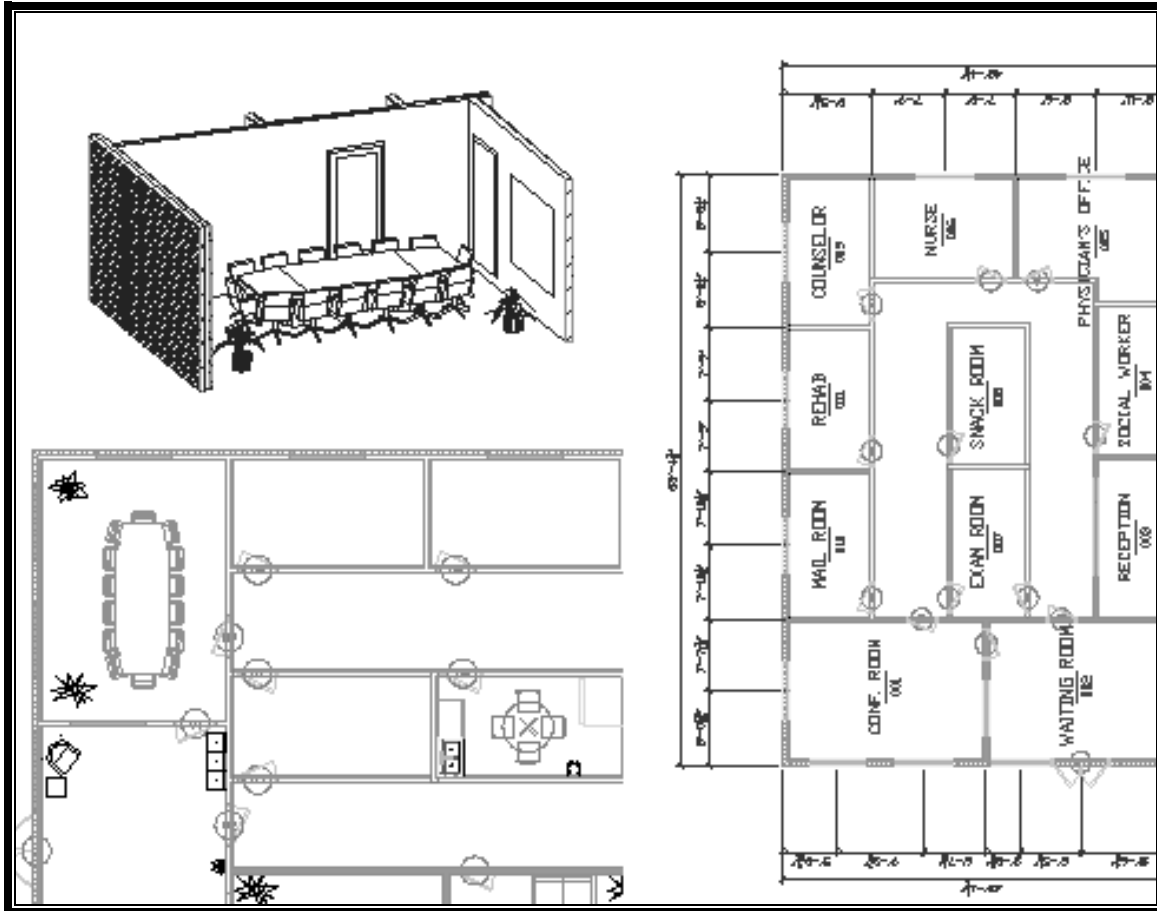


# Space Planning

with Autodesk  
**Architectural Desktop**  
**2005**



**Elise Moss**

**autodesk**  
authorized publisher

**SDC**  
PUBLICATIONS

Schroff Development Corporation

[www.schroff.com](http://www.schroff.com)  
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## Lesson 1

# Planning Criteria

Space Planning can be done for an existing space or a new space. It is similar to the top-down or bottom-up approach taken in mechanical design.

An **outside-in approach** is where you are introduced to an existing building and asked to maximize the space and function. In an outside-in approach, you must work with the existing exterior walls. You may be able to move, add, or demolish existing doors and windows. You may be able to extend or contract specific exterior walls. However, you are constrained to work with the existing architecture. This can be a very challenging type of project as you seek to preserve the character of the building and blend with the existing structure.

An **inside-out approach** involves a new building. When starting a new building project, you define your space needs and from that, determine the exterior form and size. Often, you can use the criteria you develop when looking for space to rent for a business.

When using ADT for space planning, you use Spaces, Areas and Boundaries. In the inside out approach, spaces are used to define rooms and space boundary edges are used to define walls. A group of spaces inside a boundary can be used to define separate cubicle areas to form a department.

Before you can start defining your space, you need to determine your space needs. Meeting with the people who will be using or building the space accomplishes this.

An easy way to track your space criteria is to create a Criteria Table.

For example, a non-profit group that wants to establish a counseling center in the downtown area has approached you with the following criteria:

**Criteria Table**

<b>Administrative Space</b>	<b>Size</b>
Office, Nurse	19.5 NSM (210 NSF)
Office, Physician	13.9 NSM (150 NSF)
Office, Rehabilitation Counselor	11.2 NSM (120 NSF)
Office, Social Worker	11.2 NSM (120 NSF)
Office, Office Manager/Bookkeeper	11.2 NSM (120 NSF)
<b>Clinic Area</b>	
Reception Area	11.2 NSM (120 NSF)
Waiting Area	27.9 NSM (300 NSF)
Exam Room/Intake Room	11.2 NSM (120 NSF)
Group Therapy/Conference Room	27.9 NSM (300 NSF)
<b>Common Area</b>	
Coffee/Snack Room	11.2 NSM (120 NSF)
Utility/Storage/Mail	11.2 NSM (120 NSF)
Restrooms	Common to adjoining complex

When looking at space planning, you also need to look at which areas need to have adjacencies. In other words, certain spaces need to be located next to each other.

For example, the receptionist should be located adjacent to the waiting area. It also makes sense to locate the nurse and physician next to each other, as they will probably want to confer often.

You look at adjacency requirements by sketching relationships.

### PHYSICAL RELATIONSHIPS BETWEEN SPACES

**Legend**

- 1 ADJACENT
- 2 CLOSE/INSIDE SPACE
- 3 CLOSE/OUTSIDE SPACE
- 4 LIMITED TRAFFIC
- X SEPARATION DESIRABLE

Using a legend to help you sort out the relationships between spaces will make it easier for you to arrange the spaces.

**Criteria Table**

<b>Administrative Space</b>	<b>Size</b>	<b>Adjacency</b>
Office, Nurse	19.5 NSM (210 NSF)	1
Office, Physician	13.9 NSM (150 NSF)	1
Office, Rehabilitation Counselor	11.2 NSM (120 NSF)	2
Office, Social Worker	11.2 NSM (120 NSF)	2
Office, Office Manager/Bookkeeper	11.2 NSM (120 NSF)	2
<b>Clinic Area</b>		
Reception Area	11.2 NSM (120 NSF)	1
Waiting Area	27.9 NSM (300 NSF)	1
Exam Room/Intake Room	11.2 NSM (120 NSF)	4
Group Therapy/Conference Room	27.9 NSM (300 NSF)	2
<b>Common Area</b>		
Coffee/Snack Room	11.2 NSM (120 NSF)	4
Utility/Storage/Mail	11.2 NSM (120 NSF)	X
Restrooms	Common to adjoining complex	3



**TIP:** If you want custom styles to be available to all your drawings, open the template drawing you use and save all the styles to the template.

**Exercise 1-1:**  
**Creating a Space Tools Palette**

This exercise reviews the following concepts:

- Content Browser
- Tool Palettes
- Using idrop

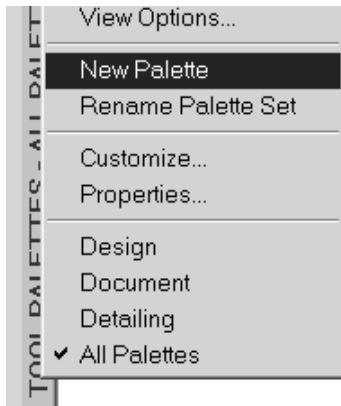
File: New from Scratch  
 Estimated Time: 20 minutes

1.



Autodesk Launch ADT 2005.  
 Architectu...

2.



Right click on the Tool Palette title bar.

Select **New Palette**.

3.



Name your new palette **Spaces**.

4.



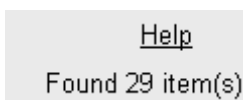
Go to **Window**→**Content Browser**.

5.



You can search for all the space tools available.  
 Type **space** in the Search field and then press **Go**.

6.



In the upper right corner of the browser, you see a notice on how many space tools were located.

7. The first spaces link is for Metric spaces.  
The second spaces link is for Imperial spaces.

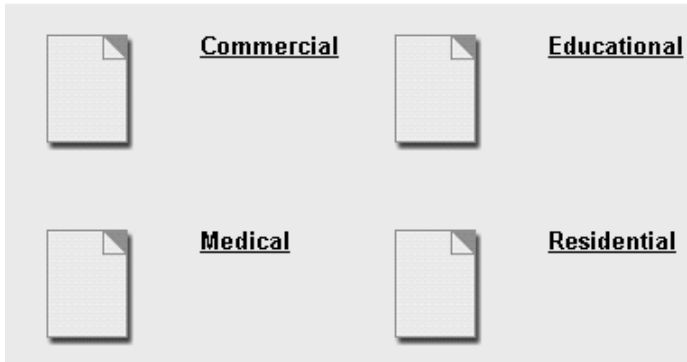
**Design Tool Catalog - Imperial**

[Catalog Top](#) < [Spaces](#)

Select the second **Spaces** link.

