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

GUIDANCE FOR CONCENTRATED ANIMAL FEEDING OPERATION (CAFO) APPLICANTS

INTRODUCTION

In order to make permitting decisions, the Michigan Department of Enviornment, 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 | Туре | 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 |
| 🗹 📄 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.

| Seve Template ← → ~ ↑ | « AppData > LocalLo | ow⇒ Google⇒ Goo | gleEarth > My Style Templates | | v 0 | | | × |
|---|-------------------------|-----------------|-------------------------------|----------------------------|------|------|-------|----------|
| Organize + Ne | w folder | | | | | | ш - | ۲ |
| Quick access Quick access Desktop Downloads Documents | A Name | | Date modified No items m | Type natch your search. | Size | | | |
| File name: | Example_CAF0 | | | | | | | ~~ |
| Save as type: | Google Earth style temp | plates (*.kst) | | | | | | . * |
| ∧ Hide Folders | | | | | 8 | Save | Cance | <u> </u> |

- 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."

| Save file | 13 | | | |
|---------------|---------------------|-----|--------------|-----------|
| ÷ → • ↑ 💻 | → This PC → Desktop | v õ | ,O Search De | |
| Organize 👻 Ne | w folder | | | III 🕶 🛛 🔞 |
| File name: | Example_CAFO.shp | | | |
| Save as type: | Kml (*.kml) | | | |
| | 14 | | | |
| | | | 15 | |
| Hide Folders | | | Save | Cancel |

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 | В | | D | E |
|-------------------|-----------|------------|---|---|
| TileOutletName | Latitude | Longitude | | |
| Field1TileOutlet1 | 42.872951 | -85.143724 | | |
| Field2TileOutlet1 | 42.873415 | -85.142055 | | |
| Field3TileOutlet1 | 42.874045 | -85.140278 | | |
| Field4TileOutlet1 | 42.874788 | -85.13822 | | |
| 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: Delineated
 - Delimated: Set delimiter to Comma
 - Text Encoding: Set to UTF-8
- 5. Click Next

In the following window:

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

t 🖉 St 🜮 🚭 🕢 🚢 🥥 📳 🖂 🖺 🚳 👟 lata Import Wizard × Select Latitude/Longitude Fields This dataset does not contain latitude/longitude information, but street addresses Latitude field Latitude Ŧ Longitude field Longitude 6 Ŧ This is a preview of the data in your dataset. TileOutletName Latitude Longitude 1 Field1TileOutlet1 42.872951 -85.143724 7 2 Field2TileOutlet1 42.873415 -85.142055 3 Field3TileOutlet1 42.874045 -85.140278 4 Field4TileOutlet1 42.874788 -85.13822 < <u>B</u>ack Next > Finish Cancel



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.

| | 0 | Style Template | Set | ttings | P. | Alter States and | | | | | × | |
|---|----|------------------------------|--------------------|---|------|----------------------|--|------------|---|----------------|---|--|
| | | Name Color Set name field | No Tile Lati | Icon Height field CutletName itude | | 11 | | | | | | |
| | Th | is preview table o | Lor cont | ains the first ten | feat | tures in the dataset | | | | | | |
| | 1 | Field1TileOutle | t1 | 42.873 | | -85.1437 | | | | | | |
| | 2 | Field2TileOutle | t1 | 42.8734 | | -85.1421 | | | | | | |
| | 3 | Field3TileOutle | t1 | 42.874 | | -85.1403 | | | | | | |
| | 4 | Field4TileOutle | t1 | 42.8748 | | -85.1382 | | _ | | | | |
| | 5 | Field5TileOutle | t1 | 42.8756 | | -85.136 | | 12 | - | | | |
| | 6 | Field6TileOutle | t1 | 42.873 | | -85.1427 | | | | | - | |
| | | | | | | | | <u>O</u> K | | <u>C</u> ancel | | |
| 1 | | | | | | | | | 1 | | | |

