StreetSmart Documentation

Release v1.2.0

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CHAPTER

ONE

INSTALLATION

The installation of the QGIS Street Smart plugin is done through the standard QGIS plugin installation mechanism. In the Plugins menu, go to the 'Manage and Install plugins…' option.

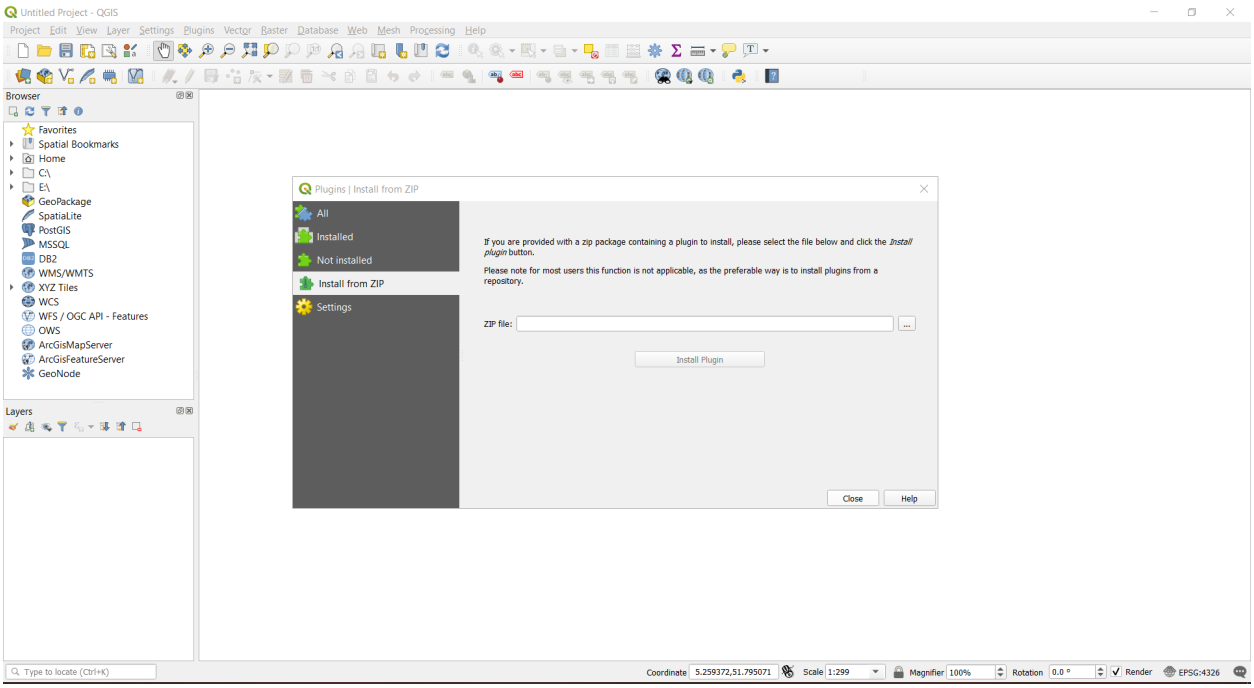

Fig. 1: Select the 'Install from ZIP' option and go to the folder where the zip file is located.

Once the plugin is installed, check if the plugin is enabled. The plugin can be found in the installed plugins tab. The checkbox in front of the StreetSmart plugin must be checked.

Finally, restart QGIS so that you have all the functionality of the plugin available.

