's Office/PD should ensure no site works are to progress beyond concerned level without further CC. In case work is getting stalled, columns can be cast above the level for which we have CC and slab can be tied but not cast.**
8. 4 months before target OC date, Liaision, Design, CM and Ops Strategy will do joint site review and discuss the priority works to be done for OC.
9. **Liaison will strive to obtain OC at the earliest (including bare shell OC, wherever possible).**

Budget modification Process – (steps to be followed):

When a particular L1 level package ("*subject package*") in a plant requires escalation:

a. Check the unit rates and quantities assumed with external benchmarks and historic company data. Data provided by CCAA (Const Cost Analytics and Audit team) should be used.
b. Check whether 'increased' spend on the subject package is justified from a consumer value perception perspective. (refer to '*Perceived Value Matrix'* guidelines).
c. Conduct VE for subject package. Once VE is finalized, use contingency of subject package
d. Check if any surplus contingency is available from any other substantially progressed package (where > 80% of the cost is locked in / known). If so, use the said surplus contingency and allocate to the subject package.
e. Check if VE can be conducted on any of the balance packages which are not falling in category d. If so, use the amount saved as a consequence of the VE and allocate to the subject package.
f. If the budget requirement of the subject package cannot be met after using all of the above measures, an intermediate approval to be taken from Director-Operations for increase to the subject package budget (max. 2 instances per plant) and then update into overall budget at time of the budget review as per the guidelines stated in '*Budget Types, Changes and Approval Process thereto*' (9/15/18 months from const start OR at time of const start, if const start is delayed by more than 6 months from the time that was considered at time of finalization of concept budget OR if the project is stalled for > 120 days). When making such intermediate approval request, Cost Mgmt has to certify in writing that '*steps a. – e. enumerated hereinabove viz. VE and contingency allocation have been fully explored and hence, this intermediate budget approval request is being made for the subject package*'.
g. It is to be noted that any of the contingency or overhead budgets will NOT increase after DD budget is finalized, even if there is a change in the package and/or plant budget.
h. Any change in L2 or lower levels shall be as per the norms suggested in '*Budget Types, Changes and Approval Process thereto*' policy, as long as L2 budget is not exceeded.

This process is to be conducted by concerned Design Lead + the Cost Mgmt team (Budgeting + Estimation) and completed within 4 weeks of the ~90% design details being made to Cost Mgmt by design.

Washroom (/Toilet) finishing guidelines for Key Common Areas (located in clubhouse / lobby /sales office / equivalent):

Category A (5 star luxury): Hi-end & Luxury residential, Luxury Retail* (* Category not defined currently), Excelus

Category B (4-star / 5-star business): Experia Retail, Supremus Office, Aspirational Residential

Category C (3-star): Signet, Casa residential

Minimum sizes	**Category A**	**Category B**	**Category C**
Sanitary Fittings	As per standard followed for residential buildings in that category	As per standard followed for residential buildings in that category	As per standard followed for residential buildings in that category
CP Fittings	As above	As above	As above
Soap Dispenser	Free standing, placed in basin counter (one per basin)	Wall mounted (avoid plastic, can be shared between multiple basins)	Wall mounted (can be shared between multiple basins)
Fresh Napkins	Yes with slot for used napkin drop in basin counter (if more than one basin in counter, can be shared) and basket/sliding bin in the napkin drop slot below counter.	No	No
Tissue Paper	Free standing decorative box, placed in basin counter (one per basin)	Mounted (wall – if so SS/similar) or behind glass panel	NA. Hand dryer of good aesthetic and functional quality (1 hand dryer per 4 basins or part thereof, max. 3 per bathroom)
Dustbin (for tissue paper and other garbage)	Yes (Leather, Metal, SS, Wood/Bamboo), with appropriate design such that the garbage is not visible except when someone wants to use the bin (eg. Covered bin, bin with opening only large enough to put in the garbage)	Yes (Leather, Metal, SS, Wood/Bamboo), with appropriate design such that the garbage is not visible except when someone wants to use the bin (eg. Covered bin, bin with opening only large enough to put in the garbage)	Yes (Metal, SS, Wood/Bamboo), with appropriate design such that the garbage is not visible except when someone wants to use the bin (eg. Covered bin, bin with opening only large enough to put in the garbage)
Napkin Basket, lined inside with cloth	Yes (Leather or Wood/Bamboo) with open mouth (no lid)	No	No
Washer in WC	Yes	Yes	Yes
Toilet Paper roll (and holder) in WC	Yes	No	No
Urinal (requiring no	Yes	Yes	Yes

human touch for flushing)			
Music	Yes	No	No
Scent (through diffuser / aroma lamp)	Yes (not needed if scent is provided through AC/ventilation system)	Yes (not needed if scent is provided through AC/ventilation system)	No (regular deodorizer can be used)
Flooring	Natural Stone	Natural Stone / Tile / equivalent	Tile / equivalent
Dado	Consider full height with natural stone, even 4 feet ok with paint above	Consider full height with Natural Stone / Tile / equivalent, even 4 feet ok with paint above	Consider full height with Tile / equivalent, even 4 feet ok with paint above

Music and air-conditioning/ventilation provision to be made as per 'AC & Music Provisions for Key Common Areas'.

Reference images

Category A basin setup:





Category A Napkin Basket (if slot not feasible):




Scenting Options:

Reed Diffusers:



Electric Aroma Lamp:



Hand Dryer:


dyson airblade



Multiplex Design Learnings:

A. Ratio of 1 (height): 2 (width): 3 (length) to be maintained. Height is clear height below false ceiling (false ceiling will be 750 mm under structure) and width/length are carpet dimensions. +/- 10% variation is allowed.
B. Each hall has to be a separate sound unit – hence, the roof structure has to be separated. Generally roof structure should be a deck slab with lightweight concrete.
C. The general area requirements are as follows:
    a. Overall for multiplex: 25 sft carpet area/seat (double height areas counted once, projection room and concession stands counted once) (range of +/-10% ok)
    b. Inside each hall: 15 sft carpet area / seat (range of 14-16 sft ok)
D. For CFO purposes:
    a. Multiplex needs access to 2 staircases, atleast one of which had 2 m flight width.
    b. Multiplex floor level cannot be more than 50 feet above ground level
E. Separate Air distribution system to be planned for each zone:
    - A common chiller can work but AHU's to be separate.

Workmanship Control Unit

1. Construction Management will identify one unit as Workmanship Control Unit (WCU) in each cluster. WCU & Lobby shall generally be done on 1st habitable floor of the building (or max. 3rd habitable floors if the first 2 floors are being used for construction related purposes eg. Stores).
2. Start of workmanship control unit – Start date of date of start of internal partitions in the building; Completion of the workmanship control unit should be within 6 months (4 months in case of buildings <=30 m) from the date of start of internal partitions in the building.
3. The goal would be to understand the acceptable level of execution of trades, constructability and compatibility as well as wastage and other relevant factors, prior to implementation across the entire wing/building.
4. The work inside WCU will be done by the actual contractors for the wing/building (not a specialized contractor only for the WCU). The contractor's scope in the WCU is to be done post design finalization + tender award.
5. Each contractor shall be made to complete its scope of work in this unit first (before they start work in other units) and all issues wrt acceptable standards/workmanship will be identified and finalized by Const Mgmt in this unit. Design wastage will be verified and optimized at this stage.
6. WCU can be used to reconfirm budgeted and BOQ quantities to avoid amendments or incorrect quantities being ordered at later stage.
7. The standard agreed to in this unit would become the control standard for the wing/building. Contractor will be held responsible for achieving this agreed upon standard in all units and any rework/deviation from the agreed standard shall be debited entirely (including cost of all materials) to the contractor as per debit policy (cost x 125%).
8. Const Mgmt shall be responsible for ensuring that the WCU sign off occurs (including from QE or Design + concerned CM team) for each contractor. The said contractor should start on any unit outside the WCU only after getting approval of his trade in the WCU. Final sign-off of WCU (all trades completed) must include – Cluster Head, Project Head, Design Lead.
9. All key learning's must be documented and shared across contractors / clusters – Project Office; A copy of the learning's to be shared with Ops strategy for circulation across HO teams.

Design Control Unit (DCU)

Further, the WCU is not to test/confirm design but to ensure adequate understanding of workmanship/execution related issues. It may be noted that a WCU is different from a DCU (Design Control Unit) –

a. One DCU shall be done for each typology in a given marketing project
b. DCU shall be done prior to ordering of finishing materials and is to be completed within 4 months of the casting of slab on which the DCU is to be located.
c. It should be borne in mind that DCU shall be converted into sample flat for that typology.The DCU unit should be marked on allotment list as being 'to be sold with furniture and furnishing' and possession date should be stated as possession date of the last building in that project having that the said unit typology.
d. Generally to be done by one contractor, rather than separately by each trade contractor.
e. DCU shall generally be done only once per typology in a given marketing project (or more than one if finishes are drastically different from the first DCU).
f. DCU review is to be done by HOD-Design and the head of CM-Finishing working on that project **prior to ordering of finishing materials for that project**. Wastages for flooring & dado needs to be reviewed and signed off with Design & CM Head in the following format:

Sr. No.	Area Description	Tile Size (mm x mm)	Tile Name (eg.)	No. of tiles	Actual Area (Sqm)	Estimated area as per QS (Sqm)	Wastage (%)
Flat #							
1	Living Room & Passage	800 X 800	A	41	26.24	23.23	**12.96**
2	Kitchen & Store	600 X 600	B	24	8.64	7.28	**18.68**
3	Kitchen dado	600 X 600	C	11	3.96	3.75	**5.60**
4	Toilet dado						
5	Utility	300 X 300	D	23	2.07	2.03	**1.97**
6	Utility Skirting	300 X 75	E	4	0.36		
7	Deck Area	148 X 600	F	54	4.7952	4.52	**6.09**
8	Deck Area skirting	148 X 600	G	16	1.4208		

During the Final DCU review with all key stakeholders, the above flooring/dado wastage details, must be printed and put up in each respective areas of the flat for ready reference, discussion and bringing wastage in line with internal norms

Finishing Vendor's contract to be updated with the finalized actual permissible wastage, also to be captured by DCO team in the budget.

g. While conducting final review of DCU, key furniture (carcass only eg. Beds, wardrobe, sofas, dining table) and key appliances (carcass only / may be non-functional eg. Refrigerator, washing machine) should be placed (only at time of review, can be removed later) so that one can look at functionality issues in full detail.
h. While doing DCU adjacent common areas eg. Lift lobby are also to be done.
i. Even if DCU is built, WCU shall still be done for each cluster.

Ideal sequencing of works starts for WCU and generally, for building

Unit

1. Structure (including civil upstand and cast-in channels for façade (if applicable))
2. Internal Partition (including Treating joints between RCC & masonary)
3. MS Railing installation (if applicable) with primer, one coat of paint and appropriate protection
4. Concealed Conduiting
5. Waterproofing (base coat in wet areas)
6. Concealed Plumbing and ledge walls
7. Waterproofing (filling and top coat)
8. Door Subframes (if applicable)
9. Window subframes / sills
10. Internal Plaster / Gypsum
11. AC piping
12. Ceiling grinding and ceiling gypsum
13. Kitchen platform (if not modular), flooring, Dado & Skirting
14. Jud Finish & finishing of edges (Internal Plaster)
15. Windows installation
16. Entrance Door

17. Preparatory work for painting (primer and palti)
18. Electrical wiring
19. Floor polishing (except final coat)
20. Fixing of door frames & polishing (1st coat)
21. Final coat of wet floor polish (0 no)
22. Installation of door shutters & hardware
23. Protection on floor
24. Fixing of CP & Sanitary + modular kitchen (if applicable)
25. Water Testing
26. AC Installation
27. Floor polishing final tinex dry coat
28. Final coat of painting
29. Touch up of MS Railing
30. Wooden Flooring

Other:

a. For glass railing, balusters to be installed as soon as external plaster for building is done OR if no external plaster, then immediately after terrace slab (for tall buildings, it can start when RCC is 10 floors above viz when you know that the balusters will not be disturbed).
b. Façade installation (classing/glazing) can be done once external plaster for building is done OR is no external plaster, then immediately after terrace slab (for tall buildings, it can start when RCC is 10 floors above viz when you know that the facade will not be disturbed).
c. External painting can be started once external plaster for building is done OR is no external plaster, then immediately after terrace slab and parapets.

Typical Floor Lobby

1. Services on ceiling (cable trays , electrical conduits / cables ,sprinklers, wiring for fire alarms and ELV , AC ducting, etc as applicable)
2. Door Subframes (if applicable)
3. Window subframes / sills
4. Internal Plaster / Gypsum
5. Lift door frame (Shutters can move later)
6. Flooring & Dado
7. Jud Finish & finishing of edges (Internal Plaster)
8. Door frames and Windows installation
9. False Ceiling
10. Painting (1st& 2nd coat)
11. Floor polishing (except final coat)
12. Floor polishing – final coat
13. Final coat of painting
14. Fixing of fitments eg. smoke detector, lights etc.
15. Signage

Disposal of surplus items in interior stores – Guidelines

1. As much of the material from sales office / sample flat should be earmarked for use within the same project for:
    a. Clubhouse / other KCA
    b. Furnished units (some units can be earmarked as furnished at time of launch and accordingly the show flat items can be used there).
2. All furniture pieces, not covered by 1., should be reused (possibility with refurbishing) in following (in order of preference):
    a. Future Sales office / Show flat
    b. Future Clubhouse
    c. Future Entrance Lobby
    d. Site office/other CM needs
3. All electronics, communication equipment, light fittings, furnishing, kitchen equipment, food service equipment (crockery and cutlery), and art pieces, not covered by 1., should be reused in following within 12 months of removal:
    a. Future Sales office / Show flat
    b. Future Clubhouse
    c. Future Entrance Lobby
    d. Site office/other CM needs
4. All bathroom fitments/accessories should be used in site office/other CM needs within 12 months of removal.
5. For Model, see 'Arch 110 Model-related Guidelines' (Architecture policy).
6. All other items (other than those covered under 1-4) should be sold off at time of demolition of sales office/sample flat itself.
7. An inventory of all items having value > INR 5000*, with photo, should be maintained by interior stores team and shared on shared drive with Design. Following data to be collected for each such item:

Category**	Photo	Qty	Source Site	MM/YY of entry into Stores	Description / Comment

** Furniture / Electronics / Communication Equipment/ Light fittings / Furnishing / Kitchen Equipment / Food Service Equipment / Art & related / Bath Fitments / Other.

8. Any items not used within 12 months after removal, excluding furniture and electronics, should be disposed off through sale. Furniture and electronics not used in 24 months after removal to be disposed off through sale. Sale to be conducted in full lot, 2 times/year.

9. **Responsibility for this entire process lies with CM-Finishing team. Design to help with material reuse and Procurement to facilitate sale.**
10. If feasible at all, attempt should be made to make the sales office in the permanent club from the very start (eg. Belmondo, Pune). Similarly, attempt should be made to have the unit built in the final building itself (eg. Aristo, Thane).

* to be increased by 25% (rounded to nearest 1000) every leap year, starting 2016.

Public Art Guidelines:

Applies to all pieces of art which cost INR 5 lacs* or more:

Public Art should fulfill atleast any one of the following criteria:

i. Should be memorable viz. something people would like to be photographed with.
ii. Should be usable (viz. interactive).
iii. Communicate (reasonably clearly) a message which is important to the brand positioning.

In addition,

i. Generally, public art should reflect a degree of 'smart' wrt the thinking/innovation which would set it apart.
ii. Each piece should be marked with a description containing "Name of Piece, Date of Installation, Name of Artist and a brief description".
iii. Public art pieces should be 'hardy' viz. not easily damaged by exposure to the elements or human touch.
iv. Public art pieces needs to be properly secured / anchored/fitted such that they cannot be easily stolen.

* as in 2013, to be increased by 25% every leap year starting 2016

Water Cooler Policy:

Use wall mounted (preferable, else free standing) water cooler with in-built chiller and UV treatment. To lower costs, if multiple water coolers are to be installed in a stack on different floors (eg. Mall , school), sand filter + UV can be installed on the drinking water line at terrace and the water cooler can be purchased without the UV treatment (to be assessed if this is cheaper).

Other aspects:

a. Spout should always throw water 'upwards'(figure 1)
b. No wires / filters etc should be seen.
c. No glasses/cups to be provided.
d. Appropriate maintenance / cleaning should be done – machine to be inspected atleast once every 6 months (HFM responsibility). While purchasing machine, AMC rate for first 3 years after operationalization should be pre-negotiated (may / may not be included in cost but atleast rate should be fixed).
e. These water coolers and their immediate surroundings are a way to show we are 'world class' – do not use the regular water filters OR clunky water fountains.
f. Installation height should be about 800 mm to the top surface of water cooler (excluding spout).
g. If more than one cooler is being installed at a location, one can be installed at lower height (725 mm to top surface) to enable children to drink easily. This height is also to be followed for water coolers (one or more) which serve pre-primary and primary sections of schools. (figure 2)



Figure 1



Figure 2

Interface between Masterplanner and other designers in masterplanned layouts:

In case of large layouts, the masterplanner plays the key role of unifying the thought processes of various other designers and also ensure that the overall vision of the development is constantly reinforced.

In order to achieve this, it is necessary to ensure good co-ordination between the following specialist designers and the masterplanner:

a. Architect
b. Landscape Architect
c. Designers/contributors to any public space
d. Infrastructure Engineers

Scope/authority/responsibility of the masterplanner, in relation to any area concerning the aforesaid consultants, is as follows:

	Extent of Involvement of Masterplanner 0 ----------→ Significant Involvement		
Activity	**Intimation / Basic review**	**Detailed review & Input**	**Veto**
Consultant shortlist for any of the aforesaid categories		Yes	
Brief Finalization for areas involving aforesaid consultants (*Lodha Design to provide basic data and initial draft*)		Yes	
Consultant Appointment	Yes		
Initial briefing of consultant		Yes	
Setting up of urban planning guidelines/rules			Yes (Masterplanner shall be responsible for writing & finalizing these)
Concept Finalization	Yes (for all areas other than landscape and public spaces)	Yes (in case of landscape and public spaces)	

Further, Masterplanner shall conduct an annual review (quarterly for first 12 months after concept approval of masterplan, 6-monthly for 12 months thereafter and annually after that) of the development wrt adherence to vision and urban planning guidelines/rules and have in-depth discussion on steps to be taken for improvement with the Development Director (DD). Masterplanner

and DD will add other knowledgeable/eminent individuals to the review forum, as may be appropriate in order to have varied views and skillsets. The DD will be responsible for appropriate implementation of the decisions made in this annual review.

Other:

i. Aforesaid scope shall be included in the scope of the masterplanner at time of appointment.
ii. Masterplanner should have adequate resources and setup necessary review process to service these activities.
iii. Unless otherwise mentioned, Lodha Design team working on that development shall be responsible for ensuring that the aforesaid is adhered to and reasonable info/support is provided to the Masterplanner in a timely manner.

Livability Retail in Resi, Office (and Mixed Use) Projects

(Replaces Neighborhood retail in residential developments-Concept note)

1. **Requirement of livability retail in projects using 3rd parties**

Type	Livability retail category	Residential				Office
		Small	Medium	Large	Very Large*	
I	Medical centre	NA	NA	N	N	NA
I	Pre-school / Day Care(#)	NA	NA	NA (creche can be operated within the kids indoor play area)	N – for Casa or Aspi developments with > 2500 units only.	C (for iThink with > 10,000 occupants planned)
I/II	F&B (1st operator) (**)	NA	NA	N	N	N (type II)
NII	Convenience store	NA	C	N	N	NA
II	ATM	NA	C	N	N	N
II	Laundry	NA	NA	C - Luxury and Hi end only	C	NA
II	Salon	NA	NA	C	C	NA
II	Pharmacy	NA	NA	C	C	NA
II	Hardware	NA	NA	C	C	NA
II	Gym	Shall be part of club and managed by club operator				C (for Excelus or iThink with > 5000 occupants planned)
II	Training / Conferencing Facilities	NA				C (for iThink with > 10,000 occupants planned)
II	Co-working/collaboration spaces (like WeWorks) with external access	NA				C (for office building/campus with > 5,000 occupants planned)
II	Business Club (like	NA				C (for Excelus

	Belvedere)		with > 5,000 occupants planned))

Legend
N – Needed (must-have)
C – Provide if not available within 1 km driving distance

Notes
outside access permissible, but this space should not be located in private part of the clubhouse.
*For very large projects, number of each type of livability retail outlets can be increased based on overall size of development. 1 applicable livability retail outlet can be considered for every 5mnsft of saleable area and thereafter no. of outlets to be increased for every additional 5 million sft of saleable area.
** F&B 1st set up will be in the Club of residential, and standalone in office. In case of office development, space shall be provided for branded café / restaurant with external access permitted based on retail footfall potential (min. 1 for any office development with > 2500 planned occupancy) – foodcourt shall be planned if occupancy is expected to exceed 10,000 occupants in single shift in said campus.
Operations Strategy shall be responsible for ensuring that the spaces are planned (concept design phase), details are communicated to the team responsible for tie-up/leasing/sale at P-6 months and checking that they are operational as per timelines specified herein. In case of delays/issues, they should take help of Regional CEO to resolve in timely manner.

2. Commercial model and responsibilities

Classification	Objectives	Commercial model	Responsibility for Tie-up /Leasing/ Sales
Livability	Enhances livability for the customers by being operational at the start of the project's possession period. a. Type I: Medical centre, Pre-school/Day care, F&B for residential (1 operator, generally in club) b. Type II:	a. Can be leased only. b. Full tenure: typically 3 years to max. 5 years c. Lease / revenue / profit share, sale should be avoided unless absolutely necessary; First term lease rate can be discounted up to 50% of current market rate; First Term (generally max of 1 year) should be kept as reasonably short as	Type I Livability– Hospitality Type II Livability– Commercial sales /Leasing team (ATM may be handled ~~by~~ through Finance)

	Convenience store (< 2000 sft carpet area), ATM, Laundry, Salon, Pharmacy, Hardware, F&B for office / retail, Gym (in office) etc.	possible so that better~~s~~ commercials can be negotiated with the operators once viability is established.	
All others	Profit maximization objective. Applicable to all other retail categories/ amenities	As per sales plan	Commercial sales team

Other charges

Common areas outside the retail units will be managed by HFM. CAM collections shall be as per CAM+Sinking Fund + Property Tax policy (ref: Boulevard Retail). If retail saleable/leaseable area in development is <=2% of the total development's saleable/leaseable area, CAM shall not be calculated separately and shall be calculated on the same basis as the rest of the units (not applicable to Property Tax which shall be governed by calculation of appropriate authority).

Timelines

It is mandatory for all livability categories to be operational within 6 months from date of offer of possession for first wing in the development. However, in case of F&B operator for residential development, Café / restaurant operator should be brought in on arms-length commercial basis only after occupancy crosses 250 units / 50 units for weekend development (may be brought in earlier if needed for sales-related reasons but in such case, some subsidy may need to be provided till occupancy reaches level of 250 / 50 units).

Steps to be taken:

a. Alliances will coordinate with Design and confirm that these spaces have been located within 6 months of project launch as per 'Provision for livability retail in residential, office (and mixed use) developments' design policy; and
b. Alliances will coordinate with Ops Strategy so that it is made aware 6 months prior to scheduled date of offer of possession and in turn, Alliances will:
    i. Inform Commercial Sales(/Leasing) ~~/ Finance~~ about the target date for operationalization, who will then start the process of leasing for the Type II livability retail.
    ii. Start process of leasing for the Type I livability retail.

iii. Coordinate with Ops Strategy to ensure that the physical spaces (along with surroundings) are ready for handover to retailer within 3 months of date of offer of possession for first wing in the development to ensure that retailers have 3 month for fitouts.

Lighting consultant:

Generally, specialist lighting consultant shall appointed only in following projects:

A. Interior areas: In case of KCA's of Hi-end or Luxury residential projects or Excelus office or Experia retail.
B. Façade lighting: In case of Excelus or Supremus office or Experia retail or Hi-end or Luxury residential.
C. Landscape lighting: In case of Hi-end or Luxury residential projects or Excelus office or Experia retail.

In all other projects, lighting shall be in the scope of the concerned architect or landscape designer

Entrance Lobby Guidelines

Entrance lobby is the defining feature of a building and should convey a very high standard.

While there will be variance in finish levels across developments, entrance lobbies should be treated as KCA's and should be designed with an interior design focus (preferably by the same/similar team doing the other KCA's in the development).

Under no circumstances will any compromise in the entrance lobbies be acceptable, even if it is a Casa or handover (eg. Rental) development.

Some of the key elements to focus on include:

a. Floor finish
b. Ceiling finish
c. Wall finish
d. Furniture (can be limited quantity but good standard)
e. Ventilation (AC / Non-AC)
f. Music
g. Scent
h. Security features (to enter lobby and also from lobby to lifts/habitable floors) – this needs to be integrated into the Interior Design and the ID team needs to understand the same in detail.
i. Services like Concierge and Bellhop to be provided in lobby – this needs to be integrated into the Interior Design and the ID team needs to understand the same in detail.
j. Maximization of natural light in the lobby.
k. In order to ensure that height of entrance lobby is not compromised, coordinate with MEP / Architecture (early) to ensure that meter room is not located in a manner which causes cables to cross entrance lobby (from shafts to meter room) – this would generally mean that meter room to either NOT be planned on entrance lobby level OR to be planned close to the electrical shafts.
l. Entry/Exit:
    i. All entry/exits of an air-conditioned space opening directly to the exterior can have any one of the following 4 types of gates:
        1. Revolving doors (mandatory for entrance lobbies of buildings with height > 150 m)

2. Sliding door with Air curtain (preferably from outside and merged seamlessly into façade if outside and ID if inside)
3. Air-lock lobby or vestibule (two doors which generally do not open at the same time)
4. Open able door with Air curtain (preferably from outside and merged seamlessly into façade if outside and ID if inside) (less preferred) Refer Annexure A.

ii. If air-curtain is used, it is preferable to have it outside. Due care to be taken to merge seamlessly into façade (if outside) and ID (if inside). If feasible, fan functioning to be linked to door opening to reduce noise impact and energy consumption

Some guidelines in this regard are stated below. In case a renowned interior designer is designing the lobby, these guidelines can be waived in the interest of a better project outcome:

	Luxury	**Hi-end**	**Aspirational**	**Casa**	**Excelus**	**Supremus**	**iThink**
Interior feel	5-star luxury hotel lobby	5-star luxury hotel lobby	3-star hotel lobby	3-star hotel lobby	5-star business hotel lobby	5-star business hotel lobby	3-star hotel lobby
Min. FTF Height (m)	6	6	4	As per typical floor height	6	4	4
Min. Area (sq. ft.)	1500	1500	800		4000	1500	2500
Art (Painting / Sculpture etc.) Usage	Recommended	Recommended	NA	NA	Recommended	Recommended	NA
Non core & shell budget* (Rs. Psf of carpet area)	11150	6500	5000	2100	4450	3900	3350
Furniture	Yes	Yes	Based on design	Based on design	Yes	Yes	Yes
Visitor Toilets required in/near lobby	1 x unisex	1 x unisex	No	No	Yes – Male & Female	1 x unisex	Yes – Male & Female
Reception Desk	Based on security guidelines				Yes	Yes	Yes
Design reference project	Trump Tower, World View	Fiorenza Tower D, Park, Lodha Venezia, Lodha Sterling	Luxuria Priva, Lodha Eternis	Lodha Amara,Palava S4	Lodha Excelus	Clariant Tower B, Lodha Eternis	Clariant Tower A, Palava Town Center 1

In retail, there are no separate entrance lobbies but special attention is to be paid to the entrance area / atriums.

* As in 2016, increase by inflation % every FY on 1st April. Rates applicable as per date of start of construction (first activity) onsite

Reference policies to keep in mind:

a. AC, Music & Scent Provisions in Key Common Areas (ID Policy)
b. Washroom guidelines for KCA

For designer projects, the budget can be up to 20% higher with approval from HOD-Design
For any specific project, additional budget increase of up to 10% from norm can be approved by HOD-Design in concurrence with Regional CEO, provided overall project cost norms are followed. Any other increases need to be approved by MD.
It should be ensured that no FSI is used for the entrance lobby and the outline entire entrance lobby (as built) is clearly shown in approved plans. If FSI is to be used, take approval of HoD-Design.

Typical Lift Lobby Guidelines:

	Luxury	**Hi-end**	**Aspirational**	**Casa**	**Excelus**	**Supremus**	**iThink**
Interior feel	5-star luxury hotel typical floor lobby	5-star luxury hotel typical floor lobby	3-star hotel typical floor lobby	3-star hotel typical floor lobby	5-star business hotel typical floor lobby	5-star business hotel typical floor lobby	3-star business hotel typical floor lobby
Art (Painting / Sculpture etc.)	May be considered	NA	NA	NA	May be considered	NA	NA
Non core & shell budget (Rs. Psf of carpet area)*	5600	3050	1950	1100	2800	2800	2230
Shaft Doors (fire rated if reqd by CFO NOC)	As per design	As per design	Metal Powder Coated	Metal Powder Coated	As per Design	As per Design	Metal Powder Coated
Design reference project	Trump Tower	Lodha Sterling, Fiorenza Tower D	Luxuria Priva, Lodha Eternis	Lodha Amara, Palava S4	Lodha Excelus	Geeta Supremus	I-Think Kanjurmarg

* As in 2019, increase by inflation % every FY on 1st April. Rates applicable as per date of start of construction (first activity) onsite.
Single LOP to be provided for all elevators in a row

For any specific project, budget increase of up to 10% from norm can be approved by HOD-Design in concurrence with Regional CEO, provided overall project cost norms are followed. Any other increases need to be approved by MD.

Kindly refer to Annexure B for suggested clear width of Lift Lobby & note on Lift bank configuration

Clubhouse cost Guidelines :

	Luxury	**Hi-end**	**Aspirational**	**Casa**
Clubhouse (Rs psf of BUA)	12275	7500	5575	5575

* As in 2019, increase by inflation % every FY on 1st April. Rates applicable as per date of start of construction (first activity) onsite

Costs stated are total costs for the space (including shell and core). General guideline for split between ID (including mep post a single point and FF&E) & other costs (Civil & Façade) to be considered as 75% for Luxury/Hi-end and 65% for Aspirational/casa. Lead project architect can change the ratio in concurrence with HOD-Design.

For designer projects, the budget can be up to 20% higher with approval from HOD-Design

For any specific project, additional budget increase of up to 10% from norm can be approved by HOD-Design in concurrence with Regional CEO, provided overall project cost norms are followed. Any other increases need to be approved by MD

Due to possibility of higher changes during execution 20% contingency to be provided to site/ execution.
Eg: If target is 5000 psf, design to plan for 4000 psf design & 1000 psf is execution contingency (limited to ID part target)

Show Flat
If show flat is being finally built i.e. in final building structure, it should be planned in a manner which makes it easy to live in after sale. Ensure that following elements are incorporated into the design at time of show flat execution itself:

a. Intercom
b. Wi-fi
c. Cable / e-TV for the TVs
d. (Provision for/) Utility connections (electricity / water / gas) for equipment eg. Hob, hood, over, microwave, coffee machine, washing machine etc.
e. AC controls
f. Security setup eg. Door phone
g. Fittings in bathrooms eg. Soap dish, towel rack etc.
h. Clothes drying provision eg. Stand / line

i. Ample storage

The said show flat will be marked in allotment list as 'show flat' so that it is sold with the FFE (but not furnishing like expensive art, clothes and crockery) and the value for the same is recovered in sale. Wrt possession time, Sales needs to ensure that show flat is available for viewing till 95% of the units are sold or 12 months from date of OC, whichever is earlier.

Sales Gallery & Show flat cost Guidelines:

Segment	**Luxury & Hi-end**	**Aspirational & Casa**
Sales Gallery (Rs psf of carpet)	10000	10000

Segment	**Luxury**	**Hi End / Luxury extension**	**Aspirational /Casa/Crown**
Show flat - Cost norm up to 31.3.21 (including consultancy & GST)* psf carpet	18000	18000	8000
Show flat - Cost norm up to 31.3.21 (including consultancy & GST)* psf carpet	12500	9000	8000

As in 2021, increase by inflation % every FY on 1st April. Rates applicable as per date of start of construction (first activity) onsite

*For star / international designer +10% (permissible only for luxury or luxury extension projects)

Suggestions (can varied if necessary):

- Costs stated are total costs for the space (including shell and core). General guideline for split between ID (including mep post a single point and FF&E) & other costs (Civil & Façade) to be considered as 75% for Luxury/Hi-end and 65% for Aspirational/casa. Lead project architect can change the ratio in concurrence with HOD-Design.

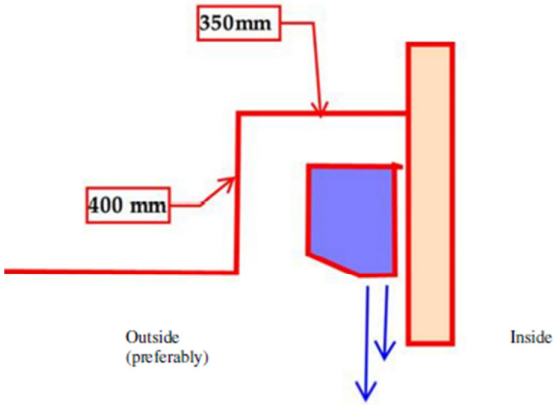
- Base civil finishes should NOT be done by specialized finishing contractor (use building / base civil contractor).

- Be measured in consultancy costs - should not exceed 10% of the total budget.

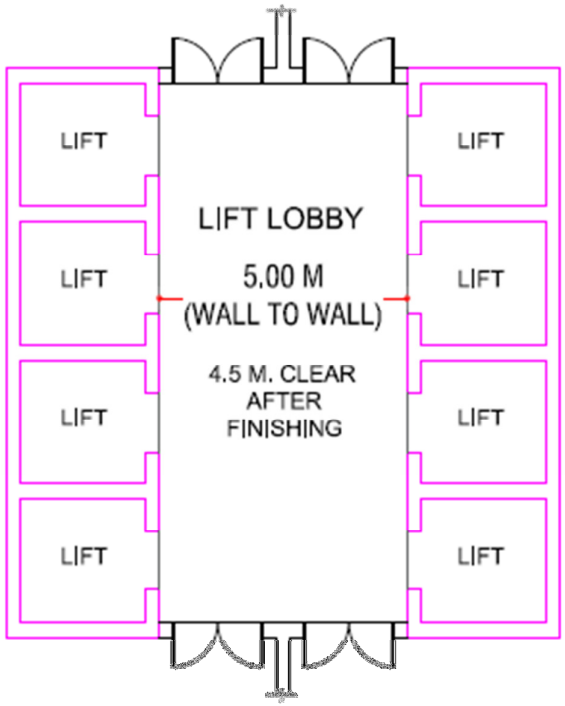
For any specific project, additional budget increase of up to 10% from norm can be approved by HOD-Design in concurrence with Regional CEO, provided overall project cost norms are followed. Any other increases need to be approved by MD

Due to possibility of higher changes during execution 20% contingency to be provided to site/ execution.
Eg: If target is 5000 psf, design to plan for 4000 psf design & 1000 psf is execution contingency.

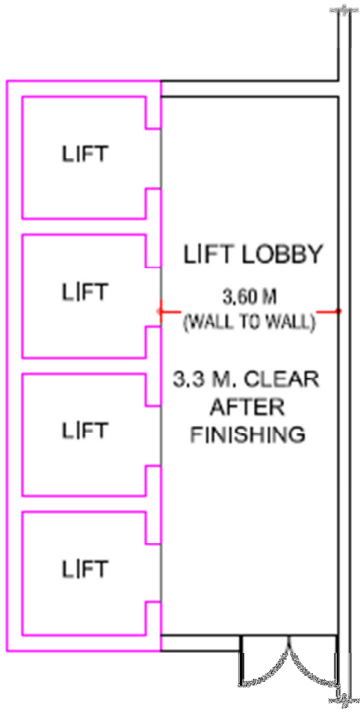
Annexure A: Typical cross section for the air curtain



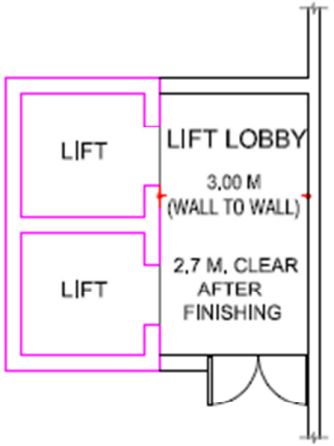
Annexure B



LIFT LOBBY WITH DOUBLE SIDE LOADED LIFTS



LIFT LOBBY WITH SINGLE SIDE LOADED LIFT
(MORE THAN 2 LIFTS)



LIFT LOBBY WITH SINGLE SIDE LOADED LIFT
(WITH 2 LIFTS)

Note on configuration of Lift Bank:

a. Preference is to do 2-sided lift banks over 1-sided, since lobby feel is better.
b. When there is tiering of lifts within same 2-sided lift bank, try to distribute in a manner such that each tier is served by 2-sided lift openings.

Temple Selection Criteria

Hindu temples - Ganesha/Shiva/similar temples are classified into 3 types: I, II, III.

Segment / Project Size	Small	Medium	Large	Very Large
Luxury	III/Makrana	III/Makrana	II/Makrana	I/Makrana
Hi-end	III/ Bansi Paharpur or Jaisalmer	III/ Bansi Paharpur or Jaisalmer	II/ Bansi Paharpur or Jaisalmer	I/ Bansi Paharpur or Jaisalmer
Aspirational	III/Bansi Paharpur or Jaisalmer	III/ Bansi Paharpur or Jaisalmer	II/ Bansi Paharpur or Jaisalmer	I/ Bansi Paharpur or Jaisalmer
Casa	III/Bansi Paharpur or Jaisalmer	III/ Bansi Paharpur or Jaisalmer	II/ Bansi Paharpur or Jaisalmer	I/ Bansi Paharpur or Jaisalmer

See details below.

Mandir Details.pdf

Jain Temple

a. In small or medium projects, can be located within building footprint (~100-200 sft) as long as there is no toilet over the temple area.
b. In larger or very large projects, to be located outside building footprint and sizing to be determined in line with the Hindu temple norms.
c. In case of Type II or III temple, an upshraya of 500-1000 sft carpet area to be provided within 500 mtrs. walking distance.

Approval related - (For all temples/places of worship, excluding Type III temple):

a. To be approved as 'community hall'.
b. Main part of temple, which is generally enclosed from all sides (and Jain Upashraya) to be counted in FSI or Amenity or any other approvable free of FSI space.
c. Regular open space to be left as per applicable DC rules.
d. 'Type III temple' to be part of RG and not separately approved.
e. Any FSI used for temples shall be counted towards the 0.5% limit wrt utilization of FSI for non-saleable/leaseable areas within a development. See '*Key Conveniences in Parking & Other Common Areas*' for details.

Mandir Details.pdf

Mandir - Estimate

Stone	Type		Size	Item	Unit	Quantity**	Rate	Value	Total
Makrana Marble	I	Garbh Gruh	11'-1"x11'-1"	Main Construction	ft^3	12,500	2,700	3,37,50,000	
		Mandap	24'-7"x24'-7"	Toran	ft	184	8,500	15,64,000	
				Patiya	ft^2	4,500	670	30,15,000	
				Blockwork*	ft^3	5,000	50	2,50,000	
				Door & Pabasan	ft^3	100	3,500	3,50,000	**3,89,29,000**
	II	Garbh Gruh	9'-1"x9'-1"	Main Construction	ft^3	8,400	2,700	2,26,80,000	
		Mandap	22'-7"x22'-7"	Toran	ft	136	8,500	11,56,000	
				Patiya	ft^2	3,500	670	23,45,000	
				Blockwork*	ft^3	4,500	50	2,25,000	
				Door & Pabasan	ft^3	80	3,500	2,80,000	**2,66,86,000**
	III	Garbh Gruh	6'-7"x6'-7"	Main Construction	ft^3	5,200	2,700	1,40,40,000	
		Mandap	15'-7"x15'-7"	Toran	ft	95	8,500	8,07,500	
				Patiya	ft^2	3,000	670	20,10,000	
				Blockwork*	ft^3	3,000	50	1,50,000	
				Door & Pabasan	ft^3	60	3,500	2,10,000	**1,72,17,500**
Bansi Paharpur	I	Garbh Gruh	11'-1"x11'-1"	Main Construction	ft^3	12,500	1,700	2,12,50,000	
		Mandap	24'-7"x24'-7"	Toran	ft	184	5,500	10,12,000	
				Patiya	ft^2	4,500	670	30,15,000	
				Blockwork*	ft^3	5,000	50	2,50,000	
				Door & Pabasan	ft^3	100	3,500	3,50,000	**2,58,77,000**
	II	Garbh Gruh	9'-1"x9'-1"	Main Construction	ft^3	8,400	1,700	1,42,80,000	
		Mandap	22'-7"x22'-7"	Toran	ft	136	5,500	7,48,000	
				Patiya	ft^2	3,500	670	23,45,000	
				Blockwork*	ft^3	4,500	50	2,25,000	
				Door & Pabasan	ft^3	80	3,500	2,80,000	**1,78,78,000**
	III	Garbh Gruh	6'-7"x6'-7"	Main Construction	ft^3	5,200	1,700	88,40,000	
		Mandap	15'-7"x15'-7"	Toran	ft	95	5,500	5,22,500	
				Patiya	ft^2	3,000	670	20,10,000	
				Blockwork*	ft^3	3,000	50	1,50,000	
				Door & Pabasan	ft^3	60	3,500	2,10,000	**1,17,32,500**
Jaisalmer	I	Garbh Gruh	11'-1"x11'-1"	Main Construction	ft^3	12,500	1,500	1,87,50,000	
		Mandap	24'-7"x24'-7"	Toran	ft	184	5,000	9,20,000	
				Patiya	ft^2	4,500	670	30,15,000	
				Blockwork*	ft^3	5,000	50	2,50,000	
				Door & Pabasan	ft^3	100	3,500	3,50,000	**2,32,85,000**
	II	Garbh Gruh	9'-1"x9'-1"	Main Construction	ft^3	8,400	1,500	1,26,00,000	
		Mandap	22'-7"x22'-7"	Toran	ft	136	5,000	6,80,000	
				Patiya	ft^2	3,500	670	23,45,000	
				Blockwork*	ft^3	4,500	50	2,25,000	
				Door & Pabasan	ft^3	80	3,500	2,80,000	**1,61,30,000**
	III	Garbh Gruh	6'-7"x6'-7"	Main Construction	ft^3	5,200	1,500	78,00,000	
		Mandap	15'-7"x15'-7"	Toran	ft	95	5,000	4,75,000	
				Patiya	ft^2	3,000	670	20,10,000	
				Blockwork*	ft^3	3,000	50	1,50,000	
				Door & Pabasan	ft^3	60	3,500	2,10,000	**1,06,45,000**

*Labour Only Item
** Tentative Quantities based on drawing

Scope:
Rough polish in FML order
Fitting of brass items into stone
Necessary cuts, grooves etc as per owner's design in stone for facilities
Speciliazed materials for fixing of stone

Exclusion:
All Brass Fittings
Final Polish
Foundation and civil works upto plinth
Structural and load bearing frame
Inlay Work
Cement, Sand, blocks etc

Annexures
1 Side Elevation
2 Plan - Type I
3 Plan - Type II
4 Plan - Type III

Product Mix – Guidelines on how to decide

1. Any site, should be identified as being primarily suitable for one of the following 4 residential segments over the next 3-4 years (Resp: Director-Design):
    a. Luxury
    b. Hi-end
    c. Aspirational
    d. Casa/Affordable
2. Atleast 95% of the residential FSI to be developed over the next 3-4 years should be earmarked for the 'sweet spot' as defined below within the aforesaid segments and product sizing/specs should be decided accordingly.
3. Upto 5% of the residential FSI can be earmarked for the next higher residential category, with CV upto 2.5 x beyond the 'sweet spot' limits and product sizing/specs should be decided accordingly. These 'higher units' serve the purpose of creating aspirational value for the site and moving it upwards in the value chain. It should be recognized that these unit will be difficult to sell unless the value creation levers outlined in 5. below are delivered in a timely manner.
4. Office and retail shall be considered primarily as destination completion for larger residential developments – the extent of these should not exceed 10% (max.) of the total FSI, unless otherwise mandated by regulations.
5. Value Creation levers:
    a. Good access to site and cleanliness (no encroachments) in the surrounding areas – from pre-launch onwards.
    b. Great show flat and good sales office – prior to launch.
    c. Club & other KCAs – desirable to deliver within first 2 years from sales launch.
    d. Public realm (landscape, social and sports facilities) – desirable to deliver prior to first possession.
    e. Good infrastructure (reliable electricity, water and gas (if promised)) - desirable to deliver prior to first possession.
    f. Good Facilities management – desirable to ensure from first possession onwards.
    g. Timely possession – desirable to ensure from first possession onwards
6. While masterplan can cover larger layouts, we should not commit ourselves to detailed product design of any building which is not likely to start construction within 24 months of the time when the detailed product design is done.
7. Steps 1-4 should be done afresh every 3-4 years for each project/land available with company (Resp: Strategy).

8. It is to be ensured that no project has > 50% of any one unit type viz. multiple unit types should be in every project.
9. Ensure that design is done in a manner that 'jodi' options are feasible for atleast 1/3rd of the units and such plans are drawn at the time of launch itself, with clarity of where 'jodi' is feasible and upto what time (linked to const) can this choice be made.

MMR
Sweet Spot projections (2014-2017):

(All figures in 2014 rupees*)	**Western Suburbs**	**Central Suburbs**	**Mumbai South (30 min driving distance from VT)**	**Mumbai Super Prime (Malabar Hill, Cuffe Parade, Bandra/Khar/Juhu)**
Max. Consideration Value	Upto 3.5 cr.	Upto 1.75 cr.	2.5 – 12.5 cr.	10-25 cr.
Likely Segments	Casa, Aspirational (fully range)	Casa, Aspirational (lower end)	Aspirational (upper end), Hi-end, Luxury (lower end)	Hi-end, Luxury
Type of Unit	1-3 BHK (1 BHK primarily beyond Dahisar)	1-3 BHK	2-4 BHK (1 BHK/studio for investment)	2-4 BHK

To be adjusted upwards on 1st April of each year by average salary growth % in the previous year.

Also see:
Policy Arch 48 - Classification of Residential projectsv1 (design policy)

Designer Residences – Finishing Standards:

In addition to the normal standards followed in residences of the same segment, following shall apply

What we shall provide

a. Fully finished bathrooms (including non-decorative lights fittings) (see Toilet finishing policy)
b. All floor finishes
c. All wall finishes (paint, wall paper, woodwork)
d. False ceiling in certain areas if the designer insists on the same and we find that it adds value to the perception of a designer residence (these shall be cleared specified to sales team) along with non-decorative lights fittings thereto
e. Fitted kitchen (with false ceiling and non-decorative light fittings)

What we may provide (optional)

a. Automation system with connectivity for lights (specific no. of points), air-conditioning and curtains.

What we shall not provide

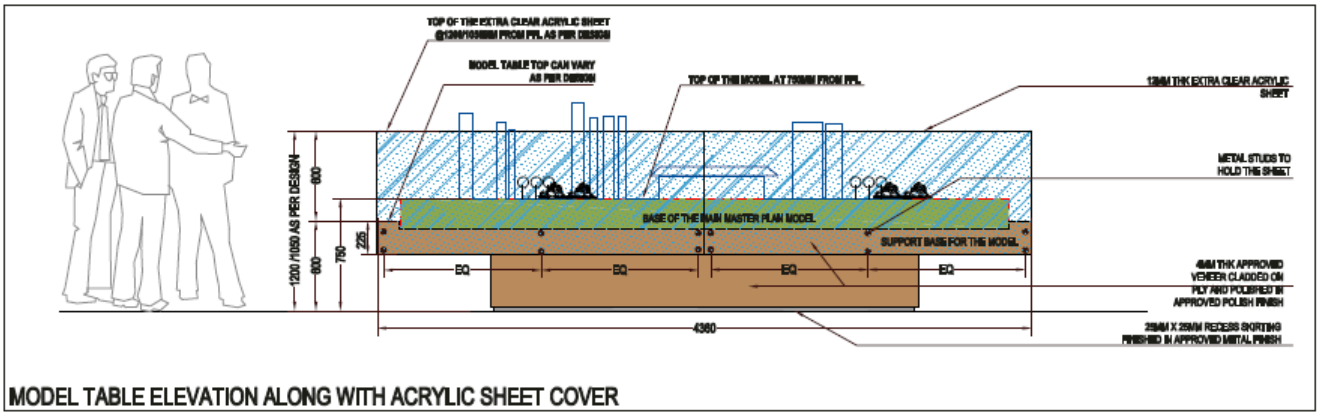
a. Light fittings (other than non-decorative lights fittings in bathrooms, fitted kitchen and spaces with false ceiling)
b. Wardrobes/ other storage units (other than in fitted kitchen or bathrooms)
c. Loose furniture or furnishing (including Art, carpets, or curtains/blinds) of any kind
d. False ceiling other than in bathrooms and decorative ceilings

Model-related Guidelines

Layout / Building Model

1. Height of external base – 600 mm; height of building plinth – 750 mm (difference of 150 mm is for the thickness of the model's own base).
2. Protection – (12 mm or as may be decided by Design) thick (imported) scratch proof acrylic along the model periphery. This is to be installed onto the external base or the model's own base. Top height shall be 1050 mm/1200 mm. No need for bollards /queue mangers etc. Sample image and design details are below.





MODEL TABLE ELEVATION ALONG WITH ACRYLIC SHEET COVER

3. Design lead of the site is required to review the model annually and get any corrections/repair done.
4. Scale: between 1:75 to 1:250 (can be upto 1:500 if model is for development of 100+ acres).
5. Model to generally have:
    a. Entire landscape with building footprints
    b. Amenity floor plans with interior layout and furniture (generally in drawer style)

   c. Limited no. of buildings (generally 1 of each façade type).
6. Model signage requirement:
   a. North Direction
   b. Scale
   c. Project Name (using Lodha Project name format)

7. Steps should be done to make models interactive, possibly with one or more of the following features:
   a. Unit lighting up when appropriate selection is made on touch screen and view from unit being displayed on screen (Ref: 1 Blackfriars, South Bank, London)
   b. Model having capability of being lowered down so that any feature in central area / top of building become more distinctly visible (Ref: Ten Trinity Place, Opp Tower of London, London).
8. While designing the model display space, appropriate care should be taken for following (by concerned in Interior Design):
   a. Appropriate lighting
   b. Avoidance of glare (from lights and sun light)
   c. 1-2 electrical points below model base for model's operations

Unit Model: not applicable henceforth

General

1. Prior to exhibiting to customers, HOD-Design or Director-Design should see the model, preferably while the model maker is still available to make minor changes. After installation is complete, photographs should be taken from all angles so that there is good record of how the model was when it was originally placed – will help with repair later.
2. Model should be removed from sales office within 6 months after handover of building or completion of sales, whichever is earlier.
3. Once removed, model should be sold to scrap dealer / local model maker.
4. All of the above shall be the responsibility of the Architecture lead on the project, unless otherwise noted.

Any exceptions to these guidelines will require approval of HOD-Design.

Kitchen Finishes & Fitments Policy

Objective: To identify key areas in designing kitchens and standardize specifications in order to provide customers a kitchen that demonstrates the highest level of integrity, quality, and acceptance. This policy aims to standardize design details, brand, material specifications & appliance details for kitchens across project segments.

Guidelines:

Fitted Kitchens	To be provided at all projects except Casa & bareshell[1] where the applicable budgets are feasible (refer table 2 for brands to be used). If applicable budgets not feasible, provide standard kitchen (i.e. Providing granite platform with Facia, drip groove, back splash & side skirting.).
Material Specifications for fitted kitchens	
Carcass (all cabinets except sink)	Pre-lam Particle Board or MDF with lipping on all sides. Color options available and can be used subject to budget availability.
Carcass (Sink Cabinet)	Marine (BWP) IS710 Plywood (note: if European kitchen brands have difficulty manufacturing cabinets in plywood, they will need to organize with their Indian partners).
Shutters	MDF with Melamine/Laminate/Lacquer/Veneer, lipping on all sides Finishes to be chosen based on options available with mentioned brands within budget.
Hinges/Channels	Blum/Hettich/Grass (Soft closing)
Waste bin	2 bins or pullout bin with multi compartment
Accessories	Dish Rack, Cutlery Tray Additional accessories can be provided in High end & Luxury projects
Sink	Must have scratch resistant finish (refer table 2 for specifications)
Sink Faucet	Refer table 2 for specifications
Platform material	Granite or Quartz. Any other natural or artificial stone can be considered with approval of HOD-Design.
Skirting	Aluminum for Luxury & Hi-end projects; Aluminum/PVC for Aspirational projects. Skirting in gas cylinder cabinet area should be removable.
Design details	
Hood Cabinet	To be provided[2], should have removable shelves for storage and

	shutters Refer image 1 in Table 3
Platform Detail	Should have Facia, drip groove, back splash & side skirting[3], refer Image 2 in Table 3.
Platform counter surface height	Platform top level should be 850mm above FFL
Dado Height above platform	Full height (upto bottom of cupboard/likely height thereof) for Luxury, Hi-end & Aspirational projects; 75mm high granite skirting and 600mm tile dado above for Casa Projects
Ventilation gap	Must be provided in top panel of drawer below Hob and in skirting of gas cylinder cabinet.
Finish of space below platform	To be finished with 2nd grade tile
Appliances	
Refrigerator	Provision[4] for single door, width – 750mm (for Casa projects) Provision[4] for double door, width 1050 mm (all projects except Casa)
Oven / Over-cum-microwave	Provision[4]
Separate Microwave	Provision[4] only for Luxury & Hi-end projects
Dishwasher	No
Water Purifier	Provision[4] for Aquaguard/equivalent with space of 450/600 mm above sink. Water purifier cabinet should not have bottom panel.
Hob	Built-in 4 gas burner hob, refer table 2 for brands
Hood	Ductless (Recycling), refer table 2 for brands
Exhaust Fan	Refer MEP-04_Unit HVAC Guidelines for Residential Project policy for specifications

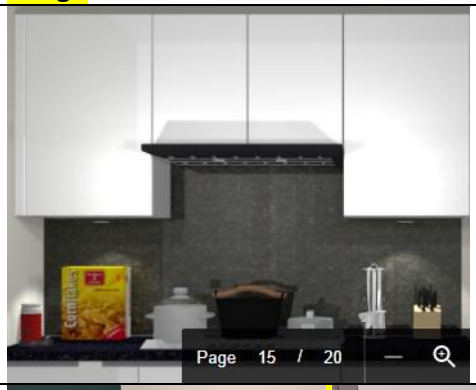
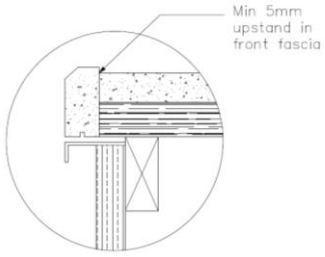
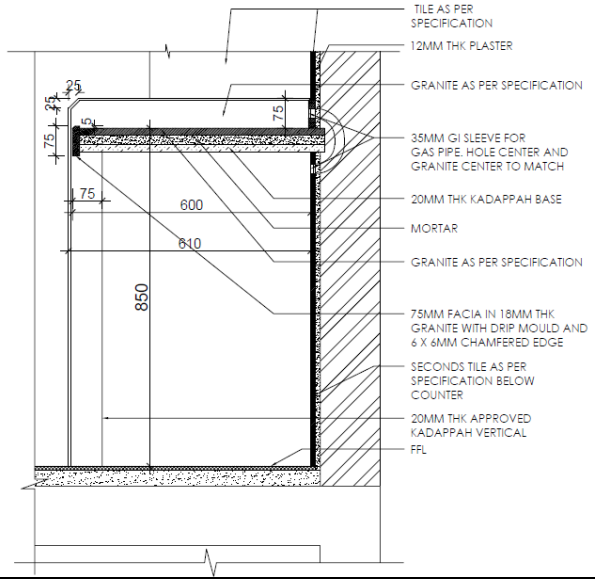
1 – Only M&E systems to be provided in bareshell units
2 – Subject to budget availability in Aspirational Projects
3 – Back splash & side skirting is optional for Casa projects
4 – Includes provision for space, electrical connection, water connection and drain connection (as applicable).

Table 2

	Luxury*	**Hi-end***	**Aspirational**	**Casa**
Kitchen Brands#	Not Applicable	Poggenpohl Nolte (Germany) Magppie (India)	Nolte (Germany) Oppein (China) Magppie (India)	Granite Platform
Budget for fitted kitchen## (as in 2018, adjust for inflation)	Not Applicable	3 – 4 Lacs	1.5 – 2.25 Lacs	NA <need to state budget>
Sink specifications	Not Applicable	With drainboard. Double bowl if space permits. Brand – Blanco/ Hafele	With drainboard. Single bowl. Brand – Hafele/ Franke/ Futura	Single bowl (Drainboard optional) Brand – Futura/ Nirali
Sink Faucet	Not Applicable	Mixer (swivel spout) with hot water facility. Brand – Hansgrohe/ Grohe/ Kohler	Tap without hot water facility. Brand – Grohe/ Kohler/ Jaquar	Tap without hot water facility. Brand – Jaquar/ Isenberg
Hob & Hood Brand	Not Applicable	Hafele/ Elica/ Faber	Hafele/ Elica/ Faber	NA (will not be provided)
Additional points for appliances (other than the appliances for which Provision is being made as per list above)	Not Applicable	2-6A	1-6A	1-6A
Lighting	Not Applicable	Lights to be provided below wall cabinets. Balance as per '*Electrical Network Design*' MEP policy.	As per '*Electrical Network Design*' MEP policy.	As per '*Electrical Network Design*' MEP policy.

* In case unit is bareshell, not to be provided.
Budget only for Kitchen cabinets & installation for a standard 8*10 Ft kitchen layout, budgets to be used on pro rata basis depending on kitchen area; excludes appliance, platform, sink, sink faucet or other costs

Table 3

Image Number	Image	Remarks
Image 1		Hood Unit
Image 2		Platform Design with fascia, back splash and side skirting
Image 3		Modular kitchen front fascia typical detail
Image 4		Platform section for edge fascia (non-modular kitchen)

Other Standards:

a. All platforms of have width of 24" if kitchen is 8 feet or wider. One platform can have reduced width of 18" if kitchen width if less than 8 feet.
b. Stone Strips/Patti should be used for holding kitchen sinks instead of plywood.
c. Kitchen vendor's scope should include kitchen as well as Countertop installation.
d. As far as possible, fitted kitchens should be handle less.

Guidelines for design of Not-For-Sale (Govt. Handover) Residential Buildings:

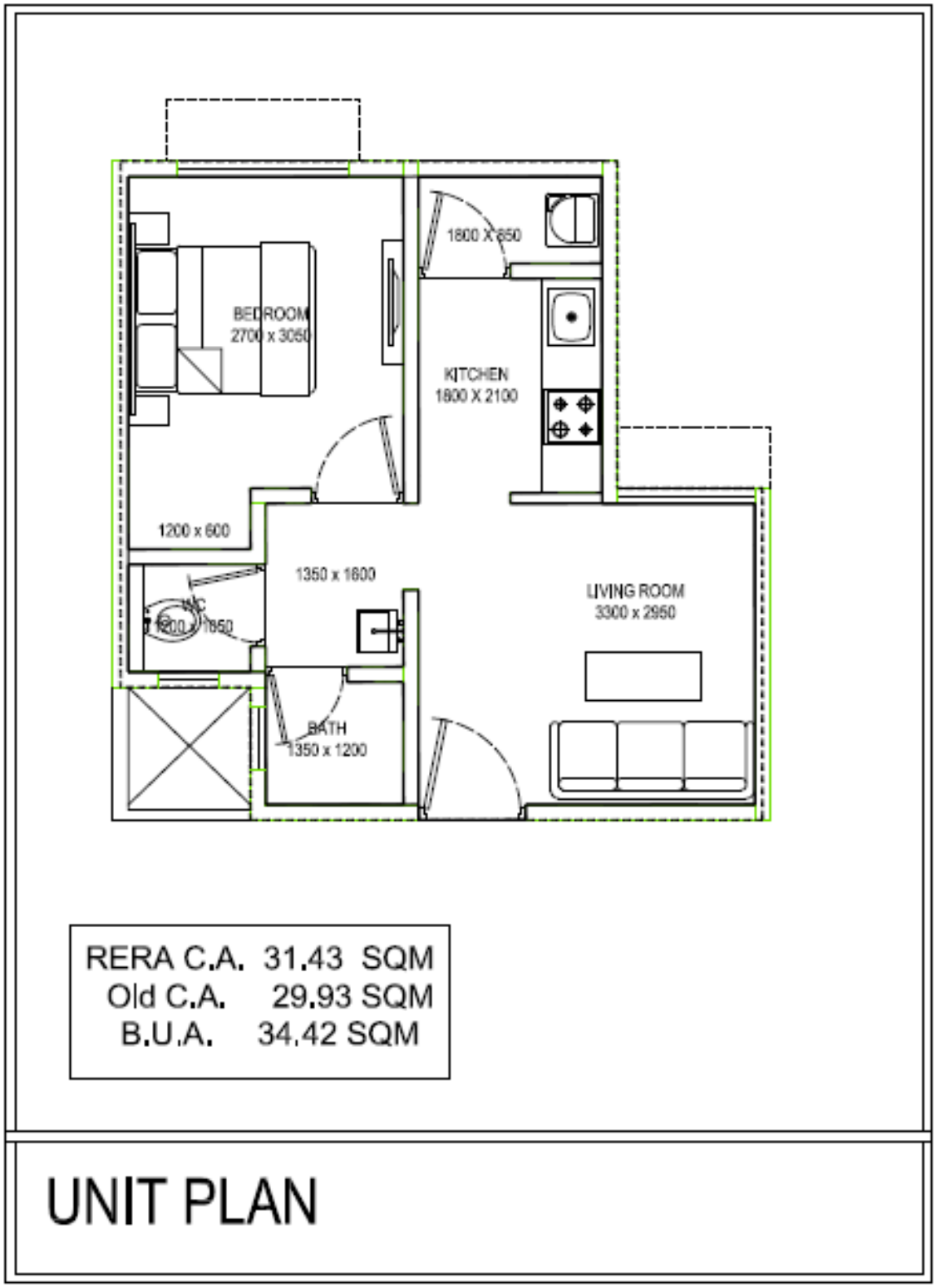
ARCHITECTURE/ CIVIL DESIGN GUIDELINES

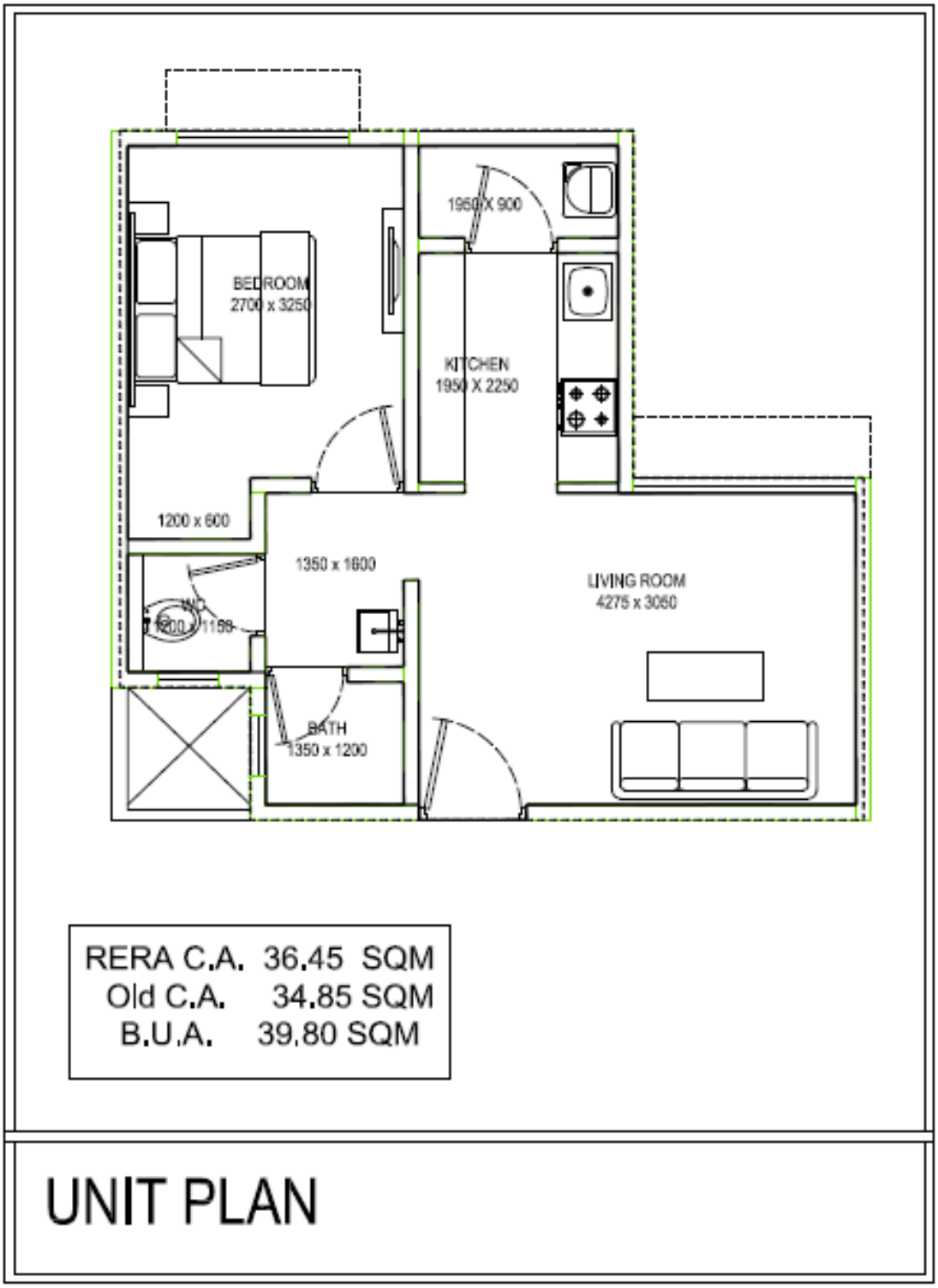
Economic Drivers

i. Maximize Unit BUA in relation to the unit's carpet area. Generally Unit Build Up / Unit Carpet >= 1.2.
ii. If areas outside the unit (lobbies, staircase block, etc.) are not counted in FSI, maximise the floor efficiency i.e. ratio of Unit BUA / Floor BUA >= 75%. If such areas are counted in FSI, we will seek to do exactly the reverse i.e. minimize the floor efficiency to the practical extent feasible.
iii. Minimize building height; ideally <= 45m. In select cases, it can be up to maximum 60m.

