Model the typical floor plan of a six-apartment residential tower

Software: Autodesk Revit

Task statement

Model the typical floor of a residential tower containing six three-bedroom (3BHK) apartments arranged around a central lift and stair core. Work in imperial units (feet and inches). Follow the supplied dimensioned diagrams diagram_01.png and diagram_01_detail01.png to diagram_01_detail09.png. They give the layout, room names and figured room sizes. Use the figured dimensions and do not scale from the diagrams.

Set up one typical floor level. On it, model the exterior and interior walls of all six apartments and of the core, with door and window openings as shown.

Each apartment shall contain:

- M.Bed Room
- Bed Room-1
- Bed Room-2
- Drawing
- Dining
- Kitchen
- M.Toilet
- Toilet-1
- Toilet-2
- a wide utility
- a wide balcony, 5' to 5'8" wide as figured for each unit

In addition:

- Five units contain a pooja room.
- Three units also contain a dress room and a living room.

Representative figured sizes:

- North-west unit: Dining 17'6"X12'6", Drawing 12'0"X15', Living 11'X7', Kitchen 10'X12', M.Bedroom 15'X12', balcony 5'6".
- North-east unit: Dining 13'4"X14'2", Kitchen 8'8"X14'4", M.Bed Room 15'X12', Living 11'X12'2", balcony 5'6".
- West unit: Dining 16'6"X11', Drawing 12'6"X11', M.Bedroom 14'X13'4", Kitchen 12'X8', balcony 5'.
- East unit: Dining 14'6"X11', Drawing 14'6"X11', M.Bed Room 14'X13'6", Kitchen 12'X8', balcony 5'.

The central core shall contain:

- four passenger lifts, each 7'6"X7'6"
- a Good's Lift 7'6"X10'
- a Goods Lift 7'6"X10'10"
- two staircases
- a main Lobby 32'8"X9'
- lift lobbies 15'5"X9'3" and 7'11"X10'8"
- two 6'6" wide corridors

- an Electrical Room
- service shafts: FHC Shaft, FHC Shaft.02, Lobby Press. Shaft, Staircase Press. Shafts, PHE Shaft, STP Exhaust Shaft and Comm. Shaft

Place room elements in every enclosed space. Name each room as labelled on the diagrams. Tag the rooms in plan so that each tag shows the room name and its figured size.

Create a floor plan view of the typical floor. Place it on a sheet.

Rubrics

- **R1:** The model shall contain walls enclosing six separate apartments arranged around a central core on one typical floor level.
- **R2:** The model shall contain six rooms named as master bedrooms (M.Bed Room / M.Bedroom), one per apartment.
- **R3:** Each of the six apartments shall contain rooms for Bed Room-1, Bed Room-2, Drawing, Dining and Kitchen.
- **R4:** Each of the six apartments shall contain an M.Toilet, a Toilet-1 and a Toilet-2 room.
- **R5:** Each of the six apartments shall contain a wide balcony room and a wide utility room.
- **R6:** The model shall contain four passenger lift rooms, each labelled 7'6"X7'6".
- **R7:** The model shall contain two goods lift spaces, labelled 7'6"X10' and 7'6"X10'10".
- **R8:** The model shall contain two staircases within the central core.
- **R9:** The model shall contain a central lobby labelled 32'8"X9' between the lift bank and the lower stair.
- **R10:** The model shall contain two corridors labelled 6'6" wide.
- **R11:** The model shall contain an Electrical Room and named shafts including FHC Shaft, PHE Shaft, STP Exhaust Shaft and Comm. Shaft.
- **R12:** The model shall contain door and window families hosted in the apartment and core walls.
- **R13:** The model shall use imperial (feet and inches) project units.
- **R14:** The drawing shall show room tags displaying room names with figured sizes, such as Dining 17'6"X12'6" and Kitchen 8'8"X14'4".
- **R15:** The model shall contain a floor plan view of the typical floor level.
- **R16:** The model shall contain a sheet with the typical floor plan placed on it.

