


# Getting Started with Virtual Fairfax

## *A Quick Start Guide*



This Guide provides a brief overview of basic Virtual Fairfax features. Please see the help  button within Virtual Fairfax for detailed description of available tools.

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*View of Tysons looking to the west*

## System Requirements

A downloadable plugin ([TerraExplorer 6.6.1](#)) is required to use the Virtual Fairfax application. TerraExplorer 6.6.1 is a sophisticated 3-D GIS desktop viewer produced by Skyline Software Systems Inc and is only available on Windows operating systems. Full system requirements are detailed below. It is understood that the Windows OS and hardware requirements makes it difficult for some, however Virtual Fairfax will expand to more platforms once the technology allows it.

Previous users of Virtual Fairfax that had used versions of the plugin lower than 6.6.1 need to upgrade the TerraExplorer 6.6.1. Please follow the instructions in the Installation Guide for uninstalling previous versions before downloading and installing 6.6.1. Once installed, please click the launch button to enter Virtual Fairfax.



The system requirements for the TerraExplorer plugin (a key component of *Virtual Fairfax*) are:

- **Operating System** - Windows 98/2000/Me/XP/Vista/7
- **System Memory** - 512MB RAM (1024MB or more recommended)
- **Video Card** - 64MB of memory (128MB or more recommended)
- **Internet Connection** - Broadband connection recommended.
- **Browser** - Microsoft Internet Explorer 6 or higher should be installed on machine. Virtual Fairfax can run on more recent versions of FireFox, but it calls Internet Explorer from within FireFox.

The *TerraExplorer* plug-in is about 35 megabytes in size and may be downloaded and installed quickly from [Virtual Fairfax's entry page](#).

# Navigation

## Points of Interest

1. After clicking the “Points of Interest” tab from the left panel, choose a location from the list of places. This will “fly” you to the selected location.
2. Points of interest locations that are followed by the “- 3D” label contain views of photo-realistic three-dimensional building models.
3. For the points of interest preceded by the  icon, clicking them will begin a dynamic tour of a broad area rather than one specific spot. To control the tour, you may use the control tools at the upper middle of the map view. 


### POI, Map Layers, Labels


Points of Interest


Building Models


Map Overlay Layers


Label Markers


 [Fairfax County Full Extent](#)

 [Dulles Corridor Tour](#)





 [Historic Sites Tour](#)

 [Mount Vernon Historic Site - 3D](#)

 [Reston Town Center - 3D](#)

 [Tysons Corner - 3D](#)

## Using the Mouse on the Terrain

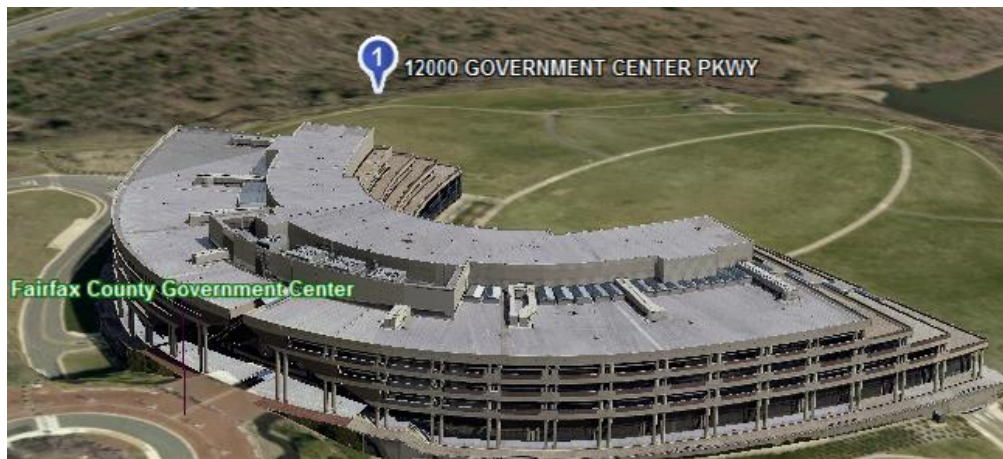
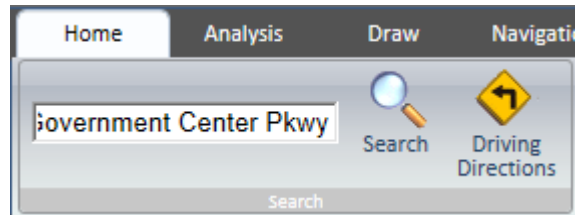
1. Click and hold the left mouse button on a location in the terrain:
  - a. **To pan**, drag the mouse (the pointer icon will change  to ) to the sides, forward, or backward. The terrain location on which you clicked will be dragged along with the tool.
  - b. **To pan continuously**, drag the mouse in similar fashion as above but keep the mouse moving for a moment after releasing the mouse button. This “throwing” motion will continue the movement in the same direction. The speed that you move the mouse determines the speed that the imagery will move.
  - c. **To tilt and rotate**, either press the “Ctrl” button while dragging the mouse, or click (not roll) the mouse center wheel button to turn and tilt the terrain. The mouse icon will change from  to . This method is the best to appreciate the three-dimensional character of *Virtual Fairfax*.
2. **To zoom**, roll the middle mouse wheel to zoom in or out. To only change elevation, hold the “Ctrl” key when rolling the mouse wheel.