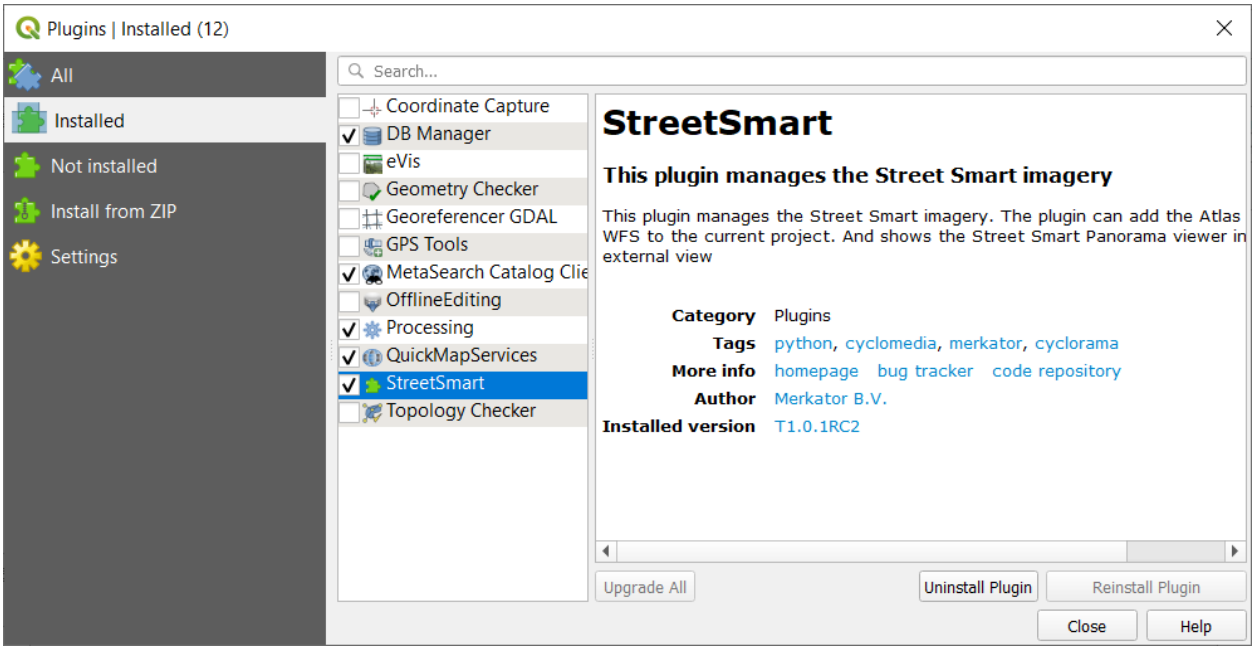

Fig. 2: Enable the plugin in the installed plugins tab.

1.1 Prerequisites

For the moment, the plugin only works on Windows 10. The following verions of QGIS are supported: 3.10.14 LTS, 3.16.10 LTS, and 3.20.2.

To use the Street Smart plugin, three Python modules must be available in the QGIS environment, namely: cefpython3, geojson and shapely. An administrator can install these modules. If these are not yet installed, the plugin will install the modules when it first runs. The user must have the necessary rights to install these modules.

The module cefpython3 needs Python version 2.7 or a Python version between 3.4 and 3.9 both included. On Windows, this is not an issue because a valid python version is installed together with QGIS.

The plugin makes use of the StreetSmart API. Therefore, to view the CycloMedia Imagery, a license with CycloMedia is needed.

1.2 Proxy Server

The plugin can be used behind a proxy server. Once installed, the plugin must have access to the following URIs:

- unpkg.com
- cdnjs.cloudflare.com
- atlas.cyclomedia.com
- atlas1.cyclomedia.com
- atlas2.cyclomedia.com
- atlas3.cyclomedia.com
- atlas4.cyclomedia.com

- streetsmart.cyclomedia.com

CHAPTER

TWO

USER GUIDE

The Street Smart plugin makes it possible to integrate the Cyclorama images from CycloMedia into QGIS. To this end, an additional window is shown with the images. This window is synchronized with what is shown in the canvas folder of QGIS.

The Street Smart plugin for QGIS allows the user to: * add the recording locations of the Cycloramas as a WFS layer in QGIS, * create features QGIS for the measurements taken in Cycloramas; * show vector layers from QGIS as an overlay in the Cycloramas.

In order to use all the features of the plugin, the user must have the necessary credentials to use the CycloMedia images. The user must enter these credentials in the login tab of the settings window.

2.1 Toolbar

The plugin adds a number of commands to QGIS. These commands can all be found in the menu of the plugin. A number of these commands can also be seen in the plugin toolbar.

