

Erie County, Ohio

Paperless Reappraisal - Digital Reappraisal with CAMA Integration



Erie County, Ohio facts

- Erie County is located along the shores of Lake Erie in North central Ohio.
- Originally part of the Connecticut Western Reserve and was part of the Fire Lands.
- Played an important role to the Underground Railroad during the first part of the 19th century.
- We have a diverse mix of agriculture, manufacturing and tourism.
- America's Roller Coast
- Birthplace of Thomas Edison (Milan, Ohio)
- We have 45,866 Tax Parcels.
- We are 255 square miles in area.
- Our Population is 77,079 (2010 census)



Why do we establish value?

Ohio Revised Code 5713.03



5713.03 County auditor to determine taxable value of real property.

The county auditor, from the best sources of information available, shall determine, as nearly as practicable, the true value of the fee simple estate, as if unencumbered but subject to any effects from the exercise of police powers or from other governmental actions, of each separate tract, lot, or parcel of real property and of buildings, structures, and improvements located thereon and the current agricultural use value of land valued for tax purposes in accordance with section [5713.31](#) of the Revised Code, in every district, according to the rules prescribed by this chapter and section [5715.01](#) of the Revised Code, and in accordance with the uniform rules and methods of valuing and assessing real property as adopted, prescribed, and promulgated by the tax commissioner. The auditor shall determine the taxable value of all real property by reducing its true or current agricultural use value by the percentage ordered by the commissioner. In determining the true value of any tract, lot, or parcel of real estate under this section, if such tract, lot, or parcel has been the subject of an arm's length sale between a willing seller and a willing buyer within a reasonable length of time, either before or after the tax lien date, the auditor may consider the sale price of such tract, lot, or parcel to be the true value for taxation purposes. However, the sale price in an arm's length transaction between a willing seller and a willing buyer shall not be considered the true value of the property sold if subsequent to the sale:



2018 Sexennial Revaluation

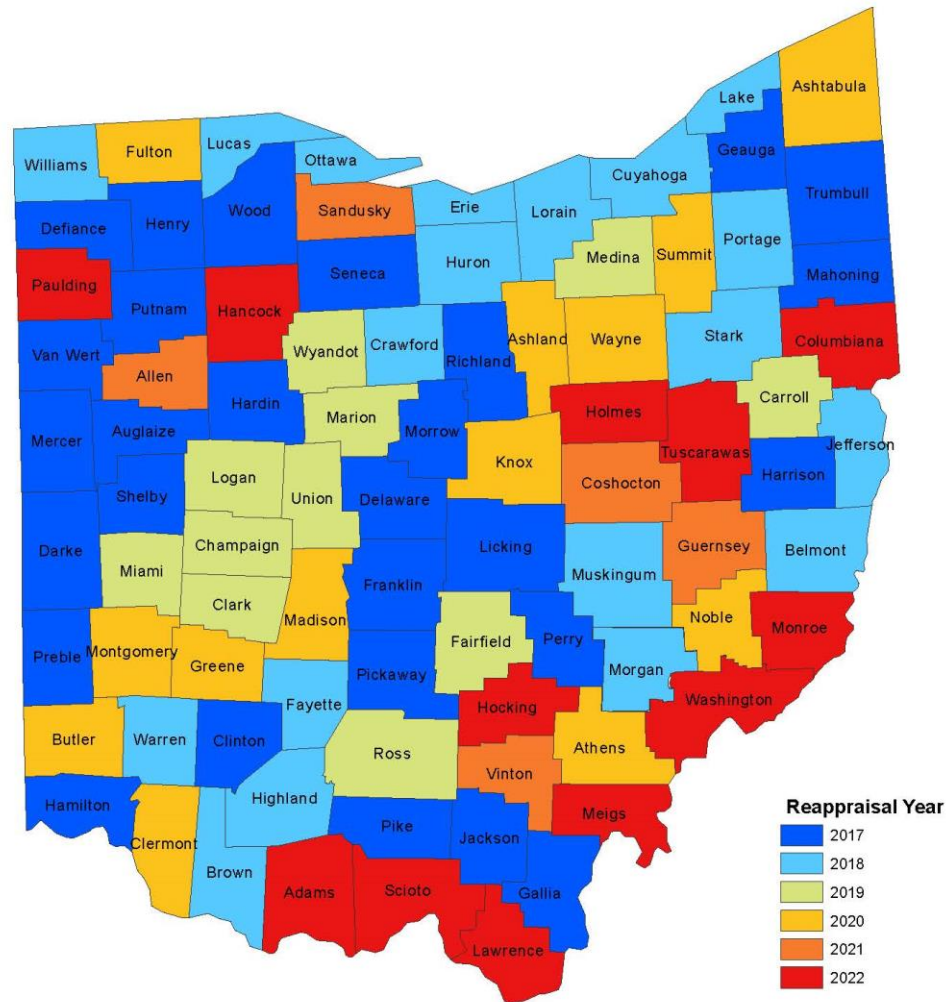
Understanding the Valuation Process

Because market values change over time as properties are bought and sold, Ohio law requires that each home in the state go through an appraisal process every **six years (a sexennial)**. In addition, every **three years (triennial)**, the appraisal is updated. There are six major steps of the valuation process. While these steps may vary slightly from county to county, these are generally reflective of the steps that all counties follow.