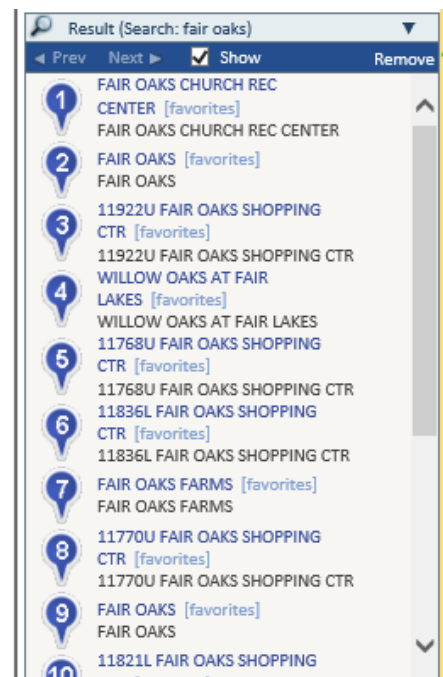
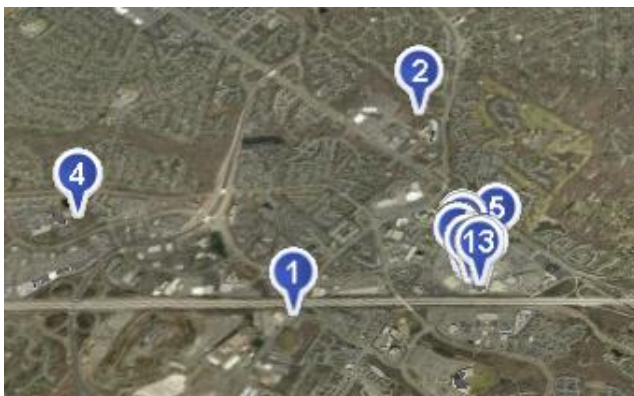
*Different perspectives of a Tysons Corner building achieved using the pan and tilt navigation tool*

## Searching

Using the intelligent search box under the “Home” tab on the toolbar, you may type in any address, school, park, hospital, shopping center, or other place name in the County. After pressing the “Search” button, if there is only one returned result, you will automatically “fly” and zoom to the location on the map. A blue pin icon will indicate the location on the map.



If there is more than one returned result, a list of possible matches to your entry will be shown in a “Result” window on the bottom of the left panel. Each results is indexed with a number that is shown on the map. Click the desired result to fly to the location. The “Result” window may be minimized or expanded by clicking the triangle next to the title.



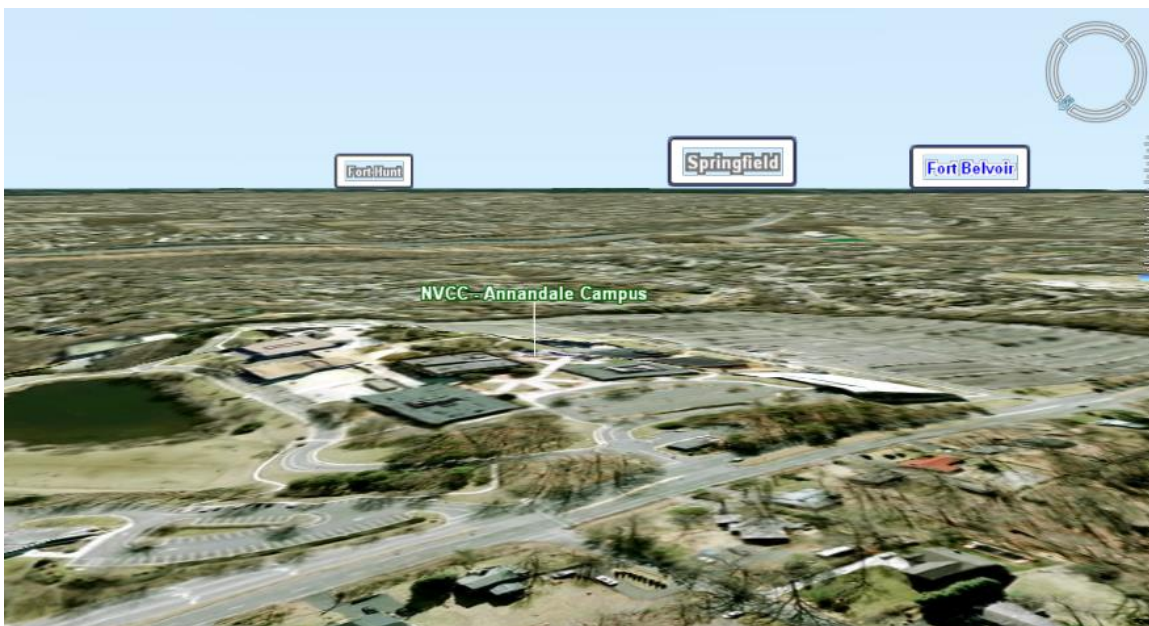


## Map Layers and Integration with Other Applications

In addition to the aerial imagery, terrain, and 3-D building data, there are several 2-D map layers available to view in *Virtual Fairfax*. There are both surface features (Addresses, Parcels, Political Boundaries, Roadways, and School Facilities) and thematic label boxes (Government & Education Institutions; Historic Sites, Museums, & Parks; Jurisdictions; and Regions). The surface feature layers draw on the terrain surface and the thematic label layers are always facing the user above the surface.




*Addresses, parcels, school facilities, and jurisdiction boundaries are visible on the terrain*



*Thematic “billboard” labels for different features are visible on the horizon*

The “Map Overlay Layers” tab is found in the left panel. Each entry in the group may be checked on (visible) or off (not visible) by clicking the circle next to them.

You may not wish to see all 2-D layers concurrently. First, each layer that has to draw will increase processing and draw times in the map window—the more layers, the slower the performance. Secondly, displaying too many layers can lead to a cluttered and confusing map view.