Architectural Space Planning Guidelines:

i. Clarify the following design requirements prior to design finalization (as per local approving authority):
    a. Minimum Unit size
    b. Staircase requirements
    c. Amenities (like Balwadi, children's play area etc.) and other mandatory requirements
    d. Minimum corridor width
    e. Provision / Allowance for shops, retail areas, etc.
ii. Bath & WC locations to be planned such that a common plumbing shaft can serve (2) adjoining units. Shaft shall be on external face of the building.
iii. Kitchens to be planned such that the plumbing shaft (for toilets) can serve the sink requirements and ventilation is possible using localised exhaust fan. (Non-ducted)
iv. All unit typologies for handover buildings should be planned with utility area. Size of the same should be min 3'6" wide and min. total carpet area should be 17.5 sft.
v. No BUA areas to be wasted, including in stilts. All BUA should be utilized for FSI consumption or other mandatory requirements e.g. Society office, welfare centre, shops/commercial use, etc. should not be used for things like Parking which should be planned in non BUA i.e. open to sky spaces.
vi. Sample Plans: Typical unit plans for old CA 29.93 sqm (EWS) and BUA 39.80 sqm (LIG, kept below 40 sm BUA to avoid requirement for 4-wheeler parking) are given below for reference. In case the unit area needs to be increased or decreased for any new requirement, following guidelines to be followed:
    - Minimum width of the bed room needs to be 2700mm
    - Utility width should not be less than 850mm
    - In BMC jurisdiction, wall frontage for bedroom and living room needs to be min. 2400mm and kitchen needs to be min. 1800mm.
    - In non –BMC area reduction should be done (if required) in living room width to reduce area since no min. frontage requirement.


BEDROOM
2700 x 3050
1800 X 650
KITCHEN
1800 X 2100
1200 x 600
1350 x 1800
LIVING ROOM
3300 x 2950
WC
1200 x 1850
BATH
1350 x 1200
RERA C.A. 31.43 SQM
Old C.A. 29.93 SQM
B.U.A. 34.42 SQM
UNIT PLAN


BEDROOM
2700 x 3250
1950 X 900
KITCHEN
1950 X 2250
1200 x 600
1350 x 1600
LIVING ROOM
4275 x 3060
WC
1200 x 1150
BATH
1350 x 1200
RERA C.A. 36.45 SQM
Old C.A. 34.85 SQM
B.U.A. 39.80 SQM
UNIT PLAN

Structural Design Guidelines:

i. Decision whether to use under-slung piping or sunk slabs for bath & WC areas to be determined at the time of concept design finalization based on the type of contractor that is likely to do the work and whether they are facing any difficulties (material or labour) in doing sunk slabs (and waterproofing thereto). Preference is to do sunk slab, except if one forsee's significant cost or time (due to lack of labour or material availability)

ii. Similarly, the decision whether to use Aluminium or conventional shuttering to be determined based on labour availability for conventional shuttering at time of award of contract.

iii. Typical Floor to Floor Height shall be 2850mm.

iv. Building structure to be designed taking into account flooring thickness (above slab, including any bedding): Max. 50 mm (preferably 40 mm)

v. All external walls 150 mm thick RCC (in case on Al. Shuttering). Corridor walls / Unit partition walls shall be 150mm thick Light-weight block/RCC (as applicable) wall. All other internal walls shall be 100mm thick. Thicker walls may be considered if one wants to maximize ratio of Unit BUA / Unit Carpet.

vi. While IS code specifies use of M30 as minimum grade of concrete, use of M25 should be actively considered for those parts of the structure which do not form part of the structure's frame / do not provide strength to the structure e.g. horizontal slabs. In case of Aluminium shuttering, M30 grade shall be used, duly compensated by lesser usage of steel.

vii. Beam depth's along the internal side should not be more than as required for structural requirements (subject to requirement for min. door/window opening being available). In case of door/window openings on the internal side, precast lintel (along with blockwork above till beam bottom, if applicable) to be placed.

Note: Not for sale buildings should be procured as FML. Steel & concrete to be kept in Lodha's scope only if Procurement team feels there is substantial savings, in doing so.

Waterproofing: As per Lodha Policy for Water-proofing system (Struc06)

FINISHING DESIGN GUIDELINES

Unit Finishes							
	Multipurpose room & Bedroom	**Cooking Alcove**	**Bath**	**W.C.**	**Common Passage**	**Staircase**	**Service areas/room(eg. Substation,UGT pump room,LMR,etc)**
Flooring	300mm x300mm* Ceramic tiles	300mm x300mm* Ceramic tiles	200m x200mm+ Anti-skid ceramic tiles	200m x200mm+ Anti-skid ceramic tiles	300mm x300mm* Ceramic tiles	Cement tiles	IPS/Kota
	Basic rate: 32/ Sqft$	Basic rate: Rs. 32/ Sqft$	Basic rate: Rs. 33/Sqft$	Basic rate: Rs. 33/- Sqft$	Basic rate: Rs. 32/ Sqft$		
Skirting	100mm	100mm	N.A.	N.A.	100mm	100mm	NA
Wall Dado	N.A.	glazed tiles 2' above platform. Basic rate: Rs. 25/Sq. ft	Full Height	Upto 1m Ht	N.A.	N.A.	NA
Cooking Platform	N.A.	1.8mx0.6m Polished Cuddappa with SS sink & shelf below	N.A.	N.A.	N.A.	N.A.	NA
Wall Finish	Gypsum Plaster	Gypsum Plaster	N.A.	OBD above dado	Cement Plaster (1 coat)	Cement Plaster (1 coat)	Cement plaster (1 coat)
Ceiling	Birla white putty	Birla white putty	Birla white putty	Birla white putty	Birla white putty	Birla white putty	Birla white putty
Int. Paint (walls & ceiling) -	OBD	OBD	OBD	OBD	Synthetic Enamel upto 4': balance OBD	Walls & Ceiling- (3) Coats White wash	Cement paint(2) coats
Internal finish (Shaft)	Service ducts (internal)– (2) Coats White Wash Service ducts (external) – single coat cement plaster and Painted with 2 coats of Acrylic paints of approved colour over a branded primer coat. Lift shaft – 3 coats of white wash						

* 400mm x 400mm ceramic tiles may be used (same basic rate) if wastage can be minimised

+ 300mm x 300mm anti-skid ceramic tiles may be used (same basic rate) if wastage can be minimised

$ Basic rates mentioned are as on 1st April, 2014. Prevailing rates to be verified at the time of design.

DOOR SCHEDULE						
Sr No	**Module**	**Masonry Opening (in MM)**			**Door Shutter Size**	**Remarks**
		Width	**Height**	**Sill**		
1	Studio Apartment Main Door	1000	2250	-	900 x 2100	35 mm Flush door (Fire rated, if required by CFO NOC), Both Side Laminated with mortise lock of Magnum or equivalent, an eye hole with lens eye piece, 6” handle on both sides, one tower bolt of 10” on inner side and safety chain
2	Toilet Door	850	2250		750 x 2100	FRP Doors as per approved sample by Architect.
3	Shop Entrance Rolling Shutter	1500	2250	-	-	RS with 18 Gauge strips
4	Staircase Door	1200	2250	-	1100 x 2100	Fire Rated (only if required as per CFO NOC, min 2 hrs), 50 mm thick both side painted
5	Refuge Door	1200	2250	-	-	Fire Rated ((only if required as per CFO NOC, min 2 hrs)
6	Electrical Shaft Door	1025	2250	600	-	Access Door with 1-hr fire rating
7	Hose Reel Cabinet	1000	2250	600	-	MS Door with glass vision panel. Painted with approved enamel paint
8	Meter room door	1000	2250	-	900 x 2100	MS Door with louvers at top for ventilation & lockable arrangement or as approved by relevant authority Painted with approved enamel paint

Entrance Lobby Design Guidelines:

The entrance lobby design shall broadly follow Lodha Design Policy for Casa Projects. It should look and feel like a good quality development. Some of the key elements to focus on include:

i. Floor finish – Marbital; Basic rate: Rs. 100/sq. ft (100mm Skirting)
ii. Ceiling finish – Gypsum False-Ceiling
iii. Wall finish – Paint (Granite jambs at elevator Door Frame) – lustre on wall, plastic on ceilings, backdrop / feature wall can be accent paint/textured paint)
iv. Main Door – Double Swing Toughened Glass Door with floor spring
v. Furniture (can be limited quantity but good standard)
vi. Ventilation (Non-AC)
vii. PA System – (Only if required as per CFO NOC/ relevant authority)

FAÇADE DESIGN GUIDELINES

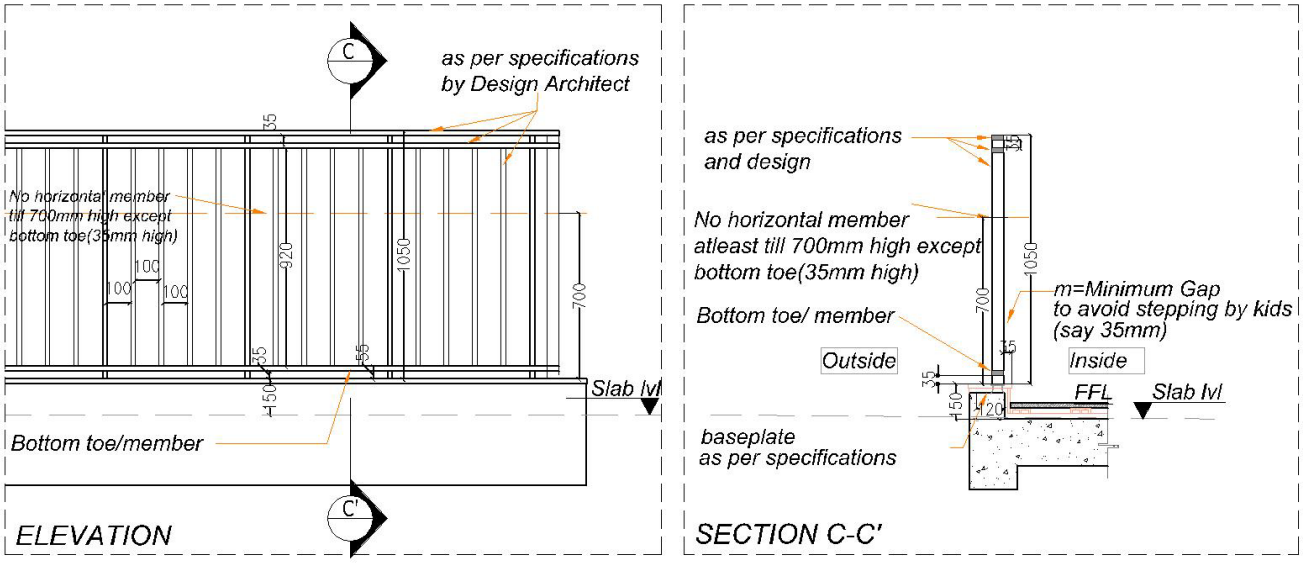
Exterior Walls:

Conventional Shuttering: Double coat cement plaster and painted with 2 coats of Acrylic paints of approved colour over a branded primer coat.

Al. Shuttering: Painted with 2 coats of Acrylic paints of approved colour over a branded primer coat.

Exterior Parapet walls:
To be light-weight block / RC (in case of Al. Shuttering) wall; 1050mm tall from finished level with 100mm thick RCC M25 coping.

In case of MS railing, follow sketch below.



Roof Parapet: 230mm thk brick masonry of minimum 1.20m height with minimum 100mm thick RCC M25 coping on top.

LMR (if applicable)**:** Single coat cement plaster and painted with 2 coats of cement paint.

Toilet shafts(external): Block work return walls to be provided on external periphery (to be restricted upto non- visibility of plumbing pipes), No jaali required outside toilet window/ventilator, 1200mm tall blockwork from FFL to be provide for fall protection.

WINDOW SCHEDULE									
Sr No	Module	Masonry Opening (in MM)			Type	Aluminium Series	Glass	Coating	Hardware
		Width	Height	Sill					
1	All windows (except bath and WC)	1200/1500/ 1800	1200	1050	3 Track, 3 Shutter	20 x 50mm Non-Jindal	4mm annealed glass(Saint Gobain/Asahi/ Modi/approve d equivalent	15 micron Silver Anodising	Lock: Starlock Bearing: NSK Wool pile: EPDM Gasket SS Screws
2	Bath and WC Windows	600	900	1350	Aluminium Box with Louvers	Rectangular Section 127 x 25.4 x 1.3mm	4mm annealed frosted glass(Saint Gobain/Asahi/ Modi/approve d equivalent	15 micron Colour Anodising as per approved shade	

MEP DESIGN GUIDELINES:

Common Services shall be planned for the project / cluster of buildings (as applicable). e.g., underground tanks, fire panels, pumps, STP, Sub-stations etc.

ELECTRICAL

Diversity Factors to be considered:

Diversity @ Each Apartment Maximum Demand:	0.80
Diversity @ Floor Maximum Demand:	1.00
Diversity of Load for Cable as Riser:	1.00
Common Area Lighting/Pumps etc:	0.50
Elevator Load:	0.80
Life Safety Equipment:	1.00

Electrical Load Details / Facilities Details

Demand Load: Min 1.3KW /unit (25 sq.m carpet – 1BHK)

i. Living Room:
   a. (1) tube light – 40 W.
   b. (1) fan
   c. (1) TV point
   d. (1) telephone point
   e. (1)Bell point
   f. (2) 6 Amp socket points
   g. (1) night lamp

ii. Kitchen:
   a. (1) Tube light – 40 W.
   b. (1) fan
   c. (1) exhaust fan
   d. (2) 6 Amp socket point
   e. (1) 15 Amp socket point

iii. Bedroom
   a. (1) tube light – 40 W
   b. (1) Fan
   c. (2) 6 Amp Socket points

iv. Bathroom and WC:
   a. (1) Suitable power plug for Geyser (20A)
   b. (1) Light point
   c. (1) Exhaust fan (separate - next to window)

*Fixtures to be provided as applicable. Additional light point/s may be necessary depending upon architectural layout.

Internal Corridors:

i. 1 tube light point at 2.40m ht. and located at the center of the corridor, by the main door openings (minimum 6m interval) in common passage, individual switches for bell to each flat.

Power Distribution

The Electrical power to the development shall be provided through 11KV/22KV HT network and 11KV/ 22 KV /415V distribution Transformers at suitable locations. Electrical distribution shall be designed as per relevant authority standards and regulations.

Single phase power supply shall be provided for the apartments through dedicated distribution boards per flat. Each building shall be provided with a dedicated electrical room at Ground floor and all the Electrical Energy meters and all other panels related to the building shall be accommodated inside the room.

Vertical power distribution shall be through Aluminium Armoured Cables.

Cabling / Wiring

The wiring for light and small power outlets shall be with PVC insulated FR copper conductor stranded single core wires. Complete wiring installation shall be in concealed PVC conduits.

Emergency Lighting

DG backup should only be sized for fire critical systems (fire lifts, staircase lighting, fire pumps). In non-fire mode, the DG's will also serve elevators, water pumps, etc. and 25% of the common lights including car park lighting.

For developments where 24x7 power supply through Express feeder is guaranteed & with no DG back up, emergency lighting system shall be provided in the habitable buildings with 25% of common area lighting (entrance lobby, typ. Corridor lighting), 100% staircase and service room lighting, through inverter with 60 min. battery backup. This does not apply to parking areas of any nature.

EXTRA LOW VOLTAGE SYSTEM

Telephone System and CATV System

PVC conduits from shaft to unit point shall be provided. Wiring shall be done by service provider.

Fire Alarm System

Conventional type fire alarm system shall be provided (without detectors) in common areas and Lift lobbies. Manual Call point and Hooter will be provided in every floor. (Follow Palava – Sector I system design) Telephone jack shall be provided on each floor. Additional requirements if specified in CFO NOC to be analyzed and decision made in discussion with Director – Operations.

* Refer Annexure I for list of approved makes

PLUMBING

Plumbing Requirements:

Units:

i. Kitchen
   a. Concealed UPVC –Schedule 40 pipe.
   b. Nahani trap with cover plate below sink
   c. Stainless steel sink of size 450 x 450
   d. Tap fitting – bib cock fitting
ii. Bathroom:
   a. Concealed UPVC –Schedule 40 pipe.
   b. Internal drainage, nahani traps, grill
   c. S/Installation of CP fittings.
iii. WC:
   a. Concealed UPVC –Schedule 40 pipe.
   b. Internal drainage, fixing of trap
   c. S/Installation of CP and sanitary fitting.

Water Supply

i. Basis for water calculations: 5 individuals / Tenement
ii. The distribution of water shall be by gravity system. Boosting shall not be required for flushing water down takes since cistern tanks are used
   a. Domestic water – Wash basin, Shower, Health faucet & Kitchen Tap
   b. Flushing water – WC
iii. Solar System Provision: Top five floors flat hot water supply considered from Solar system. The Solar panels are placed on respective block Terrace. (Only if required by MOEF)
iv. Domestic water tank capacity (total capacity on ground + terrace + any other levels) should be equal to 1 day storage for buildings
v. All the water pumps shall be with automatic control panel with water level indicator, as follows:
   a. Building height < 30m: Horizontal Monoblock pumps
   b. Building Height > 30m: Vertical Multi-stage pumps
vi. The pumps shall be so designed that overhead tank shall be filled within 2 hours and stop with automatic controller. Following piping system is to be used:
   a. Uptake Pipes: CPVC pipes

b. Down-take Pipes: UPVC/CPVC pipes. PRV to be used to moderate pressures so that design pressure ratings of water heaters and CP ware at any point is not exceeded and pipeline pressure is kept below <=2.5 bar.

vii. Design shall be such as to ensure equal and simultaneous flow (tolerance ± 15 min) for all tenements.

viii. Stop cock should be provided for the wash basin and flushing tank. In addition to this stop cock should also be provided at the entry of the water supply pipe into the tenement.

ix. Deep seal nahani trap with grating to be providing in bath area, and below kitchen sink with appropriate size as approved by EIC.

Sewerage

i. Double Stack piping system shall be used
ii. Piping System (Material of Construction): Follow Lodha Policy (MEP-08)
iii. CI pipe for ground floor up to first inspection chamber and for above PVC SWR System Soil, Waste, Rain Water & Vent to be considered.
iv. Single piece PVC pipe from WC up to flushing cistern to be provided.
v. No combined pipe for S.W. Drains and sewerage shall be permitted.
vi. All P & S trap shall be deep seal with seal not less than 80 mm.

Sewage Treatment Plant (STP)

All the buildings Waste-water will be collected by gravity through sewage pipeline network & connected to Centralized Sewage Treatment Plant

* Refer Annexure II for list of approved makes

FIRE FIGHTING

i. Low-Rise (up to 30 m above ground): NA (subject to any CFO NOC requirements)
ii. Mid-Rise (30m to 70 m ground):
    a. Doors to meter room and electrical duct (if opening into a fire escape staircase or passage thereto) should have a 1-hour fire rating with smoke seal. (Only if required by CFO NOC)
    b. Fire hose reel with 30 m coverage to be provided – can be located at the end of the corridor and no FF shaft is required (only if there is no open location which is feasible, FF shaft is to be provided).. If FF shaft is provided, have no cut-out in slab – only sleeve with sufficient leeway (100 mm on dia eg. If 150 mm dia pipe, sleeve can be 250 mm). For high rise buildings, zone wise sizing of sleeves can be considered is size of the pipe is likely to reduce.
    c. Sprinkler in lift lobby (from unit up to staircase). Possibility of integrating sprinklers with the wet riser should be examined
    d. CO2 -type 5 kg Fire extinguisher adjacent to staircase gate on each floor.
iii. Piping shall be Painted MS pipes and MS fittings

iv. Plant/Service Rooms:
   a. Sprinkler (only building above 30m ht)
   b. Heat Detector
   c. Fire Extinguisher
   d. Fire extinguisher outside the plant room
v. Stilt Areas:
   a. Hydrants with 30 m coverage near each exit staircase and then additional hydrants at 30 m distance within the basement.

For any additional requirements as per CFO NOC, analysis to be done of whether such requirements are needed as per international standards and then decision to be made in discussion with Director-Design.

Fire fighting tanks should be sized (total capacity on ground + terrace + any other levels) to meet fire fighting needs for 60 minutes for building.

Pumps:

Common pumps shall be used for a cluster of buildings (max 3 to 4 buildings). Pumps and their back-ups to be provided as follows:

i. Fire pump (electrical): 2 working (1 for sprinkler + 1 for hydrant) + 1 common stand-by connected to common header. (Pump rooms to be oversized for temporary placing of one additional pump if CFO NOC calls for 2 working + 2 standby). Wet riser and sprinkler systems can be combined only when there are limited numbers of sprinklers in each floor.
ii. Fire pump (Jockey): 1 working + 1 standby (pump rooms to be oversized for temporary placing of 2 additional jockey pumps if CFO NOC calls for 2 jockey + 2 standby).
iii. Fire pump (booster): 1 working + 1 standby

In case of any conflict with CFO NOC in relation to the requirements of pumps or other CFO related elements, discussion should be done with HOD-Design / Director-Design as to what elements of CFO NOC can be ignored.

* Refer Annexure III for list of approved makes

HVAC

Provision of split AC to be considered for all bedrooms in govt. handover flats. Please note that AC is not to be provided (only provision).

LIFT PROVISION

i. Indian manufacturers to be considered. E.g.: Fujitec, Johnson, Schindler – telescopic door lifts
ii. MRL elevator with a minimum capacity of 6 persons
iii. Performance standards – As per Lodha standard's for Casa projects.
iv. All elevators shall be equipped with ARD
v. Maintenance for a period of 2 years after handing over of building to be considered.

vi. Finishes:
    a. Interior – Powder Coated MS
    b. Doors – SS on ground/main entry level and MS Powder Coated on all other levels
    c. Door Height – 2.1 m
    d. Cabin Height – 2.4 m

Lifts shall be supplied by Lodha.

INFRASTRUCTURE DESIGN GUIDELINES

i. Compound Wall shall be min. 1.5 m height with RCC pillars / beams 230 mm thick brick masonry wall with pillars as required and R.C.C coping on top (see Lodha Compound Wall policy)
ii. Entrance Gate shall be M.S Ornamental gate with good design of Min. size 4.0m wide x 1.5m height with M.S. frame & Grill with track on wheel, locking arrangement.
iii. Security Guard Cabin to be provided near entrance gate
iv. Common Toilet to be provided for security guard and other personnel at ground level complete with WC, washbasin, and bathing facility.
v. Plinth protection of 0.90m in PCC M20 all around building
vi. Well paved WMM roads with asphalt for vehicular access. Walkways, Footpaths shall be covered with concrete pavers. Softscape areas to be maximized

Parking

Parking for one (1) 2-wheeler per unit + 10% guest parking (subject to maximum of 100 nos) shall be considered

Street/Building Lighting

i. Illumination level – 8 LUX on up to 6 M. Wide road, 15 LUX on 10 X 15 M. Wide road.
ii. Separate underground armoured standard aluminium cables of XLPE to be used of 1.1 K.V. voltage grade.
iii. High pressure sodium vapour lamps of 70 W for building lighting and 150 W for street lighting.
iv. Provide controlling arrangement with automatic ON/OFF to be made with timer and energy saving device.
v. Supply of street light to be fed from controlling point by providing at the street light mini-pillar separate energy meter and protective devices.
vi. Street light G.I. octagonal poles of 7.5 m. Height above ground level shall be provided on suitable foundation as approved

Outdoor Children's Play Area

Some of the core design principles include:

i. Having a flooring material which makes it same to fall eg. White sand.
ii. Having equipment which serves age groups 1-8.
iii. Having adequate no. of equipment taking into account the population and space available.

Following items are mandatory for a project level outdoor children's play area (multiple units can be considered):

i. Swing (min. two seats)
ii. Slide
iii. See Saw

Koochie or equivalent Indian brand

Signage

A Standard Signage Program shall include the following Sign Types & the basic signage guidelines.

i. Reception Building Sign: Name of the project as indicated by local/relevant authority (follow CASA policy for design)
ii. Building Directory: Not to be used – no building directory is required.
iii. Destination Signs: All the destination signs will either be represented in the form of pictograms or text consistently across all sign types
iv. Lift Numbering Sign: If there is more than one passenger elevator, the same shall be numbered starting with A. The numbering shall be marked inside the passenger elevator and only on the main entrance level.
v. Staircase sign: Fire exit staircases will have a sign which is Photo-luminescent
vi. Floor Indicator in Lift Lobby: We will not be having floor indicators in lift lobbies
vii. Floor Indicator in Staircase: Provide a floor indicator sign in staircase, in paint since staircase is a back of house area.
viii. Flat Number: To be Provided
ix. Name Plate : Shall not be provided
x. Duct Sign: Only fire fighting duct will have a sign.
xi. Car Slot No. Sign: Shall not be provided

Equipment Brands

Any of the brands stated herein can be changed with joint approval of any 2 of the following:

a. HOC – concerned Design Package
b. HOD – Design

c. COO
d. Director - Design

Financial Norms

All financial norms/limits stated herein are applicable as on 1.1.2015 and shall be increased upwards by 25% on 1st April of every leap year starting 2020 (10% for 2016).

ANNEXURE I – ELECTRICAL LIST OF APPROVED MAKES

Sr. No.	Details of Materials / Equipment	Approved Makes
A.	**HIGH VOLTAGE EQUIPMENT**	
1	Indoor/Outdoor Oil Filled Transformer : 6.6 KV to 33 KV (For building load, transformers should be MSEDCL/authority approved).	Telwane / EMCO
2	VCB : 11 KV (For building load, HT panel should be MSEDCL approved).	L & T / ABB
3	Compact HT Switchgear: 11 KV (For building load, HT panel should be MSEDCL approved).	L & T / ABB
4	HT Jointing Kit : 11 KV	Raychem / 3 M
5	HT Termination Kit : 11 KV	Raychem / 3 M
6	XLPE Cable : 11 KV	Avocab / KEI
7	Protection Relays	EMCO / L & T
	Numeric Type	EMCO / L & T
8	Potential Transformer	Pragati / Kappa
9	Current Transformer (Cast Resin Epoxy Coated)	Pragati / Kappa
10	Static Power Meter & Logger (Trivector Meters)	EMCO / L & T / Precision Controls
11	Electronic Digital Meter (A/V/PF/HZ/KWH) with LED Display.	Nippon / Precision Controls
12	HRC Fuse and Fuse Fitting	KEW / L & T
13	Battery Charger	Chabbi Electricals / Emerson
14	Sealed Maintenance Free Batteries	Rocket / Quanta /
B.	**MEDIUM VOLTAGE EQUIPMENT**	
1	Power Distribution Panel and Motor Control Centre & Air Insulated Bus ducts	Locally fabricated with CPRI Approved
	(For building load, LT panels should be MSEDCL approved).	
2	Final Distribution Board	Indo Asian / L & T / Seimens
3	Air Circuit Breaker (3/4 Pole)	EMCO / L & T
4	Molded Case Circuit Breaker (MCCB)	Indo Asian / L & T

5	Motor Protection Circuit Breaker(MPCB)	Indo Asian / L & T
6	Automatic Transfer Switch (ATS)	Indo Asian / SOCOMEC
7	Miniature Circuit Breakers (MCB)	Indo Asian / L & T
8	Residual Current Circuit Breaker (RCCB)	Indo Asian / L & T
9	Power/Aux. Contactor	Any local, Comet / Jainson
10	Change Over Switch	KEW / L & T
11	Control Transformer/Potential Transformers	Pragati / Kappa
Sr. No.	**Details of Materials / Equipment**	**Approved Makes**
12	Current Transformer (Epoxy Cast Resin)	Pragati / Kappa
13	Protection Relay	
	a. Numeric Type	LnT / EMCO
	b. Electromagnetic Type	LnT / EMCO
14	Indicating Lamps LED type and Push Button	Any Local
15	Overload relays with built in Single Phase preventer	LnT / EMCO
16	a. Electronic Digital Meters (A/V/PF/Hz/KW/KWH) with LED Display	L & T / Precision Controls
	b. Electro_Magnetic Meters	any local
17	Autoamtic Power Factor Correction Relay (Numeric Type)	Areva / Emco /
18	Thyristerised APFC Control Panel	Ducati / Meher (L&T)
19	PVC insulated XLPE aluminium/copper conductor armoured MV Cables upto 1100 V grade	Avocab / Rallison
20	LT Jointing Kit / Termination	Raychem / 3M /
21	Cable Glands Double Compression with earthing links	Jainson / Comet
22	Bimetallic Cable Lug	Jainson / Comet
23	Mettalic / GI Conduit (ISI approved)	Local
24	PVC Conduit & Accessories (ISI approved)	Local
25	Switch & Socket	North west / Beenee / Anchor or equivalent
26	Industrial Socket	
	a. Splash Proof	Jainson / L & T
	b. Metal Clad	Jainson / L & T
27	Lighting Fixture	
	a. Incandescent / Halogen / PL / Metal Halide) / Fluorescent	Fitting – Any Reputed make, Al. Choke, Lamp - Osram / Philips
	b. External Lighting Fixture	Any Reputed make & No Local Fabrication
28	Electronic Ballast for Fluorescent	Philips / Bajaj
	(To be selected as per fixtures' manufacturer)	
29	Selector Switch, Toggle switch	Beenee

30	Timer	L & T / EMCO
31	Cable Trays (Factory Fabricated) / Raceways	Indiana / Reliance electricals
32	Tube lights (Only in Common Areas)	HPL / Crompton/ Phillps
34	Lighting Poles	K-lite / HomeDec

ANNEXURE II – PLUMBING LIST OF APPROVED MAKES

S.No.	Details of Materials / Equipment	Manufacturer's Name
1	a. Vitreous China Sanitaryware	Hindware / Parryware / Cera
	b. WC Connectors	Kisan / Finnolex
2	Stainless Steel Sink	Nirali / Prayag / Jayna / Nilkanth
3	Cistern	Commander / Patel
4	CP Brass Fittings	Sieko / ESS-ESS
5	Flow Control Devices	Dembla / Aira
6	Floor Drain Fixture, Rain Water Outlets & Channel Gratings	Prayag / Jayna
7	C.P. Grating for Floor Trap	Prayag / Jayna
8	Cast Iron Pipes & Fittings Manhole covers and frames a. As per IS:3989 (Pipes & Fittings)	Neco/ Kapilansh
	b. As per IS:1729 (Manhole covers and frames)	Neco/ Kapilansh
	c. D.I. Manhole Covers & Frames	Neco / Kapilansh
	d. CILA fittings	Kapilansh / Kesoram
	e. Suspended Manhole and Gully Trap	Patel Pattern
9	Drip Seal	Vinod Cement Co.
10	GI / M.S Pipes (IS : 1239 and IS : 3589)	Jindal / Bhushan
11	GI pipes fittings	R brand / ISI Mark
12	GI pipe sealent	ISI Make
13	Pipe clamp & supports	Fabricated
14	D. I. Pipes	Kapilansh / Neco
15	UPVC Pipe	Ajay / Supreme
16	HDPE Pipe	Sangir / Kisan
17	RCC Pipe	Pranali Pipe / Alcock
18	GM / Forged Brass Valves	Zoloto / RB
19	Sluice Valves	Oskar / Prime

20	Butterfly Valve	Oskar / C&R
21	Check Valve – WaferType	Oskar / C&R
22	Check Valve – Dual Plate	Oskar / C&R
23	Pressure Reducing Valve	Zoloto/ Varie
S.No.	**Details of Materials / Equipment**	**Manufacturer's Name**
24	Air Release Valve	Zoloto /Varie
25	Ball Float Valve	Zoloto /Prayag
26	NRV – Ball type – Sewage application	Zoloto / VB
27	Sewage Handling Pumps	Xylam/ Willo
28	Transfer Pumps	BE/ Kirloskar / Laxmi
29	Self-Priming Pumps	Willo/ Xylam
30	Borewell Pump	CRI / AROMA
31	Mechanical Seal	Burgman / ISI Equivalent
32	Couplings	ISI Equivalent / Lovjay
33	Anti Vibration Mounting & Flexible Connections	Resistoflex / Kanwal
34	Pressure Gauge	H Guru / Fiebig
35	Water Meter (Mechanical Type)	Kranti / Kaysee
36	Level Controller & Indicator (Water)	Auto Pump / Techtrol
37	Paints	Shalimar / Asian
38	MH / Water Tank Plastic Steps	Prince / Kisan
39	Solar Heating	Mamta Energy / Jain Solar System
40	Grease Trap	Constructed in brick work
41	Welding Rods	Esab / Mangalam / Advani Oerlikon
42	Fastner	Arrow / Fishers
43	Fire Sealant	Birla/ 3 M / Hilti
44	Patel patent chamber box-PPCB	S.B. Ajmera / Patel Engg.

ANNEXURE III – FIRE FIGHTING LIST OF APPROVED MAKES

S.No.	Details of Materials / Equipment	Manufacturer's Name
1	Fire / Sprinkler Main Pump / Jockey	HBD / KSB /Armstrong
2	Diesel Engine	KOEL / Greaves
3	G.I. / M.S. Pipes (IS : 1239 / IS : 3589)	Surya Prakash / Jindal / Tata
4	Standard M.S. Fittings	R brand ISI Mark
5	DI / CI / Forged Steel Fittings	Kapilansh / Neco
6	RCC Pipe	Pranali Pipe / Alcock
7	MH Cover & Frame	Kapilansh / Neco
8	Paints	Asian/ Shalimar
9	Double / Single Headed Landing Valve	Padmini / Priyanka
10	Fire Hose	PAdmini / Vaishali
11	Gun Metal Brach Pipe	Padmini / Priyanka
12	Fireman Ax	Padmini / Priyanka
13	Installation Control Valve	Senje / Viking
14	Sprinkler Heads	Senje / Newage (CD) / Viking
15	Fire Extinguishers	Nazz Fire / Cease Fire
16	Water Flow Switch / Tamper Switch	System Sensor / Switzer
18	Pressure Switch	H Guru / Fiebig
19	Pipe Protection Wrapping	Hassen Cloth / Tarfelt / Pypkote
20	Pipe clamp & supports	VB / RB
21	Sluice Valves	Oskar / Prime
22	Butterfly Valve	Oskar / C&R
23	Check Valve – Wafer Type	Oskar / C&R
24	Check Valve – Dual Plate	Oskar / C&R
25	Pressure Reducing Valve (Listed)	Zoloto / Varie

26	Air Release Valve	Zoloto / Varie

Amenity & Facilities List and Marketing Plan – Guidelines

The Marketing Amenity & Facilities list is to highlight all the things that differentiate the product or point to its high quality. Before preparing amenity/facility list of your project, please reference the amenity/facility list of similar (by segment or price point) project that we have done in last 24 months (or longer, if nothing similar done in last 24 months) – this will give a good starting point.

The legal Amenities & Facilities list will contain the same elements but without the embellishments that are used for the Marketing list eg. *Designer Double Height Entrance Lobby* (Marketing List) will be written as *Double Height Entrance Lobby* (Legal List). For guidelines wrt legal amenities & facilities list, see '*Design Inputs for Sale agreement*' policy.

All Amenity & Facilities lists are to be broken into 3 groups in following order:

a. Unit related
b. Building/Cluster related
c. Development related

Aspects to Highlight (most attractive/important points at top of each group and then further arrange by room/area/similarity of points, if relevant)

Unit

a. Interior design by _____ (if branded firm)
b. USPs such as view, one/two residences per floor
c. Air-conditioning details
d. Flooring (separated by different rooms)
e. Any bathroom highlights (eg. 4-fixture bathroom) and bath fitments highlights (country/continent of origin and/or brand)
f. Fitted Kitchens highlights (if provided) or kitchen finishes.
g. Wall finishes (if special finishes are provided)
h. Balconies/Decks
i. Window highlights (eg. Floor to ceiling, DGU glass for noise protection)
j. Lighting (if provided)
k. Automation (if provided)
l. Specials rooms /spaces in the unit eg. Media, Store, Puja, Utility, Walk in Wardrobe, 4-fixture
m. Private Garden / Pool / Terrace (if applicable) in feet (with metres in brakcets)
n. Floor to Floor / Ceiling Height (if exceptional)
o. Connectivity (as applicable)
    a. Provision for telephone and TV connectivity^
    b. Provision for Fibre optic (FTTH) and Direct to Home TV (DTH) connectivity providing hi speed internet access^
p. Anything else which may be considered a USP

If unit is on bare shell basis, agreement shall state under Unit that '*Unit shall be provided in bare shell basis with no finishes*' and no other features shall be mentioned.

Wing/Building related

a. Elevators
b. Main entrance Lobby
c. Floor lobby (and its finishes)
d. Façade USPs (if any)
e. Anything else which may be considered a USP

Development related

a. Names of design partners, if the same adds value
b. KCAs and their highlights
    a. Club spread over ___ levels / _____ sq. ft. (if very large)
        i. Restaurant
        ii. Party Halls - __ nos with capacity of upto _____
        iii. Library & Lounge
        iv. Indoor Games with Table Tennis, Snooker and _____
        v. World Class Gym operated by _____ (if branded operator)
        vi. _____
    b. Temple
    c. _____
c. Swimming Pool(s) & any highlights thereto (eg. 25 m pool, kids pool, wave pools etc.)
d. Sports facilities
e. Landscape highlights
f. Hospitality Services (as provided)
    a. Concierge
    b. Valet
    c. Housekeeping
    d. Room Service
    e. _____
g. Conveniences (as provided)
    a. Staff toilets & changing rooms
    b. ATM
    c. Convenience/Provision Store
    d. Medical Clinic
    e. Laundry
    f. _____
h. Parking and highlights thereto (ample open / covered parking, separate guest parking)
i. Security (covering unit, wing/building and development)
j. School

k. Spa operated by _____
l. Wi-fi connectivity in common areas (if applicable)
m. Anything else which may be considered a USP

If any of the aforesaid items are not applicable / not planned, same can be dropped from the list. Avoid writing brands as far as possible and if written mark with suitable disclaimer of 'or equivalent'. similarly, other suitable disclaimers to be added (eg. excluding select areas <state> | or equivalent | select units only, see plans for reference | on chargeable basis by 3rd party provider |)
Amenity list to be approved by HoD Design / Director concerned. While sending for approval, send along typical floor plan, entrance level plan and amenity plans.

Floor Plan
Guidelines for how to prepare the floor plan:

a. All sale plans to be issued with dimensions in Imperial system (feet inches).
b. All dimensions to be rounded up to nearest inch.
c. In case of rooms with an add-on area beyond the regular shape (eg. L-shaped living dining or bedroom with additional wardrobe area), **the dimensions are to be stated as p x q + a x b.**
d. In case of irregularly shaped room (where difference at two extremes is > 10% in any dimension eg. One end is 10' and other is 12'), the longest dimension in each direction to be stated and room carpet area in sq. ft. to be stated.
e. All 11" to be rounded up to nearest foot and all 1" to be rounded down to nearest foot. (Ex. 4'11" to be written as 5'0" and 3'1" as 3'0")
f. For corridors, only the width is to be stated eg. 3'6" wide.
g. North direction to be marked.

The number must be designated in each unit at appropriate location e.g. in residential at the main entry, in commercial in the center of the shop, in Industrial unit center of the industrial unit.. Lift should be shown 'LIFT'.

In case of Luxury residential projects (and plans for any unit with RERA net area > 3000 sft), the area of each room should also be stated in the plan (the room's carpet area includes all parts that are connected to the room eg. WIW, toilets etc so that people have a full sense of scale and we don't break into too many small pieces). See sample unit plan:



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Unit plans (one for each unit typology (including separate for jodi typology) but do not need different unit plans for floor plan orientation change)

1. Arrange plan such that Living room window is always up

2. No direction marker required
3. Review furniture layout to make use it is elegant and doesnt block movement
4. Try to show the dining table as freestanding

Naming of rooms:

1. Standard names:
    a. Living/Dining. If both are separate, 'Living room' and 'Dining room'.
    b. Store
    c. Puja
    d. Utility
    e. Kitchen
    f. Deck (for single height balconies)
    g. Terrace (for > single height balconies)
    h. Home Theatre / Family room
    i. Corridor (not passage)
    j. Staff room
    k. Toilet; if only WC, then 'W.C.'
2. Bedrooms:
    a. 'Master Bedroom' to be names as such.
    b. Other bedrooms are to be named as 'Bedroom __' (starting from Bedroom 2, because Bedroom 1 is the Master Bedroom). The final bedroom should be the same number as the no. of bedrooms that are being sold eg. 3 BHK unit will have Master bedroom, Bedroom 2 and Bedroom 3. Toilets should also be numbered accordingly eg. Toilet of master bedroom to be called Master toilet, toilet of Bedroom 2 to be called Toilet 2
    c. Half bedrooms are to be called as 'Bedroom __' and not as 'study'.

Separately, following plans are to be provided to marketing:

a. Rendered floor plan(s)
b. Rendered Unit plan(s)
c. Layout plan w/ landscape incorporated
d. Plans of key KCAs (if available and final)

Lighting of KCA's

Lighting plays a vital role in ensuring that the aesthetics of a space are optimally perceived and functionality is appropriately used. Poor lighting can make a person feel uncomfortable and reduce desire to stay in a place / be productive. Hence, lighting should be done with thought rather than by chance.

Factors to consider:

1. Type of Lighting Source. Choice CFL, MH, LED, FTL etc. While making choice for higher cost items like LED, consider excess capital investment v. electricity saving over a 3 year period.

2. Colour Temperature of Light Source
    a. Cool – 5500 to 6500 K (preferred in office 'working' areas)
    b. Intermediate: 3500 to 5200 K
    c. Warm: 2400 to 3100 K (generally gives more 'luxury hotel' feel)

3. Colour Rendering Index:
    a. CRI – 60 (colours appear 'dull'. Ok to use for non-KCAs (eg. Lift Lobby) if cost is significant lower than other options)
    b. CRI – 80 (colours render decently. Minimum standard for KCAs).
    c. CRI – 90 (colours render sharply. Valuable for area such as art gallery)

4. Average Illumination level (brightness in lux)
    a. Measured in Lux (ranges from 70 lux to 300 Lux or even higher)
    b. Generally 100 Lux to 200 Lux is the preferred range (lower brightness levels between 100-150 lux are used in more 'luxury spaces')

5. Approval on final lighting choice should be done by HOD-Design / HOC – Interior Design.

6. For spaces exceeding 5000 sq. ft., sample installation should be done to assess whether design parameters are appropriate.

7. This policy also applies to Company offices, Lift Lobbies and other public areas, in addition to KCA's.

Standard List of CGIs

1. Entrance Lobby (any 1 typology, generally the grandest)
2. Landscape – 3 to 4 views out of
    a. Swimming Pool
    b. Exterior of KCAs like Club, Temple, other such structure
    c. Important Landscape features like water bodies, sports fields, cluster green, organic farm, kids play area etc.
    d. Any other that the landscape designer may recommend
3. 1-3 views Amenity area interiors out of:
    a. Gym
    b. Lounge/Library
    c. Indoor pool (if applicable)
    d. Spa (if applicable)
    e. Wine cellar
    f. Private Cinema
    g. Banquet Facilities / Private Dining / Restaurant
    h. Any other important amenity area.
4. Building elevation view (one for each marketing project)
5. 1 View from unit (living room / master bedroom) looking outside (focussing on the key views from the development, if the views are relevant)
6. 1 View inside unit – highlighting the most important room (of living room, bathroom, master bedroom, kitchen, any specialized room eg. Home theatre. Views should be made on the largest unit typology which makes up atleast 5% of the total units in the development)
7. Bird's eye view of development (for development's which have > 8 L sft of saleable area)

Designer Tower:

1. Lift Lobby
2. Upto 2 additional view inside unit based on 6. above

In addition, for luxury and hi-end developments, one photo to be taken (living room / balcony location) towards the important view. We should ideally have this view linked to the floor height of every unit.

a. It is critical to identify the 'hero shot' for every marketing project / neighbourhood in discussion with marketing, generally CGI or external view shot, which bring alive the exceptionalism / positioning of the MP and clearly catch the viewer's attention. We need 1 or max. 2 hero shots and not a plethora of CGIs (quality v. quantity).

b. While shoot the external view, it is important to note that the zoom and pan of the human eye is far better than that of the latest cameras (2022). To overcome this, once the most important external view is understood and if that has the possibility of becoming the 'hero shot', this photo/video should be taken much closer to the target external view (ideally reduce the distance by ~75% i.e. if the building is 1 km away from the target view, the 'hero shot' should be taken about 200-300 m away from the external view).

Final list should be gotten approved from Director- Marketing. CGIs should be available atleast 2 weeks prior to pre-launch and hence, work on the views should commence atleast 8 weeks before pre-launch.

Project Architect shall coordinate this (and also layout, building, unit and cityscape model(s) which are needed in time for the launch).

Approvals Process

1. There shall be no more than 2 approvals for any marketing project (a marketing project will generally have a saleable area of 8 L sft or lesser; However, sometimes this maybe restricted to the entire layout if separate approvals for marketing projects within the same layout is not possible.
2. Approval 1: Expedited approval for start of sales and construction. In this phase, the concept design of the sale buildings should be closed and there should be no further change in unit plans and no. of floors in the sale buildings.
3. Approval 2: Within 9 months of 2. In this all other elements will be 100% frozen such as landscape, layout amenities, parking, any changes to elevation of building etc.

Please note that post 3., no further change in design is possible (unless required for liaision reasons). This will require all design teams, especially Architecture and MEP, to be cognizant of the aforesaid limitations and ensure that the necessary parts of design are completed in a timely manner and no changes are made thereafter.

Guidelines governing 3rd party usage of their association with company and visits to project locations

1. 3rd party usage of their association with company
    a. 3rd party working on project means any consultant / vendor / supplier working directly on a project ("Project 3rd party").
    b. Any project 3rd party is not permitted to use their association with any project of the company prior to marketing launch of the said project.
    c. Thereafter, the project 3rd party can use approved photograph(s) and text in relation to the project on their website, in their marketing material or for any material which is solely meant for usage/circulation within their company, with prior approval of the Corp Comm cell. However, no material or proprietary technical or commercial information shall be shared on such media. Further, the right to use such name and data will cease 24 months from the date of end of construction of the project, except in case of design consultants who can use the same in perpetuity.
    d. Consultants are generally not permitted to use any content created as part of the project in any external forum eg. media releases, seminars or workshops involving external parties. Any exception shall be on recommendation of HOD and with prior approval of Corp Comm. Such exception has to justified by the recommending HOD on the basis of significant business gain to Lodha.
    e. Usage of names of any Lodha associates is not permitted in any such material. Exceptions are permitted for level C/0 only with prior approval of Corp Comm.
    f. In case 3rd party requires a reference letter, same can be issued with signature of by Level 0 of Procurement subject to the said 3rd party not being in default of its obligations and generally having completed its work in satisfactory manner update date of the issuance of such letter.
    g. These guidelines do not apply to sales brokers / consultants, who shall be permitted to use project details as per approved material released by Sales / Marketing.

2. Access to Project locations by non-project 3rd parties
    a. This applies to the project site and sales office / sample flat thereto ("project locations").
    b. Project 3rd parties are allowed access to the project location, as may be appropriate for the purposes of fulfilling their project responsibilities. However, any associates of these entities who are not directly working on the project shall be treated as "non-project 3rd parties" and follow the guidelines thereto.

c. Any non-project 3rd parties viz. individuals or entities not directly involved with the project are NOT TO BE PERMITTED to visit the project locations. Any exception is permitted only if all of the following conditions are satisfied:
    i. Approval of level 0 or higher.
    ii. The people visiting are someone we want to oblige for significant business gains OR are people who we want to expose to the company's functioning for business gains eg. students from premier institutions, representatives of financial institutions, world-class consultants who are engaging with to work on other projects of the company.
    iii. The visit is with along with a Lodha associate of Level 2 or higher.
    iv. No photographs or videography is permitted on such visits (including through cell phones).
d. Prospective customers shall have access to under construction project site as per arrangement agreed on site between Sales and Construction Management to ensure that the access is in a safe manner and serves the requirements of Sales to show the site to prospective customers.
e. These guidelines do not apply to existing customers and sales brokers/consultants, who shall have access to the sales office / sample flat as per policies off the Sales department AND shall generally not have access to under construction project site, unless such visit is approved by Level C/0 of Marketing, Sales & Customer Care or Director-Sales.
f. These guidelines do not apply to Lodha associates who can visit the project locations in course of any requirement emanating from company-related works.

Norms for units with restricted size as per govt. norms

On account of various schemes / regulations, unit size of some % of the units in a development may need to be restricted. These include:

a. ULC
b. I to R
c. EWS/LIG Housing
d. Rental / Affordable Housing
e. Release / permitted use of reservation

Further, the aforesaid units can be classified into two groups:

a. Type H - To be handed over to govt / govt agency (note: also includes amenity buildings)
b. Type S – To be sold in open market (maybe with some price or user restrictions)

Process

1. Prior to finalization of design brief, Design needs to speak to Liaison and get clarity on the % / no of such units. This may vary to some extent (+/-20%) later but the base has to be established.
2. Areas: The units required for such purpose shall be built within the specified area limits – dividing (on paper) of larger units is NOT permissible to meet these requirements.
    a. In case of Type H, design units with the min. possible physical area to meet the area requirements i.e. don't take advantage of any free of FSI areas.
    b. In case of Type S, take advantage of the free of FSI areas like balcony, terrace, fungible etc. These are excluded from the area limits (which is generally for FSI or Carpet Area, excluding these Free of FSI Areas)
3. Specifications:
    a. Type H – Follow guidelines specified in '*Guidelines for design of not for Sale (Govt Handover) Resi bldgs*'. Check with liaison if there are any specific requirements and if these are in conflict with the guidelines, Project Architect to take clarity from HoD-Design.
    b. Type S – Specifications should be decided as per norms for sale buildings, taking unit size differences into account.
4. Timing:
    a. Type H units/buildings are to be expedited and completed before the sale units from the linked FSI, since OC will generally get impacted if the Type H units are not ready in time.
    b. Type S units can be built (timing wise) as per sale / market requirements.

5. Allotment List:
    a. Type H – In allotment list, these units are to be marked as '*not for sale – to be handed over*'
    b. Type S – In allotment list, these units are to be marked as '*special terms apply*'. Details on what these terms/conditions are should be finalized by Project Architect with Liaison, approval taken from MD and issued+discussed with Sales and CC.

Replaces: 'ULC Compliance' policy

Project Timeline Norms

Building Type	When to start construction	Max. timeline from start of construction to completion / customer handover	Some tips on how to achieve
Buildings which can be sold while under construction eg. residential building	As soon as practical wrt design and approvals	36 months (additional 6 months permissible with approval of concerned CEO in case of designer / other value added choices)	a. Keep height as low as possible by increasing no. of units/floor or wings and not having parking / major services/ basement/podiums under building. Ideally such buildings should not exceed 150 m in height. b. For tall buildings (100 m+) in locations where cost is sustainable: a. Jump form for core (with core able to progress ahead 10-14 levels above slab). This can also possibly be twinned with steel frame structure. b. Jump form for slab and core (eg. World Crest Grocon). c. Consider pre-fab toilets. d. Minimize on-site workmanship for finishing. e. Incentivize contractors for on-time performance.
Buildings which cannot be sold while under construction eg. leased buildings	Once design is evolved to a stage wherein there will be no further loss of time due to interim design delays	30 months	a. Keep height as low as possible by increasing no. of units/floor or wings and not having parking / major services /basement/podiums under building. Ideally such buildings should not exceed 100 m in height. b. Minimize on-site workmanship for finishing. c. Incentivize contractors for on-time performance.
Structures which are not for sale eg. school	Once design is evolved to a stage wherein there will be no further loss of time due to interim design delays	24 months	a. Ideally such building should not exceed 30 m in height. b. Minimize on-site workmanship for finishing. c. Incentivize contractors for on-time performance.

Sales office & Sample Flat	As soon as practical wrt design and approvals	Sales office and Show Flat - <=8 months (from Design Brief to handover) (subject to top slab of civil structure being complete atleast 120 days prior to this target timeframe, else the differential period shall be added) and +2 months in case of international architect or ID. **These timeslines are subject to sales office and show flat being ready 7 days prior to launch (not pre-launch).**	a. Ideally such buildings should not exceed 1 level (max. 2 levels). b. Minimize on-site workmanship for finishing. c. Incentivize contractors for on-time performance.
KCAs	Once design is evolved to a stage wherein there will be no further loss of time due to interim design delays	a. Clubhouse - 10 months (from Design Brief to handover) (upto 20,000 sft) (subject to top slab of civil structure being complete atleast 120 days prior to this target timeframe, else the differential period shall be added) and +2 month additional for every 10,000 sft (or part thereof) additional and +2 months for international architect or ID, subject to max of 15 months. **These timelines are subject to the clubhouse being ready within 24 months from the DSS of the concerned marketing project (30 months if the bottom level of club is located > 2 levels above**	a. Logistics should be planned such that these can be achieved. b. For KCA structures which are outside building line, limit height to 2 levels (max. 3 levels). d. Standardize finishes and equipment across KCAs in same project segment. e. Minimize on-site workmanship for finishing. c. Incentivize contractors for on-time performance.

		ground). b. Entrance Lobby - R**eady within 12 months from date of start of sales (DSS) of the concerned wing** (in case of Casa projects, this shall be date of possession of the concerned wing). c. Other KCAs and landscape - At time of first offer of possession (or max. within 6 months thereafter)	

a. Building level timeline norms are applicable for all projects where construction will commence onsite on/after 1.7.16.

b. KCA (including show flat and sales office) norms are applicable for all project where the finishing of the relevant KCA will commence on/after 1.7.16.

Consultant Appointment Guidelines

A. Budget Management and Fee Guidelines for Consultants

1) The overall consultant budget (refer the latest project construction cost guidelines) shall be divided as follows:
   - 80% for Group A consultants – Architect, MEP Engineer, Structural Engineer, Interior Design, Landscape, Façade Design, Cost Consultant
   - 20% for Scope Changes/Contingency and Group B consultants' i.e. any specialist consultants to be appointed based on specific needed of a project ex. Vertical transportation, Traffic, Signage etc.

   It shall be the responsibility of the Design Leadership (HoD + HoCs) to ensure that project is completed within the consultant cost targets stated in 'Project Const Cost Guidelines'. The aforesaid 80:20 distribution, the fee guidelines and fee norms below are indicative and can be modified/ exceeded with approval of HoD-Design as long as overall consultant cost targets are met.

2) Fee Guidelines

Sl. No.	Design Trade	Fee for projects starting in FY 16-17*
1	Architecture – full scope	Rs. 15 / Sqft BUA
	Architecture – Production / Local consultant role (primary responsibility from DD onwards)	Rs. 9 / Sqft BUA
2	MEP Design	Rs. 9 / Sqft BUA
3	Structural Design	Rs. 6 / Sqft BUA
4	Landscape	Rs. 3 Lacs/ Acre land area of project
5	Interior Design	Rs. 500 per sqft of carpet area for uniquely designed area

3) Notes on Fee Norms:
   a. The above rates are on fixed price per sqft BUA basis, unless otherwise stated.
   b. International consultant can be up to 3x of the fixed price per sqft BUA.
   c. Built up area measurements for the purpose of calculating consultant fee shall be as per Annexure B.

d. Rate norms shall be reviewed every year in May by heads of design and procurement with external benchmarking.
e. Variation of +/- 50% based on applicable factors (size, segment etc) to be decided by HoD-Design as long as the overall consultant fee target is achieved.
f. Works shall only be allotted to empanelled consultants. For any new consultant, empanelment process as per '*Process to be followed for empanelment for new vendors*' needs to be completed prior to appointment.
g. Milestone % fee should be structured as below:
    i. For full scope of services:
        1) preferably a max of 5% as a sign up fee
        2) max cumulative 60% upto tender documentation stage – remaining 40% allocated to VFC drawings, construction administration and closeout milestone
        3) last 5% (10% in case of MEP) to be linked to as-built drawings, testing and commissioning as applicable
    ii. For scope upto DD:
        1) preferably a max of 5% as a sign up fee
        2) max cumulative 85% upto tender documentation stage – remaining 15% allocated to post DD stage eg. Construction visits, co-ordination with post-DD consultant.
h. For extra works beyond original scope (except if new land is added), fee shall be charged on actual direct cost normal basis only. If new land is added, additional fee shall be as agreed between the parties but shall not exceed pro-rata basis.

B. Guidelines on Strategic Consultants

1. Select consultants (max. 2-3 per discipline) can be designated as strategic consultants by the concerned HoCs with approval of HoD-Design. Factors influencing the selection of strategic consultant:
    a. Should have completed min. 1 project with Lodha.
    b. Should have capability and exhibit commitment to doing high quality work.
    c. Should be interested in having long-term relationship with Lodha.
    d. Should have setup/size to do atleast 25% of Lodha's workload.
2. What is the benefit to a Strategic consultant?
    a. They will be given first preference in appointment to Lodha projects, subject to them having requisite prior experience of that type of project.
    b. Subject to continued good performance, they will get atleast 25% of annual Lodha volume. This allows the 'base cost' of the consultant's organization to be reasonably covered and gives the consultant stability and visibility of work flow.
3. What is expected by Lodha from a Strategic consultant?
    a. The consultant should provide the best resources for Lodha works.

b. There should be clear understanding within consultant's teams working on Lodha that they need to ensure outstanding outcomes for Lodha.
c. The rate given to Lodha should be at least 10% lower than the lowest rate given by consultant to any private party (or at best, at par with any other developer who provides similar volume).

4. Procurement to execute framework agreements with these strategic consultants.

5. Key terms of framework agreement –

a. Non exclusive
b. Volume projections are performance driven
c. Opportunities will be transparently shared irrespective of final choice of consultant
d. Framework rates shall be agreed with the consultants upfront
e. An annual review shall be carried out with example driven report on performance to schedule, quality, innovation, cost/ value engineering and management.

6. List of empanelled strategic consultants is given in Annexure A. The same shall be reviewed every year in May by HOD-Design and HOC-Design concerned along with procurement team handling consultants based on performance assessment on parameters like schedule, quality, innovation, cost/value engineering and management attention.

Annexure A

List of Empaneled and Strategic Consultants – May 2016

Discipline	Currently Active and Empanelled Consultants	Proposed Strategic Consultants (max. 3 per discipline)
1. Architecture	India Based – KAPL, Architect Hafeez Contractor, Somayya and Kalappa, Serie, Abhikalpan, DSP, Talathy and Panthaki, Form Space N Design Architects, Christopher Charles Benninger, Dar & Wagh, RSP, Vernekar Associates, BDP Design, Group 7, Edifice, Flying Elephant Studio, Hundred Hands Design, IAG Consultant, Mathew & Ghosh Architects, Voussoirs (Liaison) International – PCF, WOHA, Hadi Tehrani, Hans Brouwer, Atkins, Bentel, KPF	KAPL, Arch Hafeez Contractor
2. MEP Design	India Based – Buro Happold, AECOM, TCE, MEPCON, Integrated Tehnical Services, Ramboll, Radiant Consulting Engineers, Micro Engineering, PL Engineering, SEMAC, Sheth Techno Design, Design Bureau International – Arup	Buro Happold
3. Structural Design	India based – Struct Bombay, Sterling, Dr. Kelkar, Gokani, Satish Jain, Epicons, Ramboll, Semac International – LERA, MKA	No consultant
4. Façade	India based – BES, Meinhardt, Facet, Axis Facad, Priedemann International - Arup	BES, Meinhardt

5. Landscape	India based – Prabhakar Bhagwat International – Sitetechtronix, Ken Smith, Francis Landscape, P Landscape, Site Concepts	
6. Interior Design	India based – KdnD, Group 7, Nitish Jain, Rajiv Saini, Talati Panthaky, Ashiesh Shah, The Ashleys International- Studio HBA, Wilson & Associates, Steve Leung Designers Ltd.,	International - Studio HBA
7. Alliance Partners	Armani, YOO Worldwide, Gianni Versace SpA	
8. Lighting	International - Illuminate, LDP Australia, Principal Focus	India based – to be identified International – Illuminate
9. Signages	India based - Graphics Beyond, 10March, Leaf Design International – HBA Graphics	Graphics Beyond + one more to be identified
10. Kitchen design	India based - Mistry Associates, Kitchen Solutions Pvt. Ltd., BHS Design	
11. Acoustics	India based – Soundframe, Sound decisions Pvt. Ltd. International – Cerami Associates	Sound Decisions
12. Vertical transportation	International – Barker Mohandas	Barker Mohandas
13. Wind Engineering	International – RWDI, Windtech Consultants, BMT Fluid Mechanics	RWDI
14. BIM	India based – Capricot Technologies Pvt. Ltd., XS CAD India Pvt Ltd., BIM Solutions Centre Pvt. Ltd. Neilsoft Ltd, Pinnacle	Capricot Technologies Pvt. Ltd.
15. Soil Expert/ Engineer	India Based - Shekhar Vaishampayan, Geocon, Geo Dynamics, Geo Technologies, Perfect Geotechnics	Shekhar Vaishampayan, Geocon
16. Fire Strategy Engineering	International - Arup Singapore, Buro Happold	

17. Façade Access Consultant	International - Lerch Bates	
18. Traffic/Parking Engineer	India Based - Aakar Abhinav, GMD Consultants	
19. Security Designer	India Based - Lotan Security, Max Security	
20. RWH	India Based - Mungekar & Asso., Space Geotech, NS Associates	
21. Master planner	India Based - Prabhakar Bhagwat International - Sasaki	
22. LEED	India Based - Godrej, Eco3, Kamal Cogent, AECOM	
23. Road Engineer	Same as MEP (Infra), Vhatkar and Associates	
24. ELV consultant	T2 Technology Consultants, Erudite	
25. PNG Design	Wood Group Kenny	
26. Cost Estimation	Currie & Brown, Gleeds Hooloomann	
27. BBS	India Based - Gem Engserv, Mercury Rebar	
28. Irrigation	India Based - Hydroscape, Raintree Equipment	
29. Environmental Clearance	India Based - Pristine, EPRI	
30. 3D Rendering	Xpressions, 256 Grays, Sparrow, Virtuociti	
31. SPA consultant	The Wellness & Spa Company Limited, KLAFS	
32. Surveyors	B.Y. Chaudhari & Co. (Surveying), S. P. Services (Surveying)	

33. Misc	AEA Consulting LLC, CIIE Initiatives (Incubation centre at Palava), Firdaus Shroff (Sports facilities consultant), Global Labs (Testing of water, etc.), ITALAB Pvt Ltd (Testing of water, etc.), Hospitality Solutions, International Certification, M.K. Welenkar (Spinning mill design), Photographics (photographer), Rajan Vernekar, V H Naik (Fire safety consultant)	

Empanelled consultants, to be re-evaluated:

Discipline	Consultants removed re-evaluated
MEP Design	SEMAC, Sheth Techno Design
Signages	10March, Leaf Design
Soil Expert/ Engineer	Geo Dynamics, Geo Technologies, Perfect Geotechnics

Consultants taken off the empanelled list:

Discipline	Consultants removed from empanelled list
Architects	Access Architects, Sanjay Puri, Spatial Designs, Shakti Parmar, PG Patki, MKPL Architects, Ranjit Singh Associates, Arc Studio, Benoy, Jerde
MEP Consultants	Mott Macdonald, WSP, MAK MEP, Eskeym, Meinhardt
Structural Consultants	J W Consultants, VMS Consultants
Landscape Consultants	Arunkumar, Talib
Lighting	Lighting Planners Associates, George Sexton Associates
Signage Consultants	Minds Eye Design, Elephant Design
Soil Experts	Langan, Hart Crowser, Fugro
HVAC Consultants	Rumi Bharucha, Pankaj Dharkar & Associates
STP Engineers	Econ
Flooding and water management	Primove
Art Design Consultants	Dr Art (Mitali Bajaj), Artistivity, India House Art, Shilpa Kishore Patole
PNG Design Consultants	TEIL Projects

Annexure -B

Built-up Area Norms for Consultants

Sl. No.	Item	% factor for built up area measurement for consultants	Remarks
1	Built-up area of all habitable/recreational floors of any FTF height, including staircase, decks, refuge area, refuge outside building (cantilever)	100%	No additional fee for any non regular FTF height
2	Stilt, basement, podiums, all Parking & ancillary areas, Fire check floor/ MEP floor with slab height <2.1m, Canopy	50%	50% in case where we have a composite rate i.e. no separate rate for basement, parking areas or stilt. If there is a specific separate rate of such areas full rate to be paid.
3	Terrace top area, service shafts, lift shaft, chowks accessed by service slabs, voids 4'x4' and above, chajja, lift machine room, UG/OH tank, substations, STP (except if in a stand-alone building), terrace top area, roof level slab extensions, Band beams	0%	Special Amenities on Terrace i.e. landscaped terrace, MLCP terrace with sports, podium top with parking / landscape will be a separate item only payable to consultants who have material design contribution in the amenities

Note: Existing contracts with built up area measurement norms different from the above shall continue unaltered for their given scope.

Implementation rules for Design Policy Updates

- All policy updates shall be applied to those plants where possession is scheduled to commence > 12 months from date of policy update.
- In plants where possession is scheduled to commence 6-12 months from date of policy update, the update shall be evaluated for implementation by the Design team associate and he/she will decide whether to apply or not.
- In plants where possession is scheduled to commence < 6 months from date of policy update, the update(s) shall generally not be applied and concerned design team associate shall only evaluate applying those updates which can have impact on life safety.

Residential Room Sizing Guidelines

Minimum sizes	**Quality Homes (QH)**	**Casa**	**Aspi**	**Hi-end (/ Designer Aspi)**	**Luxury**
Living and dining	Min. 10’ width	Min. 10’ width	Min. 11’ width and preferably L-shape (min. 3’) for dining	Min. 12’ width and preferably L-shape (min. 3’) for dining	Min. 14’ width and space for 6-seater dining (if CA > 2000 sft, then 8-seater dining)
Master bedroom	9’ x 9’6” (length) + wardrobe	10’6” (width) x 10’ (length) + wardrobe	10’6” x 10 + wardrobe	12’ x 10 + wardrobe	14’ x 10 + wardrobe (if CA > 2000 sft, walk-in wardrobe)
Other bedrooms	9’ x 9’6” (length) + wardrobe	10’ x 10’ + wardrobe	10’6” x 10 + wardrobe	10’6” x 10 + wardrobe	12’x 10 + wardrobe
Half bedroom	NA	7’6” x 6’6” (includes wardrobe)	7’6” x 6’6” (includes wardrobe)	7’6” x 6’6” (includes wardrobe)	NA
Master bathroom	7’6” x 4’ (Min)	8’x5’	8’x5’	9’x6’ (bigger if 4-fixture which is applicable for 3 bed L and larger)	if CA > 2000 sft, min. 70 sft, else min. 9’ x 6’
Other bathrooms	7’6” x 4’ (for separate WC/bath, 3’ x 4’)	7’6” x 4’6”	8’x5’	8’x5’	9’x6’
Kitchen	7’ x 8’ + utility of min. 3’6” clear width; If Kitchen Alcove / Open Kitchen: platform of 7’ length (min. 6’). Kitchen to have sliding folding partition to allow separation from living area	7’6”x 9’ + utility of min. 3’6” clear width + optional store of ~20 sft.	8’x10’+ store of ~20 sft. + utility of min. 4 feet width	8’x10’ for 2 bed and 3 Bed and 8’x12’ for 4 Bed and larger + store of ~25 sft. + laundry of min. 5 feet width	If CA > 2000 sft, regular kitchen (8/9’ x 12-14’) + Owner’s kitchen (say 100 sft); else Regular kitchen (8/9’ x 12-14’) + store of ~25 sft. + laundry of min. 5 feet width
Domestic Help (Servant’s) room	NA	NA	NA	Sufficient space for a single bed/bunk + 3 feet wardrobe + toilet with small corner basin, shower and WC	Sufficient space for a single bed/bunk + 3 feet wardrobe + toilet with small corner basin, shower and WC

Entrance Foyer	NA	Min. width of 4'6" and min. length of 3'6". Generally not required.	Min. width of 4'6" and min. length of 3'6". Optional.	Min. width of 4'6" and min. length of 5". Must in all units with carpet area > 1000 sft.	Min. width of 4'6" and min. length of 5". Must in all units with carpet area > 1000 sft.
Deck (to be read along with note f. below)	NA	Covid update: Consider in 50% of units of 2BHK and above. In 1 BHK, decide basis input from business team; Min depth 4' ; Min width 8'	Covid update: Mandatory in living room of 2 BHK and above; Min depth 5' (ideally 6'); Min width 8'	Covid update: Mandatory in living room of 2 BHK and above; Min depth 8'; Min width 8'	Covid update: Mandatory in living room of 2 BHK and above; Min depth 8'; Min width 8'
Corridor width	Min. 1 m	Min. 1 m	Min. 1 m	Min. 1.2 m	Min. 1.2 m
Puja	Niche to be avoided. Where Puja room provided, min. 16-20 sft.				

