



STUDY ROOM

DEPOSIT

LAUNDRY ROOM

KITCHEN

User Manual

Ver. 1.002

Building Plan Approval System

HOUSEKEEPING ROOM

Table of Contents

1	Introduction.....	6
1.1.	CAD Software.....	6
1.2.	AutoPlan BPAS.....	6
1.3.	AutoPlan – Author.....	6
1.4.	Procedure for preparation of the application file (.apz file) using.....	7
1.5.	License Details.....	8
1.6.	Log Files.....	8
2	AutoPlan Author Project.....	9
2.1	Creating New Project.....	9
2.2	Project Details.....	10
2.2.1	Project Information.....	11
2.2.2	Drawing File Details.....	13
2.2.3	Project Details.....	14
2.2.4	Land Details.....	16
2.3	Floor Details.....	17
2.4	Connected Floor Details.....	20
2.5	Road Details.....	23
2.6	Means of Access.....	24
2.7	Opening Library.....	25
2.8	Room Library.....	28
2.9	Premises Library.....	30
2.10	Loft Library.....	33
3	Marking Forms.....	36
3.1	Drawing Bound.....	36
3.2	Road.....	37
3.2.1	Mark Road:.....	37
3.3	Means of Access.....	39
3.3.1	Mark Means of Access.....	39
3.4	Parapet.....	41

3.4.1	Mark Parapet.....	41
3.5	Site Area.....	43
3.5.1	Mark Site Area:.....	43
3.6	Building Boundary.....	49
3.6.1	Mark Building Boundary:.....	49
3.7	Floor Level.....	52
3.7.1	Mark Floor Level:.....	52
3.8	Building Area.....	57
3.8.1	Mark Building Area:.....	57
3.9	Room Size.....	59
3.9.1	Mark Room Size.....	60
3.10	Premises.....	65
3.10.1	Mark Premises.....	65
3.11	Staircase.....	68
3.11.1	Mark Staircase.....	68
3.12	Ramp.....	73
3.12.1	Mark Ramp.....	73
3.13	Lift.....	78
3.13.1	Mark Lift.....	78
3.14	Parking Spaces.....	81
3.14.1	Mark Parking Space.....	81
3.15	Projection in Open Space.....	83
3.15.1	Mark Projection in Open Space.....	83
3.16	Rain Water Harvesting.....	86
3.16.1	Mark Rain Water Harvesting.....	86
3.17	Open Space and Ventilation Shaft.....	88
3.17.1	Mark Open Space and Ventilation Shaft.....	88
3.18	Boundary Wall.....	90
3.18.1	Mark Boundary Wall.....	90
3.19	Service/Mezzanine Floor.....	93

3.19.1	Mark Service/Mezzanine Floor.....	94
3.20	Porch.....	97
3.20.1	Mark Porch.....	97
3.21	Plantation.....	100
3.21.1	Mark Plantation.....	100
3.22	Garage.....	102
3.22.1	Mark Garage.....	102
3.23	Facilities for Physically Challenged People.....	105
3.23.1	Mark Facilities for Physically Challenged People.....	105
3.24	Accessory Building.....	113
3.24.1	Mark Accessory Building.....	113
3.25	Driveway.....	116
3.25.1	Mark Driveway.....	116
4	Verification Process.....	118
5	APZ file generation.....	122
5.1	Deviation Report.....	125
6	AutoCAD Tips.....	127
6.1	Layout Settings.....	127
6.1.1	How to set Layout:.....	127
6.1.2	How to set the drawing in layout using View Port:.....	130
6.1.3	How to set a new View Port with different scale in the same layout:.....	130

PREFACE

This User Manual gives you a detailed description about AutoPlan Author. The topics included are structured, based on the menu listed in the system in order to give you clear understanding.

1 Introduction

1.1. CAD Software

CAD or Computer-Aided Design and Drafting (CADD), is the use of computer technology for design and design documentation. CAD software replaces manual drafting with an automated process.

1.2. AutoPlan BPAS

AutoPlan BPAS is Computer Aided Design (CAD) based software that can be used to automate building plan verification process in Building Plan Approval System (BPAS).

AutoPlan BPAS has two integral parts:

1. AutoPlan Author
2. AutoPlan Verify

1.3. AutoPlan – Author

AutoPlan Author is fast, stable and user-friendly software which shall be used by the Architect / Engineer. It is used to prepare the input file (.apz file) which has to be submitted along with application through online for Building Plan Approval System. AutoPlan Author shall be downloaded from Portal Application in Building Plan Approval System by registered technical person in Portal Application. AutoPlan Author is downloaded as zip file (Author.zip) which contains a Setup.exe file and “AutoPlan Author Installation Guide.pdf” file. Setup.exe file shall be installed by following the instructions in “AutoPlan Author Installation Guide.pdf” file. AutoPlan Author is activated by License generated for registered technical person (LicenseAuthor.apx) in Portal Application in Building Plan Approval System. The License file contains details of the technical person.

1.4. Procedure for preparation of the application file (.apz file) using Marking forms in AutoPlan Author *(in system having AutoCAD (2013 and above) versions)*

Step 1: Building plans are prepared by Architect / Engineer in AutoCAD software.

Step 2: Architect / Engineer prepare a AutoPlan Author Project in which details of project such as drawing details, Ownership Details, Land Details, Building Details, etc., shall be entered and the prepared Building Plan shall be attached to the project.

Step 3: The prepared Building Plan shall be marked through various marking forms in AutoPlan Author.

Step 4: Application file (.apz file) shall be generated from AutoPlan Author.

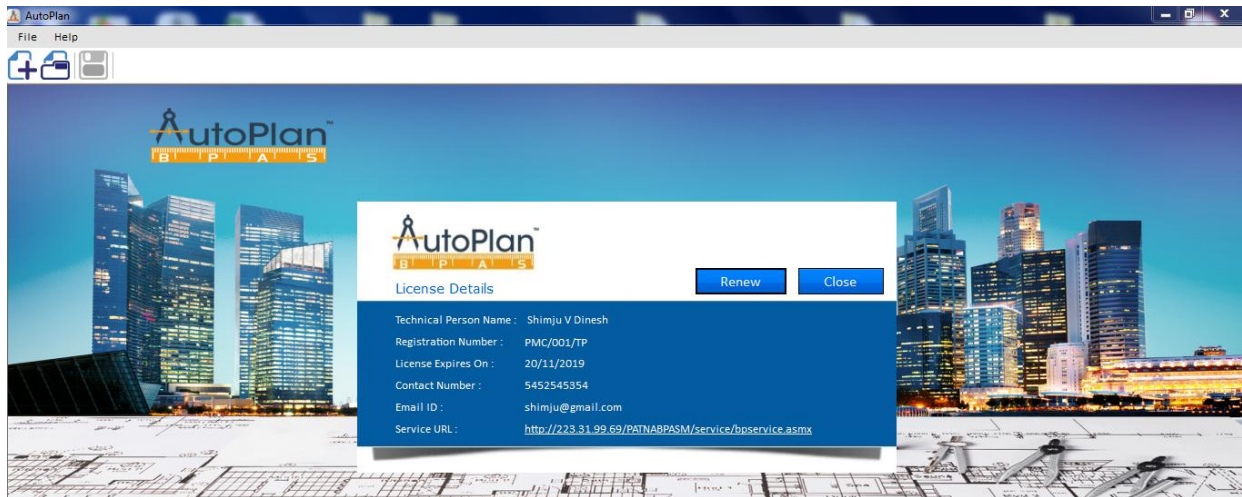
Additionally following features available in AutoPlan Author:

- i. AutoPlan Author verify the marked drawing and generates verification results and sample Report so that the Architect / Engineer can confirm whether the building plan is acceptable to Building Bye-laws and Zonal Regulations before applying to Authority for **Building Plan Approval Certificate/Occupancy Certificate** application.
- ii. AutoPlan Author highlights the failed objects (based on Building Bye-laws and Zonal Regulations) in drawing for corrections with required / permissible values as per Building Bye-laws and Zonal Regulations so that the Architect / Engineer can correct the drawing where ever required before submitting to Authority for Building Plan Approval Certificate/Occupancy Certificate.

NOTE: Use only Windows default fonts during drawing preparation

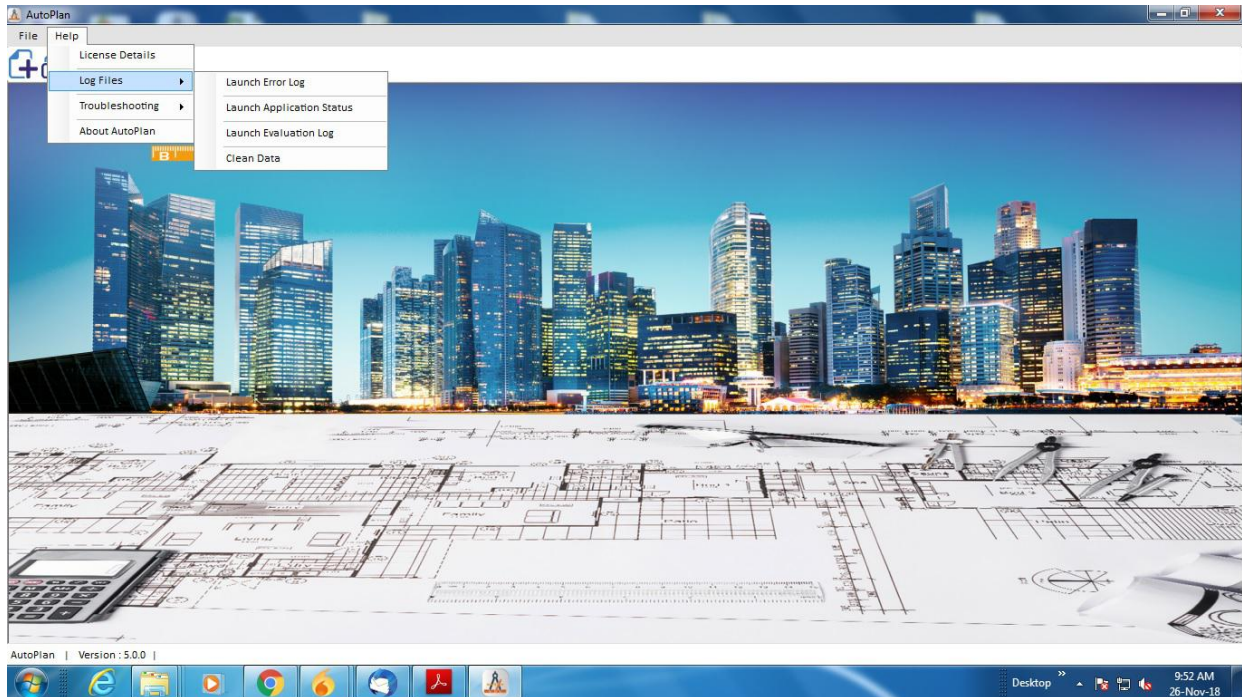
1.5. License Details

The license details of the technical person can be viewed by clicking **License Details** option in **Help** menu. The service URL from which the license has been downloaded is showing here. Also renewal of the license can be done from this option.



1.6. Log Files

- **Launch Error Log** option helps user to view the log files which are created during data processing containing errors.
- **Launch Application Status** option helps to identify the status of the application in verify like, log entry, application number, application name etc.
- **Launch Evaluation Log** option is used to identify the errors during evaluation
- While installing Autoplan Author Tool, use **Clear Data** option, if user wants to clear previous data.

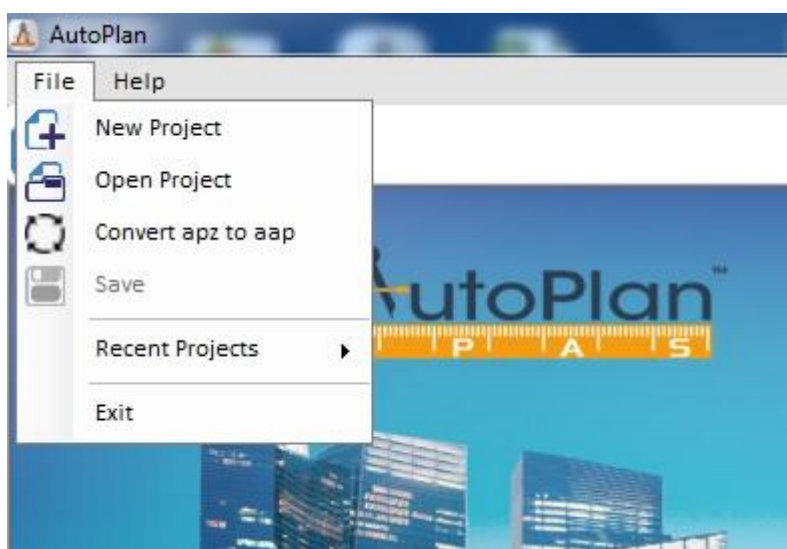


2 AutoPlan Author Project

2.1 Creating New Project

AutoPlan Author Project can be created by either of following two ways,

- i. AutoPlan Author Project can be created by clicking **New Project** option in **File** menu.



- ii. AutoPlan Author Project can be created by clicking **New Project** icon in **Tools bar**



Project Details form will open as shown below.


2.2 Project Details

Basic and necessary details of project such as drawing file details, land Details, building details, etc., are entered in Project details form.

Project Details form consists of following sections / tabs,

- a) Project Information
- b) Drawing File Details
- c) Project Details
- d) Land Details

2.2.1 Project Information

- i. **Authority:** Lists the ULBs in which the Architect is registered for Building Plan Approval System. Select the ULB for which the project has to be submitted for approval.
- ii. **Project Name:** Enter a Name for the project by which the Project shall identify in BPAS. Project name shall be the name of output file (.apz file) of Author for BPAS.
- iii. **Description:** Enter a short description about project.
- iv. **Application Submitted by:** Select the person who is going to apply to Authority.
- v. **Applied for:** If Architect is going to apply for the Authority, select whether the Architect is applying for self or for client.
- vi. **Application Type:** Select the type of application, whether it is for Building plan approval certificate or occupancy certificate.
- vii. **Reference Number:** Reference Number is to be filled to capture in the application in two cases.
 - a) If Occupancy Certificate is selected in Application Type list, enter the Commencement Certificate Number or previous Reference Number issued by the authority for the project.
 - b) Also in Project Details Tab, if the construction Type is other than 'New Construction'.
- viii. **Project path:**
 - a. Click **Browse** button . **Browse for Folder** form will open.

- b. Select any existing folder from the list or create a new folder by clicking **Make New Folder** button.
- c. Click **OK** button once the folder is selected.



After entering all the details, click **NEXT** button to move to next tab. Click **CANCEL** button to close the Project Details form.

2.2.2 Drawing File Details

Project Details

Project Information | **Drawing File Details** | Project Details | Land Details

DRAWING FILE & UNITS

Drawing File:

Drawing File Type:

Drawing Unit:

Drawing sub unit:

Drafting Scale 1:

Plotting Scale 1:

Site Plan Scale: Custom 1:

SI No	Drawing File	Drawing File Type	Drawing sub unit	Drafting Scale	Site Plan Scale	Remove
1	RESIDENCE FOR...	All	Metre	1	1	<input type="button" value="X"/>

UNIT OF MEASUREMENT

Unit of Length:

- i. **Drawing File:** Select the drawing file prepared in AutoCAD to be submitted for Building Plan Approval System by clicking browse button .
- ii. **Drawing File Type:** Select the type of drawing file from the drop down list.
- iii. **Drawing Unit:** Lists standard system of measurement such as Metric etc. Selects the system in which the selected drawing file prepared in AutoCAD.
- iv. **Drawing Sub Unit:** Lists standard units (Meter, Millimeter, Centimeters, etc.,) based on the selection in **Drawing Unit** field. Selects the unit in which the selected drawing file prepared in AutoCAD.
- v. **Drafting Scale:** Drafting Scale means the scale by which the drawing is drafted in AutoCAD.
- vi. **Plotting Scale:** Plotting Scale means the scale by which the drawing is plotted in a sheet.
- vii. **Site Plan Scale:** Site Plan Scale means the scale by which the Site Plan is drawn in the building with respect to Plotting Scale.

NOTE: Scale selection shall be 1:1 for all drawings. Only unit selection shall be allowed to change. Scale and Units of first drawing will be saved to all the succeeding drawings.





- viii. **Unit of Length:** Unit of Length is the unit by which length shall be displayed in output of AutoPlan Author and AutoPlan Verify. It lists standard units of measurement such as Meter, Millimetre and Centimetre. Selects the unit in which the length has to be measured in output.

There is option for adding Multiple Drawings in a project. After entering details of one drawing, click on **Add** button to add the drawing details to grid. Then repeat the same process for all the drawings.

After entering all the details, click **NEXT** button to move to next tab and **PREVIOUS** button to move to previous tab. Click **CANCEL** button to close the Project Details form.

2.2.3 Project Details

- Building Category:** Lists various categories of Building. Select the category of the building which is going to be proposed.
- Project Type:** Lists type of project such as New Construction, Re - Construction, Addition / Alteration and Existing. Selects the type of the proposed project.
- Zone:** Lists the zone names applicable for the selected authority. Select the zone from the list in which the proposed project is located.
- Classification:** Lists Main and Mixed classifications. Select the classification from the list.
Main means single Land Use Category is proposed in the project
 (Example: Residential Building)
Mixed means more than one Land Use Category is proposed in the project (Example: Residential Building with commercial shops at Ground Floor)
- Land Use Category:** Select the Land Use category from the dropdown list.

- vi. **Project Category:** Select the project category.
- vii. **Proposed Start Date:** Selects the date by which the project is proposed to be started.
- viii. **Proposed End Date:** Selects the date by which the project is proposed to be completed.
- ix. **Building Name:** Enter the name of the building.
- x. **Total Area Covered in all Floors:** Enter the total floor area of the building.
- xi. **Number of Floors:** Enter the number of floors proposed for the building.
- xii. **Number of Dwelling Units:** Enter the number of dwelling units proposed for the building.
- xiii. **Basement Floor(s):** Enter the number of floors above ground floor or select by numeric up down button .
- xiv. **Ground Floor:** Enter the number of floors below ground floor or select by numeric up down button .
- xv. **Upper Floor (s):** Enter the number of floors above ground floor or select by numeric up down button .
- xvi. **Stilt:** Enter the number of stilt floors or select by numeric up down button .

Add: After entering the above details click **Add** button to add the building to the list below.

Edit: To edit a building from list, double click the building from the list, building details will be loaded. Edit the details as required and click **Add** button to update building detail in list. To cancel the editing process, click **Cancel** button.

Remove: To remove a building detail from list, click **Remove** icon corresponding to the building.

After entering all the details, click **NEXT** button to move to next tab and **PREVIOUS** button to move to previous tab. Click **CANCEL** button to close the Project Details form.

2.2.4 Land Details

Project Details

Project Information | Drawing File Details | Project Details | Land Details

LAND DETAILS

Taluk: CENTRAL DOON Section 12/125

Name of City / Town / Village: NIRANJANPUR Section 12/125

Khata Number: 256/13(PART)

Revenue Plot Number: 258/13

Type of Land: Non Gharabari

Area of Plot: 200 Square Metre

Area Under Possession: Square Metre

Survey Number: 16/272

Property ID: 258/13

+ Add - Cancel

Sl No	Taluk	Name of City / Town / Village	Khata Number	Revenue Plot Number	Area of Plot	Type of Land	Survey Number
1	CENTRAL DOON ...	NIRANJANPUR Section 12/125	13/271(PART)	256/13(PART),25...	100.56	Non Gharabari	13/271(PART)
2	CENTRAL DOON ...	NIRANJANPUR Section 12/125	256/13(PART)	258/13	200	Non Gharabari	16/272

Rectangular Snap

PREVIOUS UPDATE CANCEL

- Taluk:** Enter the taluk in which the project is proposed.
- Name of City/Town/Village:** Enter the name of the city/town/village in which the project is proposed.
- Khata Number:** Enter the Khata number of the land in which the project is proposed.
- Revenue Plot Number:** Enter the revenue plot number of the land in which the project is proposed.
- Type of Land:** Select whether the proposed land is Agriculture Land or Non Agriculture land.
- Area of Plot:** Enter the area of the plot proposed.
- Area under Possession:** Enter the area of the plot proposed under possession.
- Survey Number:** Enter the survey number of the property in which the project is proposed.
- Property ID:** Enter the property id.

Add: After entering the above details click **Add** button to add the land to the list below.

Edit: To edit a land from list, double click the land from the list, land details will be loaded. Edit the details as required and click **Add** button to update land detail in list. To cancel the editing process, click **Cancel** button.

Remove: To remove a land detail from list, click **Remove** icon corresponding to the land in the list.

After entering all the details, click **FINISH** button to save the details entered in Project Details form. Click **PREVIOUS** button to move to previous tab and click **CANCEL** button to close the Project Details form.

Marking Control form will open as shown below.

Project Name RESIDENTIAL
Description

Marking For Various Objects in the Drawing

DCR/Bye-Laws

Description	Mark	Highlight	View/Verify
Drawing Bound	Mark		
Road	Mark		
Means Of Access	Mark		
Site Area	Mark		
Building Boundary	Mark		
Floor Level	Mark		
Building Area	Mark		
Room Size	Mark		
Staircase	Mark		
Ramp	Mark		
Lift	Mark		

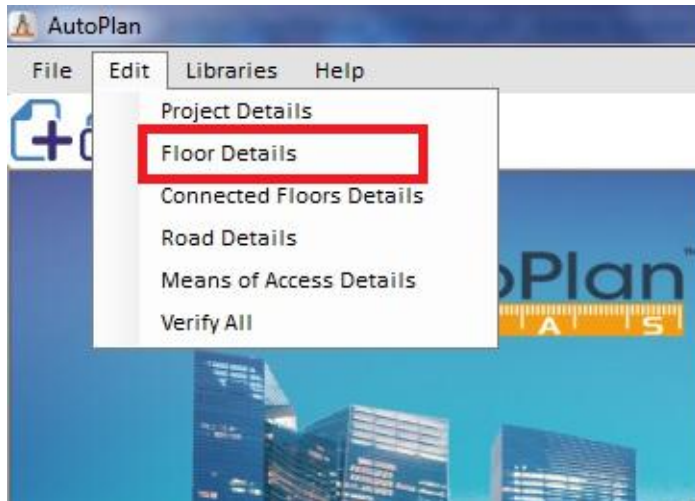
Verify All Create APZ Close

NOTE: The items in this marking control form will be listed based on DCR verification.

2.3 Floor Details

Converting of normal floors to typical floors is done in Floor Details form.

- Floor Details** form shall be opened by clicking **Floor Details** option in **Edit** menu.



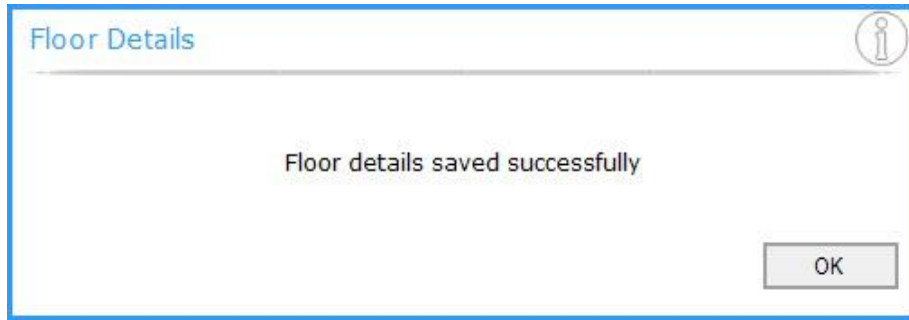
Floor Details form will open as shown below.

 A screenshot of the 'Floor Details' form. At the top, there is a 'Building Name' dropdown menu set to 'Building for MRAJEET KUMAR HATWALNeetl'. Below this is a table with the following columns: Floor Name, Floor Type, Floor Count, Uses, and Mezzanine Floor. The table contains three rows: GROUND FLOOR, FLOOR 1, and ROOF. Each row has an 'Edit' button in the 'Uses' column and a checkbox in the 'Mezzanine Floor' column. At the bottom left is a 'Typical' button, and at the bottom right are 'Save' and 'Close' buttons.

Floor Name	Floor Type	Floor Count	Uses	Mezzanine Floor
GROUND FLOOR	GROUND	1	Edit	<input type="checkbox"/>
FLOOR 1	FLOOR	1	Edit	<input type="checkbox"/>
ROOF	ROOF	1	Edit	<input type="checkbox"/>

- ii. Select the building from **Building Name** drop-down list.
- iii. Select the Floors to be converted as typical floors by click and hold Control button and select the floors by mouse left click.
- iv. Click **Typical** button to convert Normal floor to Typical floor.
- v. Click **Edit** in the column “Uses” to include uses of each floor. Clicking on “Edit” option will open a sub-window which has “Floor use” option with a drop down menu. User can select the intended use from it and click on “Add” option. Multiple uses for the same floor can also be selected using “Add” option.
- vi. Use tick box given along each floor to add a mezzanine floor. The process of adding a mezzanine floor is mentioned in [section 3.22](#).

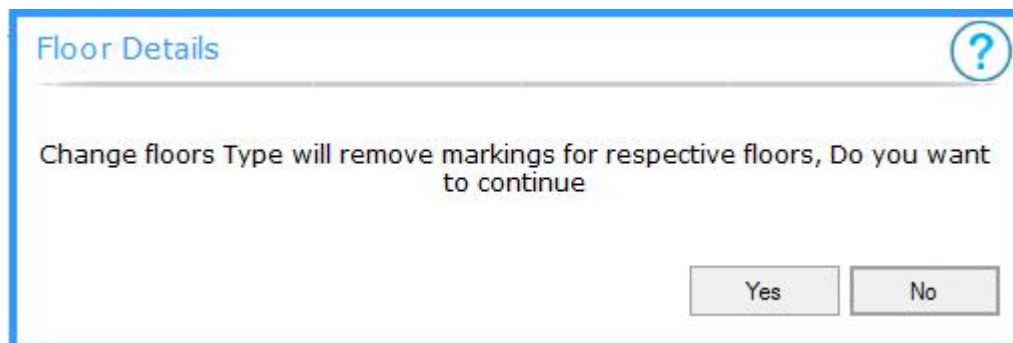
vii. Click **Save** button, confirmation message box will come, click **OK** button.



viii. Step ii to vi shall be repeated for other buildings, if available.

ix. Click **Close** button to close **Floor Details** form.

Note: If you convert normal floor to typical after marking, a Confirmation message will come as shown below.



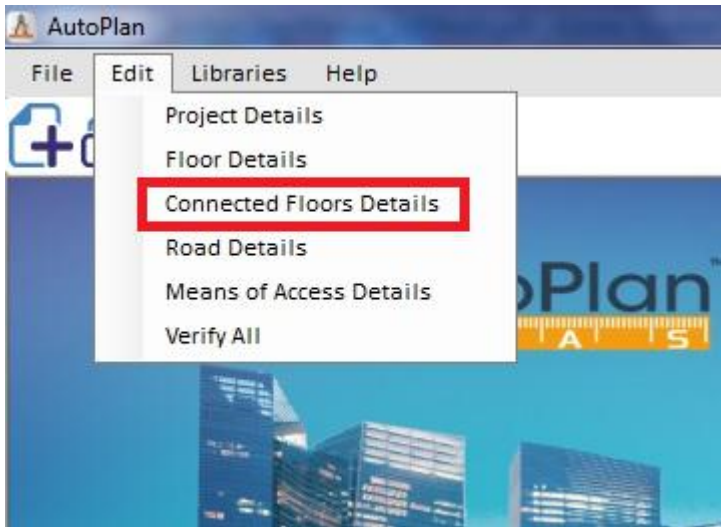
Click **Yes** to continue.

“Typical Floors: Normal floors whose floor area and other parameters are similar can be considered as Typical Floors. In Case of Typical floors, building parameters such as Floor area, etc can be calculated for single floor and it shall be multiplied by number of floors in the typical floor to get total values for the parameter. Basement Floor, Ground Floor and Roof cannot be added to Typical Floor”.

2.4 Connected Floor Details

For plots having more than one buildings and shall be connected to each other, the connection details are saved in **Connected Floor Details** form.

- i. **Connected Floor Details** form shall be opened by clicking **Connected Floor Details** option in **Edit** menu.

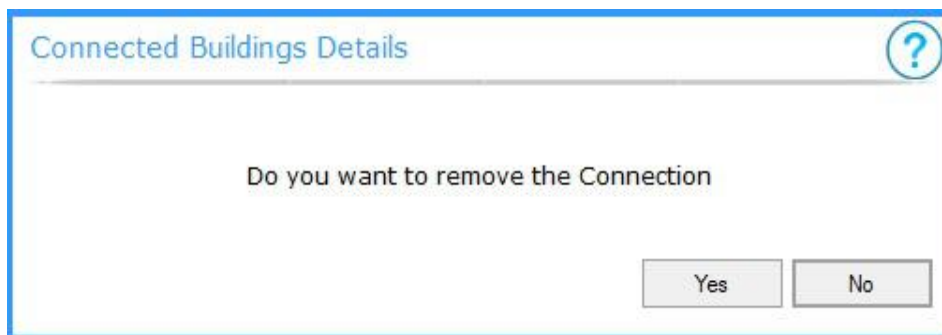


Connected Building Details form will open as shown below.