Verify the heading says Imperial.

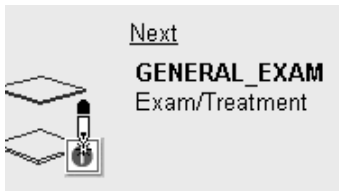
- 8.



You'll see that ADT already has several space tools defined for different types of building models.

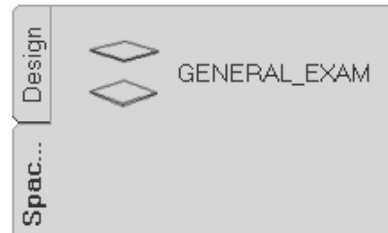
Since the space we'll be defining is a medical office, select the **Medical** link.

- 9.



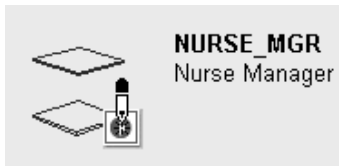
Locate the **General\_Exam** tool on the first page. Place your cursor over the idrop symbol. The cursor will change to an eyedropper symbol. Hold down the left mouse button to fill up the eyedropper, then drag and drop the symbol on to your Spaces tool palette.

- 10.



You now have added this tool to your palette.

- 11.



Repeat to add the **NURSE\_MGR** tool to your palette.

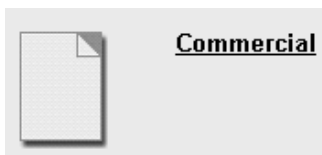
- 12.

**Design Tool Catalog - Imperial**


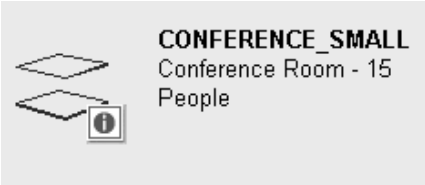


[Catalog Top](#) < [Spaces](#) < [Medical](#)

Select the **Spaces** link on the top of the page.

- 13.



Select the **Commercial** link.

14.  **CORRIDOR**  
Corridor
- Select the **Corridor** tool.  
Drag and drop onto the palette.
15.  **CONFERENCE\_SMALL**  
Conference Room - 15  
People
- Select the **Conference\_Small** tool.  
Drag and drop onto the palette.
16.  **WORKSTATION\_LARGE**  
Work Station - Supervisor
- Select Page 3.  
Select the **Workstation\_Large** tool.  
Drag and drop onto the palette.
17.  **WORKSTATION\_SMALL**  
Work Station
- Select the **Workstation\_Small** tool.  
Drag and drop onto the palette.
18. Close the Content Browser.
19. Save as *ex1-1.dwg*.



**TIP:** If you make changes to your palette, any changes will be saved with your application – not just the drawing. So, your new Spaces tool palette will be available to you from now on.

**Exercise 1-2:  
Editing Space Styles**

This exercise reviews the following concepts:

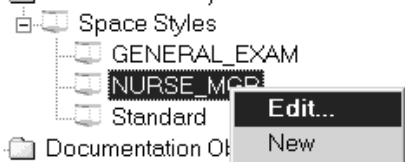
- Space Styles
- Style Manager
- Property Set Data


File: ex1-1.dwg  
Estimated Time: 30 minutes

Refer to the Criteria Table on page 1-2.  
This lists the types of spaces we need to have defined.


1. Open *ex1-1.dwg*.

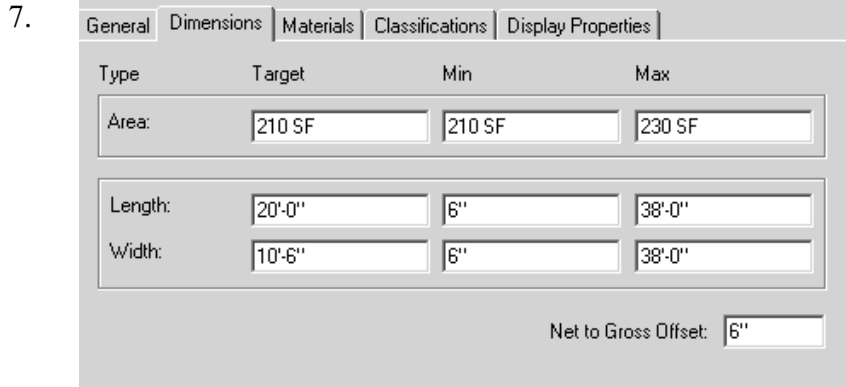
2.  Highlight the **NURSE\_MGR** tool.  
Right click and select **Space Styles**.

3.  Highlight the **NURSE\_MGR** style.  
Right click and select **Edit**.

4.  Change the Name to **NURSE\_OFFICE**.

5.  Select the **Property Sets** button.

6.  Note that you already have property data defined for your space.  
This data will be used for square footage calculations and for any schedule tables you want to create.  
Press **OK** to close.



Select the **Dimensions** tab.

Set the Area to **210 SF**.

Set the Min to **210 SF**

Set the Max to **230 SF**

Set the Length to **20'**.

Set the Min to **6'**.

Set the Max to **38'**.

Set the Width to **10'-6"**.

Set the Min to **6'**.

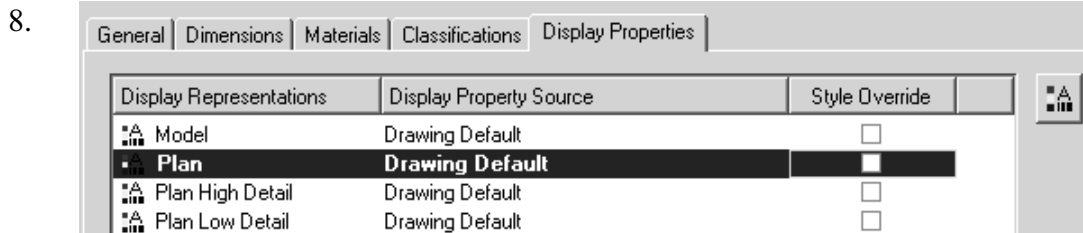
Set the Max to **38'**.

Set the Net to Gross Offset to **6"**.

This allows for wall thickness between adjacent spaces.

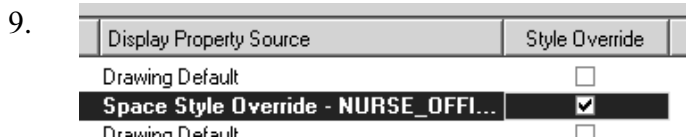
You can also set to 0", but then some of the office space will be eaten by wall thickness.

Press OK to ignore any error messages that pop up.

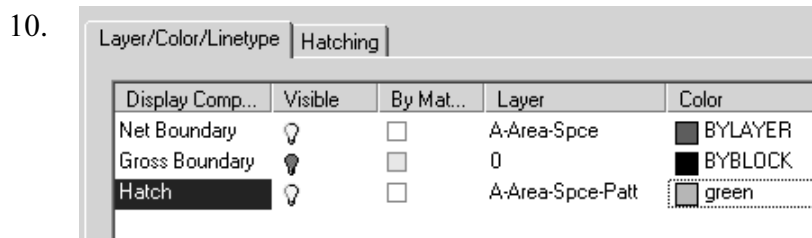


Select the **Display Properties** tab.

Highlight **Plan**.



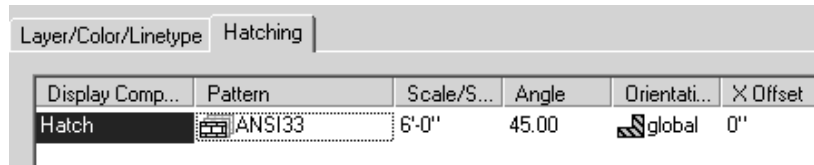
Left click on the **Style Override** box.



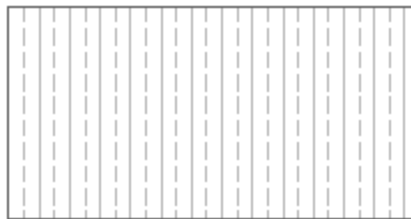
Select the **Layer/Color/Linetype** tab.

Set the Layer to **A-Area-Spce-Patt**.  
 Set the Color to **green**.

11.



Select the **Hatching** tab.  
 Set the Hatch to **ANSI33**.  
 Set the Scale to **6'-0"**.  
 Set the Angle to **45.00**.  
 Press **OK** twice.



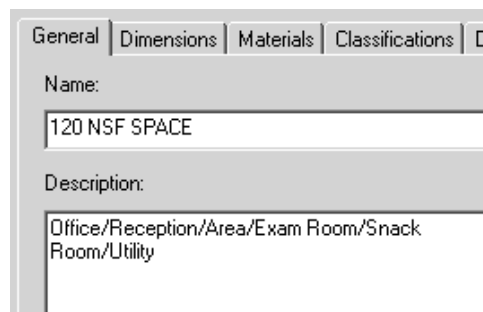
Your space is previewed in the preview window.