For conversion of feet to metric - round down to nearest 25 mm. All working drawings in metric, all customer drawings in imperial (Feet Inches).

Notes:

1. Above dimensions can be massaged as long as total sq. ft. is maintained and key room requirements are met.
2. Wardrobe: Every full bedroom to have min 4'6" width of continuous wardrobe space with depth of 2'. In master bedroom, this width to be 6'. In half bedroom, this width to be 3 feet. Ideally the cupboard space should not intrude into the regular dimensions of the room stated above. (Please note that civil dimension of wardrobe niche should be +1" for ex. 4'7" to allow for a wardrobe of 4'6" to fit in it.) Wardrobe dimensions should be such that standard wardrobe widths and depths can fit.
3. Bed sizes to be considered:

Type	Width	Length
Single (*Half Bedroom / Servant's room)*	36'	75'
Twin	39'	75'
Double	54'	75'
Queen *(All full bedrooms in QH)*	60'	78'
King (*All full bedrooms except QH*)	76'	80'
Side table *(generally 2 in each full bedroom; could be 1 in QH and Casa bedrooms or where Vastu issues causes bed to be placed alongside door)*	Min 18' (ideally 24')	

4. In a 1 bed/studio apartment (including govt handover buildings), there needs to be two toilets units – can be any of the following combinations:
    a. 2 full toilets (const cost and space requirement is high)
    b. 1 bath + 1 WC + external basin (most cost and space efficient – use for all govt handover units)
    c. 1 full toilet + 1 powder toilet (WC + basin)

5. 'Min depth' indicates the internal dimension i.e. projection of the deck beyond the external wall up to the internal side of the edge upstand / railing. If balcony/deck is only being provided in one room of the unit, it should be in the living room. In Casa and Aspi, decks can be provided in ~25% of the units (however at unit type level, avoid deck in 1 BHK/studio). This % may go up in hi-end and luxury residential. Decks are not required in QH.
6. In Living room, dining offset should be min 3'. This is optional for QH.

7. For all buildings where servant toilet is not provided in every unit, make appropriate arrangements for domestic staff toilet and showers at mid-landing / ground floor / parking levels. See 'Servant Toilet (common)' design guidelines.
8. Also see '**Product Mix'** section in Policy '48. Classification of Projects'.
9. **Tips for residential unit design** (especially in Aspi, Casa & Crown units design where every sq. ft. counts):
    a. Layout:
        i. Use atleast two flanks of the living room to place rooms (not rooms on one side only).
        ii. Put kitchen between one bedroom and living so that passage length is reduced (since kitchen has shortest width).
        iii. Should not face South while exiting the house from the main door.
    b. Maximum windows (height and width) in all bedrooms and living room. The bigger the window, the bigger the room appears. Avoid wardrobes on window side. Heat Gain will get minimized as residents will put in curtains etc.
    c. Living room:
        i. Longer flank for sofa (min 7'6", ideal 9'6") and shorter flank for TV (min 6").
        ii. Curtains collecting on the sofa side of the living room (window can be designed accordingly).
    d. Kitchen:
        i. Total counter length to be min 1.5x of the kitchen length (eg. in 10' kitchen length, counter has to be min 11 ft.) – this is excluding space for refrigerator but includes everything else (eg. sink). However, the extent of the junction where two counters meet is to be counted only once while calculating the counter length.
        ii. Check that hob is not in the North East of the kitchen.
        iii. Sink should be located close to the window and kitchen utility shaft will generally be on same side in as the sink the utility zone.
    e. Bedroom:
        i. Try to locate the wardrobes (most likely in conjunction with toilet) such that the wardrobe does not intrude into the room, it should be 'off the room' (try hard, but in some cases this may not be feasible).
        ii. Where bedroom width is tight (12 feet including wardrobe) and bed side table adjacent to wardrobe door, use/show sliding doors for wardrobe so that the bed side table is not deleted.
        iii. Ensure that person does NOT face South while sleeping on bed (i.e. headboard should not be on Northern wall).
        iv. If bathroom is being entered from long edge (desirable), as far as possible place door in centre so that one gets a counter basin (not feasible if bathroom is entering from shorter edge).
    f. Where 'study' is possible, it is ideal to have it ventilated (min 0.6 (ideally 0.9 m) clear window). Where natural ventilation is not feasible, bring in light from adjacent living/dining (min. height of 3 feet, along the longer side of the study).
    g. While reviewing furniture layout, ensure that person is not facing South which using bed and study table. Similarly, in Pooja room, deity should not be facing South (ideally East West).
    h. Decks:

i. Deck edge aligned to TV wall.
ii. Rain water pipe of deck can be visible, painted in appropriate colours (same as adjacent wall), located close to the junction with the living /bedroom.
iii. Ensure that top level balcony has cover (like any other level).

KCA timelines policy:

KCA	**Deadline for Customer opening***	**Design to start ___ months prior to Deadline**
Sales office	Prior to launch of MP	9 m
Show flat / office	Prior to launch of MP (for show flat); with entrance lobby (see timelines below for sample office in Supremus)	9 m
Entry gate of MP/neighbourhood	12 months from launch of MP / relevant special saleable building (+2 months for every level of basement / podium this is located on, subject to max. addition of 4 months)	12 m
Entrance Lobby of first building in MP (and any special saleable buildings)	15 months from launch of MP / relevant special saleable building (+2 months for every level of basement / podium this is located on, subject to max. addition of 4 months)	12 m
Club house	24 months from launch of MP (+2 months for every level of basement / podium this is located on, subject to max. addition of 4 months)	12-15 m
Office KCAs other than show office and entrance lobby eg. Food court, F&B retail, co-working space	6 months before schedule completion of the first wing in the MP	12-15 m
Other vital public areas eg. Mandir, Theatre (@ Geeta Cinema)	Prior to start of first possession in MP	12 m

* post all snagging / corrections

Notes:

a. KCA's include adjacent linked landscape areas (including swimming pool) and the aforesaid timelines also cover the same.
b. KCA readiness means readiness in a manner which can be showcased to customer i.e. with good access and external views (if applicable / internal flex).
c. Any non-permanent KCA (i.e. which will be required to be demolished or significantly changed at later date) should have a minimum life span of 5 years from date of opening, else said KCA should not be done. This should be done finalized by OS taking into account Execution Strategy, logistics and other considerations.
d. Once KCA is ready, it will be handed over to HPM. Thereafter, no works are allowed to be done in the KCA area during normal customer visit times (9 am – 9 pm on all days, except

Monday; Monday is not a customer visit day). If works are required to be done during customer hours, prior approval of HPM + Sales is required so that customer impact is minimized.
The aforesaid KCA timelines are determined so as to support sales. If Design, OS or RCEO feel that a KCA will not add sales value (commensurate to the expense incurred) OR that access to it will not be feasible OR such KCA will delay OC of the concerned wing/building, KCA timelines can be deferred (subject to all relevant KCAs being ready within 4 months of OC of first wing which is expected to use that KCA) with consent of RCEO.

Office Design Learnings

General:

1. What really matters for a successful office:
    a. Locational connectivity for the workforce (all levels of the workforce)
    b. Entrance Lobby (and any other KCA) quality
    c. Landscape quality
    d. F&B + entertainment options and quality
    e. Mobility within the building/campus (including parking)
    f. MEP, connectivity and security being designed and delivered to a high standard
2. We will focus on making our development highly sustainable with aim to:
    a. Lower use of natural (non-renewable) resources by > 30% over conventional buildings
    b. Lower operating costs for occupants and building owner
    c. Improve productivity through focus on elements which improve human health eg. natural cooling (where feasible), natural light to max. % of work spaces, encouraging users to use stairs rather than elevators etc.
    MEP will take the lead on this but all parts of the Operations team will need to push towards this goal.
3. The design of the KCAs + landscape + typical lift lobby will focus on:
    a. Sustainability (eg. green walls, passive cooling where feasible, informing users about how their actions impact environment and what they can do to reduce negative impact + how building is performing on sustainability across various parameters (see 2. Above)
    b. Collaboration (eg. encouraging usage of lobby of discussion / ideation, having F&B in/near the lobby to facilitate chance meetings, having walking paths in larger development to facilitate chance meetings, landscape design (eg. seating spaces with shading) which encourages people to spend time outside, preferably in groups)
    c. Luxury feel (Excelus and Supremus)
    The examples above are indicators and not must haves or a complete list. These are thought starters and each development should aim to do what they can best do to set higher standards for the aforesaid 3 parameters.
4. Given strategic importance of Palava, KCA's and landscape of all office buildings at Palava are to be as per Excelus standards (wrt size, volume, budget psf etc.). This may be reviewed in 2020 by HoD-Design along with RCEO Palava.
5. All office buildings (other than those that are exclusively Supremus) to have LEED rating. Excelus to have min. Gold level rating. Maximize use of renewable power (solar etc.) to lower operational costs and CAM.
6. Buildings have to be designed to have construction completed in <2 years from Date of Start of Construction (DSC). This can be extended to 3 years is building height is > 20 floors.
7. All key infra and KCAs to be ready for the first possession in the campus.
8. F&B is important to success of office. Determine of independent/branded F&B is likely to be feasible and earmark space for multiple outlets. If unlikely to be feasible, earmark space for food court <sizing based on served population between 10,000-25,000 sft carpet>.
9. Spend on the 'for lease' buildings thinking not of today but atleast 10 years out - façade quality and capex v. opex to be reviewed accordingly.

10. Amenities required in any office building > 500,000 sft leaseable (if not available within 10 min walking distance):
    - Gym - ~3000 sft carpet area. Should have shower areas/changing rooms. Should be accessible by outsiders (i.e. on ground level or security systems should allow access to external members/guests). Will be operated by 3rd party on chargeable basis
    - Creche: ~2,000 sft carpet for office buildings with > 500,000 sft leasebale and ~3000 sft carpet for office buildings with > 1,000,000 sft leaseable. On the ground floor or lower floors (operators prefer this since evacuation of kids during fire hazard/emergencies will be a challenge from higher floors). Will be operated by 3rd party on chargeable basis
    - Multiple F&B options / Foodcourt (FC):
        - ~1.5-2% of the carpet area of the building should be earmarked for this purpose. Can be higher % of area if the location has retail viability.
        - Should be located in a manner which permits easy access post office hours and for outsiders i.e. ground floor and/or first floor with external access. Also some of the F&B retail should be located within the lobby and other collaboration spaces since collaboration requires F&B.
        - A reasonable % of the F&B tenants should be able to cater to the target lunch spend of 20% and higher percentile of people working in the building – if this is not feasible due to the rents in the location, food court/similar option will be required which will have very low rents for the operator(s) and in turn, will have low food costs. Sizing for this to be calculated @ 1 sft carpet per person x 50% of the planned population of the building (max. 20,000 sft carpet) - we can load proportional rent loss onto each tenant who wants to use it.
        - Try to plan storage space of ~200-300 sft carpet area for each restaurant in low value locations like basement. This will be monetized @ ~50% of the restaurant rent.
    - Good quality convenience store / grocery (with health emphasis): ~1500-3000 sft carpet. Should be located in a manner which permits easy access post office hours and for outsiders i.e. ground floor and/or first floor with external access. To be operated by 3rd party on chargeable basis with access for office users and external members/guests (clarify with appropriate ^ in amenity list for marketing and agreement).
    - Standard disclaimer for all the aforesaid amenities + similar (eg. Co-working) – to be put in amenity list and agreement: *"^Operated by 3rd party on chargeable basis and with access for external members/guests; operational continuity dependent on market conditions & operator performance."*
    - In case of any conflict with the 'livability retail norms', the provisions of this policy shall prevail.
11. Security and access control provisions to be upgraded from time-to-time with best in class international features. 2017 examples (security policy to be updated):
    a. Company can send visitor schedule and phone no, which generates code on visitor's phone and visitor can pass through security by scanning his phone.
    b. All registered users can go through security by scanning their phones.
    c. Security kiosks are efficiently run with average wait time of <= 2 min. Repeat visitors can walk through security using their phone (registered earlier).
12. Lift wait times are minimized and strictly adhere to policy.
13. Easy and weather proof access from parking to lobby.

14. Traffic planning to ensure that there is proper traffic flow and sufficient space earmarked for different types of vehicles (refer *Norms for Entry and Drop Off Design*). Ensure no congestion at entry due to security procedures or lack of waiting space.
15. Digital signage at the Lobby which can show tenant ads etc (revenue generator) (not applicable for Supremus).
16. TV screen within elevator – ticket/financial/business news. Information about key occupant(s) of the arriving floor.
17. Adequate and clearly visible signage opportunity for key tenants (refer *Signage Policy for Office Building*) (not applicable for Supremus).
18. High quality, not difficult to maintain landscape which serves as a hangout/recreational area. Size may be moderate for Supremus. Can also consider terrace use.
19. Separate smoking zone (with weather protection) on mid-landing / landscape areas. Properly segregated to ensure that smoke remains contained and doesn't affect non-users. Appropriate signage.
20. Good quality building lighting (applicable to 'for lease' buildings/developments).
21. Façade to core distance of max. 18 m (preferably 13-15 m). No (other than BoH/Storage/Service) part of the floorplate should be further away from a naturally lit façade.
22. In 'for lease' buildings ensure that MEP+OEMS equipment purchase decisions are made on NPV of lifetime costs i.e. Capex + OpEx, not just CapEx. Competive operational costs and high reliability are essential to long-term rental appreciation.
23. Client relationship management (BU to lead):
    a. Lodha to provide fitout coordination if needed.
    b. Lodha to provide warm shell / fitted out offices if client requirement and adequate compensation (NPV basis) with reasonably long lease tenure which minimizes break risk.
    c. Lodha to have RM for each client.
    d. HFM to focus on efficient, hassle free operations with immediate problem resolution.
24. The KCAs have to be exceptional, especially the entrance lobby and landsape.
    a. Excelus – ref: 5-star hotel but with right focus on sustainability and collaboration
    b. iThink – ref: Tech office space in Bay Area
    c. Supremus – either of the above basis the location and target audience
25. Design and systems to ensure minimum time and effort to move from entry to development (main gate) to target office floors. This will cover detailed flow study of drop-off, parking, registeration and security systems, along with elevatoring (see below).
26. Elevatoring efficiency (low wait time and high reliability) is critical for high quality office. For all office developments (excluding those with <=10 habitable floors), detailed elevator analysis and simulation to be carried out to ensure that prescribed standards are being met (ref: 'Standards for Elevators'). Also once may consider elevators serving limited floors in the building – this can even help with early (part) OC.
27. Key MEP systems in Excelus and iThink development have to be designed for operations outside peak hours (second/third shift OR weekend) – this includes HVAC and elevator systems.
28. Where land is scarce i.e. sales/capital value at time of design > 10,000 psf (2017, adjust for inflation), the terrace of office buildings should be used for something which adds value to the building. Can be:

a. Sports fields like football (can be 5-a-side size), basketball, volleyball, tennis (with night lighting and changing room/toilets)
b. Open air observatory/terrace/party area with landscape and seating (preferably with toilets and pantry on same level, or if not feasible, one level below)
c. Private terrace for the adjacent or below floor office(s).

29. Consider following systems in Excelus and Supremus (where sales/capital value at time of design > 10,000 psf (2017, adjust for inflation)):
    a. Automatic vents in façade which open in case of fire
    b. Controllable AC systems where AC can be adjusted in 50-100 sq. ft. 'zones' (generally floor mounted)
30. All offices shall be delivered on bare shell basis i.e. KCAs, lift lobby and shared toilets finished and everything else on bare shell basis. Refer to 'Exception wrt bare shell buildings'. In select cases, BU may ask for upgrade to warm shell or even finished offices and the costs for these shall be separately budgeted and BU will ensure that these costs are covered above the basic rental.
31. Co-working:
    a. This is a growing trend (2018) and one which is likely to shape the future of office buildings.
    b. Not just start-ups and SMEs but even larger corporates are attracted by having co-working spaces in the building (which they can use and hence, reduce what they need in their office) + give their teams better collaboration and learning opportunities + the option of having their own office space designed / managed by a co-working company. This will lead to 'office as a service' in the next 5-7 years.
    c. We aim to have co-working spaces in all our long-term (i.e. significantly leased) office buildings. We enable this we intend to have co-working partnership with a reputed player (2018).
    d. Sizing of the co-working space will evolve over time till the phenomenon stabilizes. This has to be discussed with the Commercial BU at time of design brief.
    e. Location of co-working space can be the balance of 'least valuable' from leasing perspective and 'most convenient' from design perspective. Other factors to consider while determining co-working location:
        i. Co-working spaces benefit significantly from open areas being attached to them (eg. refuge or terrace).
        ii. Co-working is expected to generate significant higher elevator utilization (on per sq. ft. basis) (assume 1.5x higher than norm).
32. (to be read along with pt. 21 above) – Column free span of 12.5-14 m (min. 12.5 m) from core to next set of columns <mandatory for Excelus and desireable for iThink; not applicable for Supremus>.
33. <Applicable for Supremus & Excelus, desirable for Supremus> Ideal column grid of 8.1 m-9m: Should not be less than 8.1 m (also provides 3 car park slots if parking is in the same footprint), can go upto 8.4 m (6 façade panels of 1400 mm each), 9 m (6 façade panels of 1500 mm each) or more, ideally in multiples of 1400/1500 mm (depending on the façade grid).
34. Fire Fighting & Life Safety provisions - We will follow International Building Code (IBC) (or India's National Building Code (NBC), whichever is more stringent) for Excelus and iThink. Also fire stair to be reasonable distantly located from each other, to truly provide multiple means of escape. For Excelus with leasebale area > 500,000 sft, life safety review to be got

done by a 3rd party expert and report (including the fact that building complies to a great degree) given to Marketing/Sales for use in leasing.

35. Goods movement to be carefully planned – parking bay for service vehicles, wide enough (min. 1.5 m clear with + 0.3 m clear at turnings) service corridor to service elevators at ground/drop-off level, waiting space in front of the service elevator to have min. clear dimensions >= clear dimensions of the service lift cabin.
36. Façade related:
    a. Fritted glass to be avoided in façade on office levels. Façade glass to be full size (finished floor to finished ceiling) with no concrete/other obstructions blocking the same as far as possible.
    b. Louvers/fins which obstruct vision line (i.e, upto 7 feet from FFL) to be minimized/avoided so that the views from the buildings are not compromised.
37. MEP related:
    a. Ceiling mounted AHUs to be considered so that the floor space can be used by tenant.
    b. Tenant/floor lobby services to be planned in a manner that does not reduce the FTC height of the lobby significantly (min. clear FTC height of 2700 mm, ideally 3000 mm or more).
    c. <Excelus & iThink> Provide space and routing for ODU in open to sky area for 24x7 operational areas only like server rooms (Else chiller will have to be remain on just for server room).
    d. The exhaust and fresh air provisions for kitchens/pantry of tenant to be planned for (not just electric and water point).

38. Retail (this can include the requirements as per pt. 10 above) to be maximized on ground floor of the building (subject to business feasibility). In select cases, even 1st floor can be considered. Size of retails unit (atleast 90% by no.) to be <= 900 sft carpet (depending on the location and market needs, these units will generally range between 150 sft carpet to 900 sft carpet and a variety of sizes should be considered with combinations kept possible).
39. Select policies to refer to:
    a. Entrance and Typical lobby guidelines
    b. Security Design Guidelines
    c. Livability Retail Provisions
    d. Standards for Elevators
    e. Key Conveniences in Parking & Other Common Areas
    f. Norms for Entry and Drop Off Design
    g. Signage Policy for Office Building
    h. 3 yr 9 month Project Completion Guideline
    i. Retail Design guidelines

Supremus Office considerations:

a. Carpet area of all offices should be <= 1200 sft carpet. Of these, atleast 20% (by area) should be between 300-400 sft carpet, 20% (by area) between 400-600 sft carpet and 20% (by area) between 600-800 sft carpet.
b. There will be shared toilets as per NBC norms on each floor – these shall be finished by us.

c. Each office will have space earmarked on the same floor for its own pantry and 1 executive toilet (2 executive toilets if GW is > 5000 sft i.e. corporate offices in iThink and Excelus). This space can be within the office or in the core area with lockable units for pantry and toilets respectively (as seen in Singapore and Hong Kong offices).
d. To generally be sold, not leased.
e. Sale should be started asap once plans approved/construction started so that it can fund construction.
f. Ideally to be ~15-25% of the area of any office development – separate Supremus building is preferred but if same is not possible, can be part of the Excelus/iThink building (upto max. 25% of the carpet area of the said building) but preferably with separate lift core (and definitely on separate floors from the leased offices).
g. If part of Excelus /iThink building/Campus, special conditions to be incorporated into the Agreement for Sale:
    a. Automatic consent for sale of building (or any part thereof) to a 3rd party. Change of shareholding of the owning company or merger/demerger shall is permissible without any further reference or consent from the unit owner.
    b. Facility Management rights shall be with building owner/FMC forever and they will make payment of the CAM charges to such party from time to time.
    c. Society shall be formed only once 50.1% of the area of the building is sold. Even if society is formed by mutual agreement earlier, the Facility Management rights shall be with building owner/FMC forever.
    d. If redevelopment of building/campus is decided to be done by the building/campus owner at any time beyond 20 years from the date of OC, the unit owner's consent is automatic as long as they are given the same area on same or higher floor on ownership basis. They shall contribute to the cost of redevelopment in ratio to their carpet area out of the area being redeveloped.
h. Loss of carpet area should not be >7.5% (average across all floors of Supremus and large Supremus floors) when measuring Supremus on a given floor vis-à-vis full floor office.
i. In locations which are front office (Excelus like) in nature, parking access from office building should be covered and not feel like one has to step outside building, though can be separate parking structure which is well integrated with office building.

j. Marketing Nomenclature of offices:

Approx. GW (sq. ft.)	Type of Office	Approx. Capacity
<=1000	Growth offices (GO)	Carpet Area (in sft) / 60 (rounded to nearest range of 5 eg. if 750 sft carpet, 750/60 = 12.5, so range is 10-15).
1000-1500	Expansion Offices (EO)	
1500-3000	Large offices (LO)	
5000-8,000	Corporate Office (CO)	

k. Dedicated owner's toilet in each office. Structural and MEP system to be designed such that one shaft can serve 4 toilets and minimize no. of shafts (good example: Lodha Signet, Thane 2021). Toilet should be internal and not on façade as far as possible.
l. Vastu is important – rectangular / regular shape, no South facing entry, no toilet in NE (and ideally not in SW).
m. Retail on Ground floor and if market demand is there, also on first floor with external access so that the retail feels valuable and high street like even on the first floor.
n. If feasible, design terrace/garden offices on top level (try to have the garden/terrace area not counted in FSI). If terrace/garden area counted in FSI, same should not exceed 50% of the office's internal area and will be charged at full value. If the terrace/garden area is not counted in FSI, same can be upto 100% of the office's internal area and to be charged at a discount (50-100% of internal office value). In either case, area shall be given as EBVT.

iThink considerations:

a. ~15% carpet area to be designed to be gross weight of <= 8000 sft. each (Corporate Office) if BU wants the same (to be finalized prior to design brief); can be with their own internal toilets OR with shared toilet on floor + 2 x executive toilets for each unit(wrt location see pt. C under Supremus). Efficiency as per iThink standards. These will be for lease (not to be offered for sale, sale only in exceptional circumstances if demand comes for the same during the sale of a.). Generally, to not be located on same floor as a.
b. Balance to be designed to be one unit per floor (max. GW of 25,000 sft, else to be designed to be divisible into 2). In addition to male and female toilets for the floor, provision to be made for dedicated 'Director Toilet' (1 with WC + basin (like powder toilet) per 15,000 sft leaseable (rounded off) which can be located near but separate from the regular toilets.
c. Business team can decide to have offices fitted out as warm shell option in iThink developments (say 25% of area). These costs have to be suitably recovered through higher rentals for such units and the added construction costs will need to be suitably budgeted under 'upgrade to warm shell'.
d. Very high levels of commitment to sustainability, including 100% renewable power if feasible.
e. Design building for pandemic resilience (eg. IMMUNE Standard 2020) and get appropriate (pre-) certification prior start of leasing. Key feasture will include:
    a. Flow of people within building (including vertical flow) to minimize crowding and human touch.
    b. Well engineered air filteration systems to ensure that air is properly purified / treated.
    c. Emergency isolation + medical room in campus (for medical emergencies, including Covid).

d. Large amounts of external work spaces for entire building (landscape, terrace (can also be partly dedicated), refuge (can also be partly/fully dedicated)), suitably designed with ventilation, connectivity and shade (sun and if feasible (but not necessary), rain) and where feasible, leaseable outdoor space in offices (not to exceed 7.5% of the carpet area of the unit).

Excelus considerations:

a. ~15% carpet area to be designed to be gross weight of <= 8000 sft. Each (Corporate Office) if BU wants the same (to be finalized prior to design brief); can be with their own internal toilets OR with shared toilet on floor + 2 executive toilets for each unit (wrt location see pt. C under Supremus). Efficiency as per Excelus standards. These will be for lease (not to be offered for sale, sale only in exceptional circumstances if demand comes for the same during the sale of a.). Generally, to not be located on same floor as a.
b. Balance to be designed to be one unit per floor (max. GW of 15,000 sft, else to be designed to be divisible into 2). In addition to male and female toilets for the floor, provision to be made for dedicated 'Director Toilet' (1 with WC + basin (like powder toilet) per 15,000 sft leaseable (rounded off) which can be located near but separate from the regular toilets.
c. Parking access from office building should be covered and not feel like one has to step outside building, though can be separate parking structure which is well integrated with office building.
d. Very high levels of commitment to sustainability, including 100% renewable power if feasible.
e. Design building for pandemic resilience (eg. IMMUNE Standard 2020) and get appropriate (pre-) certification prior start of leasing. Key feasture will include:
    a. Flow of people within building (including vertical flow) to minimize crowding and human touch.
    b. Well engineered air filteration systems to ensure that air is properly purified / treated.
    c. Emergency isolation + medical room in campus (for medical emergencies, including Covid).
    d. Large amounts of external work spaces for entire building (landscape, terrace (can also be partly dedicated), refuge (can also be partly/fully dedicated)), suitably designed with ventilation, connectivity and shade (sun and if feasible (but not necessary), rain) and where feasible, leaseable outdoor space in offices (not to exceed 7.5% of the carpet area of the unit).

Signet (formerly Boulevard) Office considerations:

a. This brand is for really small offices and linked retail. Total size of building will not exceed 100,000 sft carpet (basis market conditions in 2020, generally around 50,000 sft carpet)
b. Carpet area of all offices should between 150 sft carpet and 400 sft carpet (typical range is 200 to 300 sft carpet). The offices will be referred to as Gold, Diamond and Platinum (max. 3, ideally 2 categories basis CV).
c. Typical office width should be 11' or more (select atypical offices can be narrower or wider).
d. Ratio of width to depth for typical office should be no more than 1:3 (ideally 1:2.5).
e. There will be shared toilets as per NBC norms on each floor – these shall be finished by us (no toilets within the units).
f. Corridor width on floor will be between 1.8 – 2.4 m clear (depending on FSI norms and efficiency).
g. Some of the offices (preferably the smaller ones in the ranges) may not have direct light.

h. Façade to be kept simple.
i. Maximize small retail on the ground floor (and where there is market demand, 1st floor). Retail grid will normally follow office grid with deletion of passage on ground floor
j. To generally be sold, not leased.
k. Sale should be started asap once plans approved/construction started so that it can fund construction.
l. Should be kept separate from other office types and brand name shall be 'Lodha Signet'
m. The efficiency for such development maybe upto 5% worse than that of Supremus developments.
n. Parking to be provided on pay-and-park basis within 10 min walking distance – 4 wheeler x 25% of units (office and retail) + 2-wheeler x 100% of units (office and retail). No dedicated parking shall generally be provided.
o. Dedicated owner's toilet in each office. Structural and MEP system to be designed such that one shaft can serve 4 toilets and minimize no. of shafts (good example: Lodha Signet, Thane 2021). Toilet should be internal and not on façade as far as possible.
p. Vastu is important – rectangular / regular shape, no South facing entry, no toilet in NE (and ideally not in SW).
q. Retail on Ground floor and if market demand is there, also on first floor with external access so that the retail feels valuable and high street like even on the first floor.
r. Subject to market demand analysis, one or more levels can be dedicated as 'medical / doctors' floor. This floor(s) should be located on the lowest possible floor (generally above the 2nd office floor i.e. where the 3rd office floor would be, after adjusting for retail levels) This medical floor should have separate lobby and 2 elevators at the entrance level. The purpose of this floor is doctor's diagnostics and laboratories, not surgical treatment.

22.6.17

Norms for Entry and Drop Off Design

a. Vehicular Entry and Exit gate to a complex/compound should atleast be 20 m away from each other, if separate entry and exit are planned/desired. Else it can be conventional entry and exit together.
b. Entry gate should come 'earlier' on the road than Exit gate (consider on basis of the road direction in the lane immediately adjacent to the building). [This would only be inverted if accessing the drop-off from parking requires exiting the property, in which case exit would come 'earlier' to entry. This is generally to be avoided]
c. Plan for entry and movement of following 4 categories of arrivals/exits:
    a. Pedestrian
    b. Chaffeur driven car
    c. Self-driven car or 2-wheeler
    d. Taxi / Rickshaw
d. In front of drop-off point (close to entry to lobby), width should be such that one lane is for cars to park and then there is sufficient space for other cars to pass by (parking lane – 2.75 m width + one-way driving lane – 3.5 m width/two-way driving lane – 6 m width). Drop-off point should have canopy so that one can be weather protected when getting off from car and getting to lobby.
e. In front of office/residential buildings, taxi (/rickshaw (if applicable)) waiting area should be created on between 5-15 taxis, depending on size of the development (15 required for 1 million sq. ft. or more of leaseable area).
f. From taxi (/rickshaw (if applicable)) waiting area or if there are parking elevators, walk from parking elevators to lobby/building lifts should be such that one doesn't get wet during the rains (weather protected).
g. Make appropriate provisions for landscape, hardscape, signage and security.
h. Entry and lobby are key elements of the development's perception – adequate attention should be paid to the planning and finishes – with goals of seeming luxurious and convenient.
i. Also see '*Roads design guidelines'* for design details for elements like pedestrian crossover.

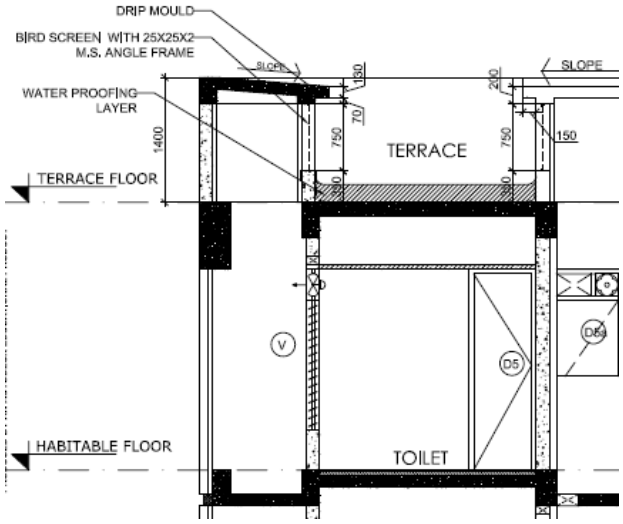
Terrace Design Guidelines

General

1. Construction above terrace level should be minimized – both wrt extent (floor space) and height.
2. Any spaces created as a consequence of service areas on terrace level should not have a floor and a roof, else it will be deemed to be a habitable area and be counted in FSI – this does NOT apply to actual service areas.

3. Fire staircase(s) shall go to terrace. Other staircases need not go to terrace. be
4. Parapet wall should have drip mold to avoid rain water hitting the face of the building directly, which leads to moss accumulation.
5. RCC coping to be provided at top in case of masonry plaster.

6. Toilet ducts to be kept ventilated and yet closed using RCC slabs (as per design) with a raised parapet above finished level. Refer below detail (Reference MEP policy 08)



7. Service penetrations (if any) through terrace need to be treated with proper waterproofing details with annular gaps sealed with silicon sealant or any sealant compatible with concrete and service
8. Staircase landing must be minimum 150 mm above the FFL of terrace so that water does not enter the staircase

9. Avoid construction joint in terrace slab.
10. In hi-end / luxury resi developments (including bungalows and townhouses which fall in this category), Excelus office, and Supremus office, the top floor units to have skylight and terrace access.
    a. Hi-end / Luxury resi (including bungalows and townhouses which fall in this category) and Supremus office – skylight size of min. 100 sft in living room of each top floor unit. Terrace access by spiral staircase and terrace carpet area of ~10-20% of the unit to be earmarked for said unit and separated from common terrace by suitable permanent railing.

   b. Excelus office - skylight size of min. 5-7.5% of the floor area of the top floor (can be at one location or distributed). Terrace access by spiral staircase and terrace carpet area of ~10-20% of the unit to be earmarked for said unit and separated from common terrace by suitable permanent railing.

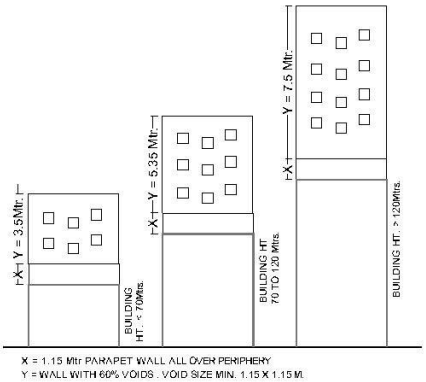
11. Liaison norms wrt terrace elevation etc. to be borne in mind before finalizing terrace level design. 2017 norms for MCGM are given as reference in Annexure A below (but these will vary across different jurisdictions).
12. Incorporate waterproofing policy details/reference.
13. Maximize usage of common terrace surface for activities which are for the benefit of the occupants and don't come at excessive cost to us – no terrace should be wasted. 2017 examples:
    a. Solar power generation
    b. Recreational area (eg. Supremus Upper Worli, Lodha Primero, Mahalaxmi – plan, section and reference images in Annexure B). If used for recreational area, some provision for water supply to be provided + usable toilets to be provided at terrace level or level below. Also in such cases, staircase from last lift landing to terrace to be treated as front of house wrt finishing.
    c. Provision for terrace farming (limited to hi-end/luxury residential (including bungalows and townhouses which fall in this category))
14. Height of LMR to be kept to what is really needed (not excessive).
15. Where civil aviation height limit is applicable, ensure that topmost element of the terrace (including any façade or signage) does not cross said limit under any circumstances.
16. In case of buildings > 100 m height, layout of terrace to be designed with suitable provision for façade access/cleaning systems.
17. Terrace layout to be finalized before closure of concept design.
18. For all building roofs (other than the tallest buildings in a development), the terrace is viewed from units in taller buildings. Hence, terrace floor to have appropriate finishing (good quality China mosaic with appropriate design, where feasible green or sports roof) and also services etc. to be finished in a manner which does not make them visually disturbing.
19. In short buildings i.e. < 30 m height, in which above terrace projections are visible from ground, ensure that the height of the above terrace elements is minimized and they are appropriately treated wrt façade.

Annexure A

Liaison related norms for MCGM (2017):

1. Height of Parapet wall at terrace level

		building <70mt ht	building 70mt - 120 mt ht	building >120 mt ht
Parapet wall	Wall without Void	1.15 mt high wall all over periphery of building line from finished lvl or 1.3 mt from unfinished lvl		
	Wall with Void (Void area 60% of surface area of parapet wall above 1.15 mt with min size -1.15mt X1.15mt)	3.35mt	5.35mt	7.5mt or Top of LMR/Water Tank Parapet wall above1.15mt
Decorative Material	The parapet wall may be provided with decorative material. The material of cladding shall be fire resistant.			
Part Terrace	For part terrace on topmost floor, the parapet wall up to the maximum height of Lift Machine room/Water tank parapet top whichever is higher can be permitted along all sides with voids in surface area not less than 75%			
Parapet on overhead water tank	The elevation features in the form of MS/RCC railing up to the height of 1.15mt from the finished floor, on top of overhead water tank will be allowed along the periphery of overhead water tank for protection/safety			



- Parapet wall height can go up to 1.5mt with Special Permission.
- Greater height of the parapet wall will be allowed only on the topmost terraces and not on the intermediate part terraces/ pocket terraces/ shopping terraces, podium/parking floors, refuge floors etc

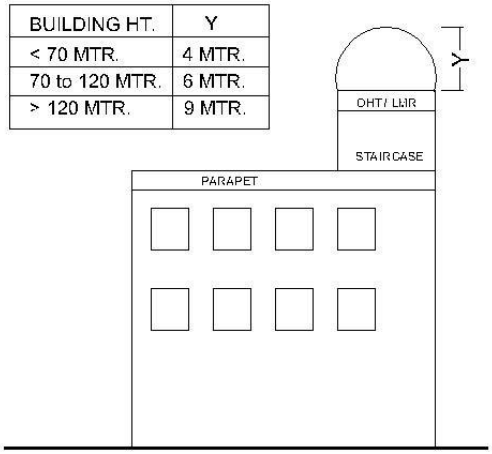
2. Elevation features /Dome like structures above water tank/lift machine room/staircase or 4 Corners of topmost terrace

- Height of the elevation features/Dome like structures should not exceed

a. 4.00 mt for building up to 70.00mt
b. 6mt for building up to 70 mt
c. 9 mt. For buildings up to 120mt & beyond

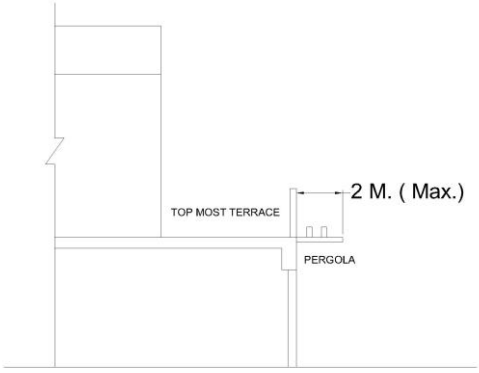
- 60% openings/voids to be provided on the surface area of elevation treatment.

BUILDING HT.	Y
< 70 MTR.	4 MTR.
70 to 120 MTR.	6 MTR.
> 120 MTR.	9 MTR.



3. Pergola at terrace level

- The pergola projection beyond the building line should not be more than 2.00mt
- The pergola projection should not affect side marginal open space of 3.00 mt and front marginal open space of 1.5mt
- Pergolas will be allowed only for top most common terrace of building/wing/wings
- The pergolas will not be allowed on part terraces /pocket terraces / slopping terraces



4. Swimming pool

- Open to sky swimming pool will be allowed only at the terrace above the top most storey or on the top most podium only.
- In case of building above 70m, swimming pool will not be permitted on terrace as per HRC rules.

5. Overhead water tank

- Every overhead water storage tank should be provided with properly fitting hinged cover. Tank should have height more than 1.5m and should be provided with a permanently fixed iron ladder to enable inspection by anti-malaria staff.

6. **The following appurtenant structures should not be included in the height of the building unless the aggregate area of such structures, including penthouses, exceeds one-third of the area of the roof of building upon which they are erected: (these structures will be considered for civil aviation Height of the building)**

   - Roof tanks and their supports (with support height not exceeding 1 m)
   - Ventilating, air-conditioning, lift rooms and similar service equipment
   - Stair cover (MUMTY) not exceeding 3 m in height
   - Chimneys, parapet walls and architectural features not exceeding 1.2 m in height.

7. For High rise building having height more than 70 mt., "Controlled Lowering Device for evacuation" or "External Evacuation System" as approved by CFO shall be provided.

8. Ventilation shaft can be allowed free of FSI provided the same is open to sky from ground level.

9. Lift access to top most terrace level not permitted.

Guidelines for design of Utility area:

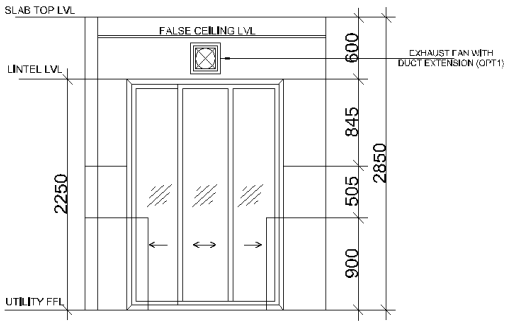
1. Every residential unit should have a Utility area.
2. They key functions of utility area include:
    a. Placement of washing machine
    b. Locating clothes drying line
    c. Locating AC outdoor unit
3. Ideally, utility area should be located outside kitchen. If not feasible outside kitchen due to façade/other design reasons, locate outside common toilet.
4. Utility area should have natural light and ventilation so that 2 b. and 2 c. can be done reasonably. In select cases, utility can be ventilated from open shaft having min. area of 9 sm.
5. Depth (shorter dimension) of utility balcony should be min. ~~1500mm~~4 feet (preferably 5 feet).
6. Entry door from kitchen (if utility is attached to kitchen) should be sliding (ref. Facade policy no 03, Aluminium door windows structural glazing policy). Bottom track of sliding door to be flushed with kitchen flooring.
7. Provision for exhaust fan to be done as per option 1 or 2 shown in the drawing below.
8. Plumbing pipes running through utility balcony to be thoughtfully planned. Only sleeves to be provided for pipes (no cut-out and bund wall) to allow running of services pipes. Cut-outs not to be provided. (Refer Arch Policy 50)
9. Washing machine, its drain point~~-~~, tap point and power socket to be located on same side of the utility, preferably in the area where other plumbing pipes are running.
10. Location of AC ODUs to be arranged considering working space in the utility for operating washing machine and putting clothes on drying line. ODUs can be ceiling hung and can also be located one below the other (double / triple stack with 1.1 m clear height required for each ODU and related framework). ODU direction should be planned such that hot air throw is outside the utility.
11. Adequate space (height) to be provided below ceiling for fixing and usage of clothes drying line - min. length of clothes line should be 14 feet (preferably 21 feet) with clear height of 4 feet below the finished ceiling.
12. Pipe gas routing to be planned with floor or beam sleeve provision as per requirement.
13. Kitchen exhaust duct/ pipe to be extended up to external facade to protect clothes on cloth line from oil stains.
14. Railing/ parapet to be provided as per fall protection policy (as required).
15. Nahani trap to be provided with washing machine drain. (check Annexure 1)
16. Separate tap for washing machine to be provided as per Annexure 1

Annexure 1

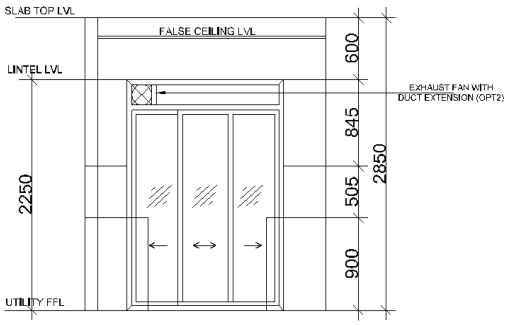
	Item	Image	Description
			
1	Washing Machine Tap		CON-CHR-049NKN*
2	2. Nahani trap with provision for washing machine drain.		NW 015A Square frame grating with locking sys SS15x15 (6"x6") or SS12.5x12.5 (5"x5") CH FUTURA*

* Or equivalent

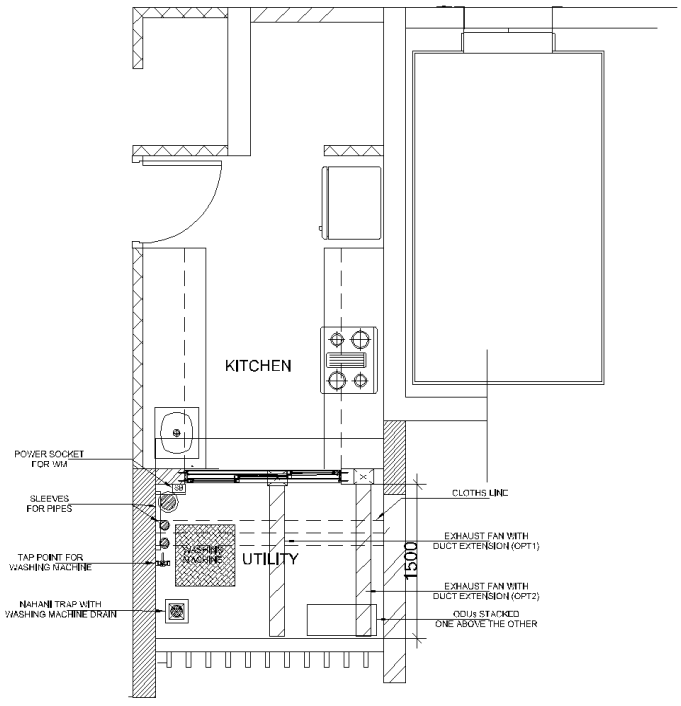
Sample layout:



OUTSIDE VIEW OF KITCHEN (OPT1)



OUTSIDE VIEW OF KITCHEN (OPT2)



PLAN OF KITCHEN, UTILITY

KCA process

The focus of all KCA's is to deliver **high quality spaces on time**. The cost is relevant but we understand that there will be some 'wastage' in the quest of completing quality works on time.

In the recent past, few cases have been observed where not only have we NOT been able to deliver on time (or even cost), but most importantly, the quality has been far below expectation – this includes quality of both design and execution.

On analysis, it is found that the problems can be attributed to following key factors:

a. Very limited time given for site execution
b. Design changes made in last 3 months before target completion date of KCA
c. Delay in ordering due to 'budget' reasons
d. Inability of vendors to meet committed dates
e. Lack of thinking/co-ordination by ID team on related areas like security, automation, landscape

It has also been observed that:

a. All vendors are treated similarly. There is lack of clarity on who the 'high expertise / not easily replaceable' vendors are and how they are to be given more professional treatment.
b. While a lot of delay is due to 'cost', there is very little tracking or analysis of the final cost of delivering these areas.

How do we resolve this?

Run hard at the start (not at the end) wrt time

No.	Step/Action	No. of days (d) / months (m) from decision to start design of KCA	Responsibility
1	Ops Strategy associate should immediately be given responsibility of KCA	2d	Design HoD / RCEO
2	Finalization of brief	7d	ID Manager handling KCA (IDM) + Ops Strategy Manager (OSM)
3	Appointment of key consultants	21d	IDM
4	KCA level Budget to be put in system as per norms	21d	VEE
5	Complete concept design with CGI and take HoD/Director approval.	2m*	IDM
6	Share approved concept with CM-Finishing, MEP, KCA Procurement and	2m+7days*	IDM

	Façade (if façade works are involved) teams		
6	Complete value engineering, budget reconciliation and place order for long-lead items.	3m*	OSM
7	Complete detailed design including coordinating of linked items like security, automation and landscape	3.5 m*	IDM
8	Prepare list of critical vendors and take approval of HoD-Design	4 m	OSM
9	Float tender and appoint vendor	4.5 m*	Procurement (KCA team)
10	Complete issue if package wise VFC	5 m*	ID Manager handling KCA (IDM)
11	Complete site works	8 m*^	CM-Finishing
12	Buffer	0.5 m (overall float)	
13	Opening to Customers (post snagging – 15 day review, snagging and rectification period for CM-Finishing, Design as well as Hospitality/Marketing)	9 m*^	IDM + OSM + CM-Finishing
14	Close KCA plant after budget review and learning summary	10 m*^	IDM

* Add 2 months if foreign designer or Indian celebrity designer.
^ Add 2 months if carpet area > 20,000 sft. and add 3 months if carpet area > 40,000 sft.

As can be seen above, the critical path wrt time is through the Design (including VEE) and Procurement and not through construction. Construction has to be given reasonable time to deliver good quality and that can only be done by ensuring that time is not lost at the start.

Treat critical vendors with professionalism:

1. World over great projects can be delivered in tight timelines only with goodwill of the supply chain (designers, contractors and material suppliers).
2. We cannot treat all vendors like commodities – some are critical to the success of the project and have to be dealt with differently. These 'critical' vendors shall be identified by OSM within 15 days of completion of detailed design and list approved by HoD-Design. Once finalized, OSM, IDM and Procurement (KCA team) shall have power to make concessions to our policies to ensure that 3. is attained.
3. Vendor goodwill can be earned by fairness – we have to ensure that they are treated with respect, make reasonable money, payments are made in time, they believe that they will get repeat work if they perform well and any issues raised by them are resolved in timely manner.
4. Judgement of critical vendors (especially designers) should be respected – if we have concerns, we can raise it to them but should willing accept their considered view.

5. We also should remember that not all items/materials are 'commodities' and can be replaced with something else. This should be implemented in line with 4. and for such critical items decided by critical vendors, we should not let budget become the cause for delay.

Make the right tradeoffs wrt budget

1. Note that KCAs typically cost <2% of the marketing project (MP) cost but create ~50% of its value. Delivering these in time is key to maximizing NPV of the MP.
2. Hence, while budget has to be adhered to, strategic business calls have to be taken by HoD-Design and/or RCEO on overall budget of the KCA to ensure that the more important objectives of quality and timeliness are not compromised.
3. IDM, OSM and Procurement (KCA) associates should bear in mind that overall KCA budget is important and there is only guidance value (not strict adherence) to allocation to individual items within that budget because this allocation is done by VEE with very little information. Hence, while trying to meet overall budget, always consider 'where to spend' is your decision not of the VEE team, who is largely interested in achieving overall budget only. Stop wastage but don't lost quality or value for budget reasons.

Avoid late design changes:

1. Post closure of detailed design, all design changes should be done only using 'change instruction' format (see *Annexure B*).
2. Once work starts on site, avoid changes. OSM shall have power to reject any changes which are likely to affect timely delivery.

Do not tradeoff quality and timeliness:

1. Cost of delay in completion of KCA – lost/delayed sales in period of delay. Cost of poor quality KCA – we lose reputation forever.
2. All associates of the Operations team as well as business reps have to remember that during execution phase, do NOT force any tradeoff between quality and timeliness. As noted above, all the compression of time has to happen prior to start of works at site, not after start of works at site.

What is role of the business (represented by RCEO)?:

1. Ensuring that the aforesaid key tenets are met i.e. run hard at start, treat critical vendors with professionalism, make the right tradeoffs wrt budget, avoid late design changes, and do not push for or accept tradeoff between quality and timeliness.
2. Work with the functions to ensure that they have sufficient capacity to deliver, especially in the early stages i.e. pre-start of works at site.

Also refer to:

a. KCA brief format
b. KCA timelines policy
c. List of long-lead items

Annexure A

KCA Process – other guidelines (recommendatory in nature, ultimately OSM to decide):

	Type A KCAs (Time Critical) - Sales Gallery, Show flat, Club and any other with high customer impact if built early
	Design & VEE
1	ID brief shall be approved with HoD-Design with clarity on cost and time (for KCAs > 10,000 sft this shall also be reviewed by Director Design). This copy shall be immediately circulated to Procurement, VEE and CM-Finishing.
2	Based on brief, single no. budget will be specified in SAP by VEE, based on historic costs of equivalent completed projects. OSM + IDM will ensure same is met.
3	Drawings shall be issued by package (Civil, MEP, Finishing, Façade, Infra) (and can be divided into separate show flat and sales office packages). Dates for this should be stated in Design Brief and also informed to Contractor at time of appointment.
4	VEE shall prepare BOQ for ease in tendering (specifications) and floated with tender. This BOQ shall be indicative and will not be binding on Lodha and in case of conflict, drawings will prevail.
5	If any design changes are made after issue of drawings for a specific package and/or after (partial) execution at site, 'ID Change Instruction' Format shall be followed for such change instructions - this cannot be done post facto.
	Procurement
6	Procurement shall ensure that contract is awarded on basis of rate card for KCA (atleast 70% by value) and balance non-rate card items on Cost + pre-agreed margin basis (open book method with reasonable proof of cost). Integrated contractor shall be appointed except for civil, facade, HVAC, specialist packakges (as per Annexure A) and FFE.
7	For Lodha Supplied material, standard PR/PO process shall be followed.
	Bill Processing and Payments
8	Accounts shall have a SPOC to process all bills for type A KCAs. For FFE items, payment shall be made within 5 working days as per approval of ID.
9	Ad-hoc payments to contractors shall not exceed 50% of the estimated value of works done by the contractor.
10	All bills shall be finalized within 60 days of opening of the KCA.
	Audit & Controls
11	Within 30 days of opening of KCA, inventory of all moveable items shall be made by ID and handed over to Hospitality/HFM (whoever is running the KCA).

12	Hospitality/HFM (whoever is running the KCA) shall ensure that the KCA is kept in 'like new' condition with regular maintenance and strong aesthetic focus. There shall be no involvement of ID or CM-Finishing in this, save and except anything which is a major change. Full refresh is to be done every 3 years - ID and CM-Finishing shall help with this.
13	Audit shall review 3, 5, 6 and 11 within 90 days of opening of KCA and present report to team. In case of any significant issues, discuss with COO/Director.

	Type B KCAs - Entrance Lobby and any other KCA
	Design & VEE
1	ID brief shall be approved by level 1-Interior Design with clarity on cost and time (for KCAs > 10,000 sft this shall also be reviewed by Director Design). This copy shall be immediately circulated to Procurement, VEE and CM-Finishing.
2	100 % Design (except FFE) shall b finalized at one time to be shared with VEE by ID prior to float of tender.
3	Budget control shall be at package (Civil, MEP, Finishing (ex-FFE) & FFE, Façade, Infra) level.
4	VEE shall prepare BOQ for ease in tendering (specifications) and floated with tender. This BOQ shall be indicative and will not be binding on Lodha and in case of conflict, drawings will prevail.
5	If any design changes are made after issue of drawings for a specific package and/or after (partial) execution at site, 'ID Change Instruction' Format shall be followed for such change instructions - this cannot be done post facto.
	Procurement
6	Integrated Contractor appointment should be on fixed cost basis, with pre-agreed cost+margin basis for changes. Scope shall be all works except façade, building linked services, specialized packges (as per Annexure A) and FFE. Façade and building linked FFE contract shall be awarded as per standard practice for other areas eg. on item rate basis.
7	For Lodha Supplied material, standard PR/PO process shall be followed.
	Bill Processing and Payments
8	For FFE items, payment shall be made within 7 working days as per approval of ID.
9	Ad-hoc payments to contractors shall not exceed 50% of the estimated value of works done by the contractor.
10	All bills shall be finalized within 60 days of opening of the KCA.
	Audit & Controls
11	Within 30 days of opening of KCA, inventory of all moveable items shall be made by ID and handed over to Hospitality/HFM (whoever is running the KCA).
12	Hospitality/HFM (whoever is running the KCA) shall ensure that the KCA is kept in 'like new' condition with regular maintenance and strong aesthetic focus. There shall be no involvement of ID or CM-Finishing in this, save and except anything which is a major change. Full refresh is to be done every 3 years - ID and CM-Finishing shall help with this.

13	Audit shall review 3, 5, 6 and 11 within 90 days of opening of KCA and present report to team. In case of any significant issues, discuss with COO/Director.

Annexure B

Change Instruction Format for KCAs

ID Change Instruction Format

CHANGE INSTRUCTION FORMAT DOC. NO : DCA - 0001

DATE:

1 Name of Project: _____
Plant within Project: _____

2 ORIGINATOR:
(Name of Lodha Associate who has instructed the change)

3 Contractor Impacted:

Contractor	Package

4 Photographs of impacted areas as on date of instruction:

5 Changes finalized and likely impact:

No.	Change (describe)	Ref Drg/Sketches	Likely Time Impact (Days)

Note: Cost impact also to be considered by Originator but final value shall be determined as per contract terms.

6	APPROVAL:	(level 3 b or higher)	Design - ID	Const Mgmt - Finishing

7	COMMENTS:
11	ENCLOSURES:

How to complete Marketing Project within shortest period (max. within 3 years 9 months) from time of decision to proceed with project

1. **Glossary & Notes:**
    a. Project = Marketing Project (MP)
    b. MP Start Date = Date of conceptual decision to proceed with MP. If land title comes after this date, it will be date we get land title + 15 days.
    c. MP End Date = Date of OC for the last building in the MP.
    d. MP Duration = MP End Date – MP Start Date
    e. In case of all MPs, MP duration target to be max. 3 y 9 m (This shall be 27 months for buildings upto 30 stories and 21 months for buildings upto 18 stories). In case of Very Large MPs, MP duration target shall be + 3 months from the aforesaid targets.
    f. In case of large masterplan with multiple (marketing) MPs, decision to go ahead with masterplan will be deemed to be decision to go ahead with first marketing MP. Decision on subsequent marketing MPs, shall be made separately and timelines shall apply accordingly. In such cases, the extent of the MP shall be defined by RCEO's office.

2. **Design (common across different cells in Design)**
    a. Have significant available resourcing to meet the project needs, especially in first 18 months from Project start.
    b. Have 10% of design budget of MP available as 'HoD contingency' for 'expediting' when project is being delayed or when changes occur.
    c. Note that every change has 'time' and 'cost' implications – even if such changes are necessary or needed, ensure additional internal and external resources are put to expedite work when changes occur – normal pace will delay project.
3. **Architecture**
    a. Keep building height as low as possible and max. 50 floors or less (<=150 m, with permissible tolerance of +/- 10% in select instances) from lowest level to terrace (this includes basement levels – see d. Below)
    b. In buildings with height > 100 m., minimize structural elements on external façade to minimize slab cycle time. Cladding can be done using post drill cladding brackets or pre-fixing brackets. (Facade cost norms to be considered)
    c. Slab cycle can be faster if the floor plate is restricted to less than 6,000 sq.ft (single concrete pour)
    d. Avoid or minimize basements – each basement level should be counted as equivalent to 3 floors above ground wrt time taken. If basements are necessary, minimize excavation depth by following '*Podium and Basements Design Guidelines*'. Where > 1 basement, can do raft slab and immediately proceed for basement top slab (P0) <structural design to be done accordingly> - balance

basements slabs can be done later. Also to minimize excavation depths, minimize services in the basement (try to accommodate in podium or service floors eg. wrt location of Central a/c plant, it is advisable to consider a service floor somewhere midway as per MEP design considerations or Space on terrace can be used for central chiller plant.)

e. Minimize non-typical slabs – either in form or in height. These cause two negative effects wrt project duration:
   - time lost for formwork remake/resetting; and
   - loss of momentum which comes with repetitive cycles.

   Ideally, max. of 3 variations of FTF heights in a building:
   i. Ground floor – maybe higher due to lobby height requirements
   ii. Parking levels
   iii. All levels above typical levels
   iv. In select cases, special height floors maybe needed due to regulatory reasons eg. Fire check floor – in such cases consider how to continue with regular height floors wrt structural frame and doing these elements later i.e. off critical path. To be studied in Structural & formwork design on case by case basis

f. Complex shapes of RCC elements should be avoided where not adding significant value (e.g. Chajjas at Park , façade elements etc.)

g. Do not take significant planning risks wrt building's structural completion being done without any stops once it starts i.e. be conservative wrt height permissible and timing of FSI availability.

h. Locate KCAs and focus on design to ensure that they can be built as per desired timeframes (reference 'policy'):
   i. Entrance lobby for one building of one type (and any other non-typical buildings) – 1 year (+3 months per basement level if entrance lobby has basements under it) from date of pre-launch of that MP
      1. Points to consider:
         a. Location of meter room and electrical shaft to be such that cabling route has no/minimal impact on ceiling completion
         b. Flooring pattern to be independent of elevator door center
         c. Possibility of segregating labour movement to avoid access through entrance lobby
   ii. Entrance gate (or equivalent) of project/neighbourhood – Within 18 months from date of pre-launch of first MP served by that entrance gate.
   iii. Clubhouse & related greens – as per KCA timelines policy (generally 2 years from date of 1st pre-launch in MP)

iv. Any other important KCAs - – as per KCA timelines policy (generally 2 years from date of 1st pre-launch in MP)
v. Instead of waiting for DCUs to be complete, use high quality 3D renders to approve/attach critical finishing materials such as flooring, toilet finishes,facade etc. Standardization: 95%+ finishing elements for non-KCAs (i.e. unit, typical lobby, BoH areas etc.) to be standardized (i.e. clarity on manufacturer (max. 2), size, colour and any other specification) for each segment in office and residential, such that project architect has to make virtually no decision wrt selection of these. This policy will also provide clarity on:
    i. Which elements will vary from project to project in the same segment eg. flooring, fitted kitchen finish.
    ii. Frequency of review <bi-annually (every 2 years in Dec), applicable for projects where finishing starts 3+ months after date of review>
    iii. Approval for exceptions to standardized item (HoD Design)
vi. In tenanted/NA(Non-Agricultural Land) projects, wherein site survey / stringent boundary definition is not available or finalized, the design must proceed assuming a buffer zone of (1.5m) from available boundaries, till finalization of the site survey/stringent boundary.
vii. At concept design stage, significant attention to be paid to plan of KCAs, service areas, parking, column sizing etc. so that these are frozen before 1st approval. If any changes, they should be above plinth and covered in 2nd approval so that plinth checking is not affected.

4. Structure

a. In buildings with height > 100 m.:
    i. Opt for flat slab structure/ minimizing beams
    ii. Evaluate time and cost efficiency , construction logistics and availability of bathroom pods
    iii. Evaluate time and cost efficiency wrt use of composite / steel structural elements
b. Evaluate time efficiency and availability of pre-cast staircase.
c. Evaluate time and cost efficiency and availability of pre-cast structural members in building where quality is suitable eg. Parking buildings, buildings to be handed over to government, repetitive office buildings.
d. Avoid structural transfers (or even significant changes in column sizing) as far as possible. When column sizing is changed to optimize FSI, ensure that the changes are practical from a formwork perspective and happen no more than once every 50 mtrs.

e. Avoid multiple grades of concrete in structural and non-structural RC members on a given floor (core and external columns may be an exception).
f. Structure of all buildings > 30 m to be built with formwork+façade combination such that no external plaster is required (max. external plaster can be ground for non-typical ground floor).
g. In buildings > 30 m, all external walls must be RCC with minimum 150mm thickness. Avoid perimeter beams as far as possible.
h. Use of cantilever beams should be minimal.
i. Design pile foundation with shallow depth of excavation rather than raft on hard strata with deep foundations (time v/s cost).
j. Use of 8mm bars should be avoided in slab since quantity chairs required for supporting mesh increases. Preferable to use 10mm/12mm bars (cost neutral).
k. For building with jump form, pullout boxes (e.g. Connectrix) or 16mm couplers must be considered in core-wall for slab dowels. Alternatively, primary steel can be used for pull out bars (cost to be evaluated). (need to review steel procurement policy for buildings >150m)

5. Construction

a. Ensure that required equipment is available well in time, is reliable (high uptime), operated by trained personnel and maintained well. This will avoid loss of time due to equipment unavailability/delay.
b. Excavations must be completed with a view to complete the foundation works before onset of monsoon.
c. In case of > 2 basements, consider top down construction.
d. For Conventional buildings:
    i. schedule should be such to ensure external plaster and painting work completion well before onset of monsoon.
    ii. Premix Mortar for external plaster should be used (~40% higher cost for external plaster and 30% higher for internal plaster, but eliminates requirement of fine sand)
e. Evaluate use of premix mortar for internal plaster as well (especially when sand supply is limited)
f. Godown/Stores to be avoided in entrance lobby area.
g. In case of system formwork, use should be started as early as possible i.e. from ground floor onwards and if feasible, in basements. To facilitate this, adequate coordination is needed upfront to ensure that detailed design is available to order system formwork in timely manner.

h. If there are number of parking floors (or similar) , it may help to construct alternate parking floor slabs to reach habitable levels in short time. Left out slabs can be cast subsequently without impacting time lines.

i. All MEP related areas such as typical toilets, toilet shafts, common area shafts, lift shafts to be handed over as per the agreed schedule (preferable in the bathes of 5 floors) to ensure continuous work front availability for vendors.

6. Façade

a. Ensure early closure of design, procurement and testing for elements which are required to make the building water tight. Other façade elements may take lower priority.

7. MEP

a. Ensure that OC related works are awarded early and are completed well in advance of target completion date – this includes elevators, firefighting works and STP. (Including all MEP Contractors which are pre-requisite for Finishing works)

8. Economic Evaluation

a. For any MP, stop-start decision can only be made at 3 points:
   i. When decision to start project is made i.e. design process commences.
   ii. When decision to start construction or sales (whichever is earlier) is made.
   iii. When wing reaches 7th habitable floor when decision can be made (on wing wise basis) as to whether to only complete core and shell (Structure, façade: water-tight envelope and external paint but no cladding) or to proceed ahead as per original plan.
   Discipline will need to be maintained to not stop/slow MP at any other time eg. design cost upto construction start is <1% of project cost and hence, design once started should not be stopped till DD completion.

b. For any KCA, stop-start decision can only be made at 2 points:
   i. When decision to start MP is made i.e. design process commences <normally this is a dependent decision based on when MP is started and linked targets dates for KCAs>
   ii. When decision to start construction is to be made – this decision should be linked to target completion with 20% construction period buffer.

9. Timeline Owner:

a. Program manager in Ops Strategy, reporting to concerned Regional (D)CEO, shall be responsible for delivery of these timeline targets by coordinating across all operations departments (including liaison), with excessive focus on ensuring that there is significant slack – 6+ months – by the time RCC is completed. This can only be achieved by rigorous time management and problem solving from Day 0 to date of start of construction + 6 months <this is where we currently lose 12+ months>.

b. Each Program manager shall work on maximum of 3 marketing projects from MP start date to MP end date and be significantly incentivized for achievement of MP Duration target.
c. KRAs of Program Manager:
    i. Meeting Project Duration target
    ii. Ensuring KCAs are completed as per policy linked to construction start
    iii. % of milestones (payment and construction) achieved on time as per schedule agreed at construction start is >=85%
d. The Program manager role is not a reporting role, it is a '*take the bull by the horns*' problem solving role, which required great attention to detail, good relationship building skills and relentless focus on timeliness of outcomes.
e. These Program Managers may be shifted under PD/PMH once construction starts, if in the opinion of the RCEO, the PD/PMH is playing project management role (not construction management hat only).

