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Carnegie Mellon University
AutoCAD / 3D Studio
Course 48-568

Camera Matching

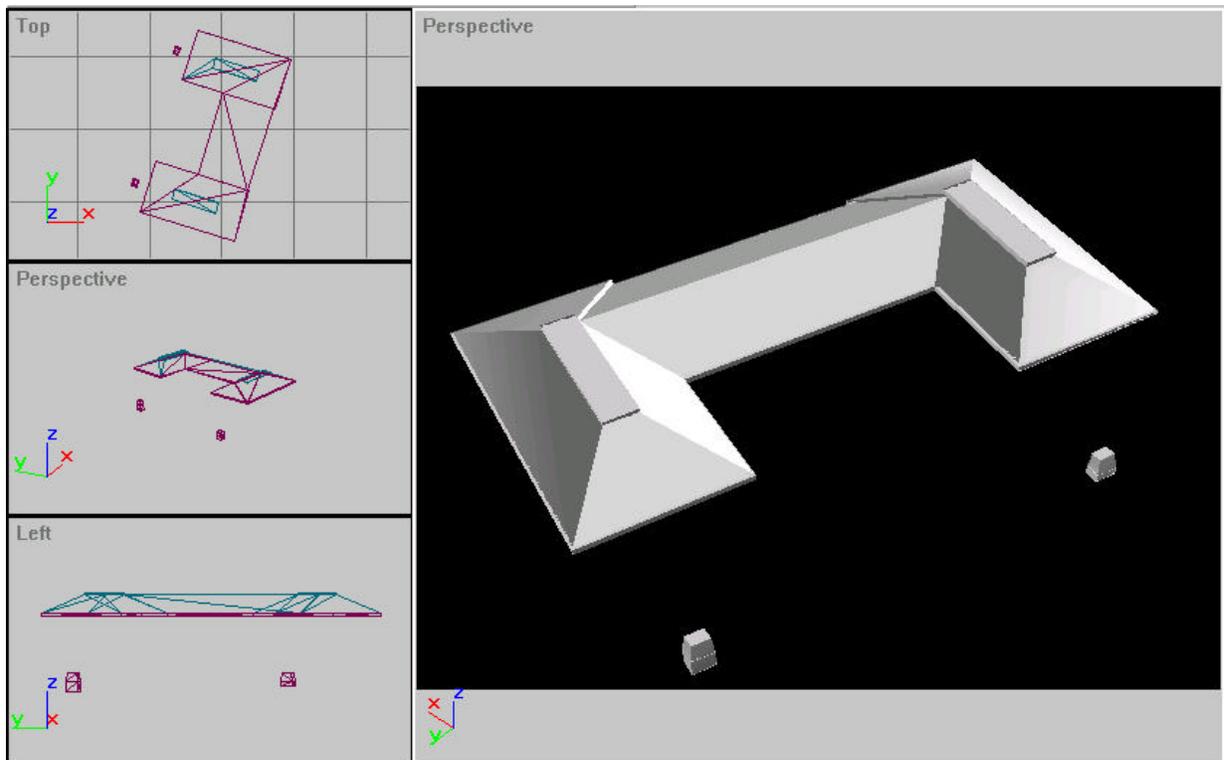
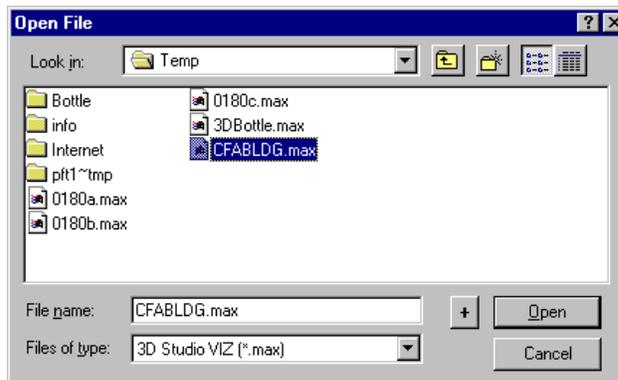
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3D Studio MAX Camera Matching

Camera Matching

1. **Choose** File, Open Scene...
2. **Choose** CFABLDG.MAX from the C:\TEMP directory.

This is an imported AutoCAD drawing of a roof for the College of Fine Arts building on Carnegie Mellon's campus.