[Your Home Your Value Video](#)



Ohio Sexennial (Reappraisal) Schedule



Valuation Process Steps

Collection

With appraisals that happen every six years, state registered appraisers physically visit each home in the county to update property characteristics like dwelling type, age, condition, number of rooms.

Analysis

The county auditor's office takes great care to ensure that property information is correct and that each property is assessed in a fair and uniform manner.

Setting Preliminary Values

The estimated fair market value is used as the gauge when valuing property and setting the appraisal.

Feedback

Notices of value are provided to homeowners who have the opportunity to provide feedback and have questions and concerns addressed.

Review

Once the valuations go through the feedback process, they are sent to the state for review and validation. This is yet another step in the process to ensure that valuations are fair, correct and follow accurate trends across each county

Set Final Values

When the county auditor announces the completion of property valuations, all records are made available for public inspection.

How does valuation impact my taxes?

Due to recent levies now taking effect, property owners may notice changes in their bill.

There are two components that make up a property tax bill:

The first component includes the various tax rates, which are set by taxing authorities, such as school districts, park districts, townships, villages and city councils.

The second component is the assessed value of one's property.

A third component may include special assessments submitted from municipalities, townships and counties.

Real Estate Appraisal and Assessment

The State of Ohio has more than 5.5 million separate parcels of real property. It is the duty of the Auditor to see that every parcel of land and the buildings thereon are fairly and uniformly appraised and assessed for tax purposes.

A general reappraisal is mandated by Ohio law every six years with an update at the three year midpoint. Ohio's Constitution, laws, and court cases have determined that the value of property for tax purposes is the estimated fair market value of the property; the price the property would be expected to sell for in the open market when both buyer and seller have full knowledge of all relevant facts about the property and the uses to which it may be put. **Market value takes into consideration the physical characteristic of the property, recent sales, and the location of the property.**

The County Auditor maintains a detailed and accurate record of the appraisal on each parcel in the county. These records are open for public inspection and in many counties available on the Internet.

Real Estate Taxes and Rates

Under law, the County Auditor cannot raise or lower property taxes. Tax rates are determined by the budgetary requests of each governmental unit, as authorized by the vote of the people, and are computed in strict accordance with procedures required by the Division of Tax Equalization, Ohio Department of Taxation. **For taxation purposes, properties are assessed at 35% of fair market value.**

Your tax bill is based on the assessed value of your property, multiplied by the tax rate in your community. This is your proportional share of the cost of operating your local government including schools, townships, villages and the county.

Key Elements in the Reappraisal Process

Our Erie County GIS Advisory Board consist of 26 villages, cities, townships, county departments/agencies and Erie MetroParks.

The GIS Advisory Board has an ESRI ELA and our members share software, data and professional resources (<http://ecgisab.maps.arcgis.com/home/index.html>).

Imagery (OSIP and State Imagery Collection vs. Appraisal Cycle)

Erie County has a neighborhood level - 3" pixel Pictometry International flight every two years. This imagery includes orthos and obliques.

Mapillary is street level imagery that is integrated with our Paperless Reappraisal System apps. It is an inexpensive system that allows us to efficiently collect imagery and resource it immediately.

Contracted Appraisal Firm : John G. Cleminshaw Inc.



County Goals and Objectives

Increase Management Capabilities

- Previously paper – PRCs & spreadsheets
- Limited input / control / tracking

Increase Data Accuracy and Consistency

- Previously "Blind" data entry
- Manually overridden values on per parcel basis

Leverage GIS Infrastructure

- Utilize ArcGIS Enterprise
- Provision AGOL Apps
- Standard GIS Driven Workflows

Appraisal Elements

In-house Staff Members

- Appraisal Staff
 - Residential (1)
 - Commercial (1)
 - Data Entry / QC (3)
 - GIS Coordinator/Project Manager