12.



Select the **GENERAL\_EXAM** space style.  
 Right click and select **Edit**.

13.



Select the **General** tab.  
 Change the Name field to **120 NSF SPACE**.  
 Under Description, enter all the room descriptions that will be 120 SF.

14.

Type	Target	Min	Max
Area:	120 SF	120 SF	140 SF
Length:	10'-0"	6"	23'-0"
Width:	12'-0"	6"	23'-0"

Net to Gross Offset: 6"

Select the **Dimensions** tab.

Set the Area to **120 SF**.

Set the MIN to **120 SF**. (This means the space can be no less than 120 SF)

Set the MAX to **140 SF**. (This means the space can be no more than 140 SF.)

Set the Length to **10'**.

Set the Min to **6'**.

Set the Max to **23'**.

Set the Width to **12'**.

Set the Min to **6'**.

Set the Max to **23'**.

Set the Net to Gross Offset to **6"**.

15.

Display Representations	Display Property Source	Style Override
Model	Drawing Default	<input type="checkbox"/>
<b>Plan</b>	<b>Drawing Default</b>	<input checked="" type="checkbox"/>
Plan High Detail	Drawing Default	<input type="checkbox"/>
Plan Low Detail	Drawing Default	<input type="checkbox"/>

Select the **Display Properties** tab.

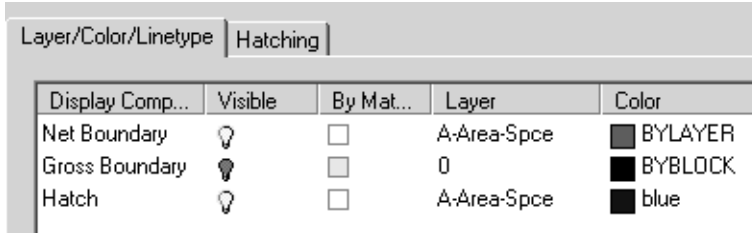
Highlight **Plan**.

16.

ns	Display Property Source	Style Override
	Drawing Default	<input type="checkbox"/>
	<b>Space Style Override - GENERAL_EXAM</b>	<input checked="" type="checkbox"/>
	Drawing Default	<input type="checkbox"/>
	Drawing Default	<input type="checkbox"/>

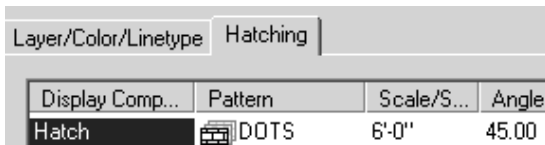
Left click on the **Style Override** box.

17.

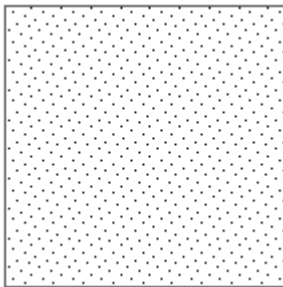


Select the **Layer/Color/Linetype** tab.  
 Set the Layer to **A-Area-Spce-Patt**.  
 Set the Color to **blue**.

18.

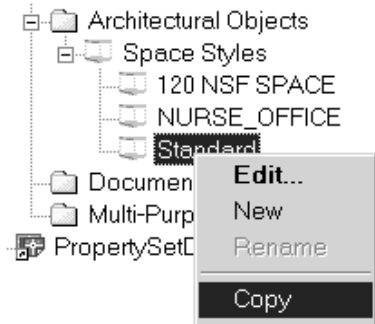


Select the **Hatching** tab.  
 Set the Hatch to **DOTS**.  
 Set the Scale to **6'-0"**.  
 Set the Angle to **45.00**.  
 Press **OK** twice.



Your space is previewed in the preview window.

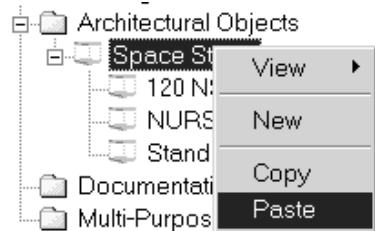
19.



Highlight the **Standard Space Style**.

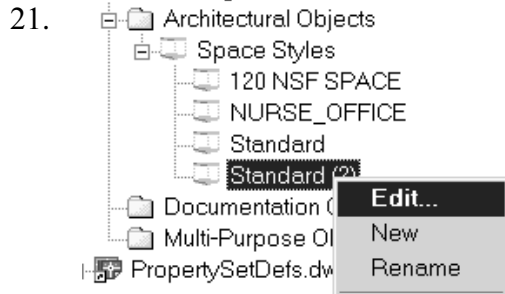
Right click and select **Copy**.

20.



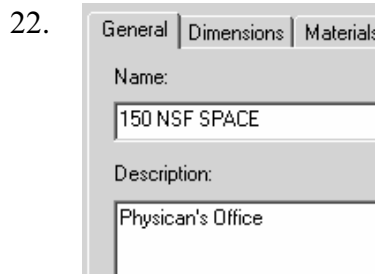
Highlight **Space Styles**.

Right click and select **Paste**.



Highlight Standard (2) space style.

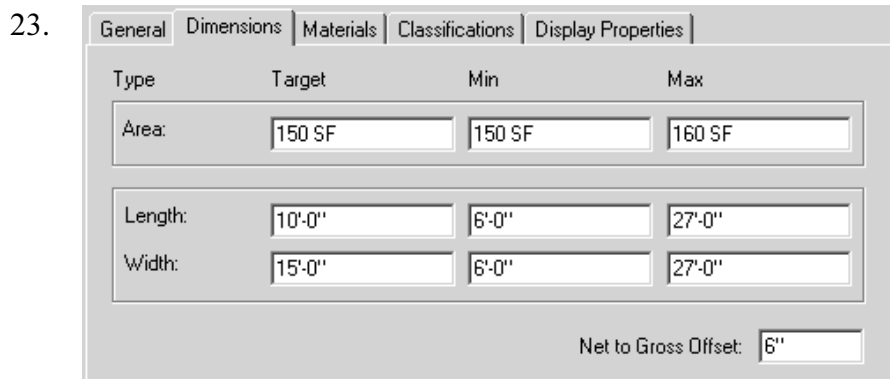
Right click and select **Edit**.



Select the **General** tab.

Change the Name field to **150 NSF SPACE**.

Type in **Physician's Office** in the Description field.



Select the **Dimensions** tab.

Set the Area to **150 SF**.

Set the Min to **150 SF**.

Set the Max to **160 SF**.

Set the Length to **10'**.

Set the Min to **6'**.

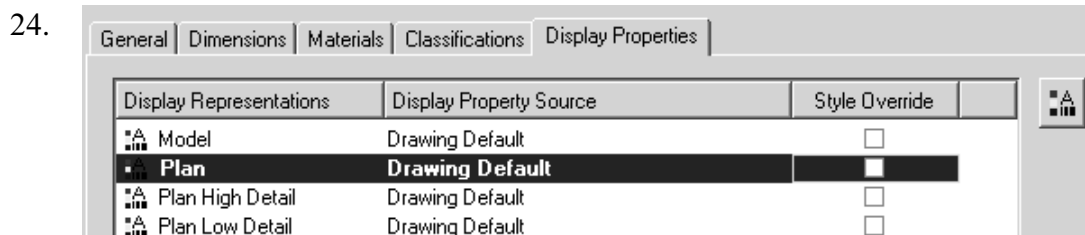
Set the Max to **27'**.

Set the Width to **15'-0"**.

Set the Min to **6'**.

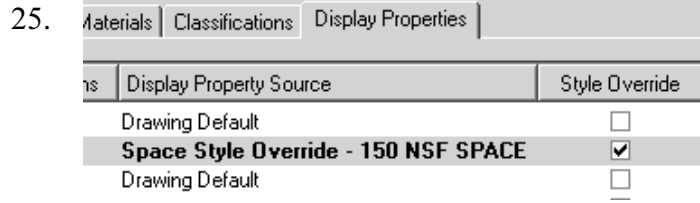
Set the Max to **27'**.

Set the Net to Gross Offset to **6"**.

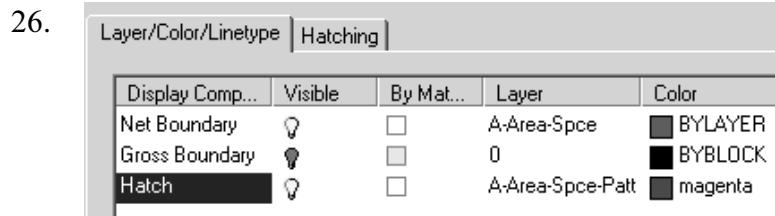


Select the **Display Properties** tab.

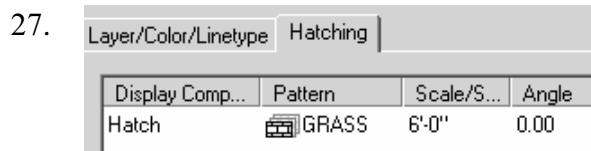
Highlight **Plan**.



