

HOW TO USE ArcGIS, MS EXCEL, OR GOOGLE TO UPLOAD SPATIAL DATA TO MiEnviro Portal

GUIDANCE FOR CONCENTRATED ANIMAL FEEDING OPERATION (CAFO) APPLICANTS

INTRODUCTION

In order to make permitting decisions, the Michigan Department of Environment, Great Lakes, and Energy's (EGLE) Water Resources Division (WRD) may request permittees to submit spatial data. Land Application Field polygons and Tile Outlet point information can be created using ESRI ArcGIS, Excel, Google Earth, MiEnviro Site Plan, or a combination of software. The permittee will need to:

- Create a .kml file for the Land Application Field polygons, and a separate .kml file for Tile Outlets, or
- Generate identifiers and locations directly in MiEnviro Site Plan.

The permittee will be able to upload the .kml files to their CAFO's MiEnviro Site Plan.

If you already have the .kml files, skip to the [Uploading .kml files to MiEnviro](#) section (see [Page 7](#)). If you prefer to generate identifiers and locations directly in MiEnviro, you can skip to the [How to edit Site Features in MiEnviro](#) section (see [Page 14](#)).

NOTES

- Be sure to separate your CAFO Land Application Field polygons and Tile Outlet points into **separate** .kml files.
- MiEnviro only allows .kml files with polygons or points of 100 or fewer to be uploaded so you may need to create additional files.
- Only MiEnviro Administrators can upload these files, so either the facility's administrator must complete this task or, if applicable, change the role of another authorized user to complete it.

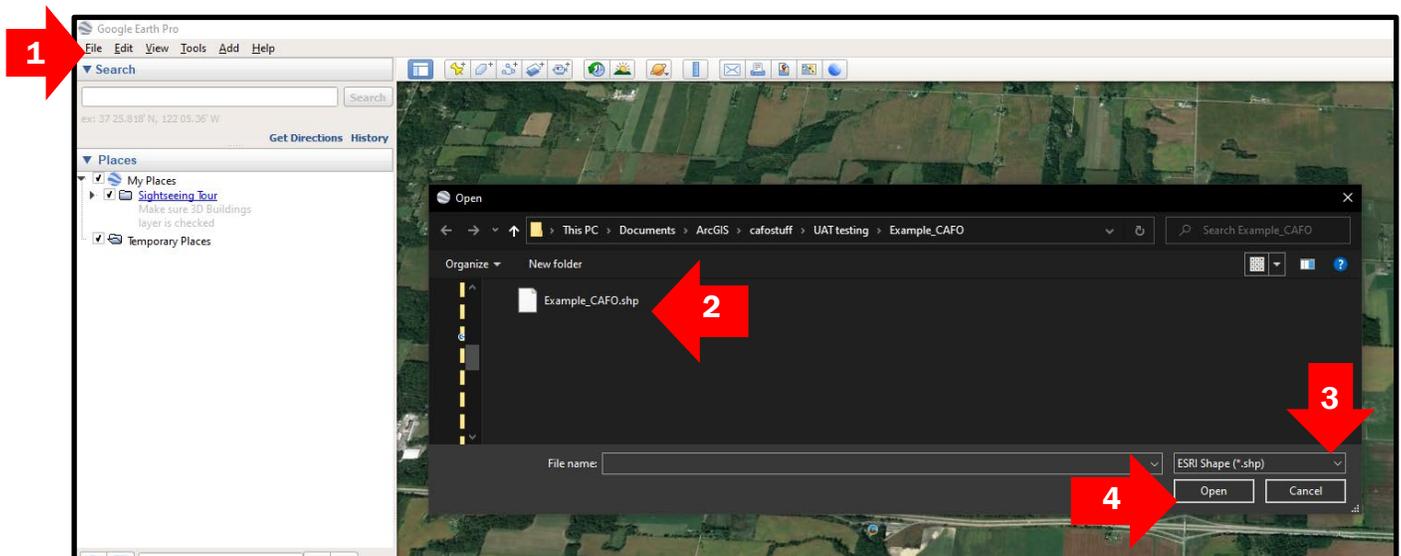
CONVERTING AN ESRI ARCGIS FILE TO A .KML FILE

First, save the ESRI ArcGIS file as an ESRI Shape file (.shp). Google Earth will only import ArcGIS files that are saved as an ESRI Shape (.shp) file.

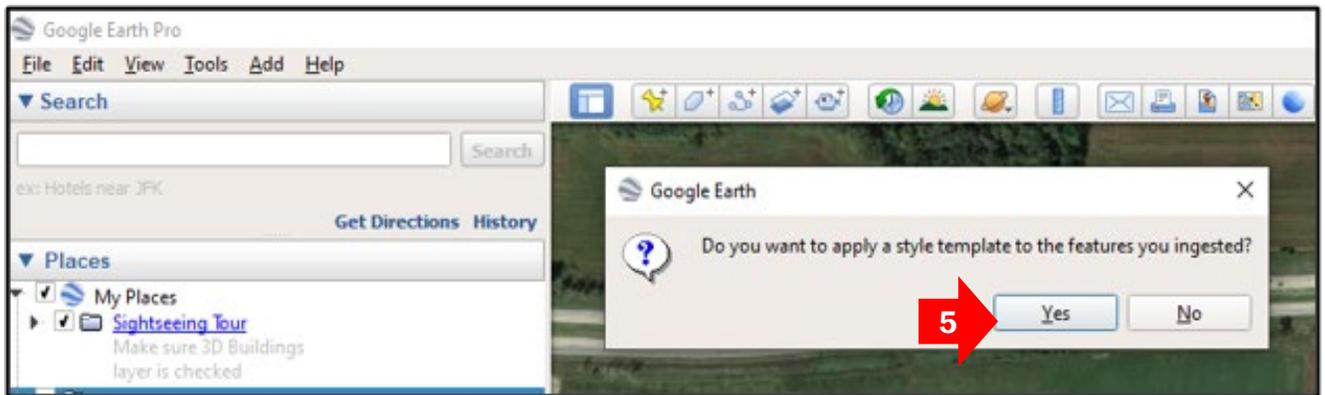
Name	Date modified	Type	Size
Example_CAFO.CPG	7/2/2020 1:53 PM	CPG File	1 KB
Example_CAFO.dbf	7/2/2020 1:53 PM	DBF File	4 KB
Example_CAFO.prj	7/2/2020 1:53 PM	PRJ File	1 KB
Example_CAFO.sbn	7/2/2020 1:53 PM	SBN File	1 KB
Example_CAFO.sbx	7/2/2020 1:53 PM	SBX File	1 KB
<input checked="" type="checkbox"/> Example_CAFO.shp	7/2/2020 1:53 PM	SHP File	3 KB
Example_CAFO.shp	4/28/2023 4:26 PM	XML Document	11 KB
Example_CAFO.shx	7/2/2020 1:53 PM	SHX File	1 KB

Open Google Earth Pro and import the .shp file.

1. From **File**, click on **import**.
2. Select the file you want to import.
3. Make sure to choose ESRI Shape (*.shp) from the dropdown menu.
4. Click **Open**.

