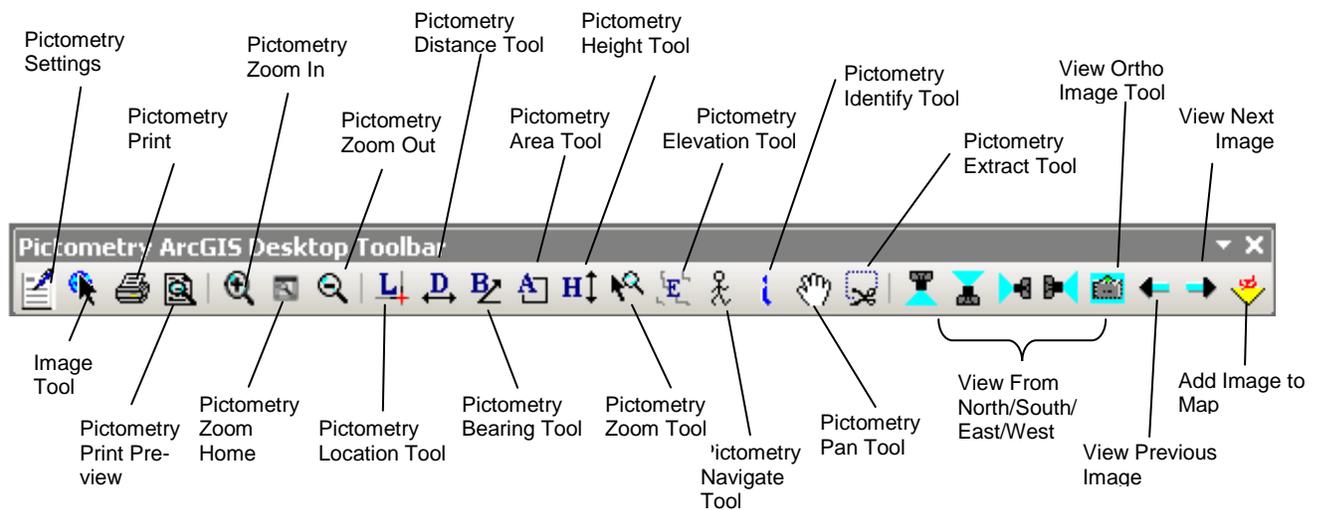


# How to Use the Pictometry Toolbar

This REGIS QuickReference Sheet provides the basic steps for using the Pictometry toolbar within the REGIS ArcGIS 10 applications. Pictometry gives a REGIS user the power to view oblique images in the REGIS ArcMap environment. If you need immediate assistance with the use of this toolbar, contact the REGIS Help Desk at (616) 776-7744.

## Pictometry Tools

### The Pictometry Toolbar Basics



Note: The above tools are described in more detail on pages 4-6 under Pictometry Details.

## How to View Pictometry Images

Log into the REGIS ArcGIS 10 application of your choice (ArcView 10, ArcEditor 10, ArcInfo 10) as you normally would, either opening a saved map document (.mxd) file from a previous session or using a brand new map document and adding the needed layers. After the REGIS ArcGIS 10 application of choice is open, add the REGIS data layer of choice to your view. For example, you can add the REGIS parcel layer to your view. Locate the Pictometry Toolbar. (Note: the Pictometry toolbar should already appear in your ArcMap project. If you cannot locate the toolbar follow the directions on the next page.)

## What to do if Pictometry Toolbar is Missing

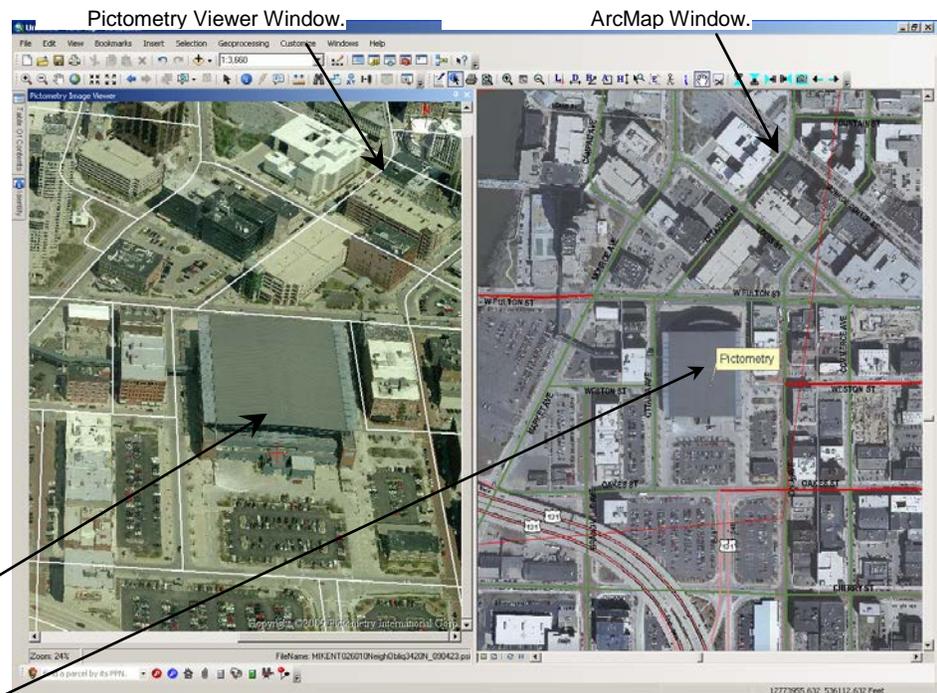
1. Right click in the grey area where the ArcMap toolbars are docked at the top of the window.
2. A pop up window will appear with a list of ArcMap toolbars on it. Scroll to Pictometry toolbar and check it. The Pictometry toolbar will open up un-docked in your ArcMap document.



## How to Open a Pictometry Image

1. Zoom to the area of interest and click on the Image Tool on the Pictometry toolbar. 
2. Click on the point of interest in your ArcMap window and the Pictometry Viewer window will pop up to the left of your data view with the oblique image showing the point of interest you clicked on (see graphic to the right).
3. Repeat steps 1-2 above to view a different area.

The current location marker and the red crosshair always point to the same location.



## Exercise 1 – How to Open an Oblique Image, Change Views and Change Orientation

In this exercise, you will learn how to:

- Use the Pictometry toolbar to open an oblique image
- Change views and orientation of images

1. In ArcMap, find the Pictometry toolbar. If the toolbar is not there, see page 2 in the Pictometry manual.

2. Find the **Image tool**  on the Pictometry toolbar.

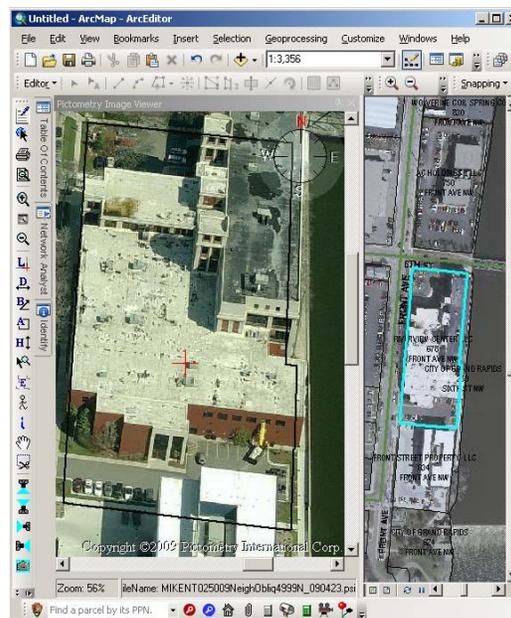
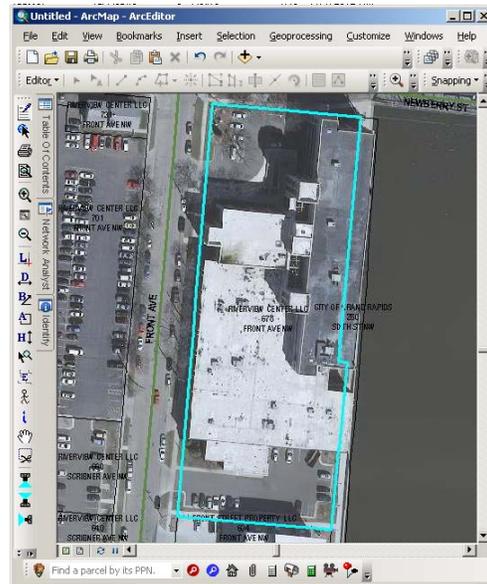
3. Zoom to the area of interest in the ArcMap window. *In this example you will use the Address located at 678 Front Ave NW (use the Parcel\_Address find tool located on the REGIS custom toolbar to zoom to the address).*

4. Once you have located 678 Front Ave NW, click in the center of the building to open the associated oblique image (see graphic below).

5. The Pictometry window will appear with the corresponding oblique image.

6. Use the **View Next and Previous Image** tool  to cycle through all the images that are available for the location and orientation you picked.

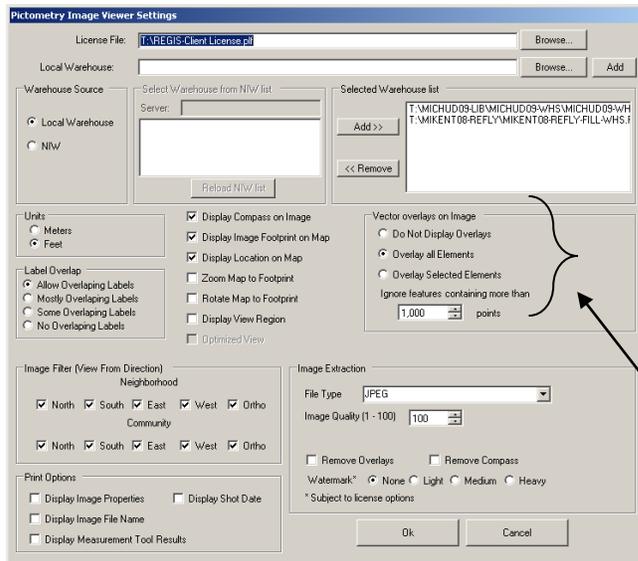
7. To change the orientation, click on the **View from (North, East, or West) Tool**. The toolbar defaults to view from South.



End of Exercise 1

## Pictometry Settings Dialog Box

The Pictometry Image Viewer Settings dialog box  is used to set up various options that affect how images are displayed, printed or extracted, and how labels appear in your ArcMap map.



Note: Each function of the Pictometry Image Viewer Settings is described in more detail on pages 22-23 under Pictometry Settings Dialog Box Details.

*Note: The Overlay all Elements option is not working due to a known issue. Please refer to the overlay selected elements option to overlay vector layers in the Pictometry window. However, this option does function on one REGIS server, so this option may be available to you depending on what server you are logged into*

## Pictometry Toolbar Details

The Pictometry toolbar contains the following tools and buttons.

Tool	Description
<b>Pictometry Settings</b>	Opens the Pictometry Image Viewer Settings dialog box so you can change the Pictometry extension's settings (such as units of measure, image filters and whether overlays such as the compass are displayed on images).
<b>Image Tool</b>	Searches for images containing the geographic point you clicked.
<b>Pictometry Print</b>	Prints the portion of the image currently visible in the Image window and its print options to the current ArcMap printer. If the image to be printed is too large for the page, the image will be cropped to fit the page size.
<b>Pictometry Print Preview</b>	Shows a print preview of the portion of the image currently visible in the Image window and its print options.
<b>Pictometry Zoom In</b>	Doubles the magnification of the image shown in the Image window.
<b>Pictometry Zoom Home</b>	Changes the size of the image so that the entire image fits in the Image window.
<b>Pictometry Zoom Out</b>	Reduces the magnification of the image by half.
<b>Pictometry Pan Tool</b>	Scrolls the image around in the Image window.