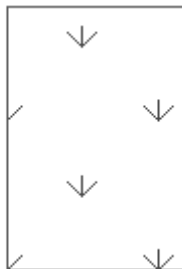
Left click on the **Style Override** box.



Select the **Layer/Color/Linetype** tab.  
 Set the Layer to **A-Area-Spce-Patt**.  
 Set the Color to **magenta**.



Select the **Hatching** tab.  
 Set the Hatch to **GRASS**.  
 Set the Scale to **6'-0"**.  
 Set the Angle to **0.00**.  
 Press **OK** twice.



Your space is previewed in the preview window.

28. Close the Style Manager.

29. Save as *ex1-2.dwg*.



**TIP:** Styles in the Style Manager are organized in alphabetical order. When you rename your style, it will shift to the correct location in the style manager list.

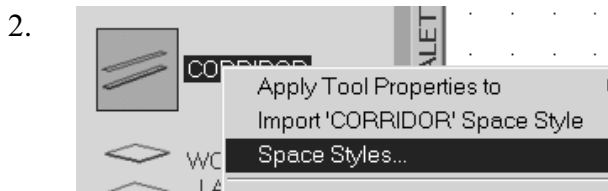
**Exercise 1-3:  
Copying Space Styles**

This exercise reviews the following concepts:

- Space Styles
- Style Manager
- Copy Style
- Paste Style

File: ex1-2.dwg  
Estimated Time: 15 minutes

1. Open *ex1-2.dwg*.



Highlight the Corridor tool.  
Right click and select **Space Styles**.

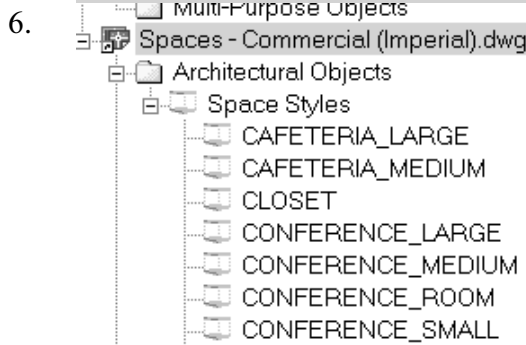
3.  Select the **Open** tool.



Browse to the Imperial folder under *Documents and Settings\All Users\Application Data\Autodesk\ADT 2005\enu\Styles\Imperial*.

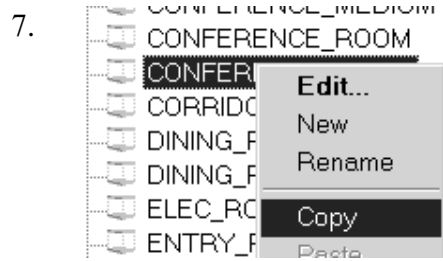


Open *Spaces – Commercial (Imperial).dwg*.



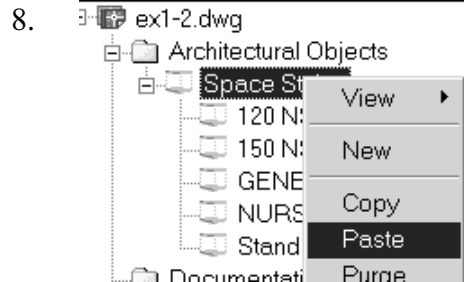
Expand the *Space Styles* category under Architectural Objects.

You see the same tools as we had in the Content Browser.



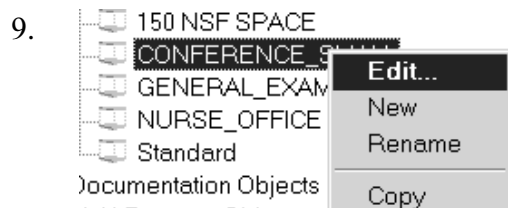
Locate the **CONFERENCE\_SMALL** space style.

Right click and select **Copy**.



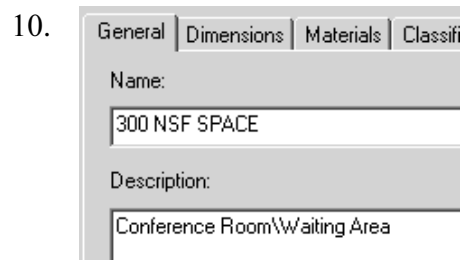
Highlight the *Space Styles* category in the *ex1-2.dwg*.

Right click and select **Paste**.



Highlight the **CONFERENCE\_SMALL** space style.

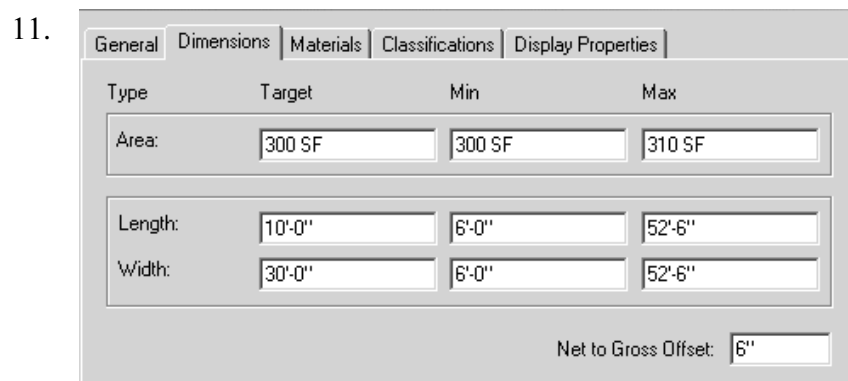
Right click and select **Edit**.



Select the **General** tab.

Change the Name field to **300 NSF SPACE**.

Type in **Conference Room\Waiting Area** in the Description field.



Select the **Dimensions** tab.

Set the Area to **300 SF**.

Set the Min to **300 SF**.

Set the Max to **310 SF**.

Set the Length to **10'**.

Set the Min to **6'**.

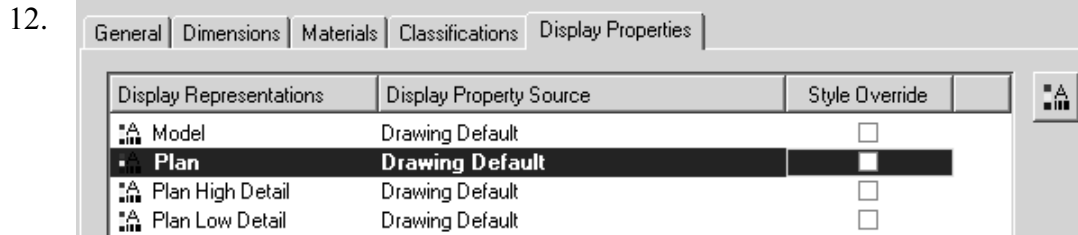
Set the Max to **52'**.

Set the Width to **30'**.

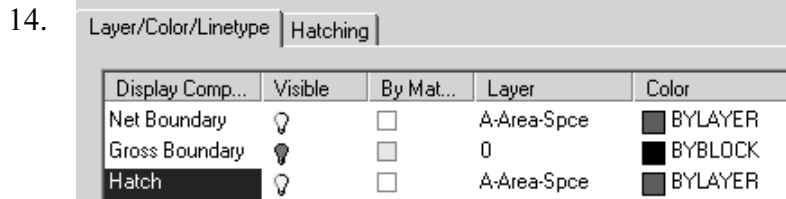
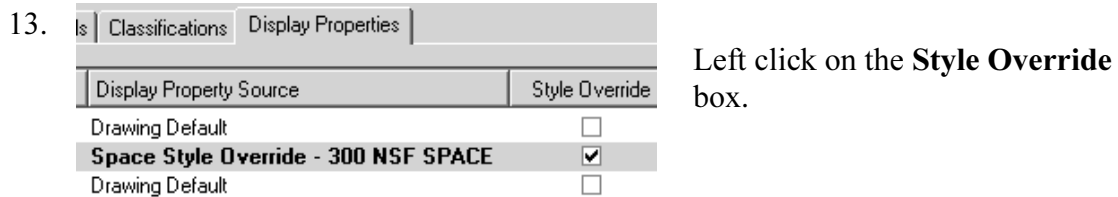
Set the Min to **6'**.

Set the Max to **52'**.

Set the Net to Gross Offset to **6"**.



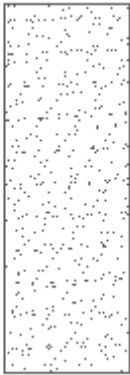
Select the **Display Properties** tab.  
Highlight **Plan**.



Select the **Layer/Color/Linetype** tab.  
Set the Layer to **A-Area-Spce-Patt**.  
Set the Color to **BYLAYER**.



Select the **Hatching** tab.  
Set the Hatch to **AR-SAND**.  
Set the Scale to **1'-0"**.  
Set the Angle to **45.00**.  
Press **OK** twice.



Your space is previewed in the preview window.

16. Close the Style Manager.
17. Save as *ex1-3.dwg*.



**TIP:** If you start your drawing using the ADT template, there are several styles already imbedded. This automatically makes your file size bigger than it needs to be as you probably won't be using all the styles.