Contractor Staff

- Project Manager
- 5 person collection team

Contracted Services

- Desktop Review
- ~9,000 Field Checks
- Value Review



Core Components

Amazon Instance

- Reserved

CAMA Files

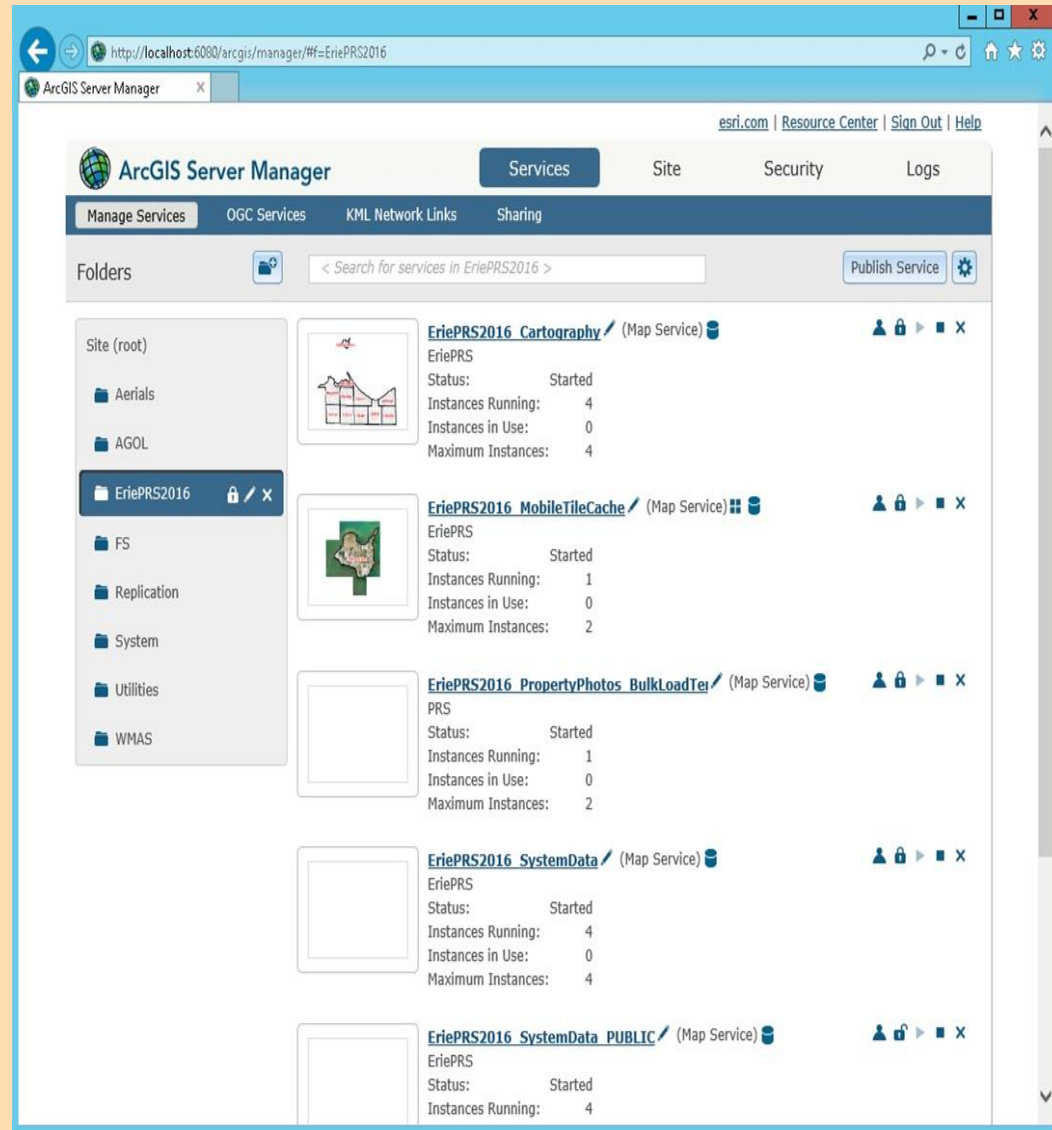
- Thomson Reuters MVP
- XML, TXT, SVG

Microsoft SQL Server

- CAMA staging environment

ArcGIS Enterprise (server)

- AGOL organization
- map services
- enterprise GDB
- aerial tile cache



The screenshot displays the ArcGIS Server Manager web interface. The browser address bar shows the URL: `http://localhost:6080/arcgis/manager/#=EriePRS2016`. The interface includes a navigation menu with options like 'Manage Services', 'OGC Services', 'KML Network Links', and 'Sharing'. A search bar is present with the text '< Search for services in EriePRS2016 >'. On the left, a folder tree shows the hierarchy: 'Site (root)' > 'Aerials' > 'AGOL' > 'EriePRS2016' (selected). The main content area lists several services:

Service Name	Type	Status	Instances Running	Instances In Use	Maximum Instances
EriePRS2016 Cartography	(Map Service)	Started	4	0	4
EriePRS2016 MobileTileCache	(Map Service)	Started	1	0	2
EriePRS2016 PropertyPhotos BulkLoadTe	(Map Service)	Started	1	0	2
EriePRS2016 SystemData	(Map Service)	Started	4	0	4
EriePRS2016 SystemData PUBLIC	(Map Service)	Started	4	0	4

System Prerequisites

XML and text files are exported from CAMA database to feed Paperless Reappraisal System database. XML will allow import procedures as well.