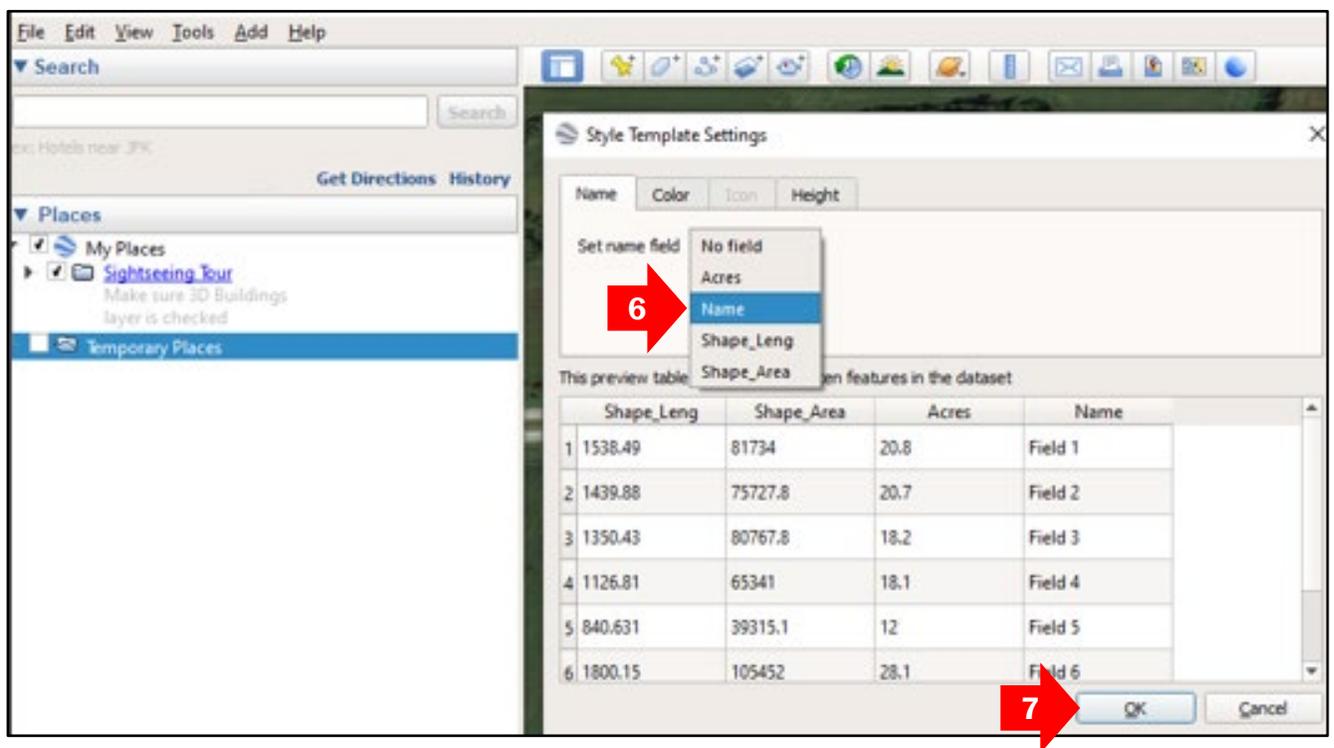


5. Select **“Yes”** to apply style template

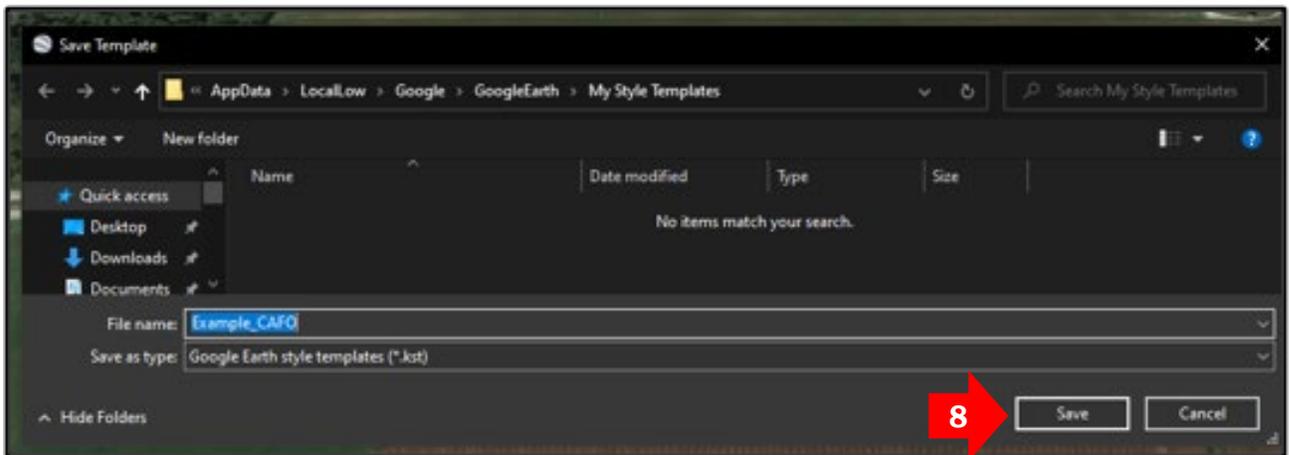


6. Select **“Name”** or column header from dropdown to label field polygons with field names.

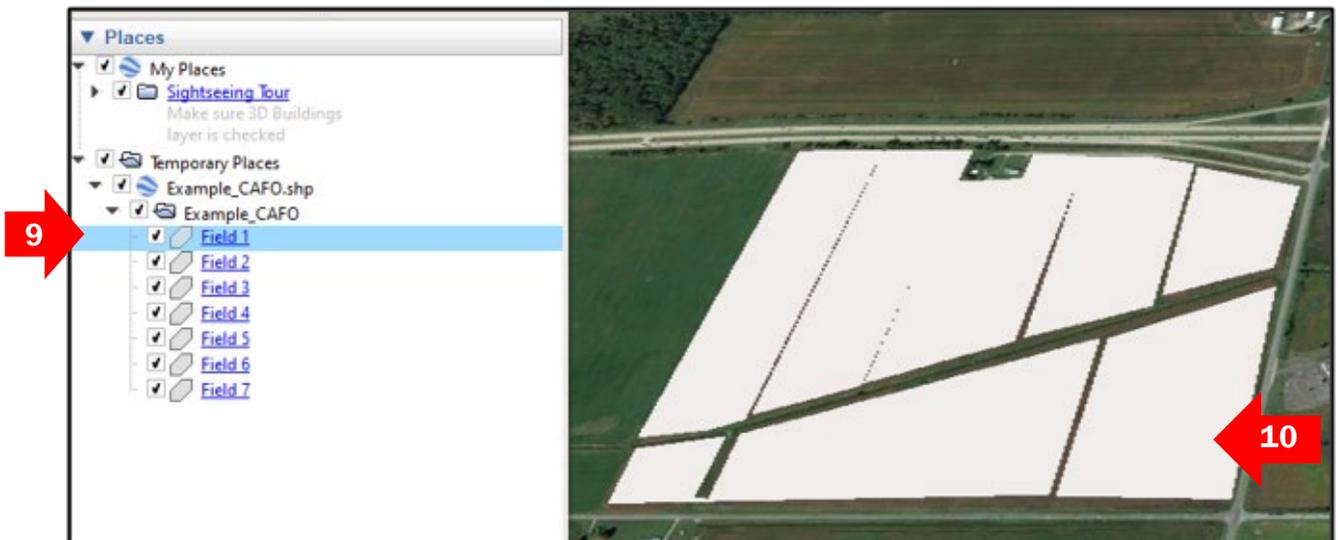
7. Select **OK**



8. Select “**Save**” to use the style template on future submissions.

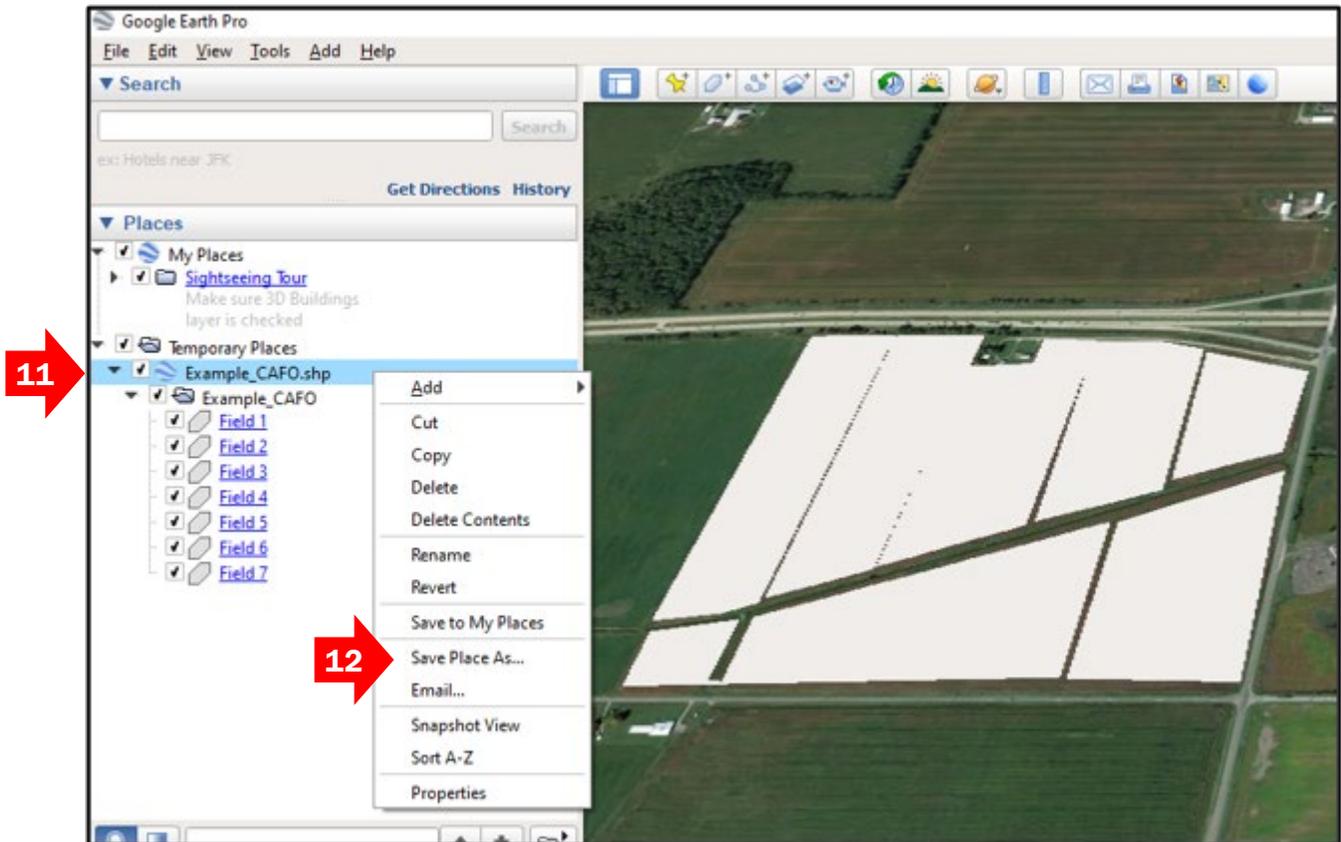


9. Verify field names are correct.
10. Verify field polygons are displayed correctly.

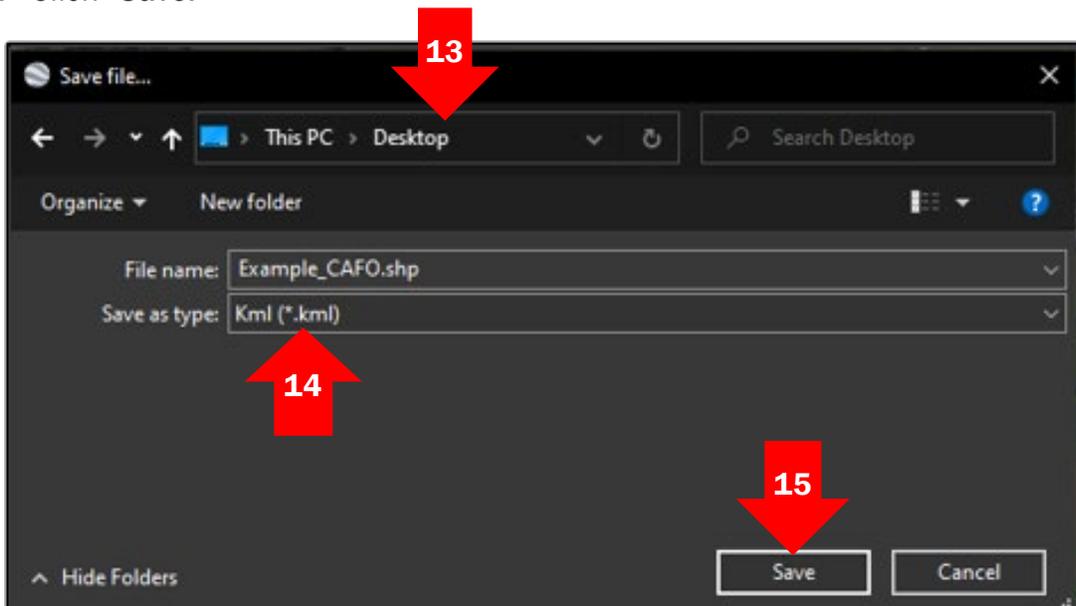


Save the file as a .kml file.