Fig. 1: The buttons the plugin adds to the toolbar

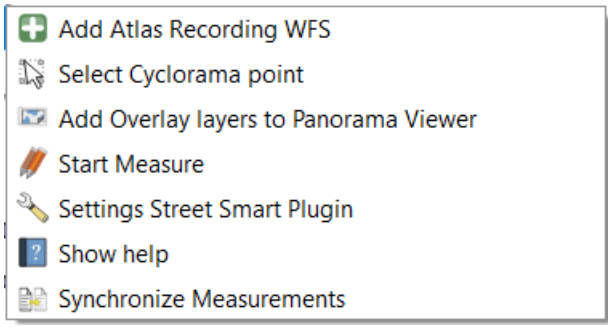

Fig. 2: The commands which are added by the Street Smart plugin

2.2 Add Atlas Recording WFS

This button adds a WFS layer to the current project with the currently valid CycloMedia recordings. The selection of the valid recordings is done through the following filter:

```
expiredAt is null
```

The layer is placed at the top of the legend. The name of this layer is always 'CycloMedia Recordings'. No account is taken for any layers that have the same name. Furthermore, this button is always enabled.

2.3 Select Cyclorama point

This button allows you to select a recording on the canvas. The cyclorama of the selected recording is shown in the viewer. If the viewer is not yet open, it will be opened. If it was already open, the plugin shows the cyclorama in the same window. A cone is shown on the canvas map that indicates the viewing direction in the cyclorama. This button is enabled if an recording layer is added to the project.

The panorama viewer is opened in the coordinate system of the mapCanvas. If the coordinate system of QGIS is changed, the crs of the viewer is held in the previous crs until a new panorama is selected in QGIS. Walking through different cycloramas thought the viewer keeps the crs in the previous state.

2.4 Add an overlay to the cyclorama window

This button transfers the data from the visible layers around the cone to the viewer. This button is not enabled unless a viewer window is open.

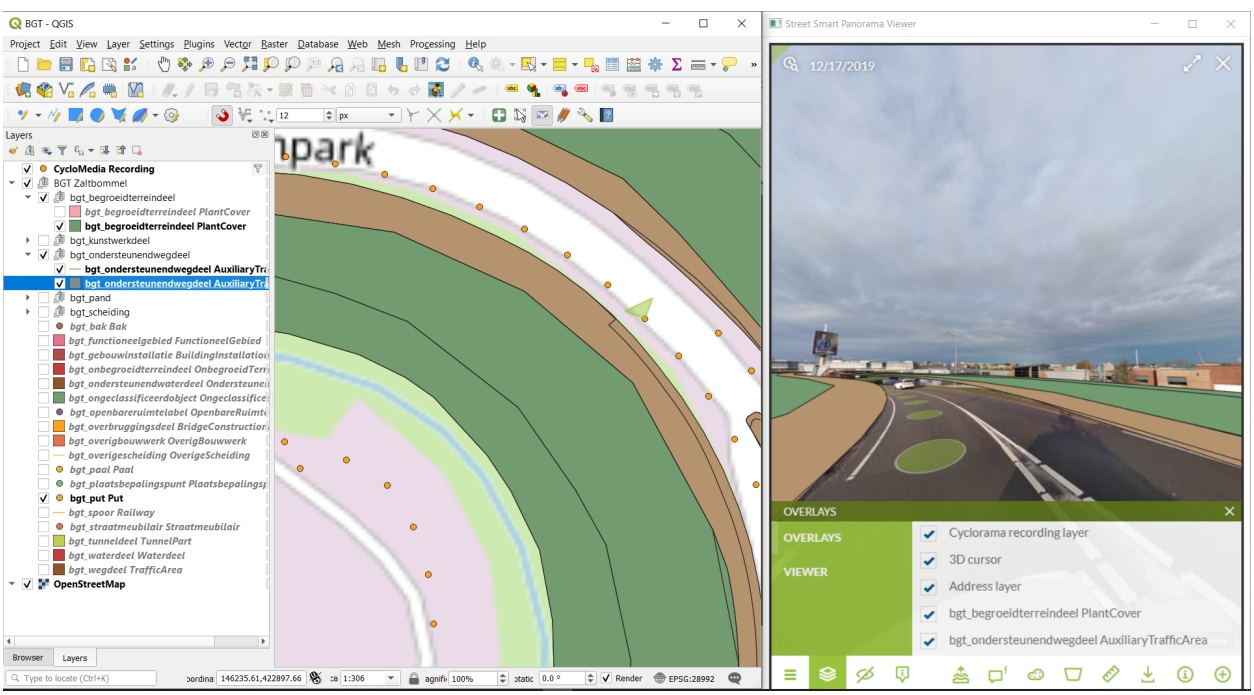

Fig. 3: The viewer with some vector layers as overlay.

