Instructions for Maps and Obtaining GPS Coordinates for Submission with all Hemp Grower and Processor Registration Applications

The Agency of Agriculture, Food and Markets (AAFM) provides the following instructions on how to create the required photographic aerial view/maps and obtain global positioning system (GPS) coordinates necessary to be a participant in its Industrial Hemp program.

Tools for Getting GPS Coordinates and Mapping

Use a web based mapping program such as ANR Atlas, Google Maps, or download Google Earth Pro to develop maps, outline boundaries of fields and acres to be registered, and to obtain GPS Coordinates.

- GPS coordinates for both the processor and grower registration applications must be provided in Decimal Degrees, (DD.DDDDD, or 44.26079 , -72.57997). Processor registration Applications only require GPS coordinates provided on application forms. See below for Grower registration application requirements.

Grower Registration Maps

Applicants for grower registrations are required to provide to AAFM aerial views/maps of each cultivation area and for drying/storage areas. The creation of multiple maps may be necessary if these areas are noncontiguous areas. This requirement applies to all applicants that want to participate in the Agency's program. Each map accompanying the registration must be in color using satellite imagery and all information on the map must be legible.

All maps must contain the following information:

- Applicant's full name as listed on the application form,
- Name of the legal business entity, if applicable,
- street address, town, state and zip code of the property pictured in the aerial view map,
- Vehicular access from the nearest public road,
- Identified processing, drying/storage area, and
- Boundaries/outline of the cultivation areas.

Low Tech Mapping for Cultivation, Drying and Storage Areas

There is no requirement that grower registration applicants develop maps in this way, but it is necessary that maps are legible and accurate. Failure to provide legible information or require the Agency to clarify information with an applicant may result in delays in receiving the registration.

- Print a color map of your location from any mapping program (EX: Google Maps, ANR Atlas, MapQuest, etc.).
- Print with visible marker/pen your name, business name, the complete address of the parcel pictured in the image.
- Mark name of most nearly adjacent public right of way, if not present on the image.
- Draw a point marking the vehicular access from public right of way to the cultivation area, or drying and storage areas.
- If the map illustrates a cultivation area, outline the boundaries of the cultivation area.
- Scan and upload the image with the completed application.

Using Google Maps

Go to Google Maps, https://www.google.com/maps.

1. Choose the satellite image in the bottom left hand corner of screen.
2. Type in your address to find your cultivation area and driveway.
3. Right click on the location of the driveway with your mouse and choose "What's here?"
    a. The latitude and longitude will appear at the bottom of the page, click on it
4. Right click again within the image and choose "Print", this gives you a print view the aerial view map. Make sure you have the name of the road that provides access to your property, and the field, storage or drying locations in the image. Adjust as necessary.
5. Type in your name, your business's name, the address of the parcel picture in the image at the top of the page.
6. Print the image in color and then outline the boundaries of the fields with a pen or marker, **or**
7. Print to .pdf and save to your computer,
    a. open the file in adobe acrobat
    b. Under "File" tab choose "Export to" and choose Microsoft Word
    c. Open file in Microsoft Word
    d. Under the "Insert" tab click on "Shapes" and draw the boundaries of the field
    e. Additional labels can be added as necessary with Text Boxes
    f. Save the file
    g. Print the file in color