A screenshot of the 'Connected Buildings Details' form. The form has a title bar 'Connected Buildings Details'. It contains several sections: 'Connection Name' with a text box containing 'Connection-Ground Floor'; 'Type of Connection' with radio buttons for 'Simple Passage Connection' and 'Total Area Connection' (selected); 'Area Division' with radio buttons for 'Ratio' and 'Equal'; 'Building Name' with a dropdown menu showing 'Tower 02' and an 'Add' button; 'Select Floor' with a dropdown menu showing 'GROUND FLOOR' and a 'Remove' button; a table with two columns 'Building Name' and 'Floor Name' containing two rows: 'Tower 01' and 'GROUND FLOOR', and 'Tower 02' and 'GROUND FLOOR'; and a 'List of connections' panel on the right with a table containing one row: 'Connection Name' and 'Connection-Ground Floor'. At the bottom are 'Clear' and 'Save' buttons, and in the bottom right are 'Remove' and 'Close' buttons.

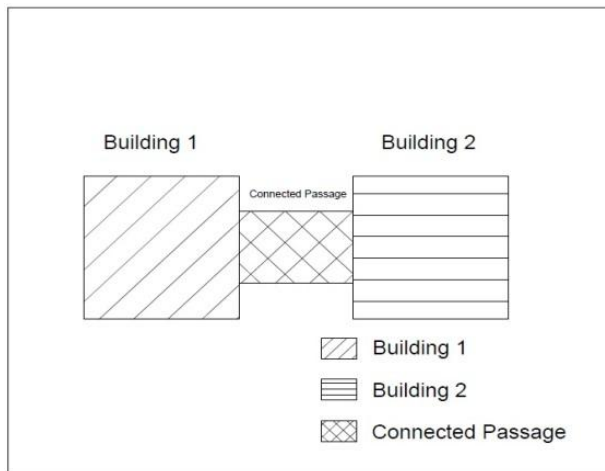
- ii. To establish a connection between two or more floors, following steps have to be followed.
 - a) **Connection Name:** Enter a name for the connection.

- b) **Type of Connection:** Select the connection type weather Simple Passage Connection or Total Area connection.
- c) **Area Division:** Select the type of area division among connected floor weather Ratio or Equal.
- d) **Building Name:** List all the buildings in the project, select the building in which connection has to be established.
- e) **Select Floor:** List all the floors in the selected building in Building Name, select the floor which is connected to other building.
- f) **Add:** After selecting the building and floor click **Add** button to add the building and floor to the connection.
- g) **Remove:** Use remove button, if you want to delete the floor name for the connection provided.
- h) Step (d) to (f) has to be repeated to add another building to the connection.
- i) After adding all the required buildings in connection, click **Save** button. Connection will be listed in List of Connections.
- j) **Clear:** To clear all the details such as Connection Name, buildings in the list, click **Clear button**.
- k) **Remove:** To remove any connection from list, select the connection and click **Remove** button, confirmation message will come, Click **Yes** button.

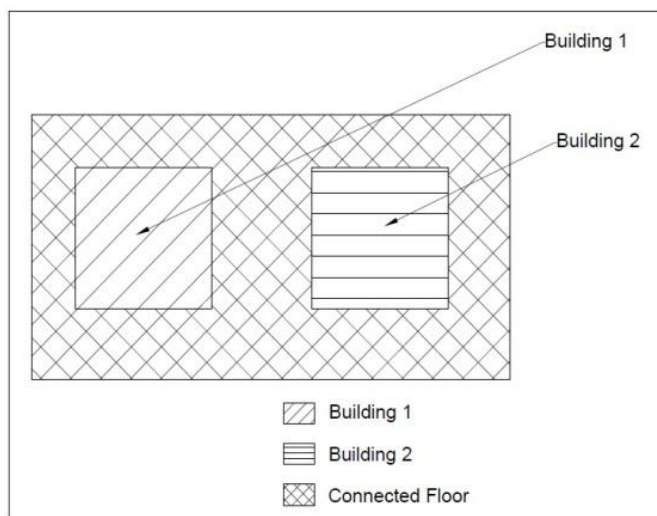


- l) **List of Connection Details:** To edit an already established connection, **double click** the connection name in List of Connections, the connection details will be loaded in corresponding fields. Edit the required details and click **Save** button.
- m) **Close:** To close Connected Building Details form, click **Close** button.

Simple Passage Connection: If two buildings are connected by a passage only then the connection is called Simple Passage Connection.



Total Area Connection: If two buildings are connected by a common floor which may extend beyond the floor area of individual buildings, and then the connection is called Total Area Connection.



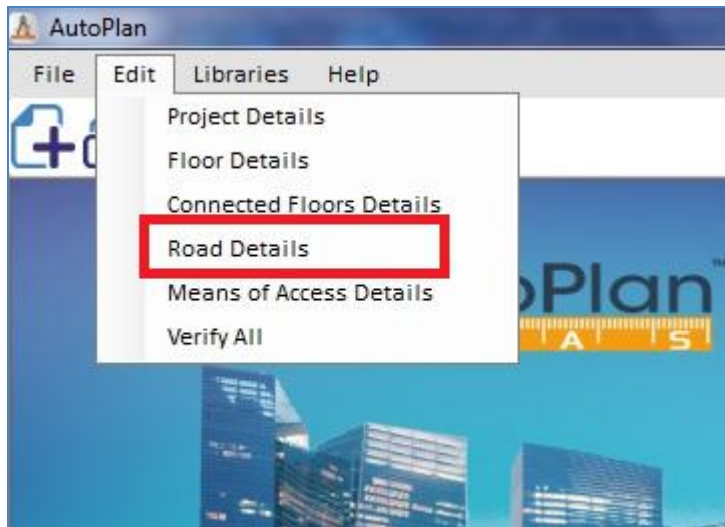
Area Division-Ratio: Area Division-Ratio means the connected area which is common for all the buildings in the connection shall be divided among the buildings based on the **ratio of floor area of non-connected floors in each building**.

Area Division-Equal: Area Division-Equal means the connected area which is common for all the buildings in the connection shall be divided among the buildings equally.

2.5 Road Details

In case multiple road abutting the site, road library details can be saved in **Road Details** form.

Road Details form shall be opened by clicking **Road Details** option in **Edit** menu.




Road Details form will open as shown below.

A screenshot of the 'Road Details' form. It contains several input fields: 'Classification of Road' (Public Road / Street), 'Road Name' (B.H. Road - From Ashoka Circle To Tunga River), 'Road Category' (State Highway), 'Existing Width' (26.00), 'Proposed Width' (30.00), and 'Building Line' (18.00). Below these fields are 'Add' and 'Clear' buttons. At the bottom, there is a table with the following data:

Sl No	Classification	Road Name	Existing Width	Prop
1	Public Road / S...	B.H. Road - From As...	26.00	30.00

Below the table is a scrollbar. At the bottom right are 'Save' and 'Close' buttons.

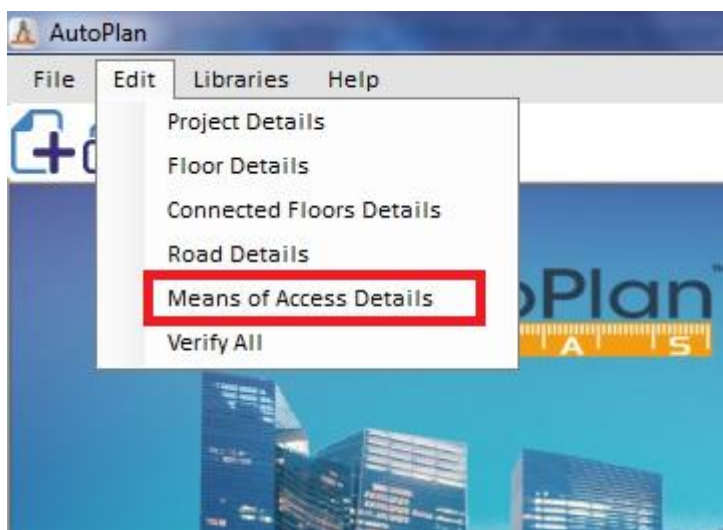
- i. **Classification of Road:** Select the classification from the drop down menu.
- ii. **Road Name:** Enter a name for the Road.
- iii. **Road Category:** List categories of road such as 'National Highway', 'State Highway', 'Provincial Highway', etc if Classification of Road = 'Public Road / Street' is selected and 'Residential Road', 'Commercial Road', etc if Classification of Road = 'Internal Road' is selected .
- iv. **Existing Width:** Enter the Existing Width of Road
- v. **Proposed Width:** Enter the Proposed Width of Road
- vi. **Building Line:** Enter the Building Line value for the Road
- vii. **Add button:** After completing the above steps, click **Add** button to add the road to the list below.
- viii. Step (ii) to (xiv) shall be repeated to add more road.
- ix. After adding all the required roads, click **Save** button. Confirmation message will come, click **OK** button.

Remove Road Details: To remove a road from list, select the road from the list and click Remove icon  at the last column of the list, Confirmation message will come, click **Yes** button.

2.6 Means of Access

Means of Access Library can be created using **Means of Access Details** form, if there is multiple means of access to the plot from Public Road.

Means of Access Details form shall be opened by clicking **Means of Access Details** option in **Edit** menu.



Means of Access Details form will open as shown below.

Means of Access Details

Means of Access Name: means of access 01

Existing Width: 2

Proposed Width: 4

Development on: Two Sides of Means of Access ☐ Dead End

Add Clear

SI No	Means of Access Name	Existing Width	Proposed Width
1	means of access 01	2	4

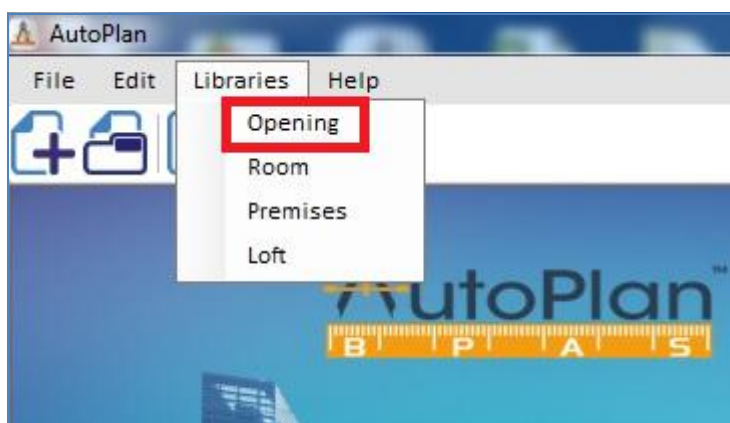
Save Close

- i. **Means of Access Name:** Enter a name for the Means of Access
- ii. **Existing Width:** Enter the Existing Width of Road
- iii. **Proposed Width:** Enter the Proposed Width of Road
- iv. **Development On:** Select any one from the list
- v. **Dead End:** Check if the Means of Access is dead end.
- vi. **Add button:** After completing the above steps, click **Add** button to add the means of access to the list below.
- vii. Step (ii) to (xiv) shall be repeated to add more means of access.
- viii. After adding all the required means of access, click on **Save** button. Confirmation message will come, click **OK** button.

2.7 Opening Library

Light and Ventilation shall be marked only by selecting the opening from Opening Library. In a building, openings with similar dimensions shall be repeated at same floor or different floor or different building in same project. In such case, one opening added to library shall be used to mark all the openings of similar dimensions.

- i. **Opening Library** form shall be opened by clicking **Opening** option in **Libraries** menu.



Schedule of Openings form will open as shown below.

Schedule of Openings

Add Openings:

Opening Type:

Name:

Width: Height:

Description:

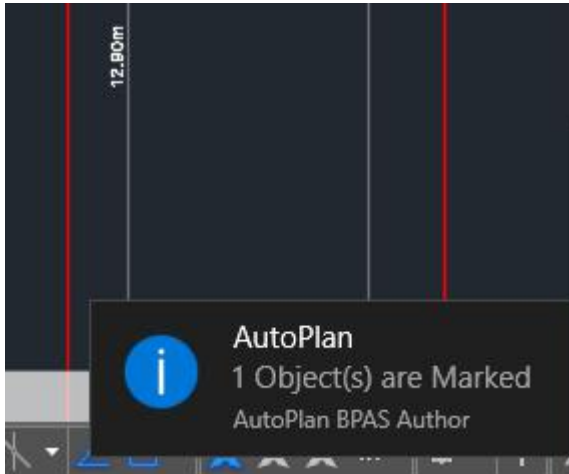
Items	Mark/Unmark	Highlight
Area	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>


Openings Library:

SI No	Opening Name	Dimensions	Area	Remove
1	DOOR	1 X 2.7	0	<input type="button" value="Remove"/>

- ii. **Opening Type:** List all the room types available based on the selected authority. Select the room type under which the room has to be added to library.

- iii. **Opening Name:** Enter the name of the opening.
- iv. **Width:** Enter the width of the opening.
- v. **Height:** Enter the clear height of the opening.
- vi. **Description:** Enter a short description about opening.
- vii. **Area:**
 - a) Click **Mark** button corresponding to Width.
 - b) Now control will switch to AutoCAD work space with *selection* cursor.
 - c) Select the object(s) to be marked for Width by *mouse left click*.
 - d) Selection process is completed by *mouse right click* or *click enter key*.
 - e) Marking confirmation message will come in *Tray* icon.

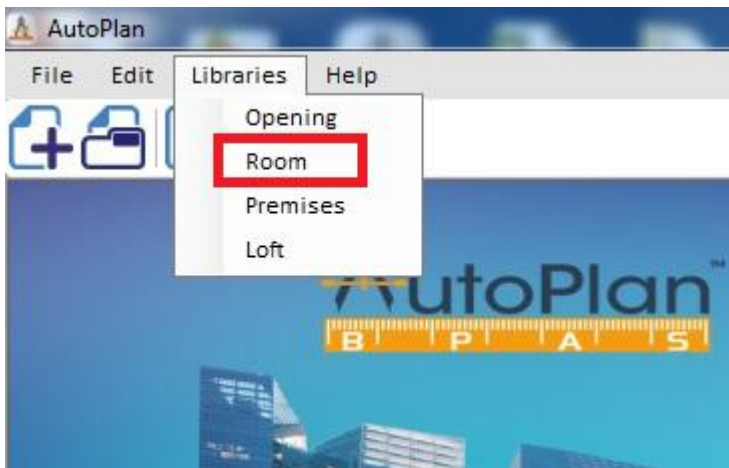


- viii. **Add:** After completing the above steps, click **Add** button to add the opening to the library list below.
- ix. Step (ii) to (x) shall be repeated to add more rooms to library.
- x. After adding all the required openings to library, click **Save** button. Confirmation message will come, click **OK** button.
- xi. **Remove Opening:** To remove an opening from list, select the opening from the list and click Remove icon  at the last column of the list, Confirmation message will come, click **Yes** button.

2.8 Room Library

Rooms shall be marked by selecting the room from Room Library. In a building, rooms with similar usage, dimensions are repeated at same floor or different floor or different building in same project. In such case, one room added to library shall be used to mark all the rooms of similar usage and dimensions.

- i. **Room Library** form shall be opened by clicking **Room** option in **Libraries** menu.



Room Library form will open as shown below.

A screenshot of the 'Room Library' form. It features a table with the following headers: 'SI', 'Room Type', 'Room Name', 'Highlight', and 'Remove'. The table body is currently empty. At the bottom right of the form, there are two buttons: '+ Add Room' and a red circular button labeled 'Close'.

Click on the **Add Room** button to add new room library.

Room Library

Room Type: Name:

☐ Room / Space Clear Height is different from the Floor Clear Height

Description	Mark/Unmark	Highlight
Area	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>
Length	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>
Width	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>

Opening Type: Opening Name:

Location: Number of Openings:

SI No	Opening Name	Numbers	Area	Remove
1	W1	2	0	<input type="button" value="Remove"/>

SI	Room Type	Room Name	Highlight	Remove
1	Bed Room	test room	<input type="button" value="Highlight"/>	<input type="button" value="Remove"/>
2	Kitchen	K1	<input type="button" value="Highlight"/>	<input type="button" value="Remove"/>


- vi. **Room Type:** List all the room types available based on the selected authority. Select the room type under which the room has to be added to library.
- vii. **Name:** Enter the name of the room.
- viii. **Area:**
 - a) Click Mark button corresponding to Area.
 - b) Now control will switch to AutoCAD work space with selection cursor.
 - c) Select the object(s) to be marked for Area by mouse left click.
 - d) Selection process is completed by mouse right click or click enter key.
 - e) Marking confirmation message will come in Tray icon.
- ix. **Length:** Refer steps in Area for Length Marking.
- x. **Width:** Refer steps in Area for Width Marking.

- xi. **Floor Level:** Refer steps in Area for Floor Level Marking.
- xii. **Ceiling Level:** Refer steps in Area for Ceiling Level Marking.

Opening Details:

Opening Details section in Room Library is used to select the Openings provided in the Room

- xiii. **Opening Type:** List all the opening types available based on the Openings Library. Select the opening type proposed in the room
- xiv. **Opening Name:** List all the openings available based on the selection in Openings Type. Select the Opening Name to be tagged to the room
- xv. **Location:** List the different locations by which the opening is leading towards such as Exterior Open Space or Interior Open Space
- xvi. **Number of Openings:** Enter the number of openings provided in the room corresponding to the Opening Name selected
- xvii. **Add (Openings) button:** After completing the above steps (xiii to xvi), click **Add** button to add the openings to the Rooms list below
- xviii. **Add (Rooms) button:** After completing the above steps, click **Add** button to add the room to the library list below.
- xix. Step (ii) to (xiv) shall be repeated to add more rooms to library.
- xx. After adding all the required rooms to library, click **Save** button. Confirmation message will come, click **OK** button.

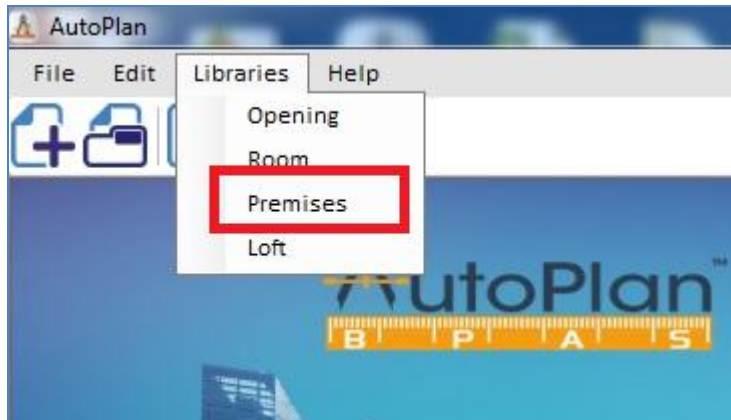
Remove Room Details: To remove a room from list, select the room from the list and click **Remove** icon  at the last column of the list, Confirmation message will come, click **Yes** button.

2.9 Premises Library

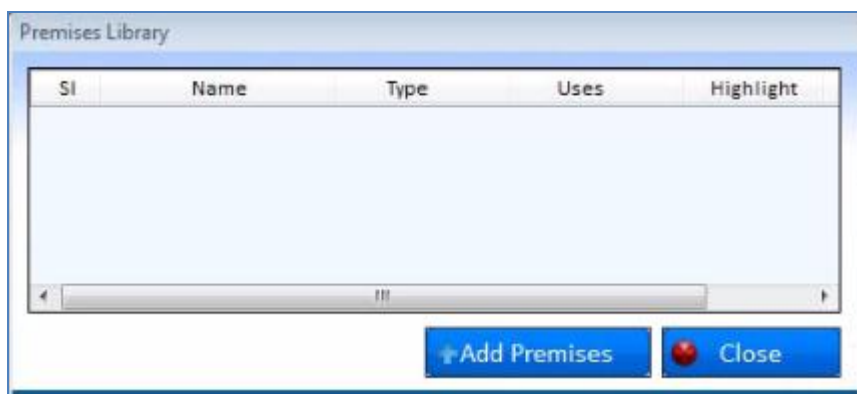
Premises proposed in any building shall be repeated and hence Premises and Spaces Library shall be created. While marking Premises, the items saved in Premises Library will be tagged to that Premises.

NOTE: Premises shall also be marked without adding to Premises Library and items which are not selected from library will get added to library automatically.

Premises Library form shall be opened by clicking **Premises** option in **Library** menu.



Premises Library form will open as shown below.



Click on the **Add Premises** to add premises to the library. **Premises Library** form will open as shown below.

Premises Library

Premises Name

Category ☒ Premises ☐ Common Area/Services

Type Uses

Description	Mark/Unmark	Highlight
Builtup Area	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>
Carpet Area	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>

Room Type Room Name

Room Name	Number of Rooms	Highlight	Unmark
shop 1	1	<input type="button" value="Highlight"/>	<input checked="" type="button" value="X"/>

SI	Name	Type	Uses	Highlight
1	Premise 01	Shops	Shops	<input type="button" value="Highlight"/>
2	Premise 02	Shops	Shops	<input type="button" value="Highlight"/>

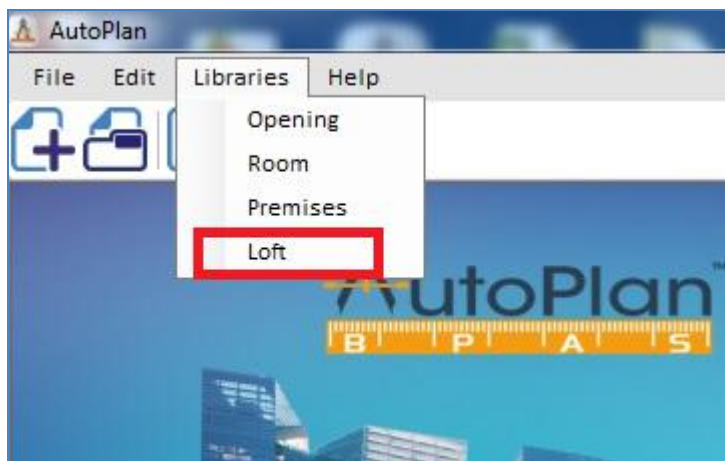
- i. **Premises Name:** Enter the name of the premises to be added to the library.
- ii. **Category:** Choose the category of premises.
- iii. **Type:** Lists all the premises types available based on the category. Select the type under which the premises have to be added to library.
- iv. **Uses:** Select the use of the selected premises.
- v. **Built-up Area:**
 - a) Click **Mark** button corresponding to Built-up Area.
 - b) Now control will switch to AutoCAD work space with *selection* cursor
 - c) Select closed polyline to be marked for Built-up Area by *mouse left click*
 - d) Selection process is completed by *mouse right click* or *click enter key*

- iv. **Carpet Area:** *Refer steps in Built-up Area for Carpet Area Marking*
- v. **Room Type:** Select the type of room to be added to premises library.
- vi. **Room Name:** Select the room name.
- vii. **Add:** After completing the above steps, click **Add** button to add the premises to the library list below.

2.10 Loft Library

Rooms shall be marked by selecting the room from Room Library. In a building, rooms with similar usage, dimensions are repeated at same floor or different floor or different building in same project. In such case, one room added to library shall be used to mark all the rooms of similar usage and dimensions.

Loft Library form shall be opened by clicking **Loft** option in **Library** menu.



Loft Library form will open as shown below.

Loft Library


Loft Section Name

Description

Description	Mark/Unmark	Highlight
Loft Slab Bottom Level	Mark	
Loft Slab Top Level	Mark	
Room Floor Level	Mark	
Room Ceiling Level	Mark	

Sl No	Loft Section	Highlight	Remove

- vi. **Loft Section Name:** Enter the name of the loft section.
- vii. **Description:** Enter the description about loft section.
- viii. **Loft Slab Bottom Level:**
 - a) Click **Mark** button corresponding to Loft Slab Bottom Level
 - b) Now control will switch to AutoCAD work space with *selection* cursor
 - c) Select the object(s) to be marked for Loft Slab Bottom Level by *mouse left click*
 - d) Selection process is completed by *mouse right click* or *click enter key*
- viii. **Loft Slab Top Level:** Refer steps in Loft Slab Bottom Level for Loft Slab Top Level Marking
- ix. **Room Floor Level:** Refer steps in Loft Slab Bottom Level for Room floor Level Marking
- x. **Room Ceiling Level:** Refer steps in Loft Slab Bottom Level for Room Ceiling Level Marking
- xi. **Add:** After completing the above steps, click **Add** button to add the loft to the library list below

- xii. Step (ii) to (x) shall be repeated to add more rooms to library.
- xiii. After adding all the required loft to library, click **Save** button. Confirmation message will come, click **OK** button.
- xiv. **Remove:** To remove an opening from list, select the opening from the list and click Remove icon  at the last column of the list, Confirmation message will come, click **Yes** button.

3 Marking Forms

3.1 Drawing Bound

Drawing Bound is used to select the boundary of the drawing in which marking is to be done

To select the drawing bound,

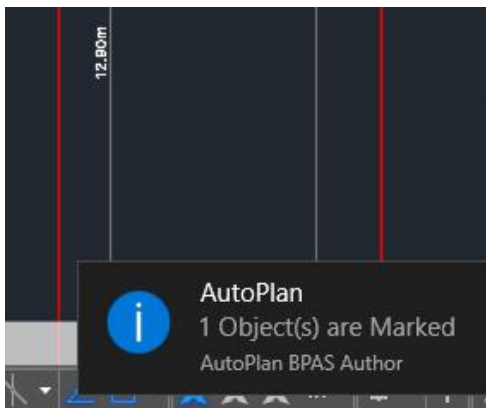
- i. Select **Drawing Bound** option from **Settings** menu
- ii. Drawing Bound form will open as shown below

Description	Mark/Unmark	Highlight
FLOOR PLAN.dwg	Mark	
SECTION.dwg	Mark	
SITE AREA.dwg	Mark	

Highlight All Close

Marking Drawing Bound:

- a) Click Mark Button corresponding to the Drawing Bound.
- b) Now control will switch to AutoCAD work space with selection cursor
- c) Select the Polyline to be marked for *Drawing Bound* by mouse left click
- d) Selection process is completed by mouse right click or click enter key
- e) Marking confirmation message will come in Tray icon



- iii. After marking all the required sheets, click **Close** button to close **Drawing Bound** form.

3.2 Road

Road is used to mark the width of road(s) abutting the site in Site Plan.

3.2.1 Mark Road:

- i. Click **Mark** button corresponding to Road in **Marking Control** form.
- ii. **Mark Road** form will open.

Mark Road

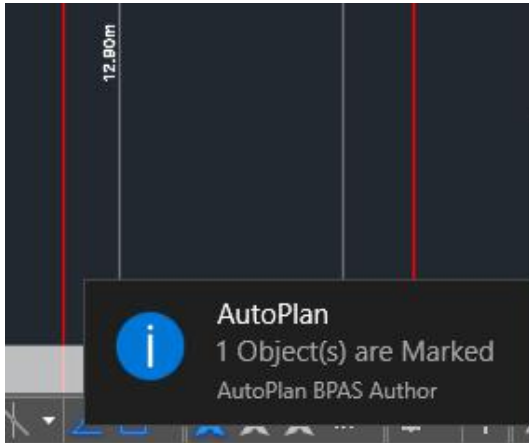
Road Name: 5.61m wide road

Type of Road: Existing ☐ Dead End

Line Type	Mark/Unmark	Highlight
Side1	Unmark	Highlight
Side2	Unmark	Highlight
Center	Unmark	Highlight

Highlight All Close

- iii. Select the Road Name added in Road Details form from **Road Name** drop-down list.
- iv. Select the type of road, whether existing or proposed from **Type of Road** drop-down list.
- v. Side 1:
 - a) Click **Mark** button corresponding to Side 1.
 - b) Now control will switch to AutoCAD work space with *selection* cursor.
 - c) Select the closed polyline(s) to be marked for Building Boundary by *mouse left click*.
 - d) Selection process is completed by *mouse right click* or *click enter key*.
 - e) Marking confirmation message will come in *Tray* icon.



- vi. **Side 2:** Refer steps in Side 1 for Side 2 Marking.
- vii. **Center:** Refer steps in Side 1 for Center Marking.
- viii. Step (iii) to (viii) shall be repeated to mark road(s) abutting on other direction of plot such as Left, Right and Rear.
- ix. After marking road in required direction, click **Close** button to close **Mark Road** form.

3.2.1.1 Highlight Road:

Marked Road can be highlighted by clicking Highlight button corresponding to Road in **Marking Control** form.

Road in all the direction can be highlighted by changing the direction in **Direction** drop-down list.

3.2.1.2 View Road:

- i. Click **View** button corresponding to Road in **Marking Control** form.
- ii. **Road Details** form will open in which Plot Area, Coverage Area, Coverage % and Total number of buildings will be displayed.

Road Details						
Name	Existing Road Width (Metre)	Proposed Road Width (Metre)	Existing Cul-de-sac Area (Square Metre)	Proposed Cul-de-sac Area (Square Metre)	Existing Cul-de-sac Width (Metre)	P C V
30M road	24.85	30.48	0.00	0.00	0.00	0.
9m Road	9.00	0.00	0.00	0.00	0.00	0.

- iii. Click Close button to close **Road Details** form.