The features shown are with 30 meters of the current Cyclorama. As long as the overlay button is checked, QGIS will send the features within the query distance around the cone to the viewer. The user can set the visiblity of the layers in the viewer.

If a layer that was not visible in QGIS should still be sent to the viewer, the user must first make it visible. By toggling the overlay button, the additional layer is sent to the viewer.

2.5 Create a measurement

This button is a toggle. If this button is checked and a layer that is editable is selected, measurements made in the viewer are transferred to QGIS and added as a feature in the selected layer.

The 'measurement' functionality allows the user to copy objects contained in the images into a QGIS layer. It does not matter whether the layer refers to a database or whether it is a so-called scratch layer.

When the user turns on the measurement toggle, the appropriate measurement type is displayed in the cyclorama window depending on the layer type: for a point layer this is the location type, for a polyline layer this is the distance type and for a polygon layer this is the surface type.

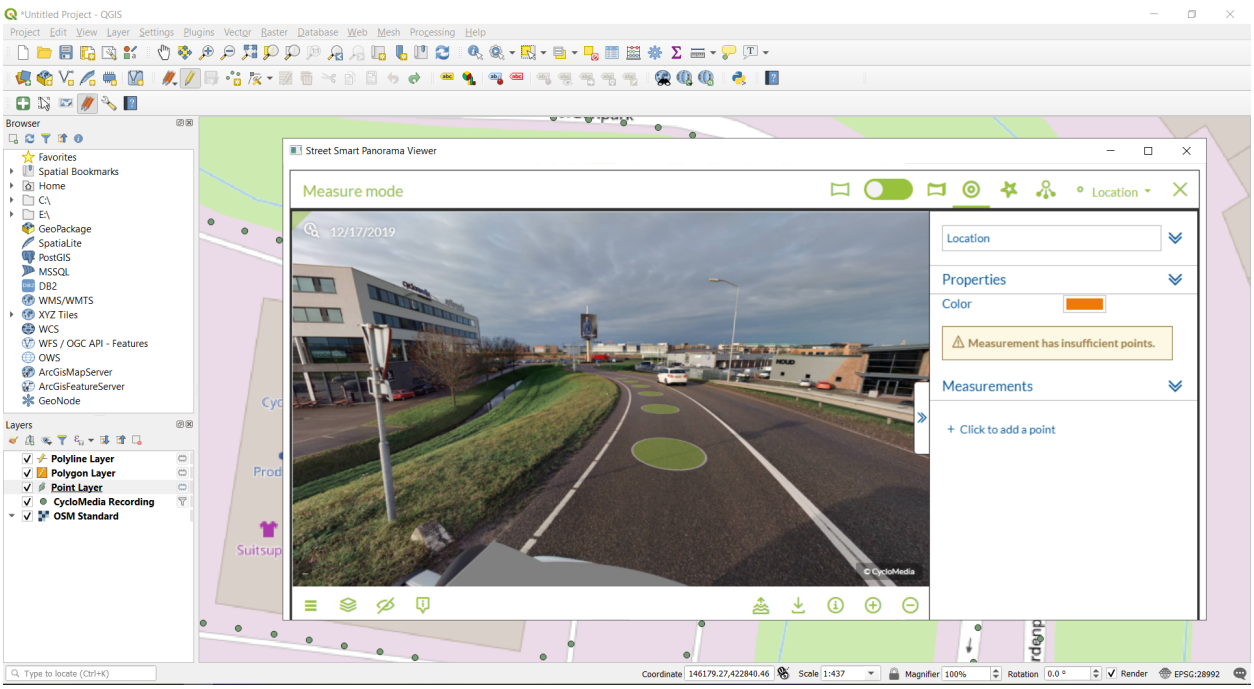

Fig. 4: The view when a point layer is selected in measurement mode.

At this point, the user can draw in the cyclorama and the points are transferred to the QGIS layer. For a point layer this already happens after the first point, for a line and an area layer 2 or 3 points must be indicated respectively.

As long as new points are entered in the cylcorama window, the drawn object is changed. A new object is started by clicking on the measurement type in the cyclorama window. The storage of the objects in the QGIS layer is done in the standard QGIS way.