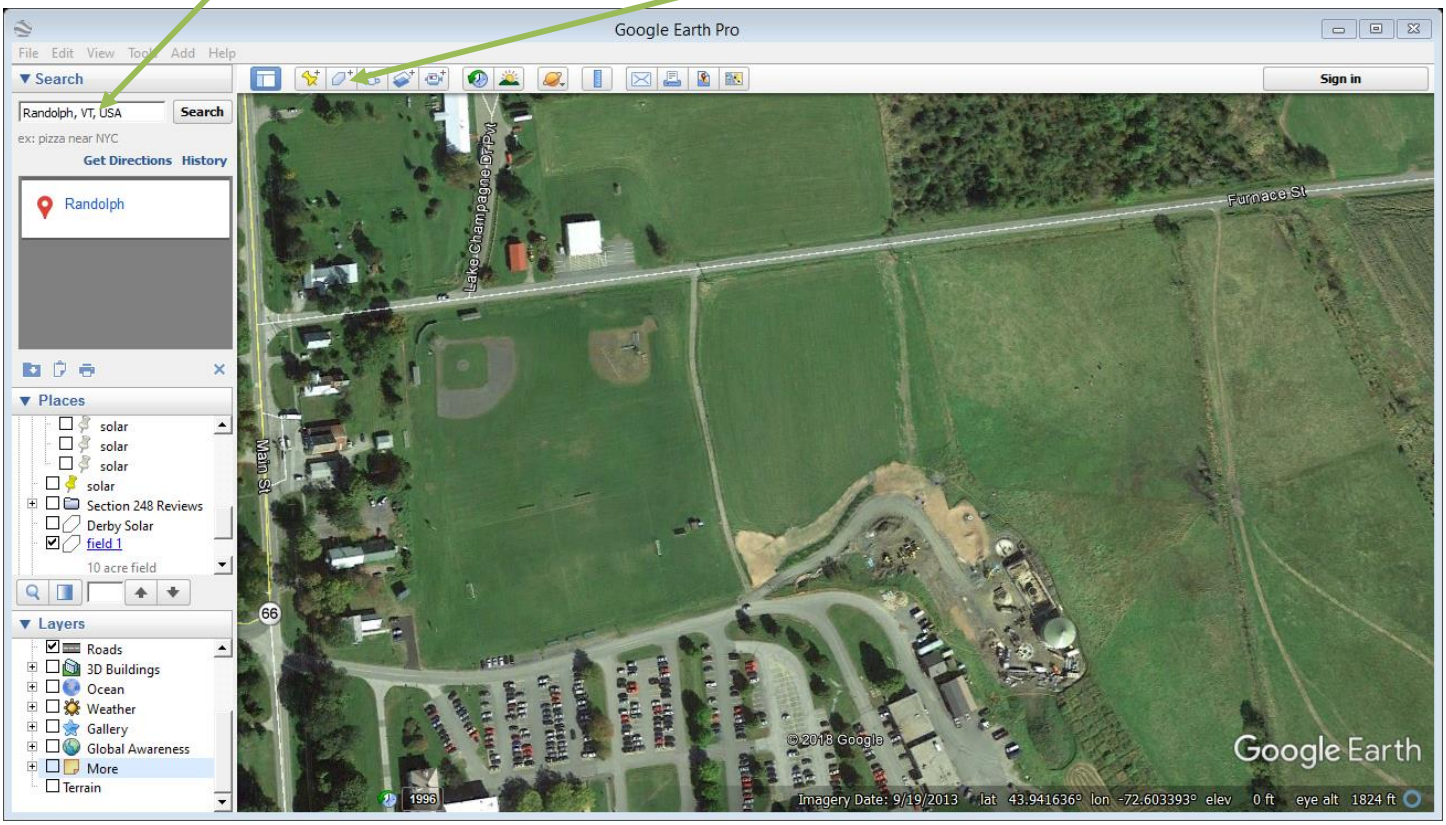
Using Google Earth Pro

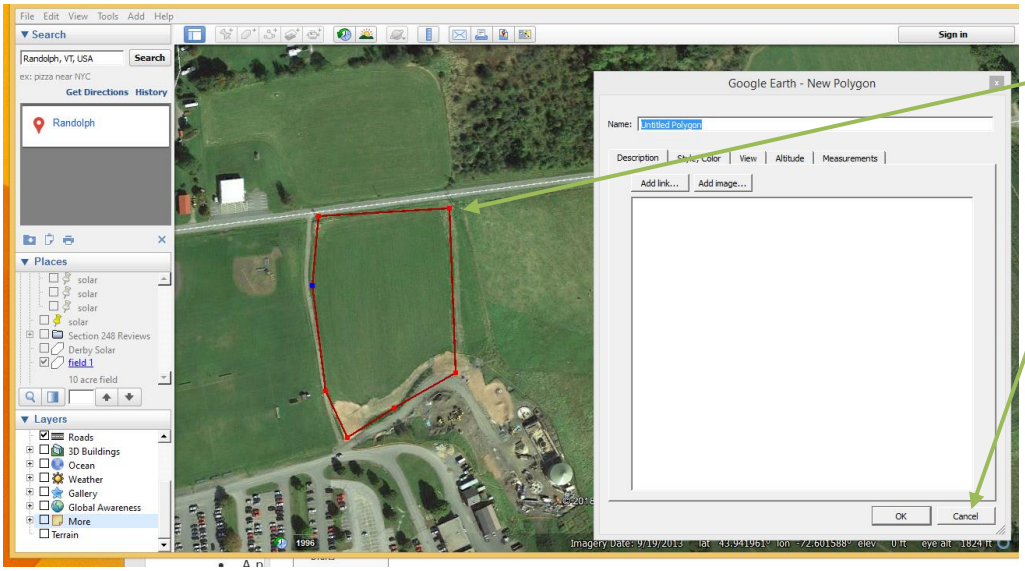
Google Earth Pro can be downloaded for free at https://www.google.com/earth/download/gep/agree.html. Be sure to set the appropriate GPS coordinate format, under **Tools, Options, 3D View, Show Lat/Long, Decimal Degrees**