Addresses and the thematic label layers provide more information when clicked. Clicking the house icon  (you may need to turn off the 3-D building model layer to access) opens an “Address Information” window that provides the mailing address in addition to links to other applications. These application links go directly to the respective application page for the chosen address. One click from the Address Information window can provide extensive ownership and assessment information from Department of Tax Administration’s [Real Estate Assessment Information Site](#). Another click will reveal nearby land development information (subdivision applications, rezonings, building permits, etc.) from the [LDSNet](#) application and [Land Development Information History](#) system. Clicking [My Neighborhood](#) link provides maps and a large report describing items such as the address’ political representatives, the nearest hospital, and its designated FCPS school cluster. There is also a link to the [Police Events Viewer](#) that provides a map of all police calls for service near the address.

## POI, Map Layers, Labels

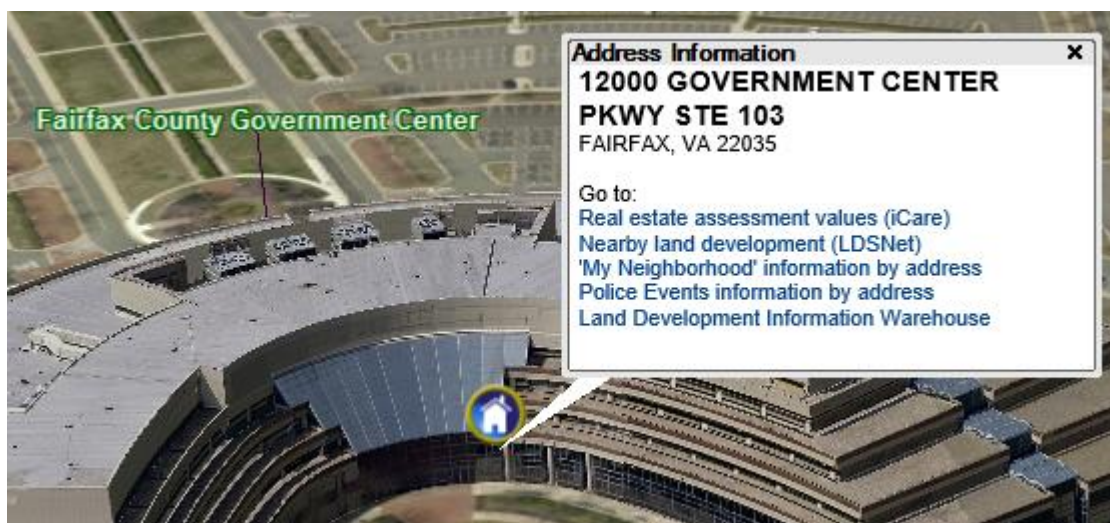
### Points of Interest

### Building Models

### Map Overlay Layers

### Label Markers

- ☒ Addresses
- ☐ Parcels
- ☒ Political Boundaries
- ☐ Roadways
- ☒ Metro Rail Lines & Stations
- ☐ Schools
- ☐ Tysons Corner Development Plan



*An “Address Information” window is revealed when clicking a house icon*



**VIRGINIA** Main Property Search Address Map Number

**MAP #: 0561 15 0014**  
**BOARD OF SUPERVISORS FAIRFAX COUNTY** 12000 GOVERNMENT CENTR PW **CURRENT RECORD**  
 1 of 1  
[Return to Search Results](#)  
[Neighborhood Sales](#)  
[Printable Summary](#)

**Owner**  
 Name: BOARD OF SUPERVISORS FAIRFAX COUNTY,  
 Mailing Address: 12000 GOVERNMENT CENTER PW SUITE 533  
 FAIRFAX VA 22035  
 Book:  
 Page:

**Parcel**  
 Property Location: 12000 GOVERNMENT CENTR PW  
 Map #: 0561 15 0014  
 Tax District: 8T000  
 District Name: SPRINGFIELD TRANSPORTATION  
 Land Use Code: Gov owned med/hi rise(= > 5 stories)  
 Land Area (acreage):  
 Land Area (SQFT): 3,763,373  
 Zoning Description: PDC(Planned Dev Commercial)  
 Utilities:  
 County Historic Overlay District: NO  
 For further information about Historic Overlay Districts, [Click here](#)  
 Street/Road:  
 Site Description:

**Legal Description**  
 Legal Description: FAIRFAX COUNTY  
 GOVERNMENTAL CTR  
 907 14 7316 447

*The Real Estate Assessment Site page for the Government Center--sales, value, and structural information is accessible*



**My Neighborhood Report**  
[homepage > fairfax geoportal](#)

Enter an address or street name: 12000 GOVERNMENT CENTER PKWY Search ☒ show map with report [hide map](#) [print report](#)

My Neighborhood report for 12000 GOVERNMENT CENTER PKWY

**Information Links**  
[View real estate assessment](#)  
[View nearby land development](#)  
[View nearby police events](#)

**Voting Information**  
 Voting Precinct: Monument (132) [show on map](#)  
 Polling Place: Fairfax County Government Center  
 12000 Government Center Pkwy  
[More information on voting](#)

**Fairfax County Government**  
 **Chairman of the Board of Supervisors**  
 Sharon Bulova  
[website](#)  
 **Braddock District Supervisor**  
 John C. Cook  
[website](#)

**Commonwealth of Virginia**

**Report Results**  
 12000 GOVERNMENT CENTER PKWY  
 FAIRFAX, VA 22035  
 The following application links open in a new window  
[View real estate assessment](#)  
[View nearby land development](#)  
[View nearby police events](#)

*The MyNeighborhood page for the Government Center. The left panel provides a vast amount of neighborhood information including the address location's elected officials; polling places; watersheds; FCPS school pyramids; and nearest parks, libraries, post offices, hospitals, police stations, & fire stations.*





Clicking any of the thematic labels (cities, towns, historic sites, colleges, parks, or government buildings) will open a window that reveals more information about that site. Most information windows have a text description in addition to website link. Moving the mouse (without clicking) over labels may also open a callout box with additional site information.