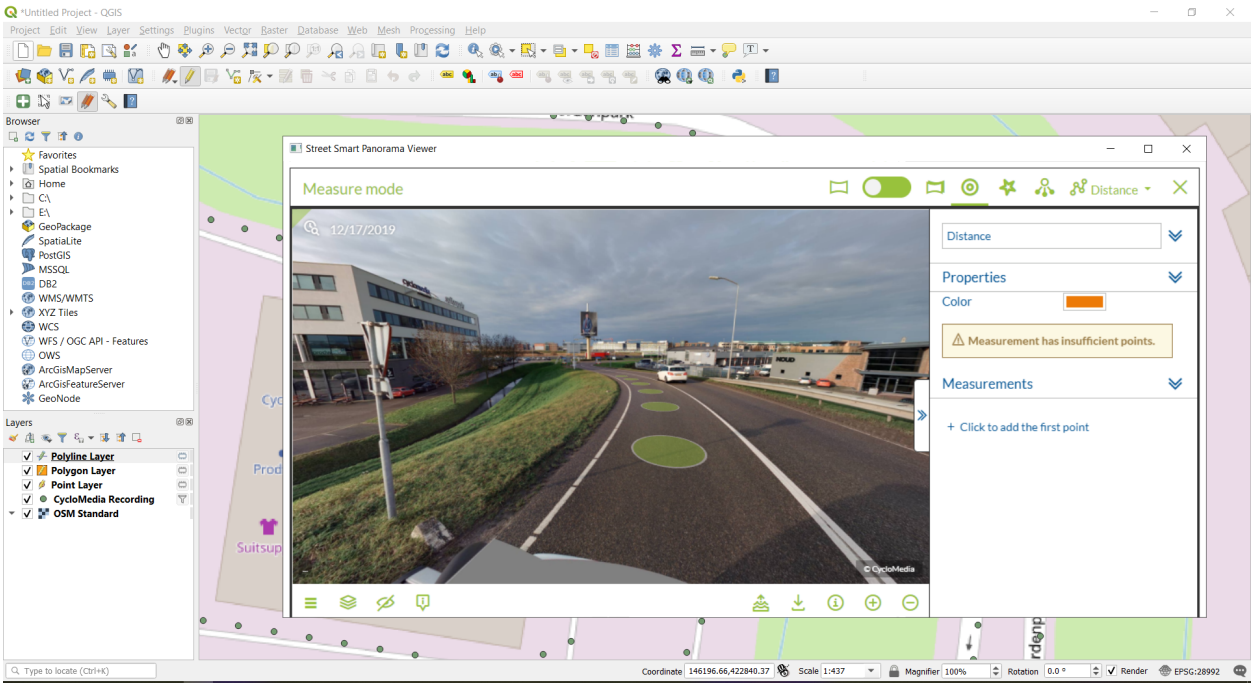

Fig. 5: The view when a polyline layer is selected in measurement mode.