It is also possible to find under Preferences,3D View, Show Lat/Long, Decimal Degrees

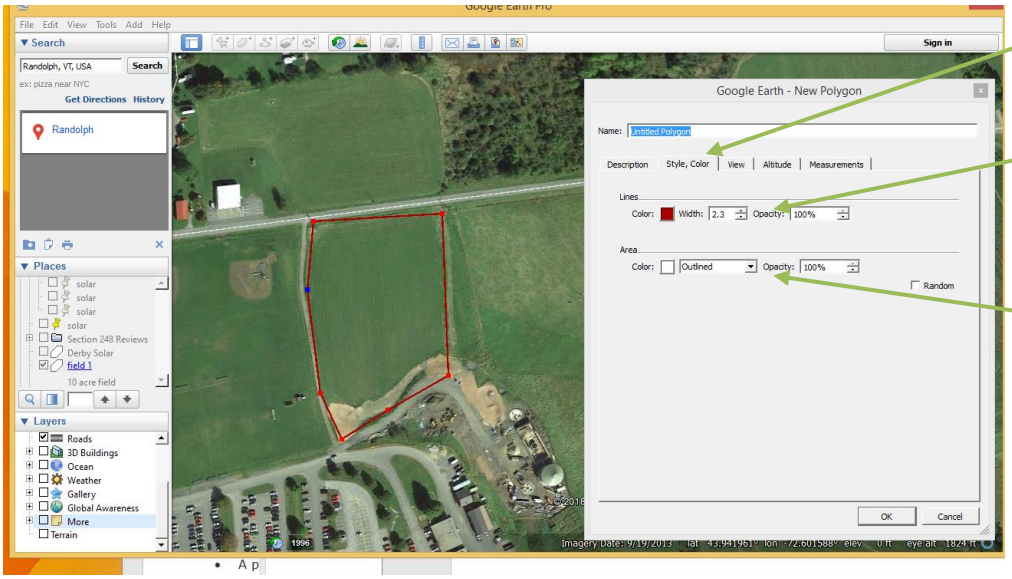
Search the locations of cultivation areas, or drying/storage areas by entering the address of the property in the Search Field in the left hand navigation column and click “search”.

Step 1: Search field. Then click on “Add Polygon”





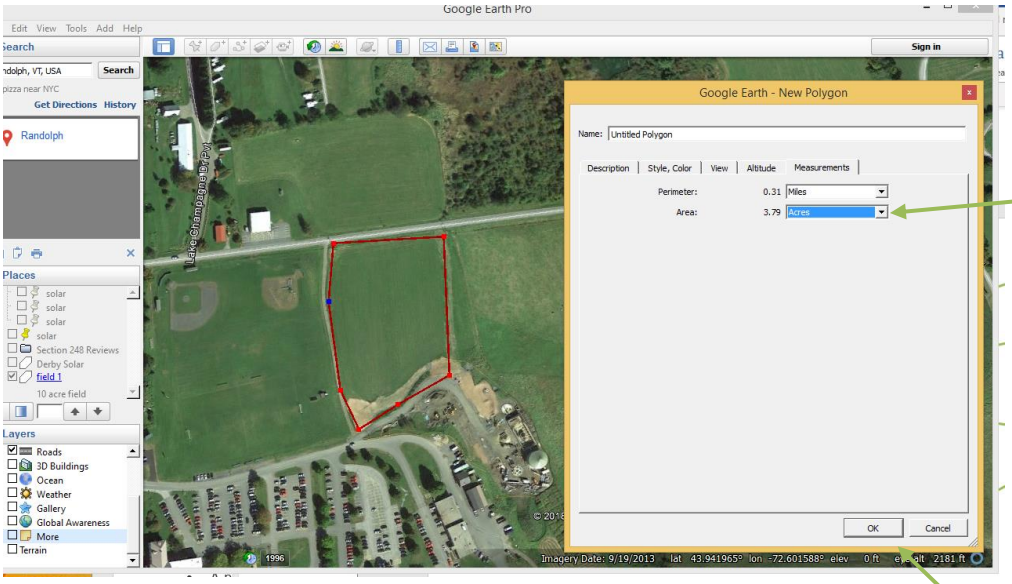
Step 2: Using mouse, set the boundaries of your field. If you make a mistake click “cancel” at the bottom of the open window and begin again.