3.3 Means of Access

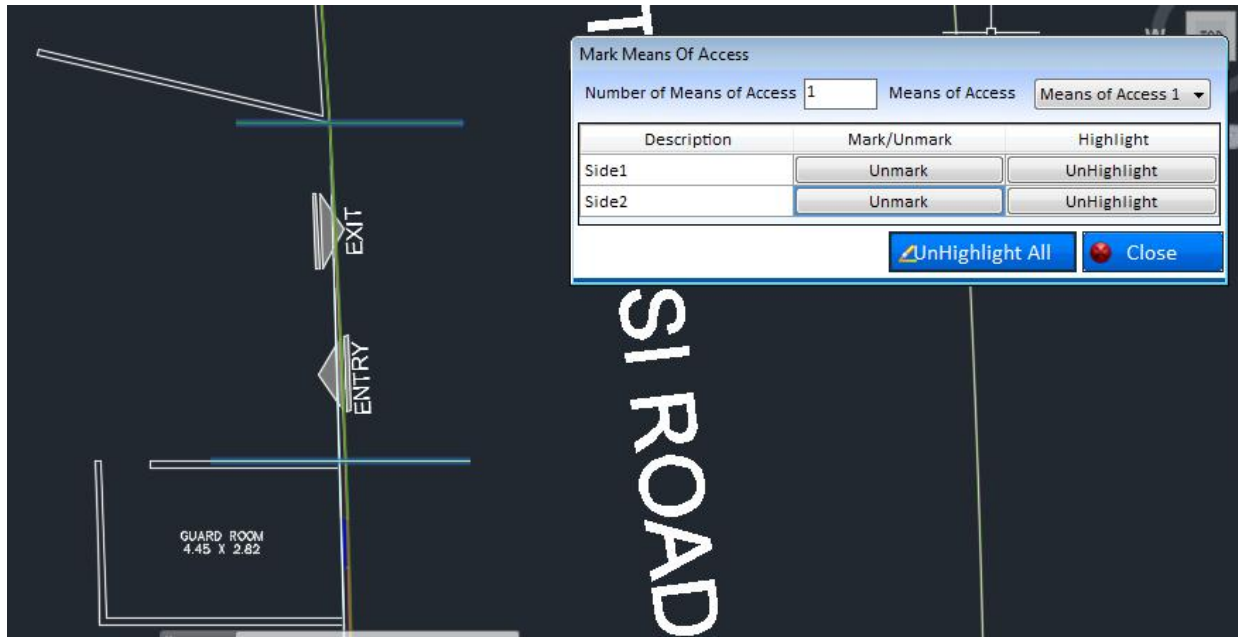
Means of Access form is used to mark the means of access to the plot from Public Road or street in the site plan.

3.3.1 Mark Means of Access

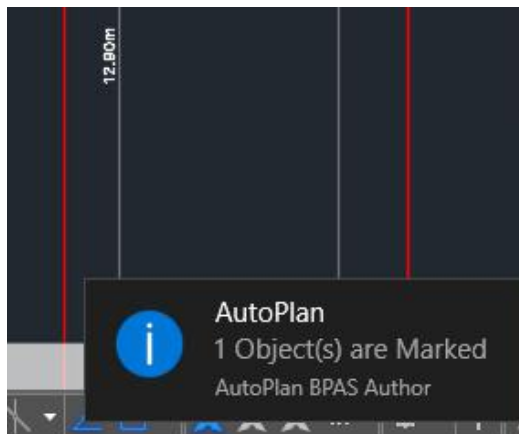
- i. Click **Mark** button corresponding to Means of Access in **Marking Control** form.
- ii. **Mark Means of Access** form will open.

Description	Mark/Unmark	Highlight
Side1	Mark	
Side2	Mark	

- i. **Name of Means of Access:** Select the name of Means of Access to the plot.
- ii. **Public Road/Street Name:** Select the name of the public road/street.
- iii. **Type:** Select the type of means of access.
- iv. Mark **Side 1** and **Side 2** to calculate the Width of Means of Access.
 - a) Click **Mark** button corresponding to Side 1 and Side 2.
 - b) Now control will switch to AutoCAD work space with *selection* cursor.



- Select the line to be marked for Means of Access by *mouse left click*.
- Selection process is completed by *mouse right click* or *click enter key*.
- Marking confirmation message will come in *Tray icon*.



- After marking Means of Access, click **Close** button to close **Mark Means of access** form.

3.3.1.1 Highlight Means of Access:

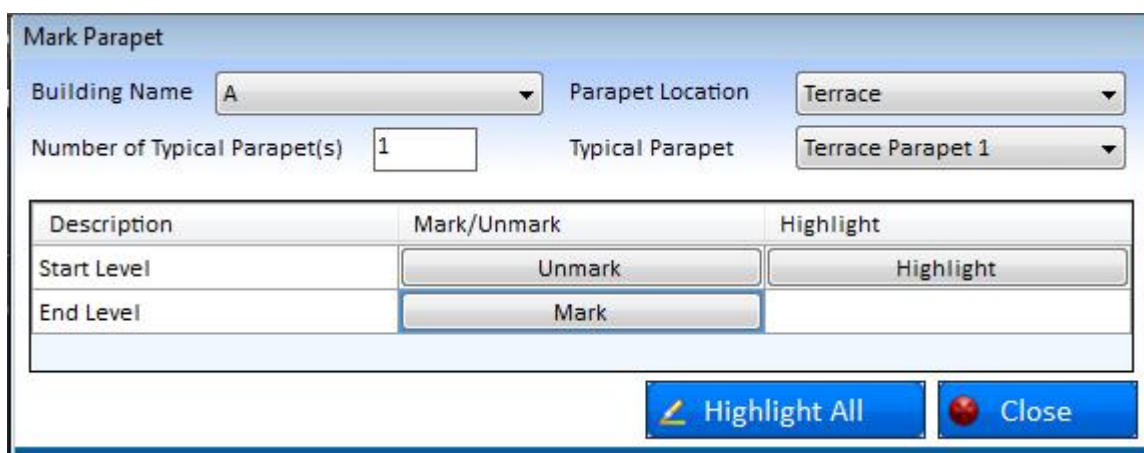
Marked Means of Access can be highlighted by clicking Highlight button corresponding to Means of Access in **Marking Control** form.

3.4 Parapet

Parapet is used to mark the height of different parapets provided in the building.

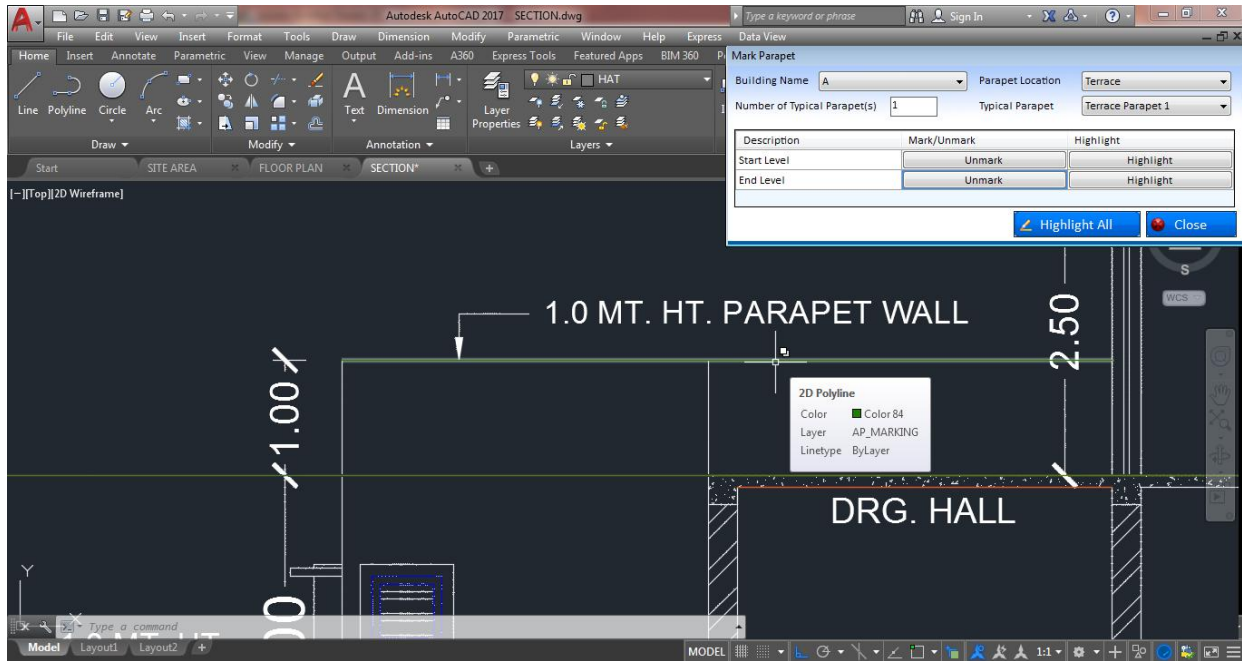
3.4.1 Mark Parapet

- i. Click **Mark** button corresponding to parapet.
- ii. **Mark Parapet** form will open.

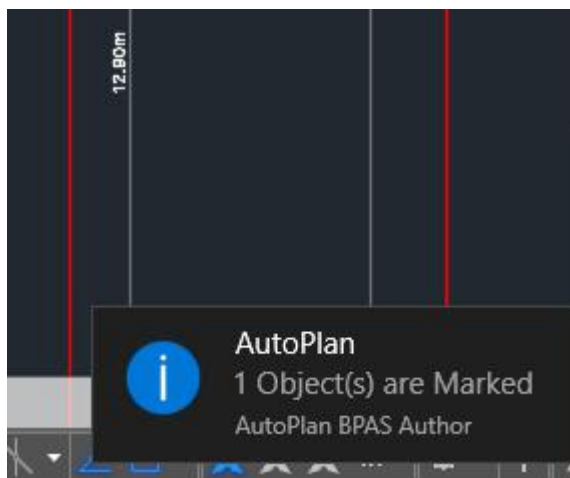


Description	Mark/Unmark	Highlight
Start Level	Unmark	Highlight
End Level	Mark	

- iii. **Building Name:** Lists all buildings in the project. Select the building from the list.
- iv. **Parapet Location:** Lists all location names of parapet. Select the location from the list.
- v. **Number of Typical Parapet (s):** Enter number of parapet in the box.
- vi. **Typical Parapet:** Corresponding parapets entered in the Number to be listed in the drop down list.
- i. **Start Level**
 - a) Click **Mark** button corresponding to Start Level.
 - b) Now control will switch to Auto CAD work space with *selection* cursor.



- c) Select the line to be marked for start level by mouse left click.
- d) Selection process is completed by mouse right click or click enter key.
- e) Marking confirmation message will come in Tray icon.



- ii. **End Level:** Step (a) to (e) is repeated to mark parapet **End Level**
- iii. After marking all the required items, Click **Close** button

3.4.1.1 Highlight Parapet:

Marked Parapet can be highlighted by clicking Highlight button corresponding to Parapet in **Marking Control** form.

3.5 Site Area

Site Area is used to mark the boundaries of site or plot in Site Plan.

3.5.1 Mark Site Area:

- i. Click **Mark** button corresponding to Site Area in **Marking Control** form
- ii. **Mark Site Area** form will open.
- iii. Select **Gross Site Area**, **Net Site Area** or **Site Area to be surrendered to Authority** from Type of Site Area list.

Mark Site Area

Type of Site Area: Gross Site Area

Site Area

Description	Mark/Unmark	Highlight
Site Boundary	Unmark	Highlight

Site Boundary and Neighbouring Details



Face Direction	Type	Neighbouring Details	Mark/Unmark	Highlight
Front	Road(s)	MianRoad	Unmark	Highlight
Left	Plot(s)	p1	Unmark	Highlight
Right	Plot(s)	p2	Unmark	Highlight
Rear	Others	p3	Unmark	Highlight

Site Dimensions

Description	Mark/Unmark	Highlight	Value
Site Depth	Unmark	Highlight	18.28
Site Width	Unmark	Highlight	12.19

Frontage

Description	Mark/Unmark	Highlight	Value
Frontage	Unmark	Highlight	12.19

 Highlight All  Close

Mark Site Area

Type of Site Area: Area to be Surrendered to Authority

Purpose of surrendering land to Authority: Road Widening

Site Area

Description	Mark/Unmark	Highlight
Surrendering Area	Mark	

 Highlight All  Close

Mark Site Area

Type of Site Area: Net Site Area

Site Area

Description	Mark/Unmark	Highlight
Site Boundary	Unmark	Highlight

Site Boundary and Neighbouring Details

Face Direction	Type	Neighbouring Details	Mark/Unmark	Highlight
Front		▼	Mark	
Left		▼	Mark	
Right		▼	Mark	
Rear		▼	Mark	

Site Dimensions

Description	Mark/Unmark	Highlight	Value
Site Depth	Unmark	Highlight	17.53
Site Width	Mark		

Highlight All Close

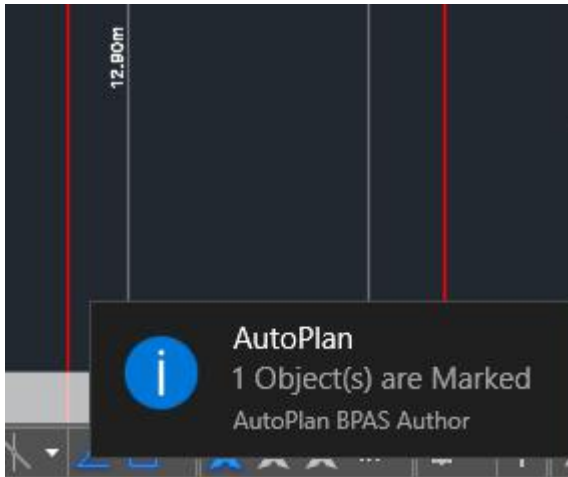
- iv. Click **Mark** button corresponding to Site Boundary. Option to select drawing file will appear as shown below.

DRAWING FILES

Drawing Files: site plan.dwg

OK CANCEL

- v. Select the required **Drawing File** and click **OK** button.
- vi. Neighbouring Details corresponding to Front, Left, Right and Rear are optional in which details of neighbourhood of the site shall be entered.
- vii. Click **Mark** button corresponding to Front.
- viii. Now control will switch to AutoCAD work space with *selection* cursor.
- ix. Select the closed polyline to be marked for Site Area by *mouse left click*.
- x. Selection process is completed by *mouse right click* or *click enter key*.
- xi. Marking confirmation message will come in *Tray* icon.



- xii. Step (vi) to (vii) is repeated to mark Left, Right and Rear.
- xiii. Site Depth and Site Width shall be marked by picking points along the Site Boundary Line (similar to Dimensions).
- xiv. To mark Front, Left, Right and Rear Setback Line. Refer Step (vi) to (vii) to mark setback lines.

'Rename Site Boundary' button will be enabled in Site Area Marking Form, when DCR specified about multiple Front setback conditions. If site contains multiple roads, the Face directions can be selected from drop list and saved. In setback verification, Face directions will be replaced by newly selected Labels. Provided value and Required values will be calculated based on the selection.

Mark Site Area

Type of Site Area Gross Site Area

Site Area

Description	Mark/Unmark	Highlight
Site Boundary	Unmark	Highlight

Site Boundary and Neighbouring Details

Face Direction	Type	Neighbouring Details	Mark/Unmark	Highlight
Front	Road(s)	Road_1	Unmark	Highlight
Left	Road(s)	Road_2	Unmark	Highlight
Right	Plot(s)	Plot_A12	Unmark	Highlight
Rear	Plot(s)	Plot_A22	Unmark	Highlight

Site Dimensions

Description	Mark/Unmark	Highlight	Value
Site Depth	Unmark	Highlight	19.13
Site Width	Unmark	Highlight	25.10

Frontage

Description	Mark/Unmark	Highlight	Value
Frontage	Unmark	Highlight	8.54

Rename Site Boundary
Highlight All
Close

On clicking Rename Site Boundary button, system pops up following window.

Rename Site Boundary

Front

Left

Right

Rear

SAVE
CANCEL

Select the Front, Left, Right and Rear site boundary and click on **Save** button.

3.5.1.1 Highlight Site Area:

Marked Site Area can be highlighted by clicking Highlight button corresponding to Site Area in **Marking Control** form.

3.5.1.2 View Site Area:

- i. Click **View** button corresponding to Site Area in **Marking Control** form
- ii. **Site Area Details** form will open in which site area and neighbouring details entered in Mark Site Area will be displayed.

Face Direction	Neighbouring Details
Front	1111111111
Left	p1
Right	p2

Site Dimensions Details
Site Depth : 59.45 (Metre)
Site Width : 28.33 (Metre)

Plot Area Details
Gross Plot Area : 1091.12 (Square Metre)
Net Plot Area : 966.06 (Square Metre)

Area to be Surrendered to the Authority
Road Widening : 49.28 (Square Metre)
Bus-bay : 75.63 (Square Metre)
Others : 0.00 (Square Metre)

Frontage Details
Frontage : 28.55 (Metre)

Close

- iii. Click **Close** button to close **Site Area Details** form.

NOTE:***I. Type of Site Area***

1. **Gross Site Area:** Gross Site Area shall be the area of site without surrendering any area for road widening or any other purpose.

2. **Net Site Area:** Net Site Area shall be the area of site after surrendering area area for road widening or any other purpose to Authority

3. **Area to be surrendered to Authority:** Area to be surrendered to Authority shall be the area of site surrendered to Authority for road widening purpose.

Instructions for marking: Net Site Area and Area to be surrendered to Authority should be marked inside Gross Site Area. By default Gross Site Area has to be selected.

[Gross Site Area = Net Site Area + Area to be surrendered to Authority]

II. **Frontage:** Frontage shall be the side of the site to be considered for Frontage verification. Frontage has to be marked over the object marked for Site Boundary (either Gross or Net Site Area)

3.6 Building Boundary

Building Boundary is used to mark the boundaries of each floor of building(s) in Site Plan.

3.6.1 Mark Building Boundary:

- x. Click **Mark** button corresponding to Building Boundary in **Marking Control** form.
- xi. **Mark Building Boundary** form will open.

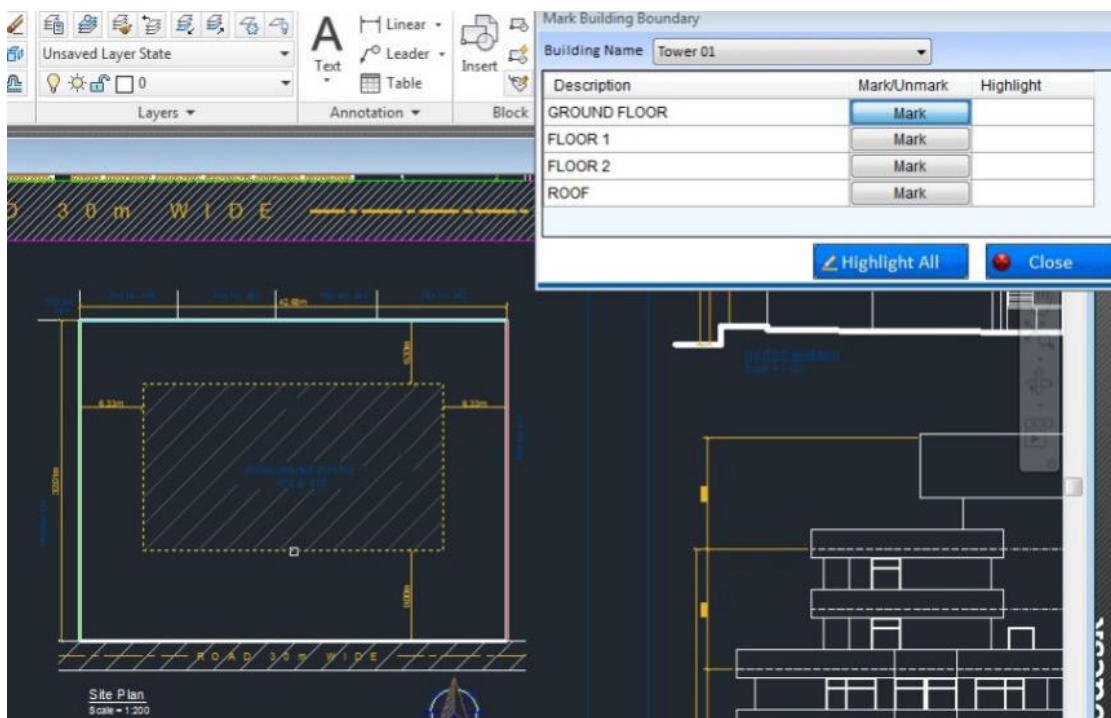
Mark Building Boundary

Building Name: Tower 01

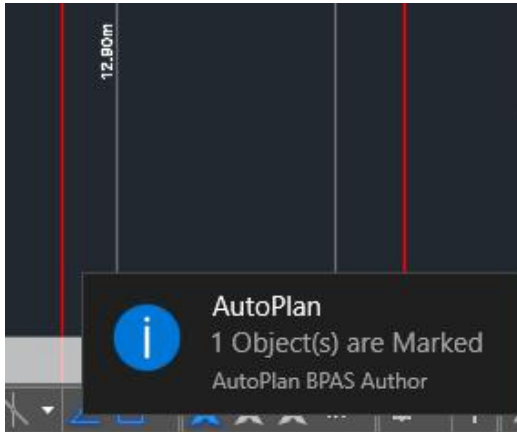
Description	Mark/Unmark	Highlight
GROUND FLOOR	Unmark	Highlight
FLOOR 1	Unmark	Highlight
FLOOR 2	Unmark	Highlight
ROOF	Unmark	Highlight

Highlight All Close

- xii. Select the building from **Building Name** drop-down list.
- xiii. Floors added in the selected building will be loaded in the form.
- xiv. Click **Mark** button corresponding to Ground Floor.
- xv. Now control will switch to AutoCAD work space with *selection* cursor.



- xvi. Select the closed polyline(s) to be marked for Building Boundary by *mouse left click*.
- xvii. Selection process is completed by *mouse right click* or *click enter key*.
- xviii. Marking confirmation message will come in *Tray icon*.



- xix. Step (v) to (ix) is repeated to mark Building Boundary of other floor(s) in the selected building (If Floor(s) above Ground Floor is proposed).
- xx. Step (iii) to (x) is repeated to mark floors in other building(s) (If more than one building is proposed).
- xxi. After marking building boundary of all the floors, click Close button to close Mark Building Boundary form.

3.6.1.1 *Highlight Building Boundary:*

Marked Building Boundary can be highlighted by clicking Highlight button corresponding to Building Boundary in **Marking Control** form.


Building Boundary for all the floor can be highlighted by changing the building in Building Name drop-down list.

3.6.1.2 *View Building Boundary:*

- i. Click **View** button corresponding to Building Boundary in **Marking Control** form.
- ii. **Building Boundary Details** form will open in which Plot Area, Coverage Area, Coverage % and Total number of building blocks will be displayed.
- iii. Click **Close** button to close **Building Boundary Details** form.

Building Boundary Details		
Plot Area(Square Metre)	Coverage Area (Square Metre)	Coverage (%)
222.77	146.19	65.63

Total No. of Building Blocks 1.00


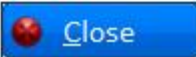
 Close

3.7 Floor Level

Floor Level form is used to mark the level of all the floors in the building thereby determine the height of the building in Section Plan.

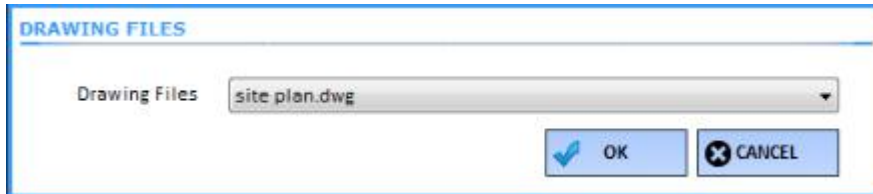
3.7.1 Mark Floor Level:

- Click **Mark** button corresponding to Floor Level in **Marking Control** form.
- Mark Floor Level** form will open.

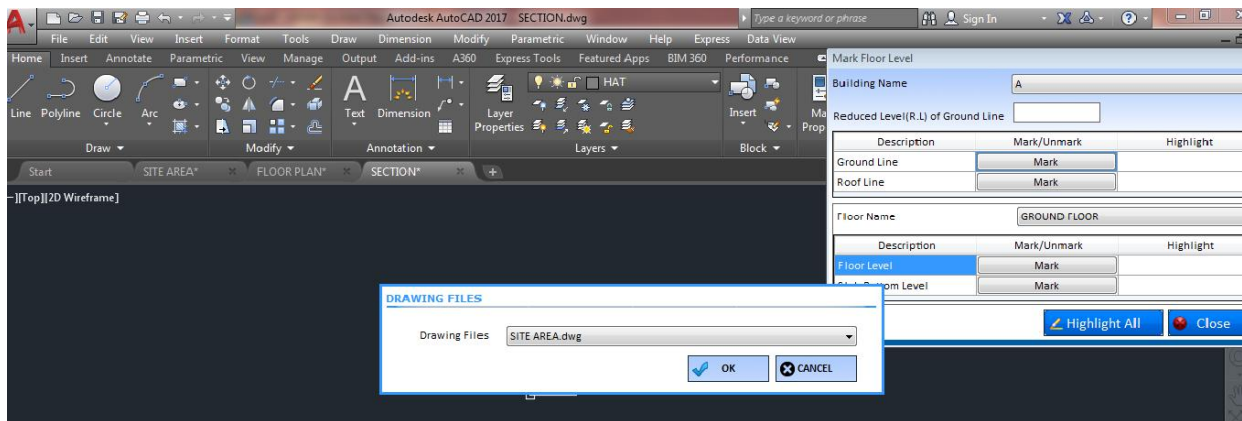
Mark Floor Level		
Building Name	Test 005_STILT	
Reduced Level(R.L) of Ground Line		
Description	Mark/Unmark	Highlight
Ground Line	Unmark	Highlight
Roof Line	Unmark	Highlight
Floor Name	LOWER GROUND	
Description	Mark/Unmark	Highlight
Floor Level	Unmark	Highlight
Slab Bottom Level	Unmark	Highlight
		

- Select the building from **Building Name** drop-down list.

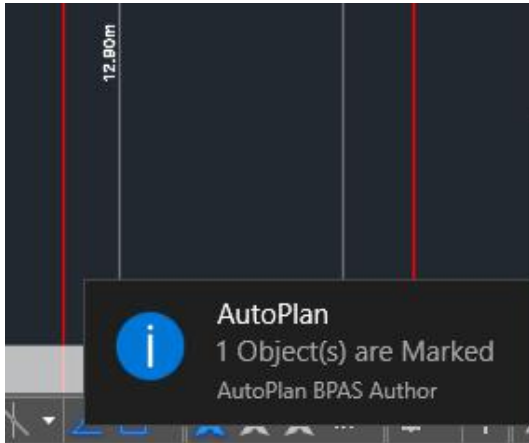
- iv. **Reduced Level (R.L) of Ground Line:** Enter the Reduced Level (R.L) of Ground Line with + or – symbol.
- v. **Ground Line:**
 - a) Click **Mark** button corresponding to Ground Line. Option to select drawing file will appear.



- b) Select the required **Drawing File** and click **OK** button.
- c) Now control will switch to AutoCAD work space with *selection* cursor.



- d) Select the line to be marked for Ground Line by mouse left click.
- e) Selection process is completed by *mouse right click* or *click enter key*.
- f) Marking confirmation message will come in *Tray* icon.



- vi. **Roof Line:** Refer steps in Ground Line marking.
- vii. **Floor Level:** Refer steps in Ground Line marking.
- xxii. **Slab Bottom Level:** Refer steps in Ground Line marking.
- xxiii. After marking all the levels, click **Close** button to close **Mark Floor Level** form.

3.7.1.1 Highlight Floor Level:

Marked Floor Level can be highlighted by clicking Highlight button corresponding to Floor Level in **Marking Control** form.

Floor Level and Slab Bottom Level for all the floors can be highlighted by changing the floor in Floor Name drop-down list.

Ground Line, Roof Line, Floor Level and Slab Bottom Level for all the building can be highlighted by changing the building in Building Name drop-down list.

3.7.1.2 View Floor Level:

- i. Click **View** button corresponding to Floor Level in **Marking Control** form.
- ii. **Floor Level Details** form will open in which Height of Building, Plinth Level, Floor height, clear height and Reduced Level of each floor in the building will be displayed.


Floor Level Details

Building Name: **HEMALATHA NILAYA**

Height of the building - 6.90 Metre

Plinth level of the building - 0.60 Metre

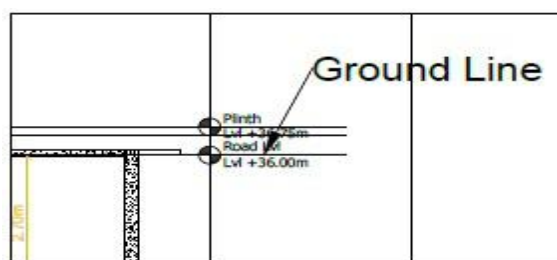
Floor Level	Floor Name	Floor Height (Metre)	Clear Height (Metre)	R.L. of Floor (Metre)
0	GROUND FLOOR	3.60	3.00	0.60
1	FLOOR 1	6.75	3.00	3.75

 **Close**

iii. Click **Close button** to close **Floor Level Details** form.