Tool	Description
<b>Pictometry Zoom Tool</b>	If you click a point, doubles in size and repositions the image so that the point is at or closer to the center of the window.
<b>Pictometry Location Tool</b>	Lets you select a new location by clicking a point in the image. The geographic coordinates for the point you clicked are shown in the Status Bar.  Updates the current location marker on your map; may also load a new set of images, available by clicking the View From buttons.
<b>Pictometry Distance Tool</b>	Measures the distance between two points in an image or the cumulative distance along a series of straight-line segments.  To measure the perimeter of a rectangle, press CTRL while holding down the mouse button. To create a vertex when measuring polygons, press the V key. To measure freeform lines, hold the ALT key.  The distance is shown in the Status Bar (at the bottom of the screen).
<b>Pictometry Bearing Tool</b>	Measures the bearing (the orientation from True North) of an angle you outline in the active image. Pressing CTRL draws an additional line and displays the relative angle between the two lines.
<b>Pictometry Area Tool</b>	Calculates the area of any part of an image. (You can use the same keys as the Distance Tool for drawing freeform lines and vertices. When you use the "V" key, the tool automatically closes the polygon after you release the mouse button.
<b>Pictometry Height Tool</b>	Measures the height of a building or an object in an image, starting from the ground.
<b>Pictometry Elevation Tool</b>	Gives the elevation above sea level of the point you click in an image.
<b>Pictometry Navigate Tool</b>	Lets you navigate and measure between adjacent images. Each time you click or drag the mouse to a new location, the best image of the same direction and zoom level is displayed. Also calculates the distance of the route "walked."  You can change the "view from" direction and continue using the Navigate Tool. The location marker and the image polygon (footprint) are updated on your map to reflect the current position.
<b>Pictometry Identify Tool</b>	Lets you query GIS data in an image by clicking a point in the Pictometry image to view the GIS data associated with that point. The results are shown in a standard ArcMap dialog box.
<b>Pictometry Extract Tool</b>	Lets you select a portion of the image in the Image window and export it to a JPG, BMP, TIFF, or JGP200 file. You can also double-click the image in the Image window to export the entire visible region. The extracted image is saved to the file you specified on the Pictometry Image Viewer Settings dialog box. If the haven't changed the file name since your last image extract, the new extract will over-write the last extract file created.
<b>View From North</b>	Displays an image captured from the north showing the same geographic area as the image currently in the Image window.
<b>View From South</b>	Displays an image captured from the south showing the same geographic area as the image currently in the Image window.
<b>View From East</b>	Displays an image captured from the east showing the same geographic area as the image currently in the Image window.

Tool	Description
<b>View From West</b>	Displays an image captured from the west showing the same geographic area as the image currently in the Image window.
<b>View Previous and Next Image</b>	Next and Previous buttons cycle through the list of matching images for the current orientation

## **Exercise 2 – Using the Pictometry Settings Dialog Box**

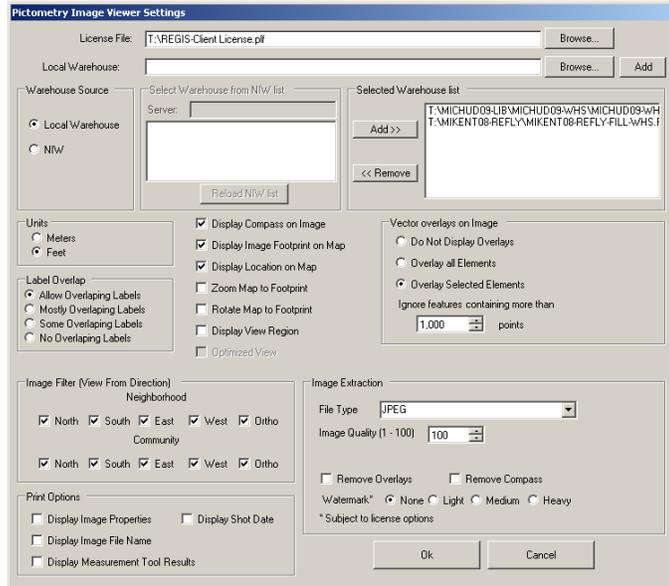
---

In this exercise, you will learn how to:

- Open the Pictometry Settings Dialog Box and change settings
- Open the community view only
- Overlay elements/layers

### How to Open the Pictometry Settings Dialog Box

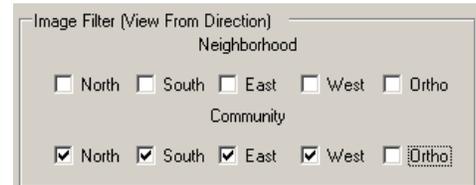
Open the Pictometry Settings Dialog Box by clicking the **Pictometry Settings Tool**  . This will open the dialog box shown in the graphic below.



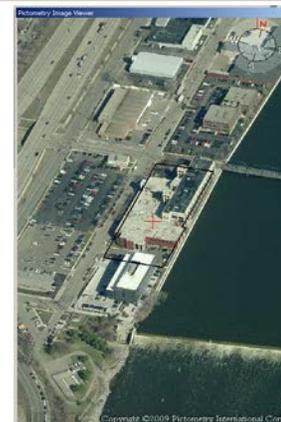
### How to Change from Neighborhood to Community View

If you would like to get a more expanded view of the building located at 678 Front Ave SW, you will need to switch to the community view. Follow the steps below to change the view to the community view:

1. In the dialog box uncheck all the orientations under the Neighborhood. Your dialog box should look like the graphic to the right.



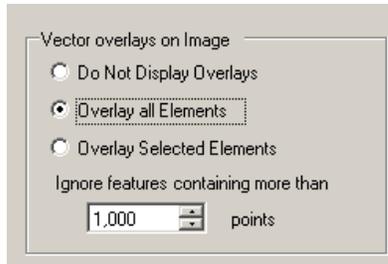
2. Click **Ok** to close. Click on the **Image Tool**  and click in the ArcMap window to refresh the Pictometry window. Your image should bring up the new expanded community view much like the graphic shown to the right.



### How to Overlay All Elements

Now that you have the community view open, you would like to also see all the water mains and fire hydrants near the building at 678 Front Ave NW. Follow the steps below to overlay the water mains and fire hydrant layers:

- 1) Open the Pictometry Settings Dialog box using the **Pictometry Settings Tool**. 



- 2) Under *Vector Overlays on Image* click *Overlay all Elements*

- 3) Add the layers *Water Mains* and *Water Fire Hydrants* located under *Water Utilities* from the Theme Manager on the REGIS Custom Toolbar.

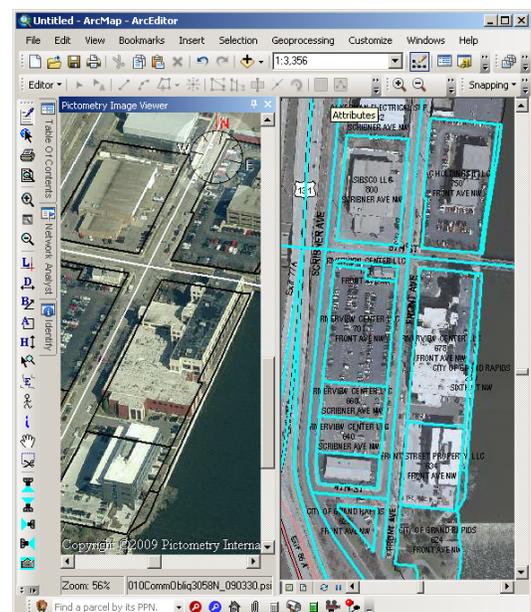
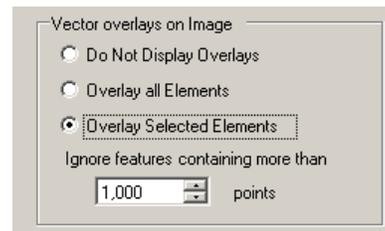
As the layers are added, they are drawn on the oblique image in the Pictometry toolbar as well as any other layers you already have added in your ArcMap project.



### How to Overlay Selected Elements

- 1) Open the Pictometry Settings Dialog box using the **Pictometry Settings Tool**. 
- 2) Under *Vector Overlays on Image*, click *Overlay Selected Elements* and click Ok to close.
- 3) Use the **Select Features Tool**  to select the parcel at 678 Front Ave NW. The selected parcel will draw on the oblique image.

*Note: There is an option Do Not Display Overlays. Check this option when you do not want any of your layers to be drawn on the oblique image.*



*End of Exercise 2*

### Using the Measurement Tools

The Pictometry extension offers various tools for measuring features visible in images. For example, you can measure the distance between two points, the elevation of the terrain, building heights, bearing, area, perimeter and the coordinates of a point.

Before using the measurement tools, be sure that the unit of measure is set as desired.

### Changing Units of Measure

#### To change units of measure:

- 1 Click the **Pictometry Settings** toolbar button. The Pictometry Image Viewer Settings dialog box opens.
- 2 Click the desired units: **Meters** or **Feet**.
- 3 Click **Ok**.

Your changes remain in effect until you change units again.

### Viewing the Coordinates of a Location

Use the **Location Tool** to determine the location (the coordinates) of an object in an image.

#### To determine the location of an object:



- 1 Click the **Pictometry Location Tool**.
- 2 Click the desired location on the map or image.

The point's coordinates appear in the Status Bar, and a point and text may appear on the image.

---

#### Notes & Tips:

For Oblique images, remember to click near the base of buildings for more accurate coordinates.

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### Exercise 3 – Changing Units and Using the Location Tool

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In this exercise, you will learn how to:

- Use the Location tool to determine the location (coordinates) of an object
- Change units using the Pictometry Settings Dialog Box

### How to Determine Location

1. Zoom in to the building located at 678 Front Ave NW. In this example, you want to find the location coordinates of the intersection located at Newberry St and Front Ave.
2. Click on the Pictometry Location Tool .
3. Click at the center of the intersection of Newberry St. & Front Ave on the Pictometry Image. The Location Tool will report the coordinates in Latitude and Longitude at the bottom of the Pictometry Window.



### How to Change Units of Measure

1. Open the Pictometry Settings Dialog Box by clicking the **Pictometry Settings Tool** .
2. Under Units, click on what unit of measure you would like to use.
3. Click **Ok** to close the Pictometry Settings Dialog Box.



*End of Exercise 3*

## **Measuring Distance**

Use the **Distance Tool** to measure the distance between two points in an image or the cumulative distance along a series of straight-line segments.

### To measure distance:

- 1 Click the **Pictometry Distance Tool**.
- 2 Press and hold the left mouse button on the starting point.

---

Note: To insert a vertex (corner), press and release the **V** key. To drag a freeform line, hold down the **ALT** key and drag the mouse pointer along the path you want to measure. (You'll be able to drag the mouse in any direction.)

---

- 3 Drag to an ending point and release the mouse button.

The measurement appears on the Status Bar, and a line and text may appear on the image.