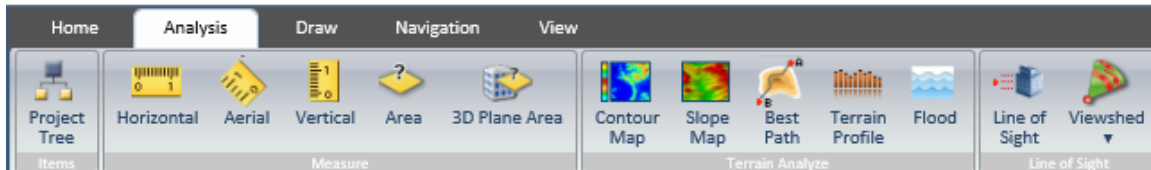
Clicking the Ox Hill Battlefield Historic Site label reveals a window with a description and a link to a Fairfax County Parks Authority website.



Clicking the Dulles airport label opens a window with a small description and a link to the airport's website. Notice that mousing over the label without clicking gives a callout box with some additional information

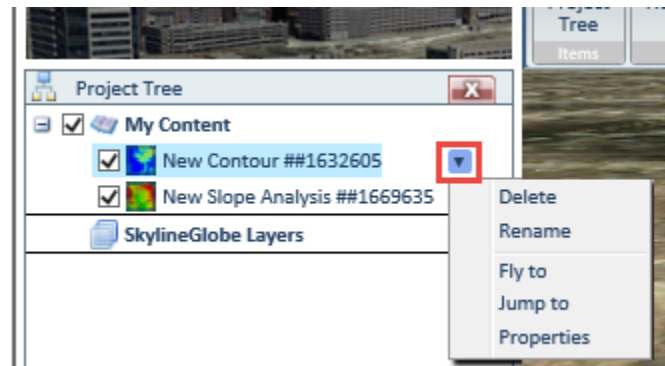
## Analysis Tools

The update to Virtual Fairfax has enabled many more analytical tools for users to explore. These tools are mostly found on the “Analysis” tab of the toolbar (shadow analysis is found on the “Home” tab). Brief descriptions of the tools are listed below, however all of the tools are fully documented by searching the interactive help  from the “Home” tab.



**Project Tree.** Many of the analytical tools produce results that may be displayed on the map.

To control these results (rename, change display properties, delete them, etc.), users must click the *Project Tree* button. This will open a window on the left panel that displays the results.



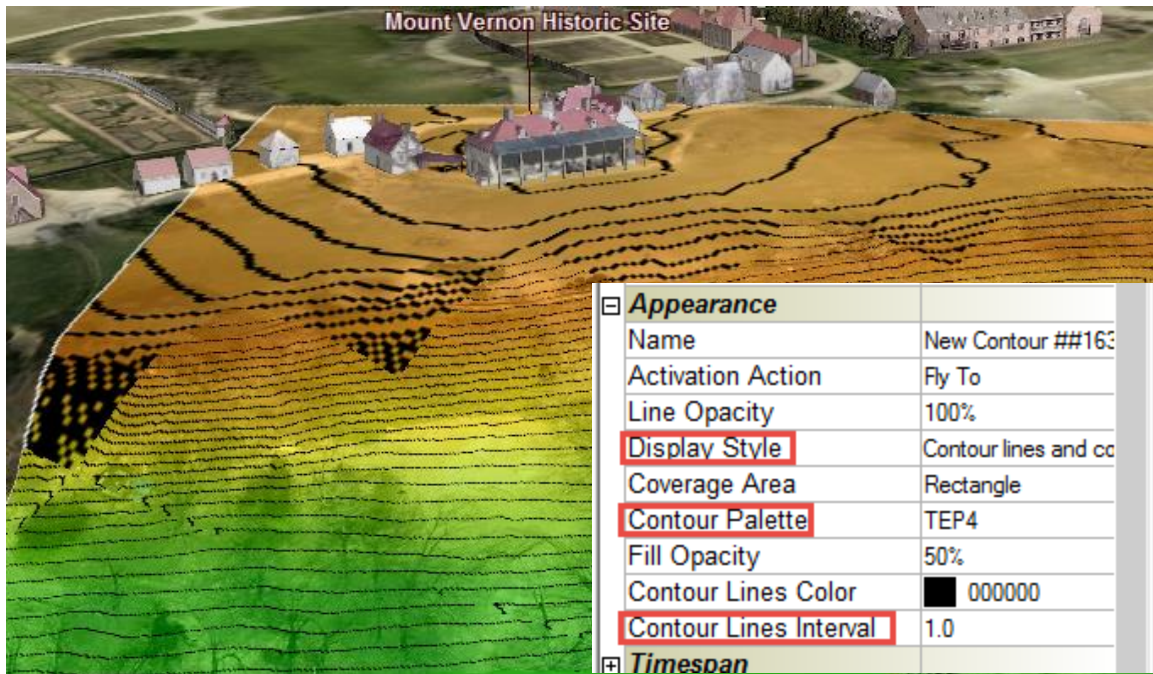
Clicking the checkbox next to an item will toggle the layer’s visibility on the map, and clicking the down arrow next to the layer will reveal actions to delete, rename, fly to, jump to, and adjust the properties of the layer.

The items in the “Project Tree” window will persist between Virtual Fairfax application sessions. When accessing Virtual Fairfax from the same computer, users should see analyses and drawings from previous application sessions.