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

12. Select "OK."

| Save Template | | | | | × |
|------------------|--------------------------------------|---------------------------|---------------|-----------------------|----------|
| ← → * ↑ | LocalLow > Google > GoogleEarth | > My Style Templates | و مر ن | earch My Style Templa | |
| Organize 👻 New f | folder | | | | ? |
| | ^ Name ^ | Date modified | Туре | Size | |
| 📌 Quick access | - | | | | |
| 💻 Desktop 🛛 🖈 | | No items match your searc | ch. | | |
| | | | | | |
| File name: 🖪 | xample_CAFO_TileOutlets_lat_long_csv | | | | ~ |
| Save as type: G | oogle Earth style templates (*.kst) | | | | ~ |
| | | | 1 | L3 | |
| | | | | | |
| · I Bde Feldere | | | | ave Canc | el |
| | | | | | <u> </u> |

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.

| EGLE | MiEnviro P | ortal | | | | | | | | | | | | | | | Home | About | Col | ntact | Sign O | ut | 🐴 Ml.gov Home |
|---------------------|--------------------------|-------------|--------------------|-----------------|------------------------|---------|--------|---------------|---|----------------|------------------|-----------|-----------|-------------|--------|-------------|-------|-------|----------|-----------|------------|----------|-------------------|
| My Tasks | Inbox Ad | lmin Repo | rts Explorer | nSPECT | | | | | | | | | | | | Q, Searc | h | | 0 | | 0 | Ŧ | Darrin McCullough |
| 🔺 This is l | UAT Cloud. DO N | NOT DO REAV | VORK HERE. This is | UAT Cloud. Data | last updated 3/30/2023 | 3. | | | | | | | | | | | | | | | | | |
| Exampl | le_CAFO | | 1 stails | | | | | | | | | | | | | | | | | | | CC | KK-KG68-0PG |
| Dashboa | ard | | Details | Site Pla | n Documer | nts | Events | Contacts | P | Program Comp | ponents | Relations | l. | | | | | | | | | | |
| Details | | 2 | | | | ٩ | | | 1 | 〒 Showi | ing all features | • Show | Labels S | itreet + La | yers 👻 | + - | Tools | - | Site Fe | atures | | | Add New |
| Start a N | New Form | | | 3 | | | | | | | | | Î | | | | | | Show | Only Peri | mitted Fe | atures | |
| Submissi | ions | | | | | | | | _ | - | | - | | | | 8 | | _ | Show Pro | ogram Fea | ature Type | es | 4 |
| Permits | | | ~ | | | | T | | | | N La | ley Rd | | | | | | | - All - | | | | |
| Evaluatio | ons | | | | | | | | | | | | | | | | | | T Fit | er by nam | ie | | |
| Violation | ns | | | | | | | | | | | | | | | | | | - | SITE LO | | Location | |
| Complia Enforcer | ince and ment Actions | | | Leavy Doals | | | | | | | | | | | | | | | LOC | Site Loc | ation | Location | |
| Environn | mental Project | ts | | | | | | | | | | | | | | | | | Legend | | | | |
| Financial | ls | | | | | | | | | | | | | | | | | | Local Fe | ature Dat | a | | |
| Financial | l Assurance | _ | | | | arey Rd | | | | | | | | | | | | | L | OC - Site | Location | | |
| Docume | ents | _ | | | | 9 | | | | | | | le Rd | | | | | | | | | | |
| Authoriz | zed Users | | | W Portland Ro | | | | W Portland Rd | ļ | | W Portland Rd | | ordian La | | w | fortland Rd | | | | | | | |

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

- 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

| EGLE MiEnviro Portal | Home | About Contact Sign C | Dut 🎽 Mi.gov Home |
|---------------------------------------|--|--------------------------|---------------------|
| My Tasks Inbox Admin Rep | corts Explorer nSPECT MIENVIRO PORTAL UAT CLOUD | 0 🛱 | 💄 Darrin McCullough |
| 🛕 This is UAT, UAT UAT TEST. DO NOT | DO REAL WORK HERE, Data refreshed on 6/13/23. | | × |
| Example_CAFO | Site Details | | Y2ZT-9WZQ-J1B |
| Dashboard | Details Site Plan Documents Events Contacts Program Components Relations Preferences | | |
| Details | Q Tools - | New Feature | Cancel |
| Start a New Form | | Show Program Feature Typ | pes |
| Submissions | | - All - | * |
| Permits | 1 | CAFO Land Applicatio | × h |
| Evaluations | | | |
| Violations | | CAFO Land Applie | ation Field |
| Compliance and Enforcement Actions | | | |
| Environmental Projects | lang Dan | 2 | |
| Financials | | _ | |
| Financial Assurance | | | |
| Documents | | | |
| | Learny Drawh | | |

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.