ArcGIS Enterprise (Server) leverage the ability to publish map services.

Tile Cache has been built to provide a base map and reference features for the Mobile Property Record Card app (field appraisals).

Microsoft SQL Server is running on our AWS (Amazon web server). SQL stores all the Paperless Reappraisal System tables that are import from our CAMA system and also generates the XML import file that is imports data from the PRS back into the CAMA system database.



Configurable Options

Editable Domains

The 'Edit Window' dialog box contains the following fields:

- Card Number: 001
- Type: Open Patio Mas Floor
- Stories: 0
- Area: 96
- Year Built: 2004
- Rate: 3.41
- Value: 330

Buttons: OK, Cancel

Footer: 001 | OPBF | 0 | 96 | 2004 | 3.41 | 330

The 'Database Properties' dialog box, Domains tab, displays the following information:

Domain Owner	Domain Name	Description
DBO	Additions	Additions
DBO	AirType	AirType
DBO	Bsmt_Type	Bsmt_Type
DBO	DatasetCommitType	
DBO	DatasetRowState	
DBO	FeatOI	FeatOI
DBO	FeatRule	FeatRule
DBO	FieldAnn_Status	

Domain Properties:

Field Type	Text
Domain Type	Coded Values
Split policy	Default Value
Merge policy	Default Value

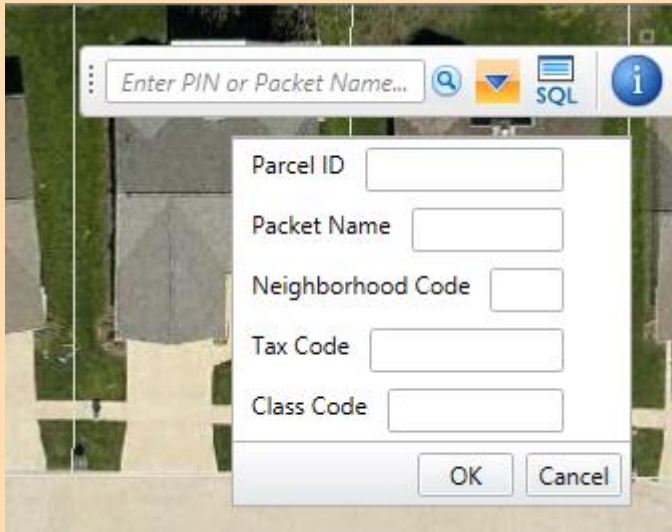
Coded Values:

Code	Description
.SBA	.SBA
.SFAA	.5 Finished Attic Addition
1.5SBRA	1.5S Br Addition
1.5SCBA	1.5S CnBI Addition
1.5SFRA	1.5S Fr Addition

Buttons: OK, Cancel, Apply

Search Options

Advanced Search

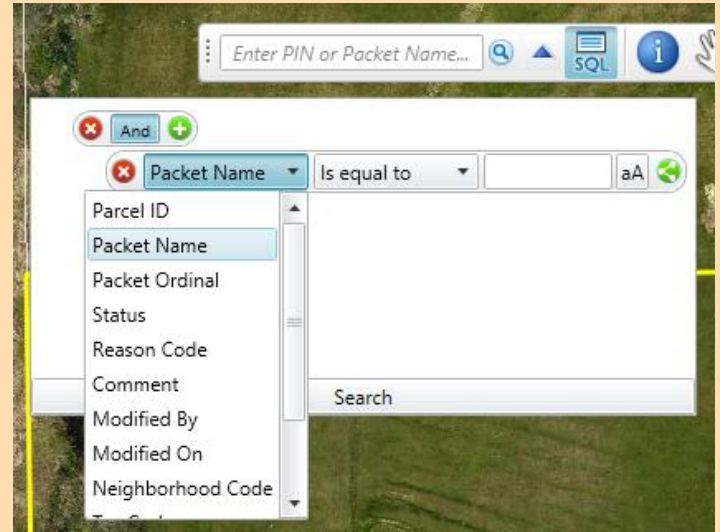


A screenshot of a software interface showing an aerial map background. At the top, there is a search bar with the placeholder text "Enter PIN or Packet Name..." and icons for search, SQL, and information. Below the search bar is a dialog box titled "Advanced Search" with the following fields:

- Parcel ID
- Packet Name
- Neighborhood Code
- Tax Code
- Class Code

At the bottom of the dialog box are "OK" and "Cancel" buttons.