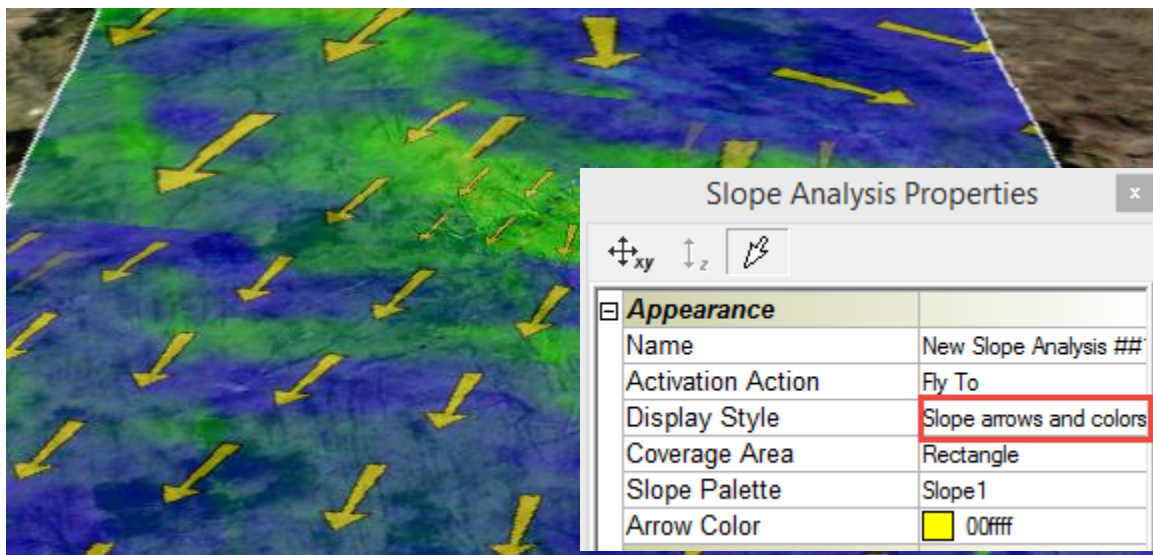


**Contour Map.** Use the *Contour Map* tool to create a contour map of elevations for a specified area of the terrain. To begin, click the tool button, click once on the map surface to begin drawing a rectangle, and a contour map will immediately draw.

For most users, it will be necessary to change a few property settings to get a meaningful output. In the properties window that pops-up, change the *Display Style* setting to “Contour lines and color”, change the *Contour Palette* to “TEP4”, and change the *Contours Line Interval* to “1”.



**Slope Map.** The *Slope Map* tool will provide a color coded surface on the map that indicates areas of high and low slope within the terrain (warmer colors indicate areas of steeper slope). Click the tool button, click once on the surface to begin drawing a rectangle on the surface, and a slope map will immediately draw. By changing the *Display Style* setting on the properties window, users may add arrows to the layer to show slope direction.







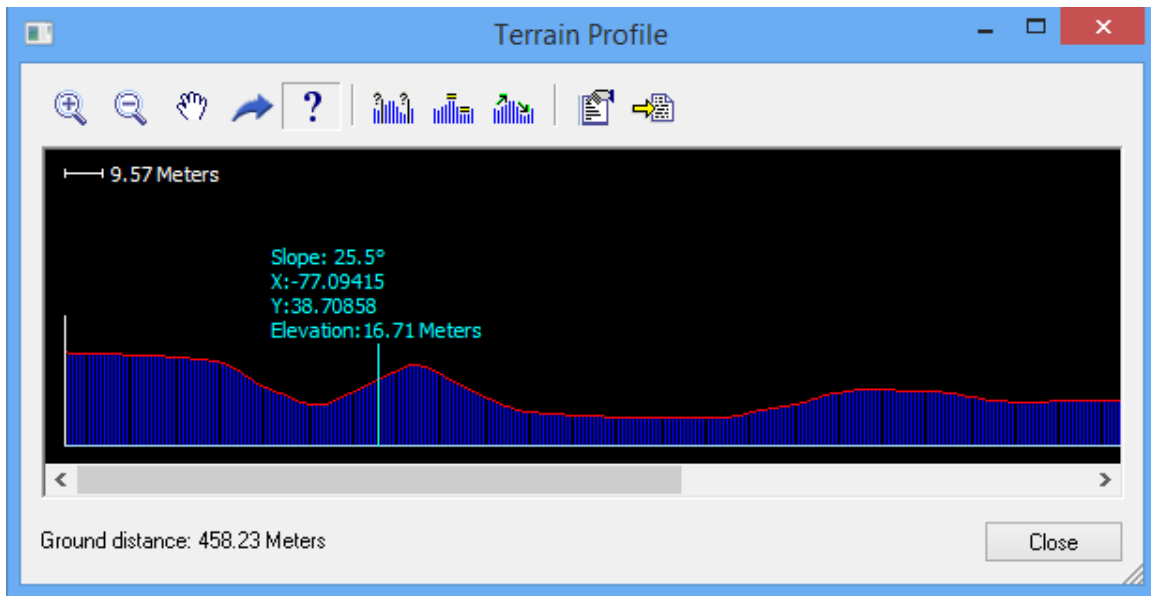
**Best Path.** The *Best Path* tool finds the most efficient path between two points on the terrain that avoids overly steep slopes. For instance, instead of a straight-line path over the peak of a mountain, the tool would suggest a path walking around the mountain. To begin, click the tool button, click once on the surface once to begin drawing a line, click again to establish the endpoint, and a best path will draw (it may take a few moments to process).

The properties window allows users to adjust some settings that can vary the path significantly. Under “Settings”, adjust the values in the *Climb Slope Limit* and *Descent Slope Limit* fields. These values represent the slope percentage ceiling that is allowed for the path—the lower the value, the more likely the path will vary from a straight line to avoid higher slope sections. After adjusting the settings, click the “Apply” button in the properties window.