Input files

- task_files/diagrams/diagram_01.pdf
- task_files/diagrams/diagram_01.png
- task_files/diagrams/diagram_01_detail01.png
- task_files/diagrams/diagram_01_detail02.png
- task_files/diagrams/diagram_01_detail03.png
- task_files/diagrams/diagram_01_detail04.png
- task_files/diagrams/diagram_01_detail05.png
- task_files/diagrams/diagram_01_detail06.png
- task_files/diagrams/diagram_01_detail07.png
- task_files/diagrams/diagram_01_detail08.png
- task_files/diagrams/diagram_01_detail09.png

Deliverables

- **.rvt:** output_files/project_files/PROJECT_11.rvt: A Revit project (PROJECT_11.rvt) containing the walled typical floor of six 3BHK apartments and the central lift and stair core, with doors, windows, named and tagged rooms, and a sheet showing the floor plan.



DRAWING TITLE

TYPICAL FLOOR PLAN OF A SIX-APARTMENT RESIDENTIAL TOWER

GENERAL NOTES

1. DO NOT SCALE; USE FIGURED DIMENSIONS.

UNITS

AS SHOWN

SCALE	SIZE
AS SHOWN	**A3**

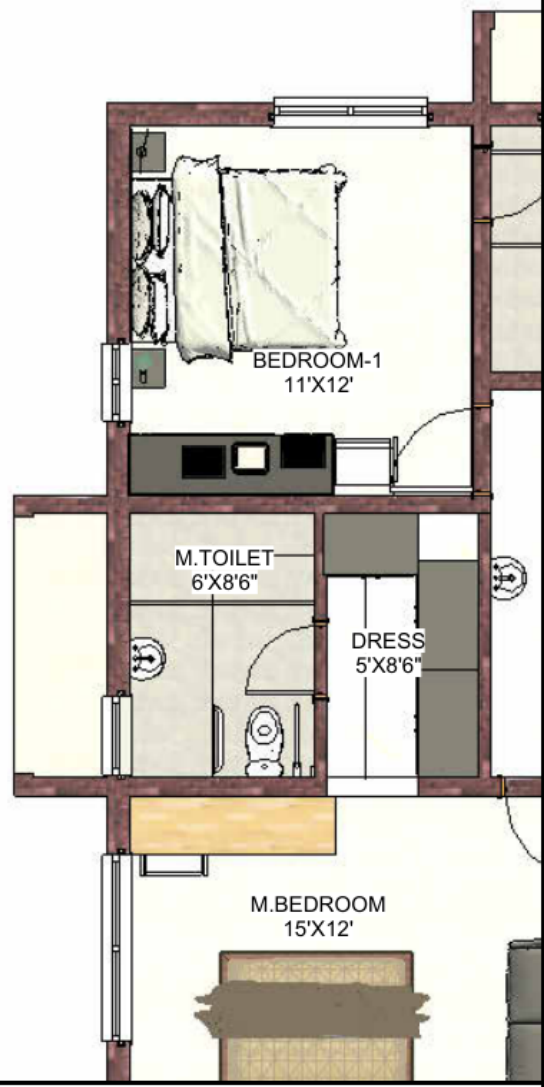
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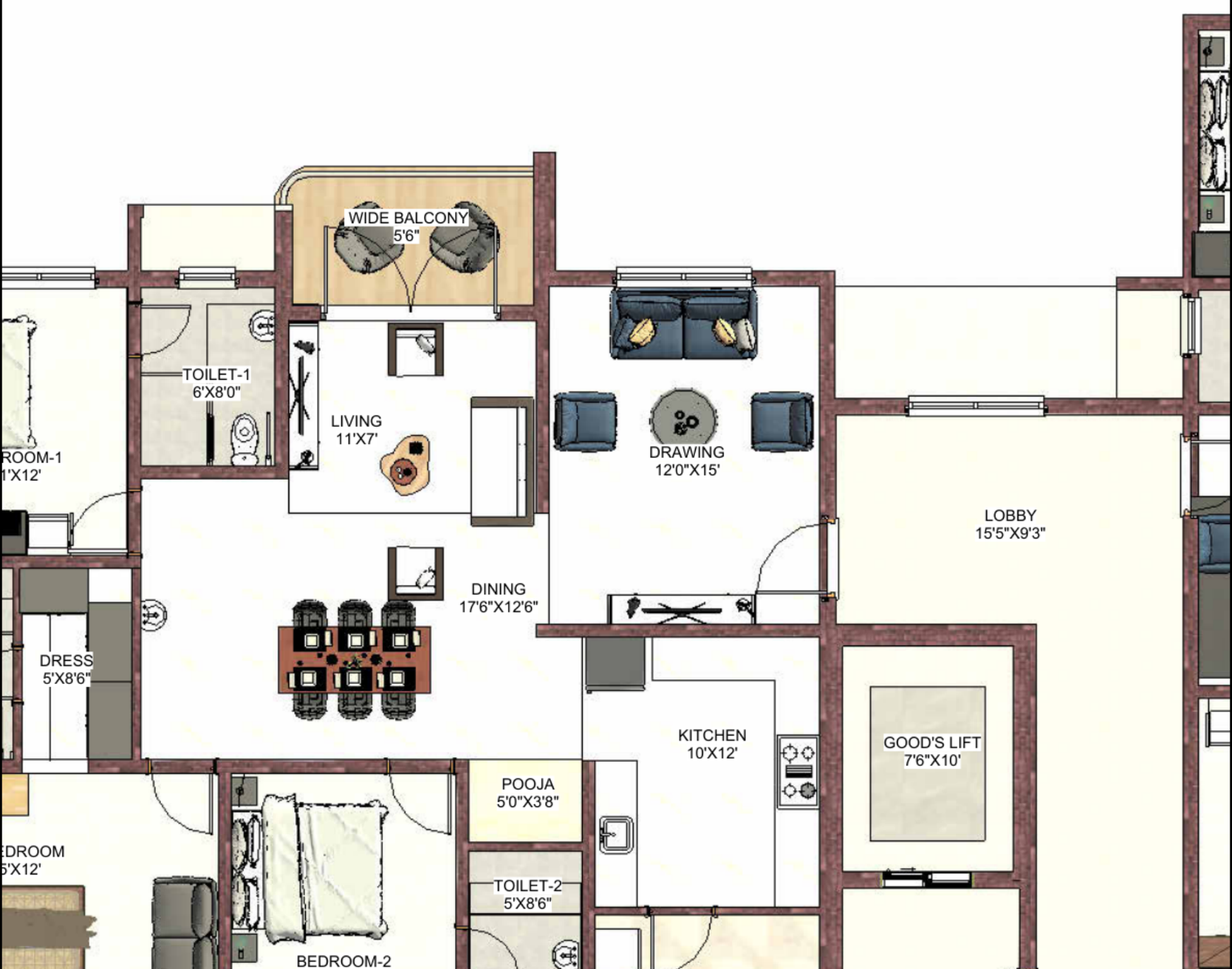
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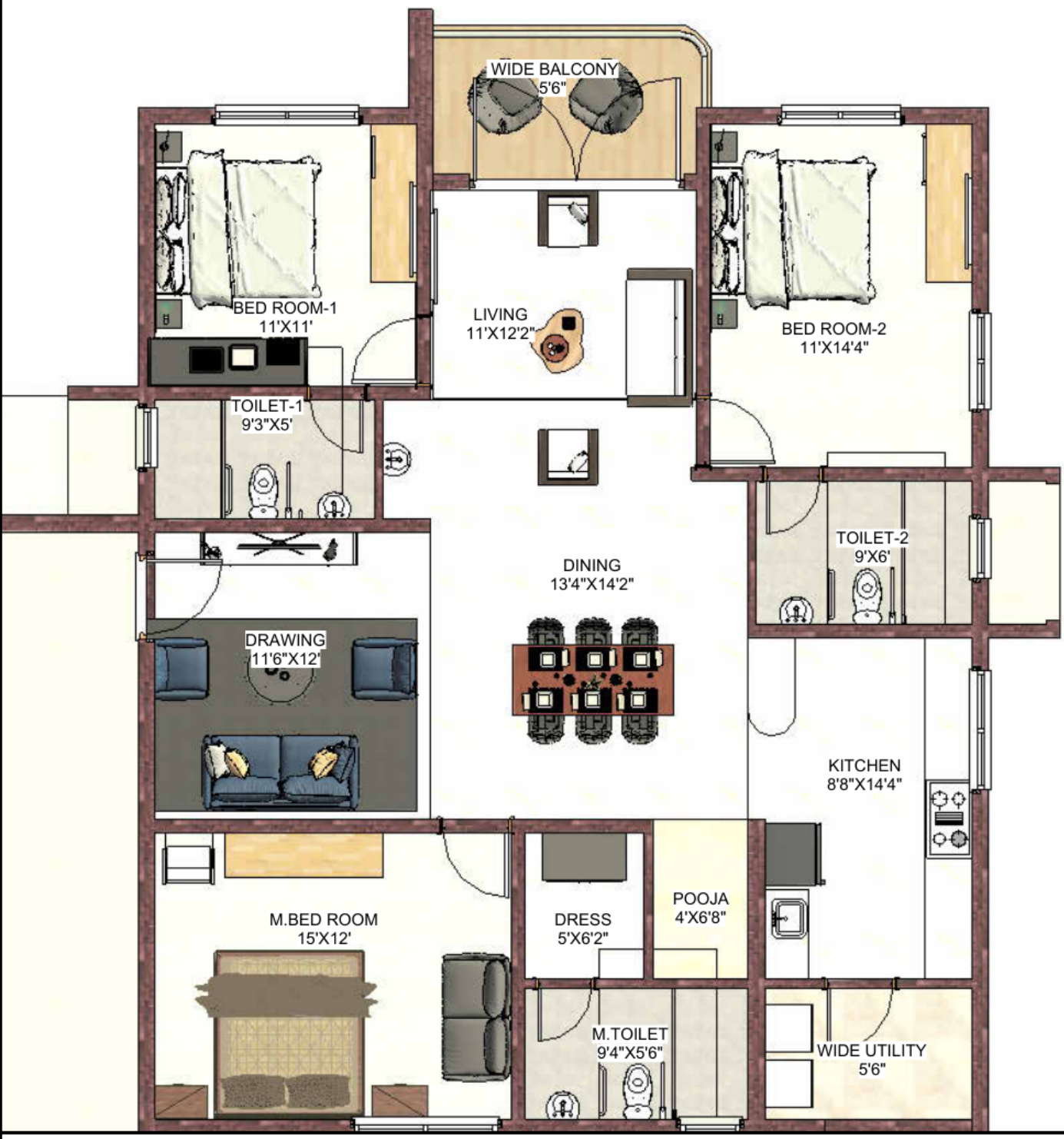
SHEET