Query Search



A screenshot of a software interface showing an aerial map background. At the top, there is a search bar with the placeholder text "Enter PIN or Packet Name..." and icons for search, SQL, and information. Below the search bar is a dialog box titled "Query Search" with the following fields:

- And
- Packet Name Is equal to aA

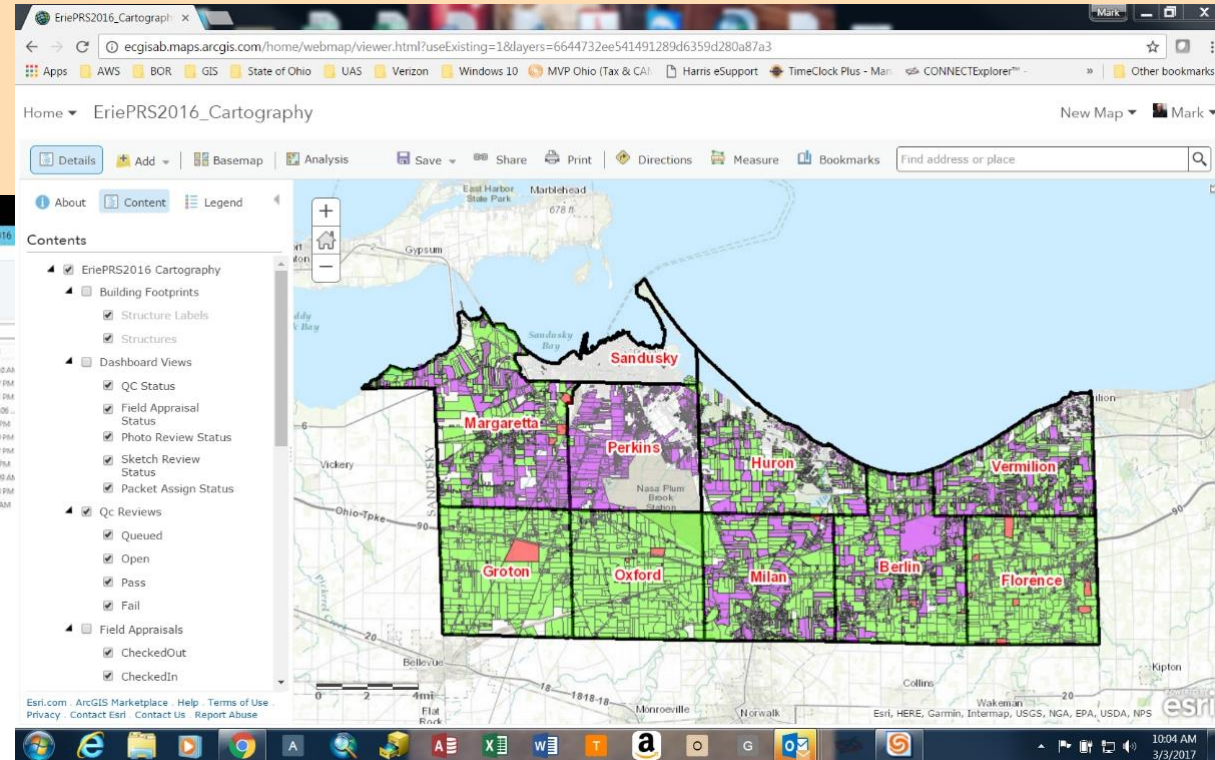
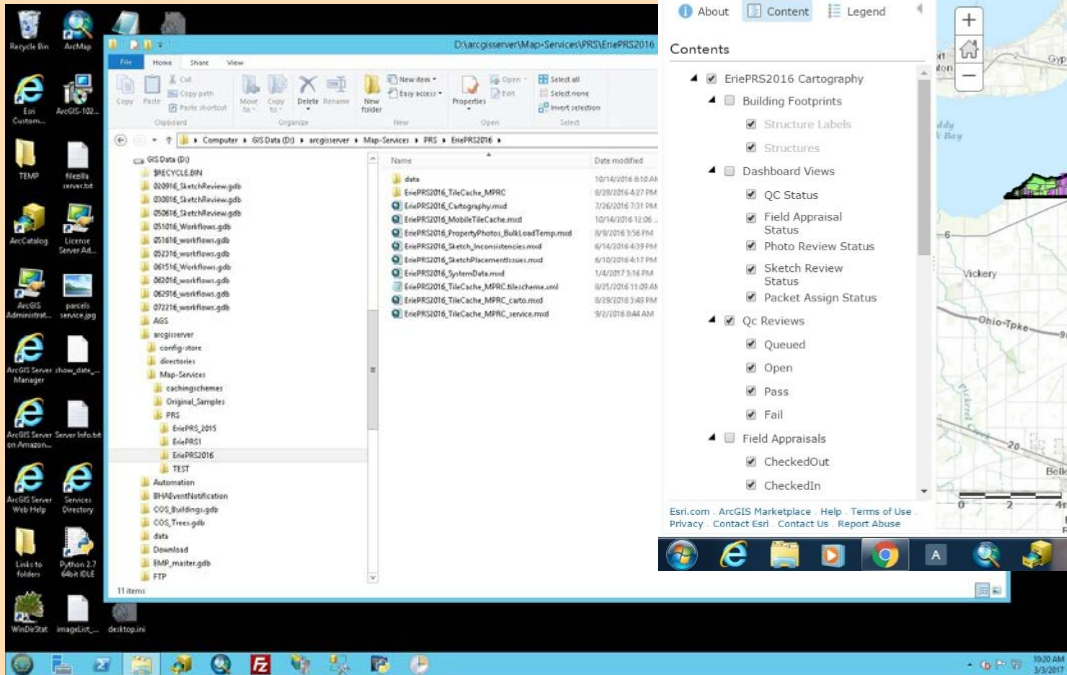
A list of search criteria is shown on the left side of the dialog box:

- Parcel ID
- Packet Name
- Packet Ordinal
- Status
- Reason Code
- Comment
- Modified By
- Modified On
- Neighborhood Code

A "Search" button is located at the bottom right of the dialog box.

MXD Templates

- Symbology
- Content Control
- Labeling
- Simplify User Experience



AGOL Organization Specifics

The screenshot shows the ArcGIS Online interface for a group named 'Erie PRS'. The browser address bar shows the URL: `ecgisab.maps.arcgis.com/home/group.html?id=1f5940c1272e410faf60730bcc95cebc`. The navigation menu includes Home, Gallery, Map, Scene, Groups, My Content, and My Organization. The group name 'Erie PRS' is displayed in a blue header with a logo. Below the header, there are action buttons: EDIT, INVITE USERS, MEMBERSHIP REQUESTS, CHANGE OWNER, DELETE GROUP, and SHARE. A description reads: 'Paperless Reappraisal System layers, maps and configurations for the 2015.' Social media links for Facebook and Twitter are present. The 'Group Content' section lists several items:

Title	Owner	Rating	Views	Date
EC_MoHo_Parks Erie County Mobile Home Parks Feature Layer by ECGISAB_Admin Last Modified: June 7, 2016		0 ratings, 0 comments	436 views	
EriePRS2016 - Executive Dashboard Application Configuration by ECGISAB_Admin Last Modified: August 22, 2016		0 ratings, 0 comments	286 downloads	
EriePRS2016 - Mobile Property Card Application Configuration by ECGISAB_Admin Last Modified: August 22, 2016		0 ratings, 0 comments	391 downloads	
EriePRS2016 - Packet Builder Application Configuration by ECGISAB_Admin Last Modified: September 22, 2016		0 ratings, 0 comments	179 downloads	
EriePRS2016 - Photo Reviewer Application Configuration by ECGISAB_Admin				

The 'Group Details' sidebar shows: Owner: ECGISAB_Admin, Status: Public, Contributors: Members, Tags: EriePRS, and 17 Members. The Windows taskbar at the bottom shows the time as 9:56 AM on 3/3/2017.

Packet Builder

Packets criteria:

- Tax district
- Geographic location
- Property class
- Number of parcels.

The ordinal numbering of the parcels in each packet ensures efficient desktop review and routing of field appraisers.

