# Users drawing manual for OBPS system Chandigarh (Rural Applications)

Chandigarh Smart City Limited

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# Guidelines for preparation of drawings

## Salient features of OBPS solution Chandigarh

- Software based verification of building plans and details, for compliance with the various regulations defined in Chandigarh bye-laws, Zoning plans, architectural controls.
- An overall transformation in the concept of conventional plan scrutiny process
- Minimizes the human interventions in plan scrutiny
- Facilitate online approvals of building permit and Occupancy certificate applications
- Improved transparency in the building permit process.
- Better precision in interpretations of the various rules
- Facility for checking conformity with the rules of the plans and details prior to official submission
- Only the rule complied plans and details can be officially submitted for permit application

## Preparation of drawings

### General

- All drawings shall be drawn in 1:1 scale, in meters, in model space.
- All required details as per this guideline shall be submitted in a single drawing, drawn in model space.
- All details shall be furnished using closed polygon with polylines, lines, texts, dimensions etc. to be incorporated in layers, index colours as specified in this guideline.
- It is instructed to the architects to keep all the layers and details in the drawing as per CA department and Estate department standards.Over and above this, prepare drawing for features scrutiny in dxf format as per this drawing manual. It is recommended to freeze the layers that may not be relevant while preparation of drawing.
- The drawing shall be saved in .dxf format and to be uploaded for the rule validation.
- Detailed drawings (Floor plan, elevations, sections, site plan etc.) incorporating all specifics as per guidelines mentioned on Bye-laws and documents listed in the OBPS portal, set to scale and paper size specified in the guidelines in pdf format. These pdf files are to be separately uploaded after .dxf file scrutiny.
- In pdf drawing uploaded, one blank space of 10 cm x 10 cm shall be kept on bottom right corner of every sheets, for approval stamping.
- The drawings shall be prepared by matching the various entries in the drawings with the properties of layers of the supplied layer matrix.
- The layer template file, which can be downloaded along with these guidelines, contains all the layers which are used by the system and can be made use while creating .dxf. drawings required for rule validation.
- Wherever details are to be furnished as dimensions, these are to be incorporated using dimension tools, and shall not be exploded/edited.
- Wherever one or more polygons/ dimensions/ lines/ depicting different parameters are required to overlap, it shall be ensured that, no gaps/ spaces are left in between.
- The use of layers/ Texts/ colour conventions specified by these guidelines to designate a parameter shall be restricted to that entity only and shall not be used elsewhere in the drawing.
- The drawing may get aborted if it does not adhere to the guidelines mentioned in the document.

*Figure 1 Process for preparation of drawing*

| Preparation of drawing as per department requirements | Use template file to get the scrutiny layers in drawing | Fill plan info details | Put zoning rules features in drawing | Put other architecture features in drawing |

## *Unit in drawings for scrutiny*

System accepts drawing in two units only:

- System accepts drawing in unit - Feet.
- Put drawing unit length type - Architectural
- Put drawing unit angle type - Decimal degrees
- Put drawing light intensity units - International
- Put dimension style unit formal - Architectural
- Use precision - 0' 0 ½"

Deviation from above mentioned settings in the drawing will the drawing rejected by the scrutiny system.

## *Table 1 Layers guidelines*

| Sn.o. | Feature | Layer Name | Drawing guidelines | Layer Colour |
|---|---|---|---|---|
| 1. | Plot area | PLOT_BOUNDARY | Draw as Polygon around the plot boundary | 70 |
| 2. | FAR (new construction) | BLK_n_FLR_n_BLT_UP_AREA | Draw as polygon on each floor outlining build up area | As per occupancy type |
| | | BLK_n_FLR_n_BLT_UP_AREA_ DEDUCT | Draw as polygon on each floor outlining build up area for FAR deduction as per 10.7 of CBRL 2017 | As per occupancy type |
| 3. | FAR (addition and alteration) | BLK_n_FLR_n_BLT_UP_AREA_E XISITNG | Draw as polygon on each floor outlining build up area | As per occupancy type |
| | | BLK_n_FLR_n_BLT_UP_AREA | Draw as polygon on each floor outlining build up area | As per occupancy type |
| | | BLK_n_FLR_n_BLT_UP_AREA_ DEDUCT_EXISTING | Draw as polygon on each floor outlining build up area for FAR deduction as per 10.7 of CBR | As per occupancy type |
| | | BLK_n_FLR_n_BLT_UP_AREA_ DEDUCT | Draw as polygon on each floor outlining build up area for FAR deduction as per | As per occupancy |