A-101

1 OF 1

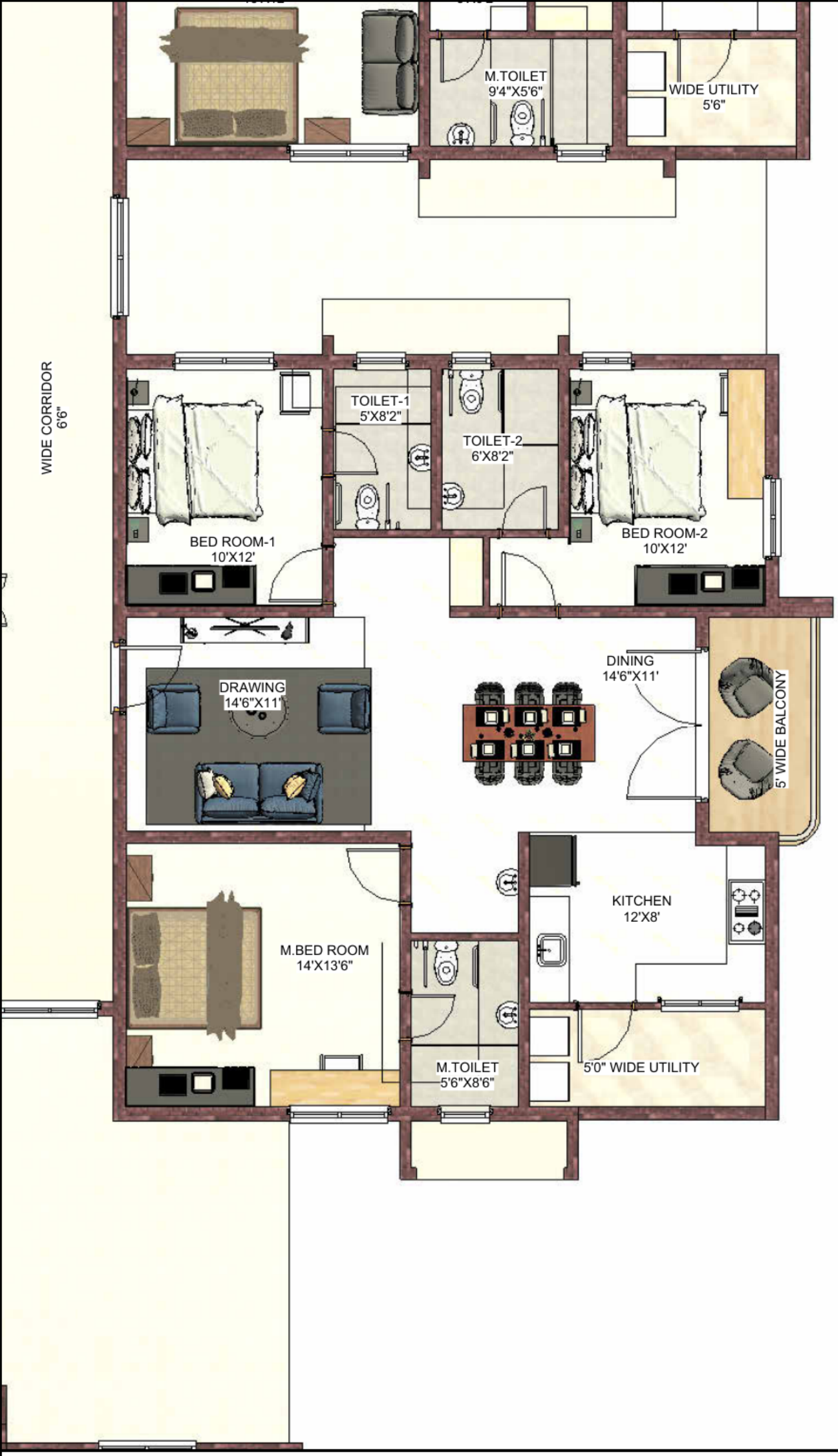

BEDROOM-1
11'X12'
M.TOILET
6'X8'6"
DRESS
5'X8'6"
M.BEDROOM
15'X12'


WIDE BALCONY
5'6"
TOILET-1
6'X8'0"
LIVING
11'X7'
DRAWING
12'0"X15'
LOBBY
15'5"X9'3"
DINING
17'6"X12'6"
DRESS
5'X8'6"
KITCHEN
10'X12'
GOOD'S LIFT
7'6"X10'
POOJA
5'0"X3'8"
TOILET-2
5'X8'6"
BEDROOM-2