10. Single metric across all operational teams

a. This shall be MP duration (see Glossary & Notes above) – total and elapsed till date.
b. All operational teams (including liaison) shall be incentivized for this and the metric shall be used as single metric of measurement of project success/failure across the operational org (just as sales nos. acts as single metric on S&M side).
c. In order to avoid loss of time prior to start of construction, a detailed list of key activities is enclosed herewith as *Annexure A*. Concerned teams should take note of the same and ensure that the said timelines are met.

11. Team Spirit and Communication:

a. All those responsible for the outcomes should remember that 'team spirit' and 'appreciation for what is done well' needs to be communicated as much as or even more than 'criticism for what is going wrong'. This is critical across departments/functions and special emphasis on this has to be placed by HoDs, RCEOs, PD/PMH and the Program manager.

Annexure A

Key Activities to be undertaken prior to start of Construction for new MP:

No.	Action	Responsibility^	Duration from MP Start Date for MP on new land (<=)	Duration from MP Start Date for MP on existing development (<=)
1	Finalize site information: • Site boundary and retained structure survey • Geotechnical information • Assessment of constraints	Architecture)	30 days	NA
2	Appointment of Type 1 consultants (as evidenced by appointment letter): • Masterplanner (if applicable) / Architect • Structural Designer • MEP Engineer • Landscape designer • Interior designer (if applicable)	Design (along with Procurement team responsible for Consultants)	30 days	15 days
3	Finalize design brief and circulate to all consultants, after EVO evaluation with clarity on 1. and applicable regulations.	RCEO and Architecture	45 days	30 days
4	Finalize strategy of how to obtain key Round 1 approvals (plan approval, environmental clearance and RERA registeration) in time for construction and sales start	RCEO and Liaison	45 days	30 days
5	Complete concept design for Sales office	Architecture and ID	45 days	Generally NA
6	Complete site barricading	CM	75 days	Generally NA
7	Start work on Sales office and show flat (if applicable)	CM	75 days	Generally NA
8	Finalize Concept Design (including Round I VE + Budget and detailed timeline sign off covering all Ops functions (including liaison)). Such sign off will cover all 'for sale' buildings, 'for handover/not for sale buildings', KCAs and Infra related to the	Architecture, Ops Strategy and VEE	105 days	90 days

	MP.			
9	Conduct Round I marketing briefing: - Project presentation with clarity on USPs and highlights - Initial layout and floor plans - Tentative amenities and facilities	Architecture	115 days	100 days
10	Submit design (generally schematic) set for Round I approvals	Architecture	135 days	120 days
11	Finalize branding, MSD and give Round I briefing to Sales - Reconfirm pre-launch dates	Marketing	145 days	130 days
12	Initiate pre-launch preparation	Sales	150 days	135 days
13	Deliver on all required marketing tools (except model): - Detailed Design briefing to Marketing - CGIs - Rendered Floor Plans - Detailed Amenity List	Architecture	165 days	150 days
14	Finalize app form and agreement and handover to MIS (for RERA registration (if applicable)) and CC	Marketing (and Legal)	165 days	150 days
15	Issue setting out and excavation depth details to CM (for relevant buildings)	Architecture	165 days	150 days
16	Have pre-launch content ready, including: - Brochure - Website - Pre-launch campaign - Site branding completed - Conduct Sales training	Marketing	180 days	165 days
17	Obtain Round 1 approvals (sufficient such that construction and Sales can start)	Liaison	180 days	165 days
18	Initiate demolition (if applicable) and excavation	CM	180 days	165 days
19	Obtain RERA registeration (if applicable)	MIS	195 days	180 days
20	Pre-launch starts - open for bookings	Sales	200 days**	185 days**
21	Issue VFC package for Civil works upto ground (for relevant buildings)	Architecture	210 days	185 days
22	Have Sales office and show flat ready for external use (after desnagging etc.)	CM Finishing and CM General	240 days	Generally NA
23	Deliver model (layout/building)	Architecture	240 days	185 days
24	1st significant pour of concrete	CM	240 days	210 days

25	Obtain all approvals	Liaison	270 days	240 days
26	Complete Design Development (all packages) with VE thereto and handover budget to Site Commercial team	Architecture + VEE	365 days	300 days

a. All timelines above refer to completion of the said action, unless otherwise noted. Start will need to be done sufficiently in advance in order to achieve the said goals.
b. Overall to be monitored by Program Manager in Ops Strategy.
c. ^When department/cell name is stated, responsibility lies with the seniormost associate from the said department/cell who is directly handling the MP. If no one is appointed to directly handle the MP, the HoC/HoD will be deemed to be responsible.
d. # Maximum of 2 Approvals can be taken for any MP – see 'Design – Liaison Coordination Timelines & Process'.
e. ** - Can be adjusted based on sales calendar

Snagging and setup of KCAs – guidelines

1. Concept design + design brief to be shared with user department (generally Hospitality or HFM) after first review by ID. User department to share inputs / references from other projects / concerns within 2 weeks of receiving concept design.
2. During execution, CM Finishing team to pay special attention to recurring concern areas –list as of 2017:
    a. Joints between different materials – edge termination and precision
    b. Stone joint filling and precision
    c. Nahni trap cutout
    d. Smell extraction equipment
3. Round 1 snagging to be done by the KCA's ID team (~15 days prior to completion date)
4. Round 2 snagging to be done by peer ID team + user department (~7 days prior to completion date)
5. Round 3 snagging to be done by HoD-Design or Director-Design (~2 days prior to completion date)
6. Min. 2 days to be provided for deep cleaning post Round 2 snagging + Min. 2 days for setup by User department & ID.
7. User department to be involved in setup process, rather than ID doing it separately and then User department changing.
8. Completion date = date the space will be open for customer use

Changes to unit design as per customer request

Our philosophy is to focus on delivering high volumes at high quality within target timelines. Hence, we are not setup for customization. However, we do not want to lose sales due to our inability to customize and this document provides some options which allow customization without impacting our 'high volume, high quality, within target timelines' philosophy.

Customization Requested	Change Code	Timeline till when such customization can be requested	Details of what we will do
Combination[@] of 2 units (horizontal) – with finishes	C001	Upto 12 months prior to scheduled marketing possession date for plants <= 150 m in height and upto 18 months prior to scheduled marketing possession date for plants > 150 m in height.	Remove the wall between the two units, convert one kitchen into a bedroom/study with same finishes as non master bedrooms but and no addition of waterproofed areas.
Combination[@] of 2 units (horizontal) – bare shell (i.e. unit was either originally earmarked to be bareshell or customer asked/agreed for it to be given as bareshell)	C002	Upto 12 months prior to scheduled marketing possession date for plants <= 150 m in height and upto 18 months prior to scheduled marketing possession date for plants > 150 m in height.	Remove the wall between the two units
Combination[@] of 2 units (vertical) – with finishes	C003	Not possible	
Combination[@] of 2 units (vertical) – bare shell (i.e. unit was either originally earmarked to be bareshell or customer asked/agreed for it to be given as bareshell)	C004	Upto 12 months prior to scheduled marketing possession date **but with approval of design before sale**.	We will do a cut out between the two floors for a staircase (and if specifically requested and feasible, for a lift)
Combine rooms within a unit - with finishes	C005	Upto 6 months prior to scheduled marketing possession date **but with approval of PD before accepting request.**	Remove the wall between rooms but no changes to the electrical layout and no addition of waterproofed areas.
Provide unit which would otherwise be finished, on bare shell basis	C006	Upto 12 months prior to scheduled marketing possession date	Finish as per bare shell basis i.e. only kitchen and bathroom walls, with electricity upto one point in the unit
Finish bare shell unit as per pre-determined standards	C007	Upto 6 months prior to scheduled marketing possession date **but with**	Finish unit (not FFE) as per applicable Lodha or designer design.

		approval of design before sale; in such cases agreement possession date should be 12 months after date of sale or scheduled (/updated) marketing possession date,whichever is later	
Other	C008	With prior approval of Design, PD and RCEO; not applicable in Casa or Aspi residential developments	As maybe approved; customer costs = incremental Lodha costs x 1.3

Notes:

i. Costs:
   a. Discount from standard finish to bare shell will be calculated as applicable costs which would not be incurred due to this change x 1.4 (margin + time saving).
   b. Additional customer cost from bare shell to finished unit will be calculated as incremental Lodha costs which would be incurred due to this change x 1.4 (margin including the additional effort of design).
   c. If neither i.a. nor i.b. are applicable, apply a customization charge of 0.5% of the unit's sale value subject to maximum of Rs. 500,000(as in 2017, increase by RBI inflation rate every leap year starting 2020, suitably rounded off). This would help cover the administrative costs associated with such customization.

ii. Generally 'Other' (C008) is to be avoided unless there is a significant business gain as a result of the same. This 'other' requests may even cover any of the other change categories wrt nature of change but may have deviation wrt timing or what we will do. This 'other' requests may even cover any of the other change categories wrt nature of change but may have deviation wrt timing or what we will do.

iii. All change requests will be routed by Sales (if prior to BAII) or CC (if after BAII) to Design and Design will respond within following timelines:
   a. Before exchange (i.e. booking is held up because of this): Within 14 days (2 weeks) of request being made
   b. After exchange: Within 28 days (4 weeks) of request being made

iv. All changes will be captured in SFDC (from 1st March 2018) – any changes not captured in SFDC will not be implemented.

v. @ - also see Annexure A

Annexure A

@ - Unit Combined as per Customer Request i.e. units which will be constructed as combination flats, if and only if, two adjacent (horizontal or vertical) units are purchased by the same purchaser and request to be combined.

	Unit Combined as per Customer Request
Plan	As per regular plan of the base unit with following changes only: • One kitchen converted to same finish as non-master bedrooms. • Single DB and electric meter • Single door bell / VDP • Single automation system (if applicable) <u>Horizontal Combination:</u> • Common wall (if structural, then only non-structural part can be removed) between units removed and flooring made contiguous <u>Vertical Combination</u>: • Standard-size opening in the slab between the two flats, at a location to be decided by the Design team (mostly in the living/dining area) shall be provided by us, where the purchaser may install a staircase post-possession.
Location	Anywhere in the building where the base unit is available
Approval	As per base unit (i.e. separate units). If specific request is received from purchaser to get approved as one unit and he is willing to bear the cost for the same, same will be discussed with Planning and if Planning approves, such combined units shall be approved as single unit prior to OC. Cost shall be recovered from Purchaser by CC.
Front Door	Two (one may not be openable)
Electric Meter & DB	If two units are combined, there will be a single meter for such unit.
Agreement	Separate (or even single is possible with both unit nos been written)
Carpet Area	As per that of individual base units added together
Intimation Timing	At anytime prior to 12 months from original marketing possession date the building (as per estimate available at time of request being made to Design). If within aforesaid limit, intimation in writing / email from CC to Design (Project Architect) (who in turn will communicate to Project Office (DMS)).
Cancellation	In such cases, company incurs heavy costs and no waiver of the cancellation amount shall be permitted. If cancelled, CC to intimate Design and Design to have converted back to base unit.
Check which flats to build as Combination	CM incharge of the plant (level 2 or above) to specifically check with design at time of commencement of finishing works.
Post Possession Changes by Customer	As per applicable policy (with no changes permitted to structure or MEP)

Maximize value extraction from Sales office and Show flats

Policy No.	Arch 135
Date W.E.F.	03/09/2013
Revision No	3
Revision Date	24/11/2021
Pages	1 of 1

Steps to maximize value extraction from Sales office and Show flats

1. Ideally show flat should be made within building footprint itself so that it can be sold in furnished condition. The value of a show flat will be: value of a standard unit + FFE cost. FFE cost = [amount spent on FFE (finishing, furnishing and equipment)^ <net of any savings from base finishes used in standard unit> x 1.2 (co-ordination and overhead costs) x (1-(no. of years between show flat readiness and sale x12.5%), min. 50%)]. The possession date of the unit should be around the expected sale of ~95% of the units which are served by the said show flat (same or any other tower that is likely to be served by same show flat) (max. 18 months from date of 100% payment of the unit being received, we can pay rent compensation for the period between 100% payment being received and actual date of possession).
   ^ If there is a very expensive piece of art / equivalent that has been put (> 5% of the amount spent on FFE) and we want to use elsewhere, we should identify the same at time of handover of the show flat to Sales and inform that this will not form part of the sale of the show flat and the value of such art work / equivalent should be reduced from 'amount spent on FFE'. Further, if the 'amount spent on FFE' is > than the design budget guidelines at time of show flat opening, the concerned RCEO can decide to reduce the FFE cost to an equivalent extent in the base no. considered for 'amount spent on FFE'.
2. Generally we will handover the show flat to customer on 'as is where is basis' (along with basic cleaning, polishing etc.) and also with all the FFE (only things we will remove are embellishments like clothes or boxes kept to make the house look lived in). We can sell to the customer that they will get exactly what they see – including crockery, cutlery, equipment, art (except for any identified art piece to be removed as per ^ in 1. above) etc.
3. If, for any reason, show flat is initially built outside the final building, in due course, it should be migrated inside and then 1. and 2 will apply.
4. In whichever project sales office is made, the club should be designed taking into account the furniture and fixtures of the sales office and attempt should be made to reuse as much of the material as possible from the project office to the club.
5. There should always be a list of the show flats / sales offices / club / entrance lobby / company office that are likely to be built over next 6 months with ID team. Once demolition timing of a sales office / show flat is determined, whatever cannot be reused under 1-4, we should attempt to incorporate into the design of the show flats / sales offices / club / entrance lobby / company office to be made in next 6 months.
6. Reuse of other materials eg. Water body systems, green walls etc. should also be thought about.
7. If any material is still surplus after 1-6, same should be disposed off directly at time of demolition and not put into store.
8. Responsibility for planning the reuse, safely storing the material in interim period and implementing the same is jointly with ID team (Design) + Finishing team (CM).

Also see 'physical location value tracker' (HRMS policy).

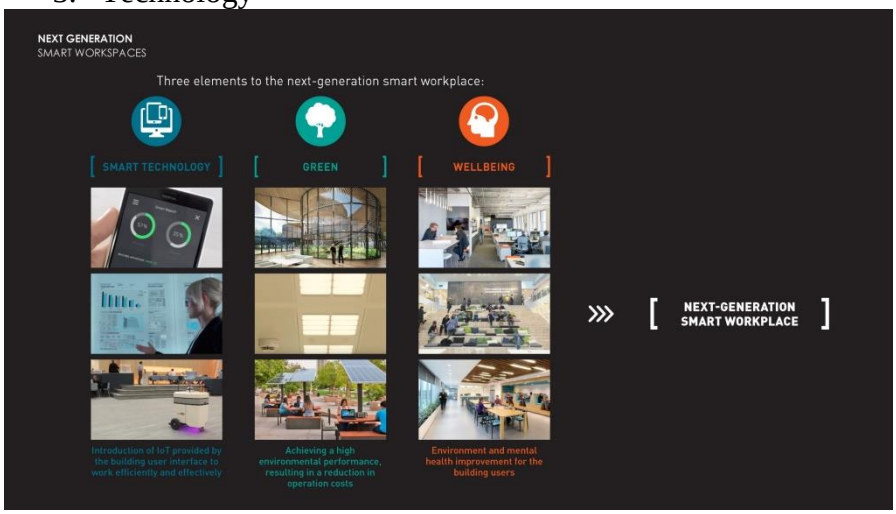
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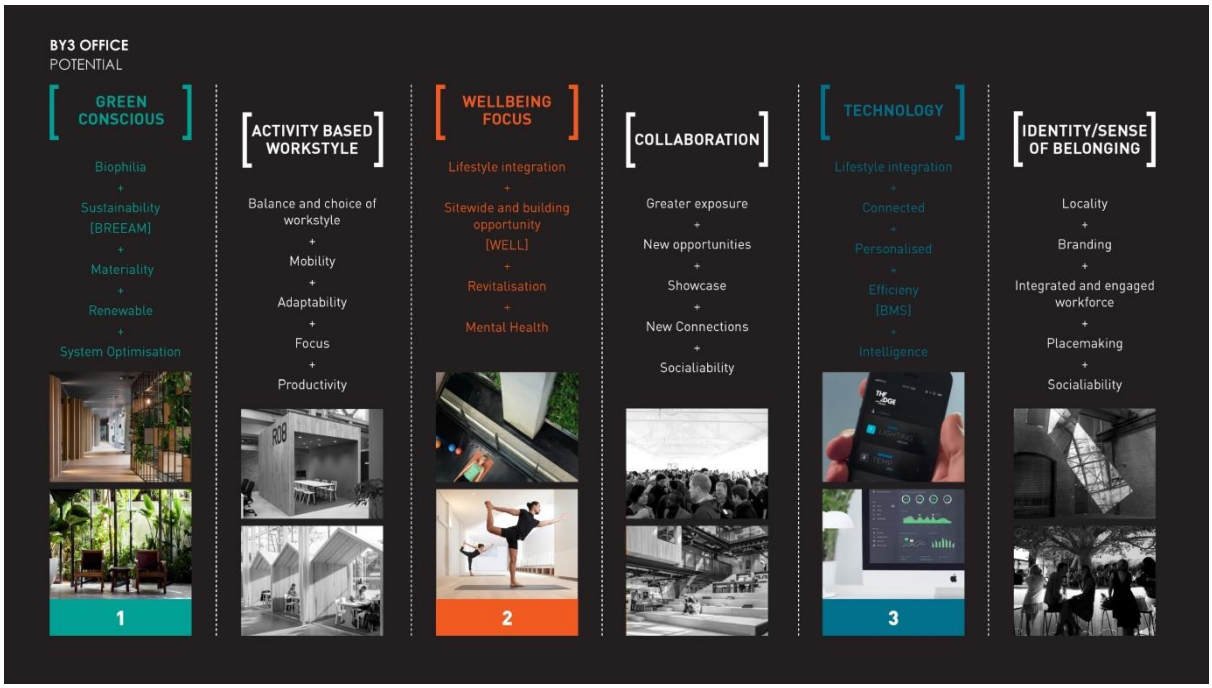
Guidelines wrt Well being (Collaboration, Convenience & Wellness) for Offices

Our core objective for all developments is 'Do good and do well'. In relation to our office developments, the interests of the following critical stakeholders are relevant: Tenant companies, their employees and guests, environment at large and us as the owner seeking to generate outstanding economic returns and reputational gain. All decisions need to be made to serve the **balanced interests and needs** of these 4 stakeholders.

Bearing in mind the needs of the evolving work space user and the desire of tenant companies to attract and retain talent, the most desirable offices of the early part of the 21st century will be (are) characterized by:

1. Well being – Collaboration, Convenience and Wellness
2. Environmental Sustainability
3. Technology

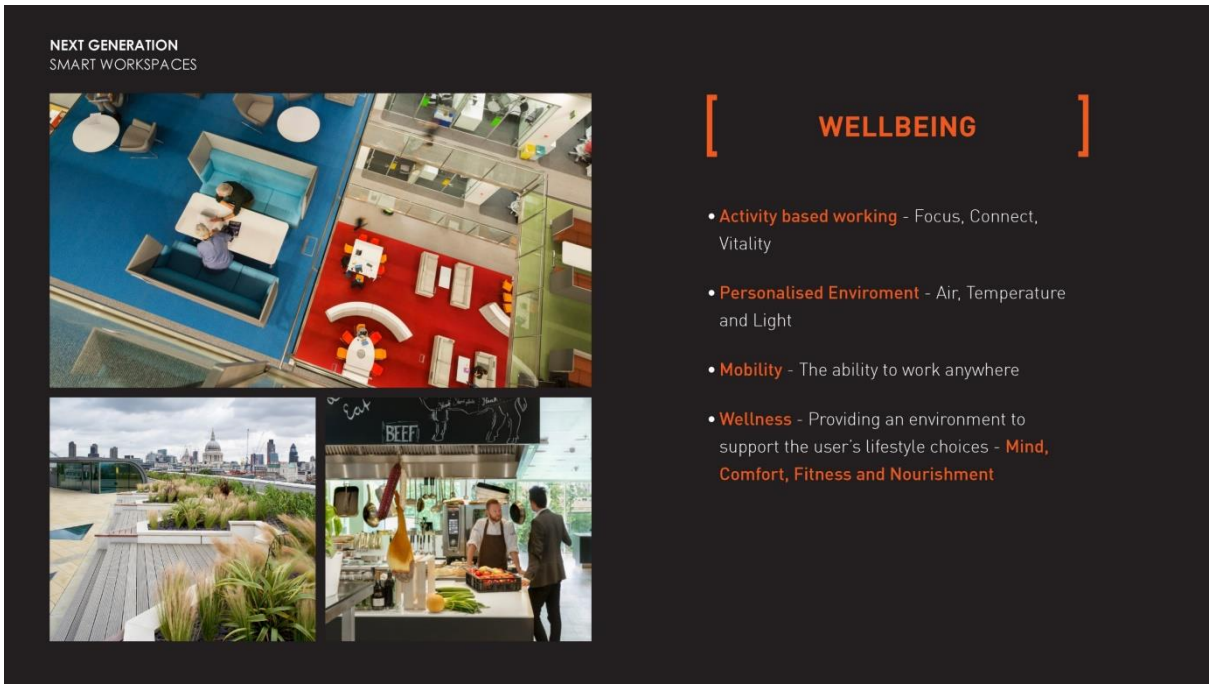




In essence, the 21st century office will be managed as and have the options and services of a well-run hotel. In addition to designing and building these buildings well, we will need to develop competence in the management of these spaces and ensure that they are run to high standards in an economically feasible manner (like facilities in a hotel). The inputs of hospitality/ design team should be sought prior to completion of design development for the relevant packages.

This document provides suggestions/guidelines wrt the implementation of Well being. Separate documents similarly outline implementation guidelines for Environmental Sustainability (‘_____’) and Technology (‘_____’). While these have been detailed separately, they work hand-in-hand with each other and have to be studied and implemented holistically.

Well Being



About 10-12% of the carpet area of the office spaces should be dedicated towards Well being i.e. for every 100 sq. ft. carpet area of offices, there should be 10-12 sq. ft. carpet area of communal spaces with focus on Well-being i.e. Collaboration, Convenience & Wellness. The communal spaces will include the entrance lobby, F&B spaces which are relevant for 80% of the buildings occupants (BO), terrace/refuge (part which is accessible and programmed for use by BO) etc.

Some of the suggested use of such communal spaces can include:

Collaboration

a. Lobby to be a multi-use space, with appropriate arrangements for various modes of collaboration – self-working, small discussions (2-3 people), group working (4-6 people) with a F&B outlet within it and a welcoming (not stiff, formal) vibe.



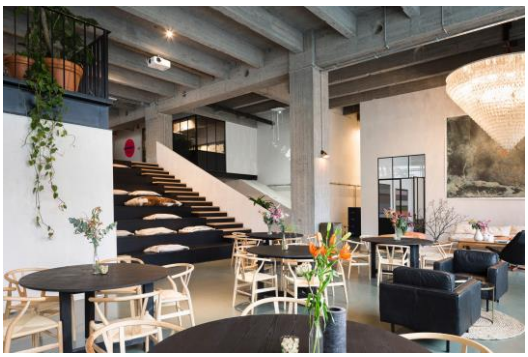



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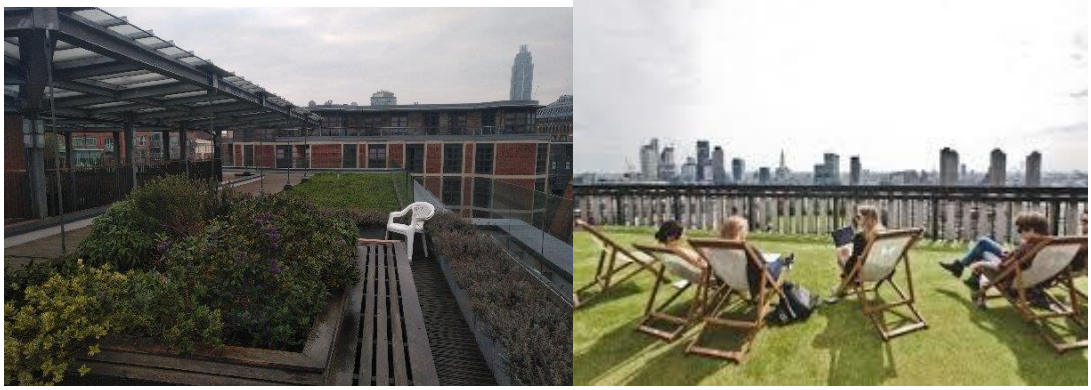


CBINSIGHTS Source: WeWork





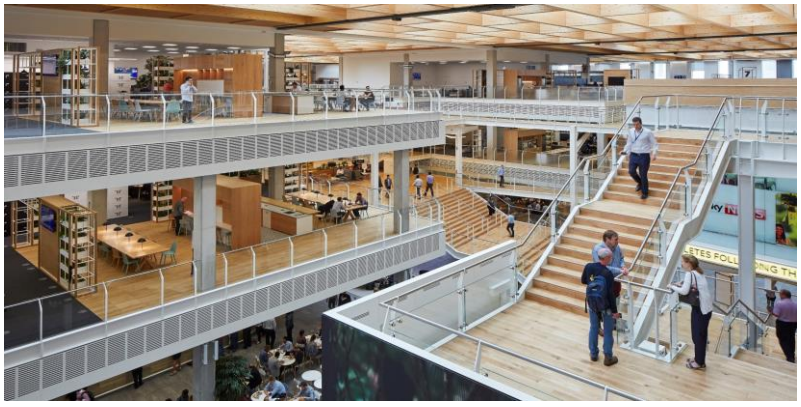
b. Various outdoor spaces (can be gardens, sky gardens in refuge, terrace) which give people opportunity to meet, interact and discuss (see a. above).'







c. Creating visual connection between various floors through sky bridges, large internal staircases, atriums etc. <not relevant from a communal space allocation perspective>

d. F&B outlets (including food court) which are relevant to 80% of the BO – these should have food delivery options[T] within the office space. (Note: there can be other F&B outlets with different TGs but the same will not count towards the 10-12% communal space allocation).
e. Co-working elements (co-working spaces, if present in the building, can cater to this and in that case, this need not be replicated):
    a. Meeting rooms which can be booked for informal presentations etc. These will generally be indoors but some can be outdoor too.
    b. Private dining
    c. Events space – place to host office events, parties etc.
f. Outdoor amphitheatre - for use for performances, commercial display etc.

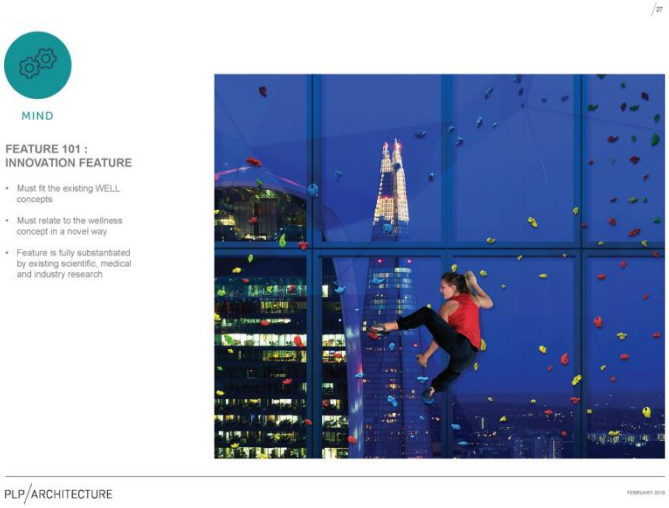
g. The positioning of the spaces shall be such that they fall in the most frequently used routes of the occupants, i.e. if some space is placed on a floor or a refuge where an occupant of a particular floor doesn't go then there is a chance of under utilization of the space
h. Chance meeting spaces should have writing walls so that discussion can be fruitful, people can then take snaps of the discussion and move on

Convenience

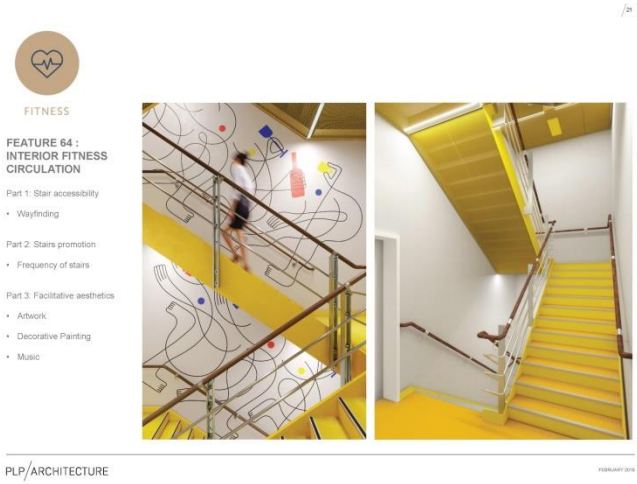
a. Supermarket
b. Creche
c. Laundry (dependent on market need assessment)
d. Pharmacy (dependent on market need assessment)
e. Bill payments[T]
f. Systems which allow individual control of comfort factors such as temperature (cooling) and lighting.
g. Priority for shared transportation (eg. shared cabs) and access from public transport. <not relevant from a communal space allocation perspective>.
h. Space to receive parcels (e-commerce)
i. Shortest possible commute time from entry to compound/building to destination office floor[T]

Wellness

a. Physical activity
    a. Gym
    b. Indoor – wall climbing, spinning, space for other specialist classes eg. karate, taekwondo, yoga, meditation, pilates etc.



    c. Outdoor – Soccer, basketball, running track etc.
b. One building staircase per wing to be bright and lively so that BO use it [T], rather than taking elevators.



c. Medical emergency response/first aid setup
d. Onsite nutrition and other medical consulting
e. Secure parking for bicycles (outdoor or indoor)
f. Onsite lockers and shower facility

<u>Following are not relevant wrt communal space allocation:</u>

g. Building designed to maximize natural light for occupants (maximum 14 m distance from façade to service/core areas)
h. Smoking ban in and around building (no smoking within 25 feet radius of building entrances), with smoking permitted only in designated areas which are well-ventilated and do no risk smoke overflow into area used by non-smokers
i. Monitoring indoor air quality^{T}, sharing information on the same with BO^{T} and taking timely steps to address any deterioration (eg. air filtration system)
j. Having sufficient drinking water fountains throughout the building to encourage BO to remain well hydrated.
k. Working with F&B operators to have wider choice of healthy foods and avoiding foods which cause health issues (eg. fried foods, fatty foods, sugary drinks etc.)
l. Focus on use of building materials which do not cause health issues eg. use low/no VOC paints.
m. Plenty of greenery in the building – outdoors and in the common areas/façade.



n. Emphasis on beauty in design, especially in the key common area. Architecture, art/sculpture, landscape, interior design, music and scent are all part of this.

o. Can pursue fitness certification (Well / similar) in cases where the occupiers / market are willing to value it. If this certification is being pursued, evaluate the requirements at the architectural concept design stage itself and ensure that the pre-conditions/pre-requisites are adhered to and then additional steps can be pursued basis the certificiation level that is feasible given the context. We will NOT do things only to get a certification if they do not add value to the development wrt the 4 stakeholders stated at the start of this document.



List of Well Standard Points 2018.xlsx

T – can be enabled/bettered using technology

Annexure – Amenity Checklist (Outdoor and Indoor)

The following list of active and wellness related amenities shall be used as a 'checklist', and applicable elements shall be included in the master plan and building programs of office developments.

Wherever the commercial project is part of a master development which has these amenities available in such a way that they can be accessed by the office occupants, such amenities may not be duplicated on the commercial development's plot or each building.

Outdoor Amenities

The Outdoor areas include:

- common landscape areas,
- accessible spaces between buildings,
- setback spaces,
- building terraces, and
- areas open to sunlight and natural ventilation, outside or within the buildings

Each amenity is given a weightage, and the target for the designer shall be to achieve 70/100 weighted points.

S. No.	Tag	Amenity	Wellness Weightage
1	Active Body	Bicycle Parking (for 5% occupants)	6
2	Active Body	Walking Trail (minimum 400m)	6
3	Active Body	Physical activity oriented Landscape design (ramps, mounds, stairs, etc.)	3
4	Active Body	Outdoor Fitness Equipment	5
5	Active Body	Outdoor Sports Facilities (soccer, basketball, etc.)	3
6	Active Body	Direct pedestrian route between building entrance and public transit (bus, cab hub)	4
7	Relaxed Mind	Meditation Spaces	3
8	Relaxed Mind	Biophilic / Restorative Gardens	8

9	Relaxed Mind	Fountain / Water Gardens	5
10	Relaxed Mind	Views of Nature	12
11	Nutrition, Urban Agriculture	Organic Fruit and Vegetable Garden (1sqft/occupant)	3
12	Nutrition, Urban Agriculture	Individual and Group Organic Gardening activities	3
13	Nutrition, Urban Agriculture	Healthy Food Service - Outdoor Snack Bars / Vending machines	3
14	Nutrition, Urban Agriculture	Farmer's Market	8
15	Collaboration, convinience	Common Outdoor Break-out Areas - Lunch and meeting scale	12
16	Collaboration, convinience	Communal Spaces - Event scale (Amphitheatres, lawns, etc.)	6
17	Collaboration, convinience	Smoking area (min 8m away from the building entrances, air intakes)	6
18	Collaboration, convinience	Priority drop off for cabs, shared transport	3
			100

Indoor Amenities

Each amenity is given a weightage, and the target for the designer shall be to achieve 70/100 weighted points.

	Differentiating amenities, shall be provided as per project brief
	Items not in the main text of the policy

S. No.	Tag	Amenity	Wellness weightage	Remarks
1	collaboration	Collaborative spaces in the Lobby		
2	collaboration	Visual connect between floors		
3	wellness	F&B	3	if also oriented towards - portion control, healthy food
4	collaboration	Meeting rooms		
5	convenience	Private dining		
6	wellness	Indoor - Common break areas	3	a. can be multipurpose b. can also be by tenant
7	collaboration	Event spaces		
8	convenience	Supermarket		
9	wellness	Crèche	5	lactation rooms can be added
10	convenience	Laundry		

11	wellness	Pharmacy	2	or should be located on site or within xxx meters
12	convenience	Bill Payments		not needed, as already sorted by technology
13	convenience	Parcels		
14	wellness	Gym	3	
15	wellness	Indoor sports	3	
16	wellness	Active staircase	14	
17	wellness	Medical emergency - first aid	5	
18	wellness	Nutrition consulting	2	
19	wellness	Lockers and showers	2	
20	wellness	Daylighting	3	
21	wellness	Smoking space - no smoking inside buildings	3	
22	wellness	IAQ measurement	5	
23	wellness	Drinking water fountain	5	
24	wellness	Greenery inside building	3	
25	wellness	Individual control of temperature and lighting	2	
26	wellness	fair market value paid parking	2	
27	wellness	priority parking for car poolers	1	
28	wellness	integrated pest management plan	3	
29	wellness	context appropriate lighting in common area	3	
30	wellness	lobby design - entry way systems	1	
S. No.	**Tag**	**Amenity**	**Wellness weightage**	**Remarks**
31	wellness	signage displaying amenities available within 800m of walking distance	1	
32	wellness	hygiene promotion - bathroom cleaning, hand wash promotion, etc.	2	
33	wellness	acoustic comfort - sound masking, absorption	6	extent to be defined
34	wellness	thermal comfort	10	extent to be defined
35	wellness	safety and security	8	extent to be defined
			100	

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Conversion from Pre-RERA Carpet to RERA Carpet

The approximate conversions are as follows:

Residential: (RERA) carpet = Pre-RERA carpet * 1.045
Office: (RERA) carpet = Pre-RERA carpet * 1.015
Retail: (RERA) carpet = Pre-RERA carpet * 1.015

While there may be some differences from project to project (and project specific areas are to be calculated precisely for allotment list), the aforesaid conversions can be used for benchmarking.

Basis above, Pre-RERA carpet area shall now NO LONGER BE USED for any design or cost management purposes and hence, shall not be calculated.

Following policies have been updated to reflect this change:

a. Project Const Cost Guidelines
b. Efficiency of design Guidelines

Integrated Design Process - For office buildings

In line with our sustainability and wellness aspirations, we are modifying our usual way of working by adopting an integrated design approach, where the testing of the design against the target performance criteria is being done from the concept design itself.

This policy explains the process, and what has changed, to all the stakeholders so that the same can be implemented seamlessly across all projects.

In this process the target is not to optimize the trade costs in their own silos (Civil, MEP, Facade…), rather all efforts will be aligned to achieve such lowest capital cost for the project which results in the lowest or most energy efficient lifecycle cost of the building.

E.g. The cost of two options of facade is compared on a lifecycle impact basis, considering related elements like:

- delta cost of air conditioning capex
- delta cost of building energy consumption annual (lighting and thermal advantages)
- cleaning costs, etc.

Process (Key Steps)

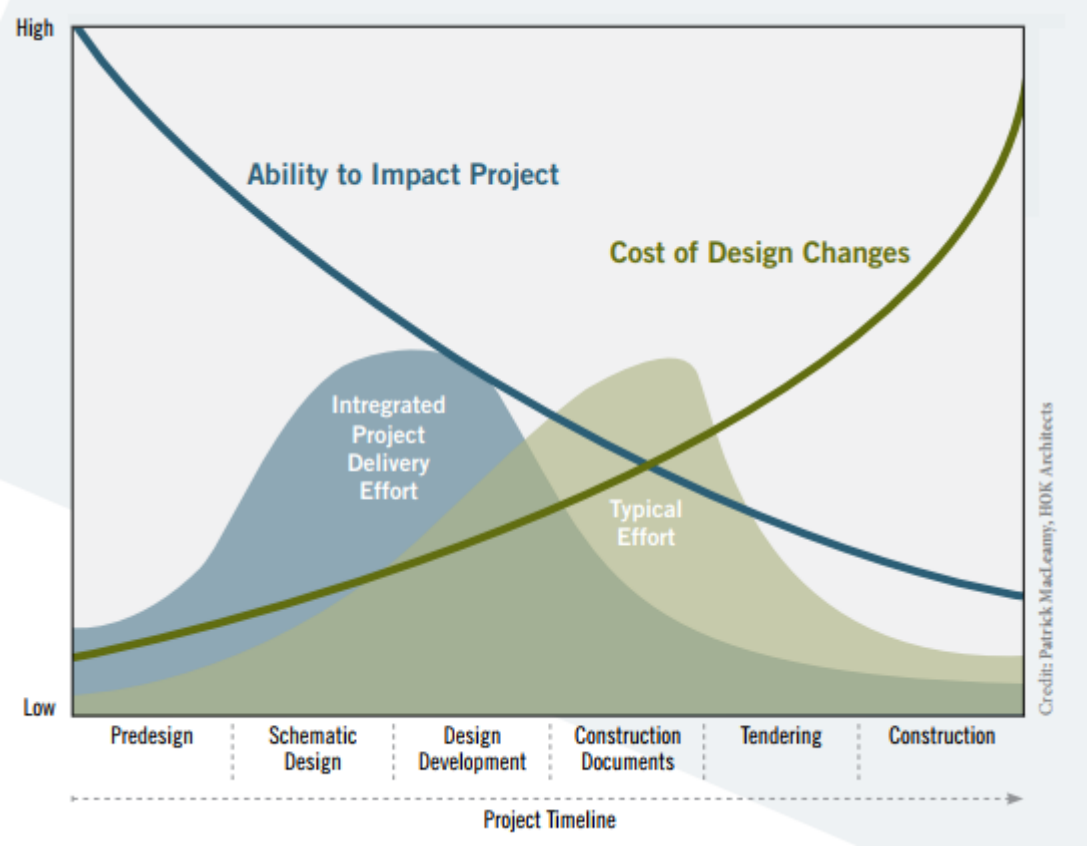
- The building is designed to a pre-defined performance standard. Performance standard are shared with all designers/consultants at the start of the project.
    - Policy 136: Guidelines wrt Well Being (Collaboration, Convenience and Wellness) for Offices
    - Policy 139: Sustainability Performance Standards
- Analytic, modelling support provided to the Architects** to test the concepts for the performance of the building.
    - The updated process is shown in Chart 1
- Building performance reporting and O&M(Operation and Maintenance) SOPs* (Standard Operating Procedures) defined (shown as part of the updated process in Chart 1)

** through the sustainability consultant to those Architects and Engineers who do not have such resources in-house
* by Facilities Management (FM) Team

This approach can be further illustrated by the following table:

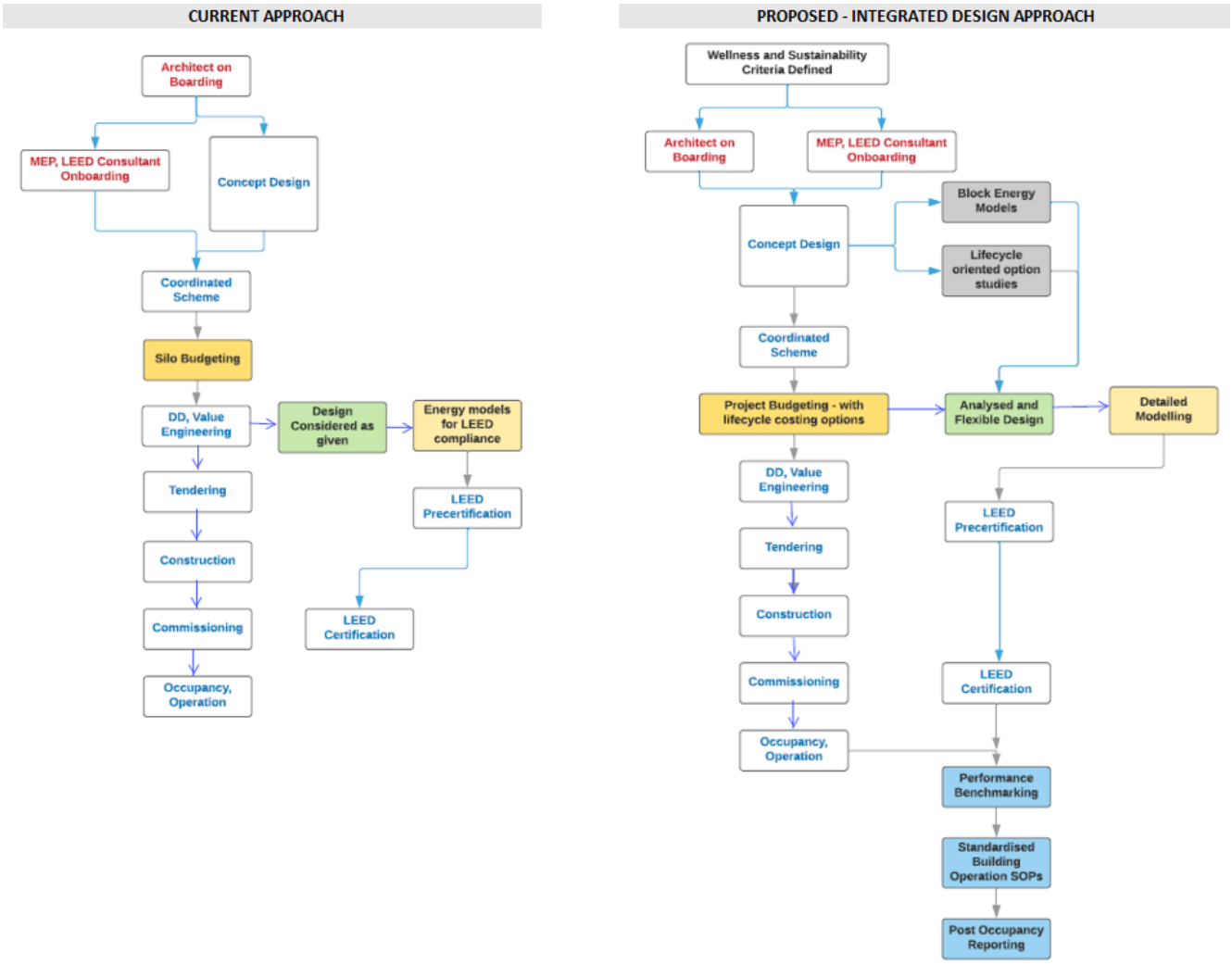
Conventional Design Approach	Integrated Design Approach
Multiple teams: Client, Architects, Engineers, Operators	One team: Comprising of Client, Architects, Engineers, Operator
Less time devoted for collaboration	More time devoted for collaboration
Linear process, involves other late (post concept)	Iterative process, everyone involved (Analytics from day 0)
System considered singularly	Project considered as a whole (Building performance)
Emphasis on Capex/Upfront Cost	Life Cycle Costing
Completed with Construction	Continues Post Occupancy

An Integrated design approach will help us to propose meaningful changes at the earliest stages of design; which is considered to be the least costly and disruptive in the project lifecycle.



Please see the proposed process chart on the next page

Chart 1 (Design Process)



Supplementary Reading (incl url links)

- https://www.rmi.org/wp-content/uploads/2017/04/OCS_Integrative_Design_Disruptive_Source_of_Expanding_ROI_in_Energy_Efficiency_2010.pdf
- https://moodle.polymtl.ca/file.php/1047/IDP-Charettes/article_design_guide_en_aug23.pdf
- https://pdfs.semanticscholar.org/5286/e33ba76ac5e23c7648ce115e0a5f4be5ac28.pdf
- http://www.beepindia.org/sites/default/files/Integrated%20Design%20Approach%20for%20Energy%20Efficient%20Buildings_Mr.%20Pierre%20Jaboyedoff.pdf
- D-05 White Paper on Life Cycle Costing (available in the policy/sustainability folder)

Environmental Sustainability Policy

[Replaces Policy 139 - Sustainability Performance Standards (Energy and Environment) – For Office Buildings]

We at Lodha Group have strived to ensure that our design, execution and operations augment and strengthen the natural ecosystem that we are a part of. We care about our environment because we care about our children – future generations deserve to given a better earth than what we inherited.

Over the past few years, as climate change and sustainable development have become ever contextual, we have realized that our responsibility is even bigger, therefore we are committed to:

1. An ever reducing carbon intensity of our operations and product; in line with our stated vision of becoming a **carbon neutral company by the year 2035**
    a. Annual update and progress report on the road map shall be done biannually – October and April.
    b. Consider the following aspects to reduce the operational carbon during of the projects:
        i. Integrated passive designs with strong emphasis on natural ventilation and limiting heat gains
        ii. Development of projects under defined performance guidelines (refer item 2a. below)
        iii. Rapid adoption of renewable energy under all available models permissible under prevalent regulations (refer item 4a. below)
        iv. Enabling and promoting non-motorized, shared and electric transport on our township projects
        v. Taking advantage of thoughtful landscape design as a means of carbon offsetting
        vi. Low maintenance designs to limit additional embodied carbon in operational phase of the building
        vii. Effective monitoring and reporting of Energy, Water and Waste data at all construction sites and projects under our maintenance control. Lesson learnt sheet and mandatory 10% y-o-y energy intensity reduction in operations shall be implemented (until next 2 years, post which the target shall be revised).
    c. Achieve ESG benchmarking scores (in *S&P Global Corporate Sustainability Assessment* and *GRESB* (Global Real Estate Sustainability Benchmark) within the range of leadership organisations in real estate within FY21-22. And achieve global leadership by the year 2024-25.
    d. Register the decarbonisation commitment with Science Based Targets and set the targets within one calendar year (by mid 2022).

2. Create and improve **performance standards** for all types of buildings and institute an annual reporting protocol.
    a. All buildings to be designed to following operational performance standards:

Project Type*	**Energy intensities (kWh/sqm/year)**
Residential Projects	<35 (4star BEE) for project cycles until 2024; <30 (5star BEE) for project cycles beyond 2024
Commercial Projects	<100 (5star BEE) for project cycles until 2024; <80 for project cycles beyond 2024
Retail Projects	<250 (5star BEE) for project cycles until 2024; <200 for project cycles beyond 2024

    * Performance to be calculated with all infra elements are coupled (excluding parking structures)
    b. All projects shall be designed equal or better than the latest version of the ECBC
    c. Reporting of carbon intensities of applicable projects against the targets specified in the performance standards shall be done along with the roadmap progress updates.

    BEE: Bureau of Energy Efficiency, India

    ECBC: Energy Conservation Building Code of India

3. Deployment of latest **technology** to control and improve the designs and operational performance
    a. Single page mandatory scope of work for necessary performance modelling^ shall be used on all projects; applicable services shall either be included under the design architect, services consultant or a third party consultant as appropriate.

    ^ Daylighting, Energy, Natural Ventilation, Climate risks, Embodied Carbon, etc.

    b. Implementation of a standard performance analytics tool on the commercial projects shall be done within FY22-23

4. Continuous increase in deployment of **renewable energy** on our developments
    a. All amenities (private[clubhouses, mlcps,..] or public [schools,..]) shall be targeted for maximized rooftop solar; care should be taken to place such buildings in unshaded regions of the plot
    b. All sales galleries and site offices shall be planned with solar rooftop plants such as to achieve a net zero energy footprint
    c. Solar roof top potential on residential rooftops (on area leftover after installation of solar hot water plant) shall be computed and recorded in the DBRs as % offset of the society common area demand. (refer Alternate Power Generation policy for further details)

   d. Construction power shall be completely offset through green tariff (within 5% cost delta), the extra cost shall be offset through efficiency measures to scale down y-o-y energy intensity by >10% until next 2 years (post which the targets shall be revised)

5. Comply to all applicable **environmental regulations** on all our developments
   a. Active EC tracker shall be maintained as a part of a best practice

6. Incorporate **environmental and climate risk assessment** in all stages of our work - from land acquisition to final handover of a project. We will integrate TCFD (Taskforce on Climate Related Financial Disclosures) framework for identifying and reporting on Climate Risks and Opportunities before the year 2025.
   a. Environment risk checklist should be filled and documented prior to the acquisition of a project (refer Annexure – 1)
   b. Environment risks and adaptation and mitigation measures shall be documented as a section in the DBRs of all projects; TCFD format shall be used for the same (refer Annexure – 2)

7. Maintaining and enhancing of **biodiversity** on our projects, and have special focus on greenery and nature. We are also committed to no deforestation and shall also screen our supply chain for the same. We also have a target of planting 10,000 native trees across our projects annually.
   a. Separate policy on biodiversity shall be issued
   b. Biodiversity protection and preservation measures taken during the year shall be listed in the annual sustainability report

8. Having a thoughtful approach towards **resource efficiency**, recycling and reuse. All our projects shall be certified to minimum LEED Gold, or equivalent, rating.
   a. Showcasing of embodied energy of select projects shall be included in the roadmap update report of FY2022. Targets shall be set subsequently, which can form basis of update in design approach.
   b. Assess the material palette and update the products to reduce environmental impact.
   c. Construction waste shall be segregated as per waste streams and contracts shall be in place to pick up waste of each stream. All streams shall be measured to demonstrate >75% diversion from land fill sites. Refer *Environment Management Plan* for further details.
   d. Project waste shall also be segregated and contracts shall be in place with recyclers to pick up waste from each stream and share a monthly report. Refer Garbage Policy for further details.

9. Ensure **safety and security** of all workmen and building occupants, with a target of zero fatality and LTIFR (Lost Time Incidence Frequency Rate).
    a. EHS statistics shall be reported internally on a quarterly basis

10. Continuously **engage with all our stakeholders** to create awareness on Environmental Sustainability issues, and ensure facilitation and promotion of above commitments.
    a. Annual ESG report shall be circulated to all stake holders
    b. Necessary surveys should be created to formally receive feedback from stakeholders on environment and sustainability issues.
    c. Creating operational performance guidelines and awareness material for tenants, owners and our own operational teams
    d. Promoting carbon reduction by applicable stakeholder (enabled through tracking, gamification, and incentives over a period of time)
    e. Promote engagement with suppliers and vendors who demonstrate a higher degree of decarbonisation through their product and organizational approach

Annexure – 1

Pre Aquisition ESG Checklist
Project Name: Date:

Dimension	**Item description**	**Nature of risk (high/ moderate/ low)**	**Response upon Survey (add annexures for long responses)**
Environment	Does the project fall in the floodplain of nearest water body; are flood assessment studies available		
Environment	There is availability (or estimated forecast) of municipal water supply lines with adequate capacity prior to the expected time of residents move in.		
Environment	The biodiversity at the site can be preserved or enhanced. The natural vegetation present be preserved in the masterplan either as retention or transplantation.		
Environment	Is there proximal availability of public transport, within a walking distance of 800m		
Environment	Is there proximal availability of minimum 8 amenities from the ones listed below, within a walking distance of 800m 1. ATM / Bank 2. Clinic / Hospital 3. Crèche / School 4. Grocery store / Supermarket 5. Laundry 6. Park / Garden 7. Pharmacy 8. Post office / Courier service 9. Restaurant / Cafeteria 10. Service apartment / Hotel 11. Sports club / Fitness center / Gym 12. Theatre The amenities should be operational at the time of resident move in.		
Environment	Are the project boundary limits include or are within affected proximity of a source of unsafe levels of noise, water, soil and air pollution; and if there is any need for decontamination, rehabilitation regarding the same		
Social	Can the acquisition result in involuntary displacement of the any settler on the land		
Social	Can the project have operations impacts on surrounding communities such as heavy traffic, loss of livelihood,		

	irreversible negative impacts on air, water or soil etc.;		
Governance	Does the owners/promoters/company have a track record of complying with national corporate governance standards		
Governance	The title due diligences carried out to avoid any future claims or disputes		
Any other ESG observations to be listed here:			

Checked by:	Name and Designation	Signatures
Business Development Lead	.....	.....
Project Design Lead	.....	.....

Annexure 2

Climate Change Strategy

Background

There is near universal alignment on the fact that global warming, due to increased atmospheric Green House Gases [GHG], may lead to catastrophic climatic changes. This document details our approach about risks and opportunities for our business resulting from climate change, and as a responsible and the largest real estate organization we are committed to identify, assess and manage these risks to support the resilience of business, communities and customers.

There are two categories in climate risks,

01. **Physical Risks:** These are the risks of physical impacts to business, property and communities from changes in climatic conditions, including flooding, strong winds, high temperature, water crisis/droughts, etc.
    These kinds of events can impact our assets and may disrupt the operations. We must emphasize creating climate resilient assets which operate with minimal/no disruption from events and should also build communities that are prepared to adapt to risks and opportunities resulting from climate change.
02. **Transition Risk:** To limit global warming there will be imminent policy/regulatory changes, emergence of new technologies, and responsible customer behaviour as the world will mobilise to decrease their reliance on carbon.
    Being ready in advance for the same shall also offer significant opportunities to retain market leadership, while reducing negative impact of future retrofits.

Our approach

We will assess our projects for climate change risk and opportunities, and build on low risk sites or such sites where we can feasibly mitigate the climate risks known to us. We will assess how does our design factors get impacted by the climate change in each region that we operate in. Our fundamental approach on Climate Change shall rest on following pillars:

1. **Do not contribute to global warming** - by reducing and eventually eliminating carbon addition to the atmosphere due to our operations and products
2. **Create resilient products and operations** which can endure changing climate and its impacts to the extent possible.

A formal approach to assess climate change with due consideration to physical as well as transitional risks & opportunities is given by TCFD (Taskforce of Climate Related Financial Disclosures), as follows. Our project design basis reports shall include the climate risk identification in this format; we plan to implement Climate risk disclosures in our annual ESG report of FY 21-22.

Risk	**Negative financial impact of the risk**	**Positive financial impact by mitigating it**	**List of applicable Mitigation Measures (non exhaustive)**
Physical risk (acute^)	High costs of repair, disrupted businesses	Operating cost advantages Business continuity	01. Monsoon preparedness plan, 02. Water Security Plan by enhancing water recycling and rainwater harvesting. 03. Flood assessment and management plan. 04. Build and demonstrate resilience in structural, electrical, water, and telecom connectivity
Physical risk (chronic^^)	Costs of systems upgrade and retrofits, and even asset retiring	Lower costs of upgrades by future proofing design (e.g. spaces for extra equipment, upsized provisions)	01. Climate risk assessment program in place 02. High performance buildings 03. Scalability provisions 04. Climate resilient supply chain 05. Increase renewable energy usage 06. Assess, report and reduce embodied carbon 07. Enabling enhanced use of walkability, shared and Electric mobility
Policy and regulatory risk	Increased costs: Of energy, goods and services Due to enhanced building codes	Make resilient through secured renewable supplies/contracts. Avoid retrofit costs.	01. Adequate analysis during design 02. Accelerated energy star ratings adoption for buildings 03. Green buildings
Legal risk	Possible litigation costs arising out of inadequate disclosures to customers, investors and authorities.	No litigation costs due to transparency through adequate disclosures	Assess and monitor litigations through ERM.
Technological risk	Late adoption of technology and high costs of retrofits. Adopting technology too early is also a risk.	Increased performance and revenue due to better performing operation and product.	01. Tech platform to assess asset performance and user comfort 02. Deployment of innovative design techniques to improve performance
Market risk	Loss of attractiveness of the product, loss	Increased attention of customers,	01. Leadership stance through certifications and lower costs of

	of revenue	increased revenues.	occupancy
Reputational risk	Loss of capital as stakeholder consider that the company isnt conscious or active	Lower cost of capital and high valuations as stakeholders view the company as responsible and risk conscious. Be counted as leaders.	01. Stakeholders engagement, transparent communication and community awareness.

^heatwave, high wind/cyclones, floods

^^increased mean temperatures, increased mean sea levels, altered rainfall patterns

Private Rental Housing – Design Guidelines

As per Maharashtra's ITP policy (2017/2018 onwards), 5% (1/3rd of 15%) of the basic FSI of the development has to be used for 'private rental'. Of this, 25% has to be sized as EWS (<=35 sm carpet) and balance 75% has to be sized as LIG (<=45 sm carpet).

It is critical to look at the likely use of this rental housing and locate & design them accordingly.

Suggested users (which need to be finalized/clarified with RCEO at the start of design basis the requirements of each location):

	EWS	LIG
Housing for support staff who works in the development (to be taken by the regular unit purchasers in the development) (this can be co-located with MHADA portion)	Y	N
Standard 1 BHK units for (medium term) rent	Y	Y
Student housing / hostel	Y	Y (but lower preference)
Senior Housing	N	Y (but lower preference since very challenging to collect rent)
Co-living apartments / Serviced apartments	N	Y
Tourist accommodation (similar to a hotel but driven by AirBNB/similar)	Y	Y

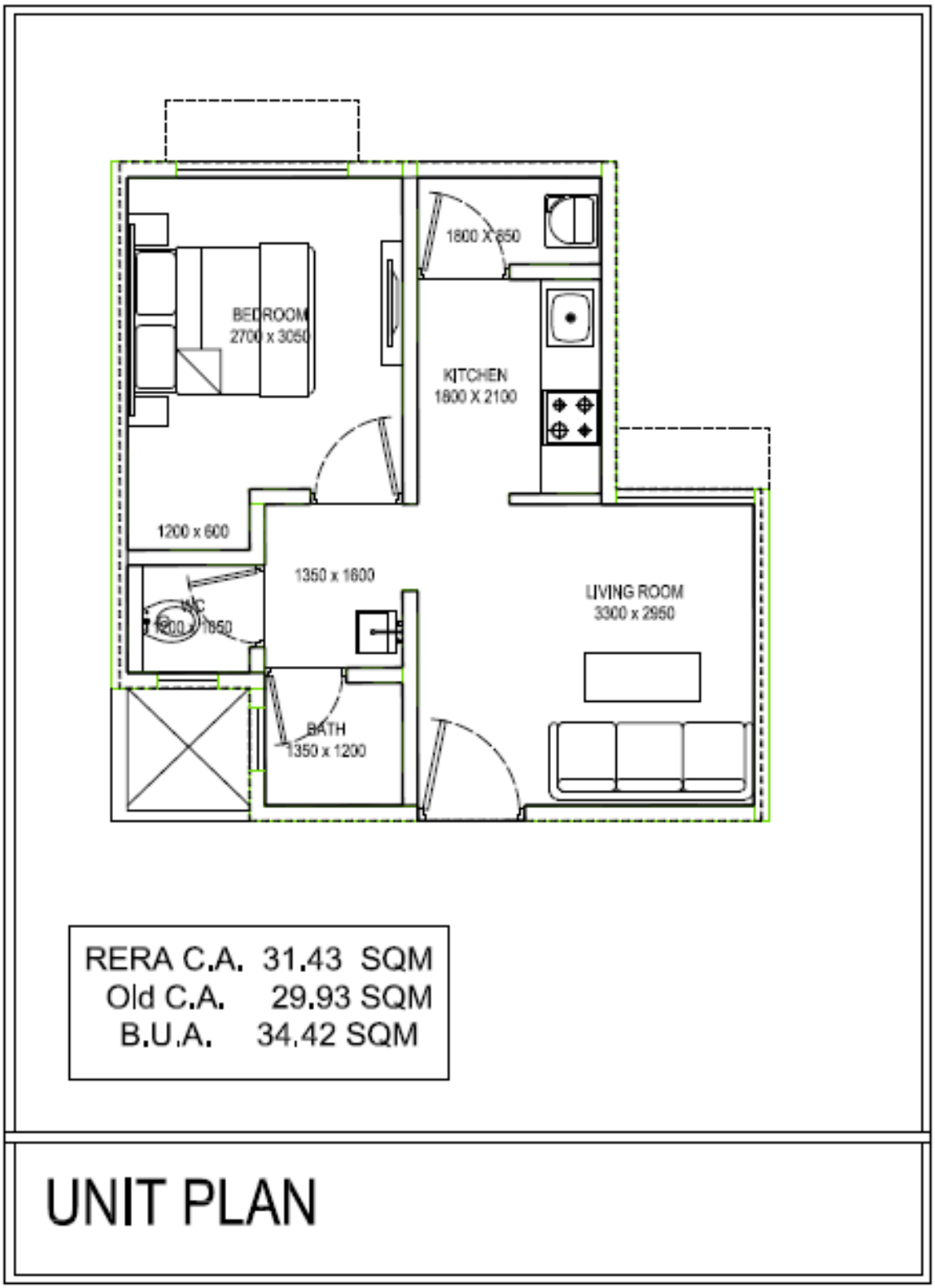
Basis the type of use, the specifications should be benchmarked against market.

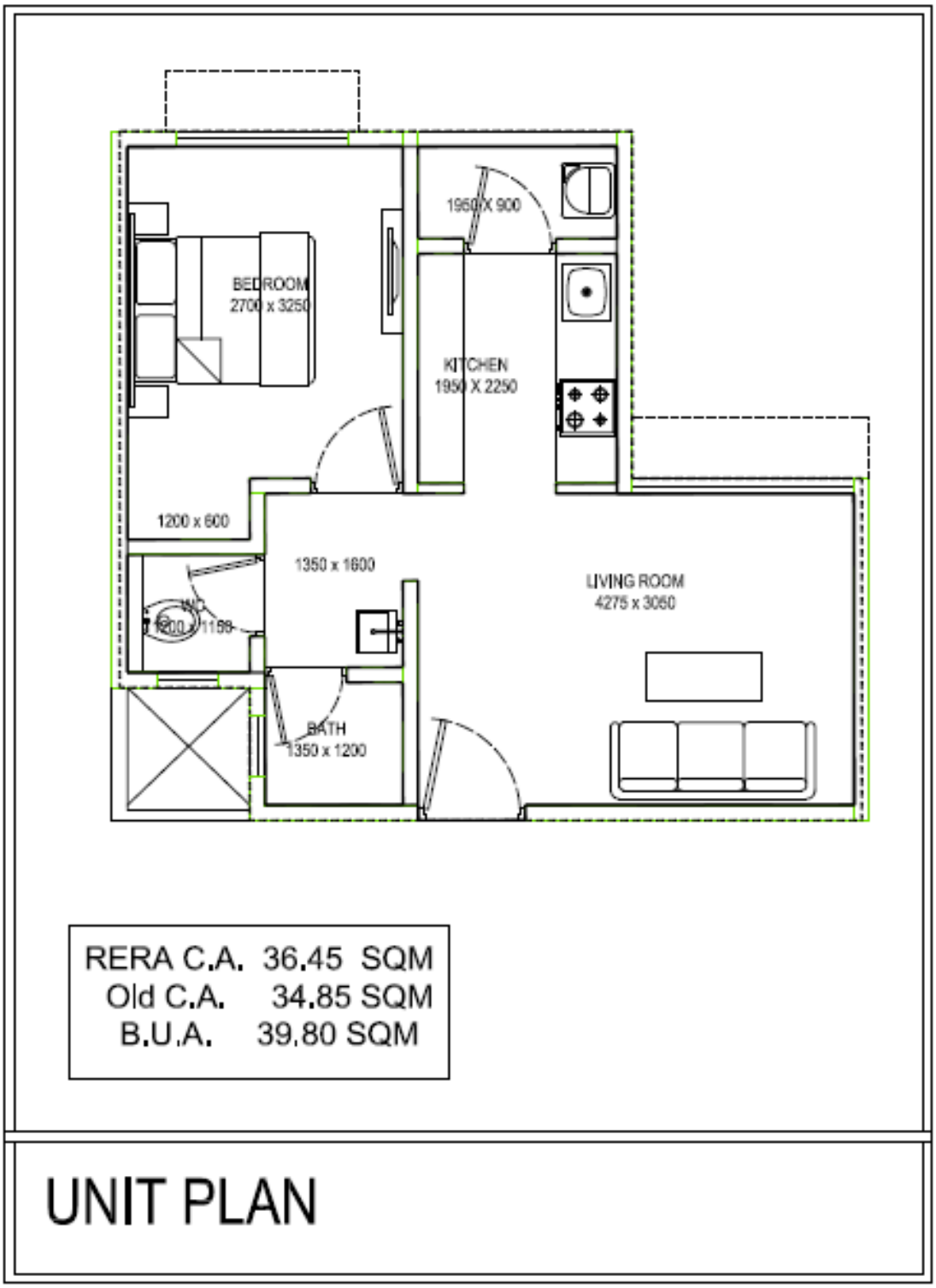
- Housing for support staff can follow govt. handover unit specifications.
- Standard 1 BHK for rent can follow for sale 1 BHK unit specifications.

Sample Plans: Typical unit plans for old CA 29.93 sqm (EWS) and BUA 39.80 sqm (LIG, kept below 40 sm BUA to avoid requirement for 4-wheeler parking) are given below for reference.

In case the unit area needs to be increased or decreased for any new requirement, following guidelines to be followed;

- Minimum width of the bed room needs to be 2700mm
- Utility width should not be less than 850mm
- In BMC jurisdiction, wall frontage for bedroom and living room needs to be min. 2400mm and kitchen needs to be min. 1800mm.
- In non –BMC area reduction should be done (if required) in living room width to reduce area since no min. frontage requirement.