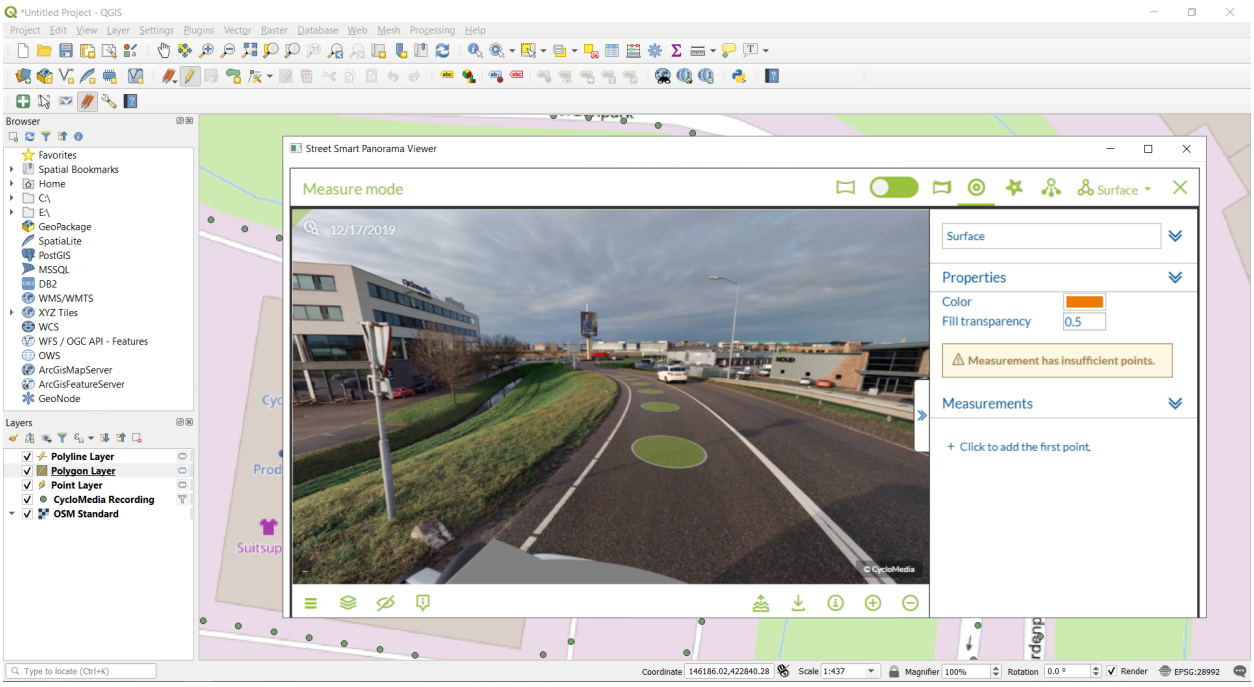

Fig. 6: The view when a polygon layer is selected in measurement mode.

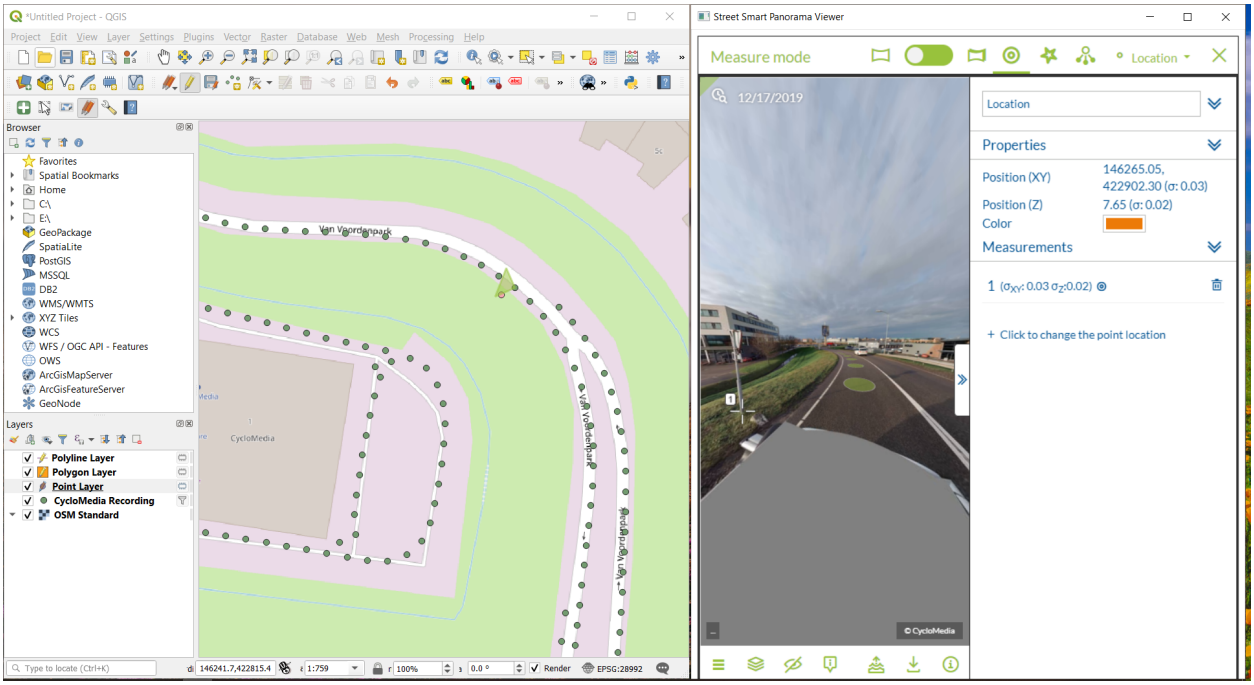

Fig. 7: A point, selected in the Cyclorama viewer, is added to the QGIS layer.