### Measuring Perimeter

You'll use the **Distance Tool** to measure perimeter—the distance around the outside edge of an object. You can measure the perimeter of any straight-sided or freeform shape.

To measure the perimeter of an object that resembles a parallelogram, you'll use the Distance Tool and the CTRL key to draw a parallelogram over the object.



#### To measure perimeter by using a parallelogram:

- 1 Click the **Pictometry Distance Tool**.
- 2 Starting with one corner of the object, press and hold the left mouse button, then drag a line across one side of the shape. *Don't release the mouse button.*
- 3 Press and hold the **CTRL** key and drag the mouse along an adjacent side. The outline of a parallelogram appears as you drag the mouse.
- 4 When the parallelogram surrounds the shape you are measuring, release both the **CTRL** key and the mouse button.

The measurement appears on the Status Bar.



#### To measure the perimeter of a shape other than a parallelogram:

- 1 Click the **Pictometry Distance Tool**.
- 2 At the desired starting point, press and hold the mouse button and drag the mouse along the outline of the area you wish to measure. Use the following keys to outline the area:
  - To draw any part of the shape that is freeform, press and hold the **V** key while dragging the mouse.
  - To create a vertex (corner), press and release the **V** key, then drag the mouse in the new direction.

---

### Exercise 4 – Measuring Distance and Perimeter

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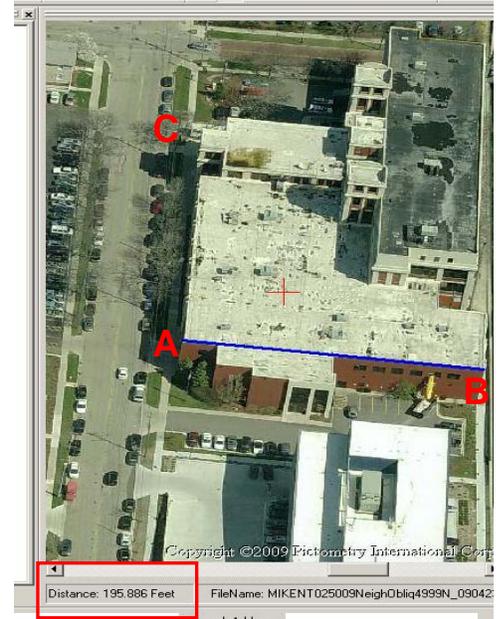
In this exercise, you will learn how to:

- Measure Distance and Perimeter

- Insert a vertex or corner
- Measure distance/perimeter using the freeform line option

### How to Measure Distance

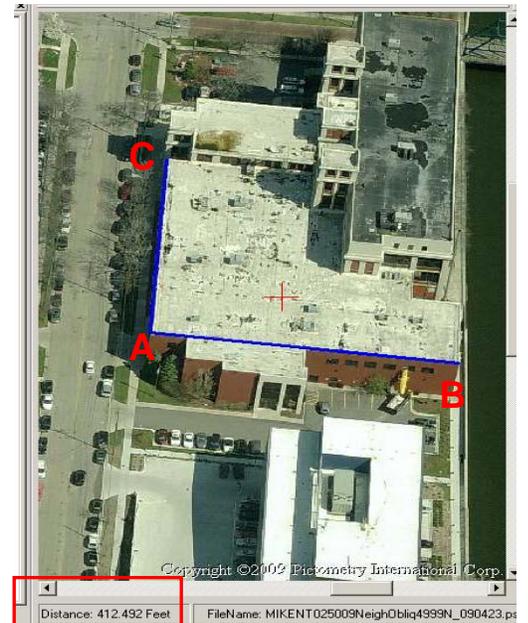
1. Zoom into the building located at 678 Front Ave NW. In this exercise you want to measure the width of the building. (*Make sure your view orientation is set to view from South*)
2. Click on the **Pictometry Distance Tool** .
3. Left click and hold your mouse button on point **A** shown in the graphic to the right. Begin to drag your mouse over to point **B** shown in the graphic and let go of the left mouse button once you get to point **B**.
4. A blue line will appear on the image showing the length of this feature in the bottom left hand corner of the Pictometry window.



- To measure the total distance from point **B** to point **A** to point **C** you must add a vertex (corner) to your distance line. Follow the steps below to add a vertex.

1. Left click and hold on point **B**, drag your mouse across to point **A**.
2. At point **A** press the **V key** and let go. Start dragging your mouse up to point C and let go once you reach point C. The distance will again appear in the right hand corner of the Pictometry window.

*Note: If you would like to draw the measurement line using the freeform option, you can hold down the **V key** while holding down the left mouse key and dragging the mouse. Try this doing the same measurement you just completed. This option is used to measure irregular shaped objects.*



### How to Measure Perimeter



1. In the exercise below you will measure the perimeter of the top of the roof on the building with the white roof south of 678 Front Ave NW.

NW Corner

2. Using the **Pictometry Distance Tool** , start with the NW corner of the roof, press and hold the left mouse button, then drag a line to the SW corner. Once you reach the SW corner of the roof, press and hold the **CTRL key** and drag the mouse to the east edge of the building.
3. Release both the **CTRL key** and the mouse button once you reach the east side of the building.
4. The perimeter of the roof will show up in the left hand corner of the Pictometry window.

• Once the measurement is taken you realize you did not want to include that that gap showing a lower portion of building. To remove the gap, you will have to create a vertex (or corner) to take this measurement.

1. Once again start at the NW corner of the building; left click and hold your left mouse button and drag across to the NE building corner.
2. At the NE corner of building press and release the **V key** to create a vertex (corner).
3. Continue dragging your mouse to each corner and pressing and releasing the **V key** to create the vertex (corner) until you have come back to the NW corner and release the left mouse button. Again, the perimeter will show up in the right hand corner.

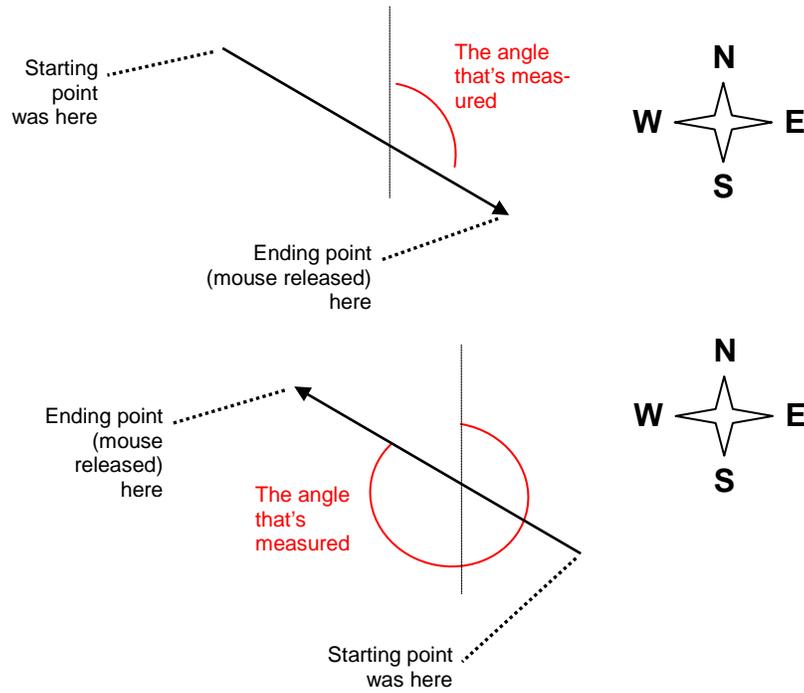
*Note: If you would like to draw the measurement line using the freeform option, you may hold down the **V key** while holding down the left mouse key and dragging the mouse. Try this doing the same measurement you just completed. This option is used to measure irregular shaped objects.*



*End of Exercise 4*

## Measuring Bearing and Angles

You'll use the mouse to draw one line (to measure bearing) or two lines (to measure the angle formed by their intersection). Where you start drawing the line is important, as shown in the following illustrations:



**To measure bearing:**

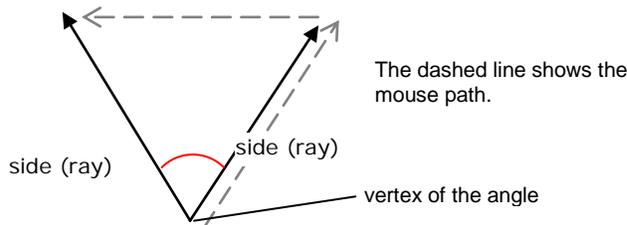


- 1 Click the **Pictometry Bearing Tool**.
- 2 Press and hold the left mouse button on the starting point.
- 3 Drag the mouse pointer to an ending point in the direction you want to measure the bearing of, then release the mouse button. The measurement appears on the Status Bar.

**To measure an angle:**



- 1 Click the **Pictometry Bearing Tool**.
- 2 Press and hold the left mouse button on the point you want to be the angle's vertex. Drag a line from the vertex along one side (ray) of the angle.



- 3 Press and hold the **CTRL** key, then drag the mouse pointer away from the first side to draw the second ray of the angle. Release the mouse button and the **CTRL** key. The measurement appears on the Status Bar.

**Exercise 5 – Measuring Bearing and Angle**

In this exercise, you will learn how to:

- Measure bearing
- Measure an angle

### How to Measure Bearing

1. Zoom in to the building located at 1253 Oaklawn St NE and open the associated oblique image.
2. Click on the **Pictometry Bearing Tool** .
3. To measure the bearing, click on a point in the oblique image and click and drag a line. The bearing will appear in the bottom right hand corner of the Pictometry window.



### How to Measure Angle

Use the Bearing Tool to measure the angle of the roof in the building located at 1253 Oaklawn St NE.

1. Zoom in to the front of the house to get a good view of the roof.
2. Click on the **Pictometry Bearing Tool** .
3. Left click and hold on the point where the roof and house meet.
4. While holding the left mouse button, down drag the mouse straight across the front of the house.
5. When you reach the edge of the house, press and hold the **Ctrl Key** and drag the line up to follow the angle of the roof. The angle will be in the left hand corner of the Pictometry window.



*End of Exercise 5*

### **Measuring Area**

The **Area Tool** lets you measure the area of any shape, whether it has curved or straight sides. After you outline the perimeter of the area to be measured, the area measurement appears on the Status Bar.

**To measure area by using a parallelogram:**

- 1 Click the **Pictometry Area Tool**.



- 2 Starting with one of the corners of the object, press and hold the left mouse button, then drag a line across one side of the shape. *Don't release the mouse button.*
- 3 Press and hold the **CTRL** key and drag the mouse along an adjacent side. The outline of a parallelogram appears as you drag the mouse.
- 4 When the parallelogram surrounds the shape to measure the area of, release both the **CTRL** key and the mouse button.



#### To measure the area of any freeform shape:

- 1 Click the **Pictometry Area Tool**.
- 2 At the desired starting point, press and hold the mouse button and drag the mouse along the outline of the area you wish to measure. Use the following keys to outline the area:
  - To draw any part of the shape that is freeform, press and hold the **ALT** key while dragging the mouse.
  - To create a vertex (corner), press and release the **V** key, then drag the mouse in the new direction.

---

Note: The results will not be accurate if you cross over your path.

---

- 3 When you've outlined the entire area, drag the mouse pointer to meet the starting point, then release the mouse button. The Area Tool automatically completes the polygon, even if you release the mouse button before you return to your starting point.