1800 X 650
BEDROOM
2700 x 3050
KITCHEN
1800 X 2100
1200 x 600
1350 x 1600
LIVING ROOM
3300 x 2950
1200 x 850
BATH
1350 x 1200
RERA C.A. 31.43 SQM
Old C.A. 29.93 SQM
B.U.A. 34.42 SQM
UNIT PLAN


BEDROOM
2700 x 3250
1950 X 900
KITCHEN
1950 X 2250
1200 x 600
1350 x 1600
LIVING ROOM
4275 x 3060
BATH
1350 x 1200
RERA C.A. 36.45 SQM
Old C.A. 34.85 SQM
B.U.A. 39.80 SQM
UNIT PLAN

Retail Signage (and frontage) Guidelines

The design of each Retail outlet (RO) includes three major components, each subject to separate guideline requirements. These components are:

1) **Design Control Zone (DCZ) and Storefront**
2) **Signages**
3) **Lighting**

The objective of the Guidelines is to encourage freedom of expression and creativity, while establishing a common point of departure for all Tenants. Each Tenant, its Architect or Designer, Contractor and Representative should familiarize themselves with the intent, scope, requirements and details of the Guidelines. National and Regional Tenants, who have recognizable store designs, are also expected to review these Guidelines and modify their design prototypes to ensure compatibility with and compliance to the following Guidelines. Any modifications of or deviations from these Guidelines must be reviewed with the Lodha Fitouts team and will be subject to approval by the LODHA FITOUTS TEAM.

This Guidelines document outlines the detailed design specifications and guidelines with respect to storefront, signage, lighting, rolling shutter & boardouts, and other considerations as shown in the following sub-sections that need to be followed by the tenant within their outlets in the Mall & High-street locations (referred to as "Mall" henceforth)

1) Design Control Zone (DCZ) and storefront

A zone along the frontage of the shop having a depth of 4 feet from the shop line shall be designated as the 'Design Control Zone (DCZ)'. The DCZ has the maximum impact on the attractiveness of your RO and the entire mall and hence, it is necessary to ensure that the design and materials used in the DCZ are durable and match the quality of the adjacent public space material to ensure harmony in the aesthetics across stores in the Mall. The Lodha Fitouts team shall have right to ask the RO to change any design/material in the DCZ which does not adhere to the general standards of the Mall and the RO shall make the required changes within 7 days of such intimation, failing which the RO shall be deemed to be in 'default'.

Guidelines in relation to the DCZ are:

Overall	a. Retailer to create 3 dimensional integrated and distinctive shopfront that combines innovative displays with imaginative ceiling, flooring, sidewalls lighting and signage treatment in the DCZ. b. In case of malls, Open storefront *(without any glass barriers)* are encouraged, so that the customers walk in the store seamlessly. c. The shop front display must be visually interesting and configured to allow clear sight lines deep inside.
Entrance	d. Door types and finishes, hardware, lighting and even graphic inset into the thresholds all contribute to the entry experience. e. Recessed entrances and bay display windows are encouraged within the

	storefront line in order to articulate the interior storefronts. In such cases, base corridor flooring must be continued through the part of the DCZ which lies outside the recessed entrance. f. The flooring in DCZ must be coordinated aesthetically with the mall common area flooring and levels should be matched with the mall common area flooring. For non-glazed shops, a 5 mm SS separator strip is mandatory between the Mall flooring and the licensee unit flooring g. Glass swing doors and glass sliding doors can be used as a form of closure. Doors will only open inwards. If swing doors, these should be full height and frameless. Door height & width not less than 2200 mm & 1050mm respectively.
Lighting & visuals	h. Down lighting and appropriate lux levels is to be maintained within the DCZ, as per the Lighting guidelines here in below. i. Storefronts, except showcase type, must have a minimum of 66% vision glass. j. Storefronts visible from the upper level must take special care that the tops of storefronts are finished to match the storefront design. There are to be no exposed conduits, raceways, access panels or equipment visible from upper level.
Others	k. Throughout the DCZ, ceilings will be at full height and made from Gypsum. Dropped ceilings are permitted only beyond the DCZ. l. Internal walls must meet external glazing of base building perpendicular to and at a vertical mullion. m. Entire storefront length, except entry doors, to have a minimum of a 6” (150mm) high skirting of SS 306, integrated with the storefront design. However skirting to entry door, if in continuation to glazing, is acceptable
Unacceptable elements	a. Reflective glass (including the use of mirror) and/or tinted glass is not permitted on storefronts or in the DCZ. b. Back of house operations, cashiers desk are not permitted in the DCZ. c. Auspicious hanging elements (lime and chilli, horse shoe, black doll etc.) are not permitted at storefronts or in any customer visible areas.

Sample storefront section and reference images are shown as **Appendix A**.

2) RO Signage

Store signages are vital to the successful functioning of the Mall. The goal is to produce a colourful collage of signs that tastefully inform, delight and stimulate the shopper. Retailers are required to comply with the signage guidelines, as mentioned herein below. Any installed signs that do not comply with these guidelines or are otherwise deemed to be hurting the general ambience of the mall shall be removed by the RO owner/operator within 7 days of notice from Lodha Fitouts Team to this effect. Non-removal after 7 days from the date of such notice shall mean that the RO is deemed to be default.

Overall	a. Imaginative designs which depart from traditional methods are encouraged. Retailers shall have identification signs designed in a manner compatible with the overall design concept of the Mall and as an integral part of the storefront design. b. Unique non-conventional and expressive signage designs are encouraged, and signage should be integrated as part of the overall shop front design. c. Retailers are encouraged use of vertical signage & to develop creative signages integrated within the storefront rather than box signages d. Signage should be incorporated either within the shop front control zone or pop out zone (if specifically provided in the retail building). e. Additional signs could also be considered for units with multiple frontages and/or single shopfront width of more than 10m.
Nomenclature	f. Only registered store/ brand name as stated in the lease agreement will be accepted as the shop front sign. g. Advertising slogans / byelines and other product/brand names are not allowed. h. Only one sign and one brand name per unit allowed i. Signage letters should be legible from a distance when backlit.
Dimensions & placement	j. Signage is permitted maximum of 600 mm height as part of the storefront *(refer Appendix A)* k. Length of primary storefront signs shall be between 40-45% of the storefront/bay span.
Type of signage	l. It is recommended to have a 3D signage. Only the following types of non-lit 3-D signs would be allowed: i. Painted, silk screened, etched or applied in gold/silver leaf to inner surface of glass ii. Raised letters applied to glass or storefront metallic finish (i.e. Brass, bronze, copper) or solid colour letters (i.e. Lacquer coated,

	vinyl coated) iii. Sign/logo etched or cut out of solid material such as mirror, wood or stainless steel iv. Artisan's plaque featured within storefront (bronze, brass, copper etc.) v. Self-illuminated logo or individual letters. (It is advised that extremely reflective signage surfaces are avoided as their visibility gets greatly restricted) vi. Other special sign that is approved by the Lodha Fitouts Team
Others	m. All permits for signage shall be obtained by the Retailer. Fulfilling statutory requirement with regional language font of signage, shall be Retailer's responsibility. n. Transformer for the signage will be placed within the storefront line. o. All signs, bolts, fastenings and clips shall be of hot-dipped galvanized iron, stainless steel, aluminum, brass or bronze. No black iron materials of any type is permitted. The support of signage to be sturdy and neatly finished if they are visible p. The Retailer must provide access from within the store for the servicing and repair of his sign.
Unacceptable elements	q. Following form of signage would not be allowed. • Exposed High voltage neon signage. • Exposed external lights • Continuous Horizontal band signage • Flashing signs • Flat box up sign • Signs/letters with unfinished edges. • Signs with exposed fastening details. • Mobile signs and painted signs. r. Signage with animated components, flashing lights, those painted directly on the bulkhead/ glazing, on demising wall not permitted.

	s. Cloth, Paper, Cardboard, Decal signs flat Perspex signage not permitted t. LCD panels not permitted. Exceptions may be permitted on case to case basis by Lodha fitouts team, with prior written permission, for beauty, wellness and electronics focused ROs. u. Signage with exposed conduit, tubing or raceways, as well as conductors, ballasts, transformers and other equipment not permitted. v. No labels or other identification of the signage maker/fabricator shall be permitted on the external visible surfaces of signs.

Signage samples (acceptable & unacceptable) are shown as **Appendix B**.

3) RO Lighting

The Retailer is encouraged to utilize scientific lighting design principles in order to achieve a Lighting Design that aims to achieve Shopper Delight, Brand differentiation while maintaining heat and electricity loads within optimum range within the premises

The lighting and brightness level in the store interior and shop front is subject to approval of the Fitout Team.

Show window display lighting	a. Show window lighting could be incandescent. However, energy efficient LED, metal halide or CDMT & colour-corrected sodium vapor (3000 Kelvin or warmer) are recommended. b. All light sources including lamps for direct use (down lights, track lights, soffit lights etc.) must be shielded from view. c. All illumination shall be directed away from the mall public space to prevent glare. d. Light levels shall fall within the Range of 1200-1800 Lux in the storefront/ Design Control Zone. e. Retailers are encouraged to incorporate a recessed light through in the drywall ceiling to conceal the display lighting within DCZ. f. Pendant light fixtures, luminous ceilings, chandeliers, wall brackets or glitter strips may be used only if the retailer has established an identity based on this theme or motif, and the use of these elements must be approved in writing by Lodha Fitout team prior to installation
Store interior lighting	g. Lighting level within the store should be varied to create liveliness, focal point and ambience. h. Lighting design and layout needs to be well considered and integrated with the ceiling design, fixtures layout and display. i. All light sources including lamps for direct use or indirect use (cove, sconce etc.) must be shielded from view. j. Fluorescent fixtures shall have parabolic diffusers, either metal paralume-type or acrylic paracube-type. No other lens shall be used except in storage or other areas removed from public view. k. Incandescent fixtures shall have glare-free shielding devices. l. The use of cool white or daylight fluorescent lamps is not recommended in the retail stores. Deluxe warm white (3000 Kelvin) & deluxe cool white (2500 Kelvin) fluorescent lamps are recommended.

	m. All internally illuminated show cases and display cases must be adequately illuminated and ventilated. n. Recommended to have higher lux levels in the periphery of the store.
Other guidelines	o. All light fixtures shall be glare free. Light sources shall not be visible from the Mall corridors. p. No lighting, whether temporary or permanent, shall be installed outside the unit for any purpose. q. No strobe, spinner or chase-type lighting shall be used. r. All lighting shall comply with the applicable local and national codes and regulations. s. All fixtures should be first class quality. Chokes, ballasts, if used, should be electronic. Use of any types of induction chokes is not permitted. t. In the distribution box, use of only MCB or ELCB is permitted. Please do not use isolators. It is recommended that the distribution boxes have a masking cabinet with louvered shutters. u. Emergency lights shall be laid out to cover the entire shop and should be built into the ceilings design.

4) **Rolling Shutter**

a. SS, White or black color only. Motorized chain and link rolling shutters are mandatory.
b. Motor to be power back-up with UPS / inverter. Opening mechanism (Key / push button) to be installed at the inner side of the façade and not in the front.
c. Opaque/ solid/ perforated panel shutter not permissible.
d. The guide of shutters will be as slim as possible, workmanship to deliver clean lines, painted properly and preferably to be concealed with small detailing of a panel
e. All rolling shutter designs will be prior approved through Lodha Fitouts Team

A sample representation for rolling shutters is shown as **Appendix C**.

5) **Board Out Procedures – for use outside RO frontage during fitouts**

a. The Licensed Units must be enclosed and sealed on all sides immediately upon the start of fit out with a temporary eco-friendly vinyl hoarding mounted. The design of this shall be approved by Lodha Fitouts Team. The size shall be based on the storefront.
b. A wooden framework is to be erected by Licensee with 6mm marine ply from Mall Corridor side, 600 mm away from the Lease Line forming with C shape, ending at neutral piers. An openable & lockable Door of size 2100 X 1200 is to be prepared and fixed within the board-out panel (if the store has no back entry). Flex to be made taut and stapled on the same very neatly and evenly.
c. Flex can be removed only after written clearance from Lodha Fitouts Team once the fit-out is completed
d. The Board out must have an access created for ingress and egress to the store in case of all Inline Retail stores and other stores without service entrances.
e. The graphic must indicate that the unit would soon be opening

f. Contact details, E-mail address, web links and Telephone numbers are not permissible in the graphic design.
g. The LODHA FITOUTS TEAM will maintain a duplicate key to the lock and does not need to seek permission to inspect the store at any time during the fitouts.
h. Flex to be mounted in three parts preferably as shown in drawing in **Appendix D**.
i. Flex to be fitted tightly and covering entire storefront.
j. Dimension of storefront to be measured by retailer's vendor before printing the flex.
k. A wooden frame to be put without nailing to mall floor. Mall finished floor, ceiling must not be damaged.

A sample representation for boardout creative and fixing details are shown as **Appendix D**.

6) Unit number display on storefronts (if applicable):

- All retail stores should sport their unit numbers on their storefront, if applicable as per laws.
- These will be in grey / white/ dark grey colour vinyl letters 75 mm in height Arial font only and top right hand corner of storefront when you stand in front of the store.
- Note - Unit numbers will be written in the following manner – floor nomenclature followed by a dash followed by unit number. There should not be any space in between. For example 0-18

References for other developers

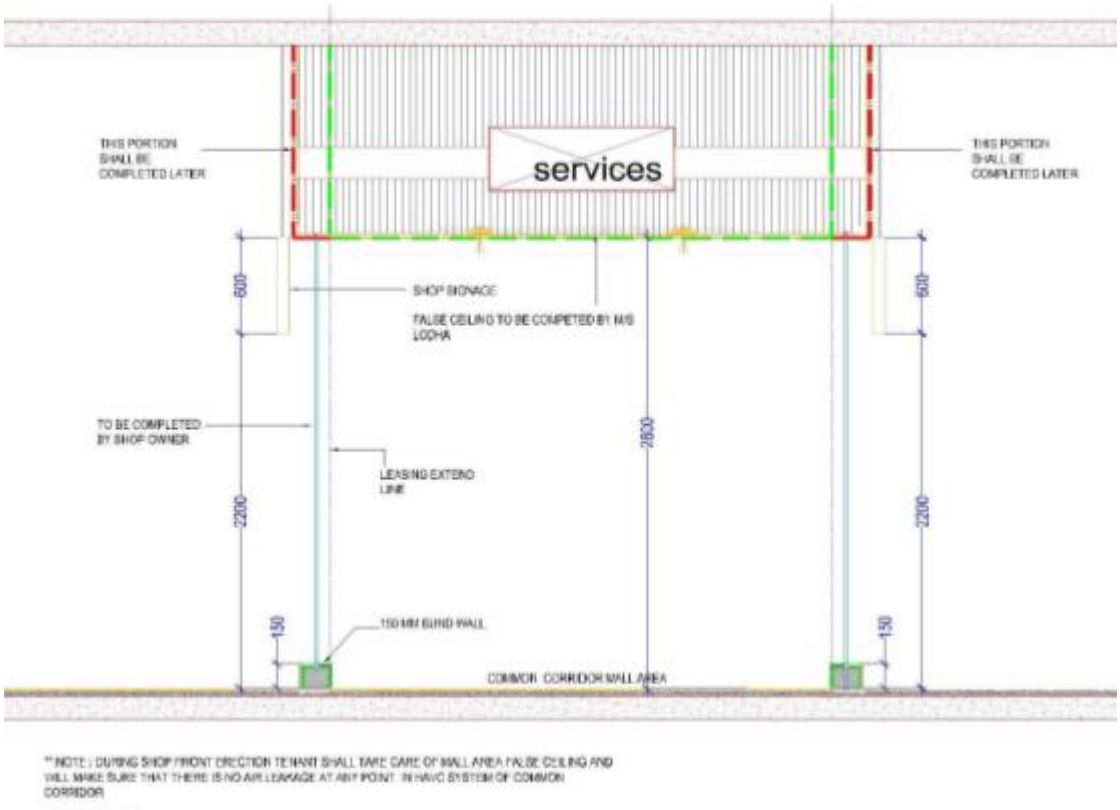


DLF - Retail


Phoenix Grou

Appendix A: Store front

Sample storefront section



Sample reference images













Appendix B: RO signage

Acceptable types of signages (for representation purpose only, not exhaustive)









Unacceptable types of signages (for representation purpose only, not exhaustive)







Acceptable type of food-court menu boards



Well-designed menu boards with dark background and light text are encouraged.



Low light level integrated LCD screen illustration

boards



Overly embellished menu frame



No surface mounted tracklight



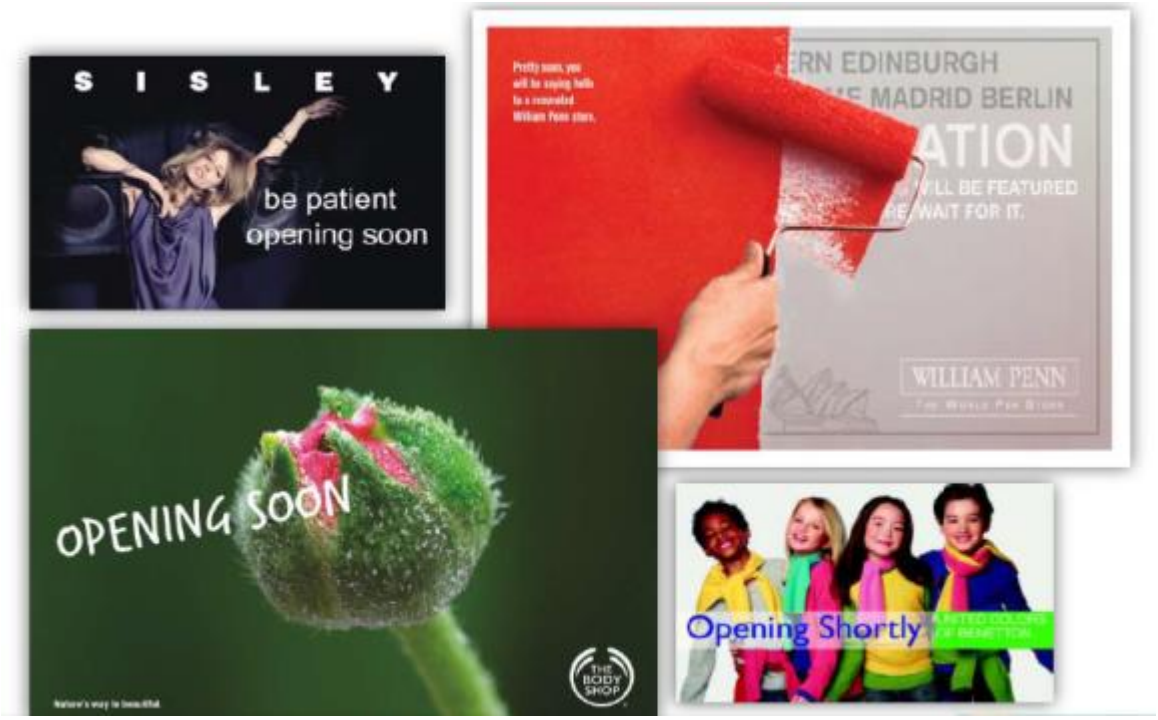
Overly lit, multicolour menu boards with over 40% illustration.

Appendix C: Rolling shutter

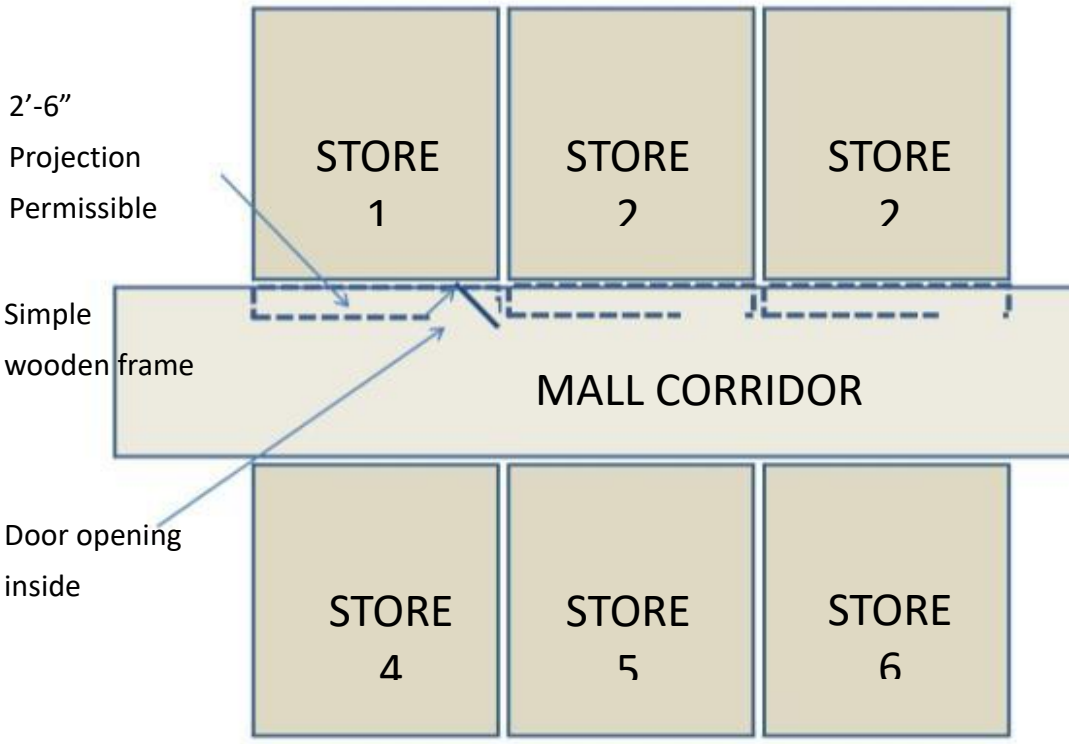


Appendix D: Board-out

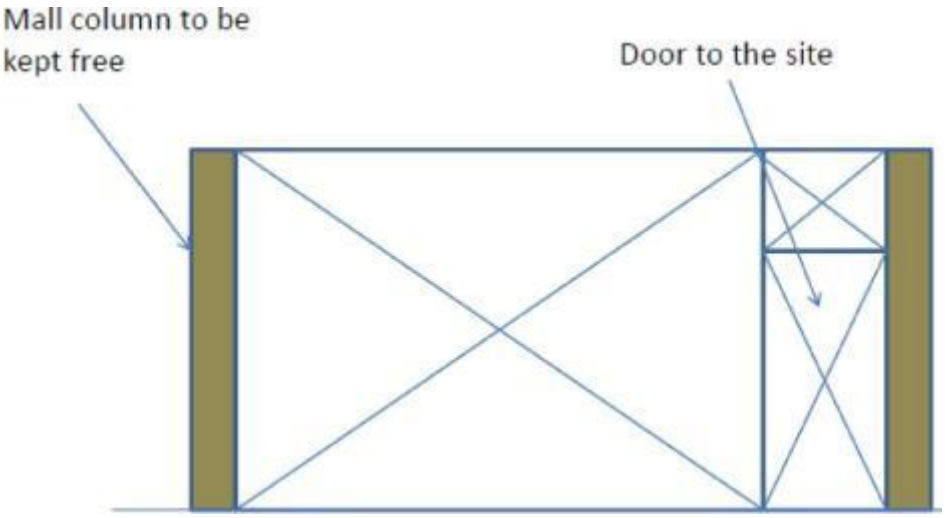
- Creative options



- Sealing of a typical store with boardout:



- Fixing flex of a typical store boardout:



Standard brief for Sample office in Supremus Projects

Objective

1. To showcase the Supremus product to clients and help bring to life the USPs compared to other projects (a sample office will be needed in each Supremus project with saleable value > 200 cr.)

Timing: To be ready along with the entrance lobby (see '*KCA timelines policy*')

Location: In actual building -

1. Ground or 1st floor (to avoid dependence on elevators)
2. If elevators is not a constraint, on a floor with refuge terrace.

What is to be ready along with the Sample office:

1. Entrance lobby
2. Common toilets on the floor
3. Floor lobby
4. Refuge terrace (if located on a refuge terrace level)

Requirements for inside the sample office:

1. Owner's cabin
2. Reception desk and waiting area for 1-2 people
3. Pantry
4. Owner's toilet (inside office or in core, as located)
5. Seating (cubicles or desks) such that no. of staff seats = saleable area of unit/100
6. 6-8 pax. Conference room (if feasible) with video conferencing facility
7. Design should be vastu compliant
8. Design should have some technology wow elements

Please note that:

a. These offices are generally sold bare shell and hence, the interior can be rich/plush (follow KCA costing norms)
b. The specific sample office will be sold 'as finished' and is to be marked as such in the allotment list (same practice as followed for sample flats which are located in the actual building)

Allotment List format

Marketing Project	Building (if applicable)	Wing	Unit No.	Unit Type	Carpet Area (sq. ft.) (A)	EBVT area (sq. ft.) (B)	Net Area (sq. ft.) ((A) + (B))	Net Area (sq. mtrs.)	Gross Weight (sq. ft.)	Any other areas eg. Garden areas for units exclusive use (sq. ft. carpet) ^	No. of car parks allotted to unit (basic)	No. of 2-wheeler parks allotted to unit	No. of car parks allotted to unit (Additional for Value)	Car park details
													To be filled in by CC	< Car / 2-wheeler Park No.; Car Park/ 2-wheeler No.> (for as many car parks as allocated, details separated by ; to be put into SFDC by CC basis Parking Allotment Plan given by Design)

Carpet Area and Exclusive balcony/verandah/open terrace area calculated as per RERA norms on bare shell basis (i.e. prior to application of any finishes) and as per applicable Lodha policy (eg. Round up to nearest 9 if GW is NA eg. retail).
^ These areas are not to be stated in application form / agreement / any other formal or legal document. This is only for knowledge of sales team and customer.

Notes

a. For 'Unit Type' use marketing nomenclature eg. 1 BHK, 2 BHK petite, 2 BHK etc for residential; similarly for offices it is for Supremus - Growth, Expansion, Large, Corporate and NA for other type of offices.

Guidelines for provisions to enable Festive lighting

This policy is applicable to all locations with retail developments (mall or high street). The provisions to enable festive lighting should be made during the design stage itself (in the structure, façade and street lights) to enable the festive lighting to be executed at limited additional cost/ as and when required.

Decision on which areas to enable for festive lighting should be made in discussion with RCEO/Director-Design by the Architecture team at the time of concept design itself. Generally, lighting will be done in select high visibility areas with significant human flow/footfalls. The festive lighting period is generally from Navratri (Sept/Oct) to early January (just after New Year). During the rest of the year, provisions (storage) should be available to store some of the festive lighting equipment/materials (eg. Catenary cables, decorative light and other fixtures).

Festive light can be done using two separate systems:

a. Catenary lighting
b. Installations on street light poles

and/or any combination of these.

Provisions:

Arrangement to be made on both sides of the road / area to be 'festively' lit.

1. catenary hooks – preferred:
    a. Hook locations: at height of 6.5 m (above fire tender Row) -10 m above adjacent road level, at distance of 6-10 m centre to centre.
    b. Load of 200 to 250 kg to be considered per catenary.
    c. Hooks be corrosion proof. These shall be either suitably galvanised or shall be in stainless steel of suitable grade especially at projects that are near to the sea.
    d. Power and data connections to be provided near each hook. All such junction boxes, connections should be exterior grade and suitably weatherproofed (see '*Electrical and Data Provisions'* below)
2. Street lights - to be used for catenary cables if catenary hooks are not feasible to have on a given side of the street:
    a. These street lights have to have hooks at height of 6.5 m + (in line with height on other side of the street).

b. All other requirements as above.

c. Even if catenary hooks are available on both side of the street, street lights can be used for additional decorative fixtures (other than catenary cables) in which case their height need not be as tall as 6.5 m above adjacent road level.

Electrical and Data Provisions

- 2 numbers of 16 AMPs power points & 2 numbers of cat5 data points required for every hook/pole.
- The data and power points to be ideally located in a junction box in the column at the height closer to the catenary cable junction. Alternately these can be through a suitably whether proof flying lead junction.
- The power and data points from all the columns / cross street wires to be terminated in a common junction box located at a central location.

Tips/Learnings for design of the actual festive lighting

Methodology

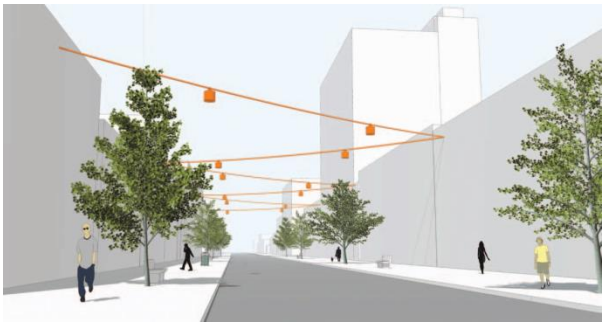
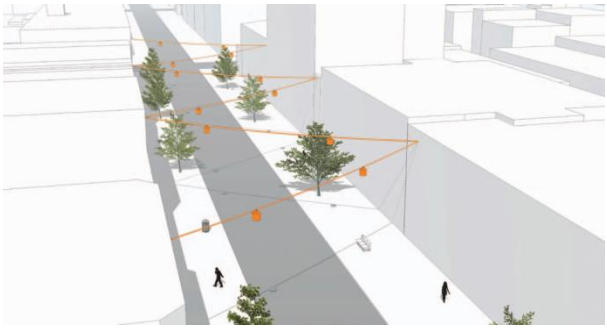
- Engage a professional festive lighting designer.
- Festive lighting could be done in the following ways
    - Motifs / lighted elements above and across the street.
    - Lighted installations along the sidewalks or along the median.
- Any part / element of the lighting arrangement or its infrastructure should not obstruct the regular movement of vehicles, pedestrians, emergency vehicles, service vehicles.
- If the street is designated as a fire tender pathway, this shall be left clear at all times. The clear height for fire tender movement which is 6M above the finished road surface shall be followed.
- In case of streets that are already finished, efforts should be to use existing foundation and infrastructure for existing street light poles or building façade.
- Catenary lighting
    - Catenary cable arrangement can be either double, single, or a combination of both depending on the design.

- Catenary cables can be supported on suitably designed poles on either side of the road or by deriving suitable supports from the building facades on either side of the road or a combination of poles and façade support. When building façade are used to adequate care should be taken to place the catenary anchors within the façade at design stage itself.
- Catenary cables and accessories for tensioning and supporting the lighting fixtures to be corrosion proof. These shall be either suitably galvanised or shall be in stainless steel of suitable grade especially at projects that are near to the sea.
- Suitable option to dismantle the cables and store, during the non-festive seasons should be explored and implemented.
- All lighting elements, motifs, lamps, etc. should be weatherproof. These should be fixed firmly to catenary wires with suitable fixing accessories.

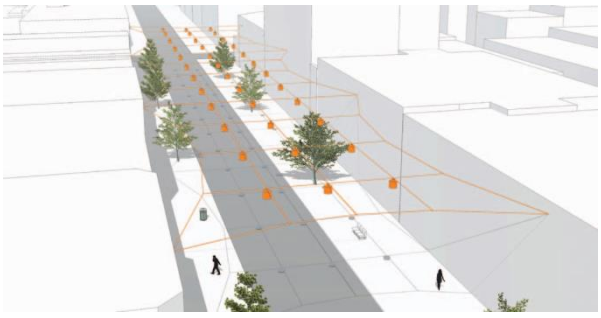
Refer to (annexure – 1) for examples of catenary systems, lighting types, connection methods.

Annexure – 1

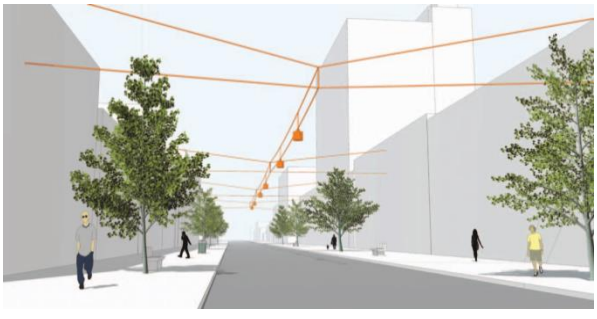
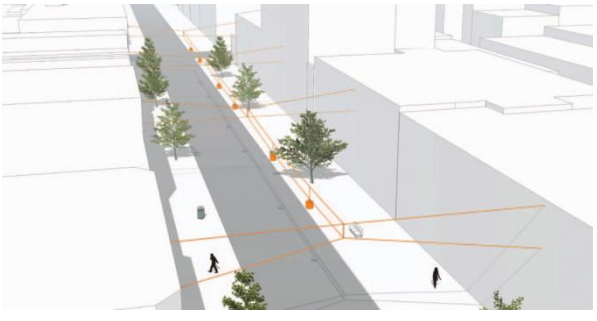
Types of Catenary grid systems

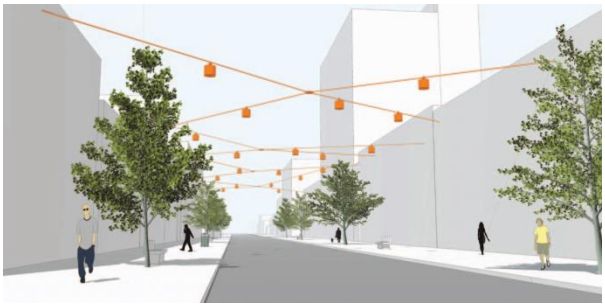
Single cable catenary – Used across narrower streets, where supports can be derived at regular intervals.

Linear grid Catenary – Used across broader streets where multiple rows of lights are required. The supports may not be at regular intervals.

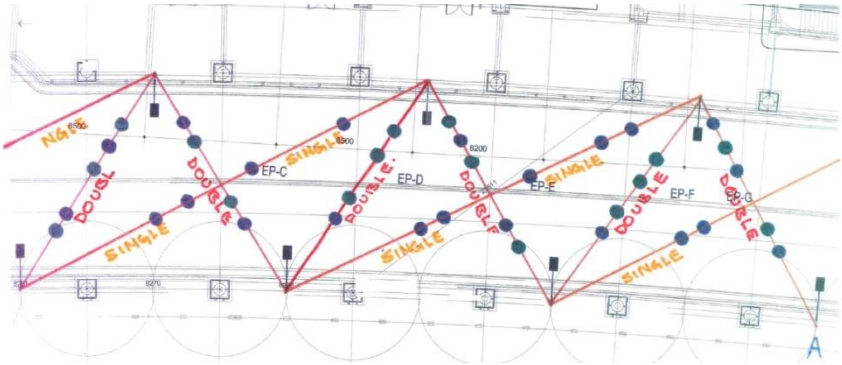



Central spine Catenary – used for lighting the centre of the street. Double catenary wire system is also more stable against wind loads.





Random grid catenary – Used where supports available are irregular in geometry and the placement of lights is random in design.

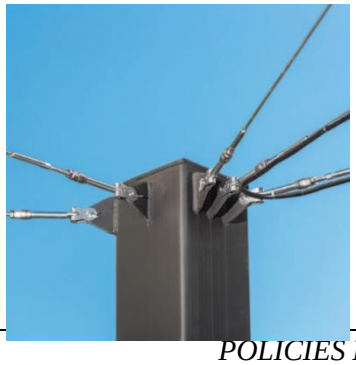


Mixed grid layout – A combination of single and double catenary system. Catenary systems can be mixed depending on the specific requirements of the project. The double catenary system serves as the principle grid for larger lighting elements, whereas the secondary single grid supports smaller lighting elements.

Catenary Connections

Catenary cables can be connected across street to either poles or building façade using suitable connections held with anchors or welded depending on the surface.





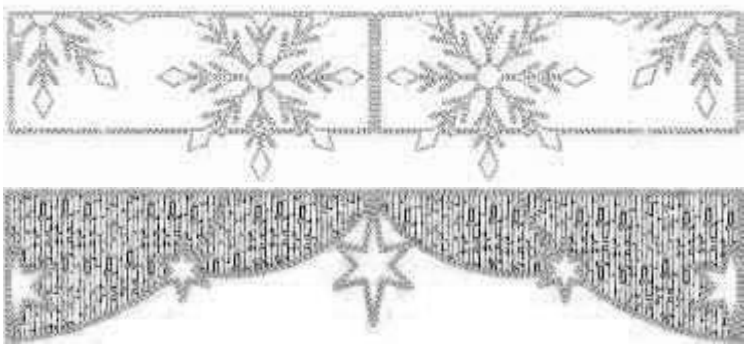




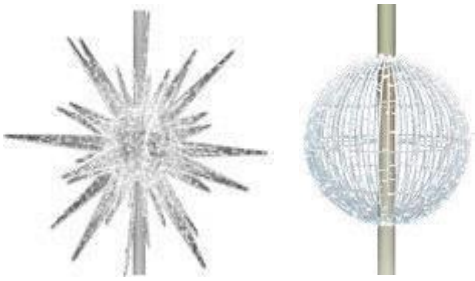
Typical Façade connection

Typical Column connection

Lighting



Cross Street motifs – these are frames that are lit with LED lights, tubes etc. fixed across the main street at regular intervals. Framed motifs are generally fixed over double catenary wire to prevent movement due to wind.



3D Elements – these are lighted elements in various forms which can be fixed to columns or hung from catenary cables. These can be fixed between the two wires of a double catenary to prevent movement due to wind.

Guidelines for elevator interiors:

1. To be read along with '*Standards for Elevators*' (MEP Design policy).
2. The Weight of the finishing** shall be considered and informed to the vendors at the time of procurement if lift is being ordered as bare shell.
3. Once the interior design of the car has been finalized than same shall be shared with the lift vendor to check if it has any impact on the ventilation. It shall be the responsibility of the ID team to ensure that the lift ventilation is not impacted negatively by the interior design.
4. Projects where the elevators are supplied bare shell for further finishes by the ID Contractor, following actions shall be ensured:
   i. ID Design team shall share the ID intent with MEP/Elevator vendor and the ID Design/MEP/Lift Contractor shall sign off the cabin ID drawings prior to floating of the Cabin ID tender
   ii. ID execution team shall ensure that under no circumstances, grilles/openings provided on the elevator bare car ceiling shall be covered/closed either partially or fully during fit outs.
5. Finishes of lift should be as follows:

<table>
<tr><th></th><th>Passenger Lift*</th><th>Service Lift</th></tr>
<tr><td>Luxury Resi</td><td rowspan="2">Interior – Bare Shell**; Doors – SS;
Door Height – 2.4 m
Cabin Height – 2.7 m (clear, after finishes)</td><td rowspan="7">Interior – MS Powder Coated
(SS interiors may be considered for Hi-end and Luxury residential, Supremus and Excelus office);
Doors - MS Powder Coated;
Door Height – 2.2 m
Cabin Height – 2.7 m
(Also applicable for Aspirational residential > 60m)</td></tr>
<tr><td>Hi-end Resi</td></tr>
<tr><td>Aspirational Resi</td><td>Interior – Bare Shell**; ; Doors – SS;
Door Height – 2.1 m
Cabin Height – 2.4 m</td></tr>
<tr><td>Casa Resi</td><td>Interior – SS; Doors – SS on ground/main entry level and MS Powder Coated on all other levels;
Door Height – 2.0 m
Cabin Height – 2.3 m</td></tr>
<tr><td>Experia Retail</td><td>Interior – Bare Shell**; Doors – SS;
Door Height – 2.1 m
Cabin Height – 2.4 m;
This does not cover any 'show / panoramic lifts, which shall be as per Designer's specifications</td></tr>
<tr><td>Boulevard Retail</td><td>Interior – SS; Doors – SS;
Door Height – 2.1 m
Cabin Height – 2.4 m</td></tr>
<tr><td>Excelus / Supremus Office</td><td>Interior – Bare Shell**; Doors – SS;
Door Height – 2.4 m
Cabin Height – 2.7 m (clear, after</td></tr>
</table>

	finishes)	
iThink Office	Interior – SS; Floor – Customized Finis; Doors – SS; Door Height – 2.4 m Cabin Height – 2.7 m (clear, after finishes)	

All dimensions are bare dimensions i.e. prior to any finishes being applied, except if otherwise noted. Finishes should be applied in thoughtful manner such that any dimension is not reduced by > 240 mm.* All passenger elevators to have provisions for mirror.

Also TV/equivalent installation displaying news and other relevant information, as well as acting as an advertising display medium, to be considered in passenger lifts for non-residential buildings if same if available at no/low cost through agency which manages it and makes money through the advertising potential.

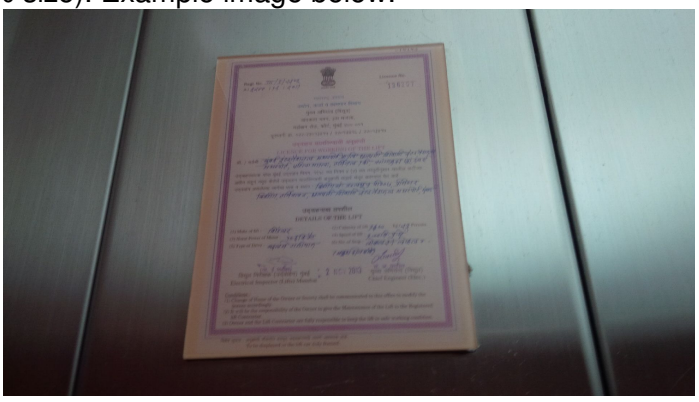
** Interiors to be appropriately designed in floor, ceiling and sides by same interior designer who is handling the other Key Common Areas –

i. It is desirable to have some design element on the floor (not just plain slab of stone) and the flooring material should be chosen taken into account the fact that lift is going to be subject to wear and tear due to continuous usage.
ii. Piped music provision to be made.
iii. The weight of interior shall be 300 Kg for buildings < = 70 m high and for building > 70 m high, it shall be 500 Kg, in order to keep the weight of the lift reasonable and therefore, control motor and cable size/costs.

In case of Aspirational or Casa residential projects with specialist interior designers (alliances), the lift cabin (interiors and doors) shall be as per the standards for hi-end residential.

*** For MS interiors or doors, a scratch resistant coating / thicker paint which will reduce the amount of damage is to be used. Further, in those cases where interiors are SS and Door is MS, attempt should be made to match MS paint finish color with the SS.

6. All elevators should have provision (pre-provided frame – metal or acrylic) for installation of lift certificate. Size of the frame will be 5' x 7' (to be able to fit A4 certificate which is color copied at 60% size). Example image below:



Reference image for lift certificate display with pre-provided frame at Mumbai International Airport 2015.

7. Any other stickers / instructions inside the elevator should be avoided.

Occupation Certificate Requirements

It has been observed that when projects are moving towards possession, while attention is given to the aspects which are customer oriented, not enough attention and focus is given on issues which are mandatory from perspective of Occupation Certificate (OC).

Once OC is received:

a. Indirect taxes like ST and MVAT are not applicable, giving significant boost to sales.
b. Customers can be forced to take possession, improving fund flow
c. CAM start can be mandatorily initiated avoiding loss due to delay in mandatory CAM start.

Given these benefits, our goal is to achieve OC 30 days prior to target of 'Date of offer for Fitouts' and at latest, within 60 days thereafter.

It may be noted that to achieve OC, the requirements are less stringent than those to initiate 'offer for fitouts' eg. Finishing related activities and KCA/landscape completion is not important. Thus, achieving OC before 'Date of offer for fitouts' is certainly possible but it requires special focus on:

a. Envelope closure i.e. Windows, railings and Painting/Façade works (even if Façade cladding works are partial but doesn't look 'too incomplete' from outside side, it is feasible to get OC).
b. CFO requirements i.e. fire fighting system, fire tender access around building and lifts (generally all lifts, but min. 2 including service lift).

From process perspective, general timelines are:

a. CFO NOC – 15 days after CFO requirements are complete
b. OC – 15 days after CFO NOC

Hence, it is required to:

i. Complete CFO requirements (see below) - 60 days before target 'Date of offer for Fitouts'
ii. Completion of other OC requirements (see below) - 45 days before target 'Date of offer for Fitouts'

CM Incharge of project is responsible for coordinating closely with Liaison in last 3 months before target 'Date of offer for Fitouts' and making liaison aware of progress against i. and ii. Above and get them to begin paperwork in a timely manner. **To initiate this process, CM Incharge will inform the Liaison Incharge of the plant 3 months prior to expected date of OC and liaison Incharge will conduct detailed site visit within one week of such intimation and discuss with CM incharge on how to meet the CFO and OC requirements in a timely manner (and also clarify on any special requirements).**

CFO NOC requirements:

a. Lift PWD certificates (generally all lifts, min. 2 lifts including fire lift)
b. Sufficient power availability for testing of fire pumps, lifts and STP.
c. Sprinklers on all floors (as per CFO NOC requirement)
d. Rescue/lowering device (if applicable)
e. Entire fire tender path from main access road to the building for which OC is being sought to be ready & motorable for fire tender.
f. Readiness of refuge area
g. All other works for CFO NOC completed in wing and related parking area.

Other OC requirements (other than CFO NOC):

a. Adequate parking (as per approved plan, not design plan) for the buildings under possession. If such parking is covered, CFO NOC for that area shall be required.
b. Storm Water Drain connected to municipal drain.
c. Operational STP (or if not applicable, completed sewage connection to municipal sewer) and Consent to Operate from MPCB. Consent to Operate requires about 2 months post STP operationalization and hence, STP has to be ready 2 months prior to OC
d. Tree plantation / transplantation as per Tree NOC.
e. Completion of any flats or amenities (eg. ULC Flats, Rental Building, GCP) which are required to be handed over to government in that complex – if all cannot be ready, atleast in proportion to the area for which OC is being sought.
f. Water supply and rain water harvesting system completion.
g. Solar water heating wherever required.
h. Levelling/ filling and compound of the amenity / reservation to be handed over.
i. Road completion as per Municipal norms.
j. In case of bare shell OC, following finishing works have to be specifically completed within the building (stated specifically since we generally don't do much finishing works in a bare shell building/unit):
    a. Main door of unit
    b. Internal partitions for kitchen and toilets (can be made with dry wall / similar)
    c. Flooring and finishing of lift lobby, including service lobby (if any) (ground floor and all habitable floors)
    d. Staircase flooring and finishing (all floors)
    e. Water tight enclosure of the units from external facade

Design tips to optimize unit layout and finish prior to DD finalization (not only at time of DCU)

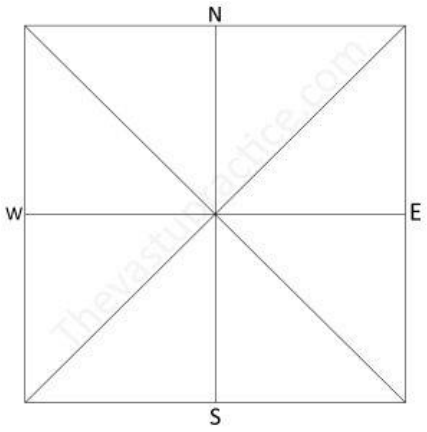
1. Minimize 'wasted space' in unit, especially passage. If passage is necessary, try to have outside unit (in common area), rather than inside (in carpet area)
2. Residential room sizing guidelines to be followed.
3. Kitchen setup design to be finalized
    a. Sink – size and location
    b. Exhaust
    c. Refrigerator space
    d. Location of sink, hob and refrigeration vis-à-vis each other
    e. Storage sufficiency
    f. Pipe-gas/Cylinder provision
4. Toilets
    a. Try to have door entry such that standard layout is feasible
    b. Avoid ledge wall
    c. Avoid wall mounted basin tap (can be basin mounted)
    d. Location of the fitments
    e. Try to get 'usable' counter around basin (not applicable for Casa and LQH)
    f. Tile wastage and optimization + review of floor v. vertical joints
5. Electrical
    a. DB and ELV box location to be discreet and should not negatively impact interiors
    b. Avoiding column chasing for wiring where possible (Structure and MEP teams to work together to see how to optimize)
    c. Study of light points in all rooms (including kitchen and bathroom) vis-à-vis furniture/usage.
6. Location of intercom / Video doorphone (as per policy) such that it doesn't have a negative impact on interiors.
7. Bathroom layout to be done to optimize utility of the bathroom (eg. Sufficient space for each equipment, maximum counter length, minimize/eliminate ledge wall, share vertical pipes with other nearby toilets if feasible)
8. Furniture layout to be done for every room to ensure that room is usable (furniture fits, sufficient space for movement, sufficient storage, reasonable privacy, good light and ventilation)
9. Cupboard niche
    a. Ensure that it is sized as per standard cupboard sizes in market and with sufficient tolerance for civil variance + punning (~20 mm on each end)
10. Location and detail of door stoppers (if applicable) to be finalized; avoid door on door openings.
11. Water proofing details and pipes/fittings details to ensure that there is no internal leakage.
12. Flooring layout and junctions where one material / room ends and other begins. Optimize wastage to be finalized.

Vastu for Plots
Source: http://www.thevastupractice.com/vastu-consulting-services/vastu-for-plots/

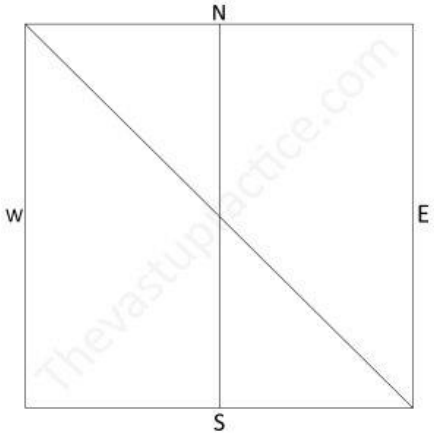
The location and shape of the plot is the most important part of the building process because it what determines the nature of the synergy between the owner and the cosmos.

Vastu for Plots

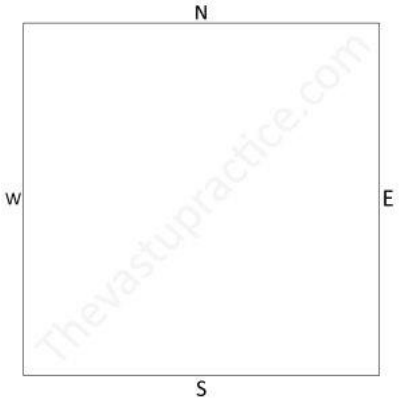
1. Plots which are oriented towards the cardinal directions are preferable. ie: North, South, East, West. This is called a **Cardinal Plots.** In this kind of a plot, the magnetic axis of the plot is parallel to the earth's magnetic axis.



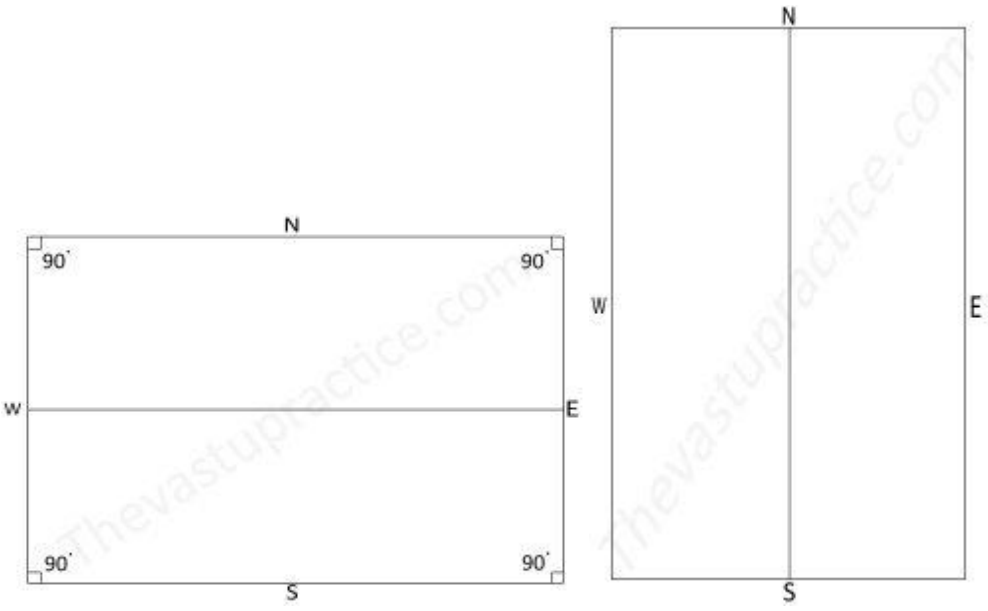
2. However when the cardinal directions come in the four corners of the plot, it is called a **Vidishaplot** In this kind of plot the magnetic axis of the plot makes an angle with the earth's magnetic axis.



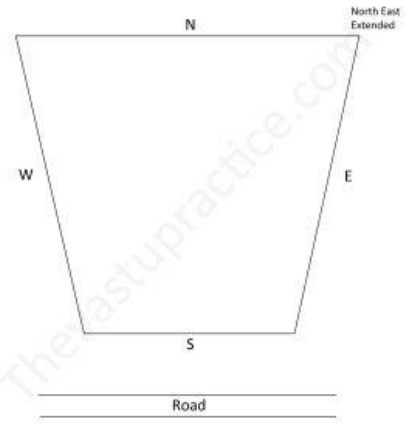
3. **Square plots** in which all four sides are equal and have all the angles of 90 degrees are the best plots. The Vastupurusha fits best in square plots and brings prosperity and happiness.

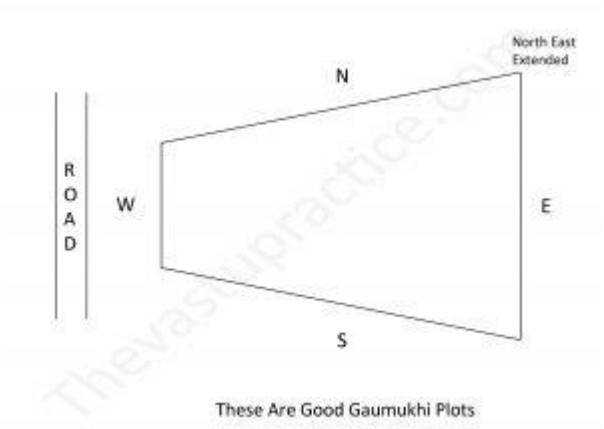


4. **Rectangular plots** in which opposite sides are equal and all four angles are 90 degrees are also very good plots. The ratio of width to length should not be more than 1:2. If the East-West axis is longer than the North-South axis, it is very auspicious.

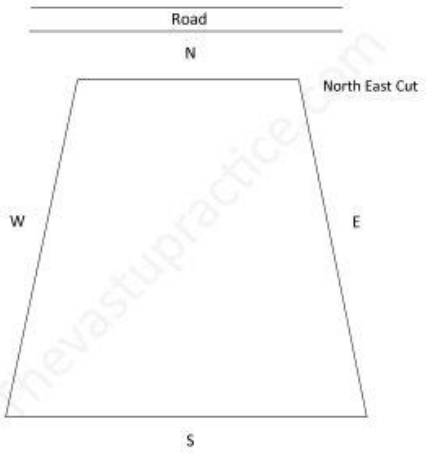


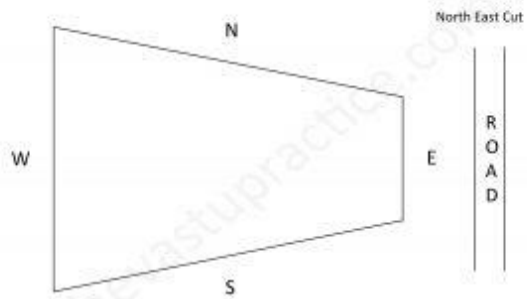
5. Plots which are narrow in front and broad in the rear are called **Gaumukhi plots**. Such plots are suitable for residence when the broad part is in the North-East and roads are on the Southern or Western sides. If the narrow part of the plot is the North-East then it is inauspicious.





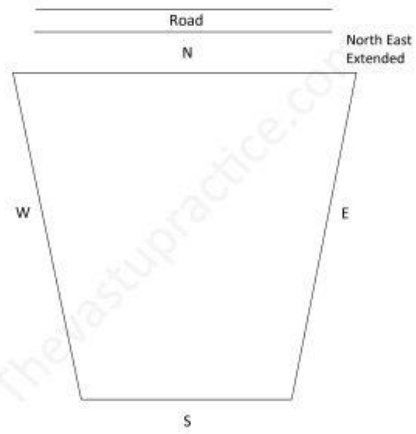
These Are Good Gaumukhi Plots

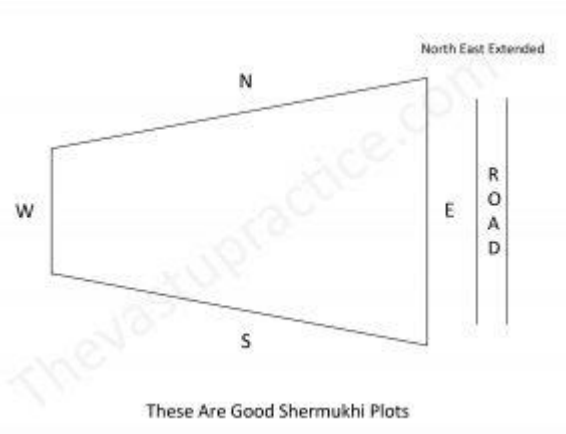




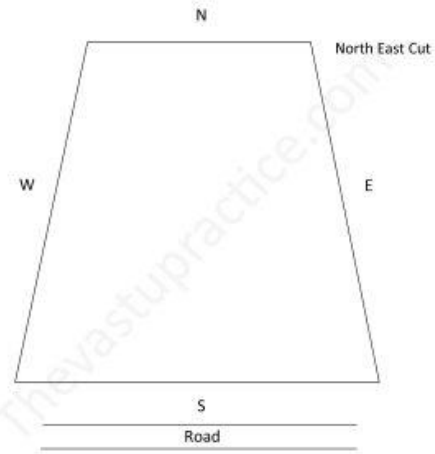
These Are Bad Gaumukhi Plot

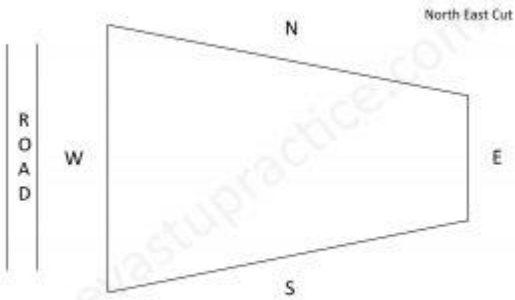
6. Plots which are broad in the front and narrow in the rear are called **Shermukhi Plots** or **VyaghraPlots**. These plots are suitable for **commercia**l purposes provided the broader part is in the North, thereby extending the North-East, and the road is on the Eastern or Northern side.





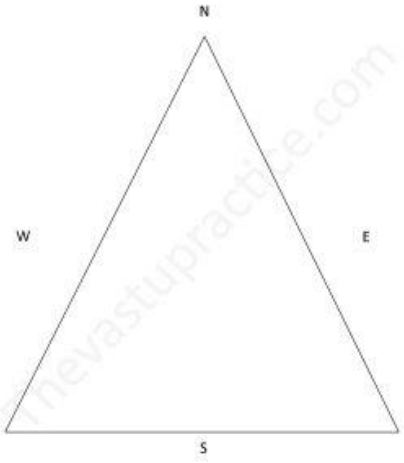
These Are Good Shermukhi Plots

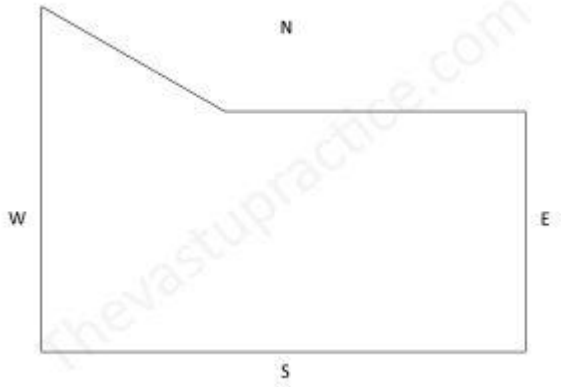


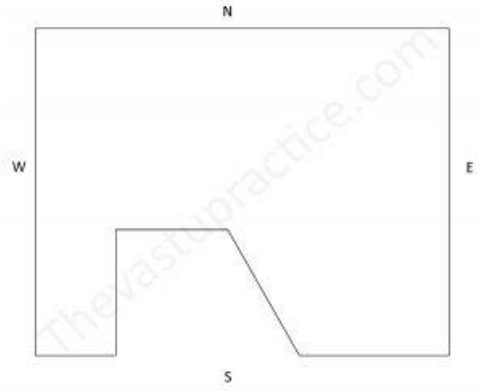


These Are Bad Shermukhi Plots

7. **Triangular plot** and other **irregular shaped plots** are **inauspicious** because they emit negative energy. Owners of such plots should make the necessary Vastu corrections and try to make the plot into a square or rectangle.



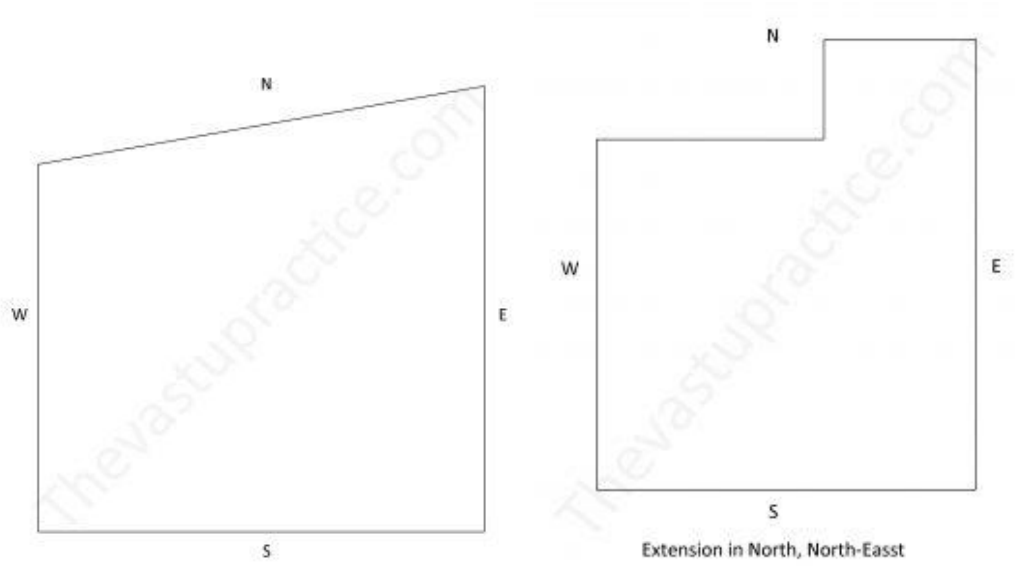




8. Very often there are plots which have extended or reduced corners or directions.

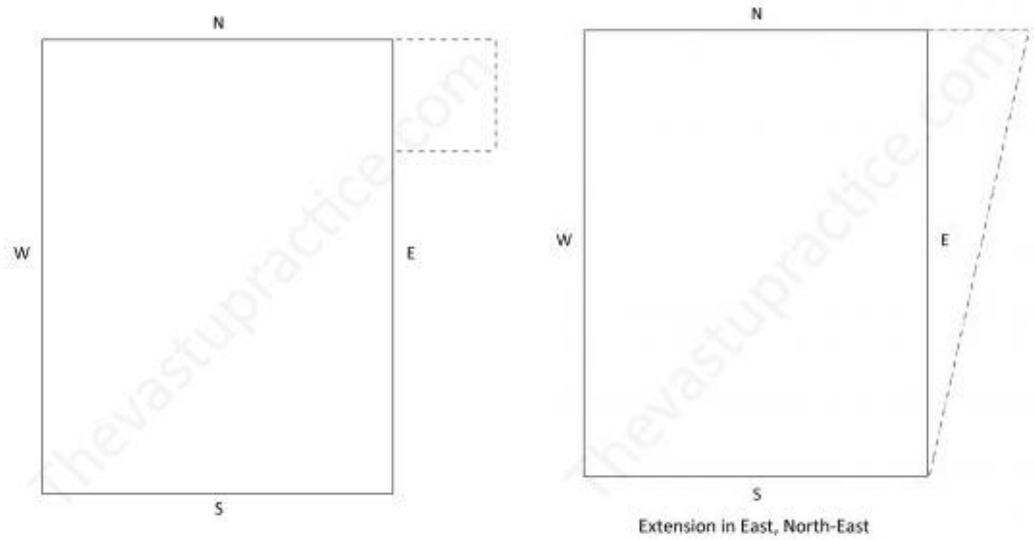
   These **extensions or reductions** definitely have a positive or negative impact as the case may be on the owner and his family. Extensions are favourable and auspicious only if they are in the following directions:

   - **North-North-East**



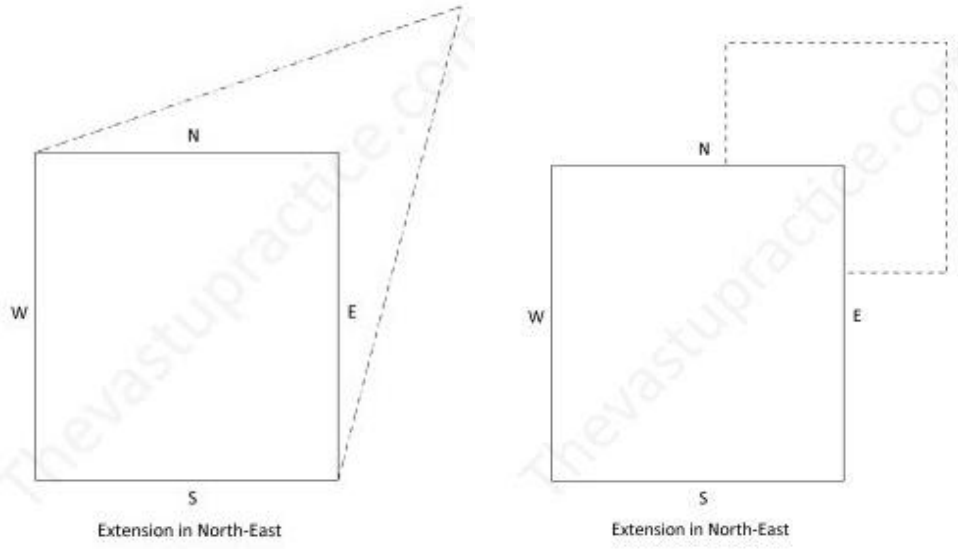
Extension in North, North-Easst

   - **East-North-East**



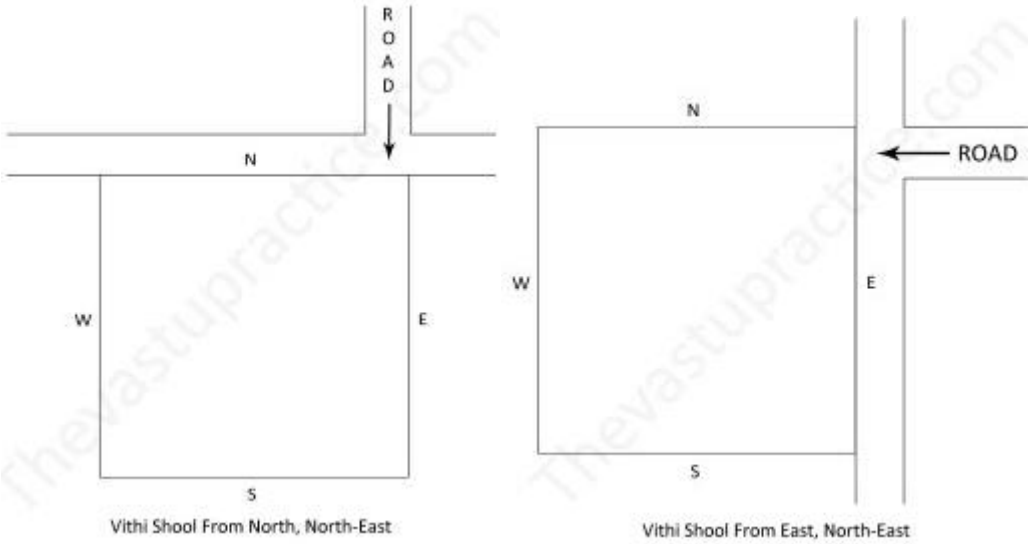
Extension in East, North-East

- **North-East**



It thus follows that any reduction in these directions is very inauspicious.