11. Right click on the .shp file.
12. Chose “Save Place As...”



13. Choose location to save .kml file.
14. Select Kml (*.kml).
15. Click “Save.”



CONVERTING A MICROSOFT EXCEL SHEET TO A .KML FILE

Save the Excel file as a **.csv** file. Google Earth will only import Excel files that are saved as a comma delimited (.csv) and performs best when saved as **CSV UTF-8**.

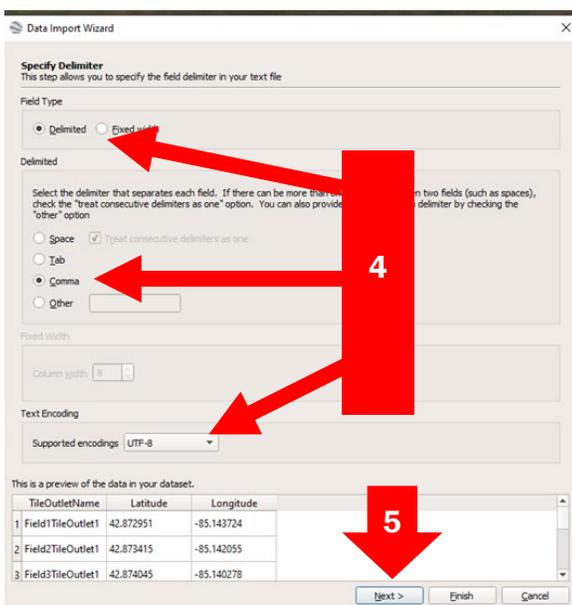
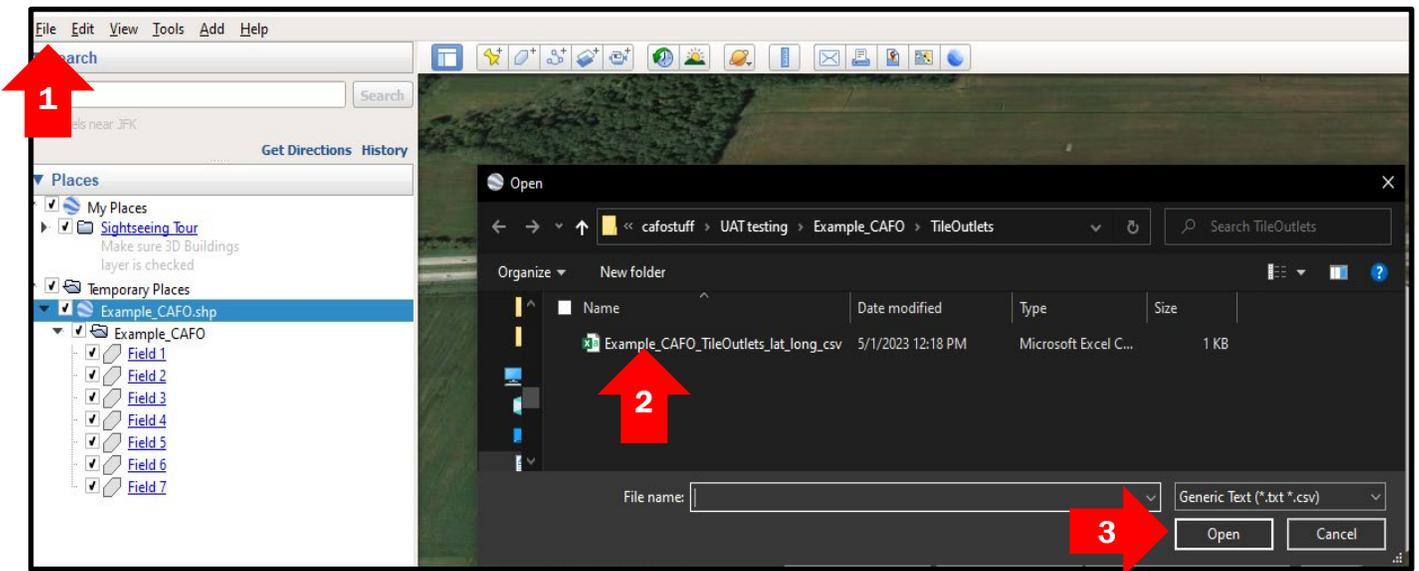
	A	B	C	D	E
1	TileOutletName	Latitude	Longitude		
2	Field1TileOutlet1	42.872951	-85.143724		
3	Field2TileOutlet1	42.873415	-85.142055		
4	Field3TileOutlet1	42.874045	-85.140278		
5	Field4TileOutlet1	42.874788	-85.13822		
6	Field5TileOutlet1	42.875581	-85.136003		

The only information needed for Google Earth and MiEnviro is **Name, Latitude, and Longitude**.

IMPORTING THE .CSV FILE

Open **Google Earth Pro** and Import the .csv file.

1. Go to **File** and click on **Import**
2. Select the .csv file you want to convert to .kml
3. Click **Open**.

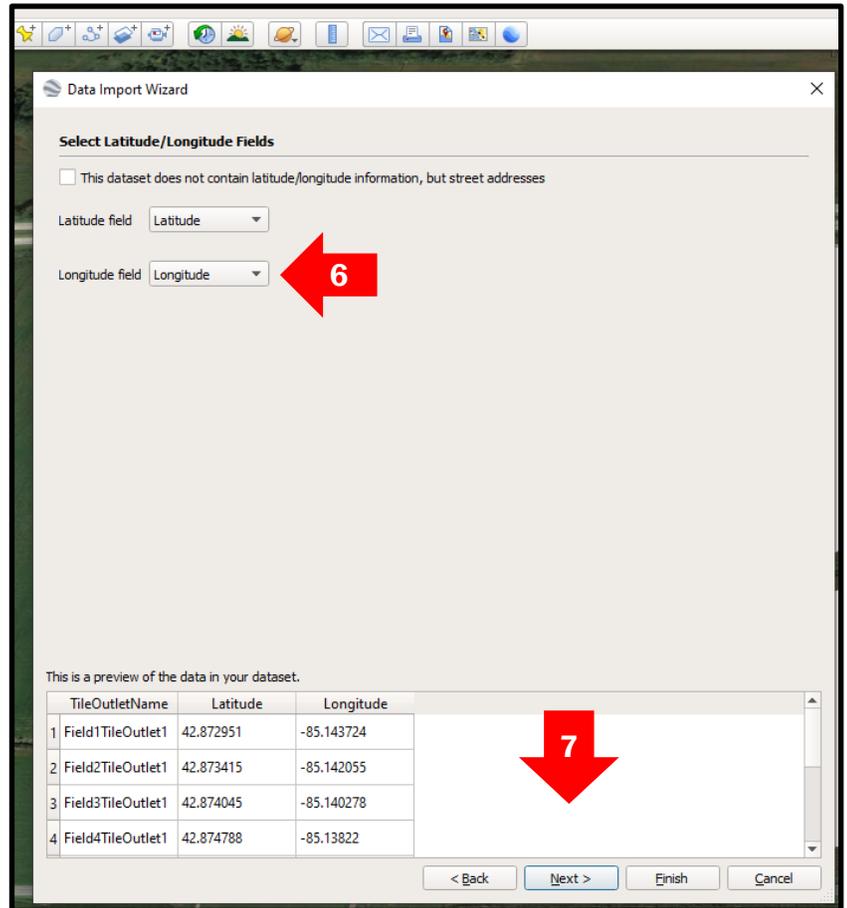


The Data Import Wizard will appear.

4. Make sure the settings are as follows:
 - File Type: Delimited
 - Delimited: Set delimiter to Comma
 - Text Encoding: Set to UTF-8
5. Click **Next**

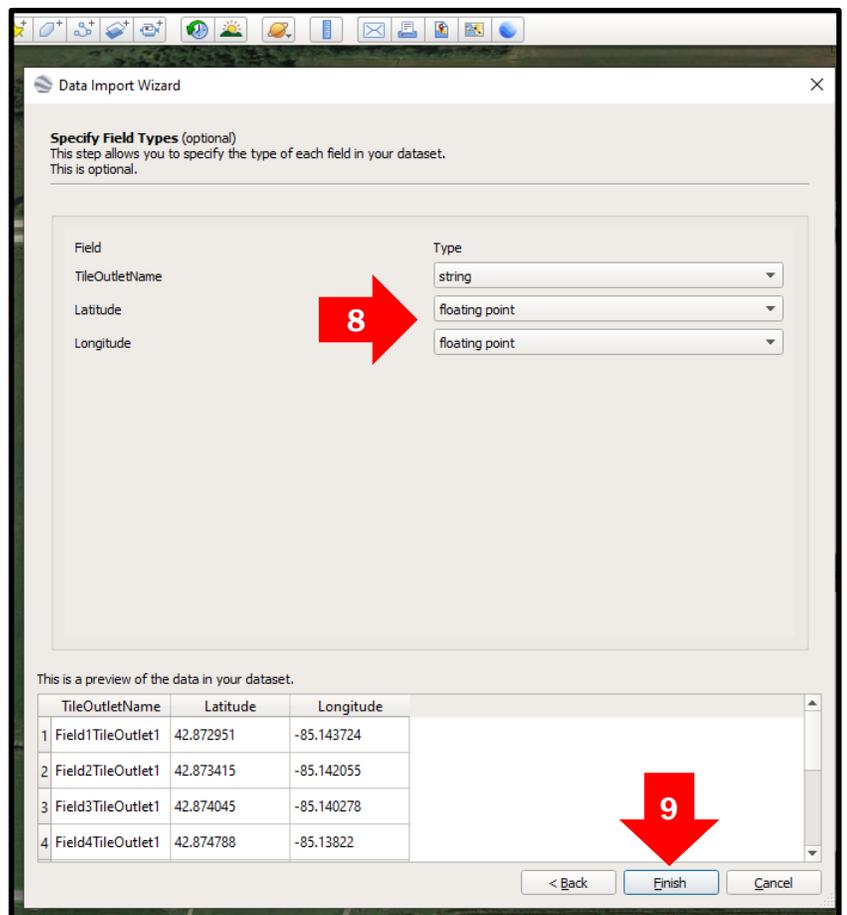
In the following window:

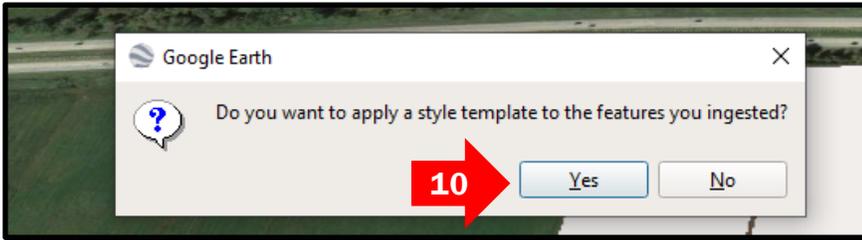
6. Ensure the Latitude/Longitude fields are correct. Make changes if necessary.
7. Click **Next**



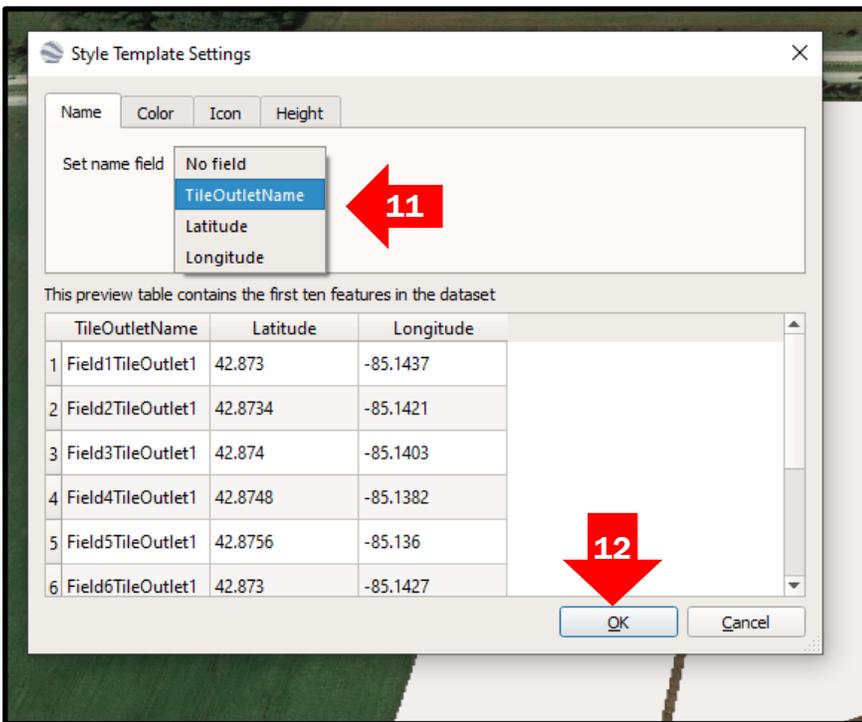
In the following **Specify Field Types** window:

8. Set your Latitude and Longitude as a Floating Point type.
9. Click **Finish**.





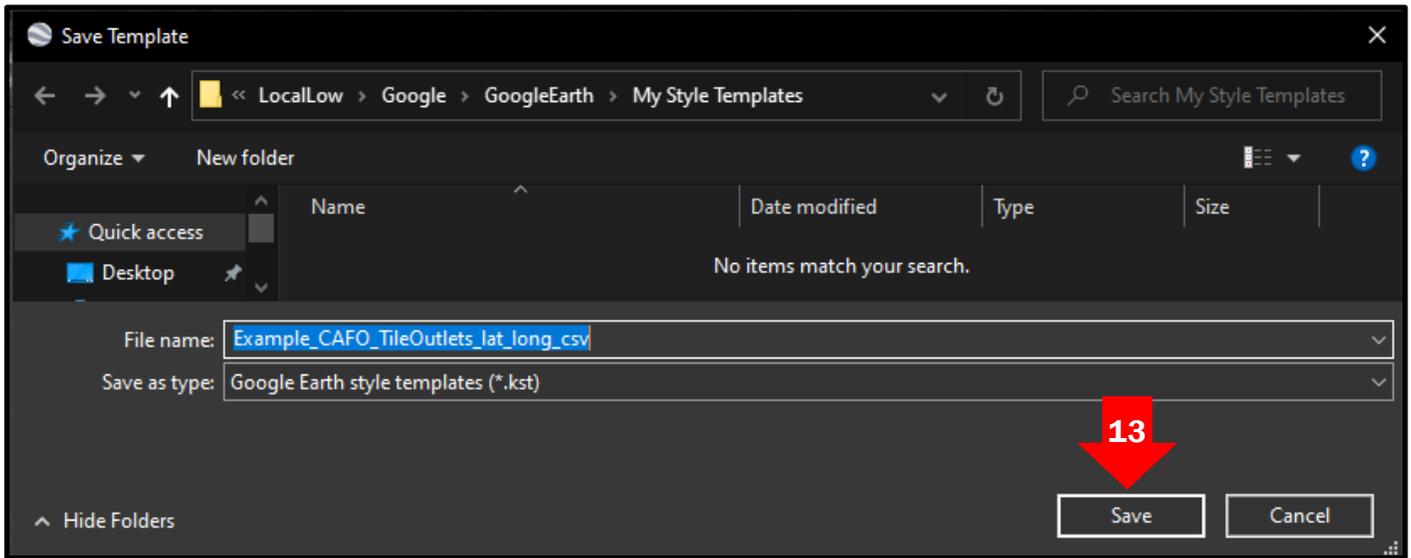
10. Select “Yes” on the following pop-up window to apply a style template.



11. Select "Tile Outlet Name" or column header from dropdown to label tile outlets with tile outlet names.

12. Select “OK.”

13. Select “Save” to use the style template on future submissions.



14. Verify the names are correct.

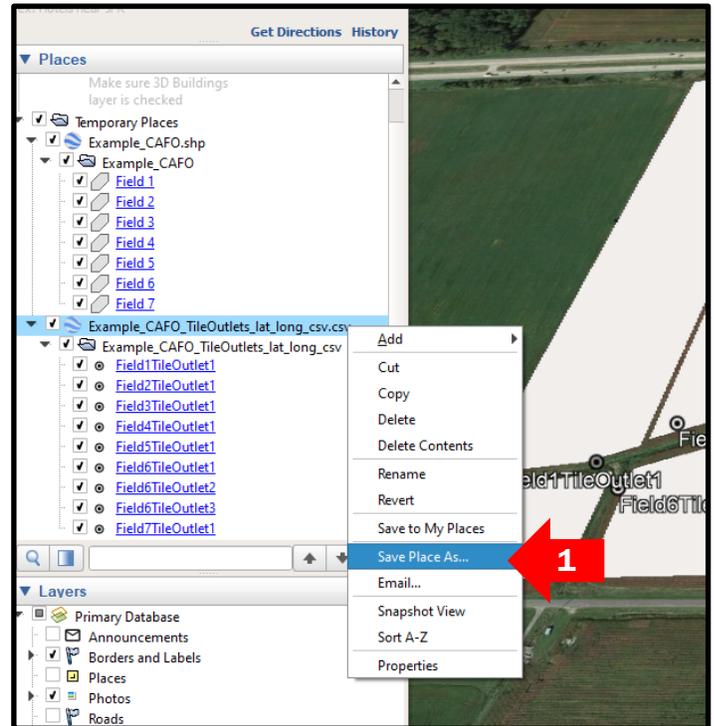
15. Verify point data is displayed correctly.



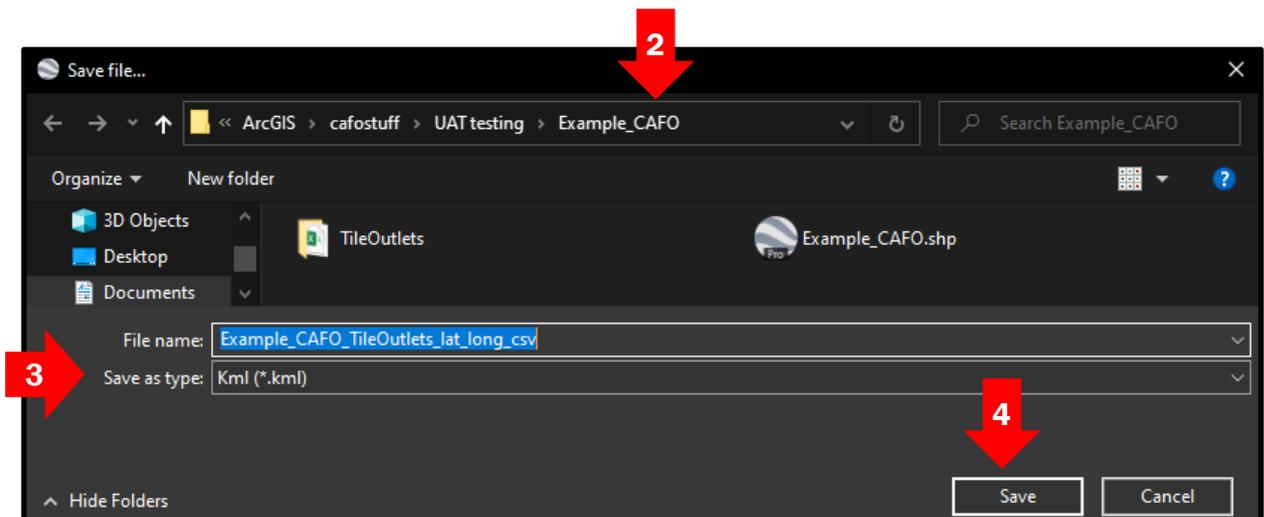
SAVING THE FILES AS .KML

In the left navigation tree under “Places”:

1. Right click on the .csv file and Select “Save Place As...”

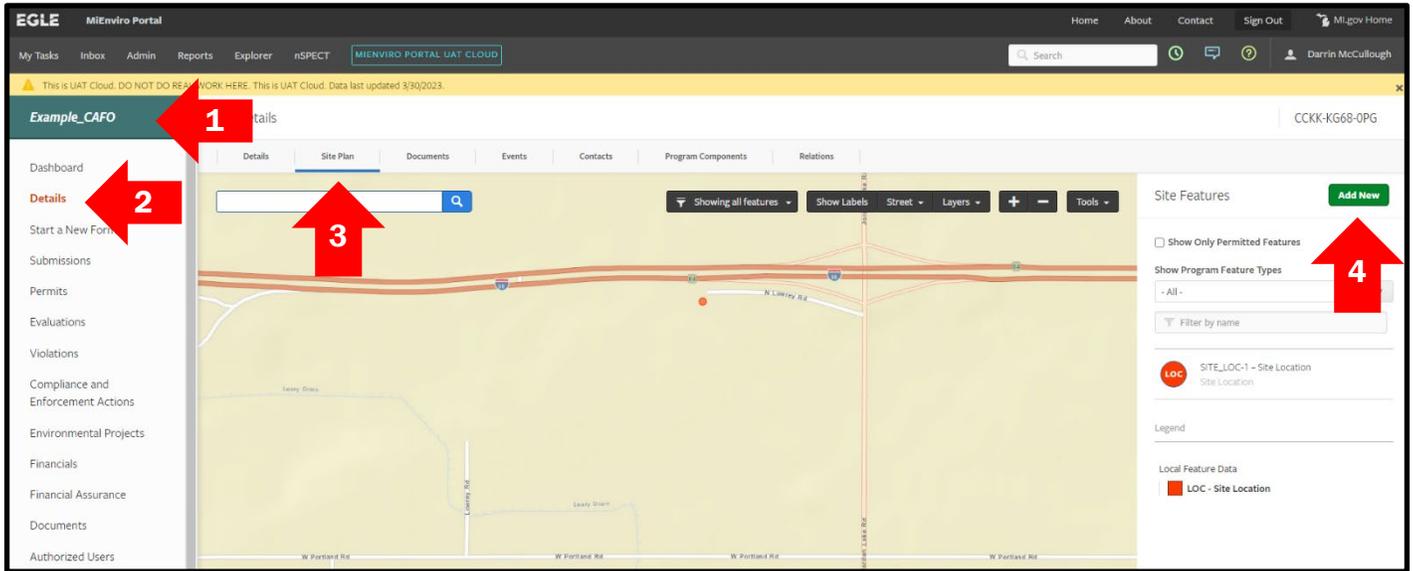


2. Choose location to save the .kml file.
3. Select Kml (“*.kml”) as the “Save as type”
4. Click “Save.”



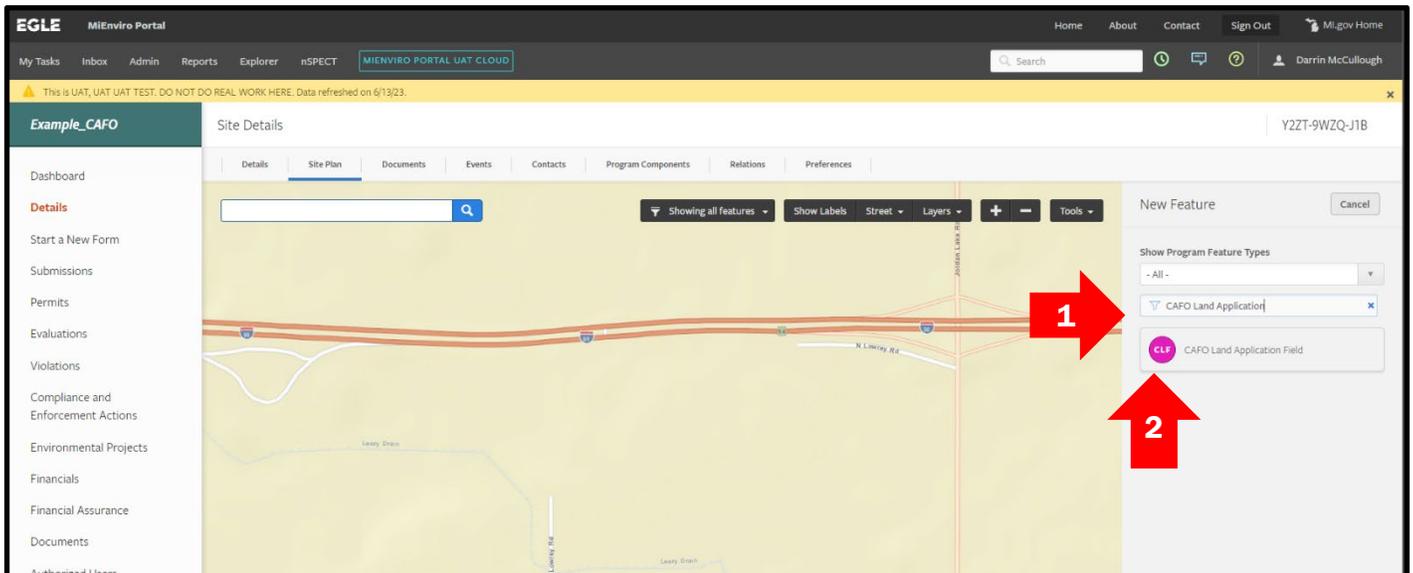
UPLOADING .KML FILES TO MIENVIRO

1. Log in to MiEnviro Portal and select your MiEnviro Site
2. Click on **Details**
3. Click on **Site Plan**
4. Click on the **Add New** button.



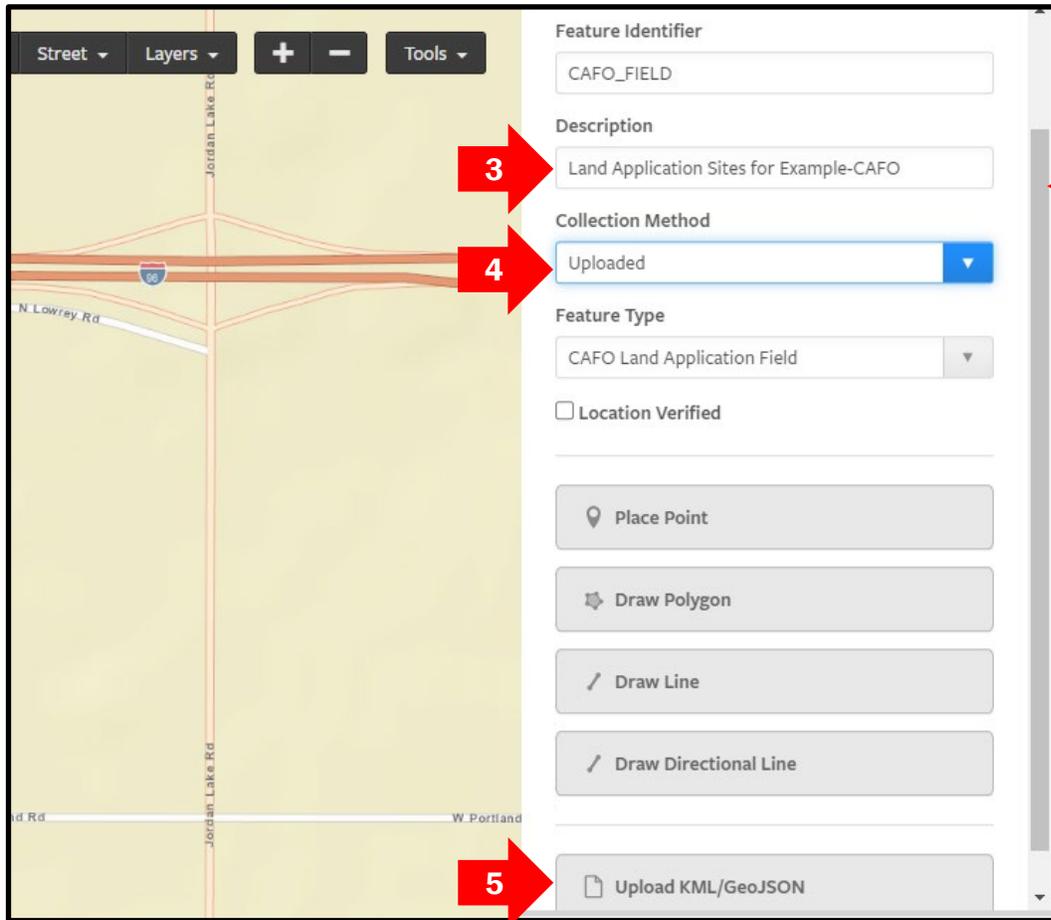
ADDING FEATURES (LAND APPLICATION AND TILE OUTLETS) TO SITE PLAN

1. Find and select the feature you are adding. For the Land Application polygons, type in "**CAFO Land Application**" to find that feature and select that feature. For Tile Outlet locations, type in "**Tile Outlet**" and select that feature.
2. Click on the feature to go to the next screen



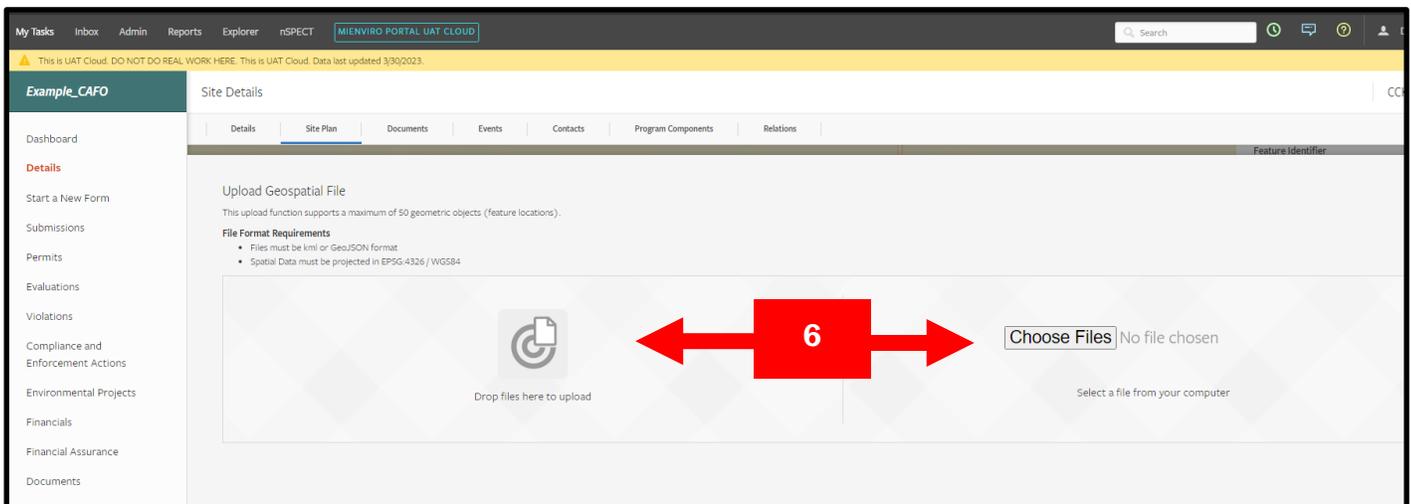
On the following screen:

3. Type in a description to note that this will be for Land Application Sites or Tile Outlet locations.
4. Select “**Uploaded**” as the **Collection Method**
5. Click the **Upload KML/GeoJSON** button.