#### To measure the area of any straight-sided shape:

- 1 Click the **Pictometry Area Tool**.
- 2 At the desired starting point, press and hold the mouse button and drag a straight line.
- 3 Press and release the **V** key to create a vertex (corner) and drag the next leg.
- 4 Repeat Step 3 to continue outlining the shape to be measured.
- 5 When you've outlined the entire perimeter, release the mouse. The Area Tool automatically completes the polygon, even if you release the mouse button before you return to your starting point.

### Measuring Height

Use the **Height Tool** to measure the height of an object in an Oblique image. (Because Orthogonal images are captured straight down, the Height Tool doesn't apply to them.)

#### To measure height:



- 1 Click the **Pictometry Height Tool**.
- 2 Press and hold the left mouse button on a point at the base (where it meets the ground) of the object you want to measure the height of.

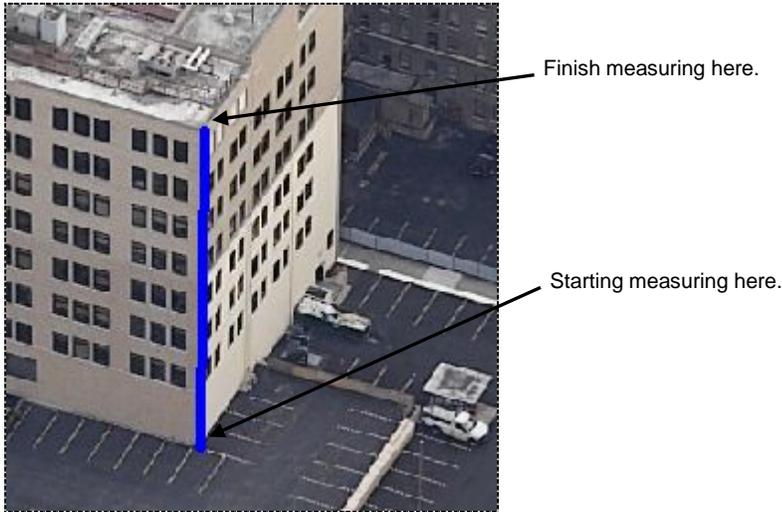
---

Important: Be sure to measure height by *starting at ground level* and moving *upwards*. If you cannot see the ground level starting point, you must estimate its location.

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The application draws a plumb line—a true vertical (perpendicular to the ground), which remains plumb if you waver left or right as you drag the mouse.

- 3 Drag the mouse upwards and release it at the ending point.



The measurement appears on the Status Bar.

### Measuring Elevation

Use the Elevation Tool to measure the elevation (height above sea level) of a point in an image.



#### To measure the elevation:

- Click the **Pictometry Elevation Tool**, then click the point whose elevation you want to measure.

The measurement appears on the Status Bar.

### Exercise 6 – Measuring Area and Height

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In this exercise, you will learn how to:

- Measure Area
- Insert a vertex or corner
- Measure distance/perimeter using the freeform line option

- Measure Height

### How to Measure Area Using a Parallelogram

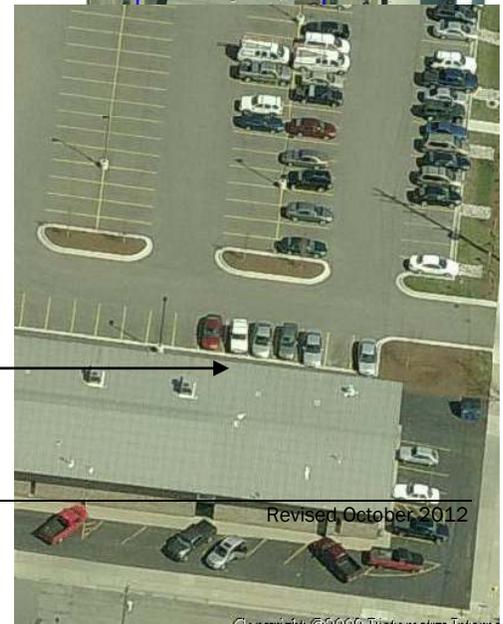
1. Zoom in to the building located at 678 Front Ave NW. Use the **Pictometry Pan Tool**  to zoom to the parking lot to the west.
2. Click on the **Pictometry Area Tool** .
3. Left click and hold your mouse button on point **A** shown in the graphic to the right. Begin to drag your mouse up to point **B** shown in the graphic.
4. When you reach point B, press and hold the **Ctrl key** and drag the mouse over to the west side of the parking lot to complete the polygon. The area measurement is shown in the bottom right hand corner of the Pictometry window (see graphic at the bottom right).



### How to Measure Area Using the Straight Sided and Freeform options

#### Straight Sided Option

1. Left click and hold the mouse button on point **A** and drag your mouse over to point **C** shown in the graphic above.
2. At point **C**, press and release the **V Key** to create a vertex. Continue this step all the way around the parking lot and release the left mouse button when you are to the end of your measurement line (see graphic to the left). The area in square feet will display in the bottom left hand corner of the Pictometry window.



#### Freeform Option

- 1) In this exercise you will use the freeform option to measure the area of this parking lot island.
- 2) Click on the **Pictometry Area Tool** .

- 3) Left click on any point along the edge of the parking lot island; press and hold the **V Key** and drag your mouse around the outside edge of the island.
- 4) When you have finished your measurement line, release the left mouse button and you will see the area in square feet displayed in the bottom left hand corner of the Pictometry window.



### How to Measure Height

Click on the **Pictometry Height Tool** .

Zoom from the parking lot back over to the building located at 678 Front Ave NW. Left click and hold on this point. 

Drag your mouse up to the top of the building and release. The height of the building will be shown in the bottom left hand corner of the Pictometry window.



*End of Exercise 6*

### **Adding Pictometry Imagery to the Data View**

The **Add image to map** button  adds the current Pictometry image from the Pictometry window to the main ArcMap window (the data view). One of the advantages of viewing the Pictometry imagery in this way is that you can add multiple Pictometry tiles to the data view. This is especially helpful if you are looking at a parcel that sits on the border between two tiles. Another advantage is that it is much easier to use this method to print maps with Pictometry images.

The disadvantage to viewing Pictometry imagery this way is that it can be a little more distorted than when viewed in the Pictometry window. Also, when Pictometry is view outside of the Pictometry window the Pictometry tools will not work.

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## Printing and Extracting Images

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The **Pictometry Print** button prints the portion of the image currently visible in the Image window along with any print options you've selected. Before printing, scroll or pan the image so that the portion you wish to print is visible in the Image window.

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Tip: To see a preview of the printed image before printing, click the **Pictometry Print Preview** button. (Although the preview closely approximates the final print appearance, the limitations imposed by the printer and current paper selection may cause the final print to vary.)

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### To print the visible part of the image:

- 1 Click the **Pictometry Settings** button.
- 2 Check the desired print options and click **Ok**.
- 3 Click the **Pictometry Print** button.

The visible part of the image is printed to the current ArcMap printer. If the visible part of the image does not fit on the page, then the image may be cropped to fit the page.

## Extracting Images

The **Pictometry Extract Tool** lets you select a portion of the image in the Image window and export it to a JPG, BMP, TIFF or JGP200 file. You can also double-click the image in the Image window to export the entire visible region.

### Choice of Watermark

You can choose the level of watermark used for extracted images. The minimum level of watermark you can choose is set by an option in your user license. You can be licensed for any or all of the following watermarking options:

- None (no watermark at all)
- Light (most translucent)
- Medium (somewhat translucent)
- Heavy (slightly translucent)

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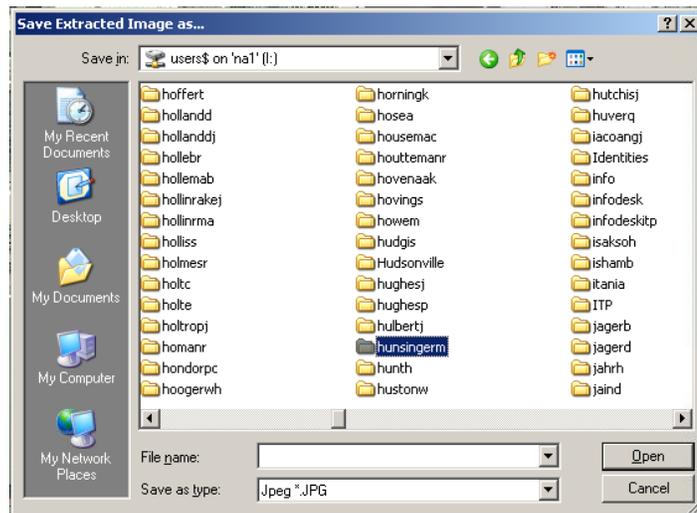
Note: If none of these options are included in your user license, your extracted images will be watermarked with a heavy watermark.

---

### To extract an image:

- 1 Open the image you want to extract a portion of.
- 2 Click the **Pictometry Settings** button. The Pictometry Image Viewer Settings dialog box opens.
  - a From the File Type drop-down list, select the desired format for the extract file.
  - b If you're extracting to a JPEG file, select or type a value for JPEG Image Quality. The number must be between 1 and 100.

- c (Optional) Check or uncheck the options for removing overlays and the compass before extracting the image.
  - d (Optional and subject to your license options) Select the degree of watermarking.
  - e Click **Ok**. The Pictometry Image Viewer Settings dialog box closes.
- 3 Click the **Pictometry Extract Tool**. The cursor changes to a black crosshair and scissors.
  - 4 Do one of the following:
    - To extract a rectangular area within the visible part of the image, press and hold one corner of the rectangle to be extracted, then drag diagonally to the opposite corner. Release the mouse button.
    - To extract the entire visible region, double-click the image in the Image window.
- The following dialog box appears.



- 5 Navigate to the folder in which to store the extract file, type a name in the File name box and click **Save**.  
The extracted image is saved to the file you specified. If you typed or selected an existing name, the new extract will over-write the file.

#### Pictometry Setting Dialog Box Details

Pictometry Settings Dialog Box Details Field	Description
<b>Units</b>	Click the unit of measure in which calculations should be displayed.

Pictometry Settings Dialog Box Details Field	Description
<b>Label Overlap</b>	Click the button for the label density you prefer. "Allow Overlapping Labels" causes all labels <i>within</i> the Pictometry image polygon <i>to be shown</i> on the map. "No Overlapping Labels" causes all labels within the Pictometry image polygon <i>to be hidden from view</i> on the map.
<b>Image Filter</b>	Used to include or exclude shots levels and directions when you search for images (by clicking a point on a map). For Neighborhood and Community shot levels, <b>check</b> all directions you want <b>included</b> in an image search. Uncheck those you want excluded. Generally these checkboxes are used to display Community images instead of Neighborhood images.
<b>Print Options</b>	Check the boxes for the information you want displayed on the printout along with the image. You can print image properties, the image's file name, measurement results and the date on which the image was taken.
<b>Display Compass on Image</b>	Check this box if you want the compass to be shown on images in the Image window.
<b>Display Image Footprint on Map</b>	Check this box if you want an image polygon to be shown on the map. The image polygon represents the footprint of the image in the Image window.
<b>Display Location on Map</b>	Check this box if you want the current location marker to be shown on the map. The current location marker corresponds to the red crosshair in the Image window.
<b>Zoom Map to Footprint</b>	Check this box if you want the map to automatically be magnified to show only the area within the image footprint.
<b>Rotate Map to Footprint</b>	Check this box if you want the map to be rotated so its orientation matches that of the image in the Image window. For example, if your image is south up, checking this box causes the extension to rotate the map so it is south-up. This option keeps both the image and the map synchronized.
<b>Display View Region</b>	Check this box if you want a view-region polygon to be shown on the map. The view-region polygon represents the part of the image that is currently visible in the Image window.
<b>Optimized View</b>	Affects the frequency in which the view-region polygon is re-drawn on the map when you scroll an image in the Image window.  Check this box if you want the view-region polygon to be updated only after you release the mouse button. Uncheck this box if you want the view-region polygon to be continuously updated as you scroll the image in the Image window. (This can slow down system performance.)
<b>Vector Overlays on Image</b>	Click the button that indicates how you want vector overlays displayed on Pictometry images.  <b>Note: The <i>Overlay all Elements</i> option is not working due to a known issue. Please refer to the <i>overlay selected elements</i> option to overlay vector layers in the Pictometry window.</b>  To overlay selected elements, use the ArcMap Selection Tool to highlight the elements on the map. Those elements will be drawn on the Pictometry images as well.