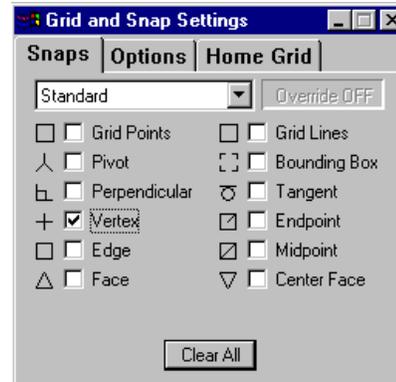


CamPoints

Campoints need to be added to the objects in the scene. These will be used to match real points on the background image. You must choose at least 5 CAM points when camera matching - the more the better.

Snapping to a Vertex Point

1. **Right Click** on the 3DSnap Icon. 
2. **Set** the snap to vertex points.

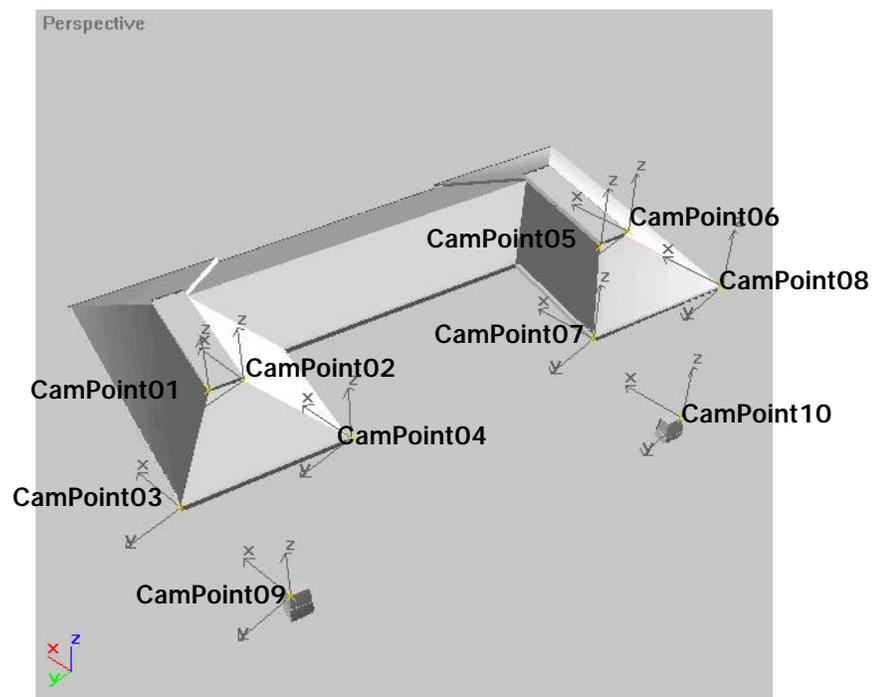
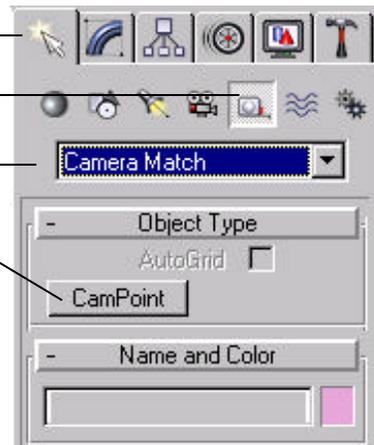


3. **Left Click** the 3D Snap icon to turn it on.

3D Studio MAX Camera Matching

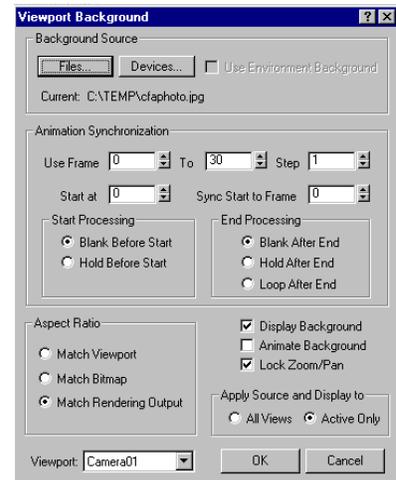
Assigning a CAM Point

1. **Choose** the Create TAB.
2. **Choose** the Helpers icon.
3. **Choose** Camera Match.
4. **Choose** CamPoint button.
5. **Click** on the following points in the drawing, making note of the name for each. We will need to later match these to the photo of the building.