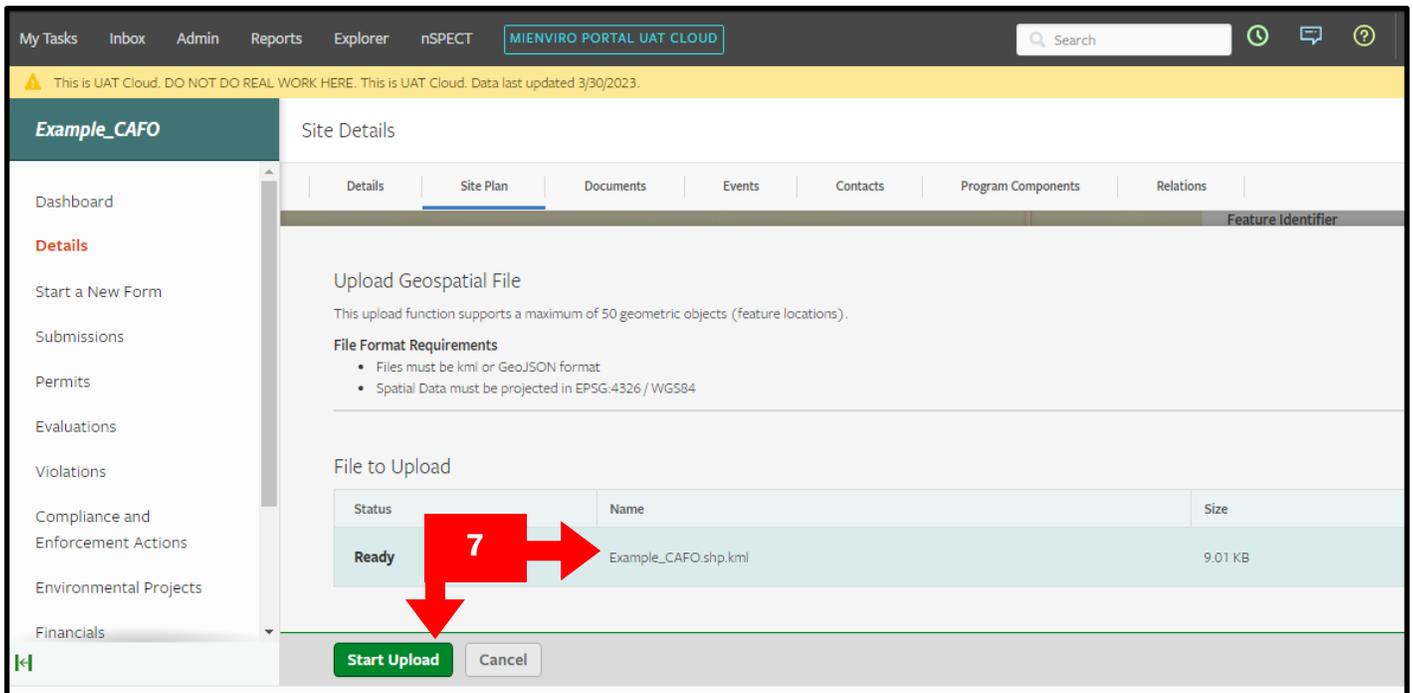


Note:
Scroll to see all options

6. You can drag and drop the file or click on **Choose File** and browse to the .kml file on your computer.

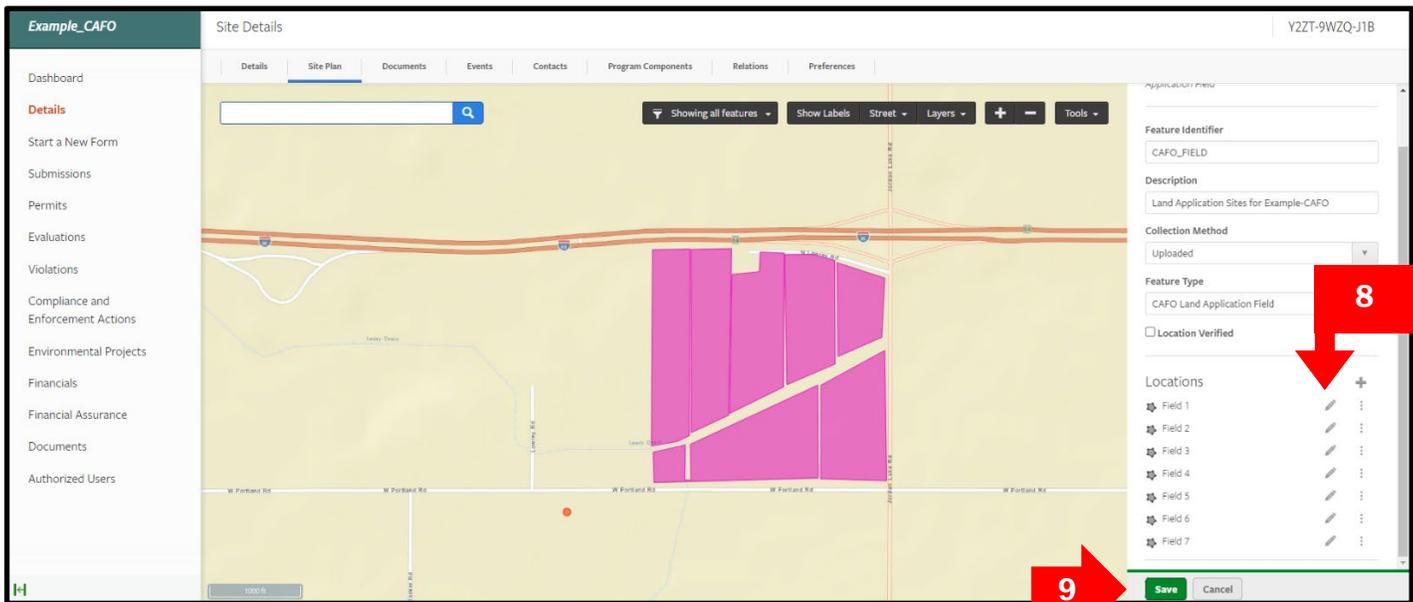


7. When your file is listed, click **Start Upload**.



8. Now the Land Application polygons are plotted. If changes are needed, edit them from the right menu.

9. When done editing, click “Save” and you’re done!



EDITING SITE FEATURES IN MIENVIRO

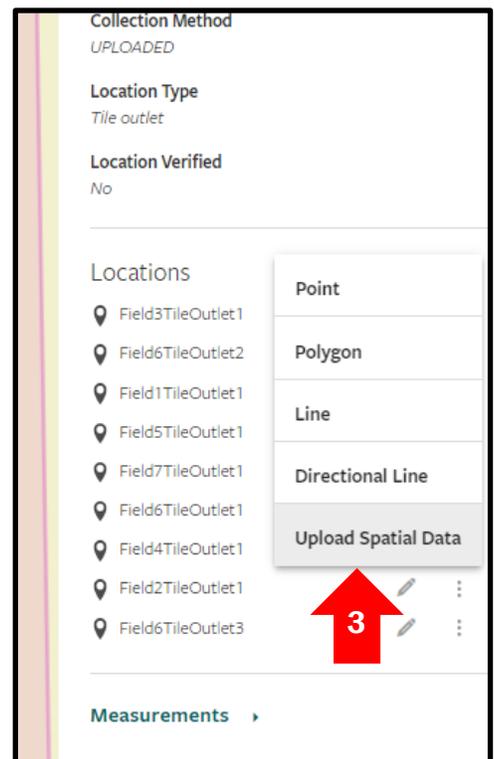
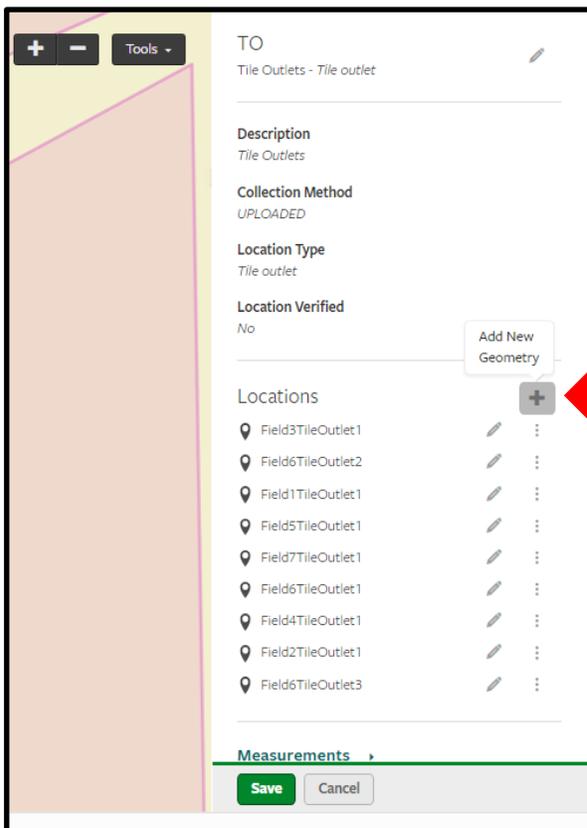
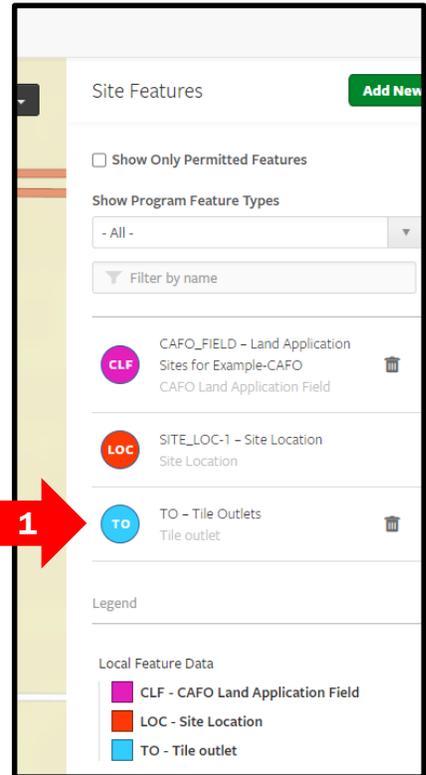
Your Site Plan should only have **one** Site Feature for all CAFO Land Application polygons and **one** Site Feature for all Tile Outlets. Each Site Feature should contain all polygons or tile outlets.