Step 3: Click on “Style, Color” tab in window

Choose color of “Lines” and set width so it is visible.

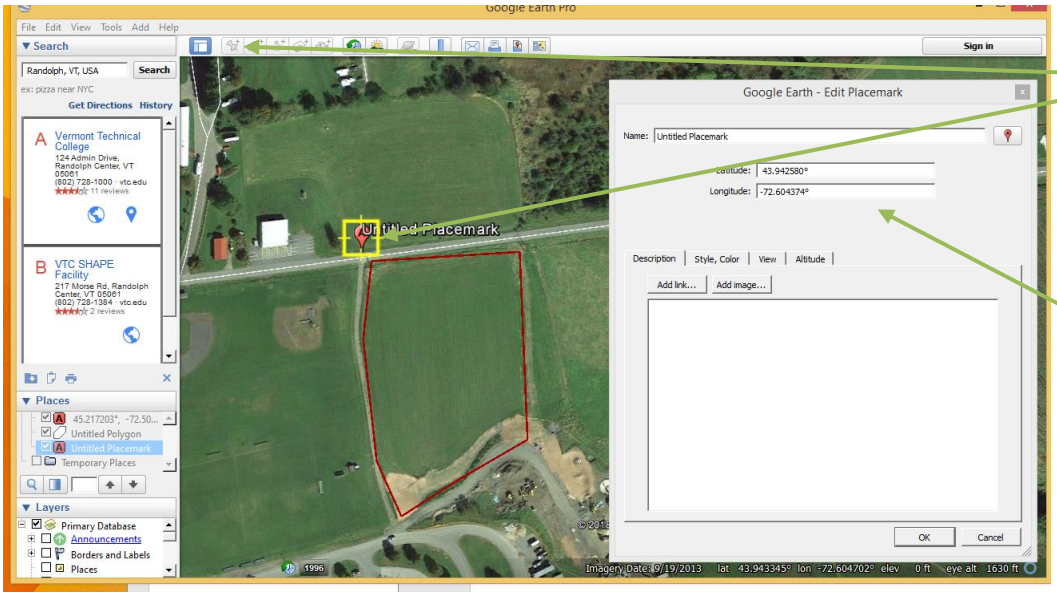
Make sure under “Area” it is set to “outline”



Step 4: Click on “Measurements” tab in window.

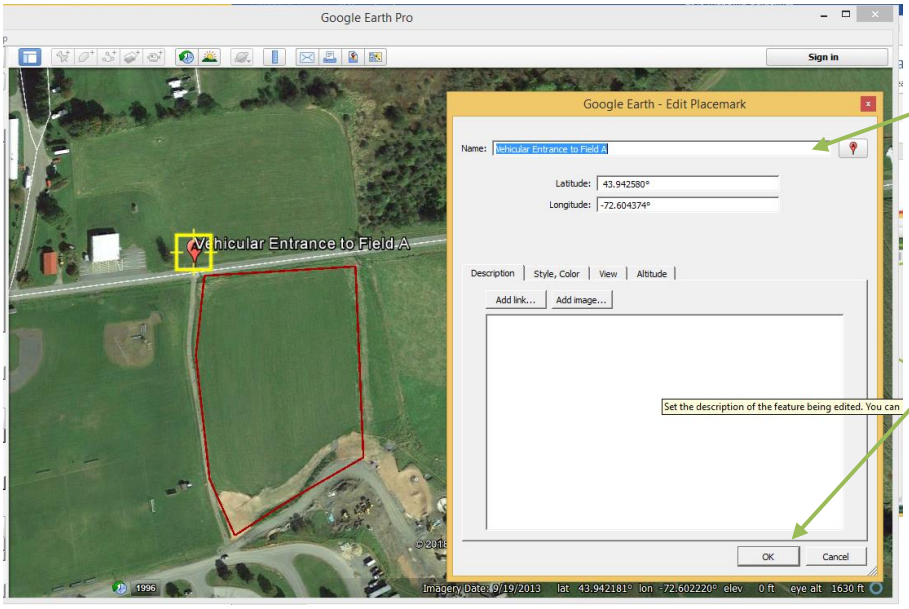
Use drop down to get acres in boundaries of mapped field location. You may use this information on your application form. With multiple noncontiguous cultivation areas, you will need tally all acreages from each map.

Click “OK”



Step 5: Click the "Add Placemark" button in the toolbar, and mark location of vehicular entrance to cultivation area.