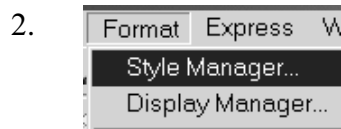
**Exercise 1-4:**  
**Adding Styles to the Palette**

This exercise reviews the following concepts:


- Space Styles
- Style Manager
- Copy Style
- Paste Style
- Delete Tool
- Tool Properties

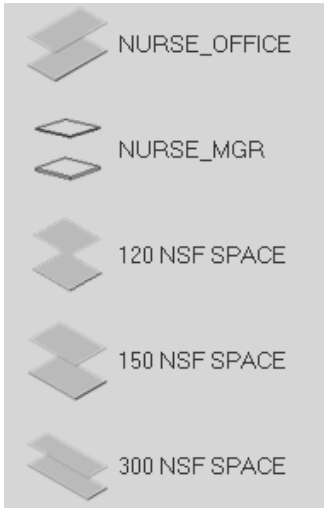
File: ex1-3.dwg  
Estimated Time: 10 minutes

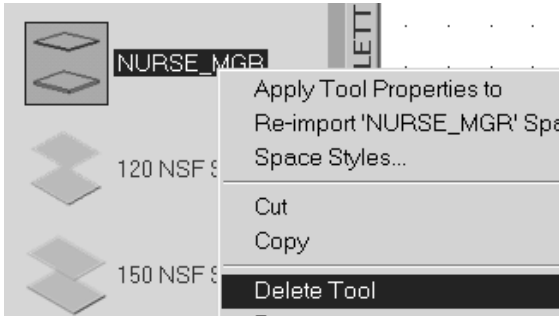
1. Open *ex1-3.dwg*.

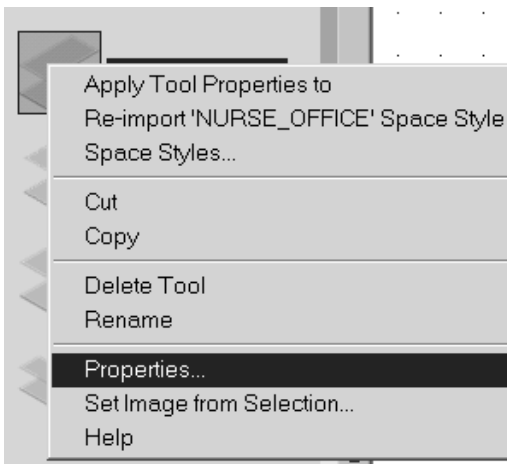


Go to **Format**→**Style Manager**.

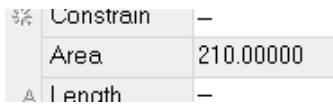
3.  Expand the *Space Styles* category in the *ex1-3.dwg*.

4.  Drag the 120 NSF SPACE style onto your SPACE tools palette.  
 Drag the 150 NSF SPACE style onto your SPACE tools palette.  
 Drag the 300 NSF SPACE style onto your SPACE tools palette.  
 Drag the NURSE\_OFFICE style onto your SPACE tools palette.  
 Close the Style Manager.

5.  Highlight the **NURSE\_MGR** tool on the palette.  
 Right click and select **Delete Tool**.

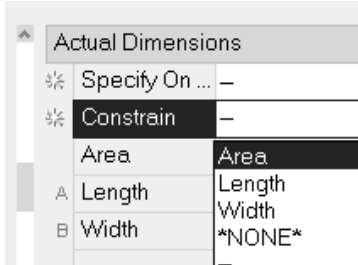
6.  Highlight the **NURSE\_OFFICE** tool.  
 Right click and select **Properties**.

- Browse through the Properties.



Note that the Area shows as 210 – the value you assigned when you edited this style.

- Locate the **Constrain** field.



Locate the **Constrain** field.

Select **Area** under Constrain.

This requires the space to always equal the specified area.

Press **OK** to close the Properties dialog.

- Save the file as *ex1-4.dwg*.

ADT 2005 includes a built-in drawing management system. This system consists of the Project Browser and the Project Navigator. The Project Browser allows you to define new projects and assign information, such as location, sub-contractors, contact information, permits, etc. The Project Navigator allows you to organize your drawings into categories and organize your drawing sheets.

**Exercise 1-5:**  
**Starting a New Project**

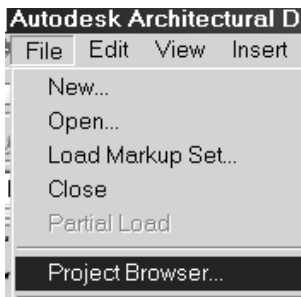
This exercise reviews the following concepts:

- Project Browser
- Adding a New Project

File: ex1-4.dwg  
 Estimated Time: 10 minutes

- Open *ex1-4.dwg*.

- Go to **File**→**Project Browser**.




Go to **File**→**Project Browser**.


- Browse to the folder where you want to store your project files.



Browse to the folder where you want to store your project files.

4.  Select the **New Project** tool.
5. 

Property	Value
Number	
Name	Medical Building
Description	Space Planning

 Enter **Medical Building** in the Name field.  
Enter **Space Planning** in the Description field.
6.  The Current Project name now shows **Medical Building**.
7. Press **Close**.
8. Save as *ex1-5.dwg*.

Constructs are used to organize your drawing.

There are three types of content used in defining a construct:

- ❑ Drawing objects: spaces, areas, ceiling grids, and walls are all examples of types of constructs
- ❑ Element references: Furniture, casework, landscape objects are all examples of elements which may be reused throughout a model design
- ❑ Combination of drawing objects and element references: a ceiling grid with lighting fixtures or a floor plan with furniture are examples of this type of construct.

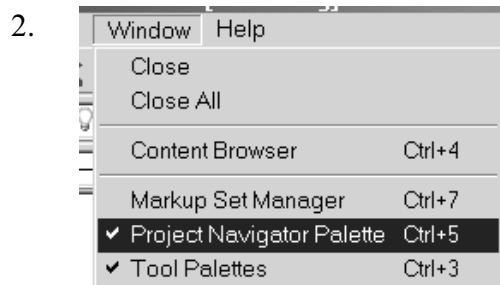
**Exercise 1-6:  
Adding Constructs**

This exercise reviews the following concepts:

- Adding Constructs
- Project Navigator

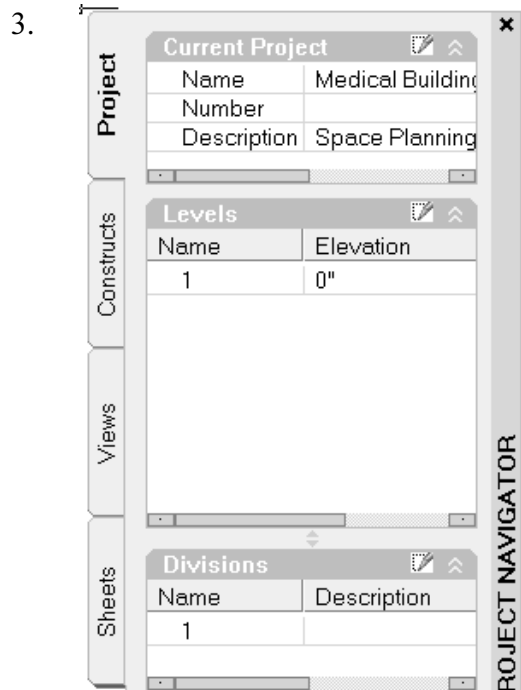
File: ex1-5.dwg  
Estimated Time: 10 minutes

1. Open *ex1-5.dwg*.



Launch the Project Navigator Palette.

You can enable it by going to **Window**→**Project Navigator Palette**.



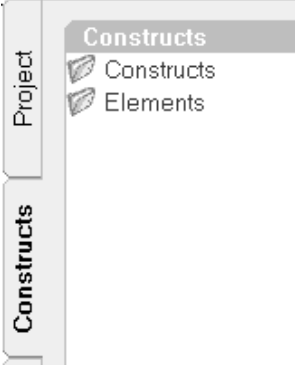


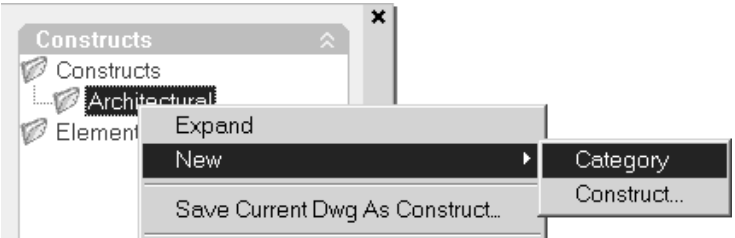
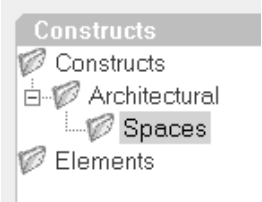
Select the **Project** tab.

Note that we have defined a project with one level (this means it is a single story building) and one division.

Divisions are used to allow users to break up a model into smaller files. The files could then be used as external references and shared among users.

Levels are horizontal portions of a building model. Divisions are vertical portions of a building model. An East/West wing would be an example of a division. A division could also be used for phasing or demolition.

The main plus to defining different divisions is to quickly and easily create views and navigate around a large building model.

4.  Select the **Constructs** tab.
- Note that there are two folders. The Constructs folder is used to store drawing objects. The Elements folder is used to store blocks which are used in multiple occurrences.
5.  Highlight the **Constructs** folder.
- Right click and select **New**→**Category**.
6.  Rename the folder **Architectural**.
7.  Highlight the **Architectural** folder.
- Right click and select **New**→**Category**.
8.  Rename the folder **Spaces**.
9. Save the file as *ex1-6.dwg*.