ADDING ADDITIONAL POLYGONS AND POINT DATA

There are two options to add additional polygons or tile outlets:

Option 1: Uploading Spatial Data as .kml files

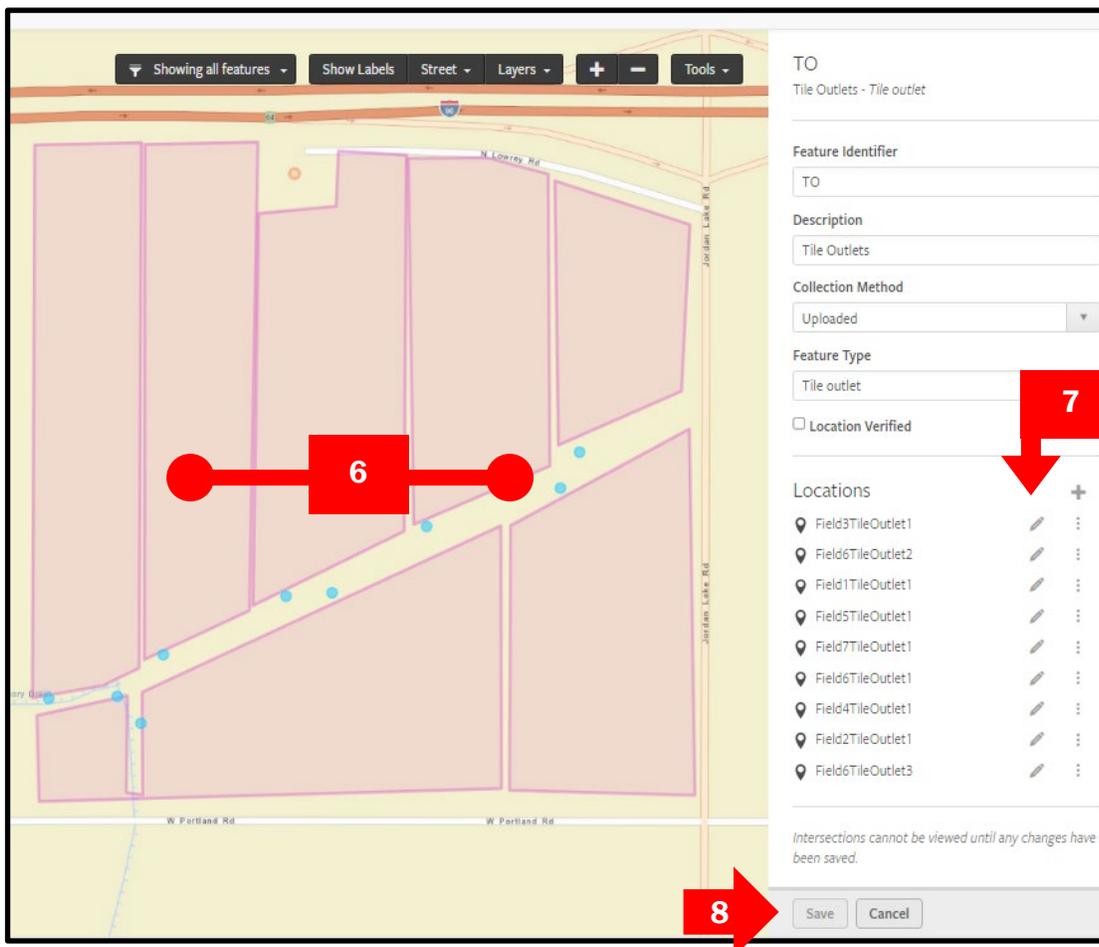
1. Click the feature, either polygons or tile outlets
2. Click the plus sign (+) to add additional polygons or tile outlets.
3. Select "Upload Spatial Data."



4. Upload the file by dragging and dropping the file or click on **Choose File** and browse to the .kml file on your computer.
5. Click **“Start Upload.”**



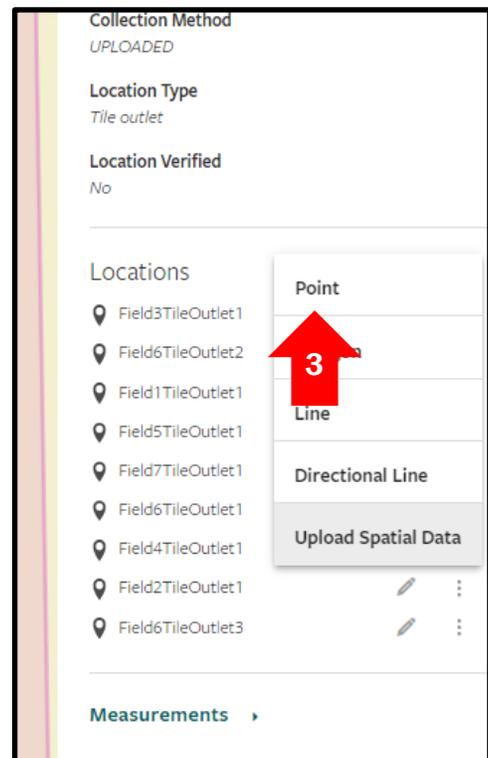
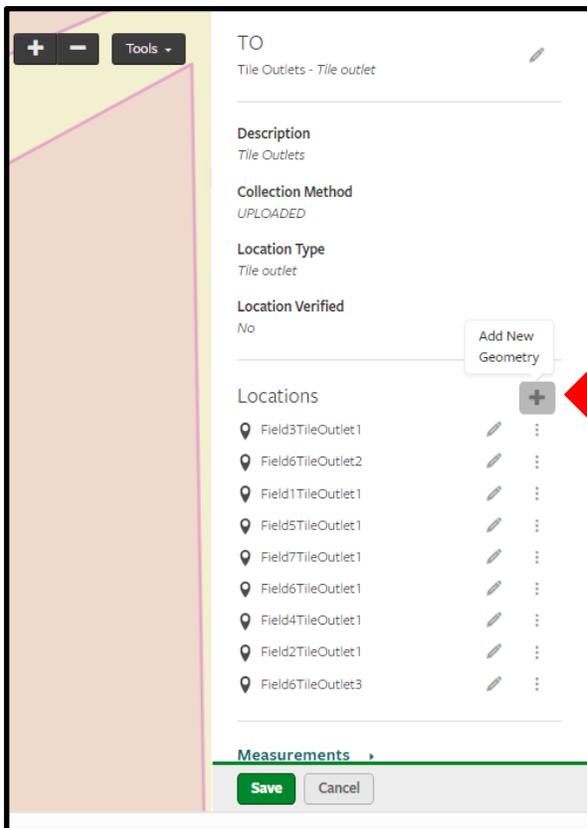
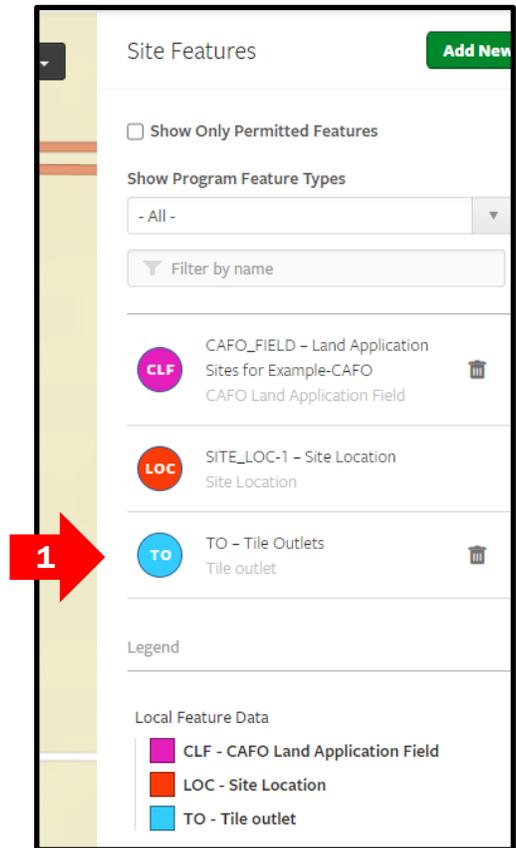
6. Verify polygons or points are displayed correctly.
7. Verify names are correct and edit from right menu if needed.
8. Click **“Save.”**



Option 2: Direct input in MiEnviro

Tile Outlets

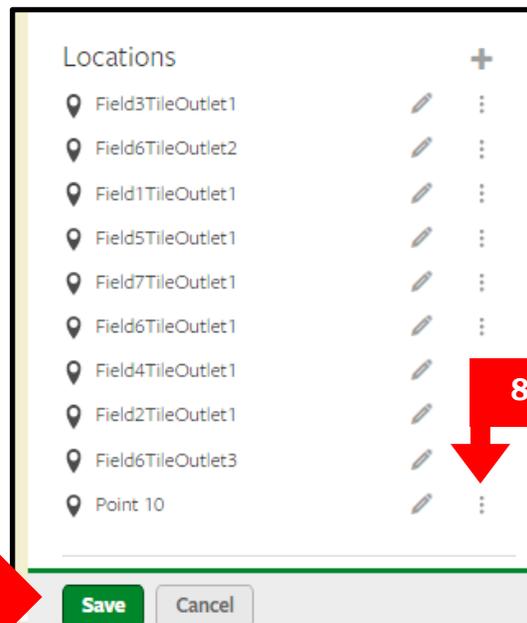
1. Click the tile outlets feature.
*If Site Features are not visible, see previous section called: [Adding Features to Site Plan](#).
2. Click the plus sign (+) to add tile outlets.
3. Select "Point."