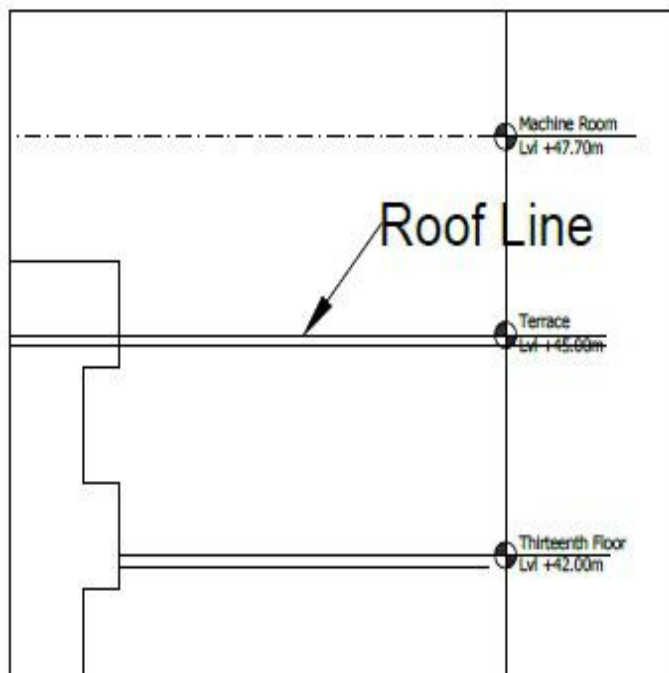
Ground Line:

Ground Line is the level from where height of building shall be calculated. Generally Ground Line is the level of Road abutting the plot. If level of road abutting the plot is not clear, then Ground Line shall be average level of ground(earth) abutting the building.



Roof Line:

Roof Line shall be top most level of roof slab of the topmost storey of the building. Parapet Wall, water tank, staircase room, lift machinery room and other exemptions in height above terrace shall not be considered while determining the Roof Line.



Floor Level:

Floor Level shall be the level of finished floor surface of a storey.

Slab Bottom Level:

Slab Bottom Level is the lowest level of finished roof of a storey and it includes beams.



3.8 Building Area

Building Area is used to mark floor area and deductions in FAR for each floor in Floor Plan.

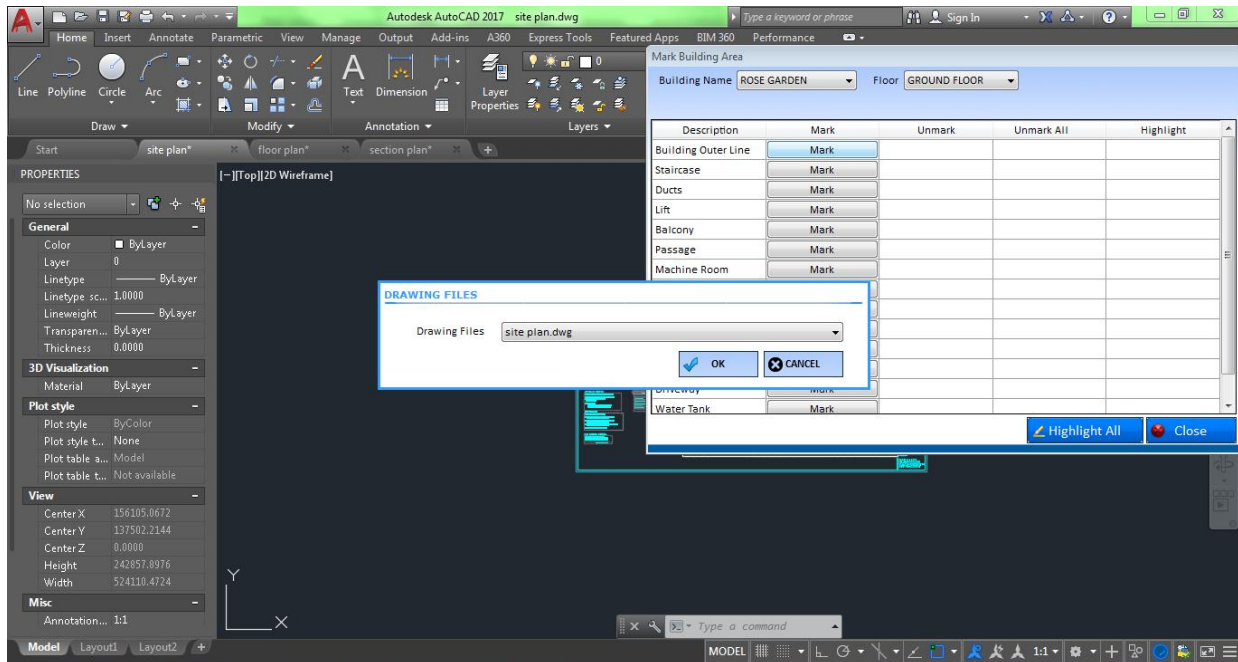
3.8.1 Mark Building Area:

- i. Click **Mark** button corresponding to Building Area in **Marking Control** form.
- ii. **Mark Building Area** form will open.

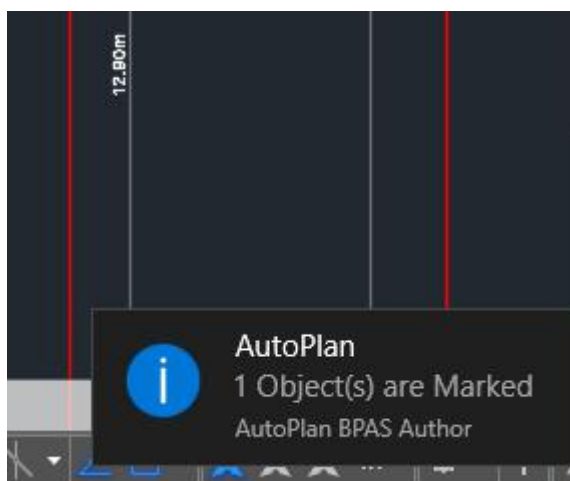
Description	Mark	Unmark	Unmark All	Highlight
Building Outer Line	Mark	Unmark	Unmark All	Highlight
Ducts	Mark			
Escalators	Mark			
Roof / open terrace	Mark			
Open to Sky	Mark			
Ramp Area	Mark			
Fire escape staircase	Mark			
Water Tank	Mark			
Garbage shaft	Mark			
Watchman's cubicle	Mark			
Swimming pools	Mark			
Sewerage treatment plant	Mark			
Refuge Area	Mark			

- iii. **Building Name:** Lists all buildings in the project. Select the building from the list.
- iv. **Floor:** Lists all floors in the selected building. Select the floor from the list.
- v. **Floor Area Use:** Lists Main and Ancillary. Select Main if the area to be marked is of main land use category and vice-versa.
- vi. **New / Existing:** Select New if the area to be marked is of new construction and vice-versa.
- vii. **Building Outer Line:**
 - a) Click **Mark** button corresponding to Building Outer Line. Option to select drawing file will appear as shown below.

- a) Select the required **Drawing File** and click **OK** button.
- b) Now control will switch to AutoCAD work space with *selection* cursor.



- c) Select the closed Polyline to be marked for Building Outer Line by *mouse left click*.
- d) Selection process is completed by *mouse right click* or *click enter key*.
- e) Marking confirmation message will come in *Tray icon*.



- viii. Step vii(a) to vii(e) shall repeated to mark other required items like Staircase, Duct, Lift, etc.
- ix. Step iv to vii shall repeated to mark all the floors in the selected building.

- x. Step iii to vii shall repeat to mark all the buildings in the project.
- xxiv. After marking all the required items, click Close button to Close **Mark Building Area** form.

3.8.1.1 Highlight Building Area:

Marked Building Area can be highlighted by clicking Highlight button corresponding to Building Area in **Marking Control** form.

Building Outer Line and other deductions for all the floors and buildings can be highlighted by changing the floor in Floor Name drop-down list and building in Building Name drop-down list.

3.8.1.2 View Building Area:

- i. Click **View** button corresponding to Building Area in **Marking Control** form.
- ii. Building Area **Details** form will open in which Gross area, net area, deductions and FAR area of each floor in the building will be displayed.

Building Area Details

Area Details

Building Name: block01

Floor Area Details

Floor Level	Floor Name	Building Outer Line (A) (Square Metre)	Total Deductions for Gross Area (B) (Square Metre)	Gross Area (C) [A-B] (Square Metre)	Total Deductions for Net Area (D) (Square Metre)	Net Area (E) [C-D] (Square Metre)
-1	BASEMENT 1	4505.41	36.25	4469.16	57.93	4411.23
0	GROUND FLOOR	2383.36	9.97	2373.39	215.18	2158.21
1	TYPICAL FLOORS...	30983.68	510.64	30473.04	2958.41	27514.63
14	FLOOR 14	2383.36	28.09	2355.27	192.35	2162.92

Deduction Details

Gross Area

Deduction Items	BASEMENT 1	GROUND FLOOR	TYPICAL FLOORS 1 to 13
Lift	36.25	9.97	471.25
Ducts	0.00	0.00	39.39
TOTAL GROSS A...	36.25	9.97	510.64

Net Area

Deduction Items	BASEMENT 1	GROUND FLOOR	TYPICAL FLOORS 1 to 13
Parking [Inside...	2.00	0.00	0.00
Staircase	50.44	28.68	136.63
Sewerage treat...	5.49	0.00	0.00
Passage	0.00	156.36	2625.09
Fire escape sta...	0.00	9.56	136.76
Machine Room	0.00	0.00	26.66

Close

- iii. Click **Close** button to close **Building Area Details** form.

3.9 Room Size

Room size is used to mark all the Rooms.

3.9.1 Mark Room Size

- i. Click **Mark** button corresponding to Room in **Marking Control** form
- ii. **Mark Room** form will open.

Mark Room Size

Building Name Floor Name

Room Type Name

☐ Room / Space Clear Height is different from the Floor Clear Height

Description	Mark/Unmark	Highlight
Area	<input type="button" value="Mark"/>	
Length	<input type="button" value="Mark"/>	
Width	<input type="button" value="Mark"/>	

Opening Type Opening Name

Location Number of Openings

SI No	Opening Name	Location	Numbers	Area

SI No	Room Type	Room Name	Highlight	Numbers	Premises	Unmark

- iii. **Building Name:** Lists all buildings in the project. Select the building from the list.
- iv. **Floor Level:** Lists all floors in the selected building. Select the floor from the list.

- v. **Select the Room from the Library:** Click on *Select the Room from the library* to enter into the Room Library. A Form will open.

Room Library

Room Type Bed Room Name

☐ Room / Space Clear Height is different from the Floor Clear Height

Description	Mark/Unmark	Highlight
Area	<input type="button" value="Mark"/>	
Length	<input type="button" value="Mark"/>	
Width	<input type="button" value="Mark"/>	

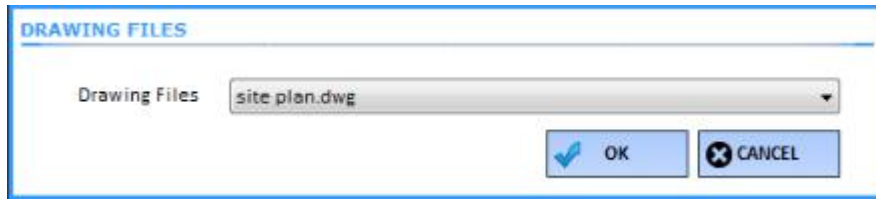
Opening Type Opening Name

Location Number of Openings

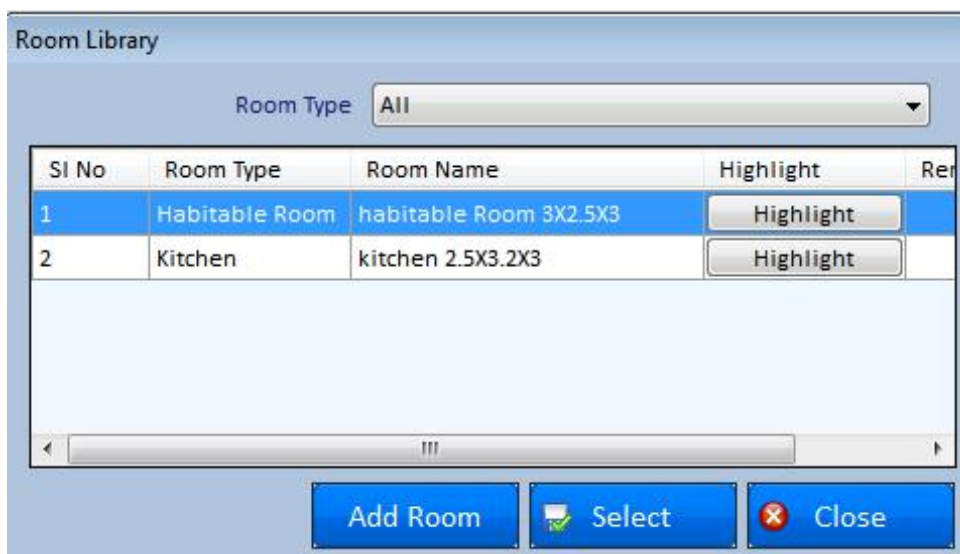
SI No	Opening Name	Location	Numbers	Area

SI	Room Type	Room Name	Highlight	Remove

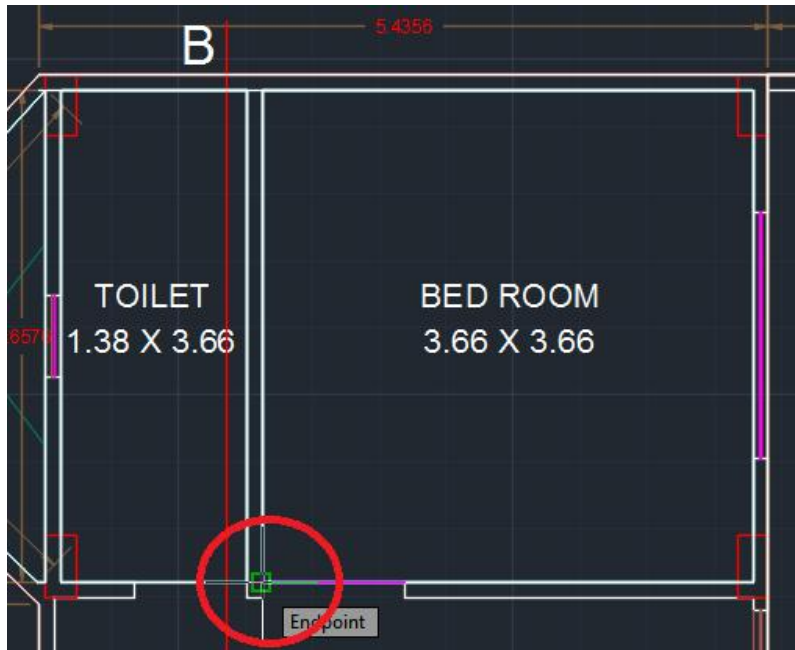
- vi. Select the **Room Type** to be added in room library.
- vii. Enter the **Name** of the room.
- viii. Enter **Length, Width** and **Height** of the room.
- ix. Click on **Mark** Button corresponding to Area. Following drawing file selection option will appear.



- x. Select the required **Drawing File** and click **OK** button.
- xi. Now control will switch to Auto CAD work space with *selection* cursor.
- xii. Select a Closed object to be marked for Area by mouse left click.
- xiii. Likewise **Mark** Floor Level and Ceiling Level.
- xiv. Click on **Add** button to add the selected room type to room library.



- vi. Select the required room from the Room library list and click on *Select* Button
- vii. Now control will switch to Auto CAD work space with *selection* cursor.
- viii. Pick the bottom left points in the required room to be marked by mouse left click.



- ix. Selection process is completed by *mouse right click or click enter key*.
- x. Rooms which are selected will come in the list.
- xi. After marking all the required rooms to Room Size Details, click **Close** button.
- xii. **Unmark**: To remove room size marking from list, select the room from the list and click **Unmark** option at the last column of the list, Confirmation message will come, click **Yes** button.

Mark Room Size

Building Name Floor Name

Room Type Name

☐ Room / Space Clear Height is different from the Floor Clear Height

Description	Mark/Unmark	Highlight
Area	<input type="button" value="Mark"/>	
Length	<input type="button" value="Mark"/>	
Width	<input type="button" value="Mark"/>	

Opening Type Opening Name

Location Number of Openings

SI No	Opening Name	Location	Numbers	Area

SI No	Room Type	Room Name	Highlight	Numbers	Premises	Unmark
1	Bed Room	bed	<input type="button" value="Highlight"/>	1	False	<input type="button" value="-"/>

3.9.1.1 Highlight Room Size:

Marked Room Size can be highlighted by clicking Highlight button corresponding to Room Size in **Marking Control** form

View Details of Room Size:

- Click **View** button corresponding to Room Size in **Marking Control** form
- Room Size Details** form will open in which *Building Name, Floor Name, Room Type, Room Name, Number of Rooms, Room Area, Room Width and Room height* will be displayed

Building Name	Floor Name	Room Type	Room Name	Numbers	Room Size (S)
Residential Bu...	BASEMENT 2	Kitchen	K1	2	9.4
		Kitchen	KITCHEN	10	9.4

- iii. Click **Close** button to close **Room Size Details** form

3.10 Premises

Premise is used to mark the premises of the building. Premises may be dwelling units, Common Area / Services etc.,

3.10.1 Mark Premises

- i. Click **Mark** button corresponding to Premises in **Marking Control** form
- ii. **Mark Premises** form will open.

Mark Premises

Building Name: ROSE GARDEN

Name of Unit: 1 ☐ Multi Level Unit

Floor Name: [Select from Library](#)

Category: ☒ Premises ☐ Common Area/Services

Type: Shops Uses: Shops

Description	Mark/Unmark	Highlight
Builtup Area	Unmark	Highlight
Carpet Area	Unmark	Highlight

Room Type: Kitchen Room Name: Kitchen 2.64x3.05

[Highlight](#) [Add Room](#)

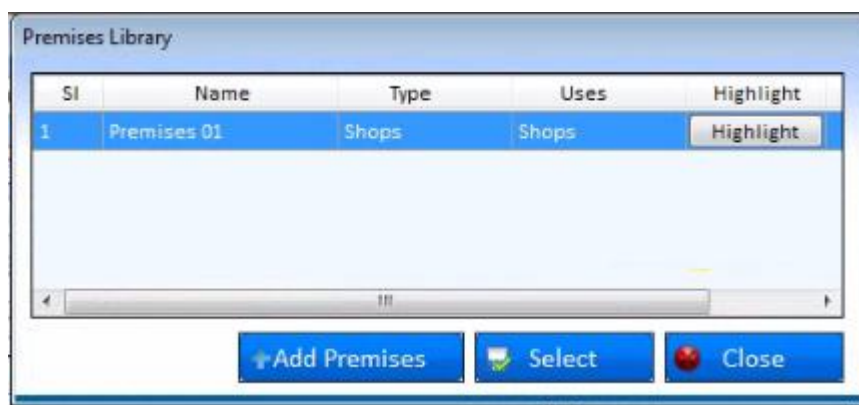
Sl.No	Room Name	Number of Rooms	Highlight	Unmark
1	shop 1	1	Highlight	

[Add](#) [Cancel](#)

Sl No	Name	Type	Uses	Highlight	Remove
1	1	Shops	Shops	Highlight	

[Close](#)

- iii. **Building Name:** Lists all buildings in the project. Select the building from the list.
- iv. **Name of Unit:** Enter the name of the unit.
- v. **Floor Name:** Lists all floors in the selected building. Select the floor from the list.
- vi. **Category:** Choose the category as **Premises** or **Common Area / Services**.
- vii. **Type:** Select the type of premises from the dropdown list.
- viii. **Uses:** Select the uses of the building.
- ix. **Select from Library:** Click on this button to select premises from library.



- x. Select the premises and click on **Select** button.

3.10.1.1 Highlight Premises:

Marked Premises can be highlighted by clicking **Highlight** button corresponding to Building Area in **Marking Control** form.

Building Outer Line and other deductions for all the floors and buildings can be highlighted by changing the floor in Floor Name drop-down list and building in Building Name drop-down list.

Premises for all the floor can be highlighted by changing the Room Type drop-down list.

3.10.1.2 View Premises:

- i. Click **View** button corresponding to Premises in **Marking Control** form.
- ii. **Premises Details** form will open in which Carpet Area and Built-up Area of each floor in the building will be displayed.

Premises Details

Building Name: ROSE GARDEN

Floor Name: All

Category: All

Floor Name	Unit Name	Type	Uses	Carpet Area (Square Metre)	Builtup Area (Square Metre)
GROUND FLOOR	1	Shops	Shops	121.45	112.11

Close

iii. Click **Close** button to close **Premises Details** form.

3.11 Staircase

Staircase is used to mark staircase at every floor of the building. Any Staircase that may appear in the plan has to be marked for performing verification on Staircase.

3.11.1 Mark Staircase

To mark staircase proposed in the project, do the following steps

Step 1 : Add the staircase(s) proposed in the project in Staircase Details form

Step 2 : Mark the staircase(s) (added in Staircase Details form) in Staircase form

Step 1: **Staircase Details form:**

Staircase Details

Staircase Details

Building Name Number of Staircase

Staircase Name

Type of Staircase Structural Type

Use Category Category

Location Head Room

Start Floor End Floor

Building Name	Staircase Name	Start Floor	End Floor	Typical/Normal Floor	Edit	Remove

Intermediate Landing and Flight Details

Floor Name Construction Type

Number of Intermediate Landing Number of Flights

Staircase Name	Floor Name	Construction Type	Landing Number	Flight Number	Typical/Normal Flight	Edit	Remove

Flight Details

Flight Name Type of Flight

Flight Start Flight End

Floor Name	Flight Name	Type of Flight	Flight Start	Flight End	Edit	Remove

Staircase Details form shall be opened by either clicking 'Add Staircase Details' button in Staircase form or clicking Edit --> Staircase Details from menu bar

Staircase Details form consists of three sections, (i) Staircase Details, (ii) Flight and Intermediate Landing details and (iii) Flight details

(i) Staircase Details

In Staircase Details section, Staircase in any building shall be added by entering the following details and click Add Button

- Building Name
- Number of Staircase
- Staircase Name
- Type of Staircase
- Structural Type
- Use category
- Category
- Location
- Head Room

- Start Floor
- End Floor

Staircase shall be made Typical by clicking the Typical button corresponding to any row

(ii) Flight and Intermediate Landing details

For every Staircase added, Flight and Intermediate Landing details are entered by selecting the Staircase from list, enter Construction Type, Number of Flights and Number of Intermediate Landings for every floor and click Add Button to update to the staircase
Floors in Staircase shall be made Typical by clicking the Typical button corresponding to any row

(iii) Flight details

For every Flight added, Flight details are entered by selecting the Floor Name from Flight and Intermediate Landings list, enter the Type of Flight, Flight Start (level) and Flight End (level) and click Add Button to update to the Flight

Floors in a Floor of a Staircase shall be made Typical by clicking the Typical button corresponding to any row

Step 2: Staircase form:

Staircase added in Staircase Details form has to be marked in drawing by Staircase form
Staircase form shall be opened by clicking Mark Button corresponding to Staircase in Marking Control Form

(i) Area of Staircase:

Area of Staircase has to be marked for every Floor in Staircase added in Staircase Details form

Object to be marked for Area of Staircase shall be Closed Polyline object

Only one object should be selected for Area of Staircase

(ii) Area of Intermediate Landing:

Area of Intermediate Landing has to be marked for every Floor in Staircase added in Staircase Details form

Object to be marked for Area of Intermediate Landing shall be Closed Polyline object

Only one object should be selected for Area of Intermediate Landing

(iii) Width of Intermediate Landing:

Width of Intermediate Landing has to be marked for every Floor in Staircase added in Staircase Details form

Object to be marked for Width of Intermediate Landing shall be Line / Polyline object

Only one object should be selected for Width of Intermediate Landing

(iv) Start Level:

Start Level has to be marked for every Floor in Staircase added in Staircase Details form

Object to be marked for Start Level shall be Line / Polyline object

Only one object should be selected for Start Level

(v) Intermediate Landing(s):

Intermediate Landing(s) has to be marked for every Floor in Staircase added in Staircase Details form

Object to be marked for Intermediate Landing shall be Line / Polyline object

Only one object should be selected for each Intermediate Landing

(vi) End Level:

End Level has to be marked for every Floor in Staircase added in Staircase Details form

Object to be marked for End Level shall be Line / Polyline object

Only one object should be selected for End Level

(vii) Length of Flight:

Length of Flight has to be marked for every Flight added in Staircase Details form

Object to be marked for Length of Flight shall be Line / Polyline object

Only one object should be selected for Length of Flight

(viii) Width of Stairs:

Width of Stairs has to be marked for every Flight added in Staircase Details form

Object to be marked for Width of Stairs shall be Line / Polyline object

Only one object should be selected for Width of Stairs

(ix) Tread Width:

Tread Width has to be marked for every Flight added in Staircase Details form

Object to be marked for Tread Width shall be Line / Polyline object

Only one object should be selected for Tread Width

(x) Riser Height:

Riser Height has to be marked for every Flight added in Staircase Details form

Object to be marked for Riser Height shall be Line / Polyline object

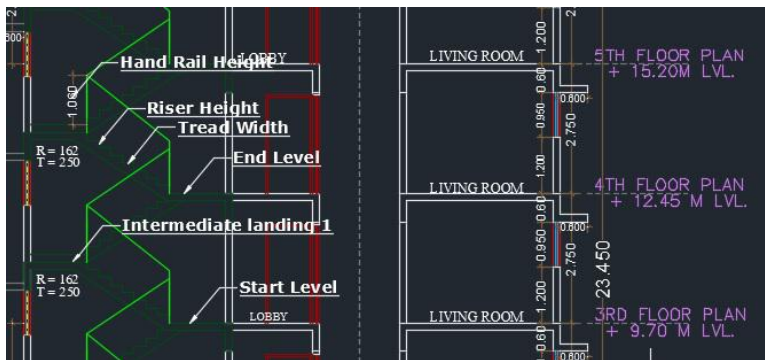
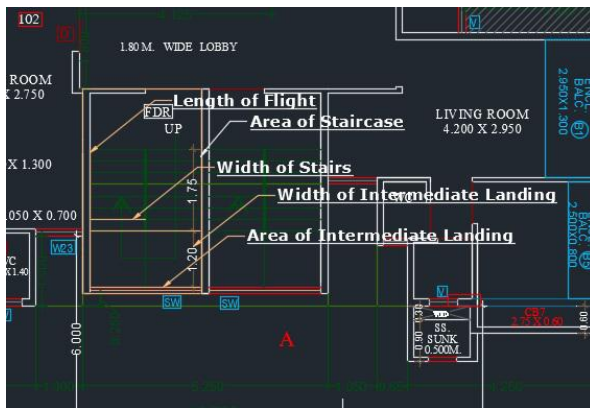
Only one object should be selected for Riser Height

(xi) Hand Rail Height:

Hand Rail Height has to be marked for every Flight added in Staircase Details form

Object to be marked for Hand Rail Height shall be Line / Polyline object

Only one object should be selected for Hand Rail Height



3.11.1.1 Highlight Staircase:

Marked Staircase can be highlighted by clicking Highlight button corresponding to Staircase in **Marking Control** form.

Staircase for all the floors can be highlighted by changing the building in Building Name drop-down list.

3.11.1.2 View Staircase

- i. Click **View** button corresponding to Staircase in **Marking Control** form.
- ii. **Staircase Details** form will open in which Building details, Flight details and Intermediate details will be displayed.
- iii. Click **Close** button to close **Staircase Details** form.

3.12 Ramp

Ramp is a sloping level joining two different surfaces which are provided in the floor of a building.

3.12.1 Mark Ramp

- i. Click **Mark** button corresponding to Ramp in **Marking Control** form
- ii. **Mark Ramp** form will open.