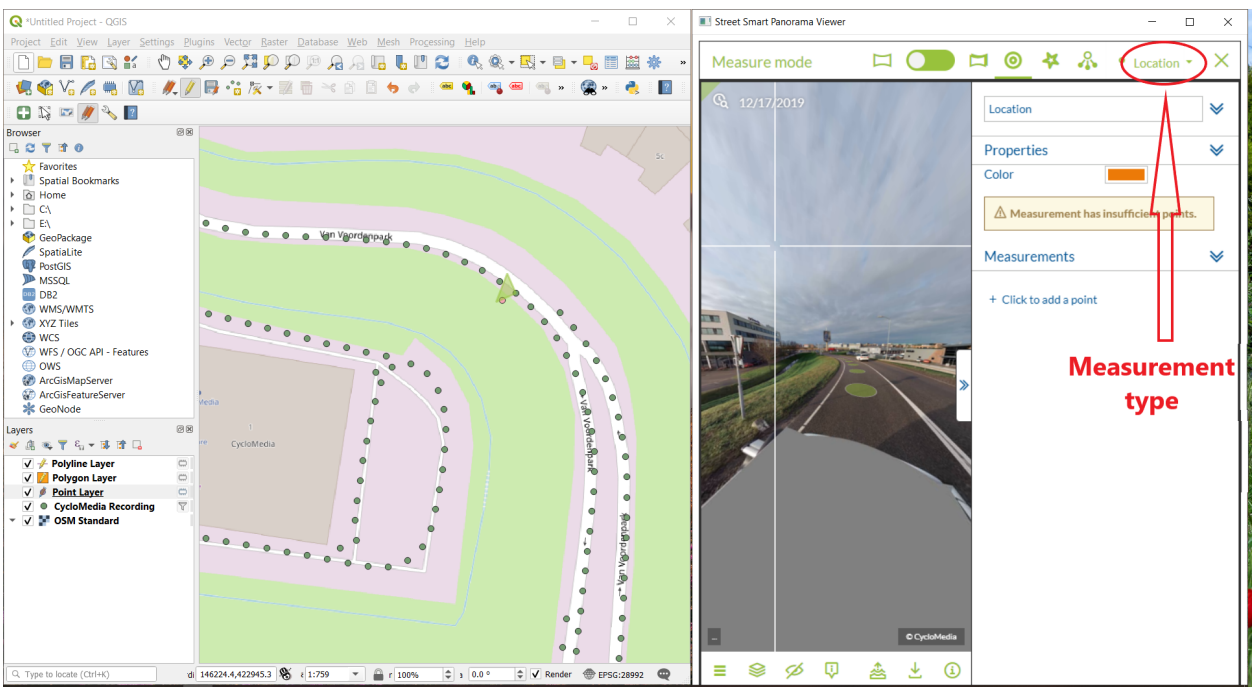

Fig. 8: By clicking on the measurement type, the first point is confirmed and QGIS is ready for another point feature

2.6 Settings

This button displays a dialog window in which data such as user name, password and urls can be set.