**TIP:** Drawing Limits are used to determine the area that displays grid dots. However, the size of your drawings limits also controls your viewing for zooms and the placement of objects. You can turn Drawing Limits OFF or use LIMITS to control the size of your working area.


**Exercise 1-7:  
Adding Spaces**

This exercise reviews the following concepts:

- Adding Spaces
- Setting Space Styles

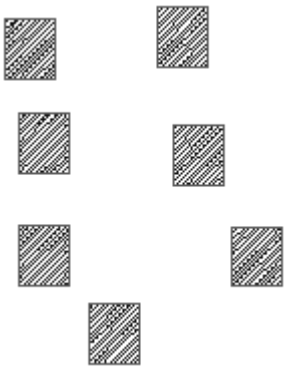
File: ex1-6.dwg  
Estimated Time: 15 minutes

1. Open *ex1-5.dwg*.

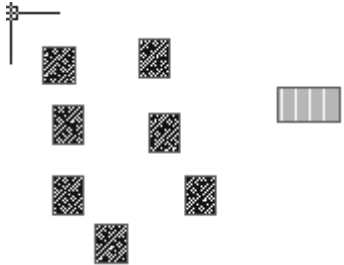
2.  Reset your drawing limits.  
Go to **Format**→**Drawing Limits**.

3. Set the lower left corner at 0'-0",0'-0".  
Set the upper right corner to 1400', 2300'.


4.  Select the **120 NSF SPACE** tool.

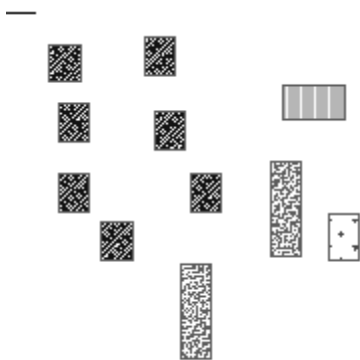
5.  We need a total of seven spaces of this size.  
After selecting the insertion point, right click and select **Enter**.  
Place seven spaces.

6.  Select the **NURSE\_OFFICE** tool.

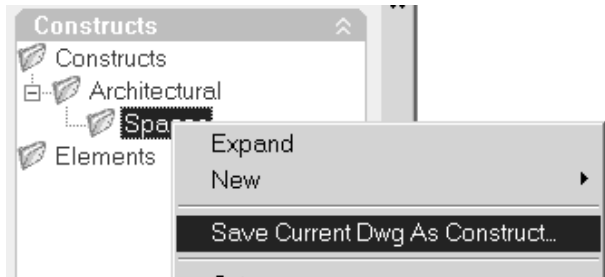
7.  Place one instance.

8.  Select the **OFFICE\_150SF** tool and place one instance.

9.  Select the **OFFICE\_300SF** style and place two instances.

10.  Your spaces have been placed randomly in the drawing.  
Note how all the spaces show the different colors and hatch styles you defined.

11. Save your file as *ex1-7.dwg*.

12.  Select the **Project Navigator**.  
Highlight the **Spaces** folder.  
Right click and select **Save Current Dwg As Construct**.

13. **Add Construct**

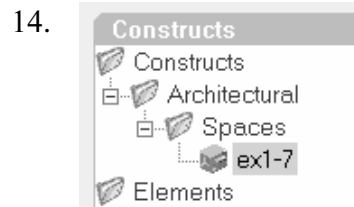
Property	Value
Name	ex1-7
Description	ex1-7
Category	Constructs\Architectural\Spaces
File Name	ex1-7

Assignments

Level	Description	Division
1		<input checked="" type="checkbox"/>

Enable **Division**.

Press **OK**.



The drawing is now listed in the Project Navigator.

15. Re-save the drawing.

Next we need to identify our spaces so we can start defining the relationships. To identify our spaces, ADT provides room tags.

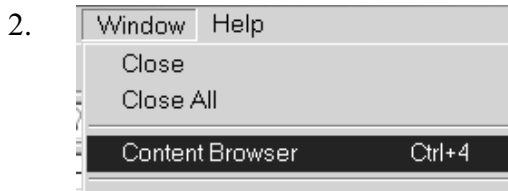
**Exercise 1-8:  
Adding a Space Tag Tool**

This exercise reviews the following concepts:

- Content Browser
- Using idrop
- Tool Palettes

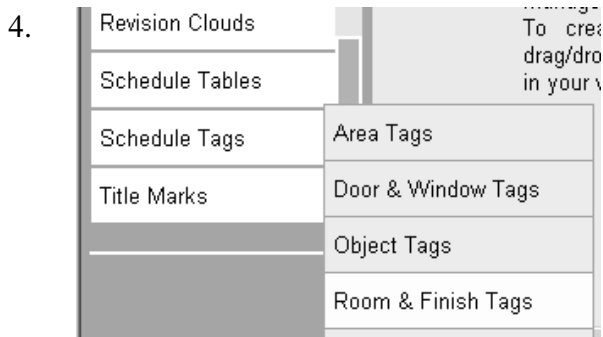
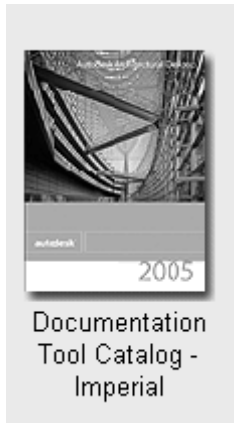
File: ex1-7.dwg  
Estimated Time: 10 minutes

1. Open *ex1-7.dwg*.




Go to **Window**→**Content Browser**.


3. Left click on **Documentation Tool Catalog – Imperial**.



Browse to the **Schedule Tags** category.

Select **Room & Finish Tags**.

5.  **Space Tag**  
Space Tag (w/  
Style, Area &  
Dimensions)
- Locate the **Space Tag** tool.
- Drag and drop onto the **Scheduling** palette.

6.  **Space Tag**
- The Space Tag is now available for your use.

7. Save as *ex1-8.dwg*.

**Exercise 1-9:**  
**Adding Space Tags**

This exercise reviews the following concepts:


- Adding Space Tags
- Modifying Space Tag AEC Content
- Retrieving Entity Property Information
- Modifying Space Tags


File: *ex1-8.dwg*  
Estimated Time: 10 minutes

1. Open *ex1-8.dwg*.

2.  We do not want to see the Edit Schedule Data dialog appear when we add our tags.


3. Place your cursor on the command line.  
Right click and select **Options**.

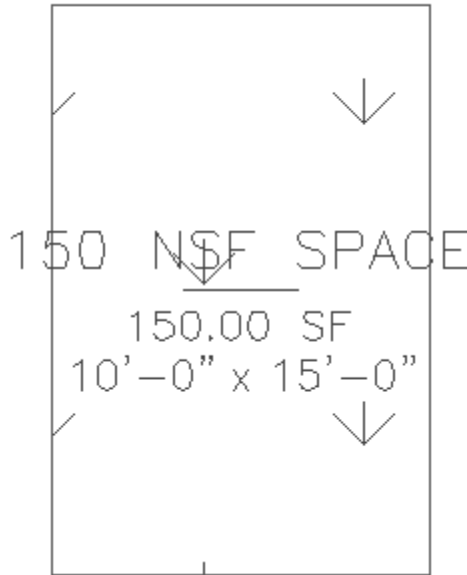
4.  Select the **AEC Content** tab.
- Disable the **Display Edit Schedule Data Dialog During Tag Insertion**.
- Press **Apply** and **OK** to close the Options dialog.

5.  Drag the Space Tag into the drawing.



Pay attention to the command line as it will provide you with directions on how to manage the tag.

6. 



You'll be prompted to select the object to tag.

Select one of the spaces.

Then you will be prompted on how you wish to locate the space.

The default is to center the tag in the space.

Select **ENTER**.

The tag should appear centered on your space.

7. The Space Tag is really just a block with attributes. When it is inserted, it uses the values from the Property Definition Sets.

Add Space Tags to each space.

8. 



Note that the space tags are placed automatically on the A-Area-Iden layer.

9. Save the file as *ex1-9.dwg*.

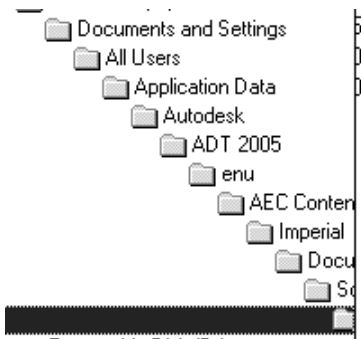
**Exercise 1-10:  
Modifying AEC Content**


This exercise reviews the following concepts:

- AEC Content Wizard
- Room Tag

File: Room Tag.dwg  
Estimated Time: 15minutes

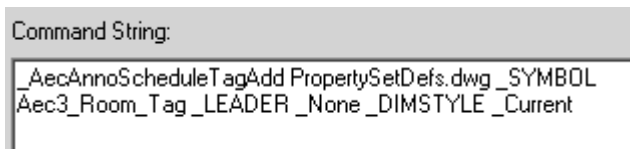
1. Open *Room Tag.dwg*.