Pictometry Settings Dialog Box Details Field	Description
<b>Ignore features containing more than &lt;XXX&gt; points</b>	Very large polygons can take a long time to draw on the Pictometry image. This option allows you to ignore them when displaying overlays on Pictometry images. The value can be anywhere from 10 points to 10,000 points, with a default value of 1,000.
<b>Image Extraction</b>	The image extract options allow you to set up the information used by the Pictometry Extract Tool when saving an image extract. These options should be set before you click the Pictometry Extract Tool.
<b>File Type</b>	Select the format in which to save the extracted image.
<b>Image Quality</b>	If you are extracting to a JPEG file, select or type a value for JPEG Image Quality. The number must be between 1 and 100.
<b>Remove Overlays</b>	Check this option if you <i>do not want overlays</i> on the extracted image.
<b>Remove Compass</b>	Check this option if you <i>do not want a compass overlaid</i> on the extracted image.
<b>Watermark</b>	Click the desired degree of watermarking, according to the terms of your license agreement. You can ignore this option if your license does not allow changes to this setting.

## **Exercise 7 – Printing and Extracting Images**

In this exercise, you will learn how to:

- Add Pictometry images to the main ArcMap window

### How to view Pictometry in the main ArcMap window

1. Zoom in to the building located at 678 Front Ave NW.

2. Use the Pictometry Image Viewer Tool  to open the Pictometry window.
3. Close or minimize the Pictometry window.
4. Click the Add image to map button  to add the Pictometry tile that corresponds to the location you selected in step 2.
5. A layer containing the Pictometry image is added to the Table of Contents.



6. To display layers on top of the Pictometry image highlight the image and drag it to the bottom of the table of contents.
7. To remove the image, right click on it and left click remove.
8. To add another Pictometry image repeat steps 2-4 in a different location

*Note: The Add image to map button is not working on every server. If you need to use it and it is not present call the REGIS Help desk to get on the correct server.*

*End of Exercise 7*

## **Exercise 8 – Printing and Extracting Images**

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In this exercise, you will learn how to:

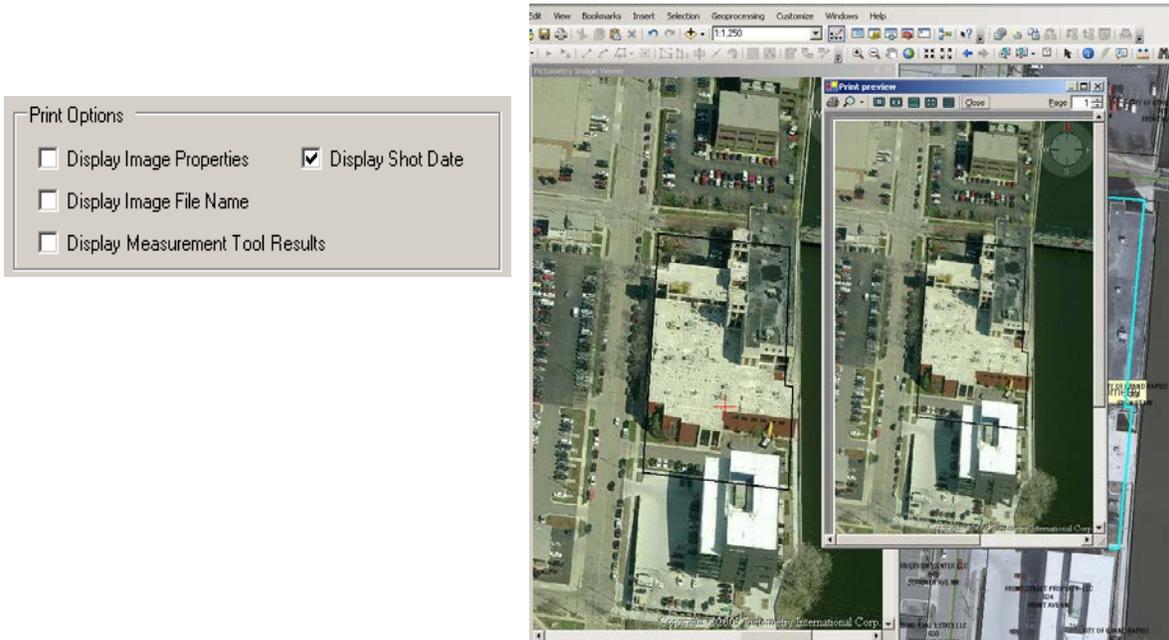
- Print an image from Pictometry
- Extract an image from Pictometry

### How to Print from Pictometry

9. Zoom in to the building located at 678 Front Ave NW and open the oblique image.

10. Before printing, you will want to use the **Pictometry Print Preview tool**  to preview.

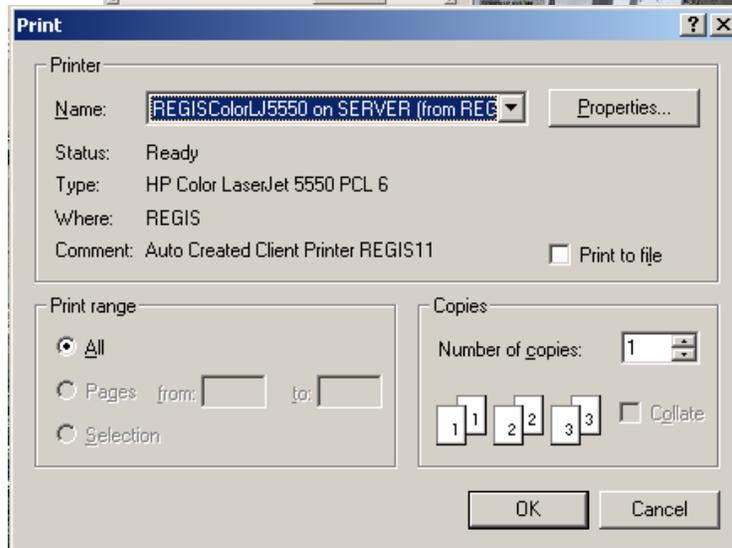
*Note: In the Pictometry Settings Dialog Box under Print Options, you will find options to display measurement tool results and display shot date.*



11. If you are satisfied with the preview click **Close** and click the **Pictometry Print**

**Button** 

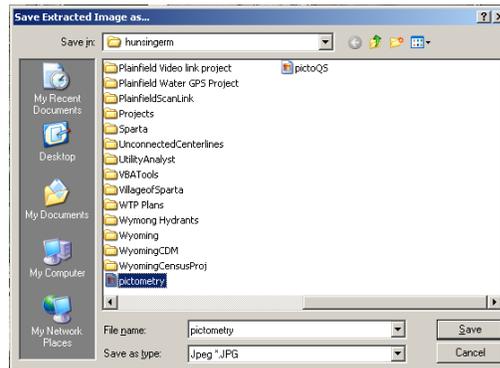
12. Make sure the correct printer is selected and click OK to send the print job.



### How to Extract an image from Pictometry

1. Click on the **Pictometry Extract Image tool**  to extract the image of the building located at 678 Front Ave NW.

2. Move your cursor into the Pictometry window and you will see a symbol of scissors as your cursor. Left mouse click in the upper left hand corner of the Pictometry window and drag the extract line to the bottom right hand corner and release the left mouse button.
3. When you release the left mouse button, the **Save Extracted Image as...** box will pop up. Save the image in your I:drive folder. You will use this image later on in the course.



*End of Exercise 8*

## **Exercise 9 – Printing Pictometry Images in ArcMap**

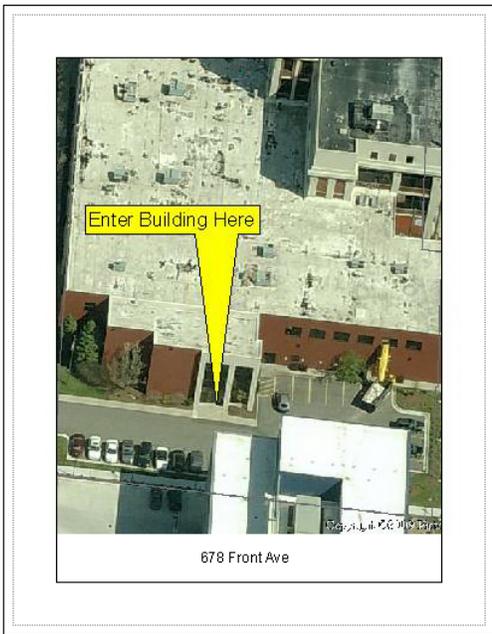
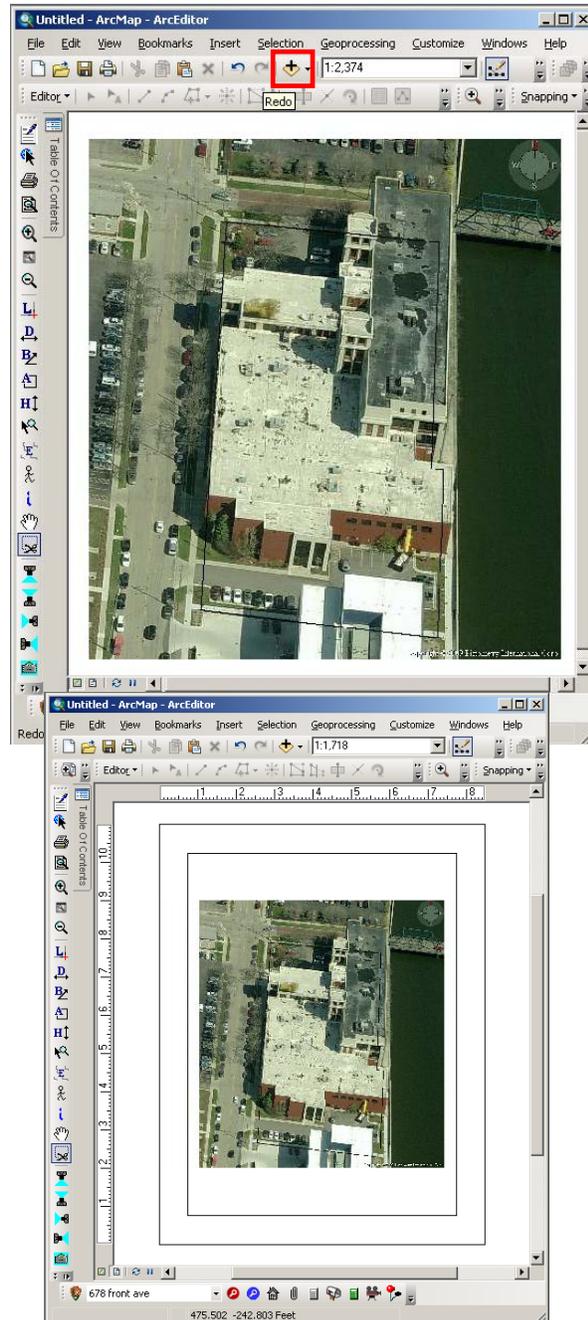
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In this exercise, you will learn how to:

- Print Pictometry images from ArcMap
- Use ArcMap to customize Pictometry images

[How to Add Extracted Image to ArcMap for printing](#)

1. Open an empty ArcMap project and add the image you saved to your I:drive folder in Exercise 8 using the ArcMap add data button .
2. Click Ok to the warning that appears. The .jpg should be zoomed to automatically. If it is not, right click on it in the Table of Contents and click Zoom to Layer.
3. Change to layout view by clicking on View < Layout View.
4. Now that you have the jpeg image added to the ArcMap window, you can customize the layout and add text and graphics for presentation purposes using the draw toolbar much like the example shown below. (Note: This is not available in the Pictometry window.)