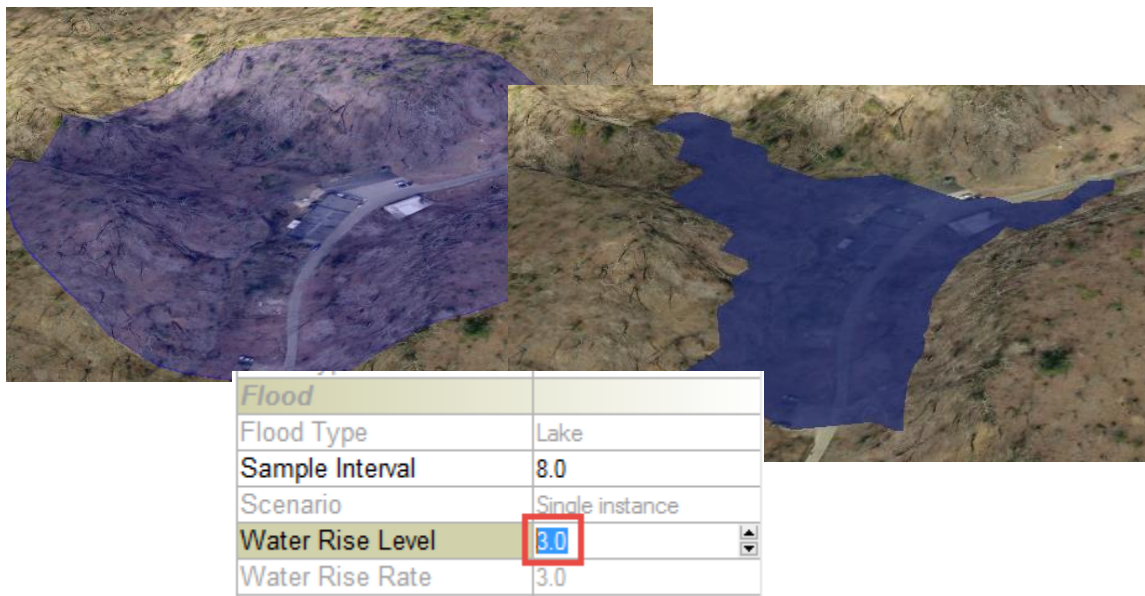
**Terrain Profile.** The *Terrain Profile* tool creates a cross-section map that indicates the elevation change over the path of a drawn line. To begin, click the tool button, click once on the surface to begin drawing a line, left-click to change directions, and right-click to establish the endpoint of the line. A new window with a terrain profile will open with several additional tools.

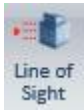
The window will show rise and fall of the terrain along the line along with several analysis tools. The tools above the profile allow you to zoom in/out, pan, find the profile location on the map, label elevation and slope values, and find elevation and slope extremes.



***Flood Analysis.*** The *Flood* analysis tool allows users to simulate a flood for a selected location and see which land areas would be inundated by water. To begin, click the tool button, click once on the surface to begin drawing a circle on the surface, click again to finish the circle, and a flood inundation layer will draw.

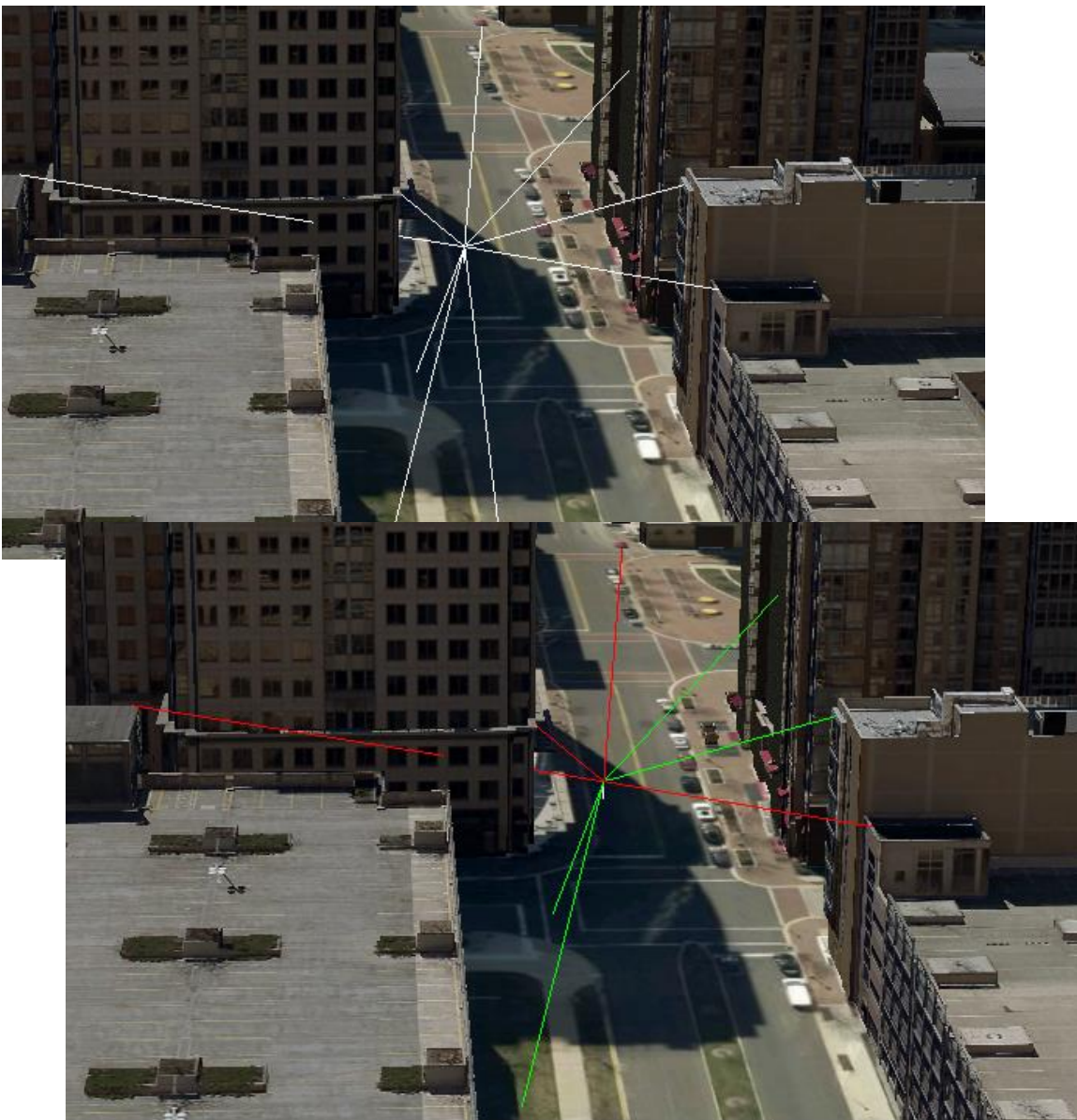
The properties window will allow you to adjust the height level of the flood. Adjust the *Water Rise Level* field to adjust depth of the simulated flood in meters.