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

| My Tasks Inbox Admin Rep | orts Explorer nSPECT MIENVIRO PORTAL UAT CLOUD | Q. Search O ➡ ② ▲ | | | | | | | | | |
|---------------------------------------|---|---|--|--|--|--|--|--|--|--|--|
| A This is UAT Cloud. DO NOT DO REAL | WORK HERE. This is UAT Cloud. Data last updated 3/80/2023. | | | | | | | | | | |
| Example_CAFO | Site Details | cc | | | | | | | | | |
| Dashboard | Details Site Plan Documents Events Contacts Program Components Relations | Easture Identifiar | | | | | | | | | |
| Details | | reau e wenner | | | | | | | | | |
| Start a New Form | Upload Geospatial File | | | | | | | | | | |
| Submissions | I no upload runction supports a maximum of 50 geometric objects (nexture locations). File Format Requirements | | | | | | | | | | |
| Permits | Files must be kml or GeoJSON format Spatial Data must be projected in EPSG-8326 / WGS84 | Files must be kmi or GeoJSON format Spatial Data must be projected in EPSG-4326 / WGS84 | | | | | | | | | |
| Evaluations | | | | | | | | | | | |
| Violations | | | | | | | | | | | |
| Compliance and Enforcement Actions | G · · · · | Choose Files No file chosen | | | | | | | | | |
| Environmental Projects | Drop files here to upload Select a file from your computer | | | | | | | | | | |
| Financials | | | | | | | | | | | |
| Financial Assurance | | | | | | | | | | | |
| Documents | | | | | | | | | | | |

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

| My Tasks Inbox Admin Repor | rts Explorer nSPECT [| MIENVIRO PORTAL UAT CLOUD | Q Search | © | 4 <u>1</u> 3 | | | | | |
|---------------------------------------|---|---|----------------------------------|------------------|-----------------|--|--|--|--|--|
| A This is UAT Cloud. DO NOT DO REAL W | ORK HERE. This is UAT Cloud. Data la: | st updated 3/30/2023. | | | | | | | | |
| Example_CAFO | Site Details | | | | | | | | | |
| Dashboard | Details Site Plan | Documents Events Cont | acts Program Components Relation | s Feature Ide | entifier | | | | | |
| Details | | | | | | | | | | |
| Start a New Form | Upload Geospatial File | e a maximum of 50 geometric objects (feature locations). | | | | | | | | |
| Submissions | File Format Requirements | | | | | | | | | |
| Permits | Files must be kml or GeSpatial Data must be pr | oJSON format ojected in EPSG:4326 / WGS84 | | | | | | | | |
| Evaluations | | | | | | | | | | |
| Violations | File to Upload | | | | | | | | | |
| Compliance and | Status | Name | | Size | | | | | | |
| Enforcement Actions | Ready 7 | Example_CAFO.shp.kml | | 9.01 KB | | | | | | |
| Environmental Projects | | _ | | | | | | | | |
| Financials 🔹 – | | | | | | | | | | |
| IH . | Start Upload Cano | el | | | | | | | | |

- **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!

| Example_CAFO | Site Details | Y2Z | T-9WZQ-J1B |
|------------------------|--|--------------------------------------|------------|
| Dashboard | Details Sile Plan Documents Events Contacts Program Components Relations Preferences | Apprecion meru | |
| Details | Q → Showing all features + Show Labels Street + Layers + + → Tools + | | |
| Start a New Form | | CAEO FIELD | |
| Submissions | | Description | |
| Permits | | Land Application Sites for Example-O | CAFO |
| Gunhantinan | | Collection Method | |
| Evaluations | | Uploaded | Y |
| Violations | | Feature Type | |
| Compliance and | | CAFO Land Application Field | 8 |
| Enforcement Actions | ten Sua | Location Verified | |
| Environmental Projects | | | |
| Financials | | Locations | + |
| Financial Assurance | | Field 1 | / : |
| Documents | line) (| Field 2 | |
| Authorized Lines | | p Field 4 | / : |
| Authorized users | W Presses Re W Presses Re W Presses Re W Presses Re | Field 5 | / : |
| | | 10 Field 6 | / : |
| | | 10 Field 7 | / : |
| | | | |
| 1 | | Save | |

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."

| Upload Geospatial File | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|
| This upload function supports a maximum of 50 geometric objects (feature locations). | | | | | | | | | |
| File Format Requirements Files must be kml or GeoJSON format Spatial Data must be projected in EPSG:4326 / WGS84 | | | | | | | | | |
| Drop files here to upload | Choose Files No file chosen Select a file from your computer | | | | | | | | |
| Start Upload Cancel | | | | | | | | | |

- 6. Verify polygons or points are displayed correctly.
- 7. Very names are correct and edit from right menu if needed.
- 8. Click "Save."