2.  Browse to *Documents & Settings/All Users/ Application Data/ Autodesk/ADT 2005/enu/ AEC Content/Imperial/ Documentation/ Schedule Tags/ Room & Finish Tags*.

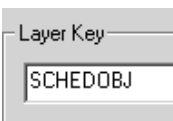
3.  Locate the *Room Tag.dwg* file and press **Open**.  
You see that the Room tag is just a block with attributes.

4.  Go to **Format**→**AEC Content Wizard**.

5.  Select the **Expand** button.

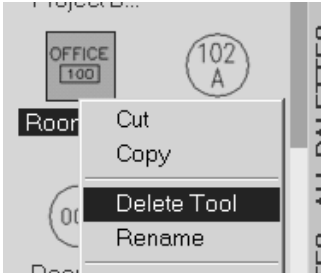
6.  This command string controls how ADT works when you insert the defined block.  
Press **OK** and **Next**.


7.  Press the **Select Layer Key**.

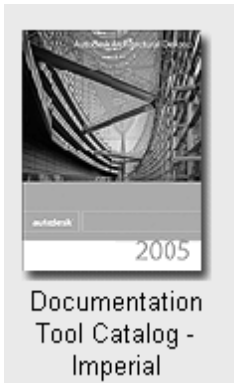
8.  Change the Layer Key to **SCHEDOBJ**.  
The layer key determines which layer the block will automatically be placed on when you place the tag.  
Press **Next**.

9.  Enable **Current Drawing**.  
Press **Finish**.

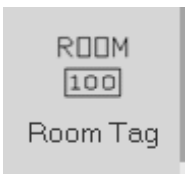
10. Save the drawing and close.

11.  Highlight the Room Tag tool on the Palette.  
This tool still will use the old layer key assignment.  
Right click and select **Delete Tool**.

12.  Go to **Window**→**Content Browser**.

13.  Left click on **Documentation Tool Catalog – Imperial**.

14.  Browse to the **Schedule Tags** category.  
Select **Room & Finish Tags**.

15.  Drag and drop the Room Tag file from the Content Browser onto the Scheduling Palette.

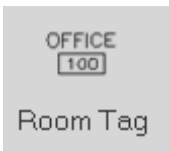
**Exercise 1-11:  
Adding Room Tags**

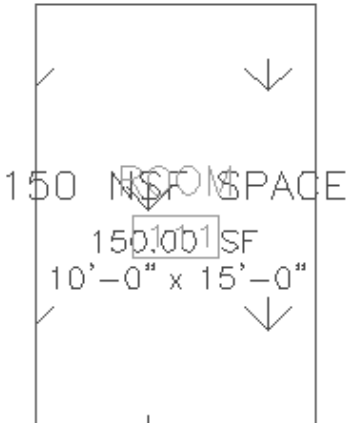
This exercise reviews the following concepts:

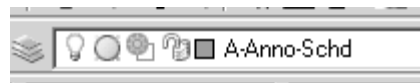
- Room Tag
- Layers
- Properties
- Schedule Data

File: ex1-9.dwg  
Estimated Time: 10 minutes

1. Open *ex1-9.dwg*.


2.  To help us keep track of which room is which, we add Room Tags as well.  
Drag and drop the Room Tag and attach to each space.

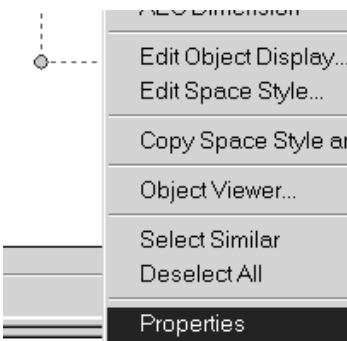
3. 

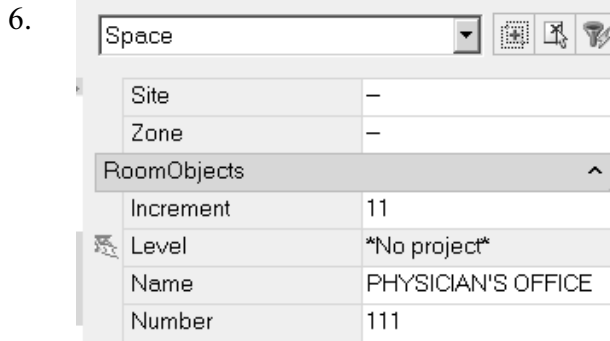


Note that the tag is on the **A-Anno-Schd** layer.

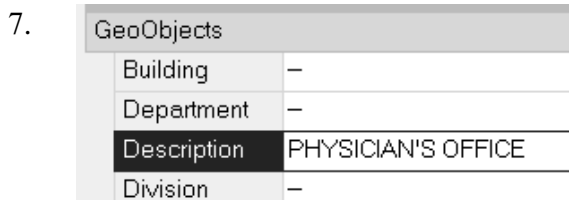
If you use the center option to place the room and space tags, the tags will overlay each other making it difficult to read the information.

4.  Freeze the A-Area-Ide layer so the space tag is no longer visible.

5.  Select a space.  
Right click and select **Properties**.



Under **RoomObjects**, change the Name to the name of the room.



Under GeoObjects, add the description of the room (This will be used later in a report.)

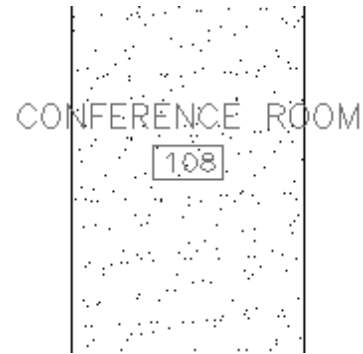
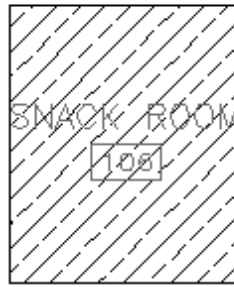


The room tag will update with the room name.

9. Using the table below, edit the Schedule Data for the remaining Room Tags. Double click on a space to bring up the Properties dialog.

<b>Administrative Space</b>	<b>Size</b>
Office, Nurse	19.5 NSM (210 NSF)
Office, Physician	13.9 NSM (150 NSF)
Office, Rehabilitation Counselor	11.2 NSM (120 NSF)
Office, Social Worker	11.2 NSM (120 NSF)
Office, Office Manager/Bookkeeper	11.2 NSM (120 NSF)
<b>Clinic Area</b>	
Reception Area	11.2 NSM (120 NSF)
Waiting Area	27.9 NSM (300 NSF)
Exam Room/Intake Room	11.2 NSM (120 NSF)
Group Therapy/Conference Room	27.9 NSM (300 NSF)
<b>Common Area</b>	
Coffee/Snack Room	11.2 NSM (120 NSF)
Utility/Storage/Mail	11.2 NSM (120 NSF)
Restrooms	Common to adjoining complex

10. Save our file as *ex1-11.dwg*.



**Exercise 1-12:**  
**Arrange Spaces**

This exercise reviews the following concepts:

- Moving Spaces
- Rotating Spaces
- Managing Adjacencies
- Modify Spaces
- Space Properties

File: ex1-11.dwg  
Estimated Time: 30 minutes

To create this arrangement, we reset the length and width of some of the spaces.

1. Open *ex1-11.dwg*.

**Legend**

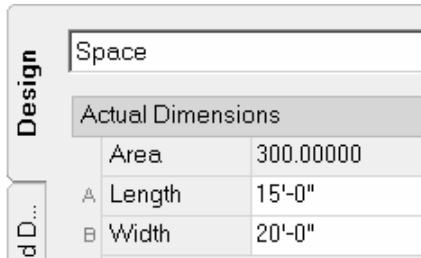
- 1 ADJACENT
- 2 CLOSE/INSIDE SPACE
- 3 CLOSE/OUTSIDE SPACE
- 4 LIMITED TRAFFIC
- X SEPARATION DESIRABLE

**Criteria Table**

<b>Administrative Space</b>	<b>Size</b>	<b>Adjacency</b>
Office, Nurse	19.5 NSM (210 NSF)	1
Office, Physician	13.9 NSM (150 NSF)	1
Office, Rehabilitation Counselor	11.2 NSM (120 NSF)	2
Office, Social Worker	11.2 NSM (120 NSF)	2
Office, Office Manager/Bookkeeper	11.2 NSM (120 NSF)	2
<b>Clinic Area</b>		
Reception Area	11.2 NSM (120 NSF)	1
Waiting Area	27.9 NSM (300 NSF)	1
Exam Room/Intake Room	11.2 NSM (120 NSF)	4
Group Therapy/Conference Room	27.9 NSM (300 NSF)	2
<b>Common Area</b>		
Coffee/Snack Room	11.2 NSM (120 NSF)	4
Utility/Storage/Mail	11.2 NSM (120 NSF)	X
Restrooms	Common to adjoining complex	3

Referring to our Criteria Table, use the Move and Rotate tools to arrange your spaces. Turn on the layer for the space tags, so you move them with each space.