***Line of Sight.*** The *Line of Sight* tool, taking into account building models and the terrain surface, will show whether any two points are visible to each other. The analysis is most applicable in an area of Fairfax whose buildings have been modeled, since objects that are not modeled in *Virtual Fairfax*, like trees, will not be part of the analysis.

To begin, click the tool button, click the point on the map that you want to analyze, and then click all the locations that you want to test for line of site visibility. To finish, right-click anywhere on the map. All of the points that are visible to each other are symbolized with green lines and all of the points that are not visible to each other are symbolized with red lines.







***Viewshed.*** The *Viewshed* tool is similar to line of sight tool, except it produces a surface of locations that differentiates what is visible and invisible from a single location or along a route.

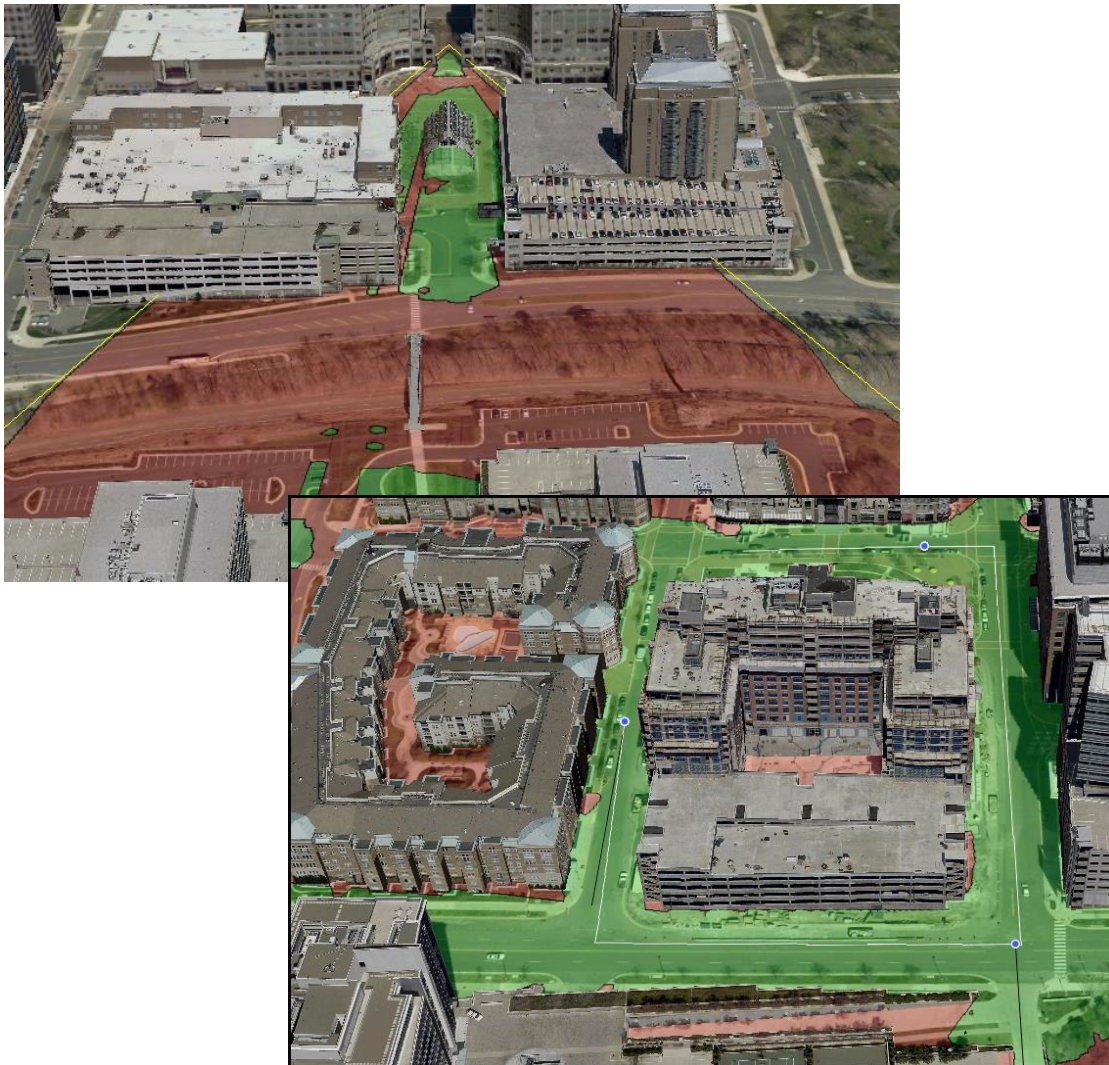


To begin, click the tool button and select the desired option from the dropdown list. The *Viewshed* (first) option will create a view shed from a specific point, while the route options refer to a viewshed for a path that is drawn on the

terrain surface.