*End of Exercise 9*



## REGIS QuickReference How to Create Large Plots of Pictometry Images

This REGIS QuickReference Sheet details how to create large plots of Pictometry Images in the REGIS ArcMap 10.

## Pictometry: How to Produce Large Plots

Log into the REGIS ArcGIS 10 application of your choice (ArcView 10, ArcEditor 10, ArcInfo 10) as you normally would, either opening a saved map document (.mxd) file from a previous session or using a brand new map document, adding the needed layers. After the REGIS ArcGIS 10 application of choice is open, add the REGIS data layer of choice to your view. For example, you can add the REGIS parcel layer to your view. Locate the Pictometry Toolbar. (Note: the Pictometry toolbar should already appear in your ArcMap project. If you cannot locate the toolbar, refer to the REGIS Quick Reference “How to Use the Pictometry Toolbar”.)

•Before making a plot of the Pictometry image, you must first extract the image from the Pictometry Window in ArcMap using the Pictometry toolbar (see below).

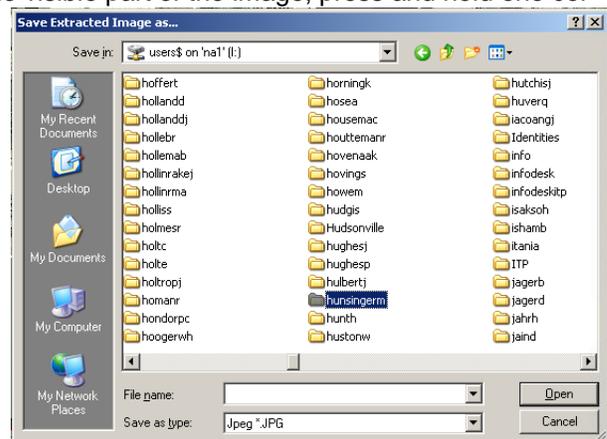
### To extract an image:

- 1 Open the image you want to extract a portion of.
- 2 Click the **Pictometry Settings** button.  The Pictometry Image Viewer Settings dialog box opens.
  - a From the File Type drop-down list, select the desired format for the extract file.
  - b If you're extracting to a JPEG file, select or type a value for JPEG Image Quality. The number must be between 1 and 100.
  - c (Optional) Check or uncheck the options for removing overlays and the compass before extracting the image.
  - d (Optional and subject to your license options) Select the degree of watermarking.
  - e Click **Ok**. The Pictometry Image Viewer Settings dialog box closes.
- 3 Click the **Pictometry Extract Tool**.  The cursor changes to a black crosshair and scissors.
- 4 Do one of the following:
  - To extract a rectangular area within the visible part of the image, press and hold one corner of the rectangle to be extracted, then drag diagonally to the opposite corner. Release the mouse button.

– or –

- To extract the entire visible region, double-click the image in the Image window.

The following dialog box appears.



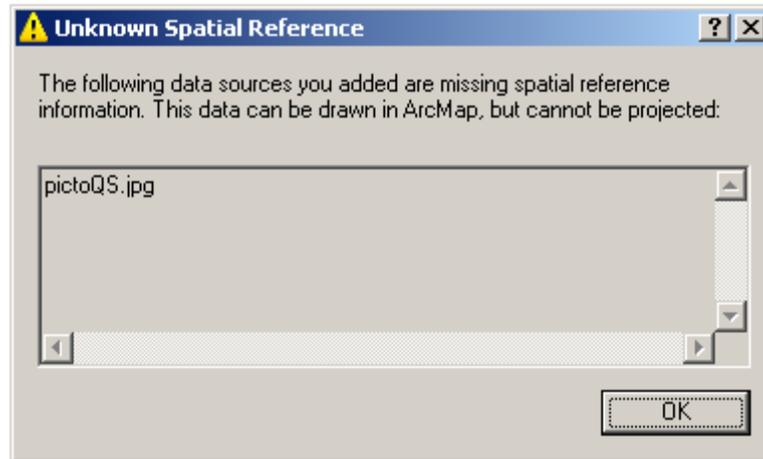
- 5 Navigate to the folder in which to store the extract file, type a name in the File name box, and click **Save**.

The extracted image is saved to the file you specified. If you typed or selected an existing name, the new extract will over-write the file.

### To plot image:

1. Remove any layers you currently have in your ArcMap project.

2. Click the add data button and navigate to the folder where you just stored the extracted image. Once you have found the image, add it to the map. The following message box will appear. Simply click OK



3. The extracted image is then added to the ArcMap window. You may now switch to the layout menu and add graphics, etc. just as you would to any other map created in REGIS. You may create plots all the way up to E size. (Note: If you need to plot multiple images/views, you must create a new data frame for each image in your layout view). **Note: Plotting may take several minutes to complete due to image size.**

#### Help and Additional Information

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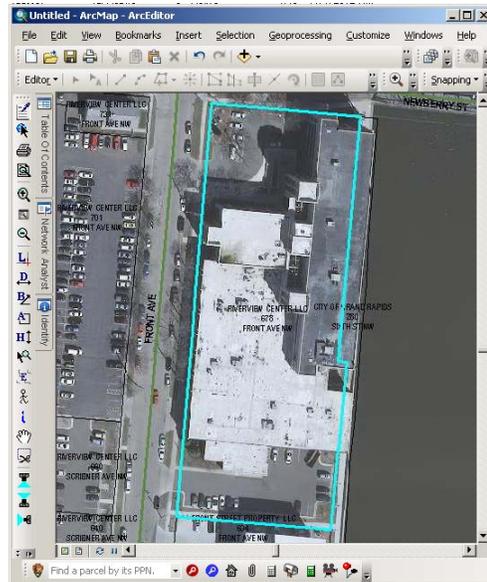
For assistance or additional information on logging into the REGIS ArcGIS 10 environment, please call the REGIS Help Desk at (616) 776-7744, send an e-mail to [regis@gvmc.org](mailto:regis@gvmc.org), or consult the REGIS Support Center at [http://www.gvmc-regis.org/regis\\_users.html](http://www.gvmc-regis.org/regis_users.html). For information on GIS training offered at REGIS contact Brenda Brittain at (616) 776-7751 or visit the REGIS training website at <http://www.gvmc-regis.org/training.html>.

## Exercise 1 – How to Open an Oblique Image, Change Views and Change Orientation

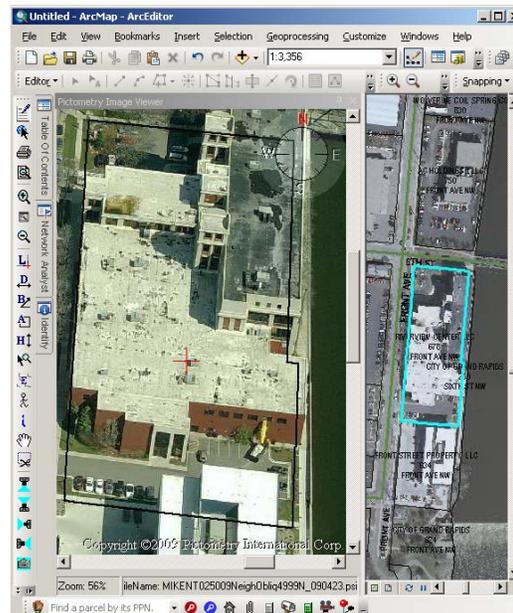
In this exercise, you will learn how to:

- Use the Pictometry toolbar to open an oblique image
- Change views and orientation of images

1. In ArcMap, find the Pictometry toolbar. If the toolbar is not there, see page 2 of 12 in the Pictometry manual.
2. Find the **Image tool**  on the Pictometry toolbar.
3. Zoom to the area of interest in the ArcMap window. *In this example you will use the Address located at 678 Front Ave NW (use the Parcel\_Address find tool located on the REGIS custom toolbar to zoom to the address).*



4. Once you have located 678 Front Ave NW, click in the center of the building to open the associated oblique image (see graphic below).
5. The Pictometry window will appear with the corresponding oblique image.
6. Use the **View Next and Previous Image** tool  to cycle through all the images that are available for the location and orientation you picked.
7. To change the orientation, click on the **View from (North, East, or West) Tool**. The toolbar defaults to view from South.



*End of Exercise 1*

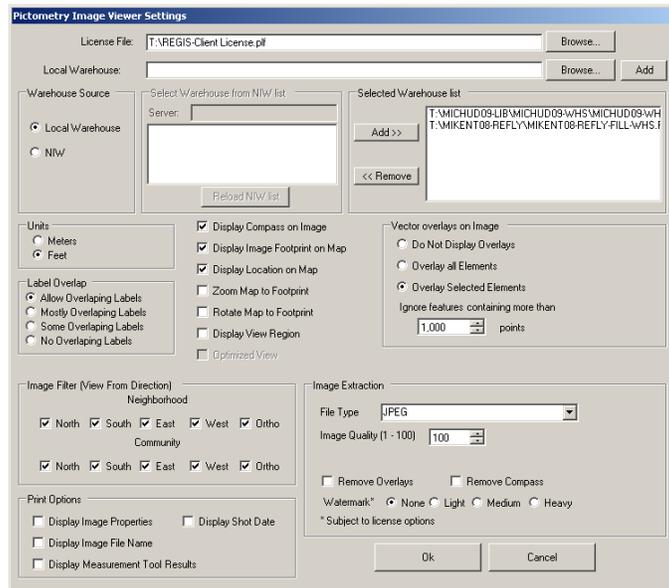
## Exercise 2 – Using the Pictometry Settings Dialog Box

In this exercise, you will learn how to:

- Open the Pictometry Settings Dialog Box and change settings
- Open the community view only
- Overlay elements/layers

### How to Open the Pictometry Settings Dialog Box

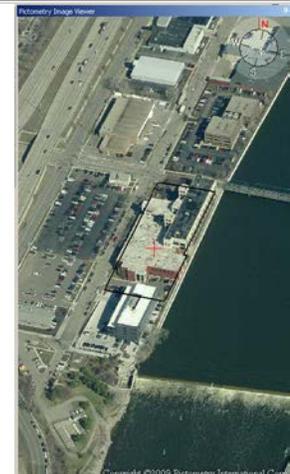
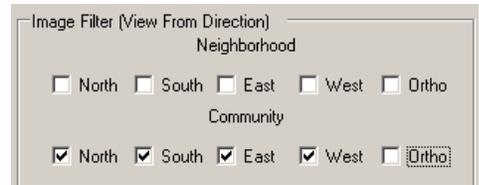
Open the Pictometry Settings Dialog Box by clicking the **Pictometry Settings Tool** . This will open the dialog box shown in the graphic below.