| | | | 10.7 of CBR | type |
|---|---|---|---|---|
| 4. | Ground Coverage area | BLK_n_COVERED_AREA | Draw as Polygon around the coverage area | 140 |
| | | BLK_n_COVERED_AREA_DEDUCT | Draw as Polygon around the area for coverage deduction | 140 |
| 5. | Height of building | BLK_n_HT_OF_BLDG | Draw as dimension on building section | 5 |
| 6. | Setbacks (meter drawing) | BLK_n_LVL_n_BLDG_FOOT_PRINT | Draw as closed polygon, using poly line on site plan. Polygon shall outline the building area. | As per occupancy type |
| | | BLK_n_LVL_n_FRONT_YARD | Draw as closed polygon, using poly line on site plan. Polygon shall be touching the corners of building block and plot boundary. | 2 |
| | | BLK_n_LVL_n_SIDE_YARD1 | Left side setback - Draw as closed polygon, using poly line on site plan. Polygon shall be touching the corners of building block and plot boundary. | 171 |
| | | BLK_n_LVL_n_SIDE_YARD2 | Right side setback - Draw as closed polygon, using poly line on site plan. Polygon shall be touching the corners of building block and plot boundary. | 102 |
| | | BLK_n_LVL_n_REAR_YARD | Draw as closed polygon, using poly line on site plan. Polygon shall be touching the corners of building block and plot boundary. | 11 |
| 7. | Setbacks (feet drawing) | BLK_n_LVL_n_BLDG_FOOT_PRINT | Draw as closed polygon, using poly line on site plan. Polygon shall outline the building area. | As per occupancy type |
| | | BLK_n_LVL_n_FRONT_YARD | Setback dimension on site plan using dimension tool | 2 |
| | | BLK_n_LVL_n_FRONT_YARD | Draw as closed polygon, using poly line on site plan. Polygon shall be touching the corners of building block and plot boundary. | 2 |
| | | BLK_n_LVL_n_SIDE_YARD1 | Setback dimension on site plan using dimension tool | 2 |
| | | BLK_n_LVL_n_SIDE_YARD1 | Left side setback - Draw as closed polygon, using poly line on site plan. Polygon shall be touching the corners of building block and plot boundary. | 171 |

| | | BLK_n_LVL_n_SIDE_YARD2 | Setback dimension on site plan using dimension tool | 2 |
|---|---|---|---|---|
| | | BLK_n_LVL_n_SIDE_YARD2 | Right side setback - Draw as closed polygon, using poly line on site plan. Polygon shall be touching the corners of building block and plot boundary. | 102 |
| | | BLK_n_LVL_n_REAR_YARD | Setback dimension on site plan using dimension tool | 2 |
| | | BLK_n_LVL_n_REAR_YARD | Draw as closed polygon, using poly line on site plan. Polygon shall be touching the corners of building block and plot boundary. | 11 |
| 8. | Plinth height | BLK_n_PLINTH_HEIGHT | Draw dimension of plinth height | 7 |
| 9. | General Staircase | BLK_n_FLR_n_STAIR_n | Draw Polygon around staircase layout; Add floor height in same layer with text FLR_HT_M=n | 7 |
| | | BLK_n_FLR_n_STAIR_n_FLIGHT_n | Draw Polygon around each flight in staircase | 7 |
| | | | Number of rises by drawing lines | 3 |
| | | | Dimension for flight width | 2 |
| | | | Dimension for flight length | 1 |
| | | BLK_n_FLR_n_STAIR_n_LANDING_n | Polygon around each landing | 7 |
| | | | Dimension for flight width | 2 |
| | | | Dimension for flight length | 1 |
| 10. | Rainwater harvesting tank | RWH | Draw polygon around the tank; Add text for Rainwater Harvesting tank capacity RWH_CAPACITY_L=n | 4 |
| 11. | Solar water heating system | SOLAR_WATER_HEATER | Draw polygon to mention location | 7 |
| 12. | Kitchen | BLK_n_FLR_n_KITCHEN | Draw polygon for kitchen area calculation in floor plan and dimension in section for kitchen clear height | 1 |