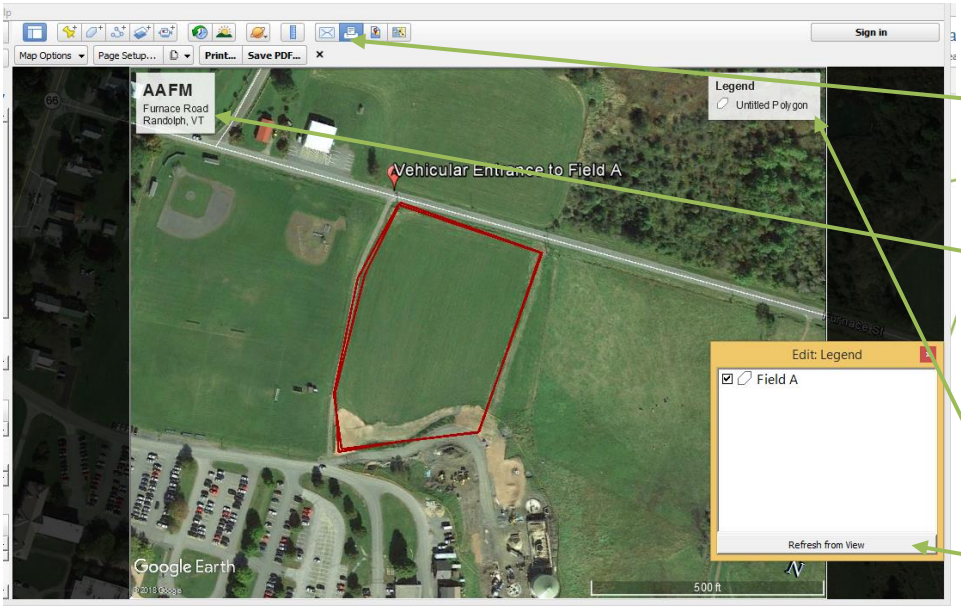
Lat/Long of the placemark will appear in window, use this on your registration form



Step 6: Name the feature

Click "OK" when done editing.

If you need to further edit, hover mouse over placemark and right click. Go to "properties" in drop down provided to get the window back.

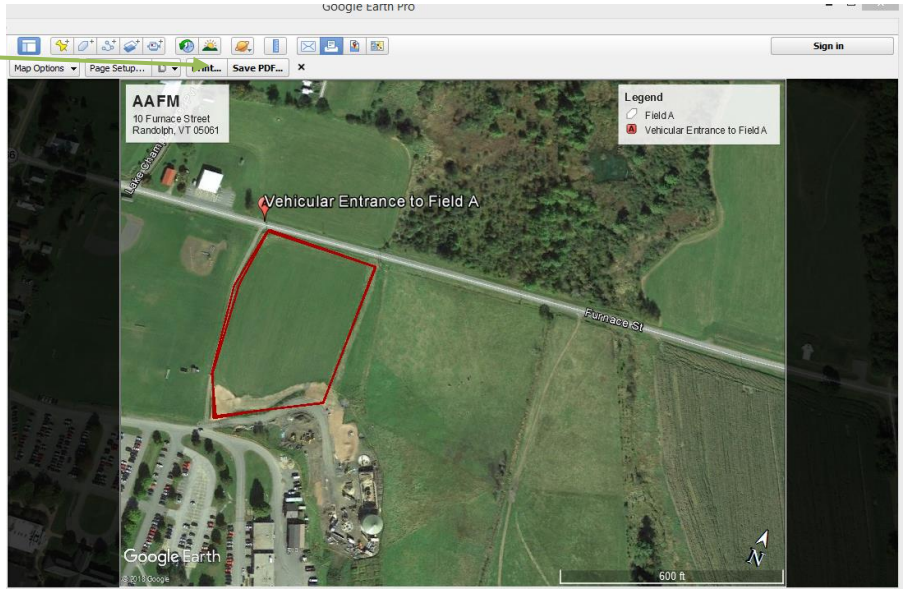


Step 7: To begin set up for printing, click the print button in the tool bar.