Mark Ramp

Number of Ramp Ramp Name

Location of Ramp ☐ Building ☐ Plot

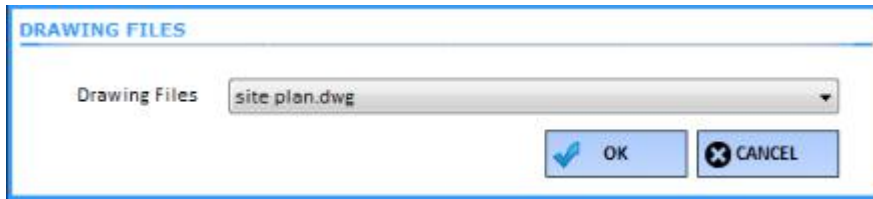
Building Name

Type of Ramp

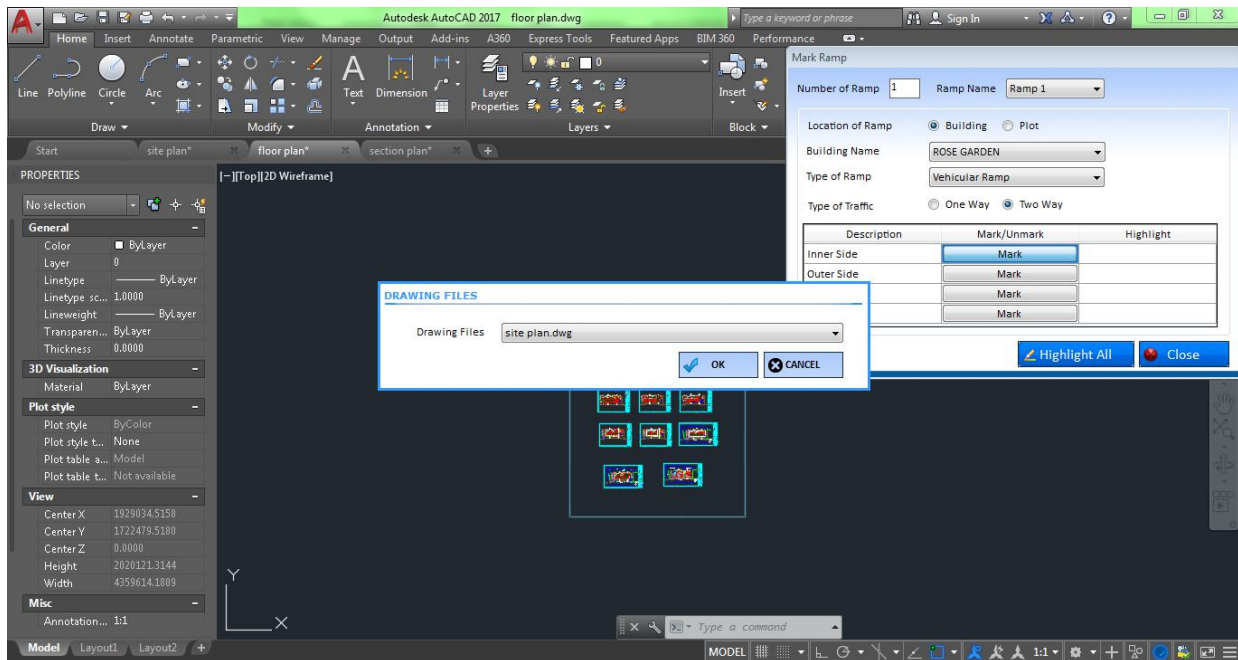
Type of Traffic ☐ One Way ☐ Two Way

Description	Mark/Unmark	Highlight
Inner Side	<input type="button" value="Mark"/>	
Outer Side	<input type="button" value="Mark"/>	
Start Level	<input type="button" value="Mark"/>	
End Level	<input type="button" value="Mark"/>	

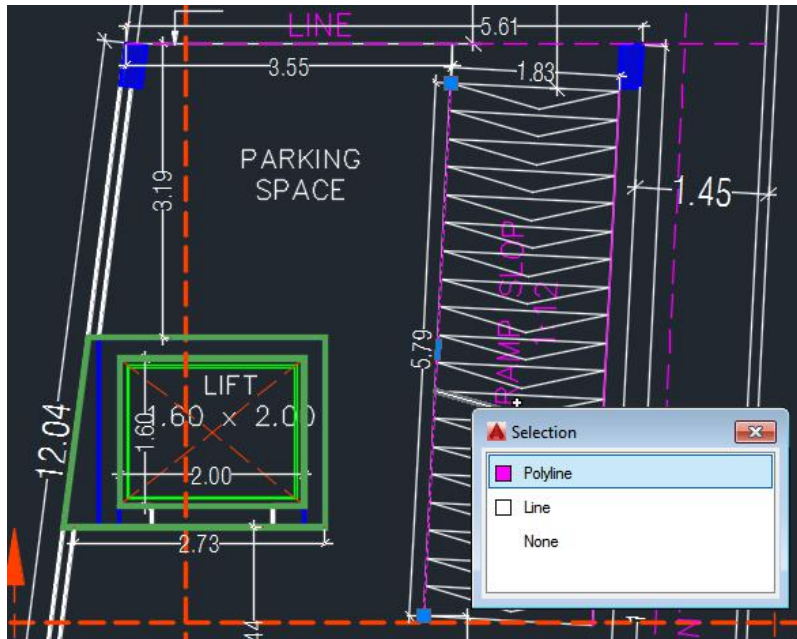
- iii. **Number of Ramp:** Enter the number of Ramps provided in the building.
- iv. **Ramp:** Corresponding Ramps entered in the Number of Ramp will be listed in the drop down list.
- v. **Location of Ramp:** Choose location of ramp as Building or Plot.
- vi. **Building Name:** Lists all buildings in the project. Select the building from the list.
- vii. **Type of Ramp:** Select the type of ramp from the dropdown list.
- viii. **Type of Traffic:** Choose the type of traffic in ramp as One Way or Two Way.
- ix. **Inner Side**
 - a) Click Mark Button corresponding to the Inner side of the Ramp. Following drawing file selection option will appear.



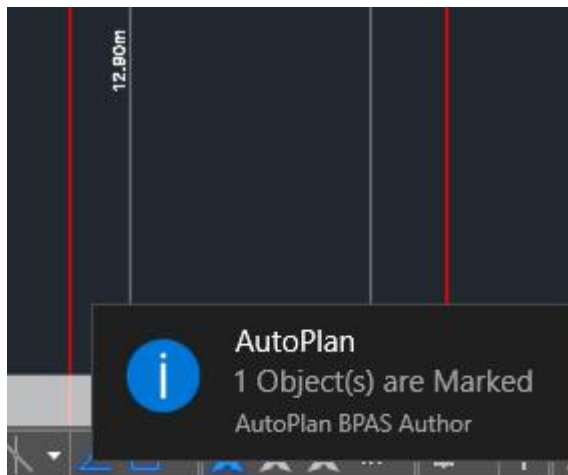
b) Select the required **Drawing File** and click **OK** button.



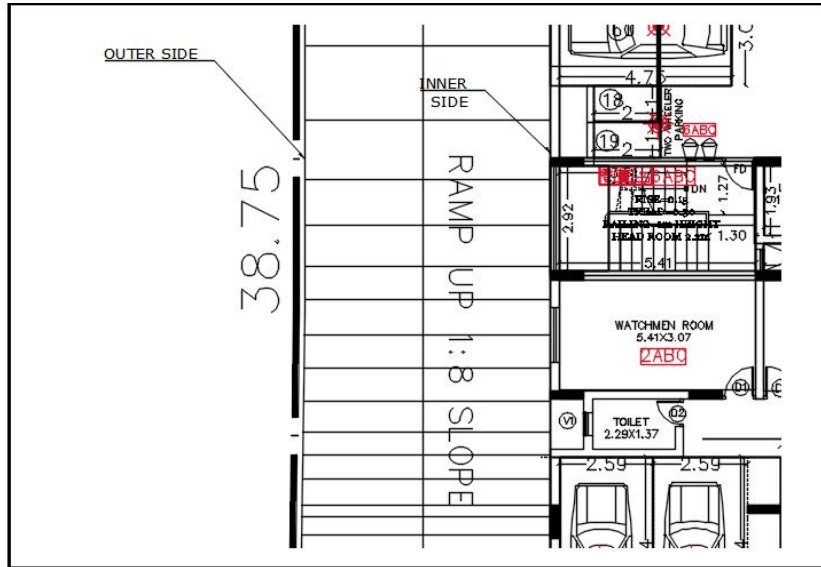
c) Now control will switch to AutoCAD work space with selection cursor.



- d) Select the line to be marked for *Inner Side* of the Ramp by mouse left click
- e) Selection process is completed by mouse right click or click enter key
- f) Marking confirmation message will come in Tray icon

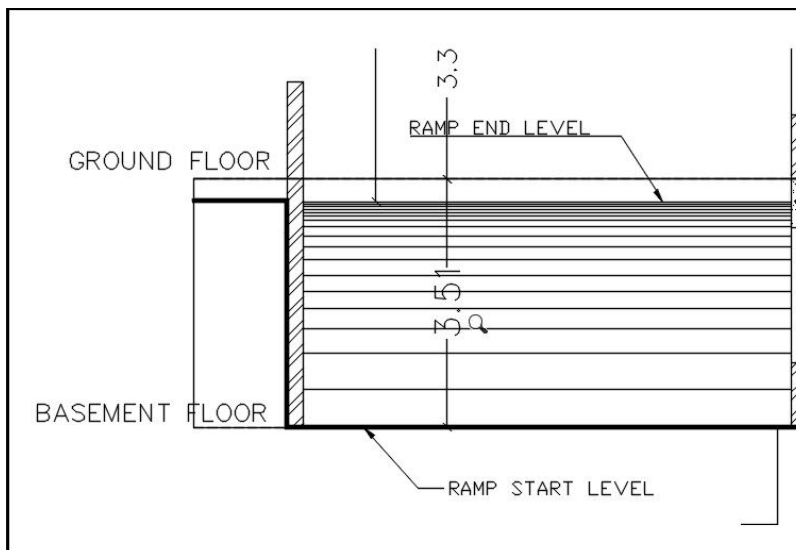


- x. **Outer Side:** Refer Steps in Inner side marking to mark the Outer Side



xi. **Start Level:** Refer Steps in Inner side marking to mark the start level

xii. **End Level:** Refer Steps in End side marking to mark the start level



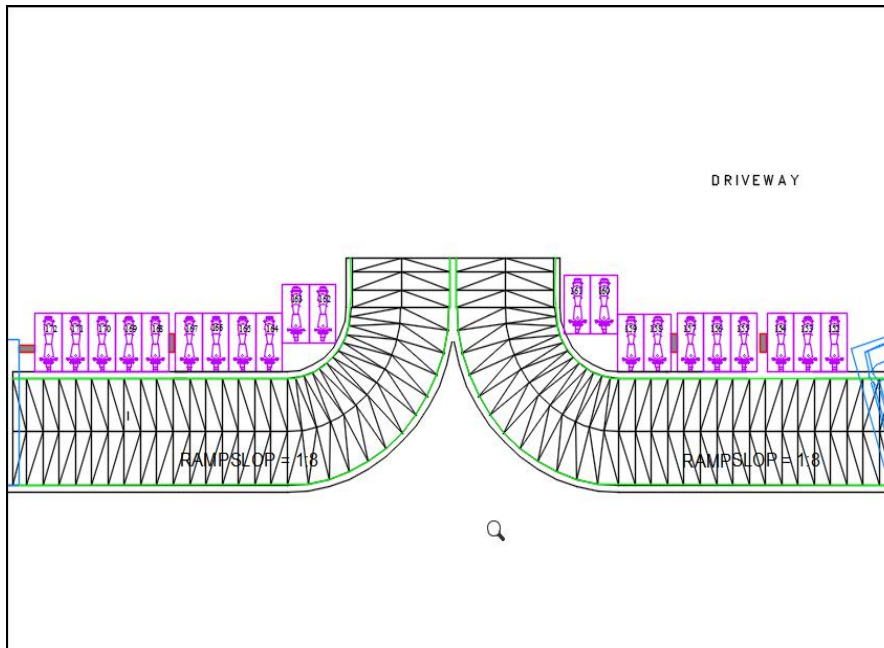
xiii. After marking all the markings in the Ramp, Click Close button to close **Mark Ramp** form

3.12.1.1 Highlight Ramp:

Marked Ramp can be highlighted by clicking Highlight button corresponding to Ramp in **Marking Control** form.

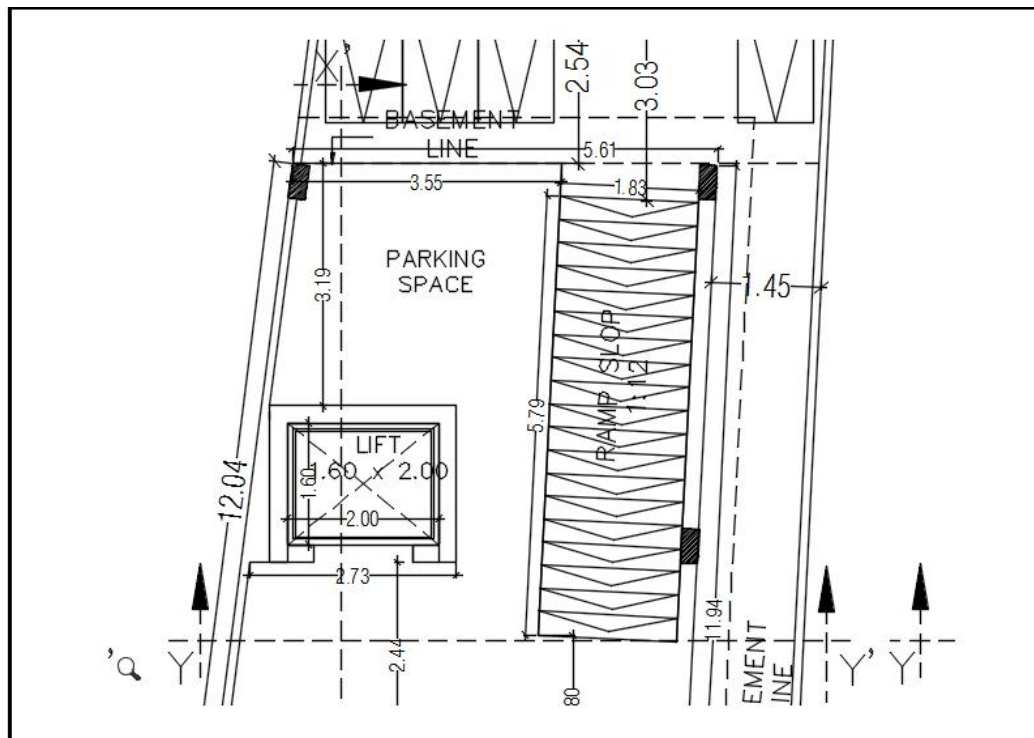
Separate Entry Exit

Entry and Exit of the Ramp which are provided as separately



Common Entry Exit

Entry and Exit which are provided as common



3.13 Lift

Lift is used to mark the lifts in the building.

3.13.1 Mark Lift

- i. Click **Mark** button corresponding to Lift in **Marking Control** form
- ii. **Mark Lift** form will open.

Mark Lift

Building Name:

Type of Lift:

Number of Lift(s):

Lift Name:

Lift Capacity: Kg

Number of Persons:

Speed: m/s

Floor Levels - Start:

Floor Levels - End:

Lift Car Dimension Details

Description	Mark/Unmark	Highlight
Area	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>
Width	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>
Depth	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>

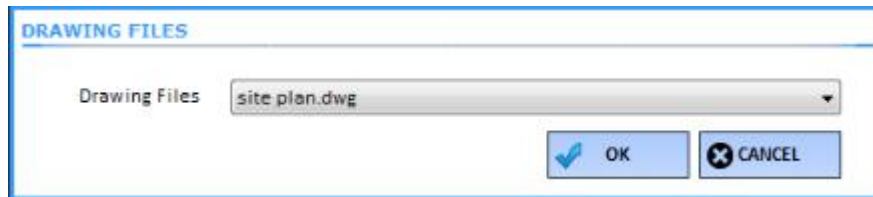
Lift Door Details

Description	Mark/Unmark	Highlight
Width of Door	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>

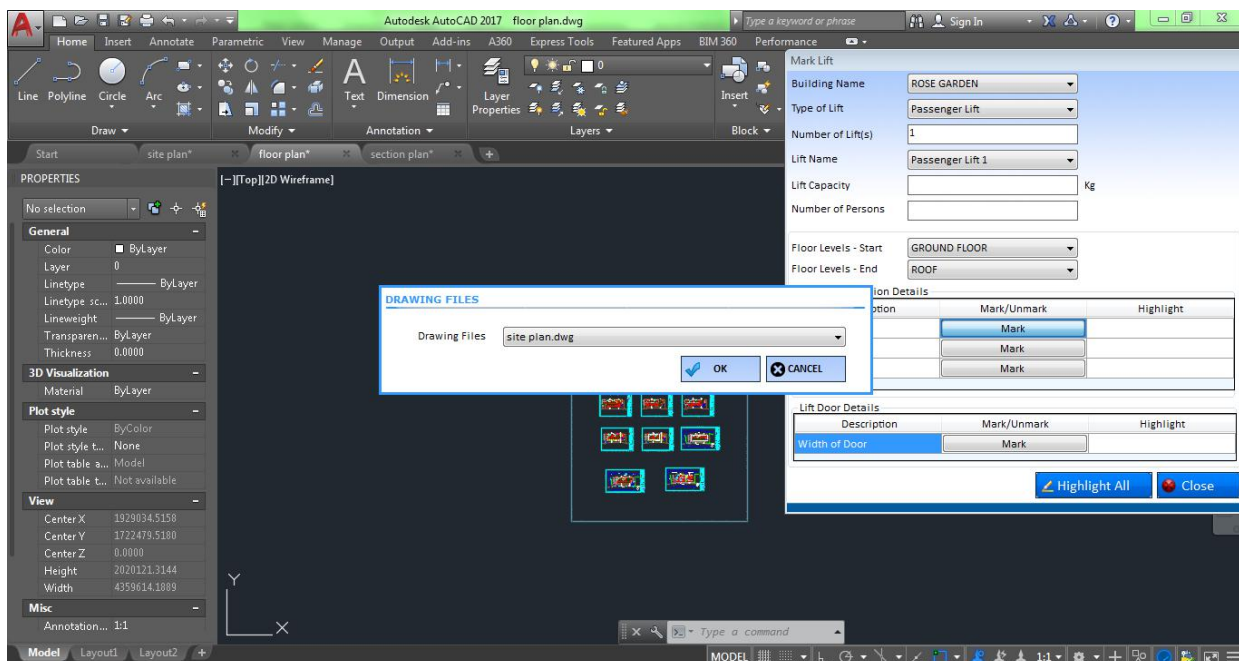
- iii. **Building Name:** Lists all buildings in the project. Select the building from the list.
- iv. **Type of Lift:** Select the type of lift to be marked.
- v. **Number of Lift (s):** Enter the number of lift (s) in the building.

- vi. **Lift Name:** Corresponding to the number of lift entered, lift name will be populated in the drop down list and user can select lift name.
- vii. **Lift Capacity:** Enter the capacity of the lift.
- viii. **Number of Persons:** Enter the maximum number of persons to be accommodated in the lift.
- ix. **Lift Area**

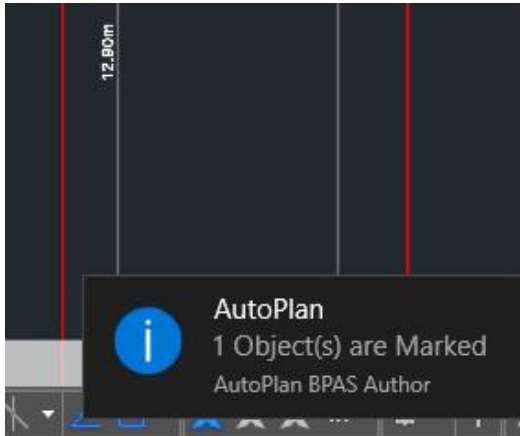
- a) Click on Mark button corresponding to *Lift Area*. Option to select drawing file will appear.



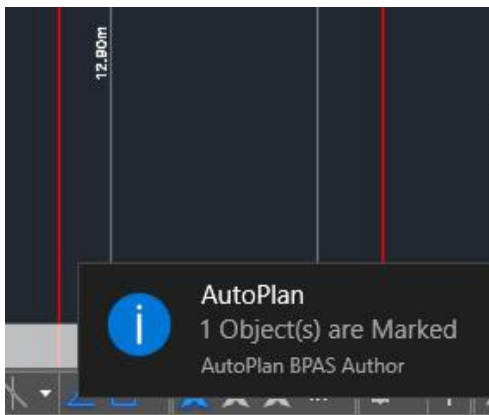
- b) Select the required **Drawing File** and click **OK** button.
- c) Now control will switch to AutoCAD work space with selection cursor



- d) Select the Closed Polyline to be marked for lift area by **mouse left click**
- e) Selection process is completed by **mouse right click** or click enter key
- f) Marking confirmation message will come in Tray icon



- ix. **Lift Width:** Width of lift to be marked as an independent line. Click on **Mark** button corresponding to **Lift Width** and refer steps (b) to (e) in Lift Area for marking.
- x. **Lift Depth:** Depth of lift to be marked as an independent line. Click on **Mark** button corresponding to **Lift Depth** and refer steps (b) to (e) in Lift Area for marking.
- xi. **Width of Door**
 - a) Click on Mark button corresponding to Width of Door
 - b) Now control will switch to AutoCAD work space with selection cursor
 - c) Select the Line to be marked for door width by [mouse left click](#)
 - d) Selection process is completed by [mouse right click](#) or click enter key
 - e) Marking confirmation message will come in Tray icon



After marking all the required items, Click Close button to close Mark Lift form.

3.13.1.1 Highlight Lift:

Marked Lift can be highlighted by clicking Highlight button corresponding to Lift in **Marking Control** form.

3.14 Parking Spaces

Parking Spaces form is used to mark the Parking facilities in the Building which includes Car, Truck, Two Wheelers, etc. The area provided for parking which is drawn in the plan has to be marked for performing parking space verifications.

3.14.1 Mark Parking Space

- i. Click **Mark** button corresponding to Parking Space in Marking Control form.
- ii. Parking Space form will open.

Parking Space

Type of Parking Space: Stack Parking

Parking Location: Building

Building Name: Building 1 Floor Name: GROUND FLOOR

Number of Lot: Lot Name:

☐ Open Parking ☒ Covered Parking Parking Type: Angular Parking

Description	Mark	Unmark	UnmarkAll	Highlight
Stack Parking	Mark			

Level: Parking Level 1

Description	Mark/Unmark	Highlight
Start	Mark	
End	Mark	

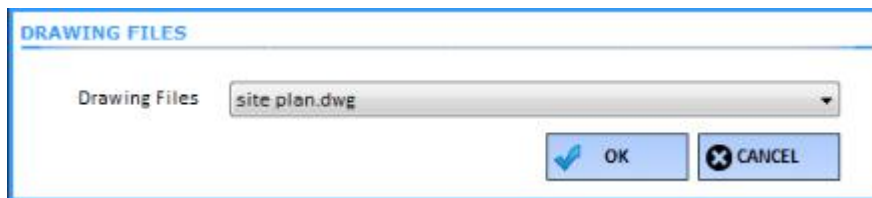
Highlight All **Close**

- iii. **Type of Parking Space:** Lists various parking types of parking
- iv. **Parking Location:** Select the parking location to which the parking is proposed
- v. **Building Name:** Lists all buildings in the project. Select the building from the list
- vi. **Floor Name:** Lists all the floors proposed in building selected in Building Name

- vii. **Number of Lots:** Enter the number of parking lots.
- viii. **Lot Name:** Corresponding parking lots entered in the Number of lots will be listed in the drop down list.
- ix. **Open Parking / Covered Parking :** Select the type as either Open Parking or Covered Parking
- x. **Parking Type:** Select the parking type from the drop down list as angular or parallel parking.

Parking Details

- xi. Click **Mark** button corresponding to **parking type**. Option to select drawing file will appear.



- x. Select the required Drawing File and click **OK** button.
- xi. Now control will switch to Auto CAD work space with selection cursor.
- xii. Select a Closed Poly line to be marked for Parking Area by mouse left click.(Any number of multi closed poly line can mark)
- xiii. Selection process is completed by mouse right click or click enter key.
- xiv. Marking confirmation message will come in Tray icon.

Level: This is used to mark different levels in a stack parking only.

- xv. **Level:** Select the level from the list.
- xvi. **Start:** Click on Mark Button corresponding to the Start in case of Stack Parking only
- xvii. **End:** Click on Mark Button corresponding to the End in case of Stack Parking only

3.14.1.1 Highlight Parking Spaces:

Marked Parking Spaces can be highlighted by clicking Highlight button *corresponding to* Parking Spaces *in **Marking Control** form.*

Note:

Parking lots

Area which is intended for parking vehicles

Angular Parking

Parking in which car is aligned in an angle. It makes parking a lot easier for drivers.

Parallel Parking

It is a method of parking a vehicle parallel to the road in line with other parked vehicles.

3.15 Projection in Open Space

Projection in Open Space is used to mark the projections in the building into setback area.

3.15.1 Mark Projection in Open Space

- vii. Click **Mark** button corresponding to Projection in open space.
- viii. **Mark Projection in Open Space** form will open.

Mark Projection In Open Space

Building Name

priyanath jena

Floor Level

GROUND FLOOR

Projection Type

Midlanding Of Staircase

Number of Projection

1

Projection Name

Midlanding Of Staircase 1

Direction

Front

Description	Mark/Unmark	Highlight
Area	Mark	
Length	Mark	
Width	Mark	

Highlight All

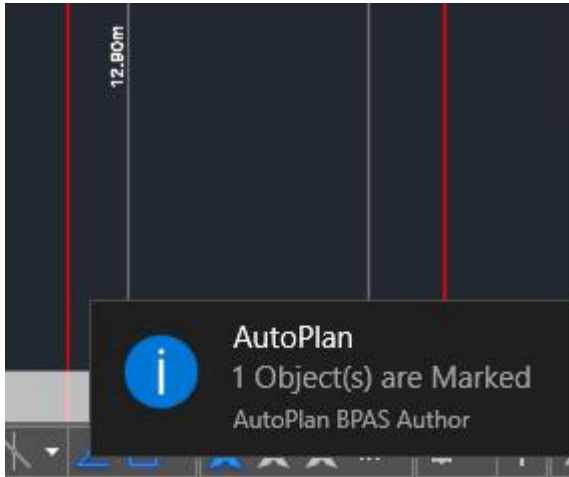
Close

- ix. **Building Name:** Lists all buildings in the project. Select the building from the list.
- x. **Floor Level:** Lists all floors in the selected building. Select the floor from the list.

- xi. **Projection Type:** List various projection types. Select the type of Projection required
 - xii. **Number of Projection:** Enter the number of projections provided in the building for the selected Projection Type
 - xiii. **Projection Name:** Based on the entry in Number of Projection, list of projection name will be generated, select the projection for which marking is to be done
 - xiv. **Direction:** List all four directions, Front, Left, Right and Rear. Select the direction in which the projection is proposed
- iv. **Area**
- f) Click **Mark** button corresponding to Area.
 - g) Now control will switch to Auto CAD work space with *selection* cursor.



- h) Select a Closed object to be marked for Area by mouse left click.
- i) Selection process is completed by mouse right click or click enter key.
- j) Marking confirmation message will come in Tray icon.



- v. **Length:** Step (a) to (e) is repeated to mark **Length**
- vi. **Width:** Step (a) to (e) is repeated to mark **Width**
- vii. After marking all the required items, Click **Close** button

3.15.1.1 Highlight Projection in Open space:

Marked Projection in Open Space can be highlighted by clicking Highlight button corresponding to Two wheeler Parking in **Marking Control** form.

Projection Type

Type of structures in the Building which are projected outside are mainly,

- **Mid-landing of Staircase:** Staircase projected outside the building line.
- **Chajja/Overhanging:** It is the projecting or overhanging eaves or cover of a roof usually supported on large carved brackets.
- **Balcony:** A platform enclosed by a wall or balustrade on the outside of a building, with access from upper-floor window or door.
- **Weather Shade:** It is protection from weather related problems such as rain, snow, wind, and sun.
- **Roof:** A covering on the uppermost part of a building.
- **Cornice:** A decorated projection at the top of a wall provided to protect the wall face or to ornament and finish the eaves.

3.16 Rain Water Harvesting

Rainwater Harvesting is used to mark the components for Rainwater Harvesting provided in the Site plan.

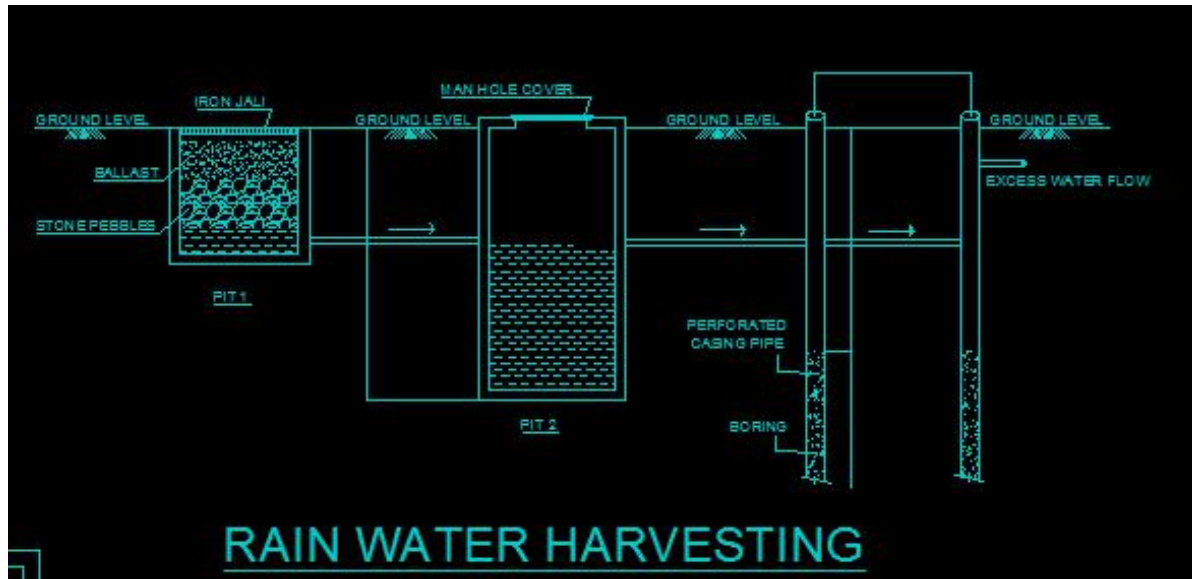
3.16.1 Mark Rain Water Harvesting

- i. Click **Mark** button corresponding to Rain water Harvesting in **Marking Control** form.
- ii. **Mark Rain water Harvesting** form will open.



Description	Mark/Unmark	Highlight
Bore Well	Mark	
Start Level	Mark	
End Level	Mark	

- iii. **Building Name:** Lists all buildings in the project. Select the building from the list.
- iv. **Number of Rainwater Harvesting:** Enter the Number of Rainwater Harvesting available in the drawing.
- v. **Rainwater Harvesting:** Corresponding Number of rainwater Harvesting entered in the previous field to be listed in the drop down list
- vi. **Rainwater Harvesting Structure:** Select the structure of Rainwater Harvesting from the Dropdown list.



vii. **Bore well / Recharge Pit / Recharge Trench:**

- a) Based on the selection of Rainwater Harvesting structure, Click on Mark Button corresponding to Bore well/Recharge Pit/Recharge Trench
- b) Now control will switch to AutoCAD work space with selection cursor
- c) Select the closed object to be marked for Bore well/Recharge Pit/Recharge Trench by mouse left click
- d) Selection process is completed by mouse right click or click enter key
- e) Marking confirmation message will come in Tray icon

viii. **Start Level:**

- a) Click on Mark Button corresponding to Start Level
- b) Now control will switch to AutoCAD work space with selection cursor
- c) Select the line to be marked for Start level by mouse left click
- d) Selection process is completed by mouse right click or click enter key
- e) Marking confirmation message will come in Tray icon

ix. **End Level:** Refer the *Start Level* steps for marking

- xiv. After marking all the markings in the Rainwater Harvesting, click **Close** button to close **Mark Rain water Harvesting** form

3.16.1.1 Highlight Rain water Harvesting:

Marked Rain Water Harvesting can be highlighted by clicking Highlight button corresponding to Rain water harvesting in **Marking Control** form.