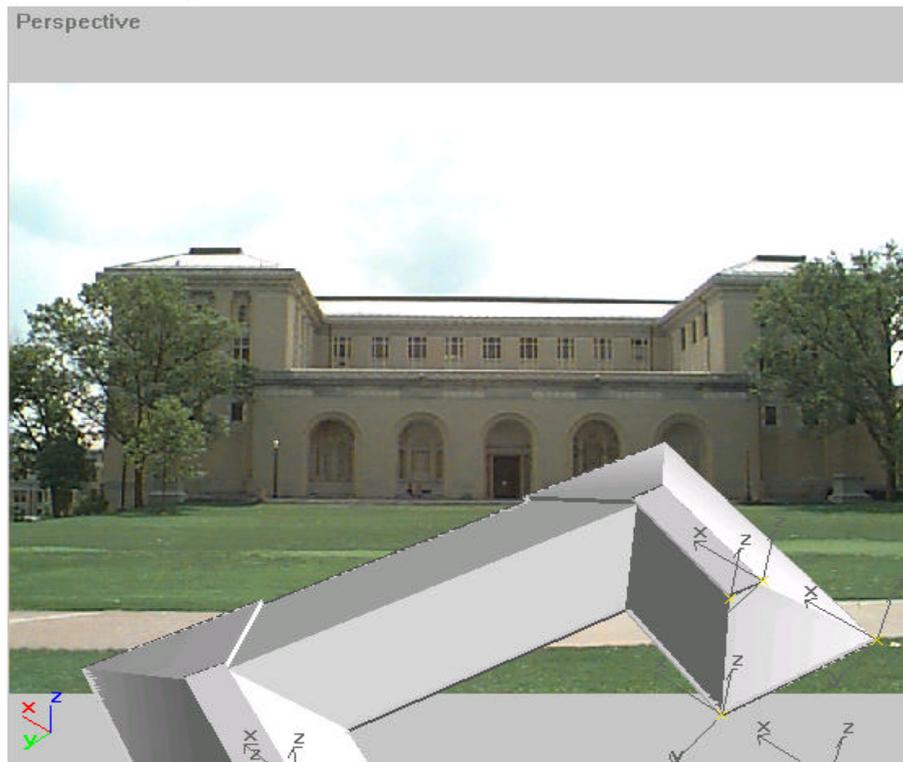


Adding Photo as a Background

1. **Choose** Views, Viewport Background...
2. **Choose** the Files...button.
3. **Choose** the file C:\TEMP\CFAPHOTO.JPG
4. **Choose** Match Rendering Output as the Aspect Ratio.
5. **Click** OK.

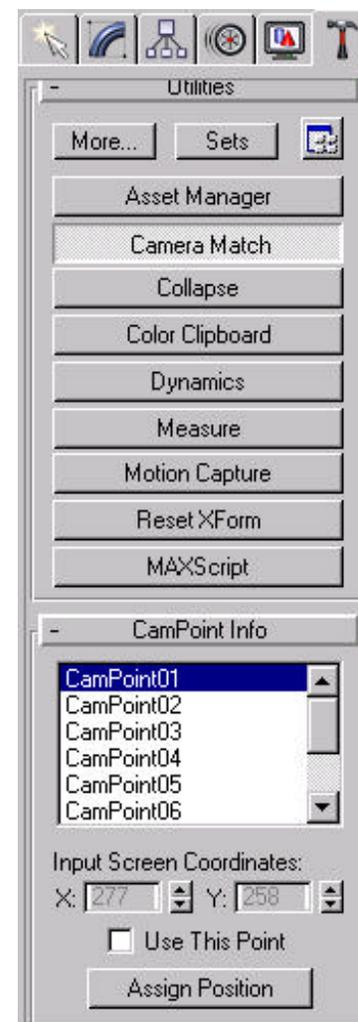
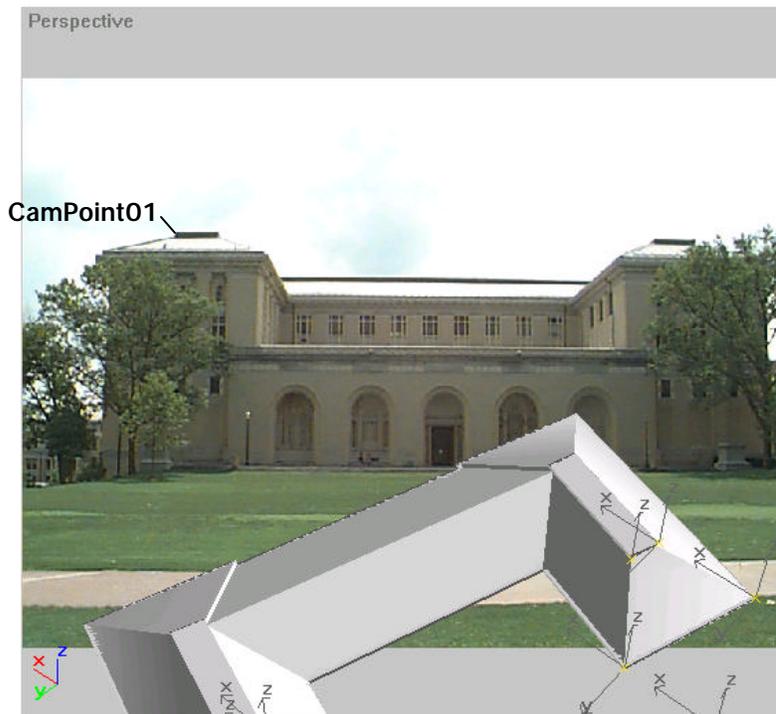