Edit the title block, by clicking on it adding primary contact name, business name and physical address required information

Edit legend same manner (use refresh if labels do not appear at first)

Step 8: Click “Save PDF” to make a PDF copy suitable for loading with your registration application



Using the ANR Natural Resource Atlas

http://anrmaps.vermont.gov/websites/anra5/

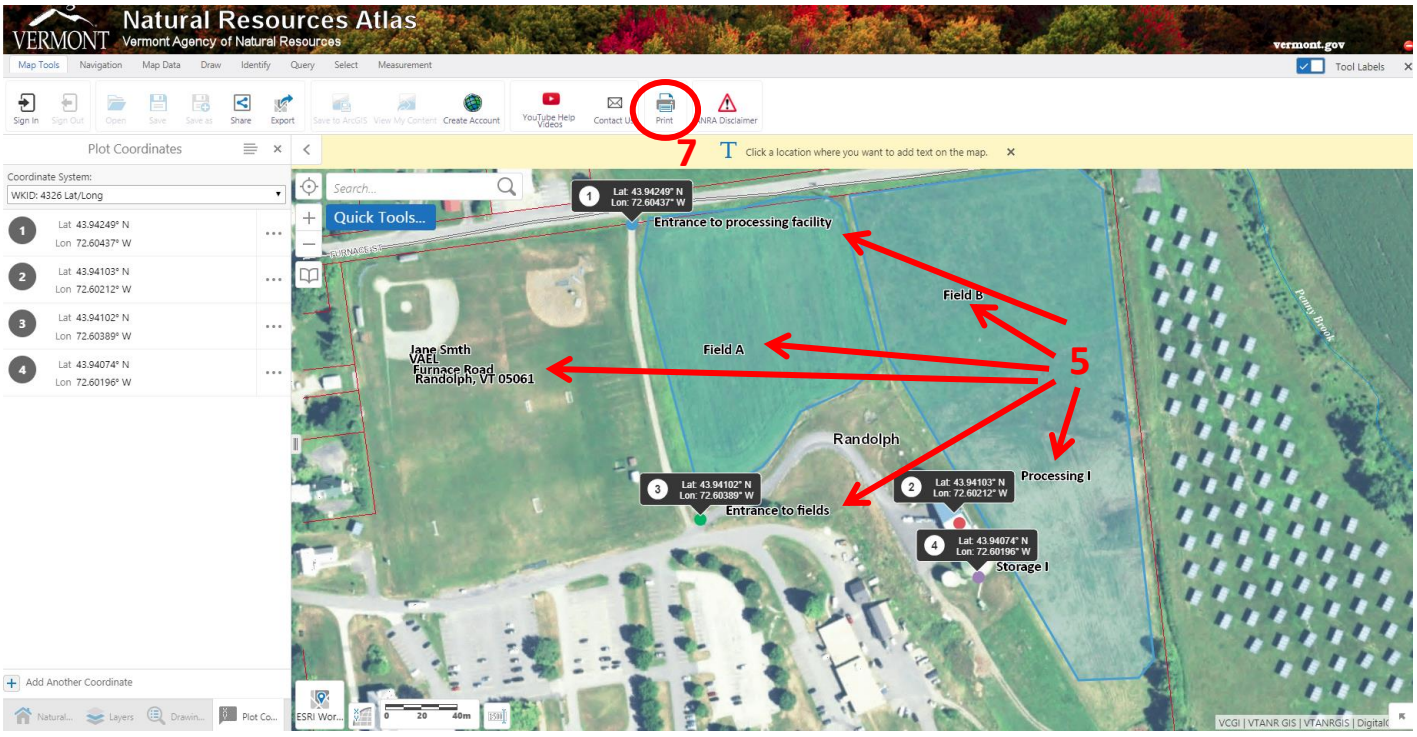
All applicants are required to list GPS coordinates for each vehicular access point to a property where industrial hemp will be held or processed, or cultivation area where industrial hemp will be grown, on the appropriate application form.

1. Open “Tools” to get various tools needed to create and print a map.
2. Navigate to site location under Quick Tools (Zoom to Town or Find an Address)