3.17 Open Space and Ventilation Shaft

Open Space and Ventilation Shaft is used to mark Ventilation Shaft(s) provided inside the building and interior space which is provided for the passage for light and air circulation.

3.17.1 Mark Open Space and Ventilation Shaft

- i. Click **Mark** button corresponding to Open Space and Ventilation Shaft in **Marking Control** form
- ii. **Mark Open Space and Ventilation shaft** form will open.

Mark Open Space and Ventilation Shaft

Building Name: Type:

Number: Name:

Dimensions

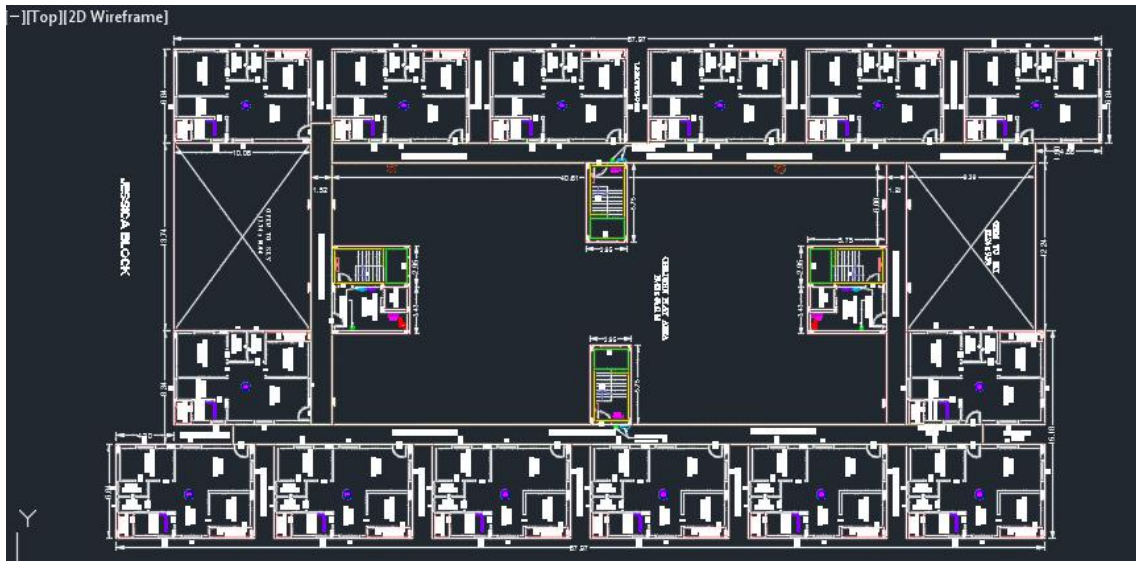
Description	Mark/Unmark	Highlight
Area	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>
Width	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>
Depth	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>

Level

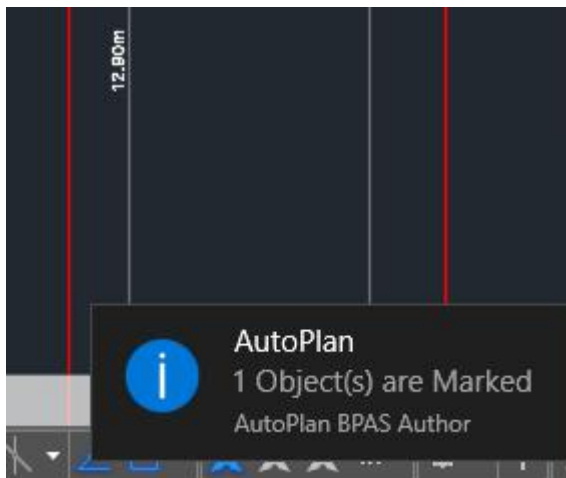
Description	Mark/Unmark	Highlight
Start Level	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>
End Level	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>

- iii. **Building Name:** Lists all buildings in the project. Select the building from the list.
- iv. **Type:** Select the type to be marked as **Interior Open Space**, **Exterior Open Space** or **Ventilation Shaft**.
- v. **Number:** Enter the Number of ventilation shaft/open space in the building.
- vi. **Name:** Corresponding to the Number entered in the previous field, name will be populated in the drop down list.
- vii. **Area**
 - a) Click on mark button corresponding to the Area

- b) Now control will switch to AutoCAD work space with selection cursor.



- c) Select the closed object to be marked for Ventilation shaft by mouse left click
 d) Selection process is completed by mouse right click or click enter key
 e) Marking confirmation message will come in Tray icon



- viii. **Width:** Width of open space and ventilation shaft to be marked as an independent line. Refer steps (a) to (e) in Area for marking.
- ix. **Depth:** Depth of open space and ventilation shaft to be marked as an independent line. Refer steps (a) to (e) in Area for marking.
- x. **Start Level:**
- a) Click on **Mark** Button corresponding to Start Level

- b) Now control will switch to AutoCAD work space with selection cursor
- c) Select the line to be marked for Start level by mouse left click
- d) Selection process is completed by mouse right click or click enter key
- e) Marking confirmation message will come in Tray icon

xi. **End Level:** Refer the *Start Level* steps for marking

After marking Ventilation shaft, click **Close** button to close **Mark Open Space and Ventilation Shaft** form.

3.17.1.1 *Highlight Open Space and Ventilation shaft:*

Marked Open Space and Ventilation shaft can be highlighted by clicking Highlight button corresponding to Open Space and Ventilation Shaft in **Marking Control** form.

3.18 Boundary Wall

Boundary wall is used to mark the wall which is constructed around once plot.

3.18.1 Mark Boundary Wall

- i. Click **Mark** button corresponding to Boundary Wall in **Marking Control** form
- ii. **Mark Boundary Wall** form will open.

Mark Boundary Wall

☐ Boundary Wall Section is same in all directions

Direction of Site Front

Boundary Wall Height

Type Normal Section

Description	Mark/Unmark	Highlight
Road Level	Mark	
Boundary Wall Top Level	Mark	

Railing/Grill above Boundary Wall

Description	Mark/Unmark	Highlight
Start Level	Mark	
End Level	Mark	

Entrance Details

Number of Entry / Exit to Site Entrance Name

Type of Entrance ☒ Entry cum Exit ☐ Entry / Exit

Description	Mark/Unmark	Highlight
Entrance Width	Mark	

☒ Entrance Height (Archway / Built over)

Description	Mark/Unmark	Highlight
Ground Level	Mark	
Top Level	Mark	

Highlight All Close

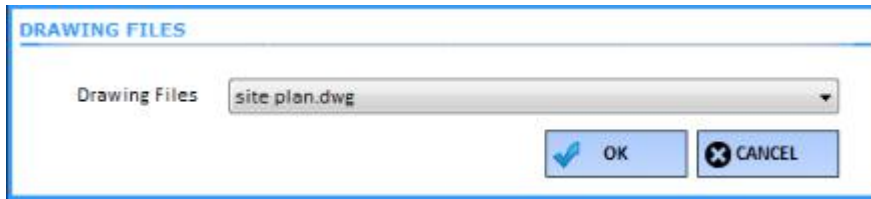
iii. **Boundary wall Section:** If boundary wall section is same in all directions, click on the option given at the top. If it is not same, use the tab “Direction of site” to select front, left, right and rear side of the wall to give details of each side separately.

iv. **Direction of Site:** Select the (Front/Left/Right/Rear) direction from the list.

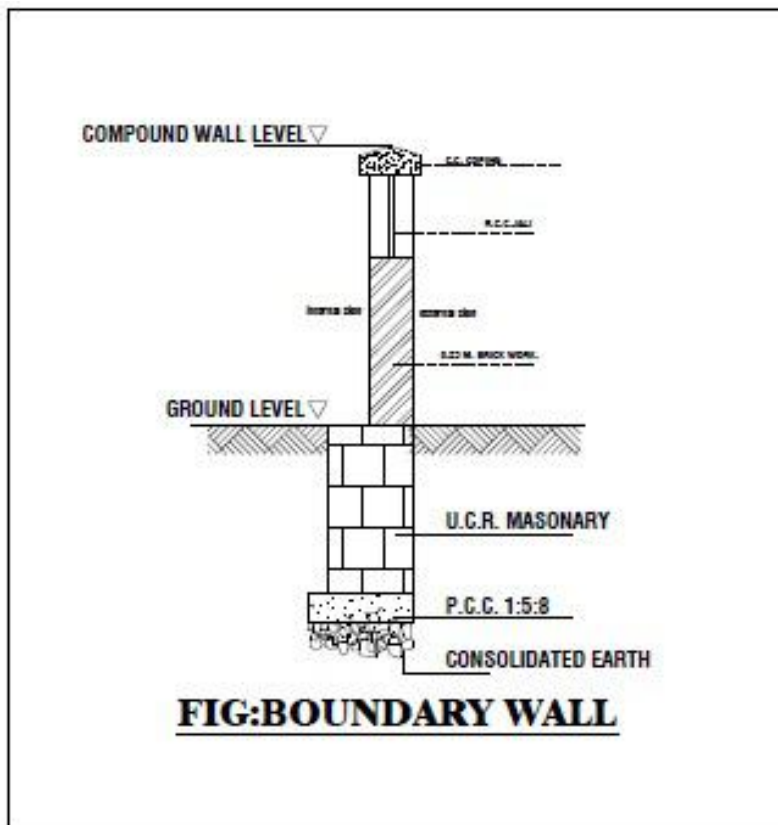
v. **Type:** Select the type of boundary wall. If the height of all sides is same, select “Normal Section”. If the heights of sides are different, select “Corner Section”.

vi. **Road Level:**

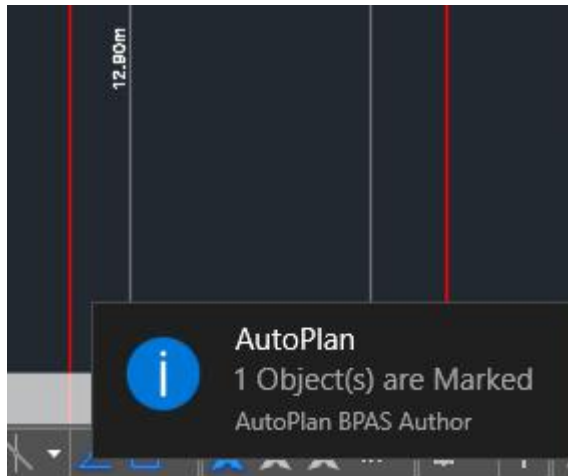
a) Click on **mark** button corresponding to the Road Level. Following drawing file selection option will appear.



- b) Select the required **Drawing File** and click **OK** button.
- c) Now control will switch to AutoCAD work space with selection cursor



- d) Select the line to be marked for Road Level by mouse left click
- e) Selection process is completed by mouse right click or click enter key
- f) Marking confirmation message will come in Tray icon



- vii. **Boundary Wall Top Level:** Repeat the Ground level steps for marking the Boundary wall top level in the section drawing.
- viii. **Railing/Grill Above Boundary Wall:** if railing/grill is present above boundary wall, mark Railing/Grill. Mark Start Level & End Level of Railing/Grill in the section drawing repeating the marking procedure as earlier.
- ix. **Entrance Details:**
 - i. Number of Entry/Exit: Choose number of Entry/Exit to/from boundary wall. Use the Option “Entrance Name” to add the name of the entrance. List of entrance names will automatically increase with the number of entry/exits given.
 - ii. Type of Entrance: Choose “Entry cum Exit” if the entrance caters for both entry & exit. Choose “Entry/Exit” if entrance caters for either entry or exit.
 - iii. Entrance Width: Mark entrance width in the drawing using the mark option.
 - iv. Entrance Height: Mark both ground level & Top level of entrance to include height of entrance.
- x. After marking all the markings in Boundary Wall, click **Close** button to close Mark Boundary Wall form.

3.18.1.1 Highlight Boundary Wall:

Marked Boundary Wall can be highlighted by clicking Highlight button corresponding to Boundary Wall in **Marking Control** form.

3.19 Service/Mezzanine Floor

Service/Mezzanine Floor is an intermediate Floor between two floors of a building which is usually used for storing service equipment & various machinery and routing utility lines.

3.19.1 Mark Service/Mezzanine Floor

A mezzanine floor is considered as an attached floor to the main floor of a building. Hence mezzanine floors are marked together with the corresponding floor of the building in AutoPlan author.

Adding Mezzanine Floor

- i. Click Edit button in the main menu of AutoPlan home window & select Floor details. The below dialogue box will open.

Floor Details

Building Name: Building for MrAJEET KUMAR HATWALNeeti

Floor Name	Floor Type	Floor Count	Uses	Mezzanine Floor
GROUND FLOOR	GROUND	1	Edit	<input type="checkbox"/>
FLOOR 1	FLOOR	1	Edit	<input type="checkbox"/>
ROOF	ROOF	1	Edit	<input type="checkbox"/>

Typical Save Close

- ii. Use the tick box given along each floor under the column “Mezzanine Floor” to select the floor above which mezzanine is to be added. This action will add a mezzanine floor under that particular floor with a default name as shown below.

Floor Details

Building Name: Building for MrAJEET KUMAR HATWALNeethu

Floor Name	Floor Type	Floor Count	Uses	Mezzanine Floor
GROUND FLOOR	GROUND	1	<input type="button" value="Edit"/>	<input checked="" type="checkbox"/>
GROUND FLOOR MEZZANINE	MEZZANINE	1	<input type="button" value="Select"/>	<input type="checkbox"/>
FLOOR 1	FLOOR	1	<input type="button" value="Edit"/>	<input type="checkbox"/>
ROOF	ROOF	1	<input type="button" value="Edit"/>	<input type="checkbox"/>

Typical

Marking Mezzanine Floor Details

Details of mezzanine floor can be marked in the marking form of the floor above which mezzanine is added.

1. Select "Floor Level" from the marking form & following dialogue box will appear. From the drop down menu "Floor Name" in the dialogue box select the mezzanine floor earlier added.

Mark Floor Level

Building Name: Building for MrAJEET KUMAR HATWALNeethu

Reduced Level(R.L) of Ground Line:

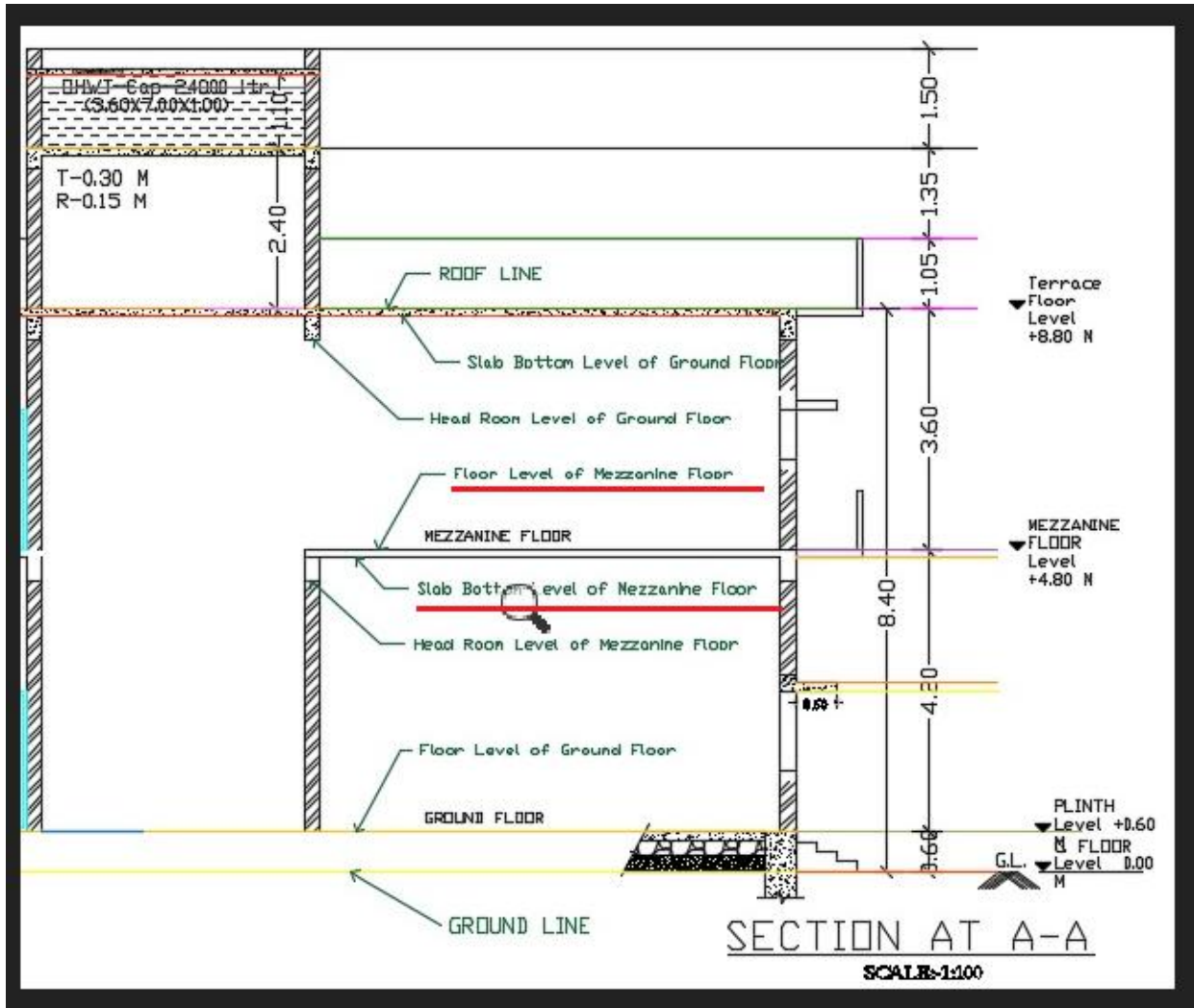
Description	Mark/Unmark	Highlight
Ground Line	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>
Roof Line	<input type="button" value="Unmark"/>	<input type="button" value="Highlight"/>

Floor Name: GROUND FLOOR MEZZANINE

Description	Mark/Unmark	Highlight
Floor Level	<input type="button" value="Mark"/>	
Slab Bottom Level	<input type="button" value="Mark"/>	

2. Once the mezzanine floor is selected user can mark the same using the “Mark” option given

- Marking Floor Level - User can mark the floor level of the mezzanine floor using this option.(shown in the below depiction)
- Marking Slab bottom level - Slab bottom level of the mezzanine floor has to be marked using this option.(Shown in the below depiction)



- Once marking is completed user can use the highlight button to see the marked items of the mezzanine floor as shown in the below screenshot.

Mark Floor Level



Building Name Building for MrAJEET KUMAR HATWALNeethu ▾

Reduced Level(R.L) of Ground Line

Description	Mark/Unmark	Highlight
Ground Line	Unmark	Highlight
Roof Line	Unmark	Highlight

Floor Name GROUND FLOOR MEZZANINE ▾

Description	Mark/Unmark	Highlight
Floor Level	Unmark	Highlight
Slab Bottom Level	Unmark	Highlight

 Highlight All  Close

Note : Once a mezzanine floor is added with a floor of the building, the same will be reflected in the below Marking forms also;

1. Mark Floor Level
2. Mark Building Area
3. Mark Room Size
4. Mark Premises
5. Mark Staircase
6. Mark Lift
7. Mark Projection In Open Space
8. Mark Loft
9. Mark Cupboard
10. Mark Travel Distance

3.20 Porch

Porch is used to mark porch provided near to the entrance of the Building.

3.20.1 Mark Porch

- i. Click **Mark** button corresponding to Porch in **Marking Control** form
- ii. **Mark Porch** form will open.

Mark Porch

Building Name

Number of Porch

Porch

Location of Porch

Type of Porch

Area

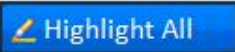

Description	Mark/Unmark	Highlight
Area	Mark	

Dimensions

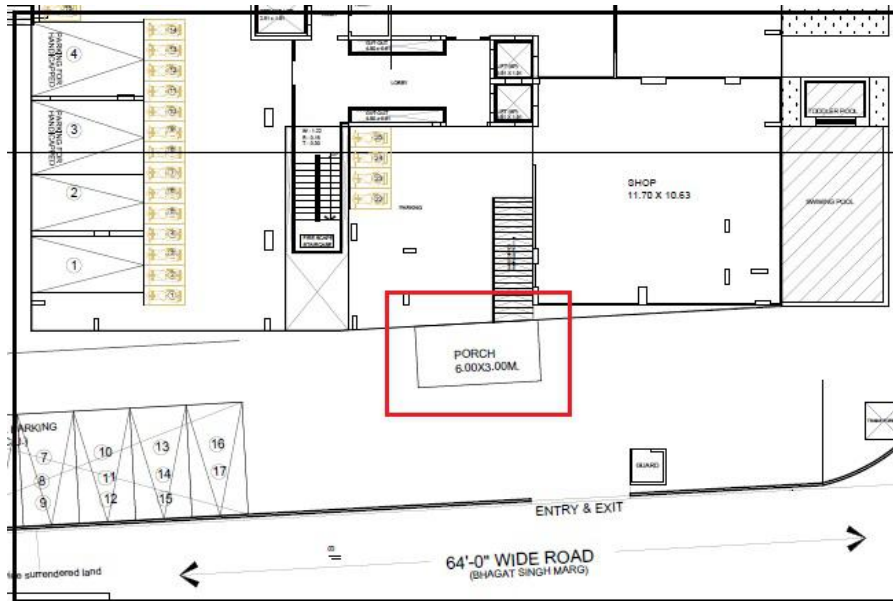
Description	Mark/Unmark	Highlight
Length	Mark	
Width	Mark	

Height

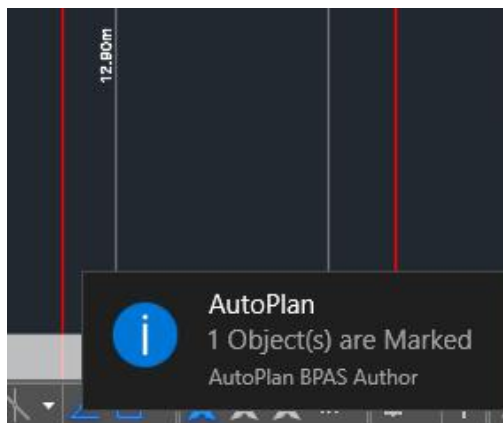
Description	Mark/Unmark	Highlight
Floor Level	Mark	
Ceiling Level	Mark	

 Highlight All  Close

- iii. **Building Name:** Lists all buildings in the project. Select the building from the list.
- iv. **Number of Porch:** Enter the Number of Porch provided in the Building.
- iii. **Porch:** Corresponding Number of Porch entered in the previous field will be coming in the drop down list.
- v. **Direction:** Select the Direction (Front, Left, Right, Rear) in which the porch situated.
- vi. **Porch**
 - a) Click on Mark Button corresponding to Porch.
 - b) Now control will switch to AutoCAD work space with selection cursor.



- c) Select the Closed Area to be marked for Porch by mouse left click.
- d) Selection process is completed by mouse right click or click enter key.
- e) Marking confirmation message will come in Tray icon.



vii. After marking porch, click on Close Button to close **Mark Porch** form.

3.20.1.1 Highlight Porch:

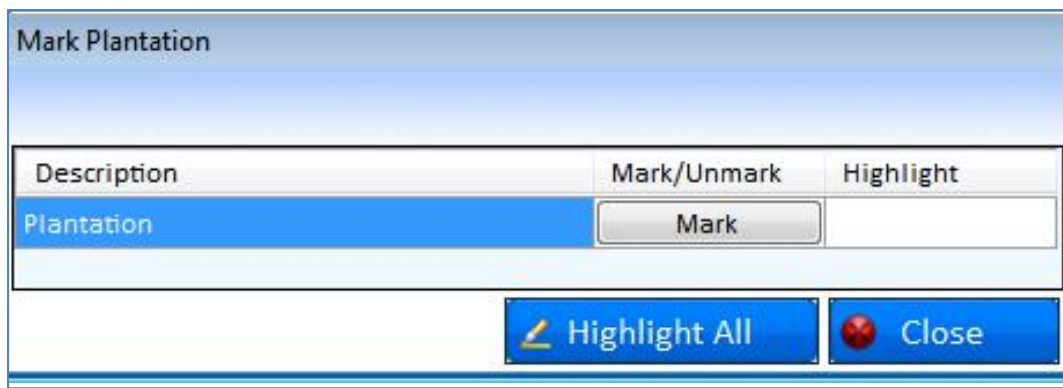
Marked Porch can be highlighted by clicking Highlight button corresponding to Porch in **Marking Control** form

3.21 Plantation

Plantation is used to mark the Area of land used for landscaping and other planting works.

3.21.1 Mark Plantation

- i. Click **Mark** button corresponding to Plantation in **Marking Control** form
- ii. **Mark Plantation** form will open.

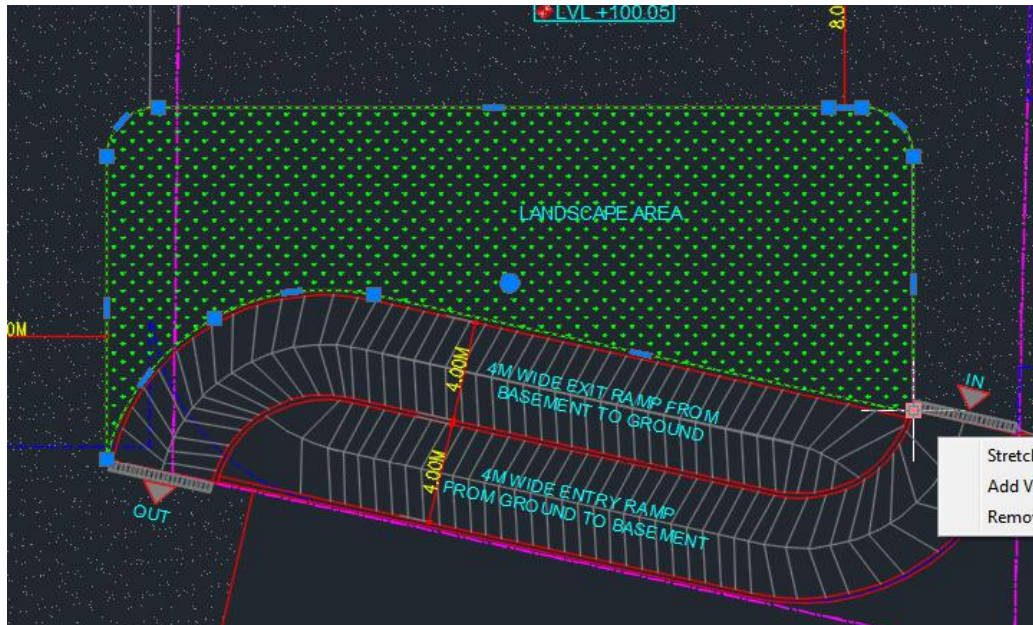


Description	Mark/Unmark	Highlight
Plantation	Mark	

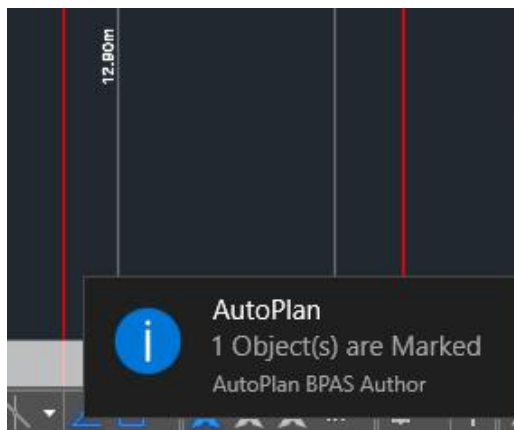
Highlight All Close

Plantation

- a) Click on Mark Button corresponding to Plantation
- b) Now control will switch to AutoCAD work space with selection cursor



- c) Select the Closed Area to be marked for Plantation by **mouse left click**
- d) Selection process is completed by **mouse right click** or click enter key
- e) Marking confirmation message will come in Tray icon



- f) After marking Plantation, Click Close button to close **Mark Plantation** form.

3.21.1.1 Highlight Plantation:

Marked Plantation can be highlighted by clicking Highlight button corresponding to Plantation in **Marking Control** form.

3.22 Garage

Garage is used to mark the garage which is constructed as a part of the building.

3.22.1 Mark Garage

- i. Click **Mark** button corresponding to Garage in **Marking Control** form
- ii. **Mark Garage** form will open.