Option 2: Direct input in MiEnviro

Tile Outlets

- 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."



| + - Tools - | TO Tile Outlets - <i>Tile outlet</i> | ı |
|-------------|---|---------------------|
| | Description Tile Outlets | |
| | Collection Method | |
| | Location Type Tile outlet | |
| | Location Verified | |
| | | Add New Geometry |
| | Locations | + 2 |
| | Field3TileOutlet1 | |
| | Field6TileOutlet2 | 1 : |
| | Field1TileOutlet1 | / : |
| | Field5TileOutlet1 | 1 : |
| | Field7TileOutlet1 | 1 : |
| | Field6TileOutlet1 | 1 : |
| | Field4TileOutlet1 | 1 : I |
| | Field2TileOutlet1 | Ø : |
| | ♥ Field6TileOutlet3 | 1 : |
| | | |
| | Measurements > | |
| | Save | |
| | | |

| Location Type | |
|-------------------|--------------------|
| Tile outlet | |
| Location Verified | |
| Locations | Point |
| Field3TileOutlet1 | |
| Field6TileOutlet2 | 3 |
| Field1TileOutlet1 | line |
| Field5TileOutlet1 | Line |
| Field7TileOutlet1 | Directional Line |
| Field6TileOutlet1 | |
| Field4TileOutlet1 | Upload Spatial Dat |
| Field2TileOutlet1 | I |
| Field6TileOutlet3 | Ø |

- 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

- 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."

| | Site Features Add New |
|---|--|
| | Show Only Permitted Features |
| | Show Program Feature Types |
| | - All - |
| | T Filter by name |
| 1 | CAFO_FIELD - Land Application Sites for Example-CAFO CAFO Land Application Field |
| | SITE_LOC-1 – Site Location Site Location |
| | TO - Tile Outlets Tile outlet |
| | Legend |
| | Local Feature Data CLF - CAFO Land Application Field LOC - Site Location TO - Tile outlet |

| + - Tools - | TO Tile Outlets - <i>Tile outlet</i> | 1 |
|-------------|---|---------------------|
| | Description Tile Outlets | |
| | Collection Method | |
| | Location Type Tile outlet | |
| | Location Verified | |
| | No | Add New Geometry |
| | Locations | + 2 |
| | Field3TileOutlet1 | |
| | Field6TileOutlet2 | 1 : |
| | Field1TileOutlet1 | / : |
| | Field5TileOutlet1 | / : |
| | Field7TileOutlet1 | / : |
| | ♥ Field6TileOutlet1 | Ø : |
| | ♥ Field4TileOutlet1 | Ø : |
| | Field2TileOutlet1 | 1 : |
| | Field6TileOutlet3 | Ø : |
| | | |
| | Measurements > | |
| | Save Cancel | |
| | | |

| Tile outlet | | | |
|------------------|-------------|---------------|----|
| Location Verifie | d | | |
| Locations | Point | t | |
| Field3TileOut | tlet1 | | |
| Field6TileOut | tlet2 Polyg | gon | |
| Field1TileOut | tlet1 | | |
| Field5TileOut | tlet1 | | |
| Field7TileOut | tlet1 Direc | ctional Line | |
| Field6TileOut | tlet1 | | |
| Field4TileOut | tlet1 Uplo | ad Spatial Da | ta |
| Field2TileOut | tlet1 | P | : |
| O Field6TileOut | tlet3 | Ø | : |

- **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.

This publication is intended for guidance only and may be impacted by changes in legislation, rules, policies, and procedures adopted after the date of publication. Although this publication makes every effort to teach users how to meet applicable compliance obligations, use of this publication does not constitute the rendering of legal advice.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations.

To request this material in an alternate format, contact EGLE-Accessibility@Michigan.gov or 800-662-9278.