The screenshot displays the Packet Builder application window. The interface is divided into several panes:

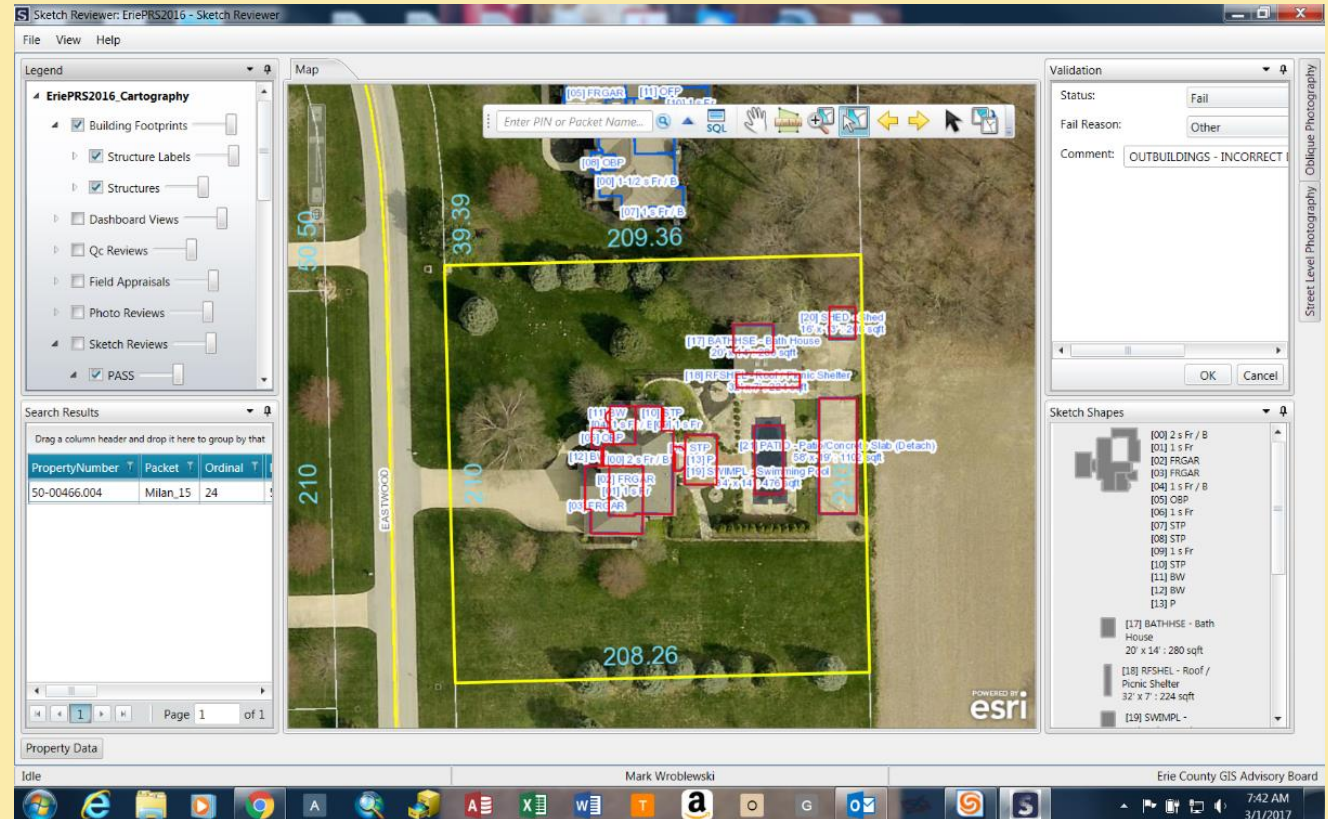
- Search Results:** A table with columns for PropertyNumber, Packet, Ordinal, and Role. It shows a list of parcels grouped by packet, with expandable sections for Milan_1 through Milan_21 and Milan_JCE.
- Map:** A central map showing a grid of parcels. A specific parcel is highlighted in red, and a yellow circle is drawn around it. The map includes a search bar with the text 'Milan' and various navigation tools.
- Packet:** A table on the right side of the interface showing a list of parcels for the selected packet, Milan_15. The table has columns for Parcel ID and Packet ID, with values ranging from 1 to 22.

The bottom of the screen shows the Windows taskbar with various application icons and the system tray displaying the time as 7:26 AM on 3/1/2017.