Mark Garage

Number of Garage Garage Name

Type of Garage

Type of Construction ☐ Is Upper Floor of Garage

Garage Details

Description	Mark/Unmark	Highlight
Garage Area	<input type="button" value="Mark"/>	
Garage Width	<input type="button" value="Mark"/>	
Garage Depth	<input type="button" value="Mark"/>	

Level Details

Description	Mark/Unmark	Highlight
Ground Line	<input type="button" value="Mark"/>	
Roof Line	<input type="button" value="Mark"/>	

Level

Description	Mark/Unmark	Highlight
Floor Level	<input type="button" value="Mark"/>	
Ceiling Level	<input type="button" value="Mark"/>	

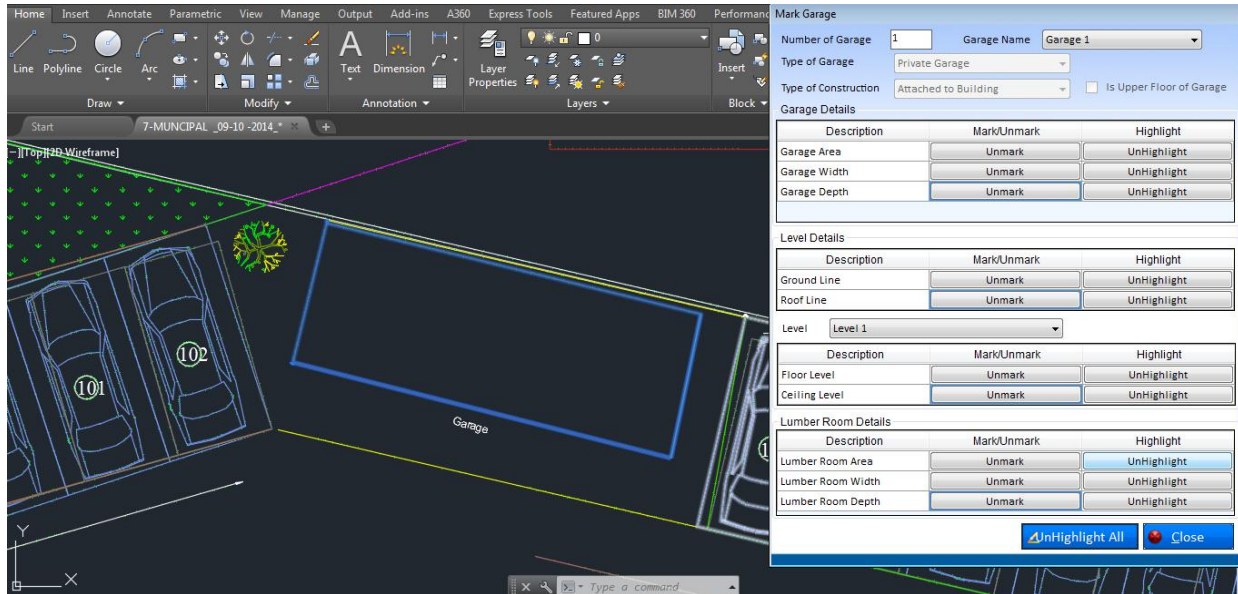
Lumber Room Details

Description	Mark/Unmark	Highlight
Lumber Room Area	<input type="button" value="Mark"/>	
Lumber Room Width	<input type="button" value="Mark"/>	
Lumber Room Depth	<input type="button" value="Mark"/>	

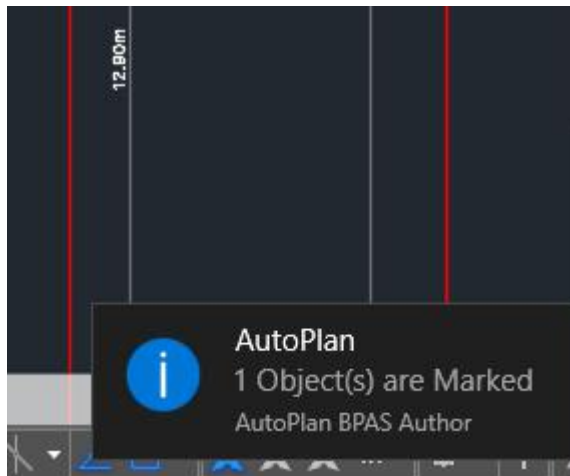
- iii. **Number of Garage:** Enter the number of garage in the building.
- iv. **Garage Name:** Lists all garages in the selected building. Select a garage from the list.
- v. **Type of Garage:** Select the type of garage.
- vi. **Type of Construction:** Select the construction type of garage.
- vii. **Is Upper Floor of Garage:** Tick this option, if there is upper floor of garage.

viii. **Garage Area:**

- a) Click on Mark button corresponding to Garage Area
- b) Now control will switch to AutoCAD work space with selection cursor



- c) Select the Closed Polyline to be marked for garage area by **mouse left click**
- d) Selection process is completed by **mouse right click** or click enter key
- e) Marking confirmation message will come in Tray icon



- xii. **Garage Width:** Width of garage to be marked as an independent line. Refer steps (b) to (e) in Garage Area for marking.
- xiii. **Garage Depth:** Depth of garage to be marked as an independent line. Refer steps (b) to (e) in Garage Area for marking.

xiv. Garage Level

Mark Garage Ground Line

- a) Click on **Mark** button corresponding to Ground Line
- b) Now control will switch to AutoCAD work space with selection cursor
- c) Select the Polyline to be marked for ground line by **mouse left click**
- d) Selection process is completed by **mouse right click** or click enter key
- e) Marking confirmation message will come in Tray icon

Roof Line: Click on **Mark** button corresponding to Roof Line and repeat the above steps (b) to (e) for marking Roof Line.

Level: This is used to mark different levels in a garage. Select the level from the list.

Floor Level: Click on Mark Button corresponding to the Floor Level .Repeat the above steps (b) to (e) to mark the floor level.

Ceiling Level: Click on Mark Button corresponding to the Ceiling Level .Repeat the above steps (b) to (e) to mark the ceiling level.

xv. Lumber Room Details

Lumber Room Area: Click on **Mark** Button corresponding to the Lumber Room Area .Repeat the step (b) to (e) of Garage Area to mark the lumber room area.

Lumber Room Width: Click on **Mark** Button corresponding to the Lumber Room Width .Repeat the step (b) to (e) to mark the lumber room width.

Lumber Room Depth: Click on **Mark** Button corresponding to the Lumber Room Depth .Repeat the step (b) to (e) to mark the lumber room depth.

After marking all the required items, click **Close** button to close Mark Garage form.

3.22.1.1 Highlight Garage:

Marked Garage can be highlighted by clicking Highlight button corresponding to Garage in **Marking Control** form.

3.23 Facilities for Physically Challenged People

Facilities for physically challenged is used for marking all Areas that are provided for physically handicapped persons.

3.23.1 Mark Facilities for Physically Challenged People

- i. Click **Mark** button corresponding to Facilities for Physically Challenged People in **Marking Control** form.
- ii. **Mark Facilities for Physically Challenged People** form will open.

Description	Mark/Unmark	Highlight
Inner Side	Unmark	Highlight
Outer Side	Unmark	Highlight
Start Level	Unmark	Highlight
End Level	Unmark	Highlight

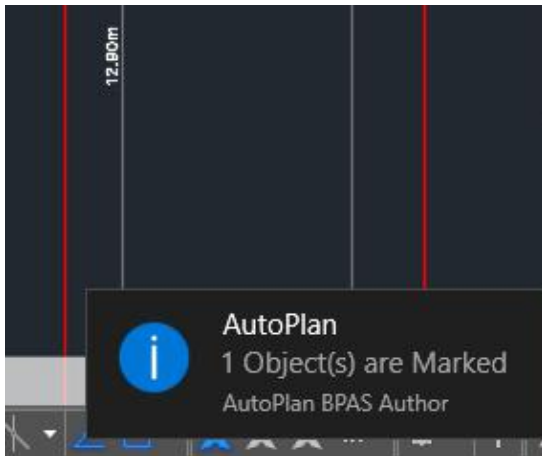
Facilities for Physically Challenged People are given in the form of

Access Path

Access Path is the road providing means to entry into another area/region.

- iii. **Building Name:** Lists all buildings in the project. Select the building from the list
- iv. **Number of Access Path:** Enter the Number of Access Path provided in the Building for Physically Challenged people.
- v. **Access Path:** Corresponding to the number entered in the previous field, to be listed in the drop down list.
- vi. **Inner Side**
 - a) Click Mark button corresponding to the Inner side of the Access path.
 - b) Now control will switch to AutoCAD work space with selection cursor
 - c) Select the line to be marked for *Inner Side* of the Access path by mouse left click

- d) Selection process is completed by mouse right click or click enter key
- e) Marking confirmation message will come in Tray icon



- vii. **Outer Side:** Refer Steps in Inner side marking to mark the outer side
- viii. **Start Level:** Refer Steps in Inner side marking to mark the start level
- ix. **End Level:** Refer Steps in End side marking to mark the start level
- x. After marking all the markings in the Access path, click single right click on *Parking tab* in the marking form of Facilities for Physically challenged people

Parking

Parking is used to park the vehicles for physically challenged persons

Mark Facilities For Physically Challenged People

Access Path **Parking** Stepped Entrance Landing Toilet Passage

Building Name Barrack Block

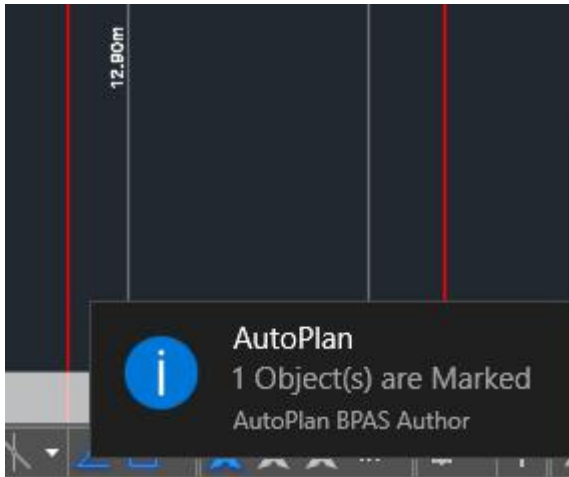
Description	Mark/Unmark	Highlight
Entrance	Mark	

Description	Mark	Unmark	Unmark All	Highlight
Parking Area	Mark			

Highlight All Close

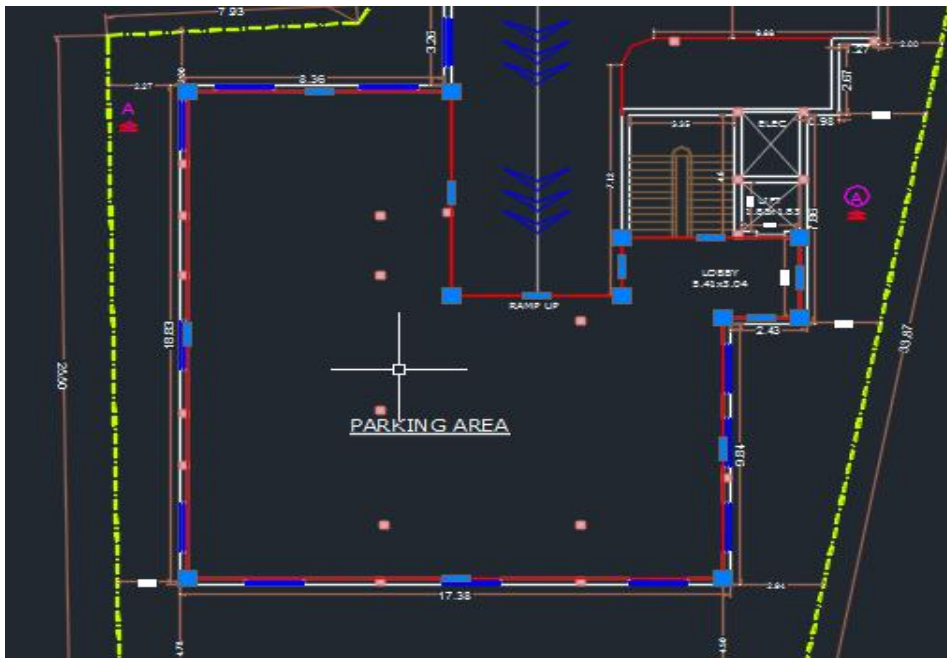
- i. **Building Name:** Lists all buildings in the project. Select the building from the list
- ii. **Entrance:**
 - a) Click on Mark Button corresponding to the Entrance

- b) Now control will switch to AutoCAD work space with selection cursor
- c) Select the line to be marked for *Entrance* of the Parking Area by mouse left click
- d) Selection process is completed by mouse right click or click enter key
- e) Marking confirmation message will come in Tray icon



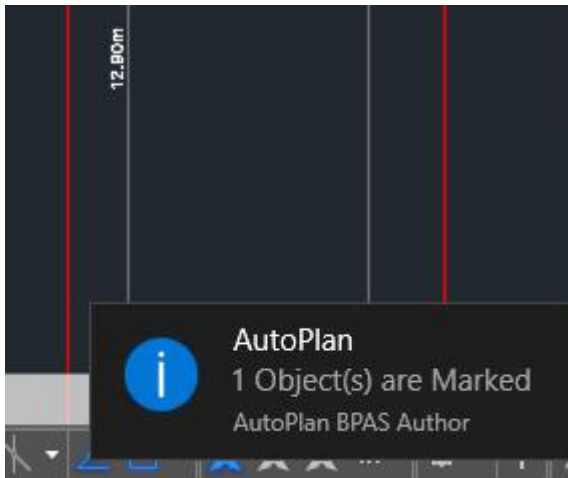
iii. Parking Area

- a) Click on Mark Button corresponding to the Parking Area
- b) Now control will switch to AutoCAD work space with selection cursor



- c) Select the Closed object to be marked for Parking Area by mouse left click

- d) Selection process is completed by mouse right click or click enter key
- e) Marking confirmation message will come in Tray icon



- iv. After marking all the markings in the Parking, click single right click on *Ramp tab* in the marking form of Facilities for Physically challenged people

Stepped

Mark Facilities For Physically Challenged People

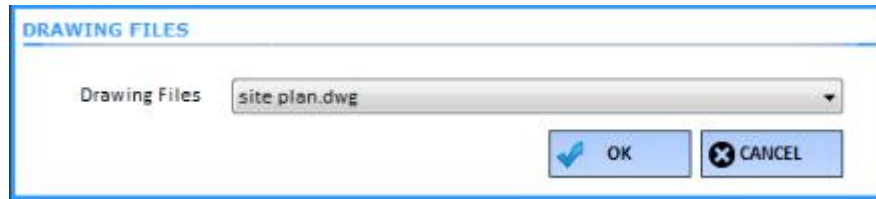
Access Path Parking **Stepped** Entrance Landing Toilet Passage

Building Name: Barrack Block

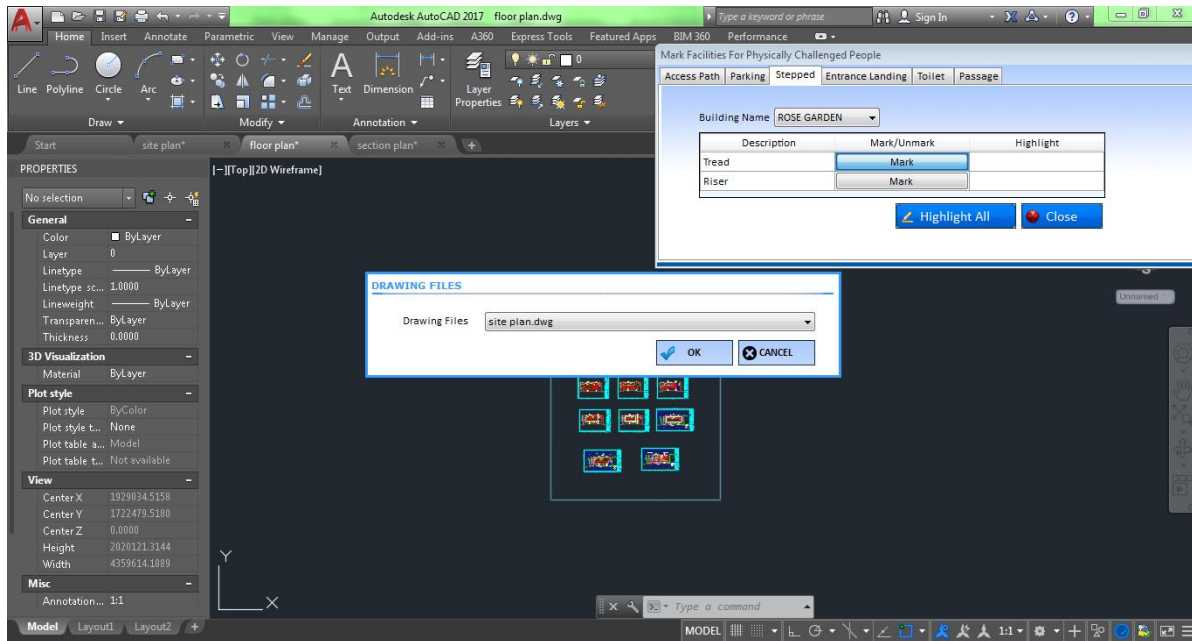
Description	Mark/Unmark	Highlight
Tread	Mark	
Riser	Mark	

Highlight All Close

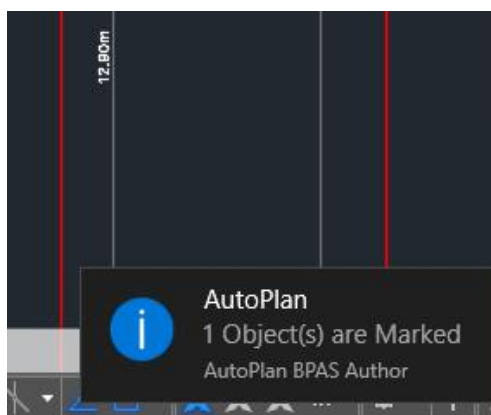
- i. **Building Name:** Lists all buildings in the project. Select the building from the list.
- ii. **Tread**
 - a) Click on mark Button corresponding to Tread of the step. Following drawing file selection option will appear.



- b) Select the required **Drawing File** and click **OK** button.



- c) Now control will switch to AutoCAD work space with selection cursor.
 d) Select the line to be marked for *Tread* by mouse left click.
 e) Selection process is completed by mouse right click or click enter key.
 f) Marking confirmation message will come in Tray icon.



- iii. **Riser:** Refer steps in *Tread* to mark *Riser*.
 iv. After marking all the markings in the *Stepped*, Click single right click on *Entrance Landing* tab in the marking form of Facilities for Physically challenged people.

Entrance Landing

Mark Facilities For Physically Challenged People

Access Path Parking Stepped Entrance Landing Toilet Passage

Building Name: Barrack Block

Description	Mark/Unmark	Highlight
Entrance Landing Area	Mark	

Highlight All Close

- i. **Building Name:** Lists all buildings in the project. Select the building from the list
- ii. **Entrance Landing Area**
 - a) Click on mark Button corresponding to Entrance Landing Area of the step
 - b) Now control will switch to AutoCAD work space with selection cursor
 - c) Select the Closed Object to be marked for *Entrance Landing Area* by mouse left click
 - d) Selection process is completed by mouse right click or click enter key
 - e) Marking confirmation message will come in Tray icon
- iii. After marking all the markings in the Entrance Landing, Click single right click on *Toilet tab* in the marking form of Facilities for Physically challenged people.

Toilet

Mark Facilities For Physically Challenged People

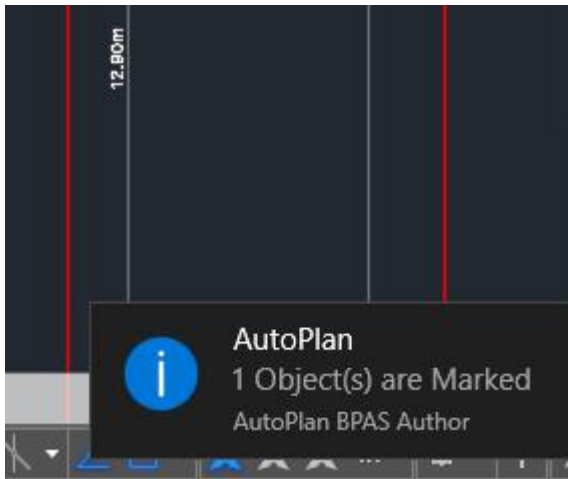
Access Path Parking Stepped Entrance Landing Toilet Passage

Building Name: Barrack Block Number of Toilet: 1 Toilet: Toilet 1

Description	Mark/Unmark	Highlight
Toilet Area	Unmark	Highlight
Toilet Entrance	Unmark	Highlight

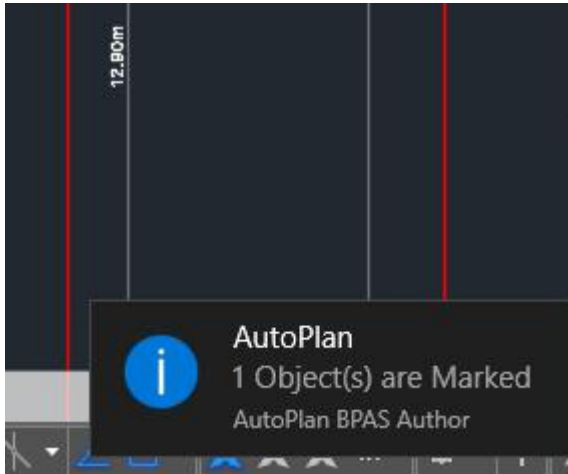
Highlight All Close

- i. **Building Name:** Lists all buildings in the project. Select the building from the list
- ii. **Number of Toilet:** Enter the Number of Toilet provided in the Building for Physically Challenged people
- iii. **Toilet:** Corresponding to the number of Toilet entered in the previous field, to be listed in the drop down list
- iv. **Toilet Area**
 - a) Click on mark Button corresponding to Toilet Area
 - b) Now control will switch to AutoCAD work space with selection cursor
 - c) Select the Closed Object to be marked for *Toilet Area* by mouse left click
 - d) Selection process is completed by mouse right click or click enter key
 - e) Marking confirmation message will come in Tray icon



v. **Toilet Entrance**

- a) Click on mark Button corresponding to Toilet Entrance
- b) Now control will switch to AutoCAD work space with selection cursor
- c) Select the Line to be marked for *Toilet Entrance* by mouse left click
- d) Selection process is completed by mouse right click or click enter key
- e) Marking confirmation message will come in Tray icon



- vi. After marking all the markings in the Toilet, Click single right click on Passage tab in the marking form of Facilities for Physically challenged people

Passage

Mark Facilities For Physically Challenged People

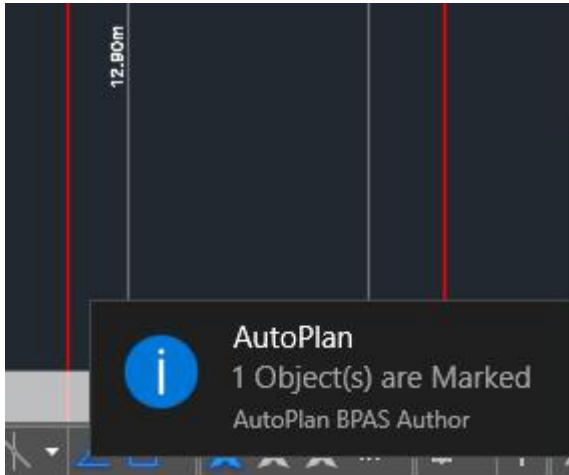
Access Path | Parking | Stepped | Entrance Landing | Toilet | **Passage**

Building Name: Number of Passage: Passage:

Description	Mark/Unmark	Highlight
Inner Side	<input type="button" value="Mark"/>	
Outer Side	<input type="button" value="Mark"/>	
Start Level	<input type="button" value="Mark"/>	
End Level	<input type="button" value="Mark"/>	

- i. **Building Name:** Lists all buildings in the project. Select the building from the list
- ii. **Number of Passage:** Enter the Number of Passage provided in the Building for Physically Challenged people
- iii. **Passage:** Corresponding to the number entered in the previous field, to be listed in the drop down list
- iv. **Inner Side**
 - a) Click Mark Button corresponding to the Inner side of the Passage.
 - b) Now control will switch to AutoCAD work space with selection cursor

- c) Select the line to be marked for *Inner Side* of the Passage by mouse left click
- d) Selection process is completed by mouse right click or click enter key
- e) Marking confirmation message will come in Tray icon



- i. **Outer Side:** *Refer Steps in Inner side marking to mark the Outer Side*
- ii. **Start Level:** *Refer Steps in Inner side marking to mark the start level*
- iii. **End Level:** *Refer Steps in End side marking to mark the start level*
- iv. After marking all the markings in the Passage, click Close button to close **Mark Passage** form

3.24 Accessory Building

Accessory Buildings shall be separate structures proposed in plot independent of main buildings proposed in the project. Accessory Buildings shall be verified for its area, width, depth and height.

3.24.1 Mark Accessory Building

- i. Click **Mark** button corresponding to Accessory Building in **Marking Control** form.
- ii. **Mark Accessory Buildings** form will open.

Mark Accessory Buildings

Accessory Building Type:

Number of Accessory Building:

Accessory Building Name:

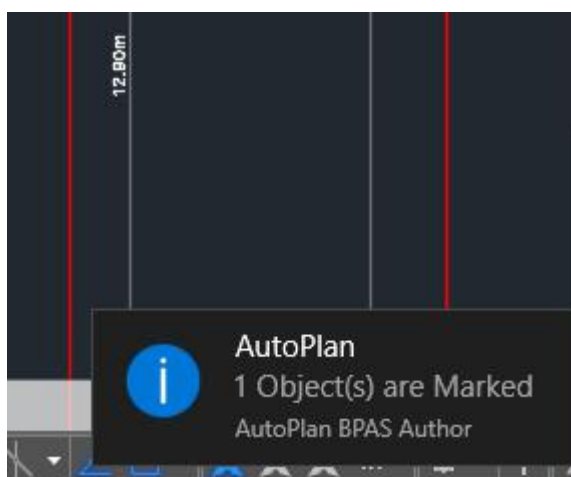
Area Details

Description	Mark/Unmark	Highlight
Area	<input type="button" value="Mark"/>	
Width	<input type="button" value="Mark"/>	
Depth	<input type="button" value="Mark"/>	

Level Details

Description	Mark/Unmark	Highlight
Ground Line	<input type="button" value="Mark"/>	
Roof Line	<input type="button" value="Mark"/>	

- iii. Select Accessory Building Type.
- iv. Enter Number of Accessory Building.
- v. Accessory Building Names will be listed based on the Number.
- vi. Select any Name and Mark Area, Width, Depth.
- vii. Mark the Ground Line and Roof Line
- viii. Marking confirmation message will come in Tray icon



3.24.1.1 Highlight Accessory Building:

Marked Accessory Building can be highlighted by clicking Highlight button *corresponding to* Accessory Building in **Marking Control** form.

3.24.1.2 View Accessory Building:

- i. Click **View** button *corresponding to* Accessory Building in **Marking Control** form.
- ii. Accessory Building **Details** form will open in which Area, Width, Depth and Height of each accessory building type will be displayed.

Accessory Buildings Details

Accessory Building Type: All

Type	Name	Area (Square Metre)	Width (Metre)	Depth (Metre)	Height (Metre)
Pump Room	Pump Room 1	1.30	1.18	1.10	1.35
Sanitary Block	Sanitary Block 1	87.10	10.52	8.28	2.90
Watchman Cabin	Watchman Cabin 1	84.97	5.74	14.81	3.00

Number of Accessory Building : 3

Close

- iii. Click **Close** button to close **Accessory Building Details** form.

3.25 Driveway

Driveway shall be marked for both inside and out-side the building. Driveway marking shall be verified driveway width based on its Driveway Type, Traffic Type, Parking on its sides and Driveway Turning Radius as per the rule given in DCR/ZR/By-Laws/NBC.

3.25.1 Mark Driveway

- i. Click **Mark** button corresponding to Driveway in **Marking Control** form.
- ii. **Mark Driveway** form will open.

Mark Driveway

Location:

Building Name: Floor Name:

Driveway Type: Driveway Number:

Driveway Details

Driveway Name: Traffic Type:

Parking Provided On:

Description	Mark/Unmark	Highlight
Side1	<input type="button" value="Mark"/>	
Side2	<input type="button" value="Mark"/>	

Turning Radius (If driveway is not straight)

Turning Number: Turning Name:

Description	Mark/Unmark	Highlight	Value
Inner Radius	<input type="button" value="Mark"/>		
Outer Radius	<input type="button" value="Mark"/>		

- iii. **Location:** Select driveway Location.
- iv. **Building Name:** If Location is selected as Inside Building or Podium, select the building from the list.
- v. **Floor Name:** If Location is selected as Inside Building or Podium, select floor where Driveway is proposed.

- vi. **Driveway Type:** Select type of Driveway based on vehicular type such as Light Motor Vehicle, Two Wheeler, Fire Tender...etc. which proposed.
- vii. **Driveway Number:** Enter Driveway number based on Driveway Type proposed in selected Location.
- viii. **Driveway Name:** Select Driveway Name from drop-down list based on the number given in Driveway Number.
- ix. **Traffic Type:** Select Traffic Type from drop down list based on traffic flow of driveway.
- x. **Parking Provided On:** Based on parking location on driveway side, select parking provided condition from drop down list.
- ix. Side 1/Side2 :
 - a) Click **Mark** button corresponding to Side 1/Side 2.
 - b) Mark **Side 1** and **Side 2** of the selected driveway by selecting line/polyline
- xi. **Turning Radius:** If driveway is not straight mark Turning radius of driveway
- xii. **Turning Number:** Enter Driveway Number turning corresponding to the driveway marked Side 1 and Side 2
- xiii. **Turning Name:** Select Turning Name from drop-down list based on the number given in Turning Number.
- xiv. **Inner Radius:** Mark Inner Radius of selected driveway by clicking mark. Selecting center point of arc and start/end point of arc.
- xv. **Outer Radius:** Mark Outer Radius of selected driveway by clicking mark. Selecting center point of arc and start/end point of arc.