6. **PAN** the drawing down so you can see the photograph's match points in the background.



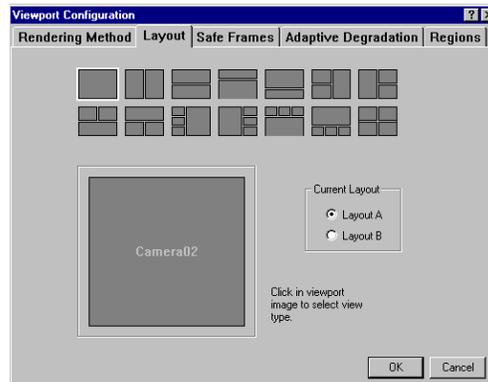
Camera Match Points

1. **Choose** the Utilities TAB.
2. **Choose** the Camera Match button.
3. **Choose** CamPoint1 from the list of CamPoints.
4. **Choose** the Assign Position button.
5. **Pick** the corresponding point on the photograph of the building.
6. **Choose** CamPoint02 from the list of CamPoints.
7. **Pick** the corresponding point on the photograph of the building.
8. **Repeat** for the remaining CamPoints.
9. **Choose** Create Camera



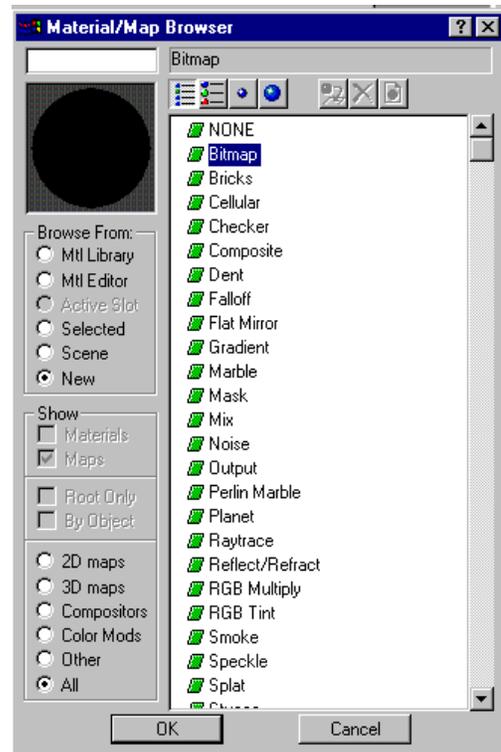
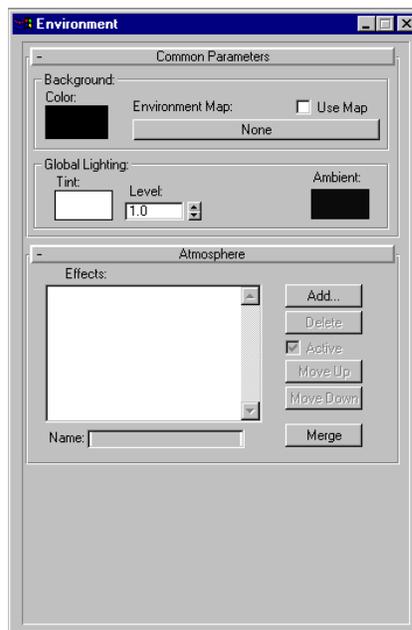
View from the Camera