4. Place point where needed by scrolling with mouse.
5. Switch between “Street,” “Satellite,” or “Topo” views from the drop down menu as needed.
6. Provide a name for the point.
7. Click “Done.”



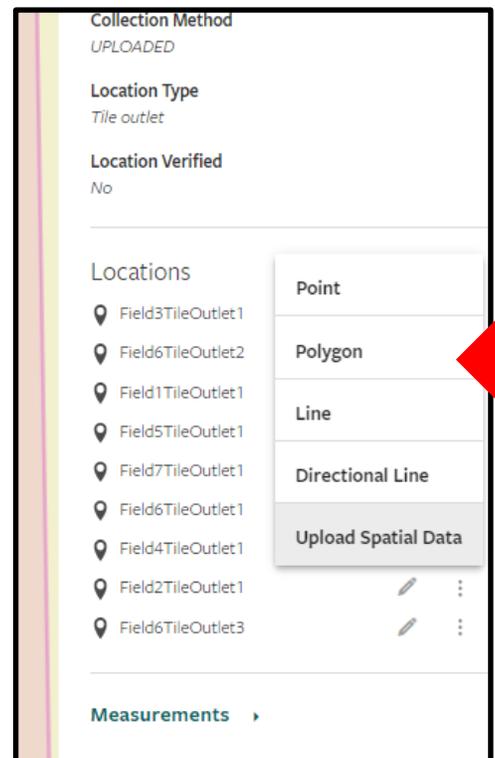
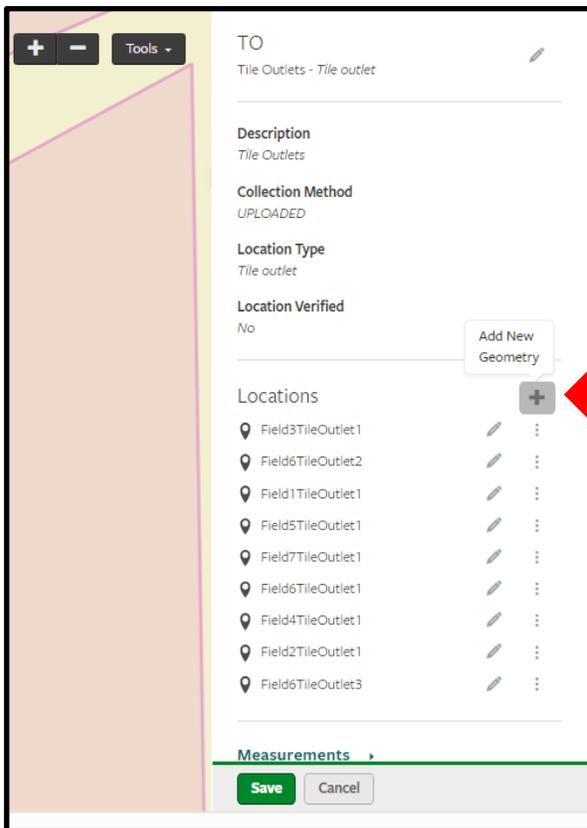
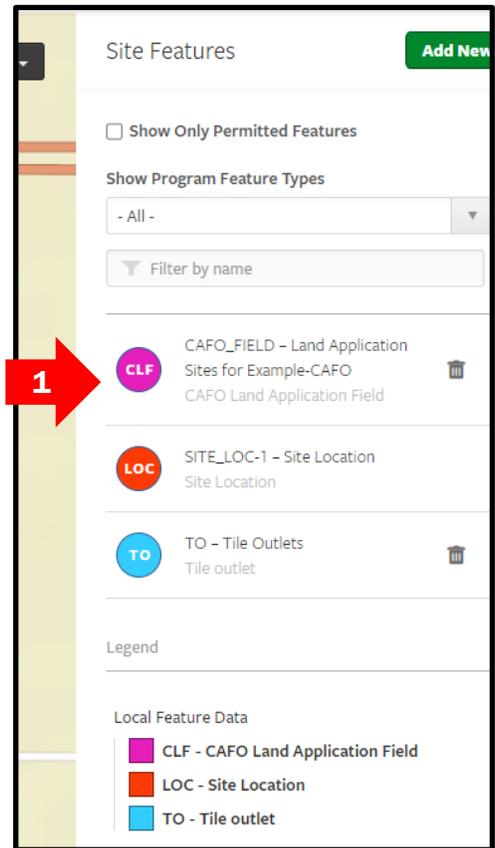
8. Edit or remove new point on right menu if needed.
9. Click **Save**.



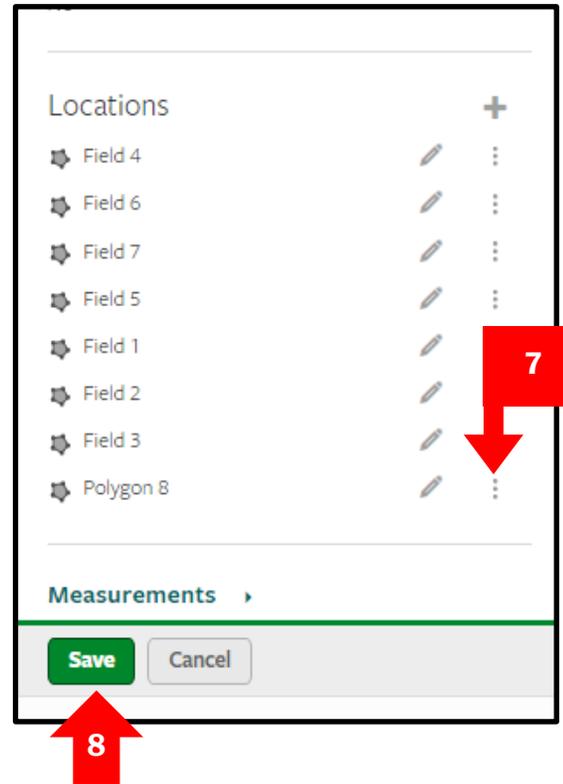
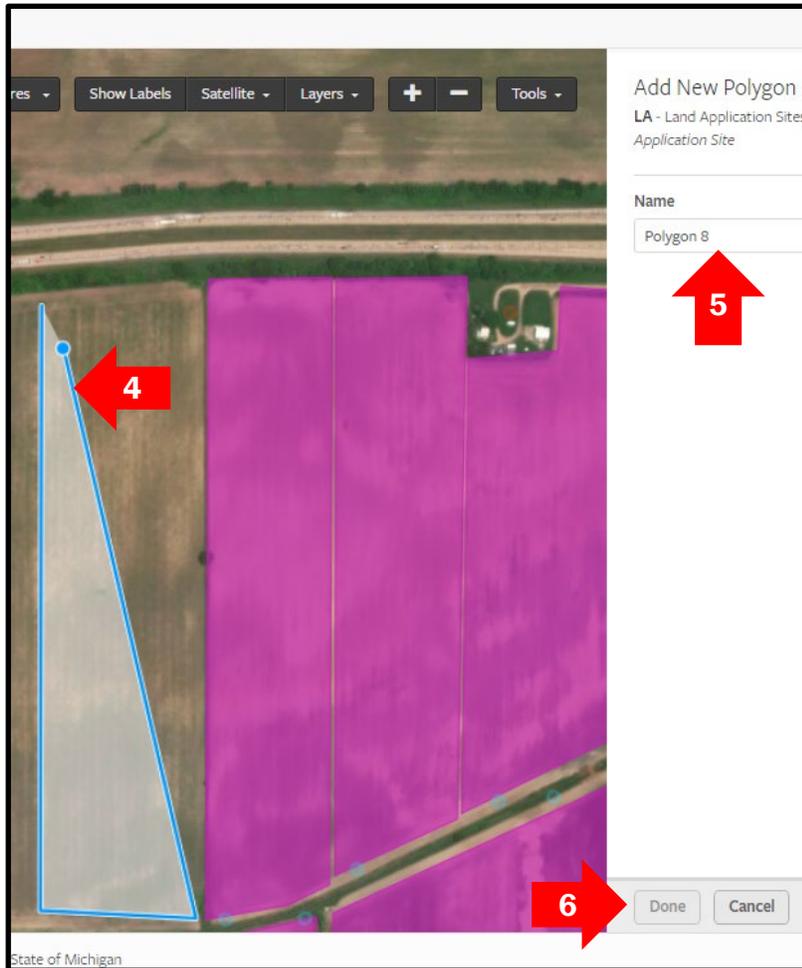
Option 2: Direct input in MiEnviro

Polygons

1. Click the corresponding feature.
*If Site Features are not visible, see previous section called: [Adding Features to Site Plan](#).
2. Click the plus sign (+) to add additional polygons.
3. Select "Polygon."



4. Draw polygon by clicking on corners of field. Double click to close the polygon.
5. Provide a name for the polygon.
6. Click “Done.”
7. Edit or remove new polygon if needed.
8. Click ”Save.”



REMEMBER...

- Upload BOTH files separately, one for the CAFO Land Application polygons and one for the Tile Outlet point data.
- If you are only adding a few polygons or point data, consider [Direct Input into MiEnviro](#).

If you have any questions regarding this process, please reach out to MiEnviro Support staff at EGLE-WRD-MiEnviro@Michigan.gov.

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