### How to Change from Neighborhood to Community View

If you would like to get a more expanded view of the building located at 678 Front Ave SW, you will need to switch to the community view. Follow the steps below to change the view to the community view:

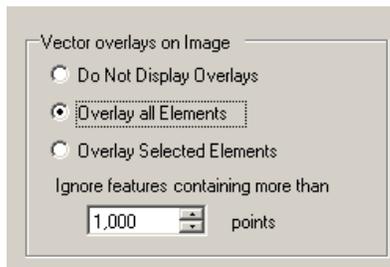
1. In the dialog box uncheck all the orientations under the Neighborhood. Your dialog box should look like the graphic to the right
2. Click **Ok** to close. Click on the **Image Tool**  and click in the ArcMap window to refresh the Pictometry window. Your image should bring up the new expanded community view much like the graphic shown to the right.



### How to Overlay All Elements

Now that you have the community view open, you would like to also see all the water mains and fire hydrants near the building at 678 Front Ave NW. Follow the steps below to overlay the water mains and fire hydrant layers:

- 1) Open the Pictometry Settings Dialog box using the **Pictometry Settings Tool**. 



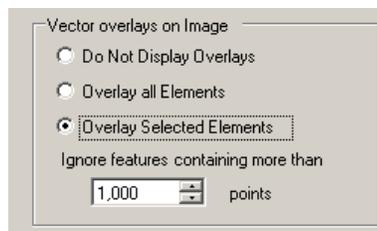
- 2) Under Vector Overlays on Image, Click Overlay all Elements



- 3) Add the layers *Water Mains* and *Water Fire Hydrants* located under *Water Utilities* from the Theme Manager on the REGIS Custom Toolbar. As the layers are added, they are drawn on the oblique image in the Pictometry toolbar as well as any other layers you already have added in your ArcMap project.

### How to Overlay Selected Elements

- 1) Open the Pictometry Settings Dialog box using the **Pictometry Settings Tool**. 

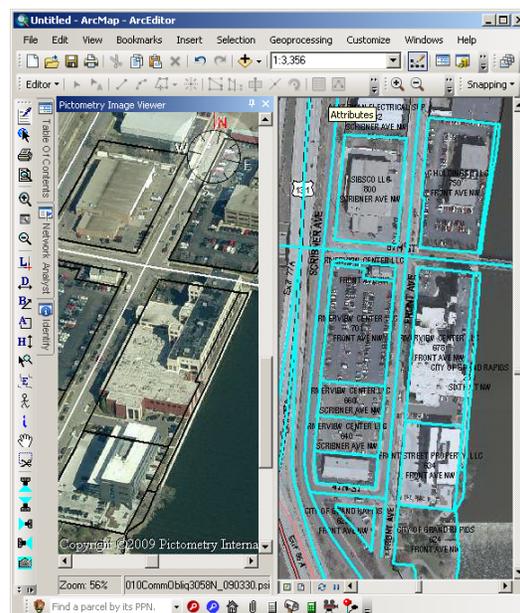


- 2) Under Vector Overlays on Image, click Overlay Selected Elements and click Ok to close.

- 3) Use the **Select Features Tool**  to select the parcel at 678 Front Ave NW. The selected parcel will draw on the oblique image.

*Note: If you noticed, there is an option Do Not Display Overlays. Check this option when you do not want any of your layers to be drawn on the oblique image.*

*End of Exercise 2*



### Exercise 3 – Changing Units and Using the Location Tool

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In this exercise, you will learn how to:

- Use the Location tool to determine the location (coordinates) of an object
- Change units using the Pictometry Settings Dialog Box

#### How to Determine Location

1. Zoom in to the building located at 678 Front Ave NW. In this example, you want to find the location coordinates of the intersection located at Newberry St and Front Ave.
2. Click on the Pictometry Location Tool .
3. Click at the center of the intersection of Newberry St. & Front Ave on the Pictometry Image. The Location Tool will report the coordinates in Latitude and Longitude at the bottom of the Pictometry Window.



#### How to Change Units of Measure

1. Open the Pictometry Settings Dialog Box by clicking the **Pictometry Settings Tool** .
2. Under Units, click on what unit of measure you would like to use.
3. Click **Ok** to close the Pictometry Settings Dialog Box.



*End of Exercise 3*

## Exercise 4 – Measuring Distance and Perimeter

In this exercise, you will learn how to:

- Measure Distance and Perimeter
- Insert a vertex or corner
- Measure distance/perimeter using the freeform line option

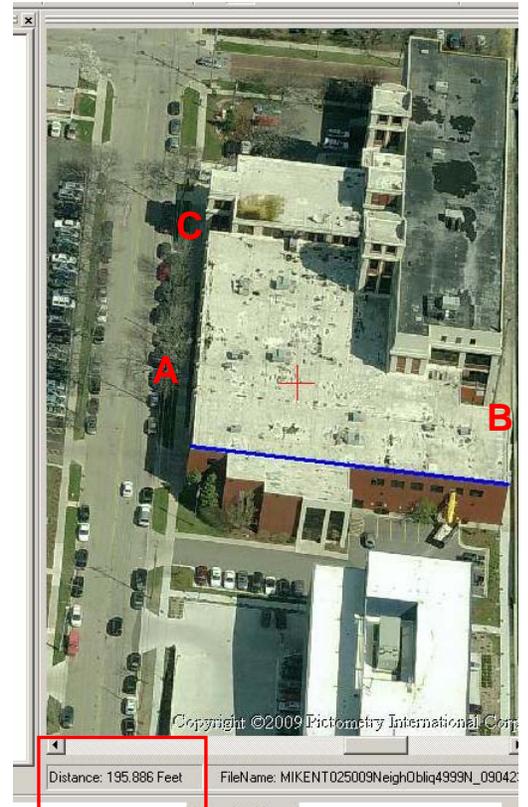
### How to Measure Distance

1. Zoom into the building located at 678 Front Ave NW. In this exercise you want to measure the width of the building. (*Make sure your view orientation is set to view from South*)
2. Click on the **Pictometry Distance Tool** .
3. Left click and hold your mouse button on point **A** shown in the graphic to the right. Begin to drag your mouse over to point **B** shown in the graphic and let go of the left mouse button once you get to point **B**.
4. A blue line will appear on the image showing the length of this feature in the bottom left hand corner of the Pictometry window.

• To measure the total distance from point **B** to point **A** to point **C** you must add a vertex (corner) to your distance line. Follow the steps below to add a vertex.

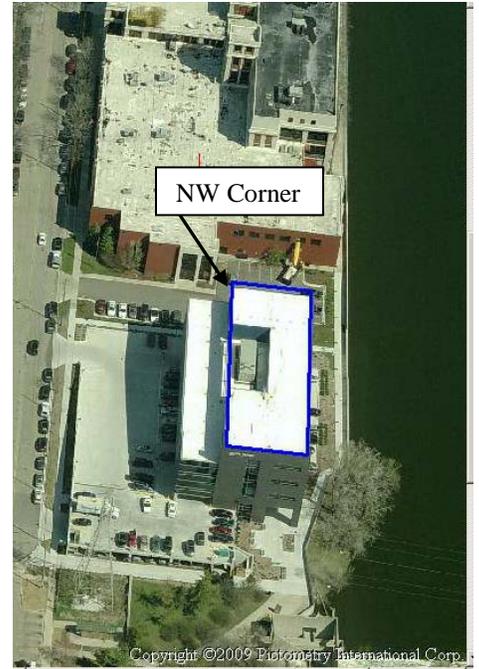
1. Left click and hold on point **B**, drag your mouse across to point **A**.
2. At point **A** press the **V** key and let go. Start dragging your mouse up to point **C** and let go once you reach point **C**. The distance will again appear in the right hand corner of the Pictometry window.

*Note: If you would like to draw the measurement line using the freeform option, you can hold down the **V** key while holding down the left mouse key and dragging the mouse. Try this doing the same measurement you just completed. This option is used to measure irregular shaped objects.*



## How to Measure Perimeter

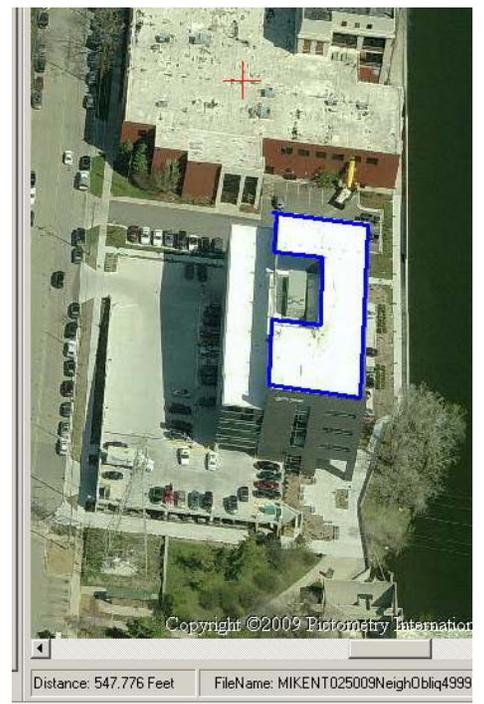
1. In the exercise below you will measure the perimeter of the top of the roof on the building with the white roof south of 678 Front Ave NW.
2. Using the **Pictometry Distance Tool** , start with the NW corner of the roof, press and hold the left mouse button, then drag a line to the SW corner. Once you reach the SW corner of the roof, press and hold the **CTRL key** and drag the mouse to the east edge of the building.
3. Release both the **CTRL key** and the mouse button once you reach the east side of the building.
4. The perimeter of the roof will show up in the left hand corner of the Pictometry window.



- Once the measurement is taken you realize you did not want to include that that gap showing a lower portion of building. To remove the gap, you will have to create a vertex (or corner) to take this measurement.

1. Once again start at the NW corner of the building; left click and hold your left mouse button and drag across to the NE building corner.
2. At the NE corner of building press and release the **V key** to create a vertex (corner).
3. Continue dragging your mouse to each corner and pressing and releasing the **V key** to create the vertex (corner) until you have come back to the NW corner and release the left mouse button. Again, the perimeter will show up in the right hand corner.

*Note: If you would like to draw the measurement line using the freeform option, you may hold down the **V key** while holding down the left mouse key and dragging the mouse. Try this doing the same measurement you just completed. This option is used to measure irregular shaped objects.*



*End of Exercise 4*

## Exercise 5 – Measuring Bearing and Angle

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In this exercise, you will learn how to:

- Measure bearing
- Measure an angle

### How to Measure Bearing

1. Zoom in to the building located at 1253 Oaklawn St NE and open the associated oblique image.
2. Click on the **Pictometry Bearing Tool** .
3. To measure the bearing, click on a point in the oblique image and click and drag a line. The bearing will appear in the bottom right hand corner of the Pictometry window.



