

# PA COVER CROP SURVEYS ENHANCEMENT PROJECT

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# Voluntary Farmer Survey to Self-Report BMPs

- This survey was first done in 2016 (nearly 7,000 farmers participated)
- 2016 survey established CBP AgWG-approved method to collect “voluntary” (non-cost shared) practices
- Repeated in 2020 in four Phase 3 WIP “pilot counties” of Lancaster, York, Adams and Franklin (nearly 1,800 farmers participated)
- 2022 survey underway in 14 remaining Tier 2 & 3 counties (1,018 surveys returned to date)

**About Your Farming Operations**

1. Please provide your name and the physical address of your farming operation.

First Name                      Last Name

Middle Initial Address:

City                      State                      Zip Code

Metropolitan Area (county, township, etc.)                      County

Watershed, if known:    ☐ Delaware    ☐ Erie    ☐ Genesee    ☐ Ohio    ☐ Potomac    ☐ Susquehanna

2. How many acres is your farming operation? For purposes of answering this question and filling out the remainder of the survey, your farming operation includes all land which you manage for agricultural activities, including owned ground and rented ground.  
    Number of acres

3. For calendar year 2005, please indicate what crops you grew, how many acres of each, whether they were grown on owned or rented ground, and whether any of the acres grown were a double crop.

Crop	Acreage on Owned Ground	Acreage on Rented Ground	Acreage Grown as a Double Crop
Corn-Grain	<input type="text"/>	<input type="text"/>	<input type="text"/>
Corn-Silage	<input type="text"/>	<input type="text"/>	<input type="text"/>
Soybeans	<input type="text"/>	<input type="text"/>	<input type="text"/>
Wheat	<input type="text"/>	<input type="text"/>	<input type="text"/>
Rye	<input type="text"/>	<input type="text"/>	<input type="text"/>
Buckeye	<input type="text"/>	<input type="text"/>	<input type="text"/>
Alfalfa	<input type="text"/>	<input type="text"/>	<input type="text"/>
Hay	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other (please specify)	<input type="text"/>	<input type="text"/>	<input type="text"/>

# LANCASTER COUNTY 2020 DATA



- Transect survey and BMP survey *both* completed in 2020
- Allowed us to look at cover crops datasets from each survey for Lancaster County

# LANCASTER COUNTY 2020 DATA

- 970 field observations in the transect survey (485 unique latitude/longitude pairs with observations on the left- and right-hand sides of the road)
- 989 Lancaster County farms in the Penn State BMP survey
- **Our question:** how many fields observed in the transect survey belong to farms that responded to the Penn State BMP survey?

# METHODOLOGY

- Obtained latitudes/longitudes for all farm addresses in the Penn State BMP survey
- Calculated straight-line distance between the coordinates of each farm address and the coordinates of each transect observation point

# METHODOLOGY

**Number of BMP survey farms with the nearest transect point...**

<b>&gt; 1.00 miles away</b>	<b>527</b>
<b>Between 0.50 and 1.00 miles away</b>	<b>221</b>
<b>Between 0.25 and 0.50 miles away</b>	<b>133</b>
<b>Between 0.10 and 0.25 miles away</b>	<b>85</b>
<b>&lt; 0.10 miles away</b>	<b>23</b>

# METHODOLOGY

Number of BMP survey farms with the nearest transect point...