| | | | Draw dimension for all railings (except staircase railing and service zone railing) | 3 |
|---|---|---|---|---|
| 13. | Parapet/Railing | BLK_n_PARAPET_HT | Draw dimension for staircase railing | 2 |
| | | | Draw dimension for service zone railing | 1 |
| 14. | Headroom | BLK_n_STAIR_HEADROOM | Draw dimension | 7 |
| 15. | Habitable room | BLK_n_FLR_n_REGULAR_ROOM | Draw polygon for each habitable room on floor plan<br><br>Draw dimension of room height for respective room in sectional elevation | 1 |
| 16. | Floor to Floor height | BLK_n_FLR_n_FLOOR_HEIGHT | Draw dimension of floor to floor height in sectional elevation | 7 |
| 17. | Mumty | BLK_n_MUMTY_HT | Draw dimension of stair cover height | 7 |
| 18. | Light and Ventilation | BLK_n_FLR_n_LIGHT_VENTILATION | Draw polygon with dimension of window on the floor plan | RGB 19,155,72 |
| 19. | Carpet Area | BLK_n_FLR_n_CARPET_AREA | Draw carpet area of each floor using polygon | As per occupancy type |
| | | BLK_n_FLR_n_CRPT_AREA_DEDUCT | Draw carpet area of each floor using polygon | As per occupancy type |
| 20 | Minimum passage/ corridor | PASSAGE | Draw Passage width with dimension | 1 |
| | | | Draw Passage height with dimension | 2 |
| 21. | Servant quarter | BLK_n_FLR_n_BLT_UP_AREA | Draw Polygon around servant quarter in floor plan | 35 |
| 22. | Professionals/ consultants space | BLK_n_FLR_n_BLT_UP_AREA | Draw Polygon in floor plan | 24 |
| 23. | STD/ PCO/ fax and photostat machine | BLK_n_FLR_n_BLT_UP_AREA | Draw polygon | 13 |
| 24. | Creche and paying guest facility | BLK_n_FLR_n_BLT_UP_AREA | Draw polygon | 15 |

| 25. | Dwelling unit | BLK_n_FLR_n_UNITFA | Draw Polygon | As per occupancy type |
|---|---|---|---|---|
| 26. | Handicapped WC | BLK_n_FLR_n_SP_WC | Draw polygon for males | 1 |
| | | | Draw polygon for females | 2 |
| | | | Draw polygon for common | 3 |
| 27. | Wash basin | BLK_n_FLR_n_WASH | Draw polygon for males | 7 |
| 28 | WC | BLK_n_FLR_n_WATER_CLOSET | Draw polygon for males | 1 |
| | | | Draw polygon for females | 2 |
| | | | Draw polygon for common | 3 |
| 29. | Urinals | BLK_n_FLR_n_URINAL | Draw polygon for males | 1 |
| | | | Draw polygon for females | 2 |
| | | | Draw polygon for common | 3 |
| 30 | Bath | BLK_n_FLR_n_BATH | Draw polygon for males | 1 |
| | | | Draw polygon for females | 2 |
| | | | Draw polygon for common | 3 |
| 31. | Toilet | BLK_n_FLR_n_WC_BATH | Draw polygon for males | 1 |
| | | | Draw polygon for females | 2 |
| | | | Draw polygon for common | 3 |
| 32. | General Toilet height | BLK_n_FLR_n_WC_BATH_HT | Draw dimension on toilet section (male) | Mandatory as per rule |
| | | | Draw dimension on toilet section (female) | Mandatory as per rule |
| | | | Draw dimension on toilet section (common) | Mandatory as per rule |

*Table 2 Layer colours for different occupancy types*

| S.no. | Occupancy | Layer colour |
| --- | --- | --- |
| 1. | Residential | 25 |
| 2. | Commercial | 62 |

*Table 3 Details to be furnished as text in drawings in PLAN_INFO layer*

| Declaration in scrutiny report | Declaration in dxf file | Response | Acceptance case |
|---|---|---|---|
| Root Boundary Type | ROOT_BOUNDARY_TYPE= | URBAN/RURAL | **NA** |
| Location | Location= | <TEXT> | **NA** |
| Village | VILLAGE= | <TEXT> | **NA** |
| Plot Number | PLOT_NUMBER= | <TEXT> | **NA** |
| Plot area in square meter | PLOT_AREA_SQM= | <TEXT> | **NA** |
| Plot Length | PLOT_LENGTH= | <NUMBER> | **Will be used for FAR calculation** |
| Plot width | PLOT_WIDTH= | <NUMBER> | **NA** |
| Road Length | ROAD_LENGTH | <NUMBER> | |
| Road 2 Length | ROAD_2_LENGTH | <NUMBER> | |
| Road Width | ROAD_WIDTH | <NUMBER> | |
| Road 2 Width | ROAD_2_WIDTH | <NUMBER> | |
| Conversion Charges Area | CONVERSION_CHARGES_AREA | <NUMBER> | |
| Allotment of The New Number | ALLOTMENT_OF_NEW_NUMBER | YES/NO/NA | |
| Is Case Of Death | IS_CASE_OF_DEATH | YES/NO/NA | |
| 'Fire and Life Safety' exit requirements as per National Building Code of India. | EXIT_REQUIREMENT_FIRE_&_LIFE_SAFETY_AS_PER_NBC= | YES/NO | **YES** |
| Demolition area | DEMOLITION_AREA= | <Number> | **NA** |