3.25.1.1 View Driveway Details:

- i. Click **View** button corresponding to Driveway in **Marking Control** form.
- ii. **Driveway Details** form will open in which Location, Building Name, Floor Name, Driveway Type, Driveway Name, Traffic Type, Parking Provided On, Driveway Width will be displayed based on Location and Driveway Type.

Location	Building Name	Floor Name	Driveway Type	Driveway Name	Traffic Type	Parking Provided On	Driveway Width (Metre)
Inside Building	Nutan Crescent T...	GROUND FLOOR	Vehicular Drivew...	Driveway 1	Two Way	Either Side	9.00

Close

4 Verification Process

Verification in AutoPlan is the process of comparing the (project proposal/existing) proposed components in the project with minimum required / maximum permissible value as per DCR / Bye Laws / Building Codes.

Architect can check and confirm whether the proposed items in the project are acceptable as per DCR / Bye Laws / Building Codes before submitting the Project for Building Permit or Occupancy Certificate.

Also Architect can highlight where the failure occurred in the drawing by double click over the Rejected / Not Accepted items in Verify All grid.

(**Note:** Layout of the drawing for PDF generation has to be done prior to Verification process)

- i. Click **Verify All** button in the **Marking Control Form** or click **Edit→Verify All** from **Menu bar**.

Project Name Residebtial_15

Description

Marking For Various Objects in the Drawing

DCR/Bye-Laws

Description	Mark	Highlight	View/Verify
Drawing Bound	Mark	Highlight	
Road	Mark	Highlight	View
Means Of Access	Mark	Highlight	View
Site Area	Mark	Highlight	View
Building Boundary	Mark	Highlight	View
Floor Level	Mark	Highlight	View
Building Area	Mark	Highlight	View
Room Size	Mark		
Staircase	Mark	Highlight	View
Ramp	Mark		
Lift	Mark		

Verify All
Create APZ
Close

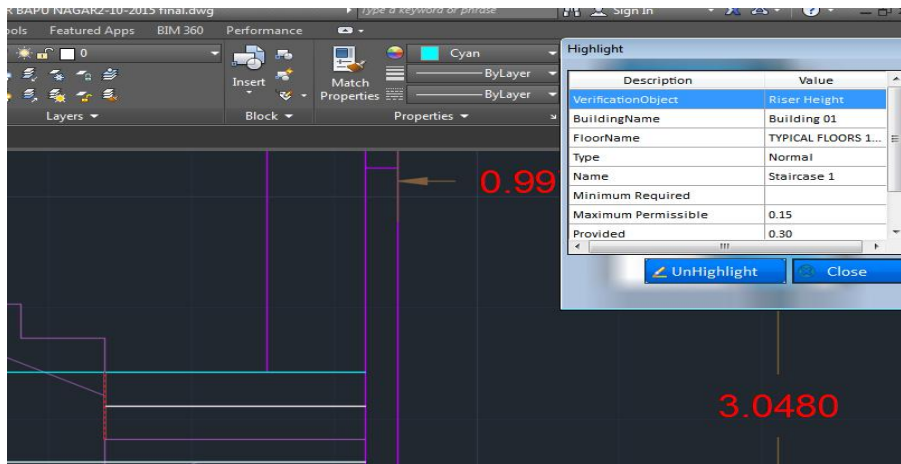
- ii. Control will switch to **AutoCAD** and **Verification progress bar** shall be displayed over the screen
- iii. After completing the Verification process, Verify All grid will be displayed with list of items verified in the Project . On clicking each Verification, proposed items in the project and minimum required / maximum permissible value as per DCR / Bye Laws / Building Codes are displayed with Verification Status (Accepted / Not Accepted / Rejected / Not Applicable).

Sl.No	Verification	Result
1	FSI/FAR	ACCEPTED
2	Area Statement	NOT APPLICABLE
3	Ground Coverage	ACCEPTED
4	Road/Street	NOT APPLICABLE
5	Means of Access	ACCEPTED
6	Setback	ACCEPTED
7	Building Height	NOT APPLICABLE
8	Car Parking	NOT APPLICABLE
9	Projection in Open space	NOT APPLICABLE
10	Lift	NOT APPLICABLE

[Scrutiny Report](#)
[Close](#)

Highlighting of Failed Items:

- i. For Rejected / Not Accepted items in Verify All grid, Architect can highlight where the failure occurred in the drawing by double click over the Rejected / Not Accepted items



- ii. Objects marked for Rejected / Not Accepted items shall be highlighted with proposed values in the project and minimum required / maximum permissible value as per DCR / Bye Laws / Building Codes.
- iii. Architect can made necessary changes in the drawing to make the verification acceptable.

Plot Area verification

The marked plot area(as reflected in the site details tab) must be equal or less than the plot area entered in the land details tab(attached screen shot),which will be as per the details in the land documents of the applicant.

If it does not comply with this rule,Autoplan will prompt a window to notify the user during verification process and will restrict the user from creating .APZ file.

The screenshot shows the 'Project Details' window in AutoPlan software. The 'LAND DETAILS' tab is selected. The form contains the following fields:

Taluk	CENTRAL DOON Section 12/125	Survey Number	13/271(PART),10/272
Name of City / Town / Village	NIRANJANPUR Section 12/125	Property ID	256/13(PART),257/13
Khata Number	13/271(PART)		
Revenue Plot Number	256/13(PART),257/13		
Type of Land	Non Gharabari		
Area of Plot	100.56	Square Metre	
Area Under Possession	501.05	Square Metre	

Buttons: + Add, ✖ Cancel

Sl No	Taluk	Name of City / Town / Village	Khata Number	Revenue Plot Number	Area of Plot	Type of Land	Survey Number
1	CENTRAL DOON ...	NIRANJANPUR Section 12/125	13/271(PART)	256/13(PART),25...	100.56	Non Gharabari	13/271(PART)
2	CENTRAL DOON ...	NIRANJANPUR Section 12/125	256/13(PART)	258/13	200	Non Gharabari	16/272

Buttons: PREVIOUS, UPDATE, CANCEL

Site Details

Type of Site Area Gross Site Area

Face Direction	Neighbouring Details
Front	State Highway NH-17 Kochi Madurai
Left	PLOT OF SMT. PRAMESHWARI DEVI
Right	p2
Rear	p3

Site Dimensions Details

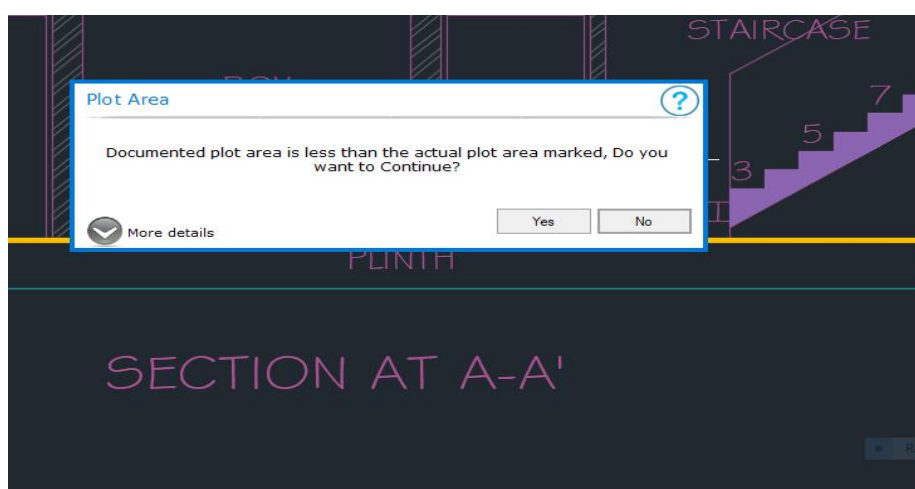
Site Depth : 17.08 (Metre)

Site Width : 15.20 (Metre)

Plot Area Details

Gross Plot Area : 259.62 (Square Metre)

Close



Scrutiny Report:

- iv. Scrutiny Report of the project shall be generated by clicking **Scrutiny Report** button in Verify All grid.
- v. **Scrutiny Report** file will be generated in the project folder (*selected in Project details form*).

5 APZ file generation

APZ file is the output file from AutoPlan Author which can be uploaded in Web Portal of APZ file is the output file from AutoPlan Author which can be uploaded in Web Portal of BPAS application for Building Plan Approval Certificate and Occupancy Certificate. APZ file can be generated only after Verification of the project.

To generate the APZ file,

- i. Click **Create APZ** button in Marking Control form.

Project Name RESIDENTIAL BUILDING

Description

Marking For Various Objects in the Drawing

DCR/BY-Laws

Description	Mark	Highlight	View/Verify
Site Area	Mark		
Building Boundary	Mark		
Road	Mark		
Floor Level	Mark		
Means Of Access	Mark		
Building Area	Mark		
Car Parking	Mark		
Stack Parking	Mark		
Two Wheeler Parking	Mark		
Projection In Open Space	Mark		
Room Size	Mark		

Verify All Create APZ Close


Confirmation form:

- ii. Confirmation form will open. Confirmation form records confirmation from Architect that the layout file(s), Scrutiny Report and Area Statement are verified by the Architect and layout file(s), Scrutiny Report and Area Statement are ok for the Architect.

Confirmation

Scrutiny Layout

Page 1 of 10 Go to page 1 Fit To Width

 **BUILDING PLAN APPROVAL SYSTEM**

SCRUTINY REPORT

PROPOSAL DETAILS

1	Application Number	
2	Date of receipt of Application	

3. ARCHITECT DETAILS

i)	Name	Tia sli
ii)	Address	48a, Kamataka, Tumkur, 433333
iii)	Mobile Number	8157990111
iv)	Email	Tia@Mallinor.Com
v)	LBO Number	KBPAS-REG-4775/18-19
vi)	Issue Date	26/06/2018
vii)	Valid Up to	31/03/2023

4. PROJECT DETAILS

I have verified scrutiny report and found OK ☐ Yes ☒ No

I have verified area statement in the report and is matching ☐ Yes ☒ No

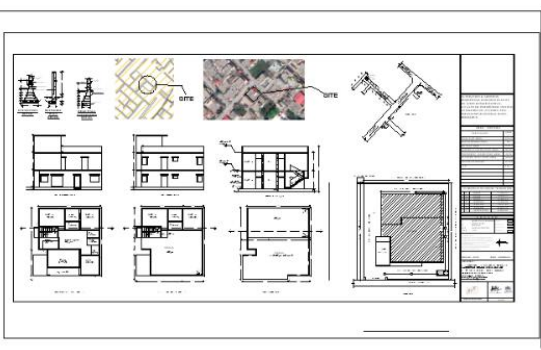
Next Close

Scrutiny Layout

DWG 1_Layout_Layout2.pdf

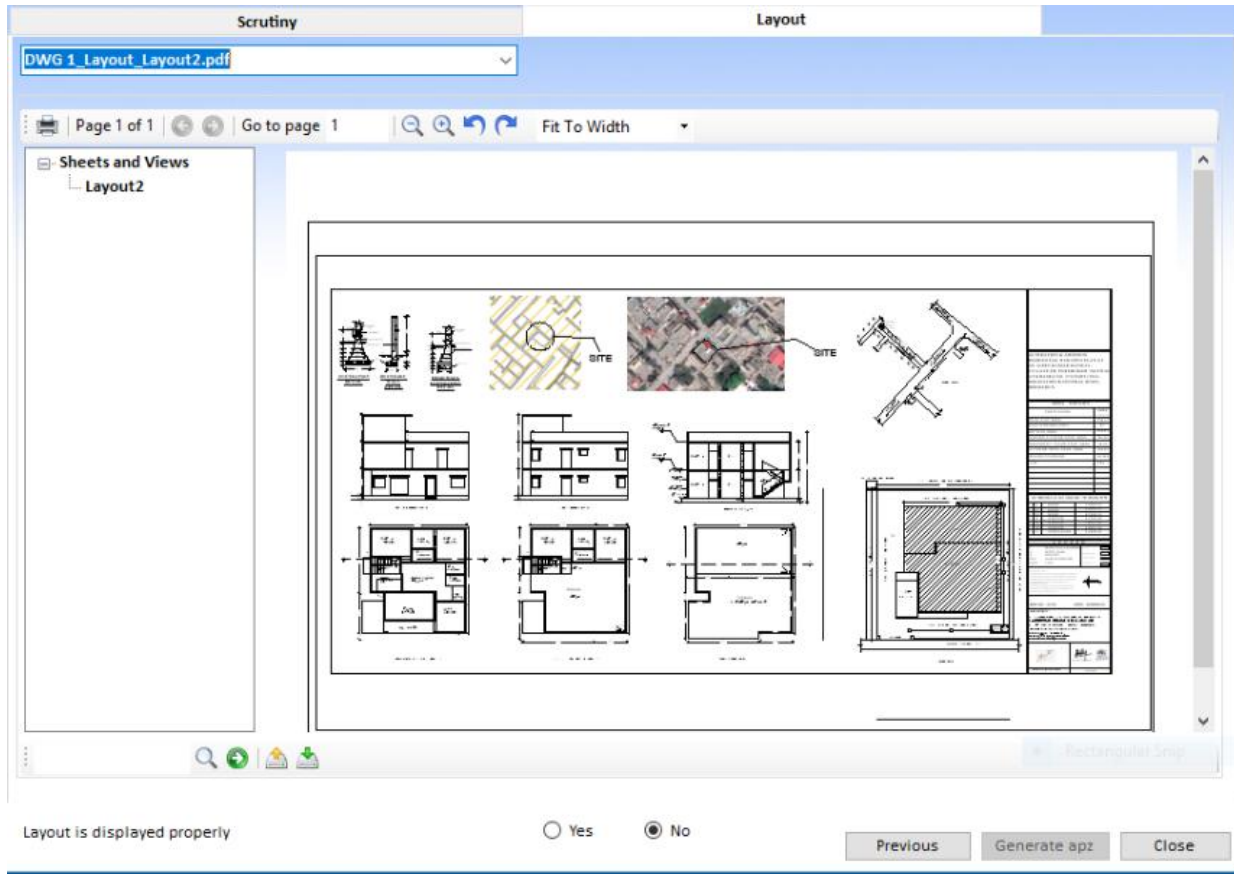
Page 1 of 1 Go to page 1 Fit To Width

Layout2



Layout is displayed properly ☐ Yes ☒ No

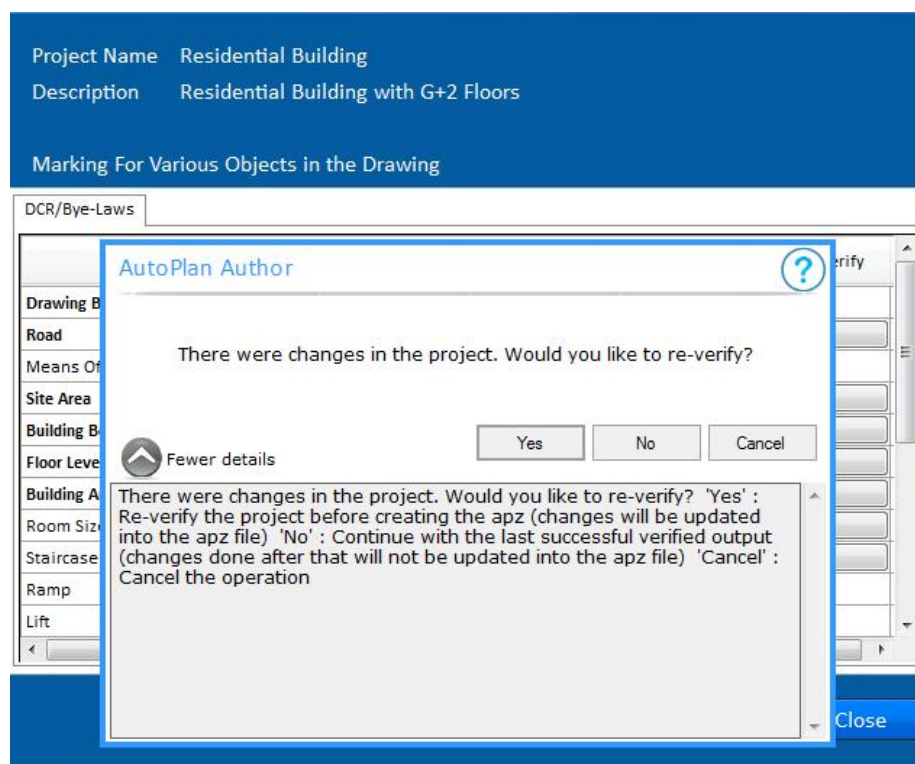
Previous Generate .apz Close



- i. After selecting **Yes** for the questions, click **Generate APZ** button.
- ii. APZ file will be generated with **Project Name** (Project name entered in Project Details form) as file name in the project folder. Confirmation message will come regarding APZ file generation. Click **OK** button.

Note:

1. APZ can be generated only after Architect confirms that the layout file(s), Scrutiny Report and Area Statement are correct by selecting Yes for the questions. If No is selected for any one question in Confirmation form, Generate APZ button will be disabled and APZ cannot be generated.
2. While clicking **Create APZ** button in Marking Control Form, if the system finds any change in the project after last verification, a message will be generated to confirm whether to continue with the data saved during last verification or have to verify the project once again.
 - a) If Yes is selected, Verification process will be done and after generating Scrutiny Report, click **Create APZ** button in Marking Control Form once again.
 - b) If No is selected, continue the APZ generation process (i.e, Confirmation form)



5.1 Deviation Report

- i. If any one of the **Verification Status** in the project is **Not Accepted / Rejected**, after clicking **Generate APZ** button in **Confirmation** form, **Claim Deviation** form will open as follows

Claim Deviations

Sl.No	Verification Details	Deviation Condition	Deviated Value	Deviation Details
1	Height of Basement	NA	0.5	
2	Slope of Ramp	NA		
3	Height of Parapet	NA		

I hereby declare that the information provided with respect to my drawing is true to the best of my knowledge and deviation claimed above are valid and justified.

☐ I also agree that any discrepancy or inconsistencies found in the data/deviation claimed, I and/or the applicant shall be solely responsible for making false claims and is/are ready to bear the consequences for the same.

Save Deviation Report Close

- ii. In **Claim Deviation** form, all the verification whose Verification Status becomes **Not Accepted / Rejected** will be listed with Deviation Condition selection, Deviation Value and Deviation Details for every **Not Accepted / Rejected** verification item.
- iii. **Deviation Conditions** list various conditions under which deviation can be claimed.
- iv. **Deviated Value** allows the Architect to enter the value which is deviated
- v. **Deviation Details** allows the Architect to enter the details of deviation claimed

Example: *If FAR Ratio and FAR Area verification are **Not Accepted** and the Architect plans to enter **Additional FAR** in web while applying for Building Permit. In such case, **Deviation Claim** form will open in which Architect has to select **Addition FAR** in **Deviation Condition**, value for FAR planned to add shall be entered in **Deviated Value** and details of such Additional FAR shall be entered in **Deviation Details**.*

- vi. After entering the Deviation Details for all the **Not Accepted / Rejected** verification, entered details has to be saved by clicking **Save** Button.
- vii. **Deviation Claimed** details can be generated as a report by clicking Deviation Report button. **Deviation Report** file will be generated in the project folder (*selected in Project details form*).

Note: APZ will be generated after closing Claim Deviation form.

6 AutoCAD Tips

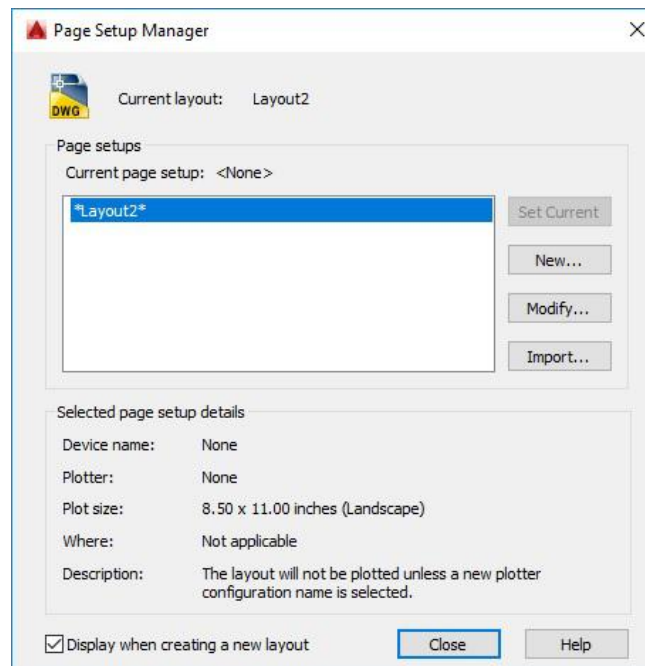
6.1 Layout Settings

6.1.1 How to set Layout:

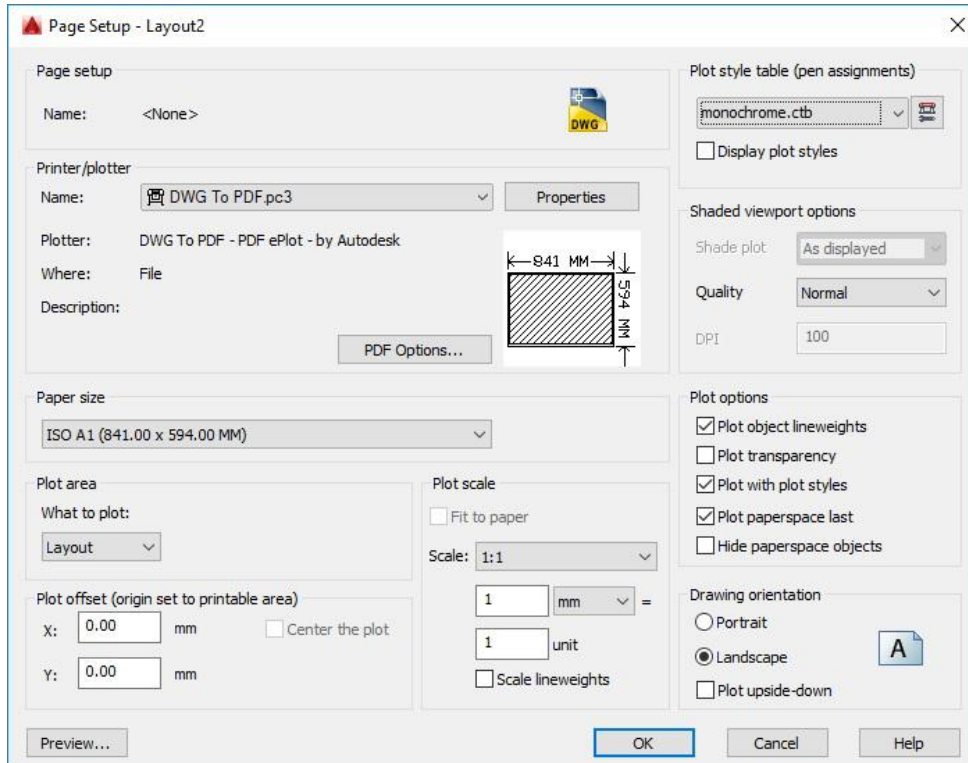
- i. Select **Layout** tab (at bottom left corner) and clear all the contents (if available)



- ii. Right click on the **Layout tab Name** and select **Page Setup Manager**. *Page Setup Manager* window will open.



- iii. In the **Page Setup Manager** window, select the **Layout Name** and click **Modify** button. **Page Setup** window will open.



- iv. In **Page Setup** window,
- Select '**Drawing to PDF.pc3**' from **Name** dropdown list
 - Select the paper in which the drawing is to be plotted as per standard paper size from **Paper Size** dropdown list

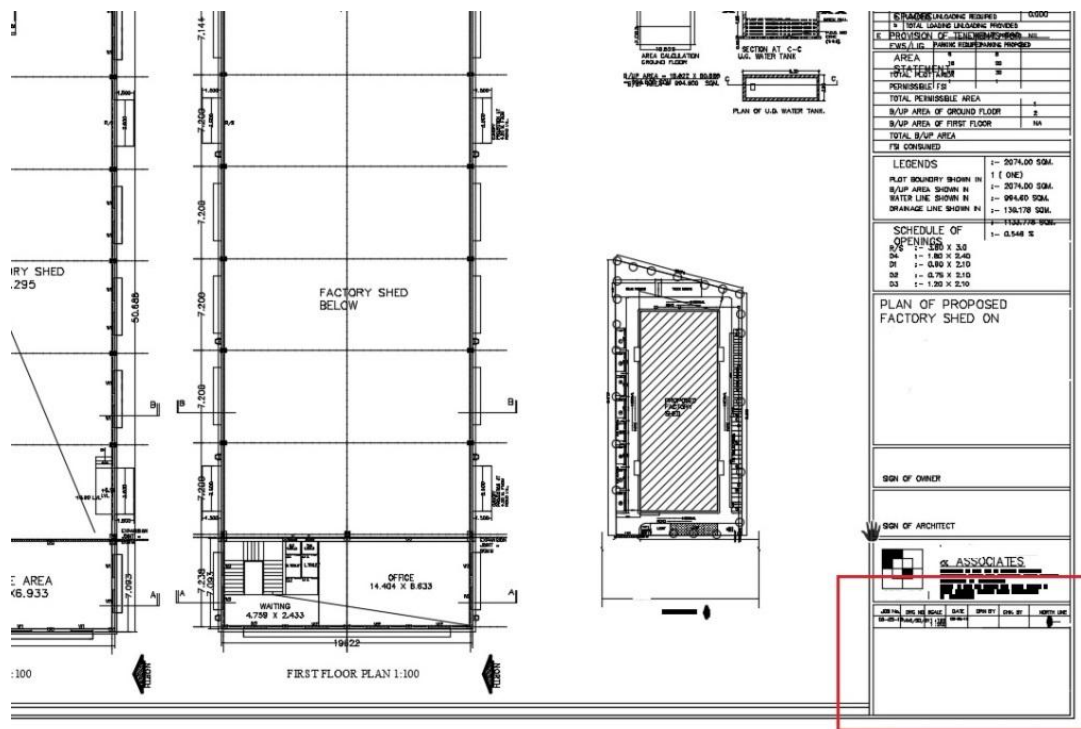
Note: Standard size of drawing sheet as per NBC 2016 is

<u>Sl.N o.</u>	<u>Designation</u>	<u>Trimmed Size mm</u>
1	A0	841 x 1189
2	A1	594 x 841
3	A2	420 x 594
4	A3	297 x 420
5	A4	210 x 297
6	A5	148 x 210

- c. Select '**Layout**' in **What to plot** dropdown list
- d. Select **1:1** in **Scale** dropdown list
- e. Select '**mm**' in dropdown list next to **Scale**
- f. Select '**Monochrome.ctb**' in **Plot Style Table** dropdown list
- g. Select '**Land Scape**' in **Drawing Orientation** radio button selection
- h. Click **OK** button
- v. Close **Page Setup Manager** window by clicking Close button (Clear the Layout area if required)
- vi. If the user has not prepare layout for all the drawing to be printed in Model space, follow the below step:

Select the drawing Layout from the workspace (default drawing Layout from CAD application source path) and copy it (**Ctrl + C**) and go to **Layout** tab and paste it (**Ctrl+V**). Set the full size layout within dotted line in order to print the drawing.

Note: Design your own layout with in dotted space as per standards and an empty space at bottom right corner shall be left free for office use. Size of the empty space should be 8 X 8 unit. In the finished layout it should come as shown below.



6.1.2 How to set the drawing in layout using View Port:

- i. Type **MVIEW** command and click **Enter** key.
- ii. Select the boundary up to which drawing has to be printed in Sheet.
- iii. Now **View Port** is created and the drawing in Model tab will come in Layout
- iv. Double click on the drawing in **View Port** and type **ZOOM** command and click **Enter** key
- v. Type **SCALE** and click **Enter** Key
- vi. Type **1000/100xp** and click **Enter** key (*if you wish to print your drawing in 1:100 and drawing unit is in meter*)

Note: **1000/100xp** is for plotting a plan drafted in **Metre** to **1:100** scale. For plotting the other combinations, refer the table below

<u>Sl.No.</u>	<u>Unit of Drawing</u>	<u>Plotting Scale</u>	<u>Command</u>
1	Metre	1:100	1000/100xp
2	Metre	1:200	1000/200xp
3	Metre	1:500	1000/500xp
4	Millimetre	1:100	1/100xp
5	Millimetre	1:200	1/200xp
6	Millimetre	1:500	1/500xp
7	Centimetre	1:100	10/100xp
8	Centimetre	1:200	10/200xp
9	Centimetre	1:500	10/500xp

- vii. Now do not zoom the drawing but pan the drawing to fit in as required for print
- viii. Double click outside the View Port to lock it

6.1.3 How to set a new View Port with different scale in the same layout:

- i. Create a new View Port using **MVIEW** command in the same layout outside the existing **View Port**

- ii. Double click on the new View Port and type **ZOOM** command and click **Enter** key
- iii. Type **SCALE** and click **Enter** Key
- iv. Type **1000/200xp** and click **Enter** key
- v. Now do not zoom the drawing but pan the drawing to fit in as required
- vi. Double click outside the View Port to lock it
- vii. Select this View Port and resize the Viewport by Select and Drag the corners to Site Plan only and
- viii. Move the new Viewport over the old Viewport by **MOVE** command and place it in position as required