> 1.00 miles away 527

Between 0.50 and 1.00 miles away 221

Between 0.25 and 0.50 miles away 133

Between 0.10 and 0.25 miles away 85

< 0.10 miles away 23

we proceeded with a  
careful search for  
matches among this  
subset of farms

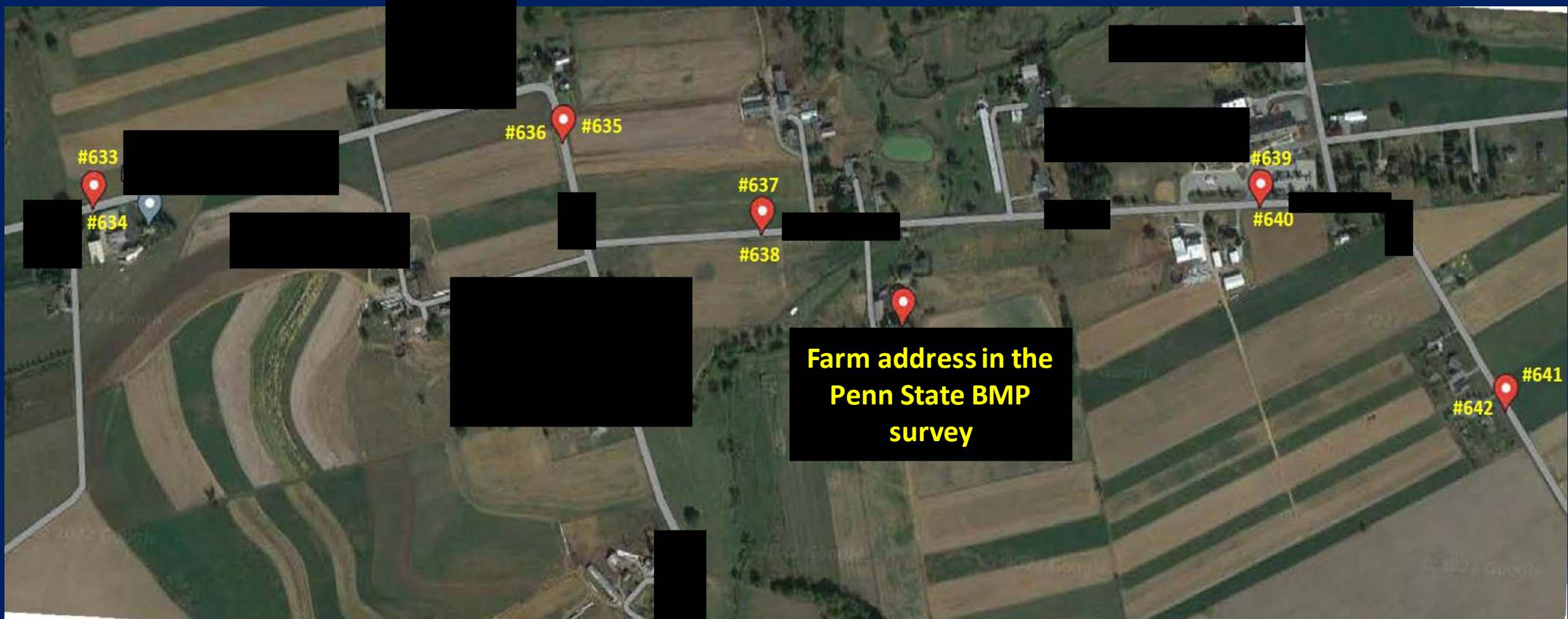


# METHODOLOGY

- This list helped narrow down where to look for potential "matches" between the farm parcels associated with farms in the Penn State BMP survey and fields that were likely being observed by the transect surveyor
- Whenever a transect survey observation point was location directly on the border of a land parcel associated with the farm address of one of the respondents in the Penn State BMP survey, we considered that transect point/farm address pair to be a "match."
- A "match" implies that we believe the transect surveyor is likely observing the cover crop characteristics of *at least part of the acreage* associated with a farm that filled out the Penn State BMP survey



# DOES TRANSECT POINT #638 MATCH THE FARM ADDRESS?



**YES!**

#636 #635

#637

#638

#639

#640

Parcel Address: [REDACTED]

Account [REDACTED]

Address [REDACTED]

Deed Area [REDACTED]

Subplan [REDACTED]

Sale Price [REDACTED]

Total Assessment [REDACTED]

Tax Exempt [REDACTED]

Sale Date [REDACTED]

Deed Reference [REDACTED]

Municipality [REDACTED]