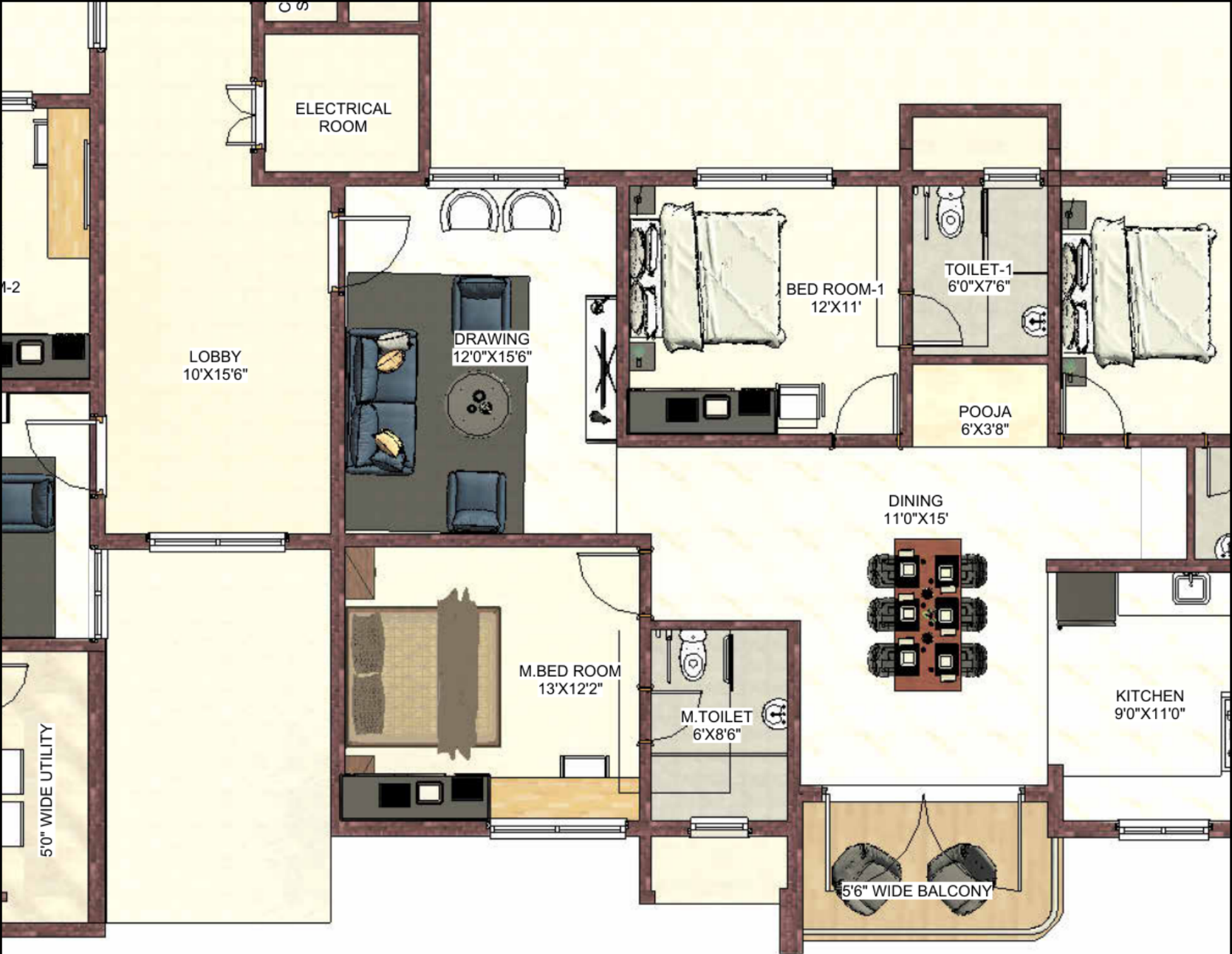

WIDE BALCONY
5'6"
BED ROOM-1
11'X11'
LIVING
11'X12'2"
BED ROOM-2
11'X14'4"
TOILET-1
9'3"X5'
TOILET-2
9'X6'
DINING
13'4"X14'2"
DRAWING
11'6"X12'
KITCHEN
8'8"X14'4"
M.BED ROOM
15'X12'
DRESS
5'X6'2"
POOJA
4'X6'8"
M.TOILET
9'4"X5'6"
WIDE UTILITY
5'6"