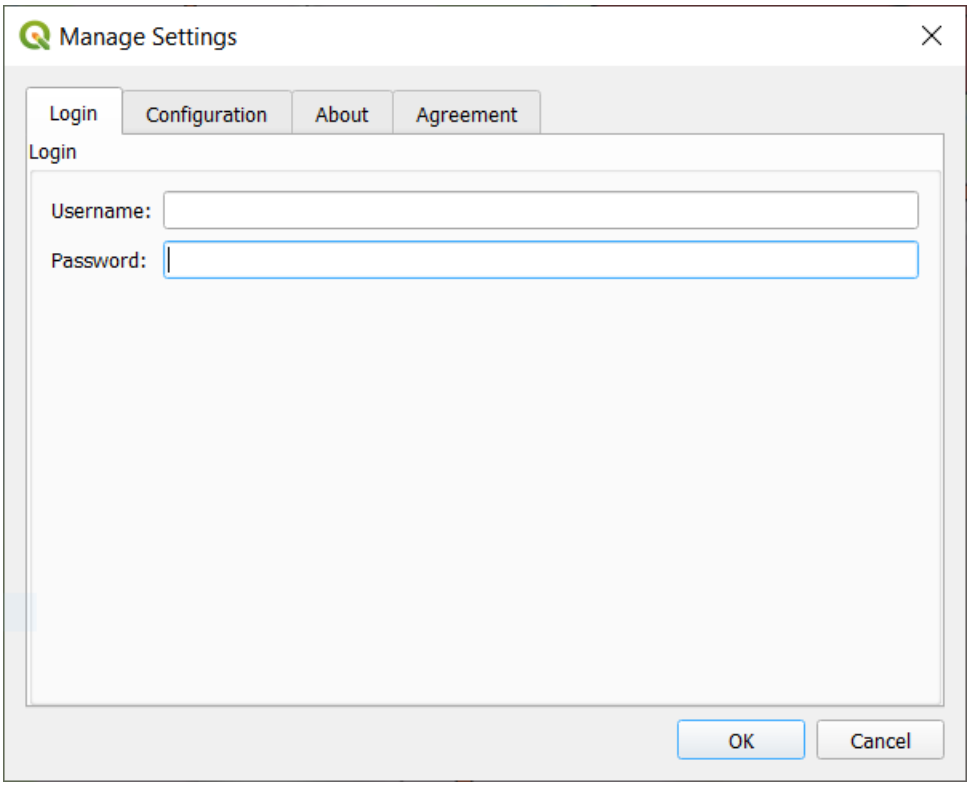

Fig. 9: Window in which username and password must be set.

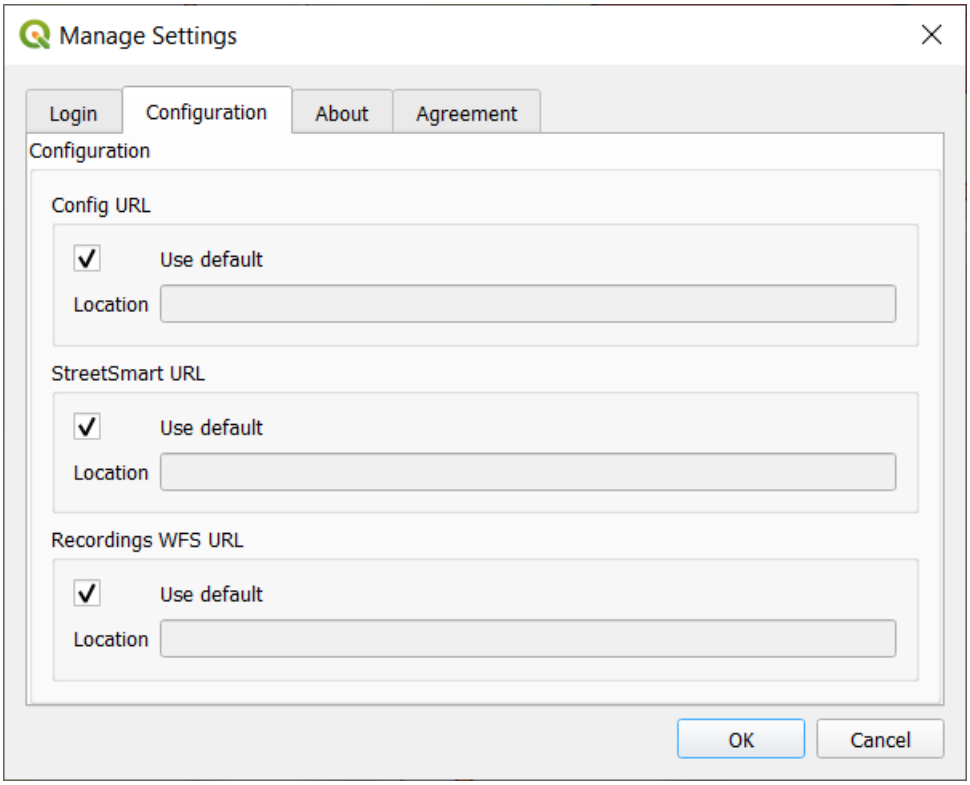

Fig. 10: Window in which urls for StreetSmart api and proxy can be set.

CHAPTER

THREE

KNOWN ISSUES

- If you select a photo from the timeline in the viewer, the Recordings WFS will continue to show the current recordings instead of the recordings at the time of the choosen timeline.
- If you install the plugin, a restart is needed in order to see the plugin buttons in the toolbar.
- If you have added a new measurement, it will only be displayed as an overlay if you click the *add overlay* button again, or if you select a subsequent photo in the viewer.