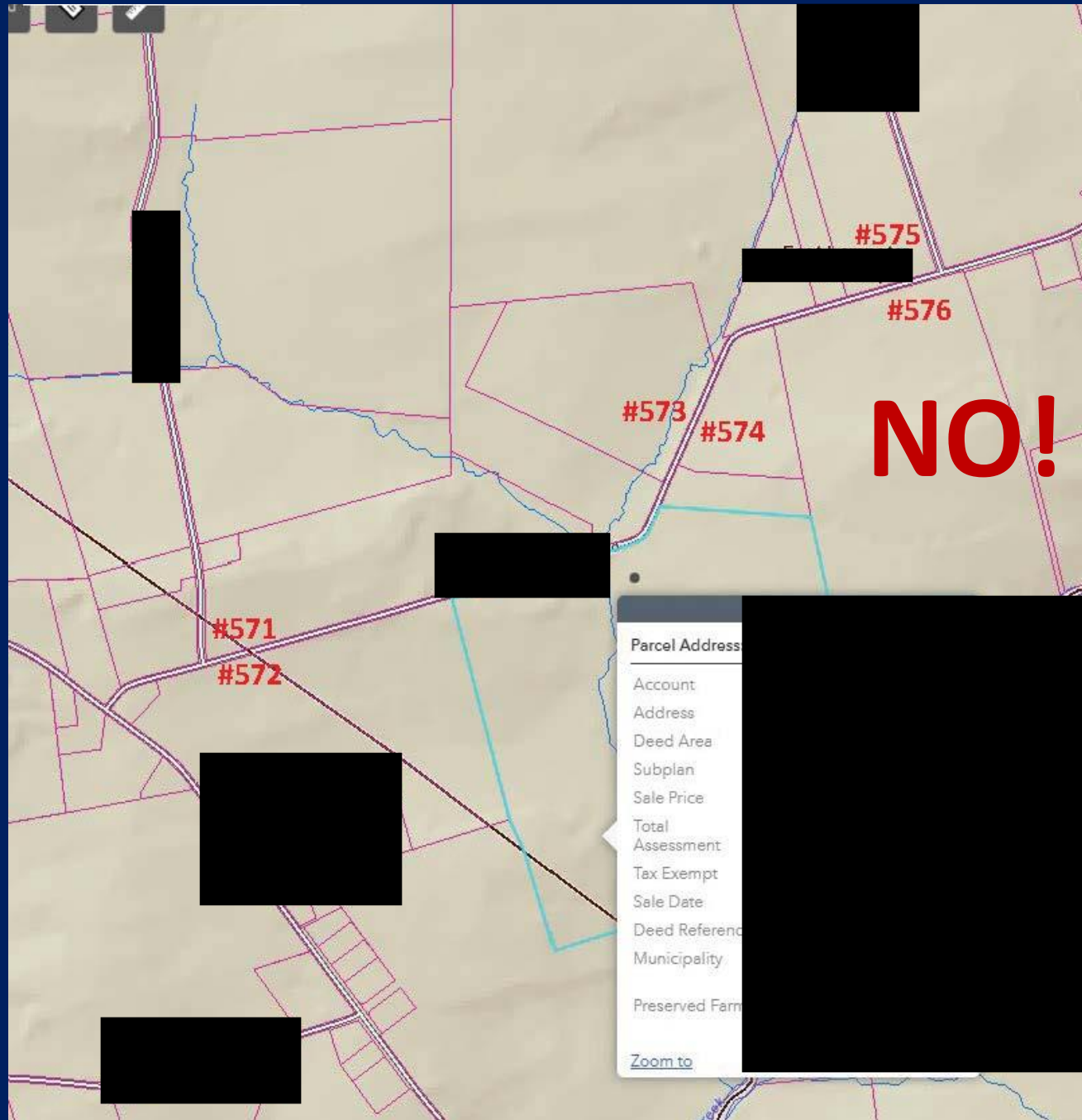
Preserved Farm [REDACTED]