9. Some plots have a road that thrusts right into the face of the plot. This is known as **Vithi Shool.** Vithi means road and Shool means arrow. This kind of a road points concentrated energy into the site. This energy can be positive or negative depending on the direction from which it is coming. **It is positive only when it is coming from the North-North-East or East-North-East.**



10. A plot with **roads on all four sides** is most auspicious for residential and commercial purposes. Doors can be fixed on all four sides in the auspicious grids.
11. A plot with **roads on three sides** are of different categories:
    - A plot with roads in the North, East and West with the South closed is auspicious for residence and commercial purposes.
    - A plot with roads in the North, South and East with the West closed is good for commercial purposes.
    - A plot with roads in the East, West and South with North closed is good for residence and for commercial ventures run by women.
    - A plot with roads in the North, South and West with East closed is good for commercial purposes but a medium category for residence.
12. **A plot with roads** on two sides can be corner plots or plots with roads on opposite sides. These are of the following categories:**Corner plots:-**
    - A corner plot with roads in the North and East are excellent and auspicious plots. These are called **Eshanya plots**.
    - A corner plot having roads in the North and West are **Vavaya plots**. Care should be taken that the South-West corner of the plot is higher than the North-East and construction is done according to Vastu principles.
    - A corner plot with roads in the South and East are called **Agneya plots**. These are not good plots. The excess of fire element in this plot leads to financial and other mental problems and is especially bad for women.
    - A corner plot with roads in the South and West are called **Nairutya plots** and are to be avoided.

Plots with roads on opposite sides:-

- A plot with roads in the East and West with the level of the road and plot lower in the East is a medium category plot. If the level of the road and plot is lower on the Western side then it should be avoided.

- A plot with roads in the North and South with the level of the road lower in the North is a medium category plot. If the level of the road is lower in the South then it should be avoided.

13. **Plots with roads on one side:**
    - A plot with a road in the North and the plot and road sloping toward North-East is a medium category plot.
    - A plot with a road in the East with plot and road sloping towards North-East is also a medium category plot.
    - A plot with a road in the South is good for business run by a woman and for any entertainment business.
    - A plot with a road in the West is better avoided.
14. Avoid a plot that is in proximity to any religious building like a temple, gurudwara, church etc. If the shadow of a temple falls on a house it is very inauspicious. There has to be a distance of at least 100 meters.
15. Avoid buying a small plot between two large plots.
16. A water resource in the south and west is very inauspicious. Water resouces like a well, borewell, river etc in the north and east are best
17. Mountains and hilly areas in the south and west are good.
18. Avoid buying a plot close to a cremation or burial ground.
19. There should not be any high tension wires above the plot nor any Vedhas in front of the plot like an electric pole, tree, pillar etc.
20. There should not be the following trees within 100 meters of the plot:
    - Banyan
    - Peepal
    - White fig

Sample flat design inputs

This applies to sample flats which are meant to be sold (i.e. located within building or standalone home which can be sold):

1. No. of show units:
    a. When outside the building: The largest/most attractive unit in that development (no. of show units – normally 1, max. 2). Like sales office, this is a sunk cost and there is hardly any recovery from spend done of show unit outside the final building.
    b. When in building (with access as per 3. below): One show flat (not DCU or sample flat) for each unit type, where
        i. *Unit Type*: A group of units which are within 20% by carpet area (from smallest to largest in that group) and are within 1 bedroom of each other (eg. 1 bed and 2 bed, from smallest to largest in the group). We will do show unit for any unit type for which there is certain minimum unsold inventory (say 100 cr.)in the development at the time of readiness of the show unit.
        ii. When to have ready: Ideally, these units would be ready around OC (+/- 6 months) depending on when we can ensure good customer journey (see 3. Below). Earlier the better, because we get maximum benefit in sales.
        iii. *Value of interiors to be recovered from purchaser*: When the show flat is sold, value of interiors should be charged on basis of the total cost spent by us (including design/consultant fee and taxes), with discount @ 12-14% p.a. (7-8 year lifespan) for the duration between show flat readiness and show flat sale. Maximum discount should generally not be more than 35%. Any usage of flat by us after sale should be considered as 'sweat equity' and not discounted.
        iv. *Possession of show flat*: Should be date by when we expect atleast 90% of that unit type to be sold (max. 24 months from date of sale). During the period between sale of show flat and possession to purchaser, CAM and PT (if applicable) shall be borne by us.
2. Location: Location to be the best possible; in high rise buildings, within top 25% of the building; in independent homes, located with best possible view.
3. Access: We have to think about the entire customer journey to the show unit eg. in high rise building, we need entrance lobby, floor lobby and elevator (min. 2 nos) – cannot rely on hoists; similarly for independent homes (eg. villas/townhouses), we need access road finished upto the unit.
4. MEP system have to be better planned for usage and robust (with backup if needed)
    a. Security – alarms and boundary (door and window) and how will it really function (very important for standalone homes).
    b. Connectivity (wi-fi, intercom, landline phone)
    c. Air-conditioning (at Belmondo, air conditioning is a challenge due to location of grills and throw direction)
    d. Exhaust/smell in bathrooms and kitchen
    e. Sufficient and well located sockets (taking into account need for work/study from home)
    f. Simple switches, without automation
    g. Music system and controls
5. Lighting: Lighting is appropriate for the user when actually using the flat.

6. Curtain: We will only install sheers and leave channel for main curtains. Ensure that they open properly (not blocking the window and collecting on a opaque surface to the side of the window) and also close properly (not letting light in early morning once main curtain is installed).
7. Vastu directions: especially for main door, beds, study tables and Puja; where possible take care of Master Bed and Kitchen locations
8. Storage: Plan the storage in each bedroom thinking that the bedroom will be used; also generally storage for the house - **need to think about how to best use every sq. inch.** Plan for needs like shoe rack and umbrella holder, where practical.
9. **Heights: Maximize the height in every room, don't lose too much height due to HVAC etc.**
10. Staff areas: Pay more attention to their design for usability and durability, since usage is pretty rough.
11. Rodent protection: Ensure that all shafts are sealed with appropriate mesh/similar. Also ensure that entry point for all cables/wires from any external point to inside the house/ceiling is appropriately filled in so as to not allow opportunity for rodents to enter.
12. Appliances:
    a. No bathroom TVs. TV/screen can be considered (not a must) in kitchen since people are increasing interested in cooking using online recipies.
    b. Kitchen appliances to be aesthetically pleasing (matching kitchen look) and decently functional. However, fitted appliances from the kitchen manufacturer tend to be poor value for money and difficult to service and therefore, cost v. value should be properly scrutinized.
13. Name plate: To be located such that clearly visible to a visitor (which is the only functional purpose of the name plate). Also ensure that main door has appropriate locks + key hole.
14. **External areas (eg. deck, terrace, garden) to be designed integrally with the interiors and finished along with the show unit.**
15. Furnishing: Less is more:
    a. Don't overfill with books and objects.
    b. In Premium and Luxury, there is no need for clothes and bags etc. in the wardrobes. Can be done is felt necessary by design team but generally not.

All of these are guidelines, not firm rules. If there is a good, thoughtful reason to change them, same is permissible.

Sales office:

a. Sales offices generally have 0 recovery value (since value of in building sample flat fitouts can generally be recovered by sell the unit with FFE). Hence, we need to reduce quantity, where built ensure use for extended duration (ideally 4+ years) and keep costs low bearing in mind the likely duration of usage.
b. At the same time, sales office are an important tool to 'wow' the customer and we have to strike the balance of 'wow' but 'restricted duration of usage and no cost recovery'.
c. Do not have TVs in sales cabins – sales team can use large scale tablets for the said purpose.
d. In Premium & luxury developments, can consider having limited no. of unisex toilets (WC and basin), rather than large scale, separate male and female toilets.
e. Pantry/kitchen equipment should be purchased only after discussion with HPM basis what they intend to use (and where possible, reused in clubhouse / future sales office).
f. <other learnings to be incorporated>

How to finalize phasing of a multi-phase development?

A land can be developed in one or more phases (Phase = Marketing Project (MP)) basis the likely demand.

Key criteria to be finalized for each MP:

a. Size (saleable area)
b. Wing - nos. and typologies,
c. KCAs (can be shared with other MPs)
d. Infrastructure (can be shared with other MPs)

To be finalized by concerned CEO in discussion with Design, Construction Management (CM) and Sales, taking following factors into account:

Importance of Factor	**Factor**	**Key considerations**
Primary Factor	Size of MP = How much can be sold in OC + 12 months (18 months for Premium & Luxury resi)	• 40%+ to be sold in PL and L (these sales should cover liaison costs and construction costs (atleast upto core & shell costs)) • 80%+ to be sold by OC • Fully sold in OC + 12 (/18 for Premium & Luxury resi) (please note that the last 20% is our profit and the earlier this is released, the better the IRR) *Refer 'Pricing Guidelines' for market share & pricing assumptions*
Primary Factor	Livability	• Design and location of KCAs in a manner such that we can ensure completion of all relevant KCAs by time of OC (max + 6 m) of Phase 1 (with special focus on moderate cost, high impact KCAs like landscape, club and temple). • Design and location of high capital intensity infra eg. MLCP, STP such that we can ensure completion of important infra by time of OC. If shared between multiple MPs, using vertical separation / modules to align capital cost in line with readiness of different MPs. • For any wing, at time of OC, the adjacent wings (either side) should ideally have their RCC topped off.
Secondary Factor	Formwork reutilization (with no / minimal changes)	In a multi-phase project, it is best if the wings are organized in such a way that the formwork is reused for target 75 repetitions with minimal changes in same development.

Other relevant guidelines:

a. Pricing guidelines (Marketing Policy)
b. 3 Yr 9 M Project Completion Guideline (Operations / CM Policy)
c. Logistics Learnings (CM Policy)

Bangalore specific Design Learnings

While we will generally follow Lodha policies, it is to be understood that the policies/guidelines have generally been written from an MMR point of view. Hence, there is need for adaptation in any other city (eg. Pune, Bangalore). These guidelines below are the nuances/exceptions that we will follow for a given city. In case of any clash between Lodha policies and these city specific Design learnings, the city specific design learnings will prevail.

Regulatory

1. For buildings above 50.0 M, The front, rear and side setbacks will have to be minimum 16.0 Meters. The following constructions may be permitted within the setback area without affecting the drive-way:
    a. Watchman's cubicle not more than 4Sq.M at the entry/exit point
    b. Certain projections are permissble in open space – see 'Projections' below
2. Projections:
    a. Projection into open spaces: Every open spaces provided either interior or exterior shall be kept free from any erection there on and shall be open to the sky and no cornice roof or weather shade more than 0.75 m wide or 1/3 rd of open space/setback which ever is less shall overhang or project over the said open space.
    b. No projection shall over hang/project over the minimum setback area either in cellar floor or at the lower level of ground floor.
    c. Cantilever Portico of 3.0 m width (maximum) and 4.50 m length (maximum) may be permitted within the side setback. No access is permitted to the top of the portico to use it as a sit out place and the height of the portico shall be not be less than 2.00 m from the plinth level. The portico is allowed only on the side where the setback/open space left exceeds 3.00 m width.
    d. Balcony: Balcony projection should not exceed 1/3 rd of the setback on that side subject to a maximum of 1.10m in the first floor and 1.75 m beyond the second floor. No balcony is allowed in the ground floor.
3. As per the notification (No. UDD255MNJ2018, dated 19.06.2019) The construction of the followings shall be excluded from Fsi Computation
    a. Area reserved for service such as electrical substation or panel room, generator, pump room, AC Plant room, solid waste management, fire control room, security or CCTV room etc.
    b. Refuge areas provided in high rise buildings as per fire norms.
    c. A separate public toilet block provided in the non-residential complex or plot.
    d. Building management or society room with a maximum size of 40 Sq.M
    e. Staircase / Staircase room
    f. Architectural features which are not usable for living or other purpose.
    g. Chimneys
    h. Ventilation ducts and Garbage shafts
    i. Ducts.
    j. Parking areas including driveways and ramps
    k. Swimming pools and toilets attached to swimming pools, constructed in open yard or in any floor for common use by the residents/users

l. Over head tanks
m. Escalators
n. Lift wells and lift machine room
o. Watchman's cubicle not exceeding 4 Sq.M
p. Sewerage treatment plant as specified by the Karnataka state pollution control board and pump rooms.
q. Tripple height terraces but need to be considerably bigger in size.
r. Note: Lift lobbies (basement, ground and regular levels) are counted in FSI. Even double height lobby is counted @ FSI 1.

4. Two or more buildings on the site:
    a. For more than one building on a given site, the distance between the buildings shall be 1/2 the height of the tallest building, between the buildings under consideration - subject to max of 16 m
    b. ii. In case, two or more buildings with different heights are proposed on a single site, then setbacks shall be applied with reference to the tallest building.
5. Floor area for calculating Parking requirements: Floor area shall be the aggregate area of all the floors of a building including thickness of wall, staircase room, lift room, escalators, balconies, lobbies, corridors, foyers, and such other parts provided for common service. [Also refer Annexure 1: Table 23 (pg 48 of Zoning regulations)]
6. Basements
    a. Overall height of the basement under any circumstances should not exceed 4.5 m between the floor and the ceiling of the basement in case of normal parking. In case of stacked / mechanical parking the height of the basement may be permitted up to a maximum of 4.5m w.r.t discretion of authority
    b. Basement in a residential building shall be allowed without taking into FAR calculations subject to the condition that it will be used only for the purposes of Home Theatre or Gym or a combination of both for personal use of the occupant on a site which does not exceed 500sqm and should be in Residential (Main) area as per Revised Master Plan 2015. In such cases, it should be single dwelling unit only and the entry to the basement shall be from inside the main building itself.
    c. Lobbies in basement are counted in FAR.
    d. Permissible uses in the Basement for buildings other than 3 star and above category:
        i. Dark rooms for X ray and storage of light sensitive materials
        ii. Bank Safes/ Strong room included in the FAR
        iii. Air condition handling units/equipment, utilities and services connected with the building.
        iv. Parking
7. Ramps: Provision for ramp shall have a minimum width of 3.5 m and a slope of not less than 1 in 10 and 1 in 8 in special cases. The ramp and the driveway in the basement shall be provided after leaving a clear gap of minimum 2.0 m from the common property line. The slope of the ramp shall commence from 1.5 m of the edge of property line.
8. Cul – de – Sac: While developing a land, if for any reason, the road has to be stopped without continuation, and then Cul de Sac with turn around area of 9.0 Radius at the end shall be provided.
9. FIRE PROTECTION REQUIREMENTS AND SAFETY MEASURES AGAINST EARTH QUAKE

a. Generally, NBC to be followed.
b. Types. – Exits should be horizontal or vertical. A horizontal exit may be a door-way, a corridor, a passage-way to an internal stairway or to an adjoining building, a ramp, a verandah, or a terrace which has access to the street or to the roof of a building. A vertical exit may be a staircase or ramp, but not a lift.
c. be so located that the travel distance on the floor does not exceed the following limits : Residential, educational, institutional and hazardous occupancies: 22.5mtrs. If sprinklers are provided, travel distance can b increased by 1.5 times.
d. The travel distance to an exit from the dead end of a corridor shall not exceed half the distance specified above.
e. When more than one exit is required on a floor, the exits shall be as remote from each other as possible.
f. Provided that for all multi-Storeyed high rise and special buildings, a minimum of two enclosed type staircases shall be provided, at least one of them opens directly to the exterior to an interior open space or to any open place of safety
g. Sprinklers to be added in every room if height of building exceeds 45 mtrs

10. Staircase
    a. Irrespective of the building height, the required flight width for the required two staircases, is clear 1.25 M (and maximum 13 risers).
    b. For building above 15 m height, one of the staircase will be fire tower.
11. REFUGE AREA
    a. High rise apartment buildings with apartments having balcony, need not be provided with refuge area, however apartment building without balcony shall provide refuge area as given below. Refuge areas for apartment buildings of height above 60 m while having balconies shall be provided at 60 m and thereafter at every 30 m. The refuge area shall be an area equivalent to 0.3 Sq.M per person for accomodating occupants of two consecutive floors, where occupant load shall be derived on the basis of 12.5 Sq.M of gross floor area and additionally 0.9 Sq.M for accomodating the wheel chair requirement or shall be 15 Sq.M, whichever is higher.
12. Fire Tender movement:
    a. Upto 60 mtr height, 6 mtr wide road to be provided around all sides.
    b. Beyond 60 mtr 8mtr wide fire tender movement to be provided around all sides.
    c. Fire tender path can be grass pavers.
    d. Path can be in straight line (need not zig zag) upto 1.5 m from outermost face of the building.
13. Generally, if the electricy requirement of our project exceeds 7.5 Megawatts, we need to provide additional area for the substation" (~30 x 40 m). It is possible toget exemption on case-to-case basis (to be confirmed through electrical liaison) if there is sub-station within 1 km radius with surplus power.
14. 10% EWS units (by no. of units) is to be provided. These units can have area upto 60 sm. This can be in form of staff room, home office etc. or ‘for sale’ units. Sales will be done in a manner (eg. can be restricted to internal owners) such that it does not affect the social mix of the development. If social mix of buyers is likely to be different, design as a separable building from rest of development including wrt amenities.

Design related:

1. When we are trying to learn something / don't have internal policy or clarity, benchmark (and ensure, same or better) from following developers:
    a. Product design & delivered product quality: Goyal & Co
    b. Delivered product quality: Sobha
    c. Scale & Infra: Prestige
2. Residential segments:

Segment	Approx. price psf saleable at project launch (2022, subject to inflation)	Recommended FTF height
Casa	<6000	3 m
Aspi	6000-10,000	3 m
Premium	10,000-15,000	3.3 m
Luxury	15,000+	3.6-3.9 m

   If within 5% of the end of the range specified, consider project to be in lower/upper segment as relevant.
3. Avoid more than 4 units per perceived core (i.e. separate lift bank) – can be upto 6 units in case of Casa developments.
4. Special units: Try to provide garden units on Ground floor (or can also be duplex over G+1, good example is Serenity Palava (2021)). Similarly try to use top habitable level for terrace apartments/penthouses and if market can support, also the level below penthouse for sub-penthouses. This can also allow some façade differentiation ('crown'). However, keep constructability in mind and ensure that cycle time is not significantly impacted due to these special units.
5. Façade – keep it simple with focus on large window, balconies and decent finishes.
6. Unit sizes should be ~15-20% larger than comparable unit in MMR, with emphasis on having balcony, larger bedrooms and then larger living/dining (In order of priority for area distribution).
7. Vastu is to be applied as per Mumbai segment wise norms (not Hyderabad norms).
8. Due to climatic conditions, softscape grows well and should be encouraged. This will improve the feel and also reduce landscape costs (since hardscape costs much higher than softscape).
9. Maximize neighbourhood retail (generally G or G+1) in every development – this is highly cashflow generating.
10. Wherever feasible without affecting residential circulation, earmark 20-25 K sft for city-centre logistics (most likely in the parking basements). This will be counted in FSI.
11. Saleable area is generally RERA net area (carpet + EBVT) x 1.45.
12. Generally, stay at home staff, is not common in Bangalore. Hence, we will typically provide staff toilet at mid-landing (alternate floor, toilet and shower). In case of units with CV > 5 cr., we will provide one staff bedroom (toilet + bedroom) – either at midlanding/in core or attached to unit and for units between 2.5 cr – 5 cr., we will provide one staff bedroom (toilet + bedroom) for every 2-3 units at midlanding/in core.
13. General trend in Bangalore is to give DG backup for 3kva in each apartment. There is power cut for about 2 hours every day. Prestige developer gives 100% DG back up. Considering the prevailing trend in the Banglore, If, we have to provide 100% DG backup to all the flats than we must find out, "how to meter, each apartment for the power consumed via the DG Backup".
14. Car parking is generally = n (no. of bedrooms) /2.

15. We will generally not have 1 BHK / studio units in our product mix (except, if planned for sale to internal owners of larger units).
16. AC norms – *<study from peers (see 1 above) and incorporate>*
17. Security norms – *<study from peers (see 1 above) and incorporate>*

Annexure 1

CHAPTER 8.0: PARKING REQUIREMENTS AND NORMS

Table 23: Parking requirements for various uses:

Sl. No	Type of use	One car parking of 2.5m x 5.5m each shall be provided for every
1	Theaters and Auditoriums except Educational Institutions.	25 seats of accommodation subject to minimum of 20
2	Retail Business (shops, Shopping complexes, Malls, etc)	50sqm of floor area
3	Multiplex integrated with shopping	40sqm of floor area plus requirement of parking according to Cinematographic act
4	Wholesale and Warehouse buildings	150sqm plus 1 lorry parking space measuring 3.5 m x 7.5 m. 1 additional for every 500sqm or part thereof
5	Restaurant establishment servicing food and drinks and such other establishment	75sqm of Floor area
6	Lodging establishments, hotels and Tourist homes	80 sq.m of Floor area.
7	For star hotels	For every 2 rooms. Additional 10% of the total requirement shall be reserved as parking for visitors.
8	Office buildings (Govt/Semi-Govt.& Pvt)	50sqm of Floor area
9	Hostels	Professional college hostels: 1 for every 5 rooms and others: 1 for every 10 rooms.
10	Industrial Buildings	100sqm of floor area plus 1 lorry space measuring 3.5 m x 7.5 m for every 1000 sq.mt or part thereof
11	Nursing homes	50sqm of Floor area
12	Hospitals	100sqm of Floor area
13	Multi- dwellings Units	A. Dwelling unit measuring more than 50 sq.m up to 150 sq.m of floor area. Additional 1 car park for part thereof, when it is more than 50% of the prescribed limit. B. Additional car parking for each two Dwelling units, if the DU is less than 50 sq.mt C. 10 % of additional parking shall be kept for visitors car parking.
15	Kalyana mantaps, Convention centers	50sqm of Floor area.
16	Recreational clubs	50sqm of Floor area.
17	Educational buildings	150sqm of Floor area
18	Other Public and Semi-Public Buildings	100sqm of Floor area

Note: Additional parking for part area shall be provided when the part area exceeds 50% of the prescribed limits/standards.

- 48 -

Letter to be taken from liaison architect for floor numbering clarity

Liaison architect letterhead

<Date>

To whomsoever it may concern

In relation to building called Lodha _____ bearing MCGM <applicable approval authority> file no. ____, it is clarified that the floor no. equivalence is as follows:

Floor No. as per sales plan / agreement	Equivalent Floor No. as per approved municipal plan

This is for your reference and records.

Yours Sincerely,
For <name of liaison architect firm>

Authorized Signatory

Aug 2021

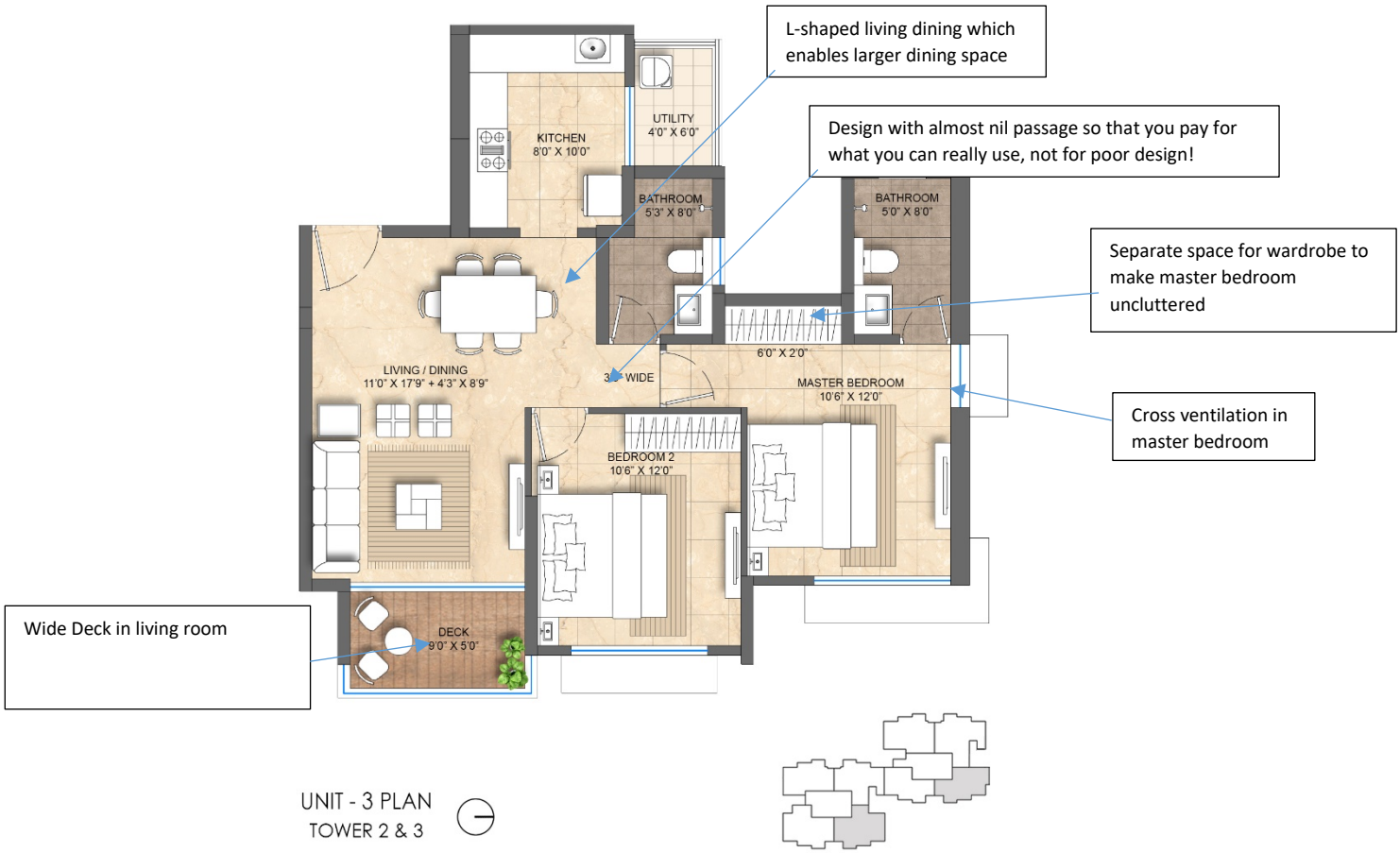
Lodha NIBM

Unit Plan & Amenities/Facilities Comparison

<u>Units Plan Comparison</u>

2 BHK UNIT – COMPARISON

Lodha Plans – 2BHK - 790 sft



1. Raheja Reserve – 780 sft



2. Elina Living – 993sft



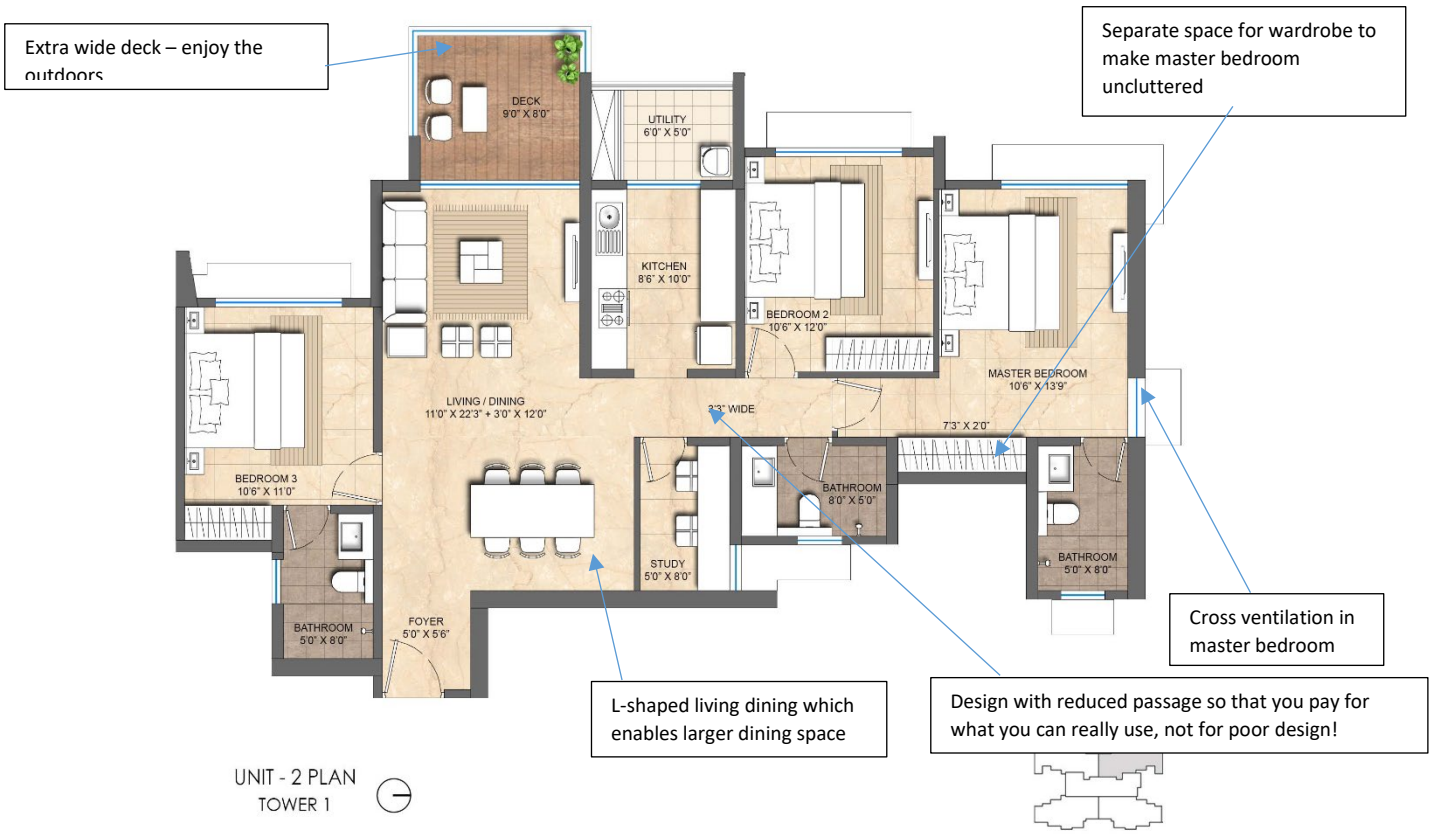
3 BHK UNIT – COMPARISON

Lodha Plans – 3BHK - 1047sft



UNIT - 3 PLAN
TOWER 1

Lodha Plans – 3.5 BHK - 1180sft



UNIT - 2 PLAN
TOWER 1

1. Raheja Reserve – Type 1 - 1115 sft



2. Raheja Reserve – Type 2 – 1136 sft



3. Elina Living – 1017 sft



4. Ganga Florentina – Type 1



5. Ganga Florentina – Type 2



Amenities/Facilities Comparison

What are the amenities that differentiate/are unique about our development?

Development

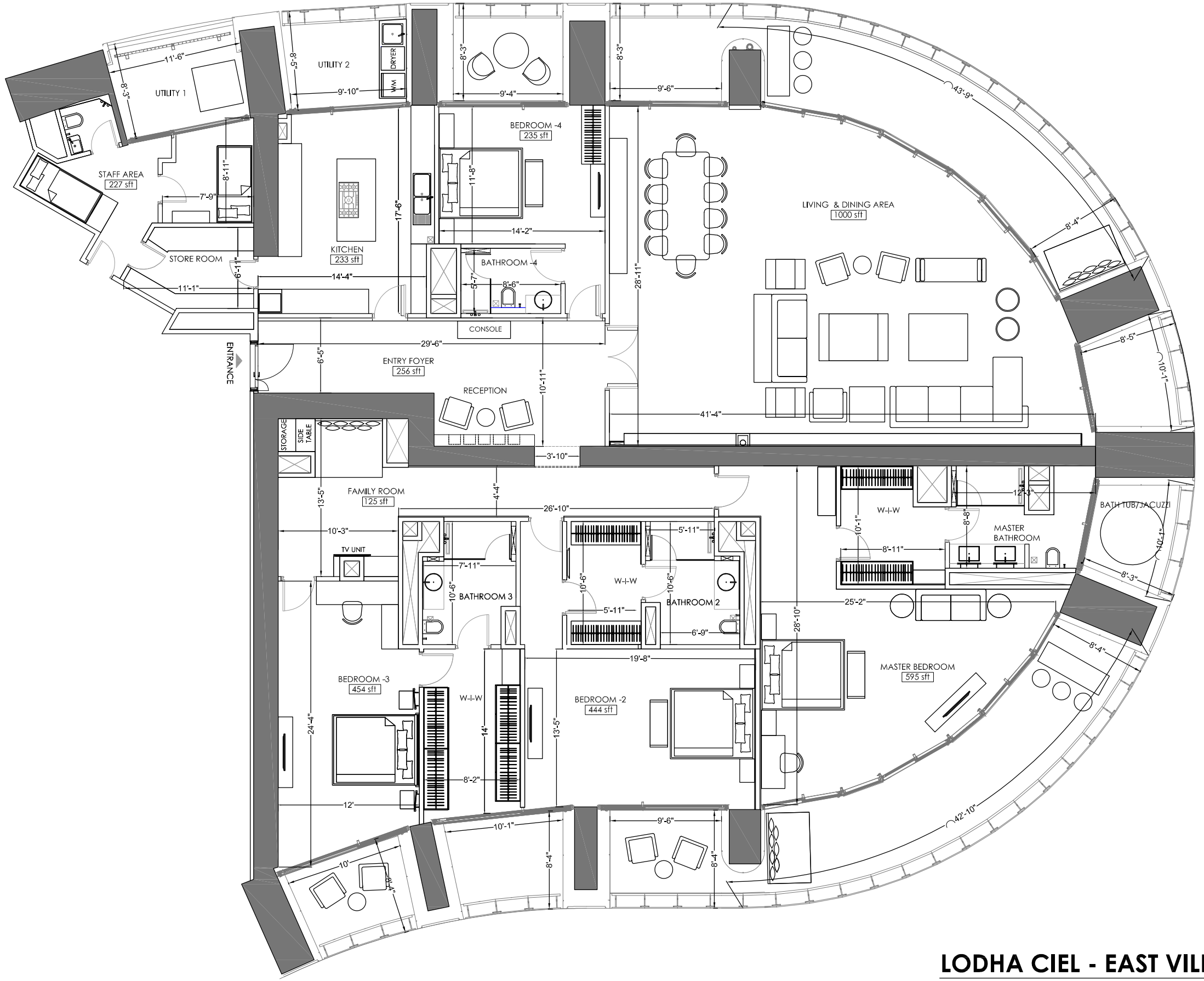
a. <state and if available, give CGI/reference image>

Building

b. <state and if available, give CGI/reference image>

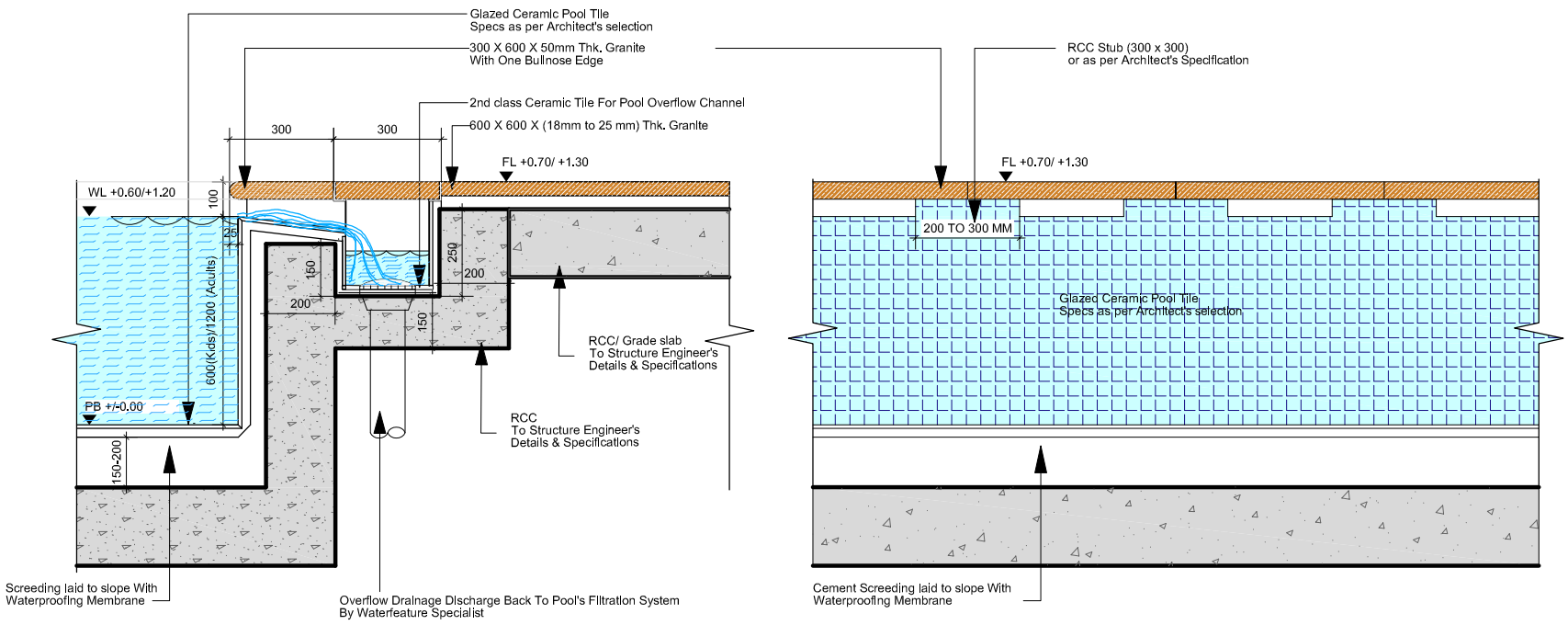
Units

c. <state and if available, give CGI/reference image>



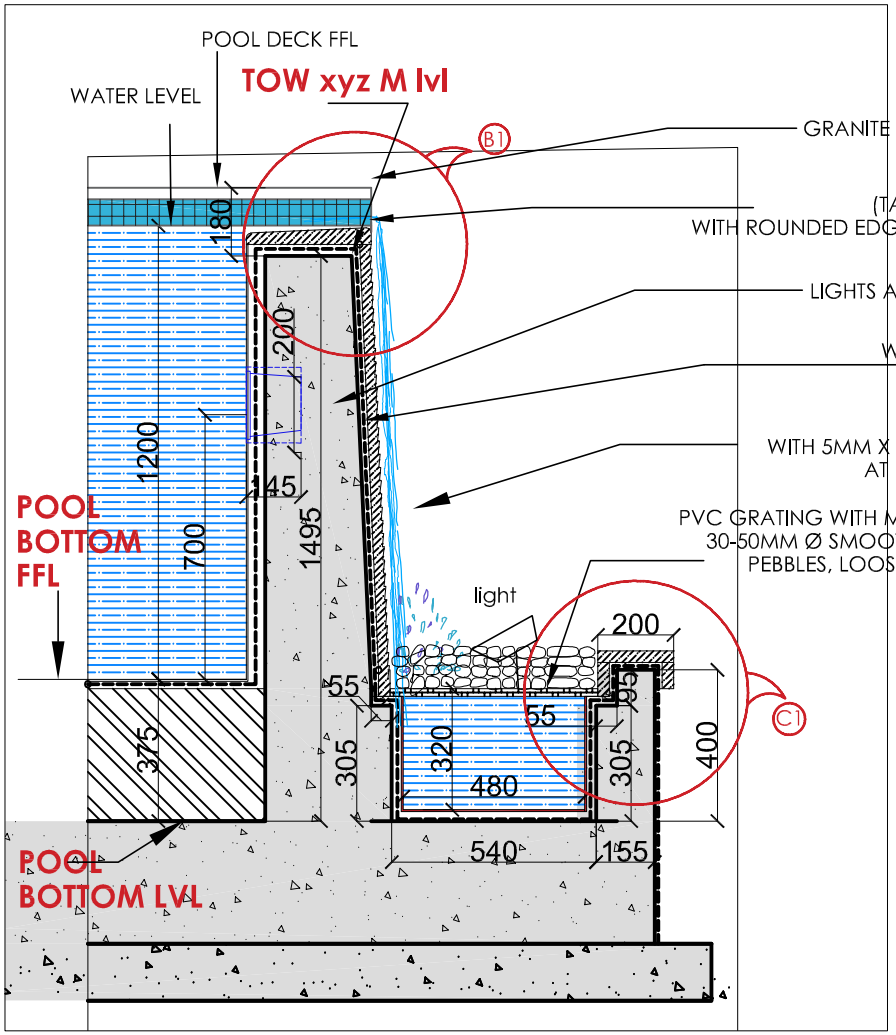
LODHA CIEL - EAST VILLA

DATE:- 15-10-2020

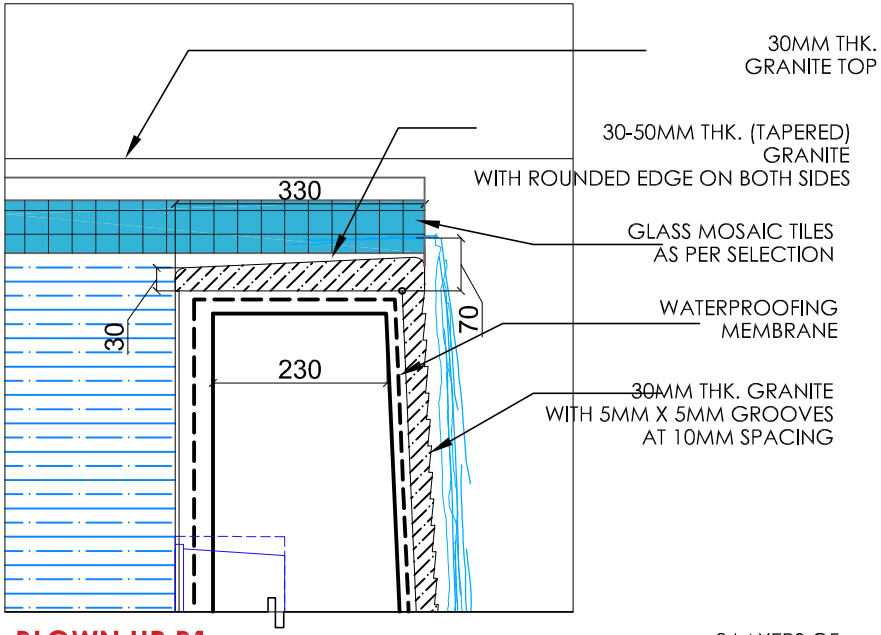


SECTION
POOL OVERFLOW DETAIL 1 (GRANITE EDGE)

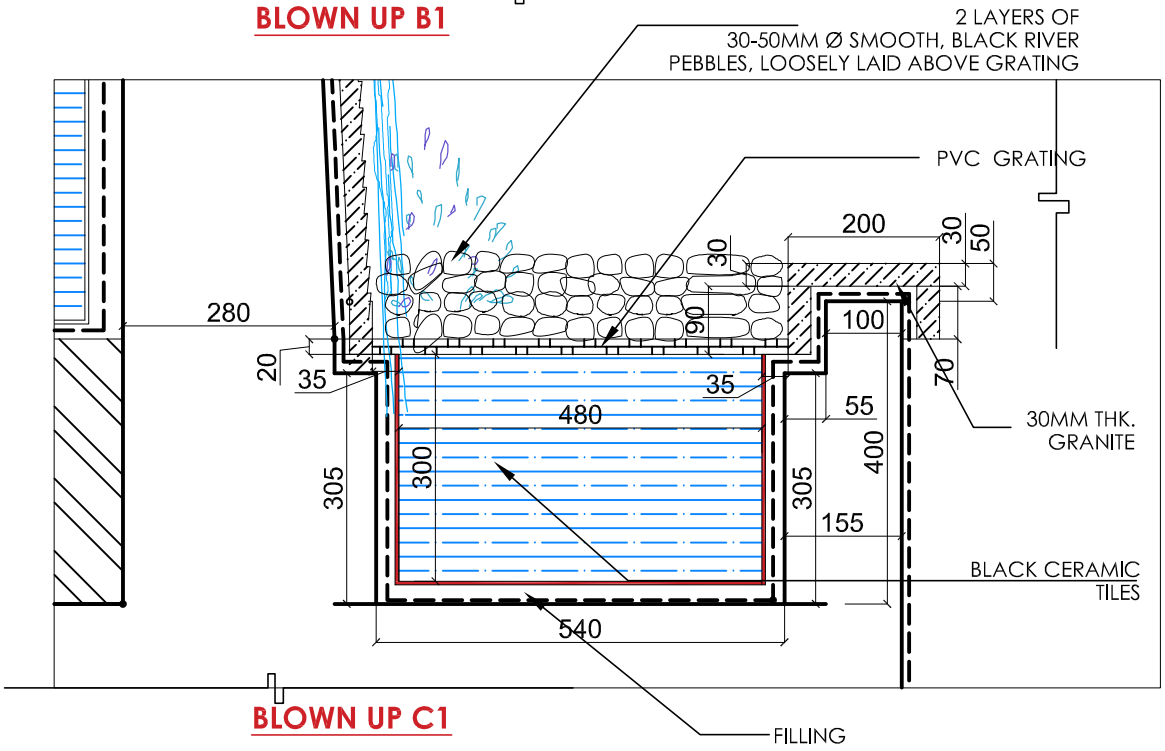
PART ELEVATION FROM INSIDE POOL



DETAIL INFINITY EDGE AND OVERFLOW
DRAIN scale 1:10



BLOWN UP B1



BLOWN UP C1

INFINITY EDGE POOL DETAIL

Guidelines for incorporation of water bodies in Lodha projects:

Water bodies, if executed well, add substantial aesthetic value to a development. At the same time, they are high capital cost, difficult and expensive to maintain and are likely to be shut down after purchasers take over the operations of the society. Additionally, India suffers from water shortages from time to time and water bodies can be seen as wasteful. In view of these contradictions, following guidelines are to be followed for the inclusion of water bodies in design:

1. Water bodies / features are defined as all humanly designed elements in the landscape / interiors of a development, excluding:
    a. Natural water bodies (or enhancements thereto)
    b. Recreational water bodies eg. Swimming pool/Jacuzzi (or area generally associated with swimming pool/Jacuzzi).
2. Large water bodies are defined as those water bodies that have total cost (Civil + Finishing + MEP + landscape) >= 1 cr (2013 figures, to be increased by 25% each leap year starting 2016). For purpose of calculation of cost, any water body which is 'functionally linked' (even if there is moderate physical distance) is considered as a single water body.
3. Small (i.e. non-large) water bodies should be incorporated in projects **only if one finds them to be very valuable to the overall positioning**. Capital cost of such small water bodies should not exceed 5% of the total landscape (softscape + hardscape, including all elements like civil, MEP, lighting, finishing etc.) budget for the project.
4. Large water bodies should be included in design only for following segments of projects:
    a. Luxury Residential
    b. Hi-end Residential

And cost of water bodies in such projects (small + large) should not exceed 10% of the total landscape (softscape + hardscape, including all elements like civil, MEP, lighting, finishing etc.) budget for the project.

5. Large water bodies should be avoided at all other projects.

6. While incorporating water bodies into the design as per the guidelines above, following facets needs to be given special attention by the Design team:
    a. Execution of civil (especially waterproofing) works and finishing (refer *'Water Body Design & Procurement Guidelines'* policy)
    b. Testing and commissioning of the MEP systems.
    c. Appropriate provisions for cleaning/maintenance with minimal manpower, including provision for Biological filter and filtration plant.
    d. Availability of sufficient water for the operation in the long term (see '*Water Sources, Demand Types and Treatment Options policy*').

7. Swimming pool depth to be engraved on the peripheral stone flooring-refer image 1 & 2 below, not to be painted. Protuding columns within the swimming pool width to be avoided.Refer image 3



Image 1

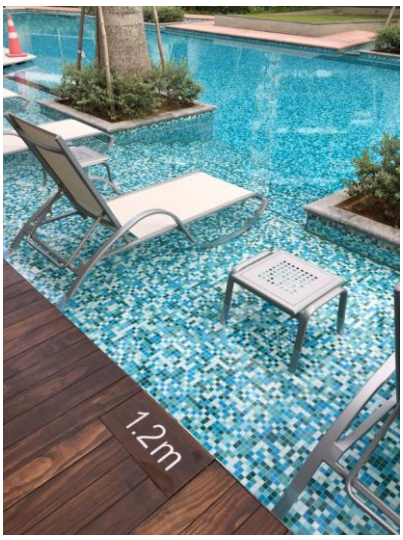


Image 2



Image 3

8. Minimum 3mm Groove to be provided in stone for feature walls/water walls to avoid whitening of joints. Grooves to be filled with epoxy grouting.

These guidelines do not directly apply to enhancement / development of naturally occurring water bodies but aforesaid factors need to be kept in mind for such water bodies too.

Hardscape Guidelines:

I) Stone paving:

1. Natural stones in pedestrian areas over filled up area or real ground should be less thickness – not more than 19- 25 mm. Only for fire tender movements, it can be 40 mm or more based on the stone selection.

2. The finish of the stone should be rough, textured, river washed, bush hammered, sand blasted (only machine based finish to be used) or calibrated to create an anti-skid surface in exterior areas. Polished stones and flamed finish stones not to be used. Minimum groove of 3mm to be provided and to be filled with epoxy grout.

   i. Sample Approval & lot inspection:
   All natural stones used in hardscape must have sample approval done (including actual usage size, shape and surface treatment finish signed off) and 2-3 samples should be kept at site and office. Before receipt at site, CM finishing, Material Management & Quality team to inspect the lot/batch at actual size & shape. & any lot/batch not matching with the approved sample to be rejected by CM finishing team, Material Management & Quality team and needs to be replaced by vendor. CM finishing team, Material Management & Quality team to ensure only lot/batches which are approved on inspection are delivered at site.

   ii. Cleaning & Protection:
   After laying & polishing of flooring is complete, entire surface to be cleaned using pressurized water and covered with thick plastic sheet's/flute board for horizontal surface and adhesive plastic sheet/flute board or ply for vertical surface. Any cutting for nahani trap or switch plates shall be done using a pre-made 'pharma' to ensure cutting in proper shape; rotary cutter with carbon or tungsten bits are ideal for cutting procedure.

   iii. For granites cut on site from random slabs, CM team and Design team should review the design wastage before cutting & laying the final flooring to ensure it is within allowable limits

   iv. Above mentioned points to be followed in both FLO (Lodha supplied material) and FMLO (vendor supplied material) contracts.

3. Finish for vertical edges of planter walls should be preferably dark stone cladding to avoid staining of the mud water. The thickness of the stone should be kept minimum – 19-25mm. Use of sliced marble / granite can be beneficially used to reduce the cost.

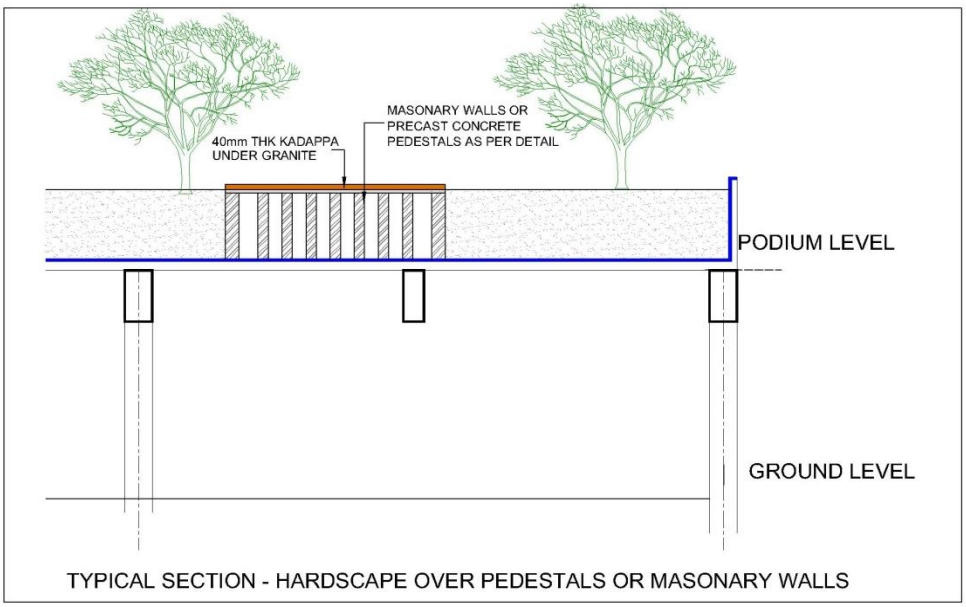
4. On podiums, light weight filling under hardscapes should be avoided – either with design levels or slab grid design as per specific soil depth of trees or shrubs or Fire tender movements. Area for fire tender movement can be differentiated by differential in levels or introducing landscape features which would not allow the fire tender to stray into area it is not supposed to.

5. On podiums, light weight filling can also be reduced "by reducing the width" of pathways or extent of hardscape in one area – hence more softscape.

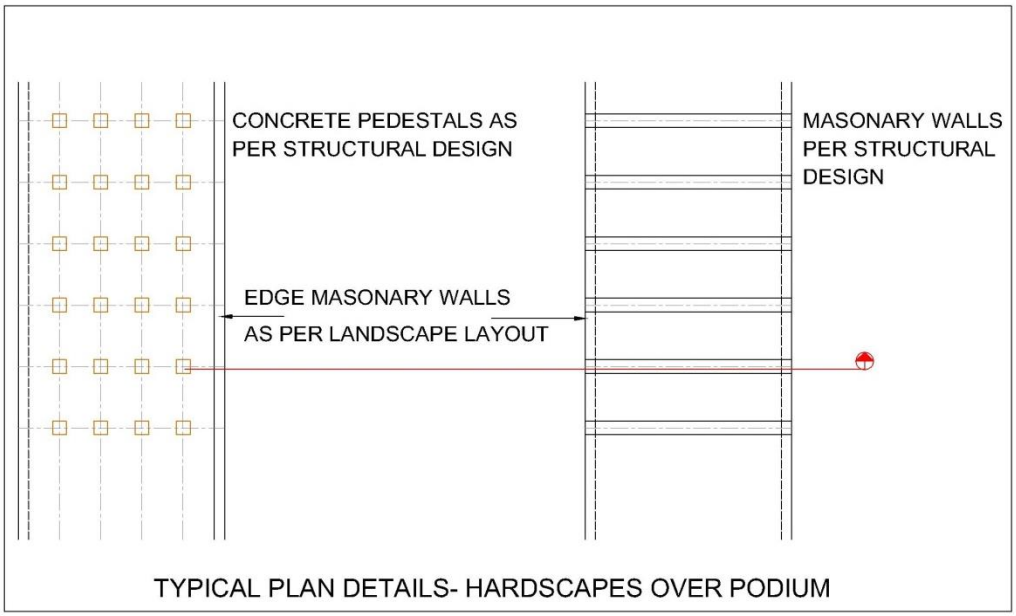
6. Following methodologies can be used as alternatives to the light weight fill based on the approval by structural team for each project. (Refer sections below).

    a. The space under the stone paving and slab top can be void with supporting masonry walls as per structural detail, for areas earmarked as pedestrian walkways.
    b. A pedestal system can be used as an option.

7. For stones to be laid over masonry walls or pedestals as mentioned in point no. 6, the thickness of the stone should be minimum 30mm. In case the granite or similar stone with less thickness (19mm) to be used, a 40mm thick Kadappa can be used as a under layer to avoid breakage of granite.



TYPICAL SECTION - HARDSCAPE OVER PEDESTALS OR MASONARY WALLS



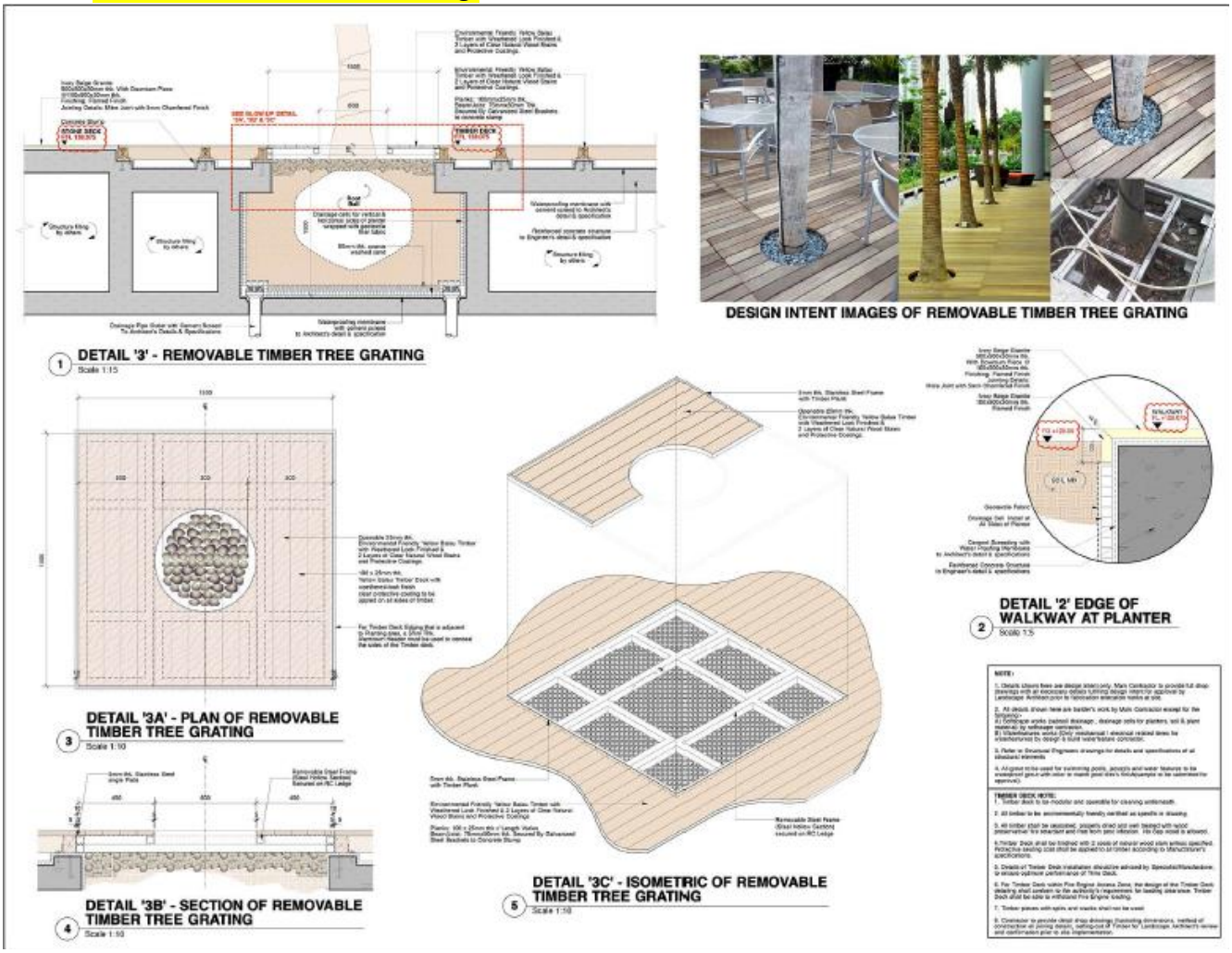
TYPICAL PLAN DETAILS- HARDSCAPES OVER PODIUM

II) Timber decking:

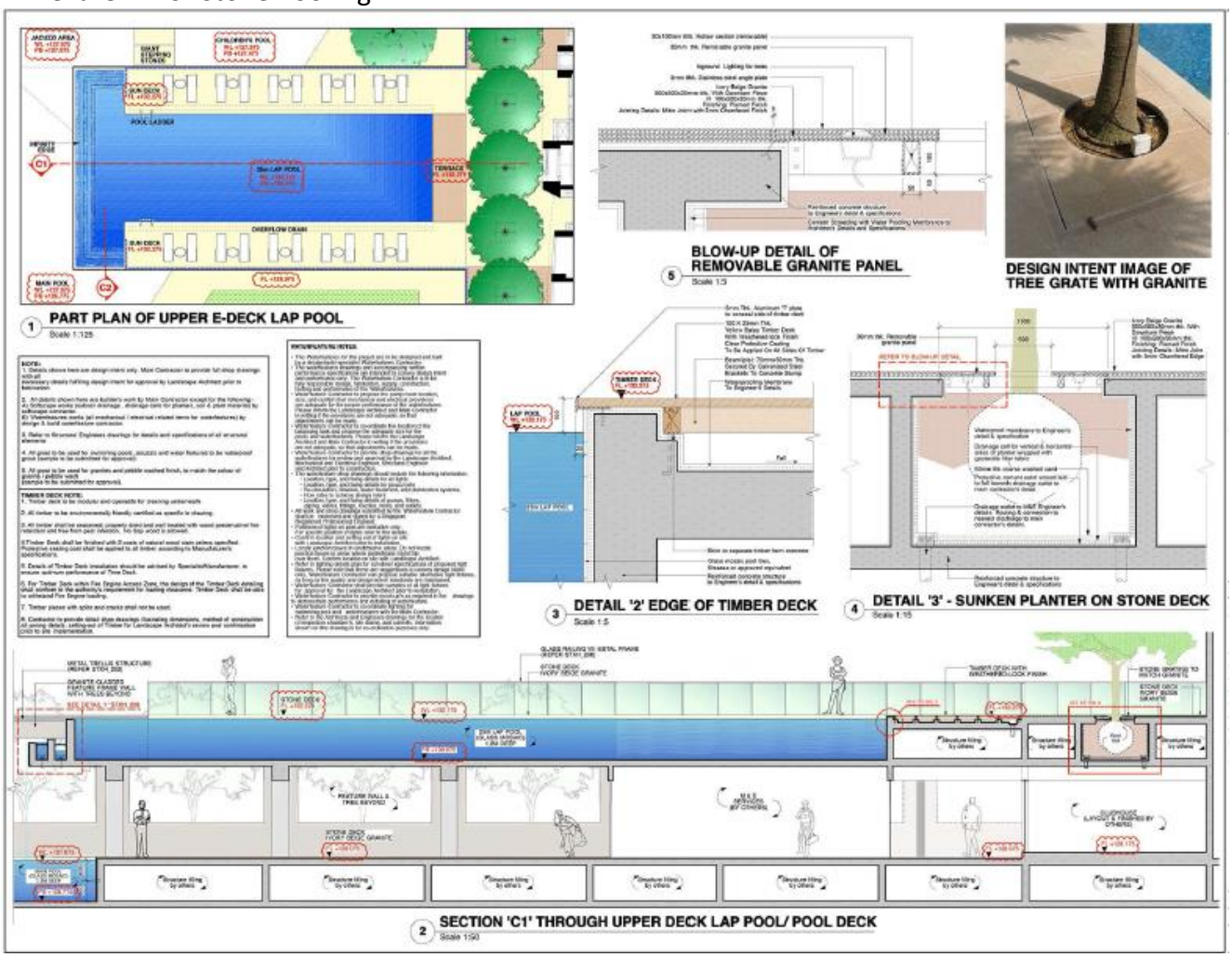
1. The fixing methodology, as per manufacturer's specs to be finalized during the design development stage. Nailing from the top should be avoided.
2. The water drainage system to be designed to avoid any stagnation after execution. All the surface water of the pool deck should be drained away from the swimming pool.
3. The edges of tree pits or pools and patterns of the decking to be designed based on the available sizes of the material to reduce wastage.

III) Tree pit details to be as per annexure's below:

Annexure 1: For timber decking.



Annexure 2: For Stone flooring:



Landscape lighting

1. Primarily the lighting should be as per the following 2 intents

a. Security and safety – All public areas to be well lit- broad coverage fixtures preferred. All major level differences, water body edges, vertical elements should be clearly visible at night to avoid accidents.

b. Task / accent / ambient lighting – should be provided only for enhanced effects for certain areas and should be on a separate circuit which can be switched off after midnight.

2. The colour temperature of the light should be specified.

3. The location of pole lights near garden flats and windows of the flats should ensure no disturbance / glare to the residents.

4. The number of light fixtures to be reviewed as per the following guidelines, unless the design intent is to create a specialised effect

    a. Wall recessed lights/ foot lights– not less than 3m c/c.
    b. Bollards – not less than 3.5m
    c. Pole lights – distance between poles not less than 3 times the pole height.

5. Light fixtures chosen must be, preferably standard brands and not custom designed to avoid maintenance and replacement issues later.

6. Lighting shall be controlled by a timer.

7. Electrical switchgear used in an open landscape shall be IP 65 protection.

8. Floor lights in the pathways/walkways not to be used(refer images below).





Outdoor Children's Play Area Guidelines

The outdoor play area is a very important area for the resident's children and should be developed with thought in respect of its usability, variety and safety.

Some of the core design principles include:

a. Having a flooring material which makes it same to fall eg. high quality sand (EPDM / rubber flooring to be avoided since it tends to crack after 18-24 months. Can be used if there is significant confidence on quality and wear and tear).

b. Preference should be given to play equipment where wood is the primary material rather than plastic/metal (upto 20% cost premium is justified).

c. Having equipment which serves age groups 2-10 years.

Following items are mandatory for a project level outdoor children's play area:

1. Swing (min. two seats) with atleast one Toddler's/Baby swing seat
2. Slide (regular size for 3-8 years old)
3. See Saw
4. Adequate provision for seating of caretakers should be made around the play area, so that the caretakers can sit while children play. Where feasible, there should be sun protection for this seating.