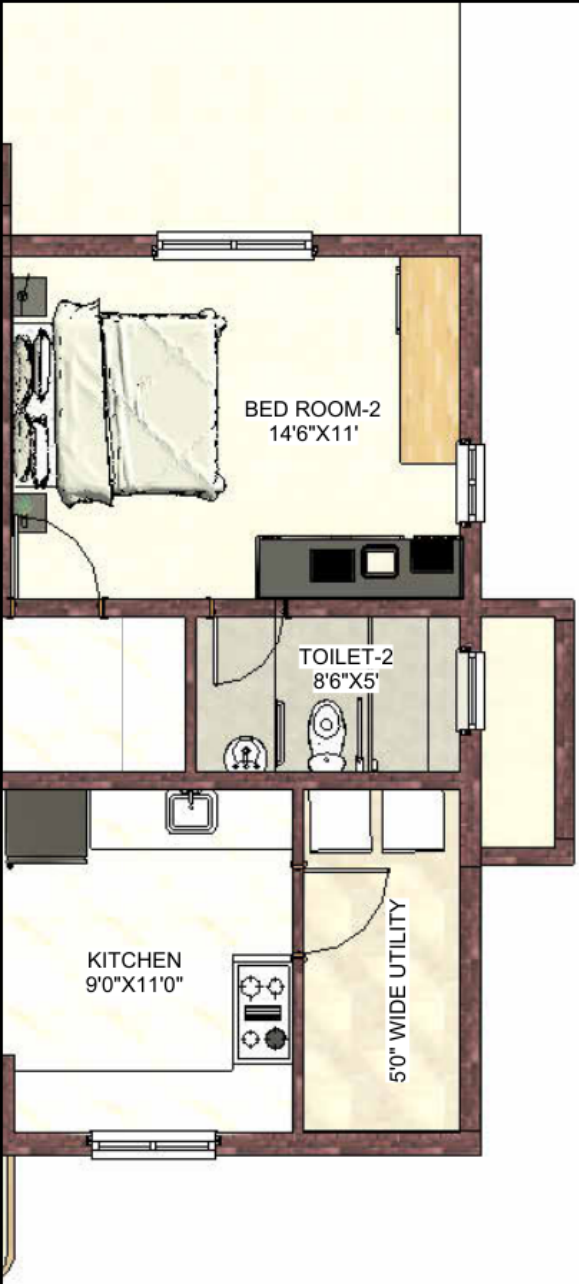

M.BEDROOM
15'X12'
TOILET-2
6'X8'3"
TOILET-1
5'X8'9"
BEDROOM-1
10'X12'
BEDROOM-2
10'X12'
POOJA
5'X3'5"
DINING
16'6"X11'
DRAWING
12'6"X11'
WIDE BALCONY
5'
KITCHEN
12'X8'
M.BEDROOM
14'X13'4"
M.TOILET
5'6"X8'6"
WIDE UTILITY
5'
WIDE CORRIDOR


EDROOM
5'X12'
BEDROOM-2
10'X12'
TOILET-2
5'X8'6"
WIDE UTILITY
5'8"
LOBBY
7'11"X10'8"
FHC SHAFT
LOBBY PRESS. SHAFT
STAIRCASE PRESS. SHAFT
PHE SHAFT
WIDE CORRIDOR
6'6"
UP
STP EXHAUST SHAFT
LIFT
7'6"X7'6"
LIFT
7'6"X7'6"
LIFT
7'6"X7'6"
LIFT
7'6"X7'6"
LOBBY
32'8"X9'
WIDE CORRIDOR
6'6"
GOODS LIFT
7'6"X10'10"
FHC SHAFT.02
COMM. SHAFT
STAIRCASE PRESS. SHAFT
ELECTRICAL ROOM


M.TOILET
9'4"X5'6"
WIDE UTILITY
5'6"
WIDE CORRIDOR
6'6"
TOILET-1
5'X8'2"
TOILET-2
6'X8'2"
BED ROOM-1
10'X12'
BED ROOM-2
10'X12'
DRAWING
14'6"X11'
DINING
14'6"X11'
5' WIDE BALCONY
KITCHEN
12'X8'
M.BED ROOM
14'X13'6"
M.TOILET
5'6"X8'6"
5'0" WIDE UTILITY


TOILET-1
6'X8'
TOILET-2
6'X8'
BED ROOM-1
12'X12'
BED ROOM-2
11'X12'
POOJA
6'X4'2"
DINING
14'6"X11'
M.TOILET
8'X6'
DRESS
8'X4'8"
DRAWING
13'10"X11'
M.BED ROOM
12'X12'
LIVING
10'3"X10'10"
KITCHEN
8'0"X12'0"
5'0" WIDE UTILITY
5'8" WIDE BALCONY


ELECTRICAL ROOM
LOBBY 10'X15'6"
DRAWING 12'0"X15'6"
BED ROOM-1 12'X11'
TOILET-1 6'0"X7'6"
POOJA 6'X3'8"
DINING 11'0"X15'
M.BED ROOM 13'X12'2"
M.TOILET 6'X8'6"
KITCHEN 9'0"X11'0"
5'0" WIDE UTILITY
5'6" WIDE BALCONY


BED ROOM-2
14'6"X11'
TOILET-2
8'6"X5'
KITCHEN
9'0"X11'0"
5'0" WIDE UTILITY