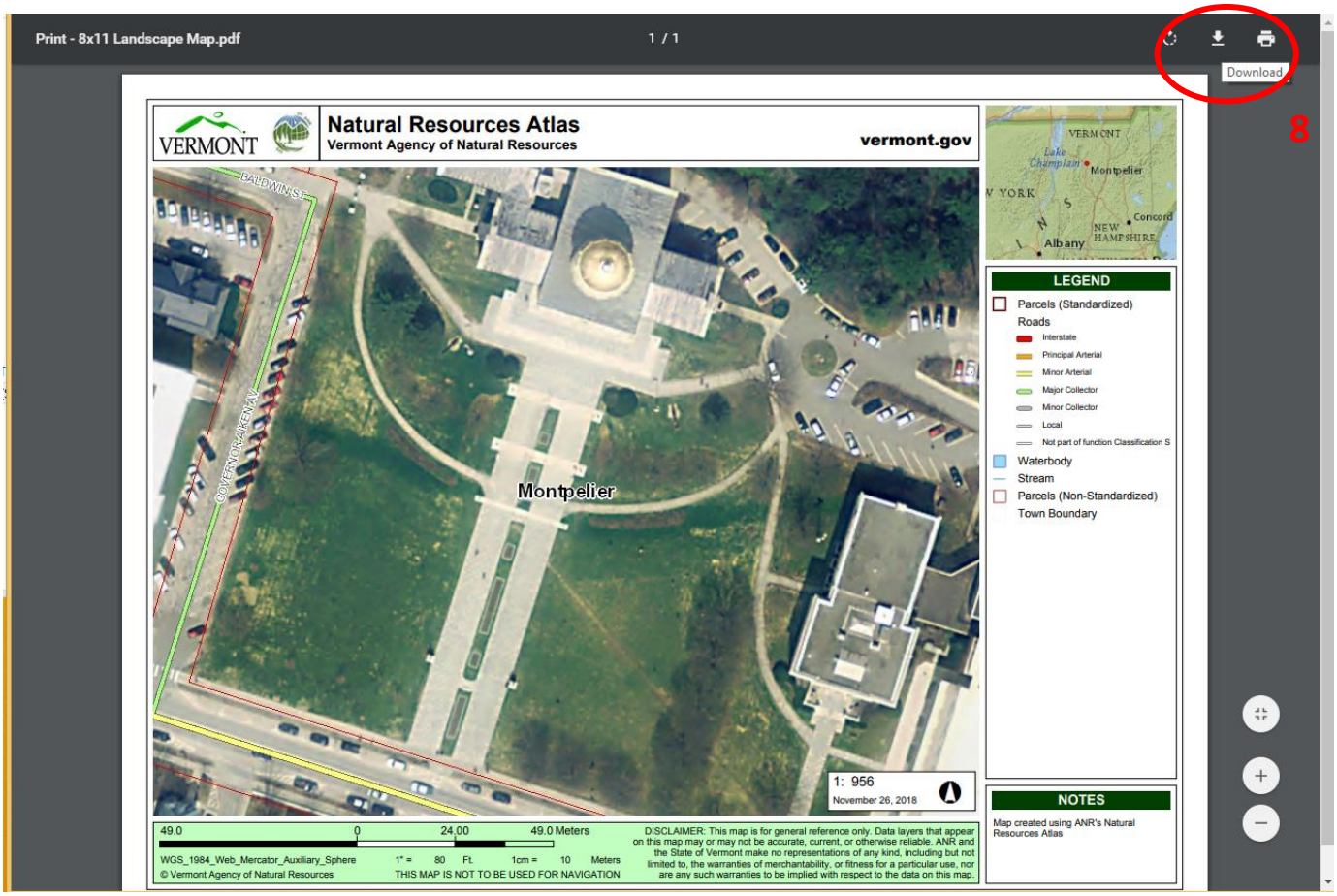
3. Right click on the location of vehicular access to site and “Plot a Coordinate” to get GPS coordinates, transcribe information as necessary to appropriate forms.
4. Right click on site and “Draw a point” to mark buildings and indoor cultivation areas where industrial hemp will be grown, dried, stored or processed. Follow instructions below to map the boundaries of fields for outdoor cultivation areas.

To change style of points left click on the colored point and chose “style”, then change color and shape of point in menu of options in left have navigation bar.

5. Click on “Polygon” in the “Draw” tab to draw boundaries of the cultivation areas. If indoors, please use a “point” to mark the building being used. It is not necessary to gather GPS coordinates for each building being used in the operation, however they must be marked with a point
6. Click on “Text” in the “Draw” tab to label fields, buildings, and create a title block with necessary information. (see image below for examples).
7. Click on “Print” in the Map Tools tab to open file and follow instructions until print view appears, below.