Following items may be considered for a project level outdoor children's play area (atleast half or more of these are mandatory for a play area serving 500+ units):

1. Zip Line
2. Tree House
3. Merry-go-round (about 4 seater)
4. Sandpit
5. Garden table / benches
6. Additional swing with +2 seats.
7. Springer / Spring Rider (min. 2 nos of different variety)
8. Balance Beams
9. Hammock
10. Spinner
11. Climber (rope web)
12. Monkey Bar



13. Zip line

The above list is not exhaustive and additional elements may be added, if in the opinion of the Project Architect, the same add value or are 'new and in trend' – inputs should be taken from vendors/manufacturers as to what they think is the best way to fitout the play area. Quantity may also be increased based on space available and no. of units that the playground is catering to. It should be ensured that children's play area is 'over equipped' and residents feel that they have lots of variety and sufficient quantity.
Further, several of these items may be available in combined form in a 'multiplay' item and same can be considered.
The aforesaid are traditional names for the said items and describe the usage – the exact names may vary from manufacturer to manufacturer. Consultation should be had with the vendors as to what would be the best mix of play equipment given the available space, aforesaid policy and their understanding of what works best for the different sub-groups between the target age of 2-10 years.
Preference should be given to play equipment where wood is the primary material rather than plastic/metal (upto 20% cost premium is justified).
The quality, safety and longevity of the items is of utmost importance and hence, using good quality vendors is extremely important. Based on the current market scenario (2018), following are suggested:

	Companies Like
Luxury	Richter-Spielgerate.de Monstrum Kompan Proludic Timeberplay
Hi-end	Kompan Proludic Timeberplay
Aspirational	Kompan Proludic Timeberplay
Casa	Koochie (if Marketing Project level play area) Same brands as aspirational (if City level amenity)
Tree House	theplayhousecompany.co.uk

The above list of vendors may be updated from time to time by Procurement.

Outdoor Sports Field requirements

All sports fields done by Lodha need to be world class and reflective of the standards that a high quality sports focused private development would have.

This document covers the following sports which are commonly played in India:

a. Football (Soccer)
b. Cricket
c. Tennis
d. Basketball
e. Volleyball

See appendix A for requirement details of each sport.

Some of the key areas to focus on during design are:

a. Changing room(s) & toilet(s) for the players, along with
    a. Viewing deck / bench (if a team sport)
b. Field boundaries / enclosure (including marking and edge demarcation) as per international norms
c. High quality natural/ artificial turf material
d. Drainage of the field
e. Viewing facilities (eg. Stands), along with
    a. Toilet facilities for the visitors
    b. Some F&B (non-cooking) stand
f. Parking for the visitors (if visitors are expected from outside the development)
g. Controlled access into the facility ('facility' include ground and its linked facilities)
h. Night lighting – this is not compulsory but can be considered on case to case basis in discussion with HOD-Design / Director-Design. For detailed guidelines, please see http://www.abacuslighting.com/guide-to-sports-lighting-levels.asp
i. Seating for players / referees – appropriate provision for player
j. Scoreboard – can be manual or electronic, but gives the feel of a more complete facility.

Attention also needs to be paid:

a. Security
b. Traffic flow
c. Pedestrian flow (including during monsoons)
d. Ticketing (if external visitors are envisaged)

Sports field should be generally be planned with the longer dimension in the north-south direction (in cricket, this applies to the pitch), so that the players are shielded from the east-west glare of the sun.

If a field is planned for multipurpose use, ensure that:

a. The field is sized appropriately for the sport requiring the largest field space.
b. The 'lines' of the each sport are marked in distinctly different colours.
c. For hard courts, the area within the court 'lines' to be in a different colour from that outside – suggested colours: Red inside and Green beyond the court 'lines'.
d. The field material is suitable for use in all the planned sports.
e. The equipment for one sport does not disturb the flow/play of any other sport and if it does, it can be easily removed and placed back later.

Changing room requirements for team sports

- an entrance lobby
- appropriately sized changing rooms for each team (seating for no of players in each team + 5)
- showers and dry-off areas, ideally for each changing room
- toilets& wash hand basins
- separate match officials' accommodation (male & female)
- meeting room/social area
- pantry
- kit/equipment storage area

If multiple sports facilities are co-located, these changing rooms can be shared between different sports – such a setup may require changing rooms for 4 teams (instead of 2 normally needed). Also see 'Changing room & other sports area design' guidelines.

Players and Referee Seating:

Should be planned taking into account the need for players to rest during the games (eg. Tennis, badminton) or watch while the others play (eg. Member of the batting team in cricket) or for the referee/umpire to sit during match (only if venue is planned for competition use). Chairs/benches should be played at appropriate location, along with some element of covering (umbrella, awning, other shading device) to give reasonable comfort. It should also be ensured that these chairs/benches are appropriately fixed/chained to avoid theft.

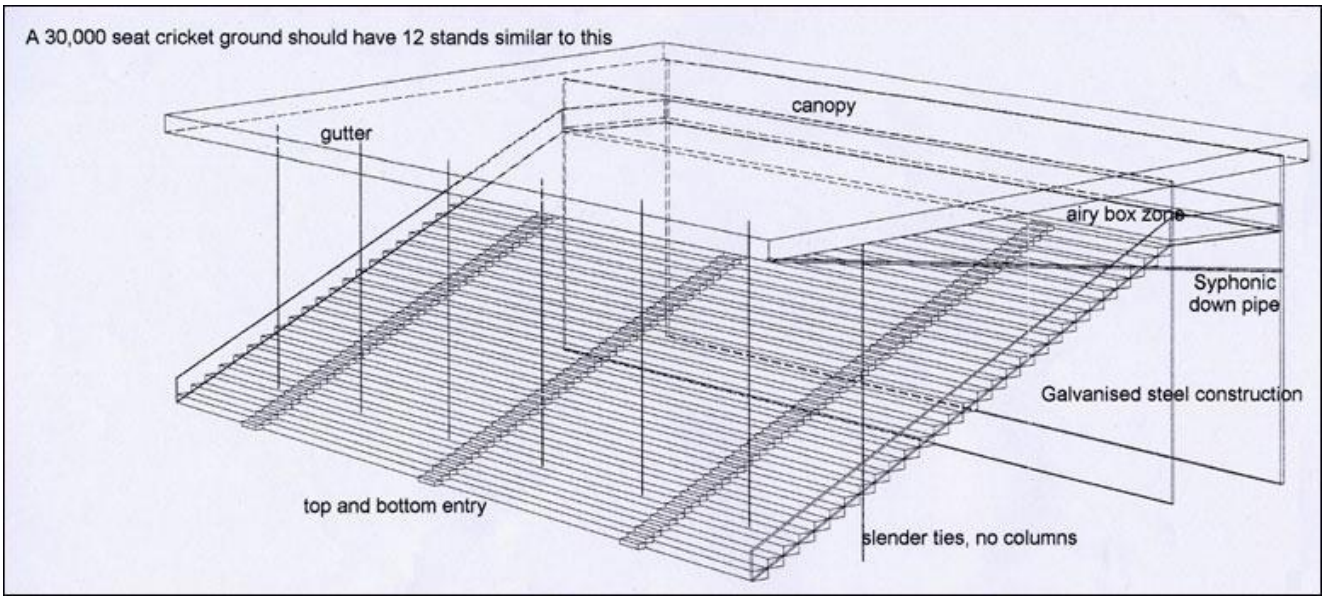
Stands/Visitor seating

Should be designed taking into account the likely usage of the field. Generally for fields which are meant to cater only to users inside a development, a maximum capacity of 200 is sufficient. For fields which are meant to cater to outsiders (or city level development like Palava), large capacities of 2000+ may be planned. The quality of seats is important to ensure spectator comfort – polypropylene chairs are the most commonly used seats and are fixed to the structure below (Scaffolding or RCC). Appropriate toilet facilities and some F&B stand(s) no cooking are also required to be provided. Security and parking access needs to be considered while finalizing the design. The viewing stands should preferably be oriented such that people are not looking at the setting sun viz. not looking west.

Reference images:









Field seating



Seating with changing room and commentator's box

For detailed guidance on any particular sport, see http://www.sportengland.org/facilities-planning.

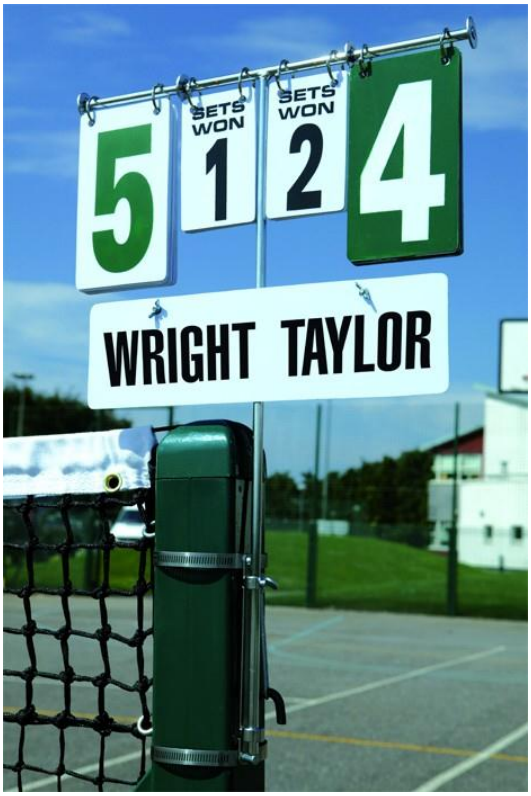
Scoreboard:

- Appropriate manual scoreboard should be placed for all venues.
- If venue has seating capacity of >250, electronic scoreboard can be considered, subject to costs. Electronic scoreboard should be mandatorily considered for venues with seating capacity > 1000.

Reference images:



Electronic scoreboard for football

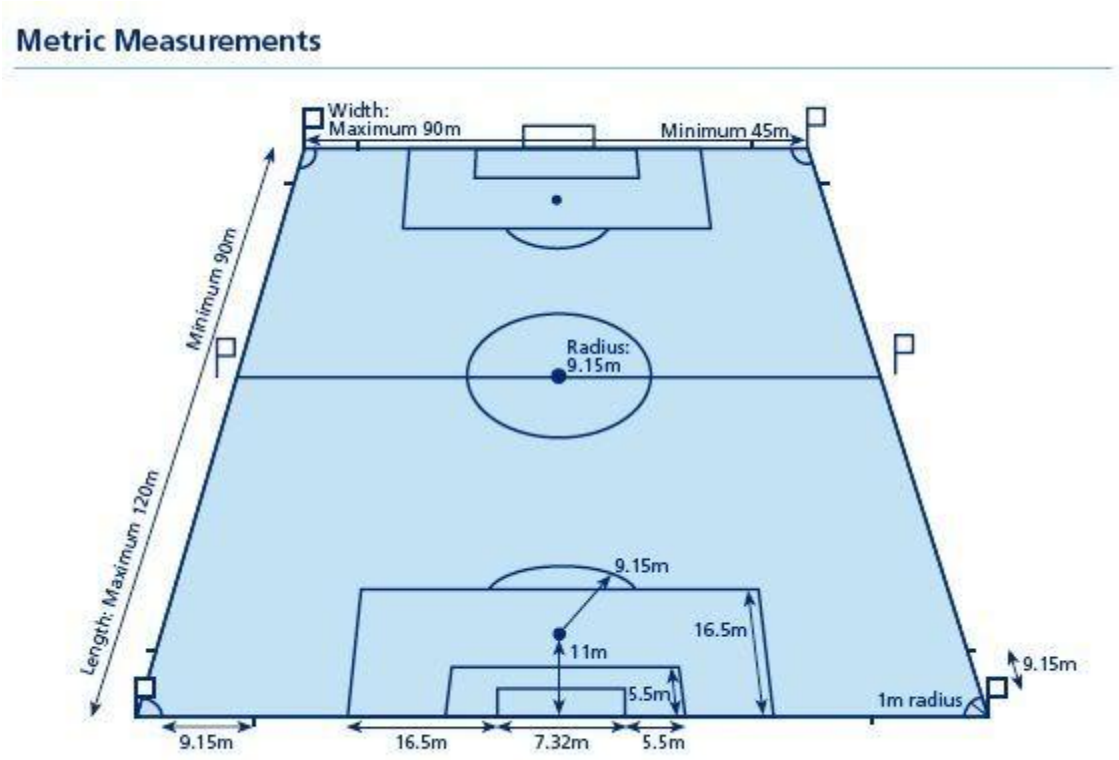




Manual scoreboard for tennis

Appendix A

Football (Soccer)



The length of the touch line must be greater than the length of the goal line.

Length (touch line):
* minimum 90 m (100 yds)
* maximum 120 m (130 yds)

Width (goal line):
* minimum 45 m (50 yds)
* maximum 90 m (100 yds)

For international standards, the width of the field should be in the range 65 to 75m and the length 100 to 110 m. This is also followed for national games in India. The preferred field size for many professional teams' stadiums is 68 m x 105 m.

All lines must be of the same width, which must be not more than 12 cm (5 ins).

Boundary



Beyond the field dimensions, the outer boundary is marked by boards (flex + frame) and seats thereafter. The outer boundary is about 3 mtrs from the field edge along the longer side and 3 mtrs along the shorter edge.

Other key equipment
Goal posts are to be provided.

Field material: Natural grass or Artificial Turf

- Artificial Turf: 40 mm Artificial Turf can be used for normal play and should meet the FIFA Quality Concept for Football Turf requirements. For a FIFA 1 Star pitch, 50 mm Artificial turf is required and for a FIFA 2 Star pitch, 60 mm Artificial Turf is required.

Drainage: Slope of 1:100 is recommended; ie., 1% slope from the centre of the field to both sidelines with crown running along the length of the field. There is no sub-soil drainage.

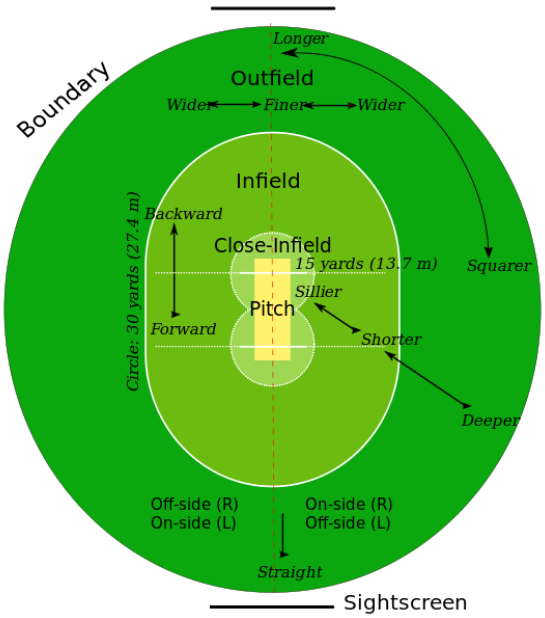
Irrigation: Sprinkler irrigation is not recommended. Manual watering is preferred.

Fencing: 2 m high chain link fencing (75 mm x 75 mm mesh) to be provided between the field and the stands. If the stands are not on all sides, then fencing to be designed based on site conditions.

Lighting: For Class 2 or Intermediate level play (regular play), 200 lux lighting is required with a Minimum/ Average of 0.6 and a maximum Glare Rating of 50. This may be from a 4 pole or 6 pole system.

Also see 'Football Field Preparation' guidelines

Cricket



Ground

The playing area shall be a minimum of 150 yards (137.16 metres) from boundary to boundary square of the pitch, with the shorter of the two square boundaries being a minimum 65 yards (59.43 metres). The straight boundary at both ends of the pitch shall be a minimum of 70 yards (64.00 metres). Distances shall be measured from the centre of the pitch to be used. In all cases the aim shall be to provide the largest playing area, subject to no boundary exceeding 90 yards (82.29 meters) from the centre of the pitch to be used. (*Note: These are dimensions for a field on which an international game can be plated. Dimensions upto 20% lower (in diameter) are acceptable for development level fields.)*

In addition, the conditions require a minimum 3 yard gap between the "rope" and the surrounding fencing or advertising boards. This is to allow the players to dive without hurting themselves.

It is worth noting that based on these guidelines, a cricket field must have at least 16,000 square yards ((150+3+3)/2*(70+70+3+3-22/2)/2*pi) of grass area.

The cricket ground can vary from being almost a perfect circle, to being an extremely elongated oval. On most grounds, a rope demarcates the perimeter of the field and is known as the *boundary*.

There are two additional field markings. A painted oval is made by drawing a semicircle of 30 yards (27.4 m) radius from the centre of each wicket with respect to the breadth of the pitch and joining them with lines parallel, 30 yards (27.4 m) to the length of the pitch. This line, commonly known as the circle, divides the field into an infield and outfield. Two circles of radius 15 yards (13.7 m), centred at middle stump guard on the popping crease and often marked by dots, define the close-infield. The infield, outfield, and the close-infield are used to enforce fielding restrictions.

Pitch



Boundary



Inner boundary using rope





Inner boundary using foam pad



Outer boundary using boards (flex + frame) and seating thereafter

Field material: Natural grass

Drainage: Subsoil drainage with PVC perforated pipes under the lawn and connected to a Periphery drain is recommended. This is not provided below the pitch.

Irrigation: The pitch should be irrigated manually. Sprinkler irrigation is preferred for the lawn.

Fencing: Fencing is provided beyond the outer boundary to keep the spectators out of the field based on site conditions.

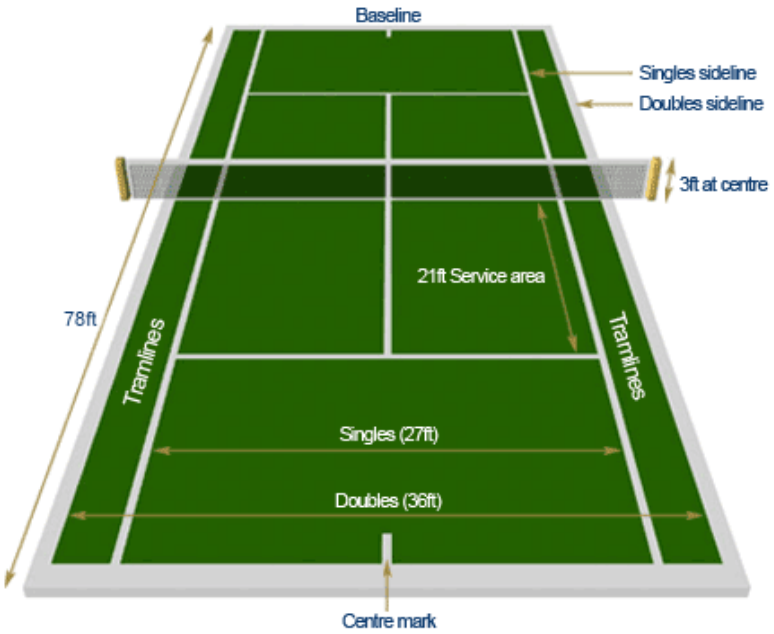
Lighting: For Class 2 or Intermediate level play (regular play), 500 lux is required over the pitch with a Minimum/ Average of 0.7 and 300 lux is required over the lawn with a Minimum/ Average of 0.5. The maximum Glare Rating is 50. Lighting is provided from 4 poles.

Also see 'Cricket Field Preparation' Guidelines.

Other key equipment needed

a. Pitch covers
b. Ground Roller
c. Scoreboard
d. Cricket nets
e. Bowling machine (optional)

Tennis



78 feet x 27 feet (singles) or 78 feet x 36 feet (doubles)
In addition to the above, movement/playing space of min. 3.6 m on the longer dimension of the court (both sides) and 2m on the shorter dimension of the court (both sides) should be provided.

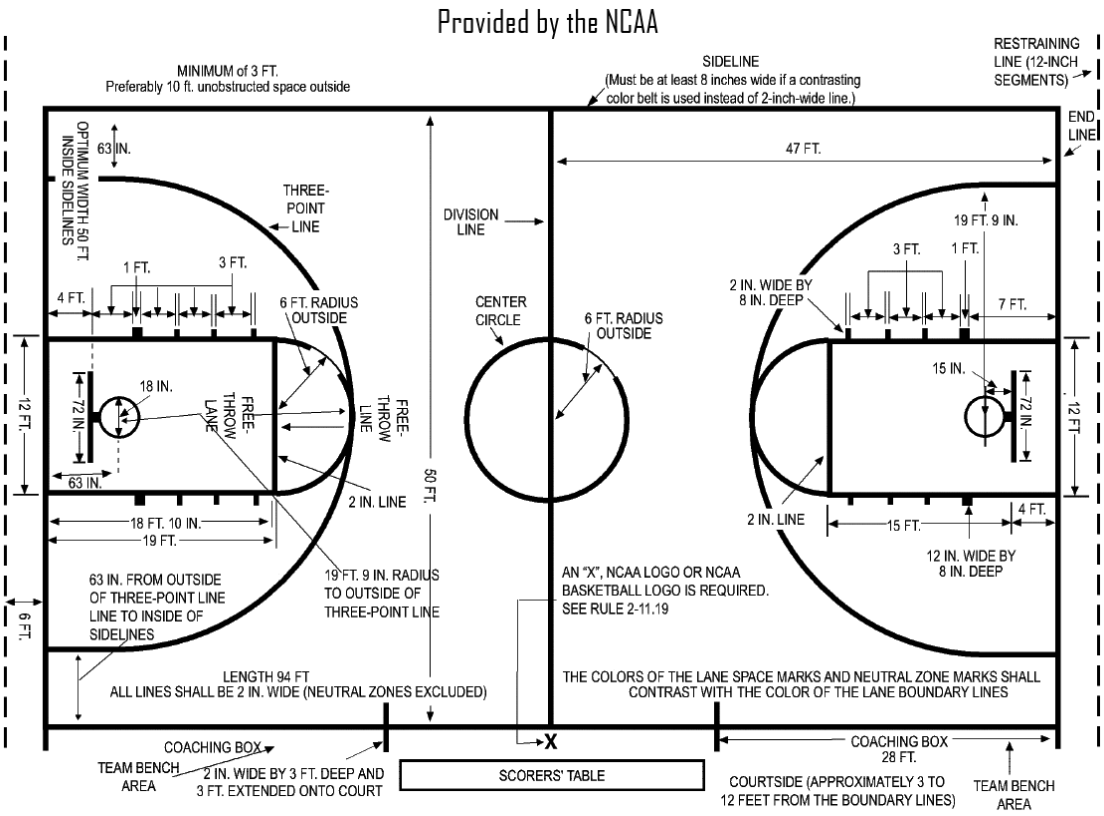
Fence



Height should be 3 mtrs above the court level. Generally a chain link fence. This can also be used for basketball and volleyball.
Field material: 8 layer Acrylic / Artificial turf

Lighting: For Class 2 or Intermediate level play (regular play), 300 lux is required with a Minimum/ Average of 0.7 and a maximum Glare Rating of 50.

Basketball



94 feet x 50 feet (half basketball: 47 feet x 50 feet)

In addition to the above, movement/playing space of min. 2.4 m on the longer dimension of the court (both sides) and 1.2 on the shorter dimension of the court (both sides) should be provided.

<u>Hoop</u>

Special attention to be paid to the quality of the hoop. Local Indian options are poorly designed and manufactured. Sample references below:

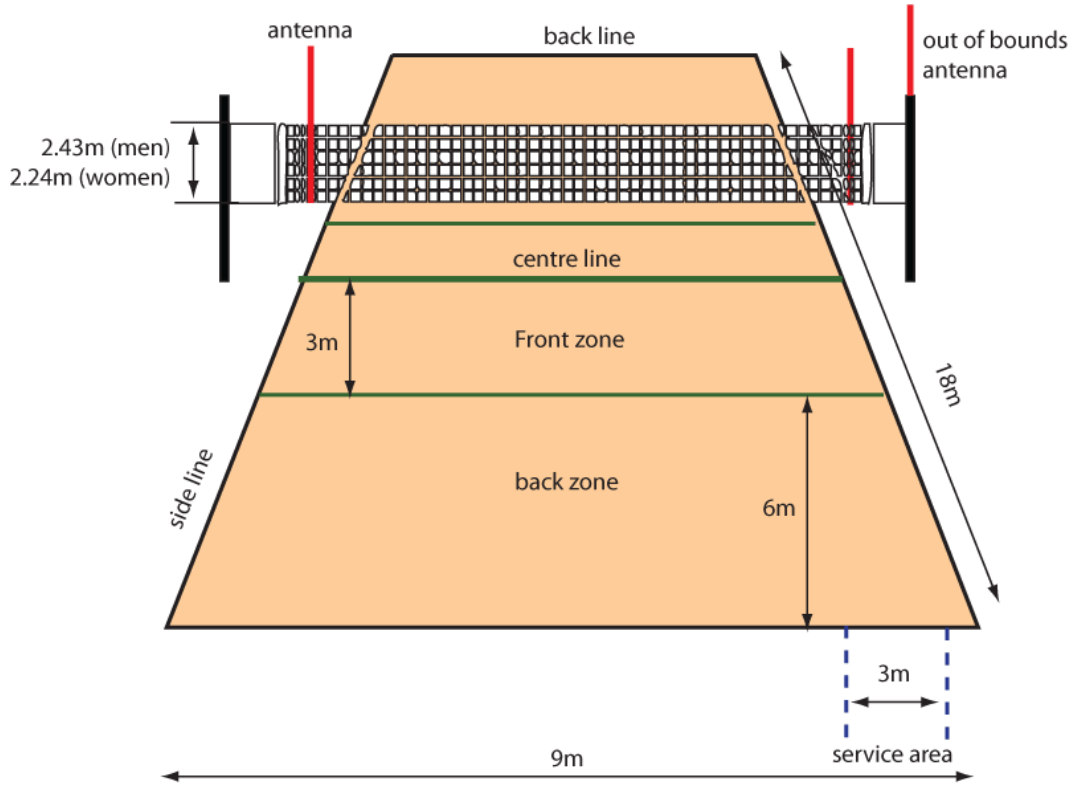




Field material: 8 layer Acrylic

Lighting: For Class 2 or Intermediate level play (regular play), 200 lux is required with a Minimum/ Average of 0.6 and a maximum Glare Rating of 50.

Volleyball



18 m (59 feet) x 9 m (29.5 feet)

In addition to the above, movement/playing space of min. 2.4 m on the longer dimension of the court (both sides) and 1.2 on the shorter dimension of the court (both sides) should be provided.

Field material: Artifical turf / 8 layer Acrylic

Lighting: For Class 2 or Intermediate level play (regular play), 200 lux is required with a Minimum/ Average of 0.6 and a maximum Glare Rating of 50.

Softscape Guidelines

Softscape Guidelines: Trees and Palms

1. Definition of Softscape

Softscape refers to the elements of a landscape that comprise live, horticultural elements. Softscaping can include, flowers, plants, shrubs, trees, flower beds, etc.

2. Context

For the purpose of demand estimation and fulfillment, trees and palms (*trees will be used to mean trees and palms hereafter*) are the most important softscape elements since they have the highest proportion of cost and are difficult to procure within given time and budget. Hence, we will now in-source trees and a 10 acre nursery in Dombivali will be setup for the same. The initial target is to source 70% of horticulture budget in-house. To ensure that this initiative meets it objectives

1. Nursery has to be supplied with demand estimation data for new projects and
2. Actual design (choice of trees, nos. and specs.) should use the trees procured according to 1, subject the current target of in-house sourcing

3. Guidelines for Demand estimation

3.1. After completion of landscape concept of a project, the project architect will work with landscape architect to estimate the demand for trees and palms for the project. Lodha Nursery maintains a list of plants/trees easily available with it and this should be shared with the landscape architect.

3.2. The project architect should verify that the quantities provided by landscape architect make sense. Calculation of total landscape area (including roadsides, podiums, central greens etc.) and implied average spacing between trees should be checked.

3.3. If possible, the project will be divided into clusters/phases that are planned to be given together for possession and demand for trees will be split accordingly.

3.4. Detailed specifications of the plantation- size, form and condition, should be shared to execution team to ensure quality and ready look of the landscape. The spec sheet should include photographic image of the plants. Following details shall also be provided in the spec sheet:

a. For trees/ large palms – trunk height after planting, trunk calliper(taken at 1m above ground level)
b. For shrubs – heights and look (bushy, flowering, multi branching, dwarf etc)
c. For palms and bamboos - canes per plant
d. For creepers and climbers – cuttings per plant
e. For lawns – method of plantation – dibbling or ready carpets.

3.5. For each cluster/phase the project architect should provide the following data to the horticulture in-charge within 90 days of completion of landscape concept (and min. 18 months prior to first requirements of trees at that site/phase):

a) the estimated possession date and

b) demand for trees and palms in the following format

Species	**Nos. required**	**Target height in m.**	**Demand quarter (Q1-Q4 of Financial Year)**	**Detailed specification (as per 3.4 above)**
Alstonia Scholaris	50	4-5	Q2 12 (June-Aug 12)	Multi-branching
Azadirachta Indica	100	4	Q2 12 (June-Aug 12)	Well branched, bushy
Cycas Revoulata	70	3	Q3 12 (Sept-Dec 12)	Straight trunk
…				

While finalizing the tree species, Design team should see what is available/ under growth in the nursery and use as many of such plants as feasible (this is a suggestion, not a restriction).

3.6. Post providing the above data, if there are any changes in design leading to changes in tree demand estimates, same should be communicated to the nursery minimum 6 months before the first trees for that site/phase are required on site.

4. Guidelines for Demand fulfillment

4.1. The requisition for trees will be raised by CM team and the requirement will go via the procurement team to the horticulture head – cost check (external cost v. Lodha nursery cost) to happen before order goes to nursery. Nursery will provide list of trees with their cost per unit to procurement at the start of every quarter.

4.2. In case the price offered by nursery is higher than external vendor or the quality requirements are not met, procurement shall have full freedom to procure from external vendor.

4.3. The trees will be transferred to the project at actual cost basis from the nursery. The resulting revenue will increase the nursery budget to buy replacement trees.

4.4. The horticulture head will use the nursery inventory in the earmarked list and the global floating list to satisfy demand. Unused items in earmarked inventory will be transferred to the global list so that they are available to any future projects.

5. Execution (Resp: Horticulture team)

5.1. The exact location of all underground utilities and other obstructions that may affect the work should be ascertained before start of work. Any services and obstruction encountered will be reported to the site engineer immediately. During the execution of work, all services shall be protected and maintained or all damages to be repaired, whether accidental or otherwise.

5.2. Plants in broken containers or with broken branches or injured trunks shall be rejected by site horticulture team. All plant material with its original form and branching should be used for the project – especially the specimen trees should be planted with the form in-tact.

5.3. Expected look and feel of the plants should be understood from landscape designer – plants to be trimmed and maintained as hedges, plants to droop over curbs or walls (not to be trimmed) etc.

5.4. Anti root barrier to be used for planters with large trees. For smaller shrubs and grassed surfaces, only drain cells + geo textile can be used.

5.5. Slopes of the drain cells to be maintained as per design to ensure there is no sub-soil water logging. None of the plantation works to be done in case of any water-logging conditions.

5.6. Garden soil depth for various types of plantations to be as follows:

a. For large trees – 1.2m X1.2m X1.2 m
b. For shrubs and palms – 0.45m to 0.6m
c. For all types of grasses, ground covers and lawns – 0.3m

5.7. The proportion of garden soil and manure should be 70:30 by volume at the time of development of the softscapes. The quantification done in the BoQ's can be super ceded by the actual space on the sites. Addition of coco peat is recommended to improve draining properties of garden soil.

5.8. Organic manure should be added 500 gms per sq.m at the time of development (discuss with Landscape architect).

5.9. Please refer Annexure A and B for typical sub-soil drainage for small and large lawn areas respectively.

6. Selection of species for lawn development

All lawns developed in the projects should be maintained to look green as carpets.

Species suggested to be used in various conditions:

For area with direct sunlight:-
a) Zoysia matrella (Manila Grass)
b) Cynodon dactylon (Bermuda grass)

Reference images




Area with indirect sun/ partial sunlight (at least once a day, the area has to receive)
a) Axonopus compresses (Cow Grass)
b) Axonopus compresses dwarf (Pearl Grass)

Reference images



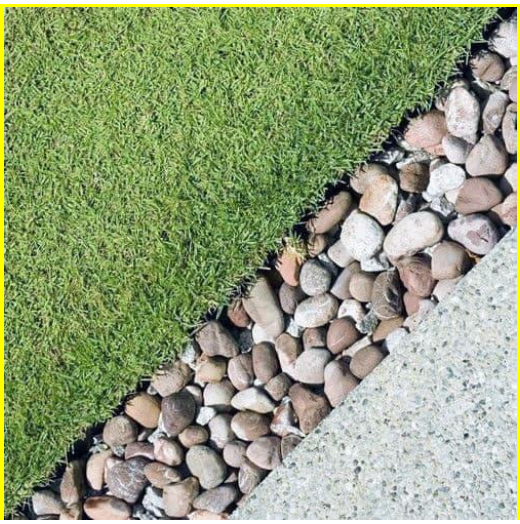

Areas with indirect Sun and less pedestrian movement / back of house areas - (texture of this grass is not as smooth - but will look green for most of the time)
Paspalum or Stenetophorum secundatum

For area with no direct sunlight and areas with impact of highly frequent pedestrian movements it is advisable to have artificial turf or Hardscape after reviewing the aesthetical suitability.

7. Best practices for better lawn maintenance over longer periods.

1. It is not advisable to drain off the surface water on the hardscapes directly into the lawns. All such water should be diverted to catch basins or storm water drains and not accumulate over the lawns
2. Minimum of 50-75mm wide layer of pebbles should be introduced at the edge of the lawn and hardscape to avoid water moving over hard surfaces to the lawns.

   Reference image:





3. Sub-base preparation for developing the lawns is an important activity which governs the quality of lawns. Refer to the methodology to be followed while developing the lawns :

8. Sub base preparation for lawns

For all lawn developments, the sub-base preparation is a very critical activity.
Suggested methodology for lawn development:

a. Cleaning of the area of unwanted materials including the weeds, stone, masonry, pieces, etc., and all such matter, which may cause damage to growth of the plant materials immediately or in future.

b. The area shall be watered profusely, in order to facilitate growth of weeds and ease of operation.

c. Three days after watering, the area shall be excavated /ploughed to a minimum depth of 300 mm or more as required with the help of cultivar drawn by a tractor/by a manual labour.

d. After ploughing /excavating, the area shall be graded as indicated on drawings or as instructed at site by the Landscape Architect..

e. Continuous weeding operations shall be done in order to have the area absolutely free from weeds of any type. No further operation shall be permitted unless the area is totally free of weeds.

f. The area shall be spread of good quality stone free garden soil, evenly as directed. The compacted soil layer shall be 300 mm deep, spread evenly on all the areas including hillock top surfaces.

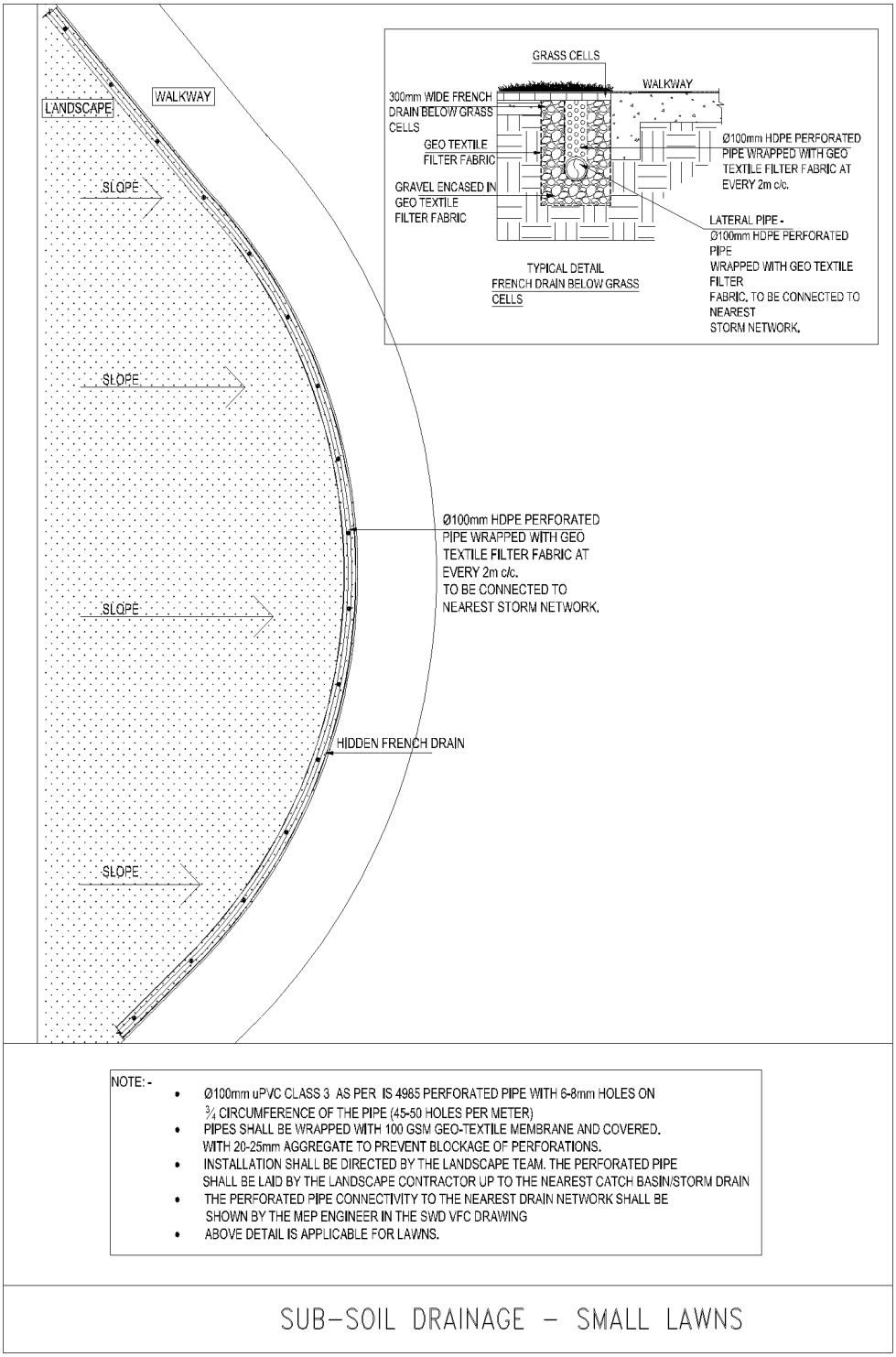
g. After spreading the good quality soil the area shall be watered, rolled with a roller (500-600 kg weight) and graded properly.

h. Also the area shall be spread and mixed of good quality F. Y. M (Farm Yard Manure) The quantity to be used shall be average layer of min. 75 mm thick all over the lawn area.The manure to be mixed properly and watered. Areas to be rolled and leveled as per the drawing

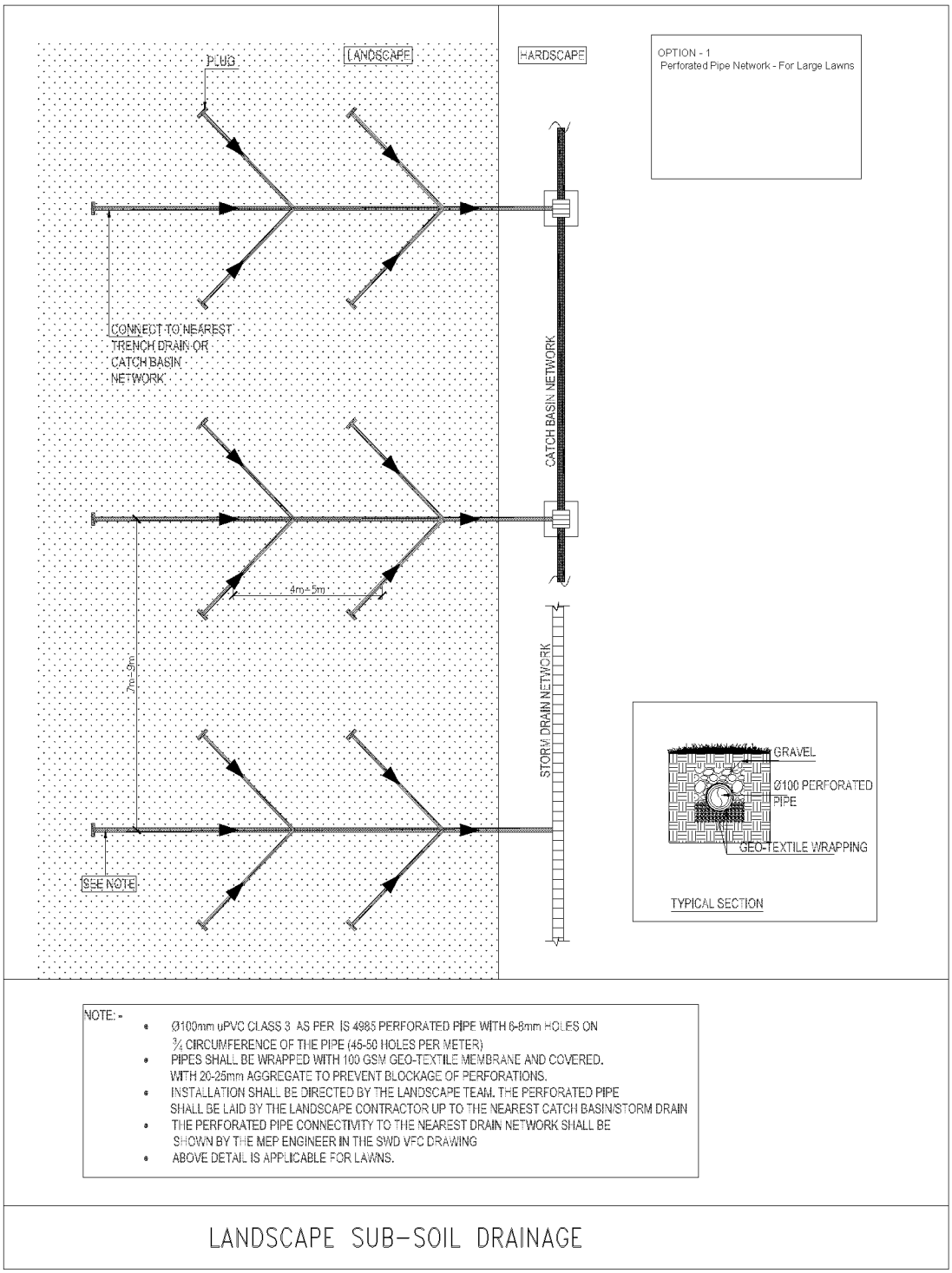
i. The plantation of lawns to be done in 2 methods – dibbling or ready carpets and the maintenance activity to be immediately initiated. No activity which impacts or disturbs the surface to be carried out for 3 months after plantation of lawns.

j. Areas with larger extents like sports fields are preferred to have designed sprinkler irrigation system for better surface maintenance

Annexure A:

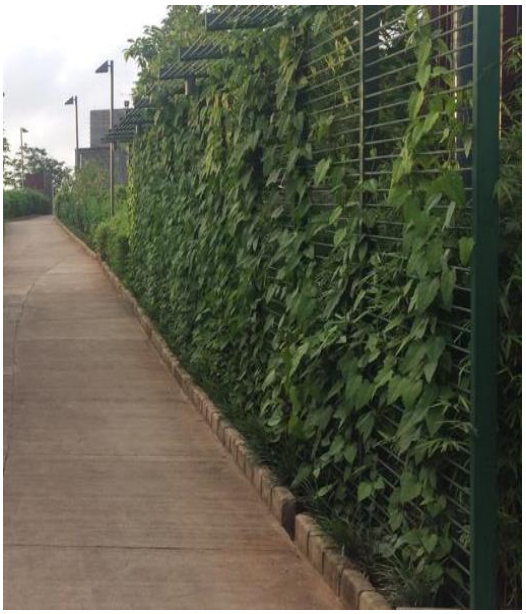

LANDSCAPE
WALKWAY
SLOPE
SLOPE
SLOPE
SLOPE
Ø100mm HDPE PERFORATED PIPE WRAPPED WITH GEO TEXTILE FILTER FABRIC AT EVERY 2m c/c. TO BE CONNECTED TO NEAREST STORM NETWORK.
HIDDEN FRENCH DRAIN
GRASS CELLS
WALKWAY
300mm WIDE FRENCH DRAIN BELOW GRASS CELLS
GEO TEXTILE FILTER FABRIC
GRAVEL ENCASED IN GEO TEXTILE FILTER FABRIC
Ø100mm HDPE PERFORATED PIPE WRAPPED WITH GEO TEXTILE FILTER FABRIC AT EVERY 2m c/c.
LATERAL PIPE - Ø100mm HDPE PERFORATED PIPE WRAPPED WITH GEO TEXTILE FILTER FABRIC, TO BE CONNECTED TO NEAREST STORM NETWORK.
TYPICAL DETAIL FRENCH DRAIN BELOW GRASS CELLS
NOTE: -
• Ø100mm uPVC CLASS 3 AS PER IS 4985 PERFORATED PIPE WITH 6-8mm HOLES ON ¾ CIRCUMFERENCE OF THE PIPE (45-50 HOLES PER METER)
• PIPES SHALL BE WRAPPED WITH 100 GSM GEO-TEXTILE MEMBRANE AND COVERED. WITH 20-25mm AGGREGATE TO PREVENT BLOCKAGE OF PERFORATIONS.
• INSTALLATION SHALL BE DIRECTED BY THE LANDSCAPE TEAM. THE PERFORATED PIPE SHALL BE LAID BY THE LANDSCAPE CONTRACTOR UP TO THE NEAREST CATCH BASIN/STORM DRAIN
• THE PERFORATED PIPE CONNECTIVITY TO THE NEAREST DRAIN NETWORK SHALL BE SHOWN BY THE MEP ENGINEER IN THE SWD VFC DRAWING
• ABOVE DETAIL IS APPLICABLE FOR LAWNS.
SUB-SOIL DRAINAGE - SMALL LAWNS

Annexure B:


PLUG
LANDSCAPE
HARDSCAPE
OPTION - 1
Perforated Pipe Network - For Large Lawns
CONNECT TO NEAREST TRENCH DRAIN OR CATCH BASIN NETWORK
CATCH BASIN NETWORK
4m-5m
7m-9m
STORM DRAIN NETWORK
SEE NOTE
GRAVEL
Ø100 PERFORATED PIPE
GEO-TEXTILE WRAPPING
TYPICAL SECTION
NOTE: -
Ø100mm uPVC CLASS 3 AS PER IS 4985 PERFORATED PIPE WITH 6-8mm HOLES ON ¾ CIRCUMFERENCE OF THE PIPE (45-50 HOLES PER METER)
PIPES SHALL BE WRAPPED WITH 100 GSM GEO-TEXTILE MEMBRANE AND COVERED. WITH 20-25mm AGGREGATE TO PREVENT BLOCKAGE OF PERFORATIONS.
INSTALLATION SHALL BE DIRECTED BY THE LANDSCAPE TEAM. THE PERFORATED PIPE SHALL BE LAID BY THE LANDSCAPE CONTRACTOR UP TO THE NEAREST CATCH BASIN/STORM DRAIN
THE PERFORATED PIPE CONNECTIVITY TO THE NEAREST DRAIN NETWORK SHALL BE SHOWN BY THE MEP ENGINEER IN THE SWD VFC DRAWING
ABOVE DETAIL IS APPLICABLE FOR LAWNS.
LANDSCAPE SUB-SOIL DRAINAGE

Finishing of Private Gardens / Terrace Gardens:

a. Gardens should be provided at ground/podium level only for premium unit sizes/types within a development – as a rule of thumb, gardens should only be provided for units which are bigger than 2 BHK (i.e. 2.5 BHK and higher). Any exceptions, need to be approved by concerned RCEO/MD at time of concept design finalization (this can be applied to ongoing projects too, wherever feasible).
b. These need to feel like high quality outdoor spaces.
c. Minimum width should be 1800mm for at least 75% length of the garden.
d. Significant space should be 'green' (suggested > 70%) in form of grass, plantation etc..
e. Part can be tiled / wooden floor for placement of outdoor furniture.
f. Appropriate provisions for water supply (for watering of plants) should be made if garden area > 500 sq. ft.
g. Appropriate provision for drainage should be made.
   Appropriate demarcation of private space from outside public space should be done through material with semi-permanent feel eg. grills, wooden planks or dense row of creepers with chain link fencing etc... Creepers like Thunbergia grandiflora or passion flower can be used. Height of such demarcation should be 1.8 m above level of the public pathway adjacent to the garden and min. 1.5 m above the garden soil top level. Such demarcation material should age well in outdoor environment. For clarity, it is NOT permissible to use permanent materials like concrete/brockwork/equivalent above the level of the soil fill for the purposes of demarcation.



h. If a unit with private garden is located on ground floor or any other level which has easy access for 3rd parties (eg. Podium level where common garden is on same/similar level as private garden), external safety grills/collapsible door are to be provided by Lodha for all

the windows of such unit which can be accessed from the adjacent level (for design details in relation to such safety grills, see 'external fall protection policy').
Reference image (from Lodha Splendora, Thane) (this is not ideal but only indicative):



↑ - please note that brickwork/planter upto this height is NOT permissible. Use grill / wooden planks etc. above soil level to give semi-permanent feel.

i. For all garden apartments, mounting of retractable canopy shall be permitted upto a maximum distance of upto 1 feet from the external edge of the garden area. Design team to provide a standard design detail for their respective project viz. Look and feel, colour scheme(to be in sync with building façade design) to allow installation by customer at his own cost post OC with no involvement of Lodha. Refer snapshot below (only representative image).



Lodha Nursery – Steps for Improvement

1. All trees planted at site (whether supplied by Lodha Nursery or purchased from outside) should be such that they reach their finished size (coverage, girth etc.) by the end of 2 monsoons after date of plantation (i.e. 18-24 months).
2. Plantation of trees onsite should be commenced as soon as possible:
    a. Where plantation is on natural ground (i.e. not on basement/podium), plantation should be started atleast 6 months prior to target date of handover of relevant part of the landscape.
    b. Where plantation is not on natural ground (i.e. on basement/podium), plantation should be started atleast 3 months prior to target date of handover of relevant part of the landscape.
3. List of all plants/trees/shrubs requiring finished height (viz. two monsoons after plantation) >= 3 m should be made known to Lodha nursery atleast 3 years prior to commencement of plantation.
4. Nursery will endeavour to grow trees as tall as 8 m.
5. List of all other plants/trees should be made known to Lodha nursery at least 6 months prior to commencement of plantation.
6. Format of details provided to Horticulture by concerned project design team shall be as per format given in Annexure A hereto.
7. Additional requirements should be sent on quarterly basis by concerned project design team to Lodha Nursery.
8. Maximum 20% variance shall be permitted in quantity of any species on a given site – further, no changes shall be accepted in period starting 3 months prior to commencement of plantation.
9. It should be ensured that atleast 80% of total requirement (by value) should come from Lodha Nursery.
10. Standard list of trees/plants/shrubs that are/can be grown in Lodha Nursery shall be provided to external landscape consultants by the concerned project design team.
11. P&L of Lodha Nursery is to be prepared on annual basis by Accounts MIS team (taking into account plants supplied + inventory).

Annexure A

Details of Requirement of Tree/Plant/Shrub for Lodha Projects

Prepared by: _____ (project design team level 2/3); Approved by: _____ (Project designteam level 2/1);

Requirement Provided in: _____ (Month and Year)

Project	Species	Nos.	Finished (viz. two monsoons after plantation) Height (mtrs)	Finished (viz. two monsoons after plantation) Girth (dia, mtrs)	Finished (viz. two monsoons after plantation) Spread (dia of crown, mtrs)	Likely required date at site (Month and Year)	Reference Image

Landscape layout guidelines:

Making layout appear green

a. All walking paths should be shaded from both sides – can be trees on both sides or tree on one side and building edge on the other. If building edge, use shrubs to soften the edge. The tree size to be proportionate to the width of the footpath – generally small or medium trees can be used.
b. Parking areas need to have a tree canopy. To enable this, need a 0.6-1 m patch after every 3 car parks (~7 m-7.5 m) which should be planted with medium/tall trees.
c. For all buildings > 15 m in height, it is important to break the visual perspective of their height/mass as perceived from the ground. This can be achieved by a tree line at a distance of 3-6 m from the building line. This can preferably be part of a. or b. above or if not, additional tree line.
d. Wherever trees are planted, ensure sufficient soil depth so that they don't cause uplift/damage to the footpath / parking etc. adjacent to it.
e. Corners of buildings and footpaths (which do not obstruct walking path or roads) should be developed as pocket gardens (see image 1 (appropriate pocket garden) and 2 (missed opportunity)).
f. Buffer zone of 2-3 m from property edge should be mandated for extensive plantation. This should include tall trees which create shade canopies. Fire tender movement should be planned beyond this. This can (should) be complimented by having trees on the other side of the sidewalk from the property boundary.

Ventilation:

a. Even if there are ground floor apartments ensure visual connectivity and air flow between open space pockets by having some unit (or part thereof) - min width of 4.5 m as open.

Open recreational spaces - Hierarchy & other observations:

a. Cluster
    a. Focused on < 10 years olds and elders. Appropriate play equipment and sitting spaces (with good shading).
b. Neighborhood
    a. Having something for different age groups
        i. General purpose playground / lawn of adequate size to have a game of 10+ people (eg. 5-a-side football, 5-a-side cricket etc.)
        ii. Larger playground with play equipment for 5-12 year olds (eg. playground t St. James's Park, London)
        iii. Sitting / hangout spaces
    b. Clubhouse
    c. Event (party) lawn
    d. Temple

c. City
    a. Large running areas (wide pathways of min. 6 m width).
    b. Large play areas (lawns which can be used for various sports and 'horsing around' with some but not a lot of trees)
    c. Large kids playgrounds with advanced / rare equipment (eg. playground at Holland Park, London; playground at Union Square Garden, New York)
    d. Formal sports/athletics arenas
    e. Large functions spaces (for 200+ people, which cannot be accommodated in the neighbourhood level event (party) lawn).

d. Sizing
    a. Rectangular or oval/round shapes are preferable.
    b. If rectangular/square/similar, ensure that one dimension is no more than 4x the other. This can be measured at the 90% percentile of both dimensions if the dimensions are varying. Avoid large protrusions which dramatically reduce one of the dimensions. If this is necessary, ensure that the protrusions are used to demarcate start/end of the spaces and the broken up spaces are designed as differing (not contiguous spaces).

Definitions
Small Tree – min. branch/growth 4.5 m. above ground and min. canopy diameter of 3 m.
Medium Tree – min. canopy height of 6 m. above ground and min. canopy diameter of 6 m.
Tall tree - min. canopy height of 9 m. above ground and min. canopy diameter of 6 m.
Image



1. Appropriate Pocket garden
2. Missed opportunity



CHE/DP/71/Gen.
2015-16

MUNICIPAL CORPORATION OF GREATER MUMBAI
No.: Ch.Eng. / D.P. / 049020 /Gen. Dtd. 01.03.2016

CIRCULAR

Sub: To allow elevational features to propose buildings/ under construction buildings of residential/ commercial users.
Ref : MCP/1106 dated 29.02.2016.

There are provisions in D.C. Regn. 30 for elevation treatments to be permitted in open space of the building. There is no such provision for elevation treatment on the terrace in the regulations. Requests from the Architects and Developers received for allowing such elevation treatments on terrace so as to increase the aesthetic view of the building. Considering the requests and in order to improve the aesthetic view of the building in the city of Mumbai, a Committee was formed to decide Crown Policy and by taking the opinion/ review of experts, it is decided to allow the elevation treatments at terrace level and for other parts of the building as per the following guidelines:

1) **To allow parapet wall at terrace level of greater height upto 4.50 mt. / 6.50 mt, or more :-**

The parapet wall of greater height upto 4.50 mt. for building upto 70.00 mt height, upto 6.50 mt. for building having height from 70.00 mt. upto 120.00 mt. and parapet wall for building height above 120.00 mt., parapet wall of required height may be allowed on all sides of the building periphery in any shape / any profile provided that-

(a) the parapet wall above 1.15 mt. (i.e. 3.35 m for building having height less than 70.00 m, 5.35 m for building having height from 70.00 mt. upto 120.00 mt. & height of parapet wall upto 9.00 mt. or upto top of LMR/ Water Tank Parapet Top whichever is higher with specific design requirement for a building having height beyond 120.00 mt. which may/ may not include need of providing seismic damper as per the structural requirement of the building approved by High Rise Committee) shall be provided with voids / opening so that the area of such voids / openings / profile should not be less than 60% of the surface area of parapet wall above 1.150 mt. Such openings shall be at 1.15 mt. level from terrace level & shall be of adequate size (width 1.5 mt. & height 1.5 mt.) from where person can be taken out or communicated through visual or oral easily.

(b) The regular parapet wall of 1.15 Mt. height without any voids / opening shall be provided all over the periphery of building line at terrace level as per provisions of DCR.

(c) The parapet wall may be provided with or without decorative material with or without cladding / bonds / cornices/ support structure. The material used for decorative purpose or for cladding shall be fire resistant as per NBC.

(d) Greater height of parapet wall shall only be allowed on topmost common terrace of building / wing / wings and shall not be allowed on intermediate part terraces / pocket terraces / slopping terraces, podium/ Parking floors, refuge floors, etc.

(e) For part terrace on topmost floor, the parapet wall up to the maximum height of Lift Machine Room/ Water Tank Parapet Top whichever is higher can be permitted along all sides with voids in surface area not less than 75%, subject to 1(b) and 1(c) above.

2) **To allow elevational features / Dome like structures above water tank / lift machine room / staircase room and at 4 corners of topmost terrace.**

The elevational features / **Dome like structures** upto 4.00 mt. height for building upto 70.00 mt. height, 6.00 mt. for building having height more than 70.00 mt. to upto 120.00 mt. & beyond 120.00 mt. the height may be allowed upto 9 mt. in any geometrical shape above water tank / lift machine room / staircase room along the periphery or at the four corners of topmost terrace may be permitted subject to providing 60% opening / voids of the surface area of elevation treatment / profile.

3) **To allow pergola at terrace slab level upto 2.00 mt. beyond the building line:-**

The pergola at terrace slab level maybe allowed subject to-

a) The pergola projection beyond building line shall not be more than 2.00 mt.
b) The pergola projection shall not affect side marginal open space of 3.00 mt. and front marginal open space of 1.5 mt.
c) Such pergolas shall be allowed only on top most common terrace of building / wing / wings.
d) The pergolas shall not be allowed on part terraces / pocket terraces / slopping terraces.

4) **To allow peripheral fins at podium level to camouflage stack parking at podium level:-**

The peripheral fins may be allowed at podium level above parapet subject to-

a) Min. 75% see-through opening area of proposed peripheral area shall be provided
b) The fins shall be provided with material such as Alco bond / fibre / aluminium sheets / FRP plastic / wooden panels.

c) The fins with RCC, brick work, hallow blocks or any such construction material shall not be permitted.

5) **To allow drop chajja:-**

The drop (down) chajja of 0.10 to 0.15 m thick may be allowed with 0.30 m drop (down) on either sides opening provided that,

a) The width of chajja should be as per provisions of DCR and
b) The chajjs shall be at the level of min. 0.60 m below the floor level as shown in sketch No.1.

6) **To allow slant chhajjas:-**

The slant chhajjas as shown in sketch no.2 may be allowed.

7) **To allow drop chhajja of 1.20 m with cut out in between:-**

The same may be allowed as shown in sketch no.3

8) **To allow cornices:-**

The cornices upto 0.10 / 0.15 mt. max. projection along the periphery of window opening, top / bottom and vertical at external wall, at the floor level / midlanding level / terrace level / parapet top level, dead wall / staircase bay opening / may be allowed along with cornices to chhajjas as shown on sketch no.4

9) **To allow elevational bands:-**

The elavational bands of max. 0.75 mt. width in the form of decorative / materials of max. 20 mm thick including all fixures / cement sand plaster of 20 mm thick may be allowed.

10) The crown on the building with height of 70.00 mt. or more will be allowed with the height of 1/8th of the total height of the building above terrace. The crown profile selected will be allowed covering the entire terrace with 60% opening of all sides with the support system as per the design requirement and as approved by the Hon.M.C.

11) The M.S. chequered plate platform with 1.20 mt. width exclusively to provide A.C. units at suitable location for residential/ non residential building may be allowed with prior permission of Hon.M.C.

The above elevation features may be permitted by the Municipal Commissioner subject to following:

1) Elevation treatment at Sr no 1, 2 may be permitted only on the building in prominent locations having width of access road more than 12.20m
2) The elevation treatment shall not be counted in FSI. However, for the purposes of civil aviation, Heritage, Archaeology, High Rise building etc. the height of building up to the topmost point of elevation treatment shall be taken into consideration.
3) Regd. undertaking for not misusing the said elevation features shall be submitted by the Developer / owner.
4) The individual proposal shall be scrutinised by concern building proposal dept. and submitted for special sanction of Municipal Commissioner.
5) No pergola or horizontal roof type enclosure shall be allowed on terrace.
6) The detailed drawings showing plans, sections shall be submitted for approval.
7) **The specific NOC from CFO shall be obtained for such proposed elevation features before processing the proposal for approval.**

   Where, H.R.C. is obtained for full height, the structural stability from VJTI, IIT or SPCE for sr.no.1, 2 & 10.

   No regularization proposal shall be submitted for any elevation features.

This circular supersede earlier circular under no.ChE/DP/030090 dtd. 30.09.2015.

Sd/-
Ch.E.(DP)i/c

Sd/-
Municipal Commissioner

Acc : 4 numbers of Sketches.

No.: ChE/DP/049020 /Gen. dtd. 01.03.2016

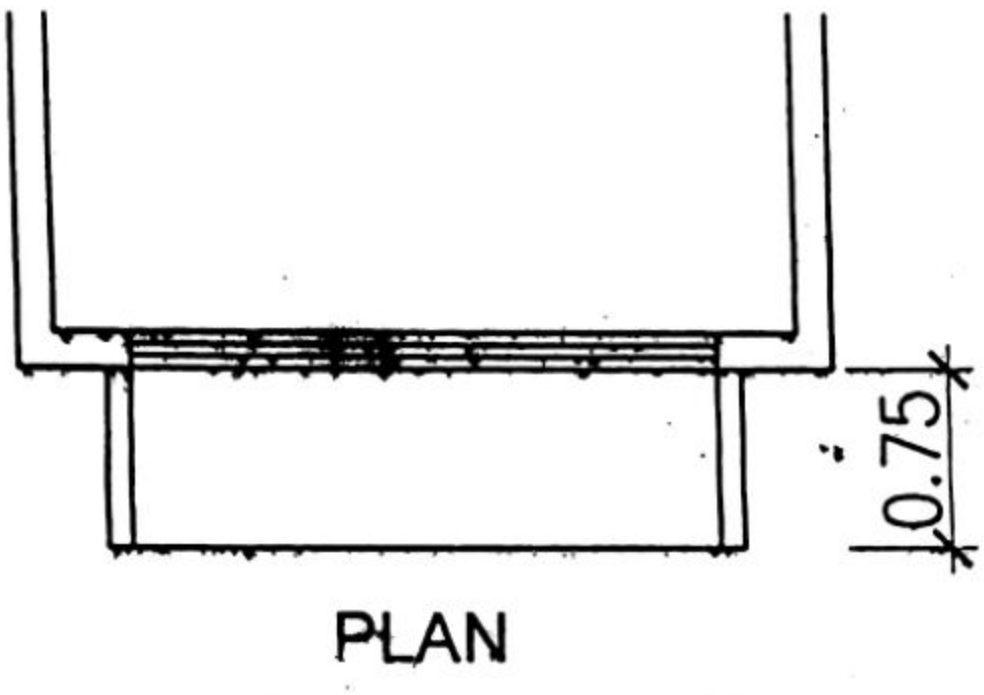
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For information & to take further necessary action in this regard.

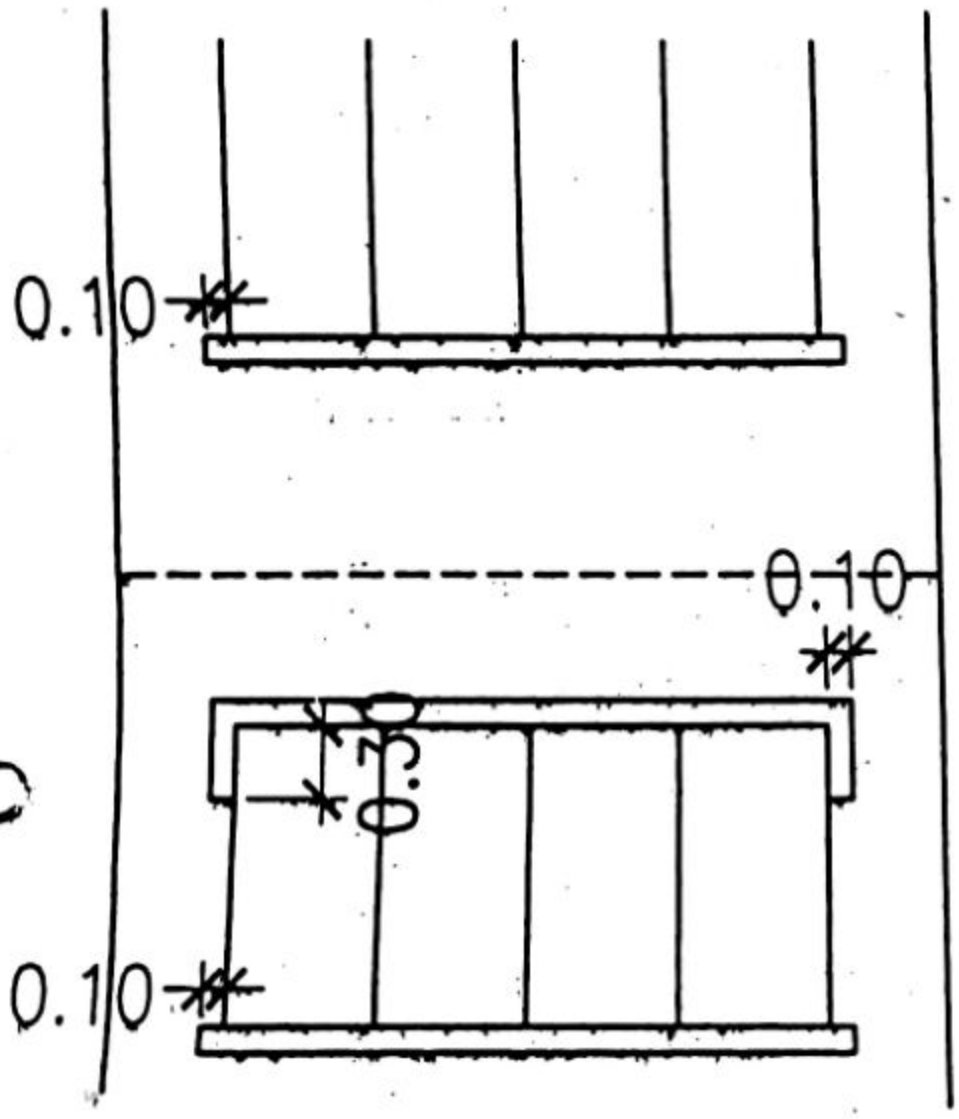
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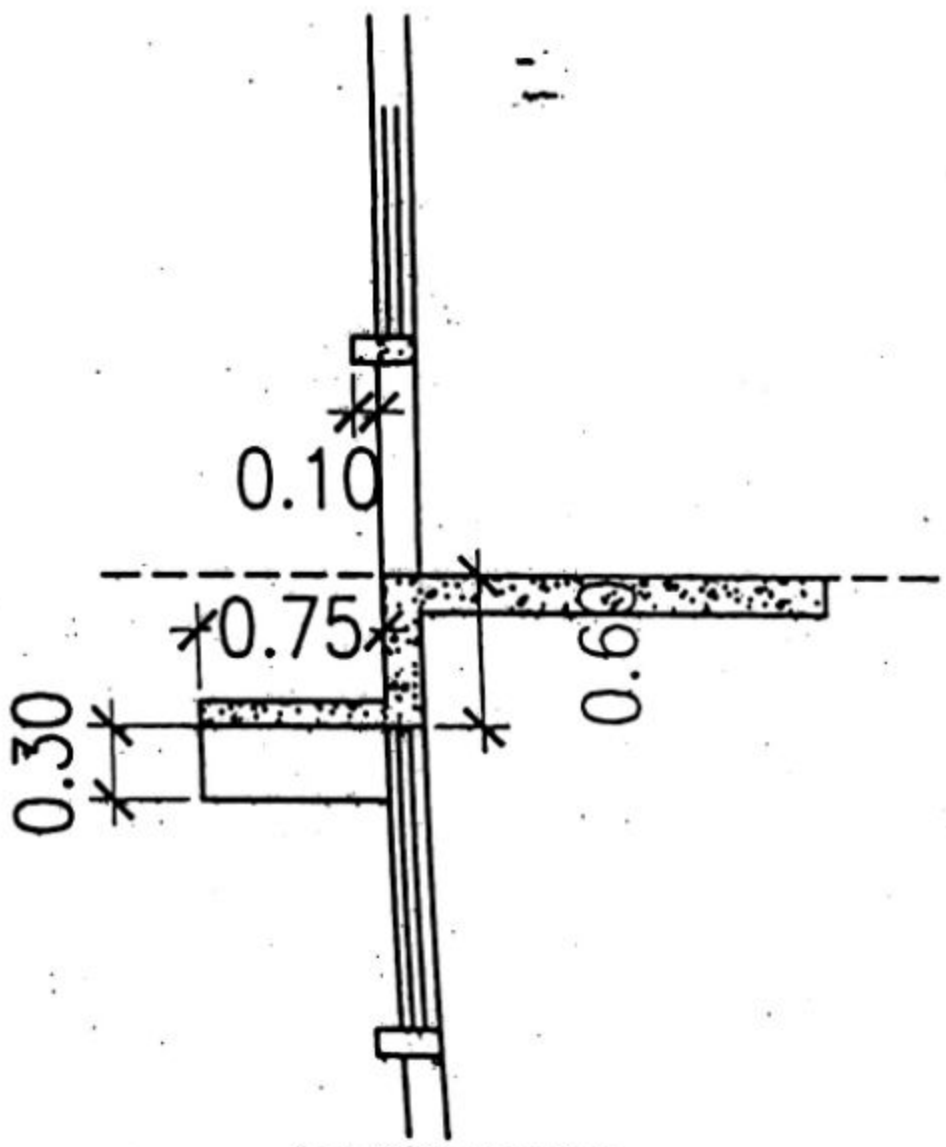
CH.E.(D.P.)i/c.