To calculate a viewshed from a single point, select the *Viewshed* option from the dropdown list. Select the desired viewpoint on the map and drag the cone to set the area for calculation. Click again, and a surface will draw with green areas indicating what is visible to the selected viewpoint and red areas indicating what is invisible.

To create a viewshed along a route, choose the option from the dropdown list. Begin drawing a route by left-clicking the route vertices (turns) and right-clicking when finished. Calculations of a large route may take several moments.

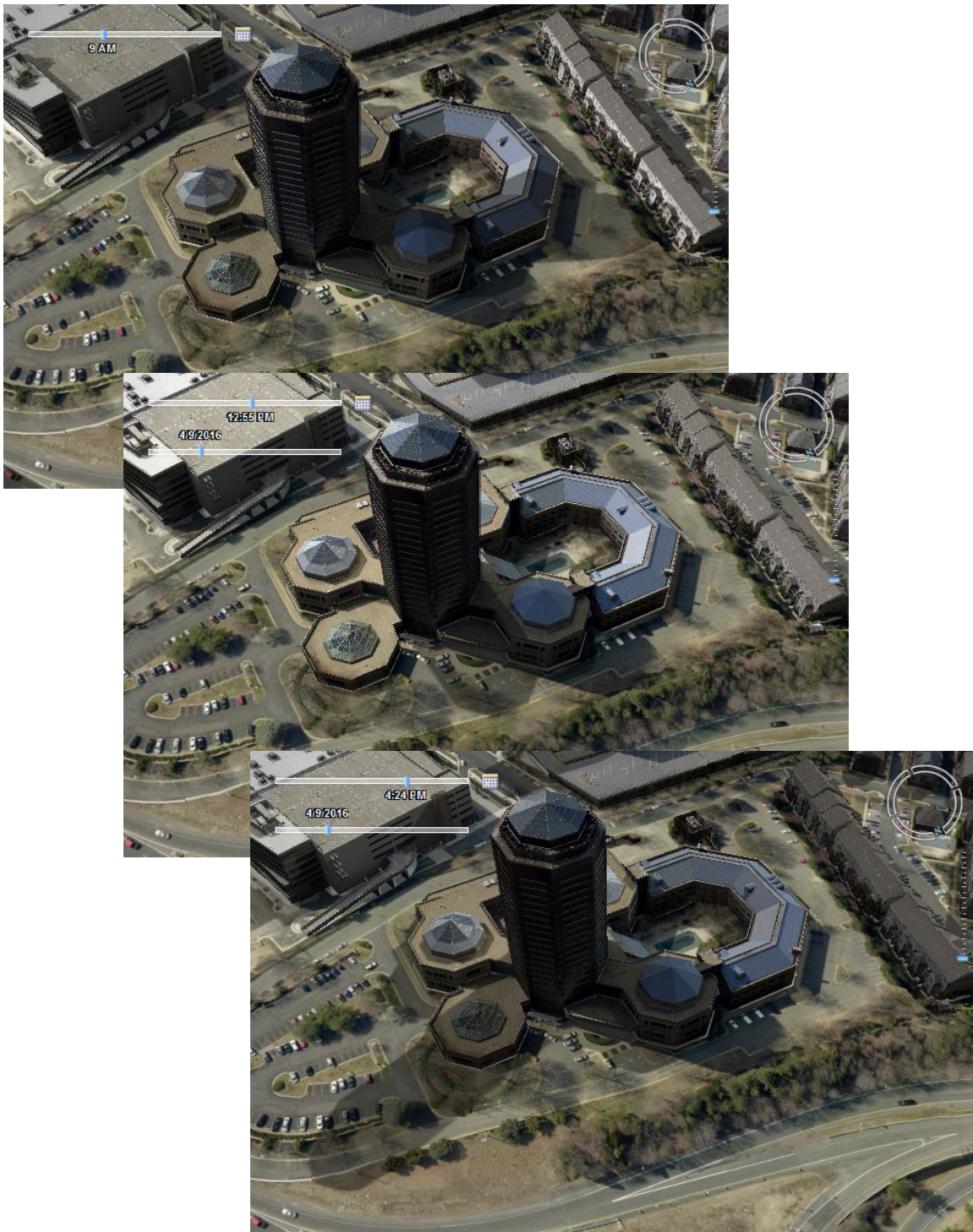






**Shadow Analysis.** The *Shadow* analysis tool, found on the “Home” tab of the tool bar, simulates the shadows that the terrain and building models will cast for different dates and times of day.

To begin, click the *Shadow* button, followed by the *Time Slider* button. Using the time slider, users may change the time/date to generate the expected shadows. To remove the shadows, simply click the *Shadow* button again. Shadows that were captured by the aerial imagery will not be affected by this tool.



## Contact and Support

Please visit the *Virtual Fairfax* [support page](#) which contains a quick start guide, full application documentation, and answers to several frequently asked questions. Comments or questions about *Virtual Fairfax* may be sent to [DITVirtual-Fairfax@fairfaxcounty.gov](mailto:DITVirtual-Fairfax@fairfaxcounty.gov). The developers of *Virtual Fairfax* are also interested in hearing ideas for new features and changes in future versions of the application.