Example of print view



8. Rename image, and download and save to your computer. Upload image when completing online application.

Common issues with print layout

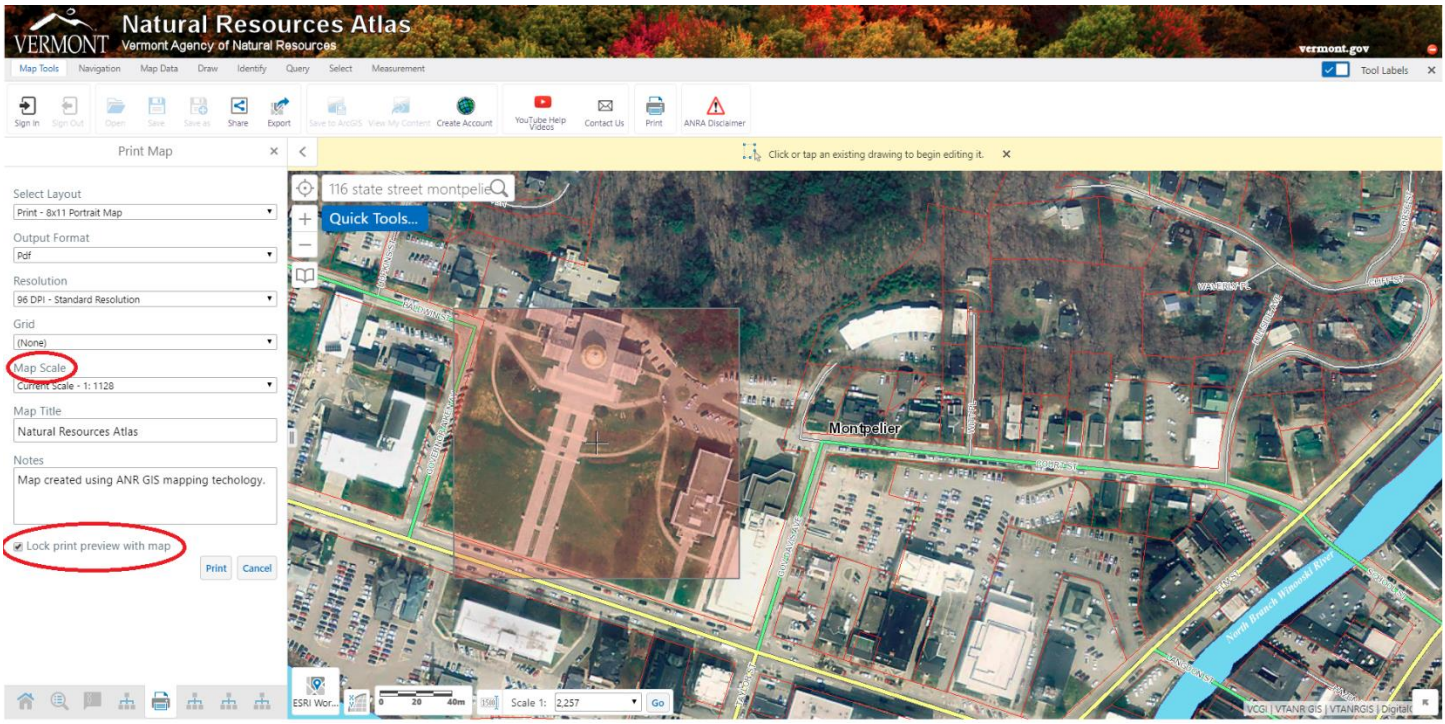
1. Labels or map title appear in black font over a dark background and are hard to read.

To adjust font colors, click “Edit” from the Draw menu. Select the text on the map. Within the Draw menu, click “Style” to adjust font color and size.

2. Labels or Map Title appear cut off or stacked on top of one another in printed map.

After selecting “Print from the Map Tools” menu, you can adjust the print settings in the left pane to see a print preview and adjust the mapped area. Select “Current Scale” from the Map Scale dropdown menu. This causes the printable area to be highlighted in red. You may need to zoom out to see the entire highlighted area. If you notice your title or other important labels falling outside of the printable area, select the text items and move them into the printable area.

To change the size of the printable area (the red highlighted rectangle), try other scale options from the Map Scale dropdown menu (i.e. 1:2,500 or 1:5,000). To move the printable area, unselect the “Lock print preview with map” checkbox and click the map to drag the proper fields/facilities into the printable area.



3. Vehicle entries marked with GPS coordinates overlap/cover building points, causing the points to not appear on the printed map. This is most likely to happen when farm buildings are located slightly north of vehicle access points.

If GPS coordinate boxes at vehicle entry points cover building points, please minimize the GPS coordinate box, and replace it with a point and a label. To minimize a GPS coordinate box:

First, be sure to write down the GPS coordinates for the vehicle entry. You can minimize the GPS callouts and replace it with a label including the same information, which can more easily fit without blocking other features. Find the icon in the bottom left-hand corner to activate the Plot Coordiantes pane. From there, you can click on a set of coordinates to see them highlighted on the map, then still within the Plot Coordinates pane, click the elipses to the right of the coordinates to see the “Hide this coordinate” option.

To replace the coordinate with a point and a label, revisit steps 4 and 7. In the new label, note that this point is a vehicle access and include the GPS coordinates for that location.