1. **Right Click** on the Camera01 setting in the Viewport.
2. **Choose** Configure...
3. **Choose** a single viewport and Camera02 as the setting.



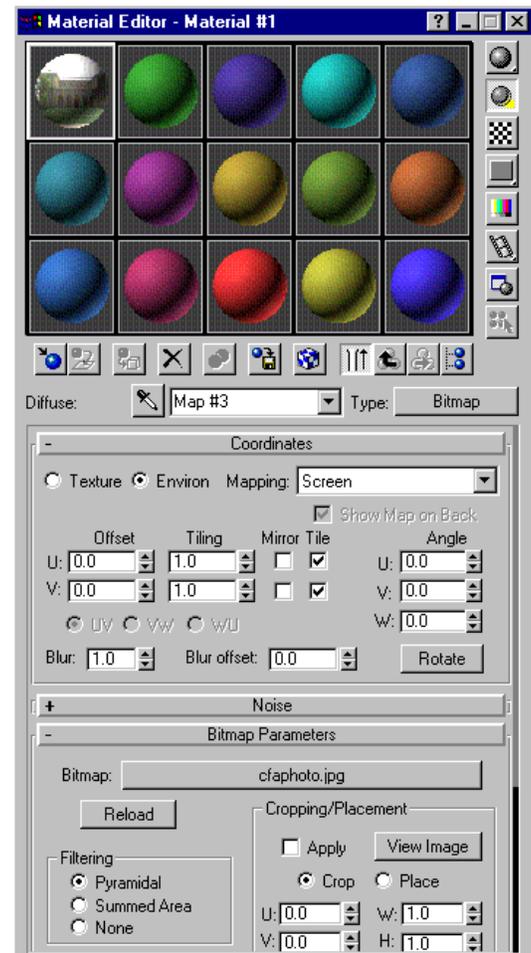
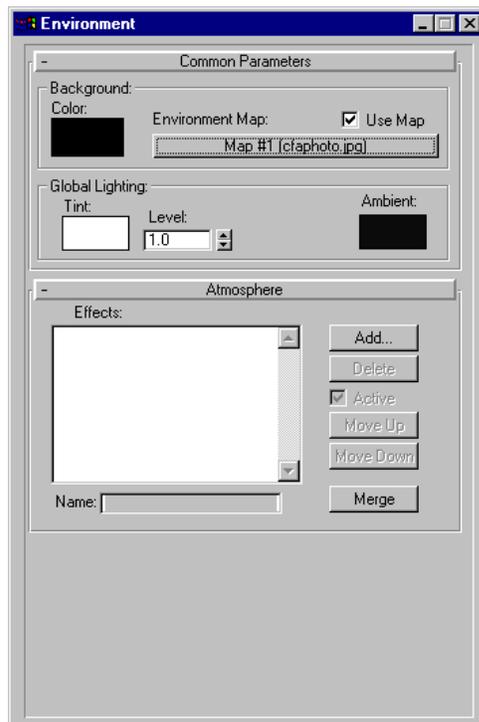
Environment as a Background

1. Choose Rendering, Environment...
2. Choose the None button under Environmental Map.
3. Click Bitmap as the material type.



Environment as a Background

1. **Choose** Tools, Material Editor...
2. **Click** Material 1.
3. **Select** the Maps Rollout.
4. **Choose** None beside the Diffuse button.
5. **Choose** Bitmap.
This will produce the Bitmap Parameters rollout.
6. **Choose** the blank box beside the the word Bitmap.
7. **Choose** C:\TEMP\CFAPHOTO.JPG.
8. **Choose** the Environ button under the Coordinates rollout.
9. **Set** Mapping to Screen.
10. **Drag** and drop the new material onto the Environment button.



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Render the Combined Background and Objects

1. **Choose** the Render Scene icon.
2. **Render** the scene.