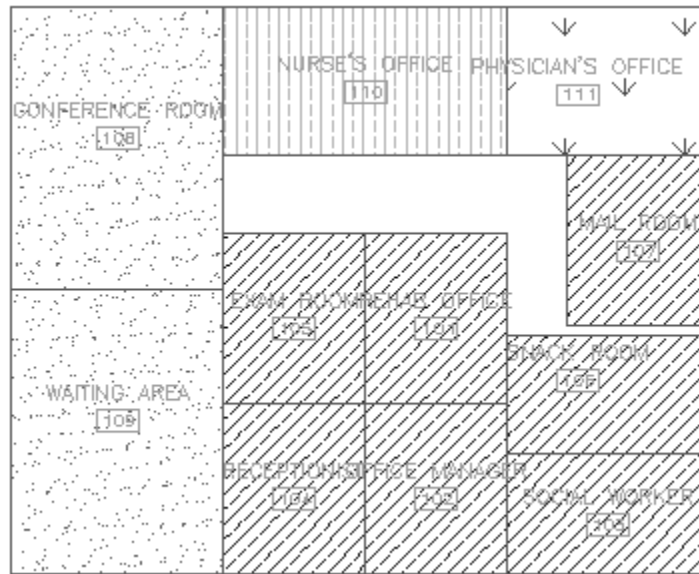
2.

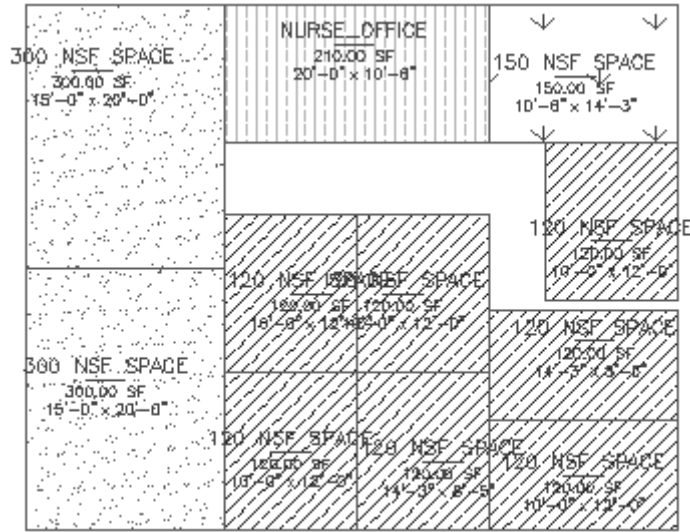


To modify a space's dimensions, double click to bring up the Properties dialog.

Then on the Design tab, scroll to the Actual Dimensions section.

Change the length and width fields.



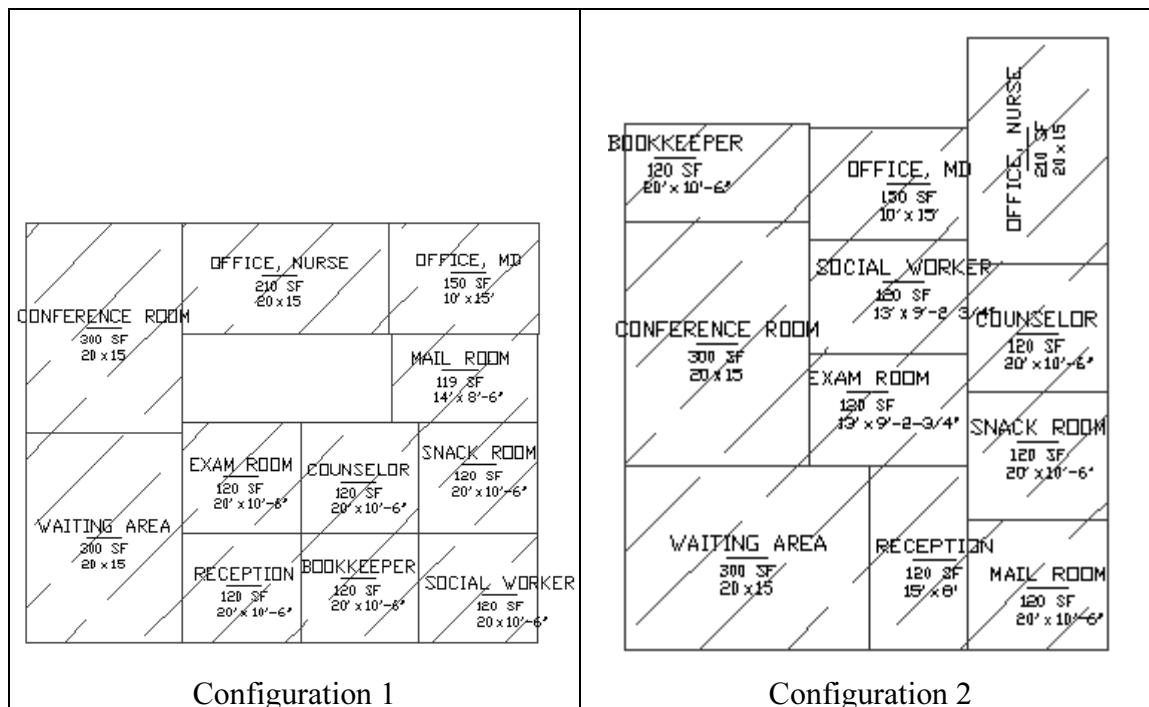


**Configuration 1**

If you keep your space tags visible, they will automatically update every time you change the space.

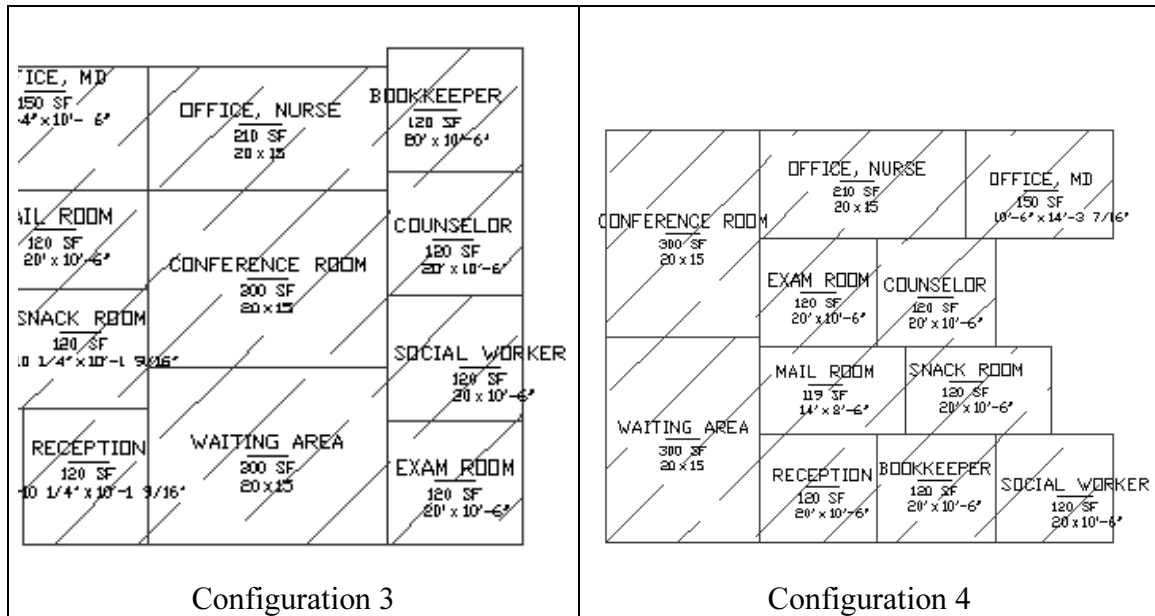
You can also use your GRIPS to stretch your space to the correct positions.

Notice that your Space Tag should update as the dimensions of your space modifies.



**Configuration 1**

**Configuration 2**



As you can see, there are multiple arrangements that can be made. Each student in a class could come up with a unique arrangement. The final arrangement will be dependent on a variety of factors, including cost, overall area that results, number of interior walls required, etc.

- Save your file as *ex1-12.dwg*.



**TIP:** You can use the perimeter information to calculate how much baseboard you will need in each room.



**TIP:** You can use the DISTANCE tool  to determine new lengths and widths. The DISTANCE tool is located on the Inquiry toolbar.



**Tip:**



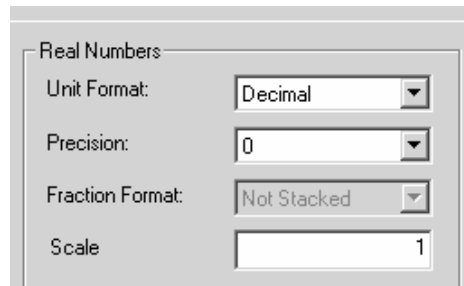
You may have noticed that the space tag displays the area with decimal spaces. To modify the way data is displayed in your schedule tag:

In the menu, go to **Format**→**Style Manager**.



Select the Property Data Formats category under **Documentation Objects**.

Highlight **Area**.  
Right click and select **Edit**.



Select the Formatting tab.  
You can control how whether or not your area has a prefix or suffix (Note that the default suffix is 'SF'.)  
You can set the precision on the right of the dialog box.  
You can select a dimension style by pressing the 'Set from Dimension Style' button.



Go to **Format**→**Multi-View Block**→**Multi-View Block Update**.

Select the space tag blocks.  
When prompted to update, press **Yes**.



The space tags update.