### How to Measure Angle

Use the Bearing Tool to measure the angle of the roof in the building located at 1253 Oaklawn St NE.

1. Zoom in to the front of the house to get a good view of the roof.
2. Click on the **Pictometry Bearing Tool** .
3. Left click and hold on the point where the roof and house meet.
4. While holding the left mouse button, down drag the mouse straight across the front of the house.
5. When you reach the edge of the house, press and hold the **Ctrl Key** and drag the line up to follow the angle of the roof. The angle will be in the left hand corner of the Pictometry window.



*End of Exercise 5*

## Exercise 6 – Measuring Area and Height

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In this exercise, you will learn how to:

- Measure Area
- Insert a vertex or corner
- Measure distance/perimeter using the freeform line option
- Measure Height

### How to Measure Area Using a Parallelogram

1. Zoom in to the building located at 678 Front Ave NW. Use the **Pictometry Pan Tool**  to zoom to the parking lot to the west.
2. Click on the **Pictometry Area Tool** .
3. Left click and hold your mouse button on point **A** shown in the graphic to the right. Begin to drag your mouse up to point **B** shown in the graphic.
4. When you reach point **B**, press and hold the **Ctrl** key and drag the mouse over to the west side of the parking lot to complete the polygon. The area measurement is shown in the bottom right hand corner of the Pictometry window (see graphic at the bottom right).



### How to Measure Area Using the Straight Sided and Freeform options

#### Straight Sided Option

1. Left click and hold the mouse button on point **A** and drag your mouse over to point **C** shown in the graphic above.
2. At point **C**, press and release the **V Key** to create a vertex. Continue this step all the way around the parking lot and release the left mouse button when you are to the end of your measurement line (see graphic to the left). The area in square feet will display in the bottom left hand corner of the Pictometry window.



## Freeform Option

- 1) In this exercise you will use the freeform option to measure the area of this parking lot island. 
- 2) Click on the **Pictometry Area Tool** .
- 3) Left click on any point along the edge of the parking lot island; press and hold the **V Key** and drag your mouse around the outside edge of the island.
- 4) When you have finished your measurement line, release the left mouse button and you will see the area in square feet displayed in the bottom left hand corner of the Pictometry window.



## How to Measure Height

Click on the **Pictometry Height Tool** .

Zoom from the parking lot back over to the building located at 678 Front Ave NW. Left click and hold on this point. 

Drag your mouse up to the top of the building and release. The height of the building will be shown in the bottom left hand corner of the Pictometry window. 

*End of Exercise 6*

## Exercise 7 – Printing and Extracting Images

---

In this exercise, you will learn how to:

- Add Pictometry images to the main ArcMap window

### How to view Pictometry in the main ArcMap window

1. Zoom in to the building located at 678 Front Ave NW.
2. Use the Pictometry Image Viewer Tool  to open the Pictometry window.
3. Close or minimize the Pictometry window.
4. Click the Add image to map button  to add the Pictometry tile that corresponds to the location you selected in step 2.
5. A layer containing the Pictometry image is added to the Table of Contents.



6. To display layers on top of the Pictometry image highlight the image and drag it to the bottom of the table of contents.
7. To remove the image, right click on it and left click remove.
8. To add another Pictometry image repeat steps 2-4 in a different location

*Note: The Add image to map button is not working on every server. If you need to use it and it is not present call the REGIS Help desk to get on the correct server.*

*End of Exercise 7*

## Exercise 8 – Printing and Extracting Images

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In this exercise, you will learn how to:

- Print an image from Pictometry
- Extract an image from Pictometry

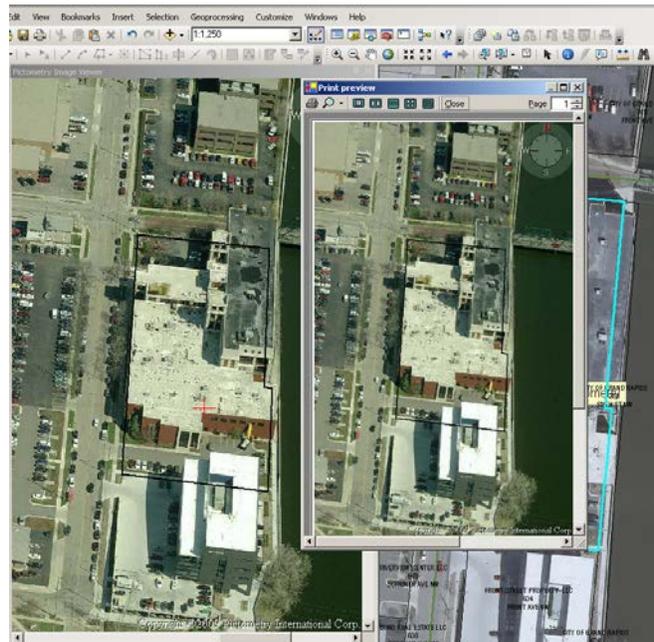
### How to Print from Pictometry

1. Zoom in to the building located at 678 Front Ave NW and open the oblique image.
2. Before printing, you will want to use the **Pictometry Print Preview tool**  to preview.

*Note: In the Pictometry Settings Dialog Box under Print Options, you will find options to display measurement tool results and display shot date.*

Print Options

<input type="checkbox"/> Display Image Properties	<input checked="" type="checkbox"/> Display Shot Date
<input type="checkbox"/> Display Image File Name	
<input type="checkbox"/> Display Measurement Tool Results	



3. If you are satisfied with the preview click **Close** and click the **Pictometry Print Button** 

**Print** [?] [X]

Printer

Name: REGISColorLJ5550 on SERVER (from REG) [Properties...]

Status: Ready

Type: HP Color LaserJet 5550 PCL 6

Where: REGIS

Comment: Auto Created Client Printer REGIS11  Print to file

Print range

All

Pages from: [ ] to: [ ]

Selection

Copies

Number of copies: 1

Collate

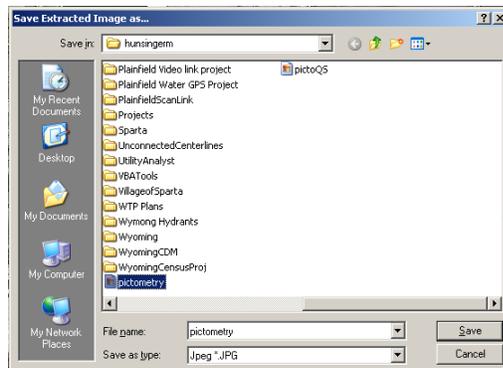
1 1 2 2 3 3

OK Cancel

4. Make sure the correct printer is selected and click OK to send the print job.

### How to Extract an image from Pictometry

1. Click on the **Pictometry Extract Image tool**  to extract the image of the building located at 678 Front Ave NW.
2. Move your cursor into the Pictometry window and you will see a symbol of scissors as your cursor. Left mouse click in the upper left hand corner of the Pictometry window and drag the extract line to the bottom right hand corner and release the left mouse button.
3. When you release the left mouse button, the **Save Extracted Image as...** box will pop up. Save the image in your I:drive folder. You will use this image later on in the course.



*End of Exercise 8*

## Exercise 9 – Printing Pictometry Images in ArcMap

In this exercise, you will learn how to:

- Print Pictometry images from ArcMap
- Use ArcMap to customize Pictometry images

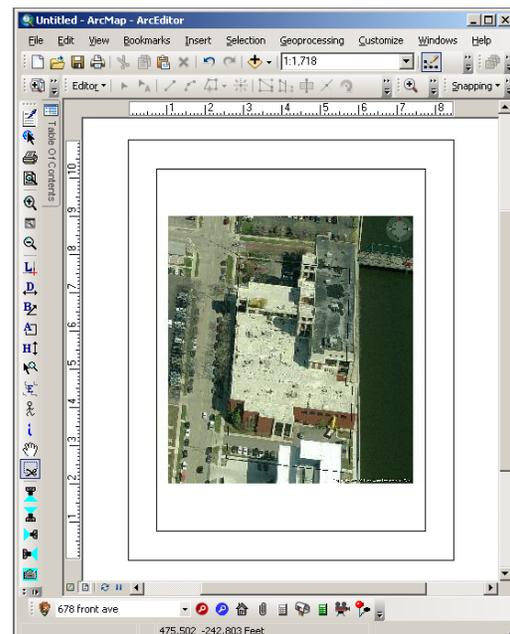
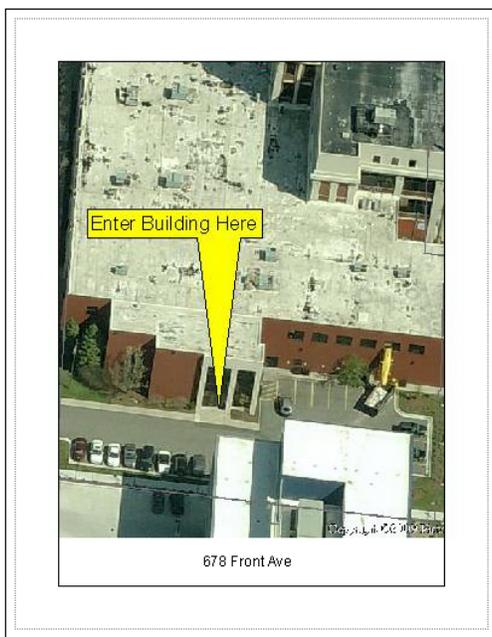
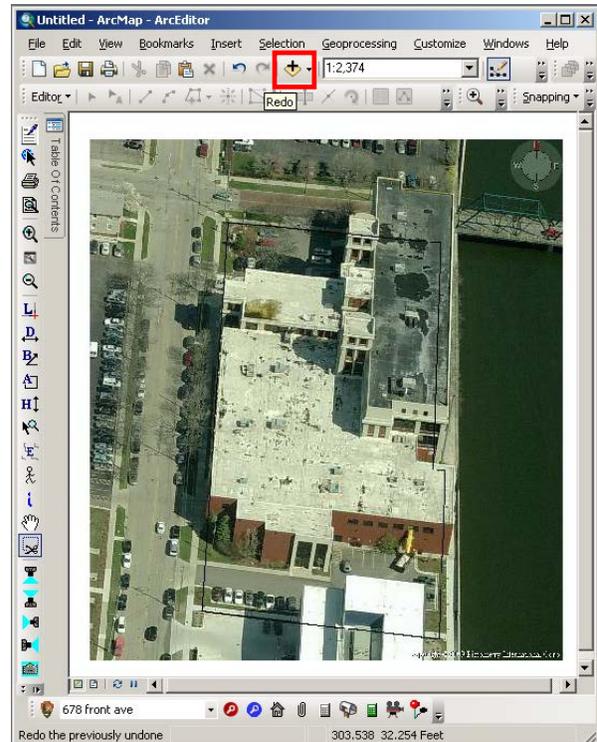
### How to Add Extracted Image to ArcMap for printing

1. Open an empty ArcMap project and add the image you saved to your I:drive folder in Exercise 8 using the ArcMap add data button .

2. Click Ok to the warning that appears. The .jpg should be zoomed to automatically. If it is not, right click on it in the Table of Contents and click Zoom to Layer.

3. Change to layout view by clicking on View < Layout View.

4. Now that you have the jpeg image added to the ArcMap window, you can customize the layout and add text and graphics for presentation purposes using the draw toolbar much like the example shown below. (Note: This is not available in the Pictometry window.)



*End of Exercise 9*