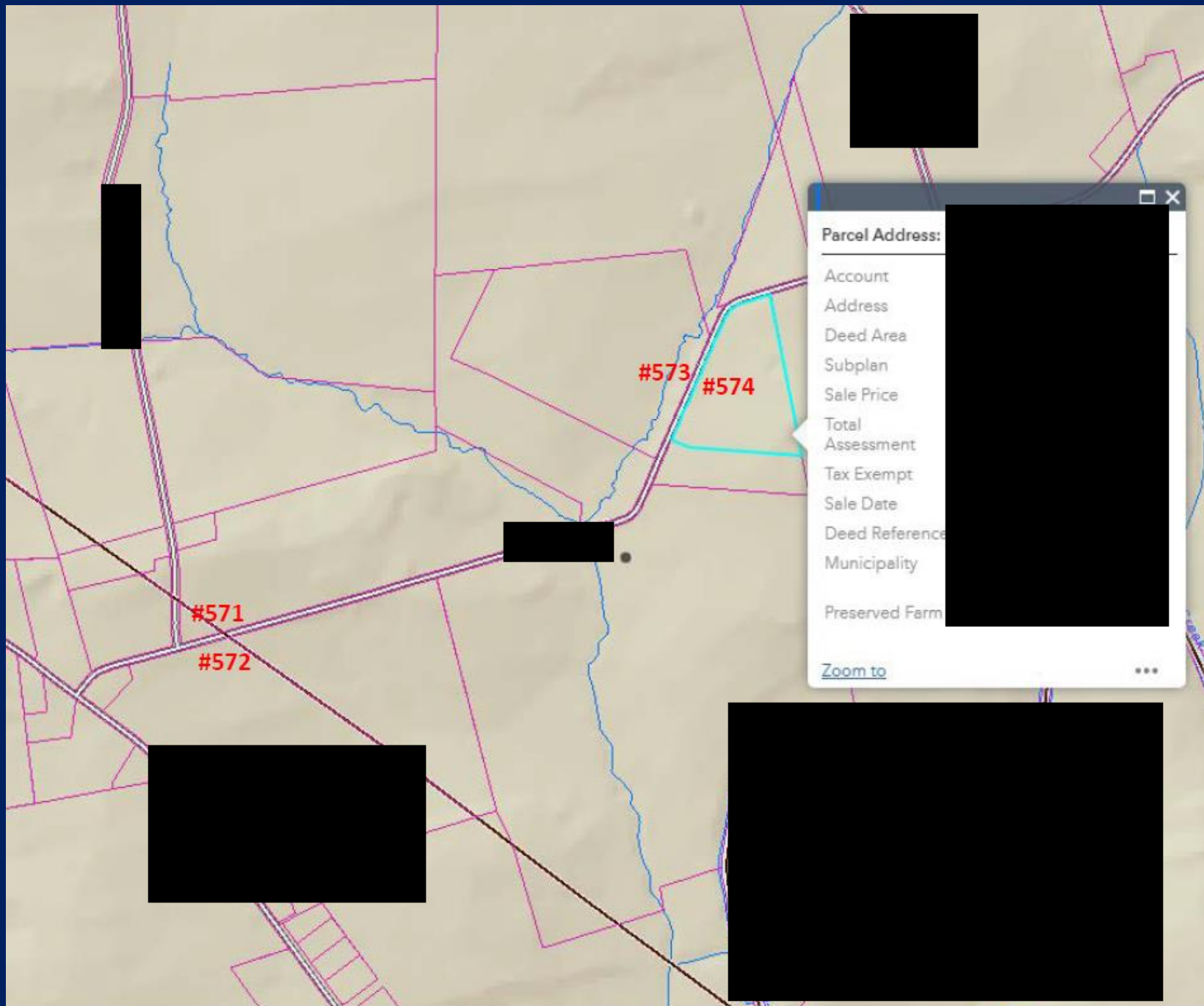
[Zoom to](#) [REDACTED]

# DOES TRANSECT POINT #574 MATCH THE FARM ADDRESS?









**#574 is a match for  
the parcel  
associated with a  
different address**

# METHODOLOGY

- Combining satellite images with Lancaster County parcel maps in this way, we have so far been able to identify roughly 70 "matches" across the transect and the Penn State BMP surveys
- We are in the process of checking these results against another parcel-level data set to identify possible matches for farmers that operate fields outside of the boundaries defined by the Lancaster County parcel map
- We will have another update when this process is complete...