SKETCH NO. 1



DROP CHAJJA



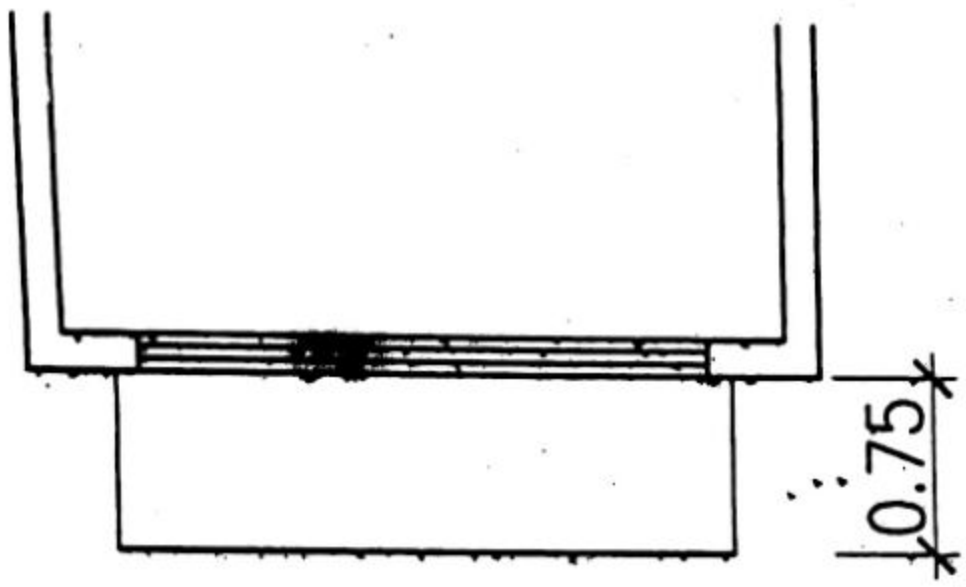


SKETCHES OF ELEVATIONAL PROJECTION

Ch. Eng. D.F.

01/03/16

SKETCH NO.2



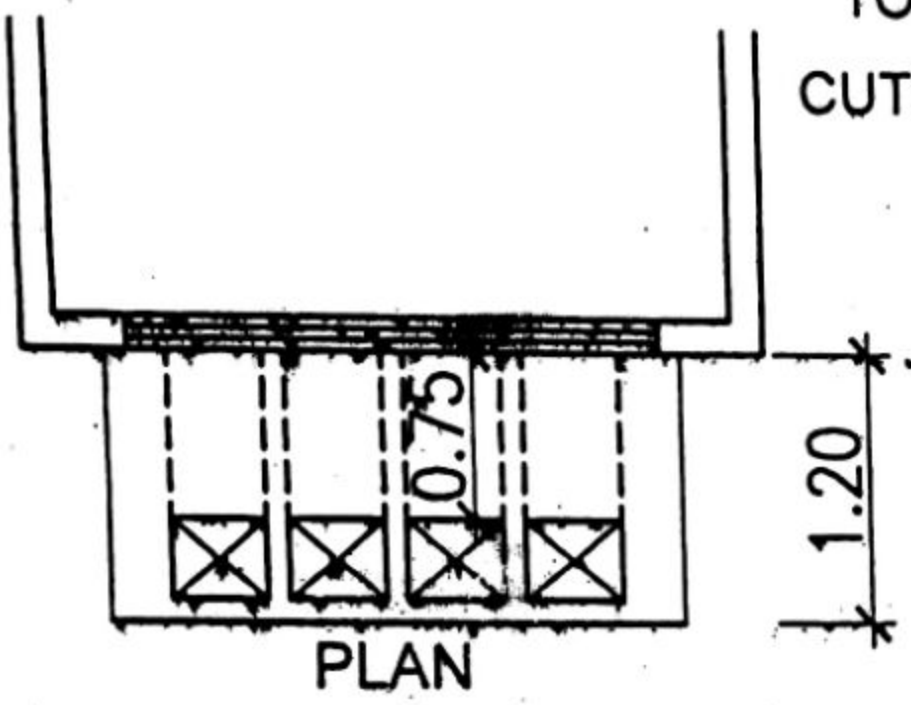
SKETCHES OF ELEVATIONAL PROJECTION

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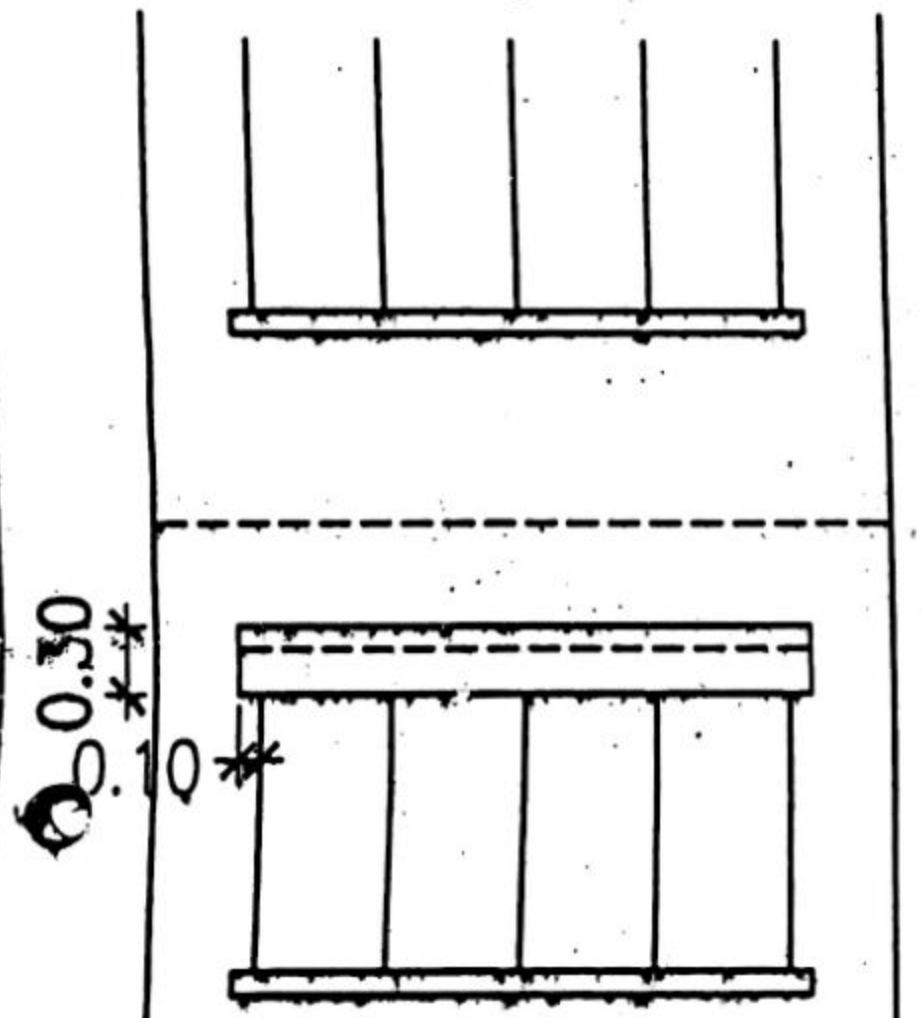
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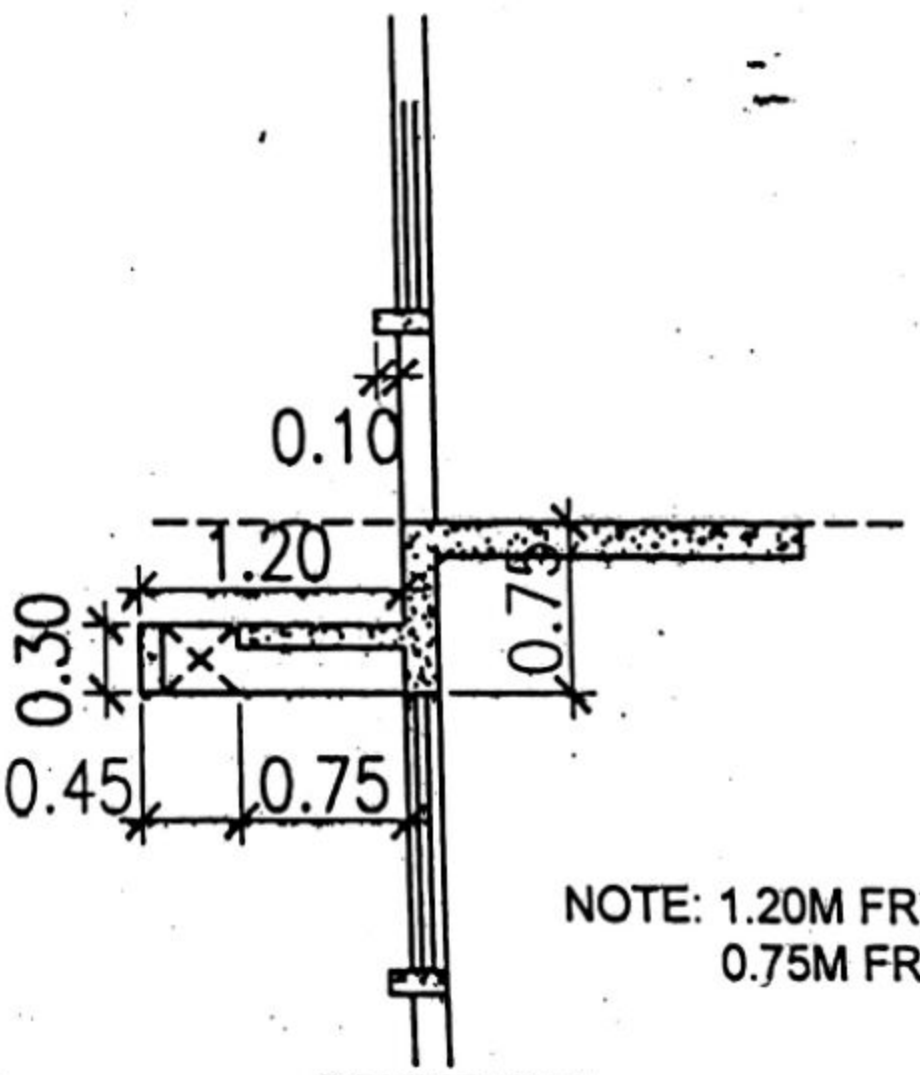
TO ALLOW DROP CHAJJA WITH
CUTOUT IN BETWEEN UPTO 1.20M



PLAN



ELEVATION



SECTION

NOTE: 1.20M FROM BLDG. LINE
0.75M FROM BALCONY

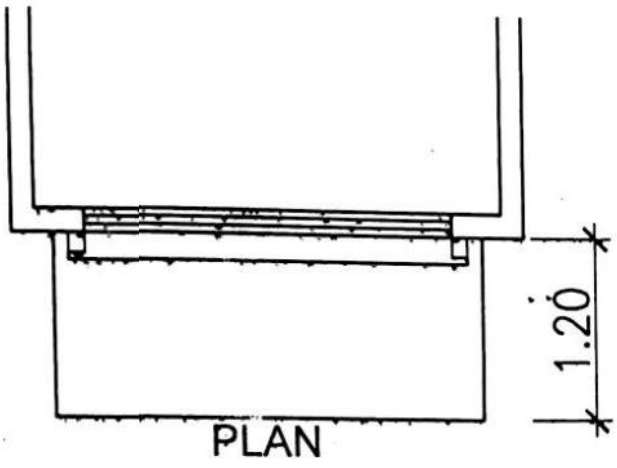
SKETCHES OF ELEVATIONAL PROJECTION

Ch. Engg. D.F.

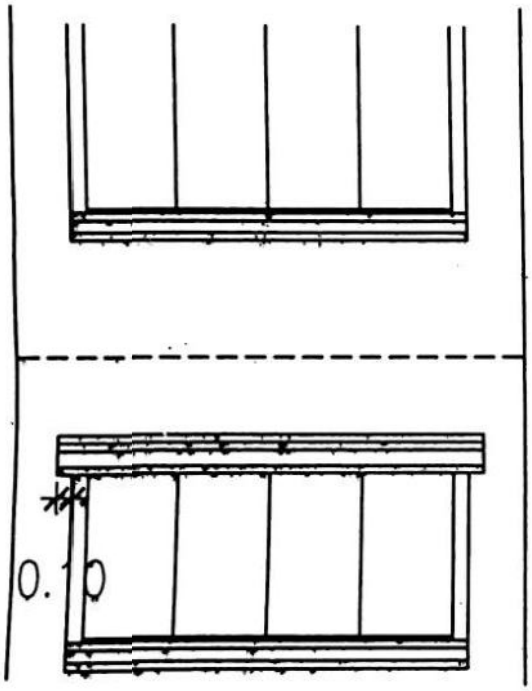
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SKETCH NO.4

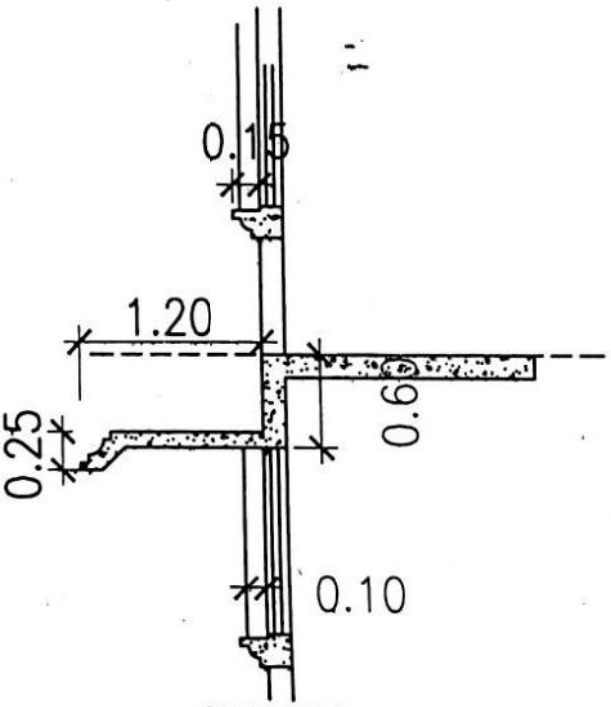
TO ALLOW CORNICES
AT EDGE OF CHAJJAS



PLAN



ELEVATION



SECTION

SKETCHES OF ELEVATIONAL PROJECTION

Ch. Engr. D.P.

01/05/16

Municipal Corporation of Greater of Mumbai

No: CHE/_____/DP/Gen Dated .07.2017

CIRCULAR

Sub : The policy guidelines to allow the area covered by Staircase/lift wells including lobbies as specified in D.C. Reg. 35(2)(iv) & modification in clause no. (B) 12 of the policy circular u/no.CHE/22276/DP/Gen Dtd. 12.01.2012

Ref: Circular u/no. CHE/22276/DP/Gen Dtd. 12.01.2012

Preamble :

The area of staircase/lift wells including lobbies are allowed free of FSI as per the provisions of sub-clause 35(2)(iv) of modified DCR 1991 and as per the clause no. (B)12 of present policy guidelines circular u/no. CHE/22276/DP/Gen dtd. 12.01.2012.

The provision of sub-clause 35(2)(iv) of DCR 1991 read as follows:

35(2) The following shall not be counted in FSI

(iv)*"Areas covered by staircases/ lift wells including lobbies as specified, excluding those covered under D.C. Regulation No.35 (2) (iii) with special written permission of the Commissioner subject to payment of premium."*

In the above DCR provisions, the lobbies as specified shall be allowed free of FSI. To specify the lobby area, the policy was framed & circulated.

The clause no. (B)12 of the policy circular u/no. CHE/ 22276/ DP/ Gen Dtd 12.01.2012 for allowing the area covered under staircase, lift wells including lobbies is as under:-

Clause no. (B)12:

As per modified D.C. Regulation 35(2)(iv), areas covered by staircases/lift wells including lobbies as specified shall not be counted in F.S.I with special written permission of the Commissioner, subject to the payment of premium. Premium is payable except for areas covered under D.C. Regulations 35 (2) (iii). Accordingly, the following shall not be counted in F.S.I with special written permission of the M.C. by charging premium at 25% of the Stamp Duty Ready Reckoner rates for developed land as per prevailing policy,

a) Lobby in front of lift/s, equivalent to the depth of the lift.

b) Lobby in front of the staircase/s, equivalent to width of the stair flight.

c) Not more than 1.5 mt. long lobby in front of smoke vent (window) provided only between the lifts/ staircase equivalent to depth of the lift. However, such lobby shall not be allowed free of FSI, if it abuts habitable area.

MCHI CREDAI, has represented in writing that in view of the provision of the DCR 35(2)(iv), the entire length of the passages/lobbies should not have been counted in FSI but may be permitted free of FSI by charging premium at 25% of the stamp duty Ready Reckoner rates for the developed land, since DCR 35(2)(iv) does not specify any restriction on the area which should not have been counted in FSI.

After due consideration, it was decided to modify the clause no. (B)12 of policy circular u/no. CHE/22276/DP/Gen Dtd 12.01.2012 as below:-

1. Modified Clause no. (B)12:

As per modified D.C. Regulation 35(2)(iv) areas covered by staircases/ lift wells including lobbies as specified shall not be counted in F.S.I with special written permission of the Commissioner, subject to the payment of premium. Premium is payable except for areas covered under D.C. regulations 35 (2) (iii).

Accordingly,

I. The areas covered by staircases/lift wells shall not be counted in F.S.I with special written permission of the Municipal Commissioner by charging premium at 25% of the Stamp Duty Ready Reckoner rates for developed land as per prevailing policy.

II. The following area comprised of Lobby/Lobbies shall not be counted in F.S.I with special written permission of the Municipal Commissioner by charging premium at 25% of the Stamp Duty Ready Reckoner rates for developed land as per prevailing policy,

(i) For buildings having height up to 24 meters,

a) Lobby in front of lift/s, equivalent to 1.25 times the depth and 1.25 times the width of the lift.

b) Lobby in front of the staircase/s, having depth and width equivalent to 1.25 times the width of the stair flight.

c) Not more than 1.5 mt. long lobby in front of smoke vent (window) provided only between the lifts/ staircase equivalent to 1.25 times depth of the lift. However, such lobby shall not be allowed free of FSI, if it abuts habitable area.

cl279

(ii) For buildings having height up to 70 meters,

a) Lobby in front of lift/s, equivalent to 1.5 times the depth and 1.5 times the width of the lift.

b) Lobby in front of the staircase/s, having depth and width equivalent to 1.5 times the width of the stair flight.

c) Not more than 1.5 mt. long lobby in front of smoke vent (window) provided only between the lifts/ staircase equivalent to 1.5 times depth of the lift. However, such lobby shall not be allowed free of FSI, if it abuts habitable area.

(iii) For buildings having height above 70 meters,

a) Lobby in front of lift/s, equivalent to 2.0 times the depth and 2 times the width of the lift.

b) Lobby in front of the staircase/s, having depth and width equivalent to 2.0 times the width of the stair flight.

c) Not more than 1.5 mt. long lobby in front of smoke vent (window) provided only between the lifts/ staircase equivalent to 2.0 times depth of the lift. However, such lobby shall not be allowed free of FSI, if it abuts habitable area.

Note: For guidance the sample sketch for a building having height more than 70 m. is attached herewith.

New Clause No.B(13)

1. The wall thickness may be included in the area of lift/staircase for claiming the same free of FSI if it is not abutting to any habitable area.

2. If staircase/lift is abutting to habitable area, then the minimum thickness of wall to be considered in FSI shall be 230 mm for brick masonry wall & 150 mm in case of RCC wall.

2. This modified circular will be applicable to all ongoing proposals for which Occupation Certificate is not granted.

3. The area generated due to allowing above such area free of FSI for the under construction buildings can be allowed to be utilised in the same building or on any other building in the plot/ layout.

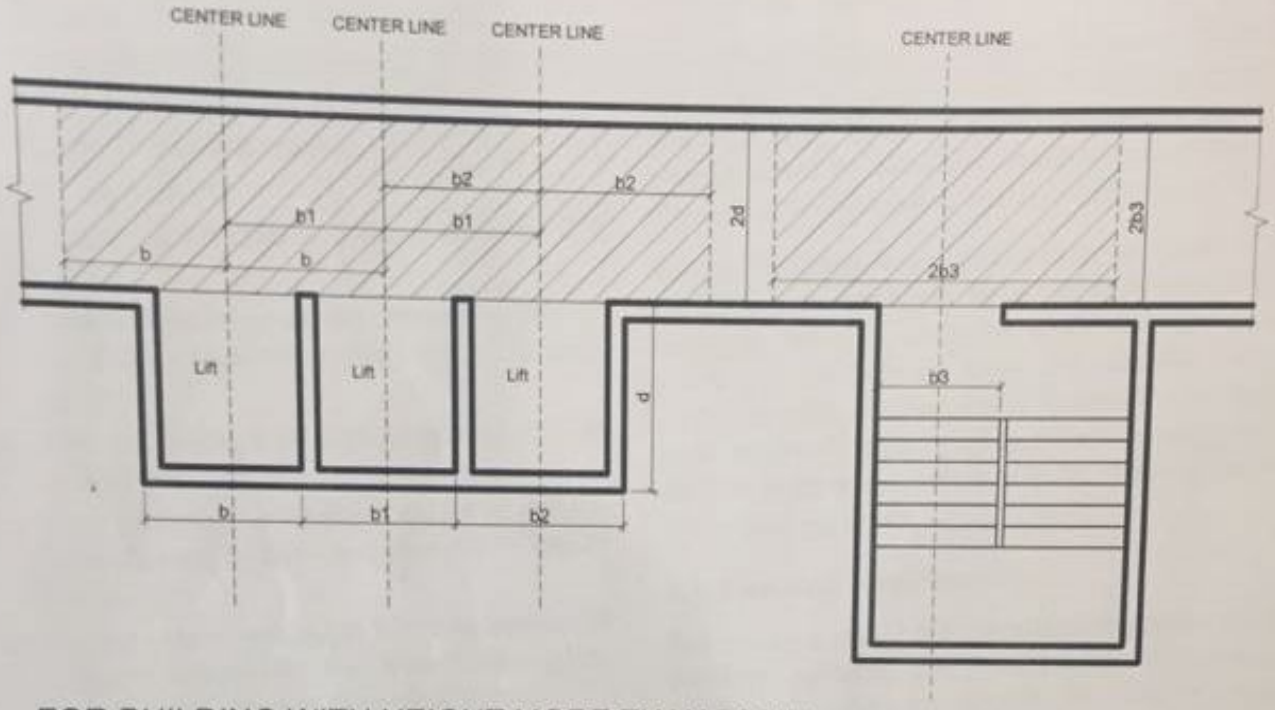
The area covered by staircase/ lift wells including lobbies will be allowed free of FSI as per above guidelines and same shall be followed by all concern.

Acc :- Three Typical drawings

(S.P. Darade)
Ch.E.(DP)

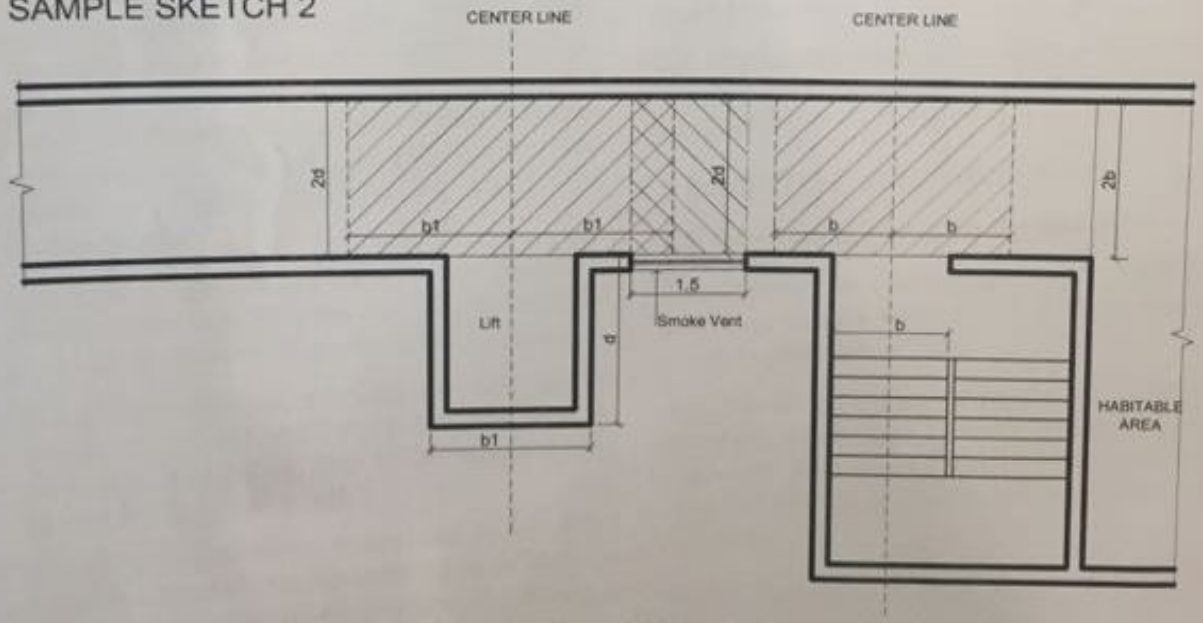
(Ajoy Mehta) 16/8/12
Municipal Commissioner

SAMPLE SKETCH 1



FOR BUILDING WITH HEIGHT MORE THAN 70 MT.

SAMPLE SKETCH 2



FOR BUILDING WITH HEIGHT MORE THAN 70 MT.

31.7.17

Ch.E(DP)

Municipal Corporation of Greater of Mumbai

No: CHE/_____/DP/Gen Dated .07.2017

CIRCULAR

Sub : The policy guidelines to allow the area covered by Staircase/lift wells including lobbies as specified in D.C. Reg. 35(2)(iv) & modification in clause no. (B) 12 of the policy circular u/no.CHE/22276/DP/Gen Dtd. 12.01.2012

Ref: Circular u/no. CHE/22276/DP/Gen Dtd. 12.01.2012

Preamble :

The area of staircase/lift wells including lobbies are allowed free of FSI as per the provisions of sub-clause 35(2)(iv) of modified DCR 1991 and as per the clause no. (B)12 of present policy guidelines circular u/no. CHE/22276/DP/Gen dtd. 12.01.2012.

The provision of sub-clause 35(2)(iv) of DCR 1991 read as follows:

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(iv)*"Areas covered by staircases/ lift wells including lobbies as specified, excluding those covered under D.C. Regulation No.35 (2) (iii) with special written permission of the Commissioner subject to payment of premium."*

In the above DCR provisions, the lobbies as specified shall be allowed free of FSI. To specify the lobby area, the policy was framed & circulated.

The clause no. (B)12 of the policy circular u/no. CHE/ 22276/ DP/ Gen Dtd 12.01.2012 for allowing the area covered under staircase, lift wells including lobbies is as under:-

Clause no. (B)12:

As per modified D.C. Regulation 35(2)(iv), areas covered by staircases/lift wells including lobbies as specified shall not be counted in F.S.I with special written permission of the Commissioner, subject to the payment of premium. Premium is payable except for areas covered under D.C. Regulations 35 (2) (iii). Accordingly, the following shall not be counted in F.S.I with special written permission of the M.C. by charging premium at 25% of the Stamp Duty Ready Reckoner rates for developed land as per prevailing policy,

a) Lobby in front of lift/s, equivalent to the depth of the lift.

b) Lobby in front of the staircase/s, equivalent to width of the stair flight.

c) Not more than 1.5 mt. long lobby in front of smoke vent (window) provided only between the lifts/ staircase equivalent to depth of the lift. However, such lobby shall not be allowed free of FSI, if it abuts habitable area.

MCHI CREDAI, has represented in writing that in view of the provision of the DCR 35(2)(iv), the entire length of the passages/lobbies should not have been counted in FSI but may be permitted free of FSI by charging premium at 25% of the stamp duty Ready Reckoner rates for the developed land, since DCR 35(2)(iv) does not specify any restriction on the area which should not have been counted in FSI.

After due consideration, it was decided to modify the clause no. (B)12 of policy circular u/no. CHE/22276/DP/Gen Dtd 12.01.2012 as below:-

1. Modified Clause no. (B)12:

As per modified D.C. Regulation 35(2)(iv) areas covered by staircases/ lift wells including lobbies as specified shall not be counted in F.S.I with special written permission of the Commissioner, subject to the payment of premium. Premium is payable except for areas covered under D.C. regulations 35 (2) (iii).

Accordingly,

I. The areas covered by staircases/lift wells shall not be counted in F.S.I with special written permission of the Municipal Commissioner by charging premium at 25% of the Stamp Duty Ready Reckoner rates for developed land as per prevailing policy.

II. The following area comprised of Lobby/Lobbies shall not be counted in F.S.I with special written permission of the Municipal Commissioner by charging premium at 25% of the Stamp Duty Ready Reckoner rates for developed land as per prevailing policy,

(i) For buildings having height up to 24 meters,

a) Lobby in front of lift/s, equivalent to 1.25 times the depth and 1.25 times the width of the lift.

b) Lobby in front of the staircase/s, having depth and width equivalent to 1.25 times the width of the stair flight.

c) Not more than 1.5 mt. long lobby in front of smoke vent (window) provided only between the lifts/ staircase equivalent to 1.25 times depth of the lift. However, such lobby shall not be allowed free of FSI, if it abuts habitable area.

cl279

(ii) For buildings having height up to 70 meters,

a) Lobby in front of lift/s, equivalent to 1.5 times the depth and 1.5 times the width of the lift.

b) Lobby in front of the staircase/s, having depth and width equivalent to 1.5 times the width of the stair flight.

c) Not more than 1.5 mt. long lobby in front of smoke vent (window) provided only between the lifts/ staircase equivalent to 1.5 times depth of the lift. However, such lobby shall not be allowed free of FSI, if it abuts habitable area.

(iii) For buildings having height above 70 meters,

a) Lobby in front of lift/s, equivalent to 2.0 times the depth and 2 times the width of the lift.

b) Lobby in front of the staircase/s, having depth and width equivalent to 2.0 times the width of the stair flight.

c) Not more than 1.5 mt. long lobby in front of smoke vent (window) provided only between the lifts/ staircase equivalent to 2.0 times depth of the lift. However, such lobby shall not be allowed free of FSI, if it abuts habitable area.

Note: For guidance the sample sketch for a building having height more than 70 m. is attached herewith.

New Clause No.B(13)

1. The wall thickness may be included in the area of lift/staircase for claiming the same free of FSI if it is not abutting to any habitable area.

2. If staircase/lift is abutting to habitable area, then the minimum thickness of wall to be considered in FSI shall be 230 mm for brick masonry wall & 150 mm in case of RCC wall.

2. This modified circular will be applicable to all ongoing proposals for which Occupation Certificate is not granted.

3. The area generated due to allowing above such area free of FSI for the under construction buildings can be allowed to be utilised in the same building or on any other building in the plot/ layout.

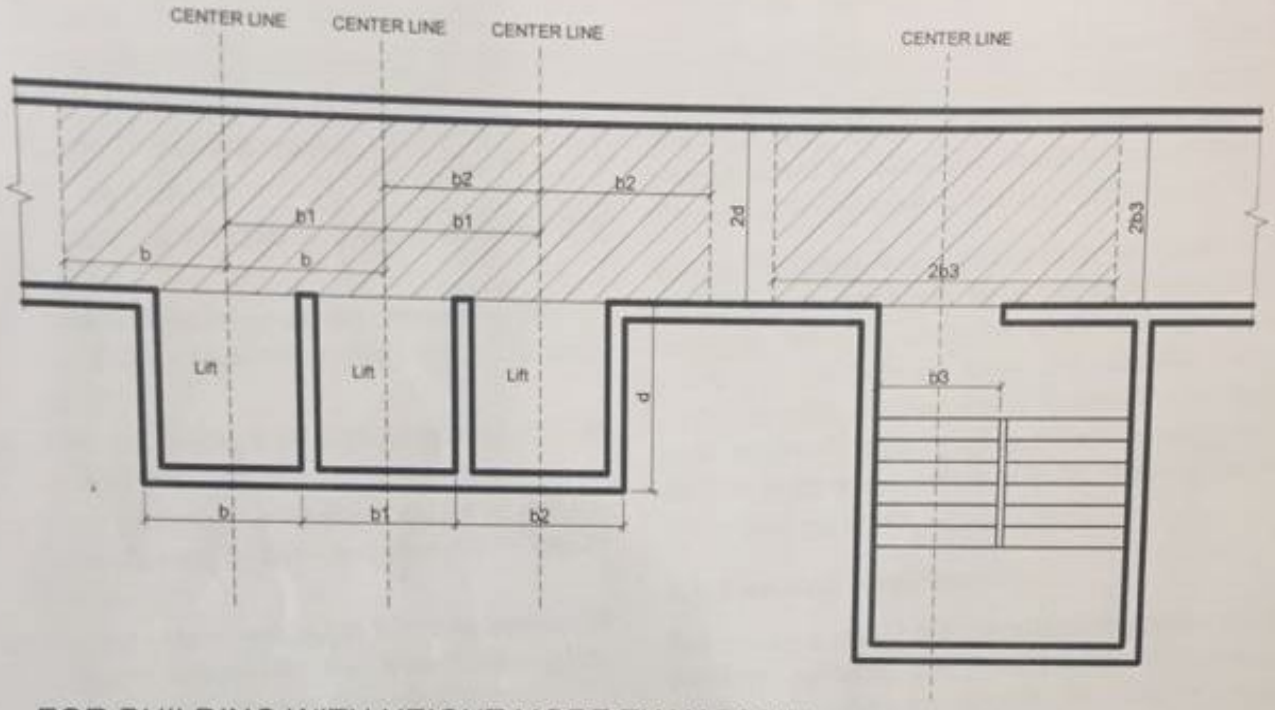
The area covered by staircase/ lift wells including lobbies will be allowed free of FSI as per above guidelines and same shall be followed by all concern.

Acc :- Three Typical drawings

(S.P. Darade)
Ch.E.(DP)

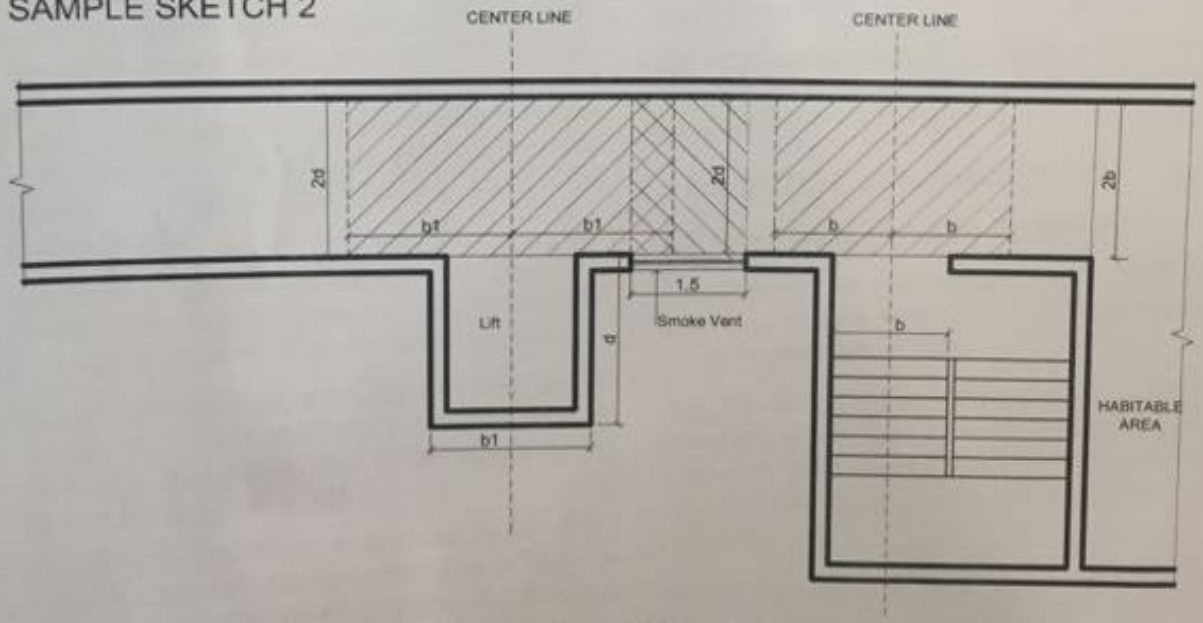
(Ajoy Mehta) 16/8/12
Municipal Commissioner

SAMPLE SKETCH 1



FOR BUILDING WITH HEIGHT MORE THAN 70 MT.

SAMPLE SKETCH 2



FOR BUILDING WITH HEIGHT MORE THAN 70 MT.

31.7.17

Ch.E(DP)

MUNICIPAL CORPORATION OF GREATER MUMBAI
MUMBAI FIRE BRIGADE

No: FBH/OD/1883
Date: 08.02.2018

Sub: Provision of Fire evacuation Lift or such other similar Appliances in buildings having height more than 70 Mtrs.

Ref: 1) Meeting held at Byculla Command Centre on 11/12/2017.
2) FB/H/1431 Dated 25/01/2018 & MGC/A/5801 Dated 31/01/2018

As directed by Hon. M.C. under No. MGC/A/5801 dated 05/12/2017 a meeting was conducted at Chief Fire Officer Office along with representative of MCHI & PEATA on 11/12/2017

Accordingly as per discussion & approval by Hon. M.C. Sir u/no. MGC/A/5801 Dated 31/01/2018 All Officers are hereby directed to follow the Fire Evacuation Lift guidelines scrupulously.

Please find the attached herewith:-

1) Hon. M.C. sir's Sanction order for Provision of "Firemen Evacuation Lift including its requirements or such other similar Appliances" in Buildings having height more than 70 meters.

Chief Fire Officer

Copy to

1) Ch. Eng. (DP)- for information & incorporating in online building approval system
2) All Officers of Mumbai Fire Brigade – to follow with immediate effect
3) M/S Soft-tech- For incorporation in online building approval system
4) M/s MCHI, NAREDCO, PEATA- for information.

Chief Fire Officer

MUNICIPAL CORPORATION OF GREATER MUMBAI
MUMBAI FIRE BRIGADE

Office of the Chief Fire Officer, Byculla Command Centre, Bapurao Jagtap Marg, Byculla (W), Mumbai-400 008, Tele.No.23001393, Fax No. 23001392.

No: FB/H/1431
Date: 25.01.18

Sub.: Provision of "Firemen Evacuation Lift" in Buildings having height more than 70 meters.

As directed by Hon. M.C. under No. MGC/A/5801 dated 05/12/2017. The meeting was conducted in Chief Fire Officer Office along with representatives of MCHI & PEATA on 11/12/2017 at 1500 hrs.

The Fire Safety requirements for "Firemen Evacuation Lift" were discussed in detail & considering suggestions of MCHI & PEATA representatives the newly formulated fire safety requirements for provision of "Firemen Evacuation Lift" in newly proposed high-rise building having height more than 70 mtrs. are as follows:

A) All high rise buildings having height more than 70 M will have at least one lift i.e. "Firemen Evacuation Lift" other than regular passenger lifts and fire lift/s.The requirement of "Firemen Evacuation Lift" shall be decided on the basis of travel distance in line with requirement of number of staircases as per prevailing D.C.R. / N.B.C.

B) Capacity of "Fireman Evacuation Lift" shall be of 845 to 1000 kg / 8-15 persons and it shall be terminated on ground floor or podium where facility of the assembly of evacuation available in case of emergency and shall not communicate to the Basement.

C) "Fire Evacuation Lift" shall be housed in a separate core having smoke check lobby with opening on each floor shall be attached with one of the enclosed staircase and required access to the staircase on each landing through fire resistance door of 2 hrs. raiting. Alternative Firemen evacuation lift shall be provided on every mid-landing of one of the enclosed staircase of the building and the said staircase shall be protected with smoke check lobby by means of Fire resistance door / Fire curtain / Fire resistance Glass having 2 hrs fire resistance.

D) The "Fire Evacuation Lift" along with the enclosed staircase shall be marked as "Fire Escape Lift / Staircase" at each landing door terminating to the lobby.

E) All the requirements pertaining to civil and electrical aspects mentioned in National Building Code for "Fire Lift" shall be applicable for "Firemen Evacuation Lift". In addition to that following fire safety measures shall be incorporated.

a) "Firemen Evacuation Lift" car doors and Landing doors shall have at least two hours fire resistance and shall have provision of Glass vision for both doors of minimum 1 feet x 2 feet and the glass should also have two hours fire resistance.

b) "Firemen Evacuation Lift" car shall have emergency operation switch which will be only operated by Fire Brigade personnel. On actuation of this switch, the "Firemen Evacuation Lift" will only operate from inside and the lift car door shall not open automatically but shall have control from inside to open it. The emergency operation switch shall also be provided in ground floor lobby.

c) The backup electric supply shall be provided with UPS for at least 30 min and it should be online supported by another regular and alternate emergency supply.

d) Two way communication systems shall be provided in "Firemen Evacuation Lift" car as well as at every landing level including ground floor lobby.

e) All the electric cables shall be fire retardant with low smoke hazard complying relevant BIS standards.

f) "Firemen Evacuation Lift" car shall be made of non-combustible material including interior having minimum 2 hrs. fire resistance.

g) Lift maintenance shall be carried out only by Manufacturing / Installation Company.

In view of the above Hon. M.C.'s approval is requested to allow provision of "Fire Evacuation Lift" in proposed buildings more than 70 mtrs.

Submitted please.

In F.B

(P.S. Rahangdale)
Chief Fire Officer

(Ajoy Mehta)
Hon. M.C.)
Sir,

Approved as proposed. However to prevent monopoly of some manufactures and also to allow other better technologies We say: "Firemen evacuation lift or such other similar appliances".

31/1/18

C-F-O

Municipal Commissioner

बृहन्मुंबई महानगरपालिका
आयुक्तांचे कार्यालय
25 JAN 2018
सायं ११, १२, १३, १४, १५, १६, १७, १८,
क्रमांक MGC/A/5801

31/01/2018

20.9.21 Version: 4

Additional Guidelines for environmental clearance submissions:

To be read along with 'MOEF Checklist.xls' (annexed below):

a. Project cost: Non-Parking Construction Area * 1500 + Parking Area Construction Area * 1000 sq. ft.; Land cost is not to be included.
b. Built-Up Area – to be stated as follows:
    a. FSI Area: _____ sm (this shall include Fungible FSI)
    b. Non-FSI Area: _____ sm (all non-FSI areas other than those related to parking)
    c. Project Parking Area: _____ sm
    d. PPL area: _____ sm

    Ideally ratio of Total Built-up area / Plot area should not exceed 10 (max 12).
    If room is available, always show built-up area 5% more than actually planned for future contingency – this can be done by increasing the 'non-FSI area'.
    Note: Any floors with FTF height < 2.4 m, any service areas below last habitable/parking level and elevation treatment is not to be included in BUA.
c. No. of levels*:
    a. **Always show 2-3 habitable floors more than actually planned** + one extra podium/basement (if there are podiums/basements in the building).
d. Ground coverage:
    a. Use % of area on ground + podium top which is open to sky as ratio of <u>gross</u> plot area (X).
    b. Also calculate % of area on ground only which is open to sky as ratio of <u>gross</u> plot area (Y).

    State as follows:
    Ground Coverage: 1-X% (1-Y%) if open to sky areas on podium are also counted as covered ground)
e. No. of wings:
    a. Actual + ~5%*
f. No. of tenements:
    a. Please include no. of tenements as is being submitted for approval or no. of tenements which is actually planned + ~5%*, <u>whichever is higher.</u> This should include any small flats for ULC etc.
g. Parking area calculation:
    a. Take net area of the covered parking levels only (excluding lift, staircases, service and other equivalent areas) / no. of car parks. For sale parking this should be close to 30 sm per car park or lower.
h. Energy saving:
    a. Show that saving over 'regular' consumption is atleast 15%, through mix of CFL usage + non-conventional power eg. solar, wind etc.
i. STP:
    a. Ensure that it is shown in B1 or G only – should not be shown at level lower than B1
j. Water balance:
    a. Water balance should be shown separately for rainy season and dry season.

b. If there are multiple STP's in a development, water balance should be shown separately for each water balance.

k. Rain water havesting:
    a. Show combination of ground recharge pits (suitability to be assessed basis water table in the ground) and storage tanks - the storage tanks shall be the fire fighting storage tanks (with suitable filteration system if so required, either before fire fighting tank or before potable water tank).

l. For CER spend, please ensure that it shown spent on activities which are being done by group – we should not show money being given to any govt authority.

*apply the +~5%/extra floors only for that part of the project for which OC has not been obtained as on time of submission of application.


MOEF Checklist 31.3.06.xls

Added on 20.9.21:

1. Design is required to review the presentation and discuss any issues with me BEFORE submission of ppt.
2. In case of any differences between actual and submissions, we have to err on side of progressing the EC.
3. Head of Architecture (HoA) is required to remain present for the presentation - cannot delegate to any 3rd party.
4. In case of online hearing, consultant + all Lodha members should be in one conference room TOGETHER, not joining from separate places.

MOEF Checklist

Sr. No.		Topic	Precautions / Directions	Type	Responsibility
1		**Location**			
1	a	Location Map	In zoom, showing immediate vicinity; Do not show any industries nearby	Map	Planning
1	b	Surrounding land use map	Larger area to be covered; Do not show any industries nearby	Map	Planning
1	c	List of Nearby Police Station, Hospital, School		List	Planning
1	d	Current Site Photographs	Screen out any improper photographs - marshy soil, water logging, too many trees which will eventually be cut, smoke/pollution	Photos	Planning
2		**Proposed Development**			
2	a	Layout plan	Clearly demarcating building, open area, landscaped area	Plan	Architect
2	b	Floor plans for each type of building		Plan	Architect
2	c	Sections for each type of building		Plan	Architect
2	d	Type of Building		Note	Architect
2	e	Nos. of buildings		Note	Architect
2	f	Height of each building		Note	Architect
2	g	Total BUA	Differentiate between podium/stilt/basement and actual used	Note	Architect
2	h	Ratio of plinth area to open land area	Should be in the range of 20:80 - 33:67	Note	Architect
2	i	Landscaped area (and as % of total land area)		Note	Architect
2	j	Building Elevation Drawing		Photo	Architect
2	k	Total No. of Units of Each Type		Note	Architect
2	l	Project Schedule	No. of years required to complete the project	Note	Planning
3		**Access, Traffic and Parking**			
3	a	Access, Traffic and Parking plan		Plan	Architect
3	b	Traffic Impact Assessment		Note	Planning
3	c	Alleviation measures like complex bus service		Note	Planning
3	d	Ingress/Egress	Preferably from service road, not more than one direct access from each main road; Also want service entrance	Note	Planning
3	e	No. of Parkings provided	Min. 1 car parking per 750 sq. ft. for IT/commercial, min. 1 car parking per flat for middle income housing (2 - wheeler accepted for 1 BHK flats), higher for high income housing	Note	Architect
3	f	No. of Parkings required as per Corporation norms	No. of parkings provided should exceed no. of parkings required as per Corporation significantly	Note	Liaison
3	g	Traffic Alleviation during construction phase note	State that trucks will only be allowed during non-peak hours of X-Y	Note	Planning
4		**Cost of Project**			

MOEF Checklist

Sr. No.		Topic	Precautions / Directions	Type	Responsibility
4	a	Breakup of land vs. construction	Check that construction cost makes sense with given BUA and includes cost of things like STP and generator	Note	Planning
5		**Materials and Equipment**			
5	a	Details of Material used	State approximate quantity, show environmentally friendly materials being used	Note	Planning
5	b	Note on environmentally friendly materials used	State usage of fly-ash (waste product of power generation) blocks, fly-ash based cement, No usage of red bricks (to help preserve top soil)	Note	Planning
5	c	Details of equipment to be used during construction phase		Note	Planning
5	d	RMC vs. Site batching	State reasons for choosing one over the other and why that decision is made keeping environmental factors in mind	Note	Planning
6		**U-Value/R-value**			
6	a	Roof U-Value of 0.4 watts/m2-OC	Roof insulation of expanded polysterine with thickness of approx. 80 mm	Note	Environmental Consultant
6	b	Note on Usage of Low-E glass/Double Glazing	Applicable for buildings (where air-conditioning is show as being provided egg. IT, mall) only; State characteristics which will help reduce U-value and minimize AC consumption; Calculation of wall U-value	Note	Architect
6	c	Note on use of shading to reduce cooling / heating loads.		Note	Architect
6	d	Note on principles used to maximize the shading of walls on the East, West and the Roof and Extent of Energy saving effected.		Note	Architect
7		**Storm Water**			
7	a	Storm Water drain layout		Plan	Plumbing Consultant
7	b	Peak run-off calculation	Ensure that channel/nalla/sewer capacity is sufficient to handle this	Note	Plumbing Consultant
7	c	Capacity of channel/nalla/sewer into which water will flow		Note	Plumbing Consultant
7	d	Level of channel/nalla/sewer into which water will flow	Ensure that this is lower than site level (at connecting point) shown on contour map and in general lower than most of the plot	Note	Plumbing Consultant
8		**Rain water harvesting**			
8	a	Rain water harvesting layout	Including rooftops, paved areas, unpaved areas	Plan	Plumbing Consultant
8	b	Rain water harvesting methodology	How will the water be collected, purified and its use	Note	Plumbing Consultant
8	c	Rain water harvesting Schematic Drawing		Schematic Drawing	Plumbing Consultant
9		**Solar Energy**			

MOEF Checklist

Sr. No.		Topic	Precautions / Directions	Type	Responsibility
9	a	Solar Geysers	Use only in top 5-7 floors to ensure heated water availability	Note	Electrical Consultant
9	b	Solar Geyser cost and energy saving calculation		Note	Electrical Consultant
9	c	Solar Geyser roof area required		Note	Electrical Consultant
9	d	Solar Lighting for staircase cost and energy saving calculation	To specify that solar is back-up power source	Note	Electrical Consultant
9	e	Solar Lighting for External common areas cost and energy saving calculation (to specify that solar is back-up power source)	If applicable; To specify that solar is back-up power source	Note	Electrical Consultant
10		**Power**			
10	a	Detailed Power requirement Calculation	Should incorporate saving due to solar energy usage; should include consumptio at common areas and facilities; should state peak demand and connected load, average power consumption per sq. ft. of BUA to be less than 150 KwH per annum	Note	Electrical Consultant
10	b	Details of DG sets to be provided for backup of lifts and other essentials services	Type, Capacity. DG to have sound enclosure. DG chimney to be stated to be 4 mtrs. above roof level.	Note	Electrical Consultant
11		**Water**			
11	a	Water Balance Calculation	As far as possible, consumption should be met with approved Corporation water supply (as per norms) + rain water harvesting + STP recycled water + bore well water	Note	Plumbing Consultant
11	b	Ground water testing report	Required if Bore well usage is shown in water balance	Test Report	Planning
11	c	Bore well output report	Required if Bore well usage is shown in water balance	Test Report	Planning
11	d	Corporation Drinking water testing report	Ensure that it meets IS 10500-1983 standards for drinking water	Test Report	Environmental Consultant
11	e	Water requirement and source during construction period	Show requirement met from bore well, municipal water for labour & minimal water tankers	Note	Plumbing Consultant
11	f	Note on water supply system	Note should state gravity based system	Note	Plumbing Consultant
12		**Noise**			
12	a	Noise alleviation measures (during construction phase) note	Note stating use of mufflers on noise producing equipment, use of such equipment during day hours only	Note	Planning
12	b	Noise Readings at site - Day and Night	Day limit - 55 db; night limit - 45 db	Test Report	Environmental Consultant
12	c	Noise alleviation measures (during operational phase) note	Applicable only if noise reading exceeds limits; in that case it should be stated that mounds will be used to cut-off noise; use of trees to cut-off noise is not acceptable	Note	Planning

MOEF Checklist

Sr. No.		Topic	Precautions / Directions	Type	Responsibility
13		**Air**			
13	a	Air quality readings at site and nearby points	Ensure that same fits within the norms (For residential and rural areas: SO2 - 80 ug/m3, Nox - 80 ug/m3, SPM - 200 ug/m3, RSPM -100 ug/m3, CO - 4000 80 ug/m3)	Test Report	Environmental Consultant
13	b	Wind rose & meteorological data		Test Report	Environmental Consultant
14		**Landscape**			
14	a	Landscape Plan showing total no. of trees proposed on site at end of construction phase		Plan	Landscape Consultant
14	b	Details on current no. of trees, no. of trees to be cut and no. of trees to be retained	Ratio of no. of trees to be cut and no. of trees to be retained should atleast be 1:3	Note	Landscape Consultant
14	c	Details of type and nos. of tress/plants to be planted	They should be suitable to grow in local environment; nos. should match total no. of tress proposed on site at end of construction phase	Note	Landscape Consultant
15		**Labour**			
15	a	No. of labours in construction phase	Peak and Average	Note	Planning
15	b	Operational phase plan showing location of labour hutments, toilets and children's creche for labour		Plan	Planning
15	c	Note on initiatives for labour	Medical checkup, children's creche, safety helmet and harness connection of toilets to Septic Tank, adequate water supply etc.	Note	Planning
16		**Topography/Soil/Filling**			
16	a	Topography plan showing levels of site	Large grid size can be taken; Care to be taken that slope of land is matching the direction of storm water drain layout; land to be shown to be higher than surrounding land (atleast partly) so that water will drain out	Plan	Planning
16	b	High Flood Level	Peak and Average	Note	Plumbing Consultant
16	c	Final Levels proposed	To be such that it is greater than Peak (High) Flood Level	Note	Plumbing Consultant
16	d	Soil required for filling	If filling is proposed where will soil come from (excavation for footing / outside), measures taken to control dust dissipation (tarpaulin covered trucks for soil to be brought from outside, sprinklers to ensure settlement of dust during filling)	Note	Planning
16	e	Soil Testing Report	To show that proper rock is available at sufficient depth and land is not marshy	Test Report	Planning
16	f	Note on use of excavated top soil	State that it will be stored at site and reused for landscaping	Note	Planning
17		**Air-conditioning**			

MOEF Checklist

Sr. No.		Topic	Precautions / Directions	Type	Responsibility
17	a	Type of AC proposed	No air-conditioning to be shown for residential; For IT AC units to be shown as been water-cooled for energy efficiency; Power/Water table should reflect power/water requirement for these AC's	Note	HVAC/Electrical Consultant
17	b	Orientation of building	In buildings with AC, to be _____- _____ direction to minimize heat gain	Note	Architect
18		**Garbage Treatment and Recycling**			
18	a	Wet and Dry garbage collection and segregation	Collection through separate shoots where possible, else separation by agency. Wet garbage to be recycled through vermicomposting and dry garbage to be sold to scrap dealers for recycling and to minimize pressure on municipal resources	Note	Environmental Consultant
18	b	Vermicomposting Note	Natural method, output to be reused as manure for landscaping	Note	Environmental Consultant
18	c	Vermicomposting Calculation	Calculation to be done to show that earmarked area is sufficient for vermicomposting of produced wet garbage	Note	Environmental Consultant
18	d	STP Schematic Drawing		Schematic Drawing	Plumbing Consultant
18	e	STP Note	Method used, output to be recycled for landscaping and flushing	Note	Plumbing Consultant
18	f	STP Calculation	To show that capacity of STP is sufficient for handling sewage produced; Electricity requirement should be incorporated in Power requirement calculation	Note	Plumbing Consultant
18	g	Utility Plan	Showing Water supply system, Electricity Transformer/meter room, Garbage Collection, STP and Vermicomposting; Sufficient green belt to be shown around STP and Vermicomposting Area	Plan	Planning
19		**Disaster Management**			
19	a	Earthquake Note	State earthquake zone of the area, show that structure is designed using appropriate norms and attach structural certificate of Structural Consultant	Note	Planning
19	b	Fire Fighting Note	State provisions to be made (use basis of Fire Dept. NOC of similar height building)	Note	Planning
19	c	Note of precaution against Flooding	State appropriate height of plinth (refer Topography/Soil/Filing) and refuge areas at every X floors to ensure safety in case of heavy floods	Note	Planning
20		**Other**			
20	a	Note on measures taken for LEEDS Certification, which level and approximate cost thereof	Applicable for IT buildings only; if stating that LEEDS certification will be obtained	Note	Planning
20	b	Note on provisions for servants/drivers	Applicable in high-end building only; States details about servant's toilet, servant's room, driver's toilet, driver's resting area etc. (as applicable)	Note	Architect

MOEF Checklist

Sr. No.		Topic	Precautions / Directions	Type	Responsibility
20	c	Note on other measures being taken for environmental friendliness	e.g. Sky gardens	Note	Architect

Liaison Policy
6.6.20 Version: 5

Points to be considered while finalizing approval drawings:

For any building there can be max 3 (ideally 2) approvals:

a. Approval 1 (basic approval): Prior to start of works – to be obtained within 90 days of drawings being made available to design. Design upto plinth has to be finalized, can change above.
b. Approval 2 (final approval): Final approval with no further changes in building dimensions or FSI consumption. To be obtained within 6 months of plinth CC. Also any TDR/additional FSI for which payment is required to be made to be added during this approval.
c. Approval 3 (pre-OC approval): To be used only if really required, for minor changes from Approval 2. Ideally to be avoided and straight OC to be taken after Approval 1.

In approval 1:

1. Resp: Internal liaison team - Carpet area on plan to be as per allotment list i.e. RERA carpet area.
    a. This should include any area falling under 'Door and Window jambs' (windows jambs to be counted in carpet area if glazing outside). Liaison to cross-check against design RERA carpet area before approval submission.
2. Resp: Internal liaison team - Actual FSI to be optimized by ensuring that:
    a. Free of FSI areas like staircase, lifts, lobbies and appurtenant areas are taken free of FSI.
    b. Glazing is taken free of FSI (concession to be taken for this).
3. Resp: Design + Internal liaison team - Avoid wasting any FSI for non saleable areas (max. limit of 0.5% of total FSI for relevant building(s)). Similarly, do not waste FSI on ground floor units if project requires FSI from sources which entail additional payment (TDR, fungible, premium FSI etc.). Till full external FSI is purchased, we should only show one unit on ground floor and balance as stilt. Ground floor plan can be amended in future when full FSI is loaded since this allows construction to progress with lesser FSI. Anyway ground floor units sell quite late.

4. Resp: External liaison team - In MCGM (and other areas where relevant), External liaison team to ensure following are in concessions:
    a. Permissible fitness centre / club (10+5% of provided RG, not mandatory RG) / Amenity (5%) where permissible (plot area > 20,000 sm)
    b. 20 sm society office in every independent building (treat as society)
    c. Façade/glazing thickness not counted in FSI.
    d. Bare shell finishing (to also be taken in other approving authorities for non-Casa projects).
    e. CC for construction upto plinth should be such that it is CC for construction upto top of podium i.e. just below first habitable floor.
5. Resp: Design - **Design to ensure that there will be no changes in plan required prior to plinth cc – i.e. upto plinth design has to be final and there can be no changes in plinth dimension after approval**

In approval 2:

1. Resp: Internal liaison team - All finals plans to be as per what is built – no post OC works, no sale of areas not counted in FSI.
    a. Obtain approval for above terrace works as per actuals.
    b. Ensure parking nos are adequately shown.
    c. Ensure services and BoH areas are shown as per final locations and FSI is not wasted for the same.
    d. Ensure club and fitness centre designs are final.
    e. Ensure column sizing and room dimensions are as per 'as built'
    f. Ensure that for any garden (or similar flats), the garden area is NOT shown as part of development RG and the unit's garden line is earmarked with dotted line which we can later argue means that it is permissible to put a grill/barricade there.
2. Resp: OS + Internal liaison team - Load TDR or payment FSI to the maximum extent feasible. Ensure that at any time, sufficient TDR/payment FSI is loaded to allow work for 9 months and then next submission is done earliest after 6 months (which may take 2-2.5 months for approval) and yet work will not stop.
3. Resp: External liaison team - Ensure that we get any concession from pt. 3 and pt. 4 of Approval 1 which were not taken at time of Approval 1. While taking CC above plinth, it should be ensured that CC is taken all the way upto terrace level/last approved level. **If CC is restricted for some reason, ensure that core CC is taken all the way upto last approved floor.**

Other:
a. All plan/section sheets to contain note (in small font) '*All dimensions/levels/depths stated are clear dimensions (i.e. unfinished dimensions) in meters.*'
b. In section, when sunk is shown for elevation treatment, finished level to be shown subtly in dotted line.
c. Where carpet area table is given state header as '*Carpet Area for Parking Calculation*'

27.8.21 v:3

Nomenclature for naming Residential units:

Unit / Brand	Lodha	Casa	Crown
1 BHK	1 BHK	1 BHK	1 BHK
2 BHK smart	NA	2 BHK	2 BHK
2 BHK	2 BHK	2 BHK Ultima	NA
2.5 BHK	2 BHK w/ study	3 BHK Optima	NA
3 BHK	3 BHK / 3 BHK Luxe (if there are other variations of 3 BHK)	3 BHK / 3 BHK Ultima (if there are other variations of 3 BHK)	NA
3.5 BHK	3 BHK w/ Study	NA	NA
4/4+ BHK	4/4+ BHK	NA	NA

- For Luxury and Hi-end, the term 'residence / home / condo(minium)' is used to describe the unit. In a Lodha product, bungalows can be referred to as villas and row houses as townhouses.
- For Aspirational, Casa and Crown, the term 'apartment' is used to describe the unit.
- A product name should have no more than one adjective (except in extraordinary circumstances) eg. 2 BHK Ultima Aura at CBG is quite a no-no from a communication perspective. In such a case, we would have continued with the name as 2 BHK Aura.
- In case there are multiple types of a unit (eg. 2 sizes of a 2 BHK) with the same/similar specs – we will call them the same name eg. 2 BHK Luxe (for a Lodha product) and differentiate using either the flat no / the area / an additional descriptor (eg. A, B) etc. – however, we will not give any additional adjectives.
- For a given unit name, try to have the same area in a given MP. If there are minor differences in areas (say largest unit is <= +2% of smallest unit of same unit name), the carpet area for allotment purposes can be taken as the average of the smallest and the largest. If the area differences are major (say largest unit is > +2% of smallest unit of same unit name) for the same unit name, the design needs to be changed to bring the difference to <= +2%.

2.6.20 Version: 4

Project Name Guidelines:

1. We have following brands (in 2020):

Business	**Brand**
Residential	Lodha XYZ Casa (by Lodha) XYZ Crown XYZ
Office	Lodha Excelus, <location> Lodha iThink, <location> Lodha Supremus, <location> Boulevard , <location>
Retail	Experia , <location> Boulevard , <location>

2. Every project name should follow the aforesaid structure. In case of projects where Lodha is not explicitly in the project name (so decided to reduce long-term rub-off on the brand), the Lodha logo will be used with all communication during marketing phase. No deviations like neighbourhoods are permitted and if we need to create identity for 'new location', the neighbourhood can be create and used in address line eg. Casa XYZ, Upper Thane, Mumbai-Nasik Hwy, Thane <pin code>. No ATL communication is permitted for such neighbourhood, except for the 1st pre-launch and launch (where neighbourhood understanding is to be created) Note: Palava city is an exception to the 'no neighbourhood communication' rule, due to the size and ambition but it is not to be confused with a project (it is the equivalent of a suburb eg. Lodha Luxuria, <address details>, Thane <pin code> v. Lodha Trinity, Central Avenue & __ street, Palava <pin code>). ATL advertising for Palava city is permissible.
3. Each project or neighbourhood name should have a tagline, which would elaborate on the project/neighbourhood's positioning.
4. Individual project size (which needs to be integrated with design and construction):
    a. 'For sale' projects - To be determined basis the total area which can be sold within construction cycle, with sales during **Launch** (pre-launch upto launch + 6 months) of atleast 50% of the saleable area. As far as possible, these require separate entrance gate, play area and amenities. In case of larger layouts, select amenities or infrastructure (eg. larger clubhouse, STP, large greens) can be shared but these are to be minimized in order to ensure sustainable maintenance after Lodha exits. Construction cycle to also be optimized to the project sizing and physical layout. If there is more than one project in a land parcel, the minimum size of the project should not be <= 8 L sft saleable area (this does not apply to the last project which maybe smaller as a consequence of residual development available). It is necessary to have differentiation between different projects in the same land parcel to provide the sense of newness – differentiation can come through different architects, different product type etc.
    b. 'For lease' projects – To be determined basis design optimization, investment scale and time horizon with one or more buildings and no constraint to project size.