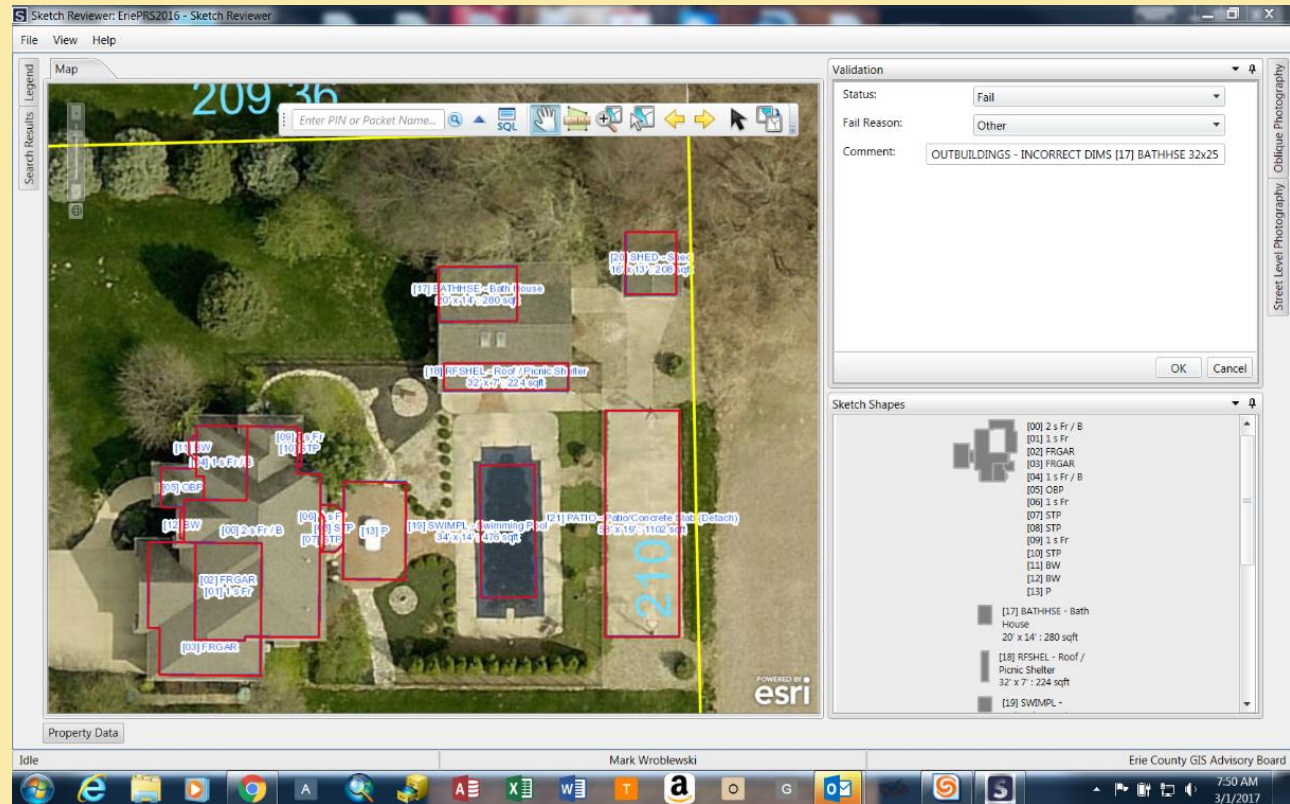
Sketch Reviewer

- Sketch polygons were extracted from CAMA database.
- All buildings, including outbuildings were imported in a Sketch polygon geodatabase.
- Pre-placed polygons systematically dropped all polygons into referenced parcel polygon and attempted to rotate them place.



Sketch Reviewer

- Reval team used the PRS Sketch Reviewer app to review, place and ultimately pass or fail each parcel's sketches.
- Sketch components that don't match visually can be measured.
- CAMA sketch labels and dimensions are overlaid for additional comprehension.
- The use of orthophotography and oblique imagery enhances the type of structure.



Sketch Reviewer

File View Help

Search Results

Drag a column header and drop it here

PropertyNumber	Packet
23-00090.002	Oxford_7



Validation

Status: Fail

Fail Reason: Other

Comment: sketch issue wddk

OK Cancel

Property Data

Drag a column header and drop it here to group by that column

OtherImprovementCode	SegmentID	AtticCode	BasementType	StoryHeight	SectionNumber	Length	Width	TotalAr
PLBLDG - Pole Bldg	14			0		0	0	5632
OP - Open Fr Porch (Detach)	15			0		16	8	128
RFSHEL - Roof / Picnic Shelter	12	0	0	0		16	12	192
BARN - Barn - General Purpose	11			0		61	36	2196

Sketch Shapes

- [00] 2 s Fr / B
- [01] CATH
- [02] 1 s Fr / B
- [03] OFF
- [04] 1 s Fr / B
- [05] FRGAR
- [06] WDDK
- [11] BARN - Barn - General Purpose
61' x 36' : 2196 sqft
- [12] RFSHEL - Roof / Picnic Shelter
16' x 12' : 192 sqft
- [14] PLBLDG - Pole Bldg
0' x 0' : 5632 sqft
- [15] OP - Open Fr Porch (Detach)
16' x 8' : 128 sqft

Photo Reviewer

- Serves as a Desktop Review for “Listing”
- Reviewers have access to all comments from Sketch Review.
- Reviewers also have a rich dashboard environment with CAMA Property Data, GIS layers, Aerial photography and street level photography

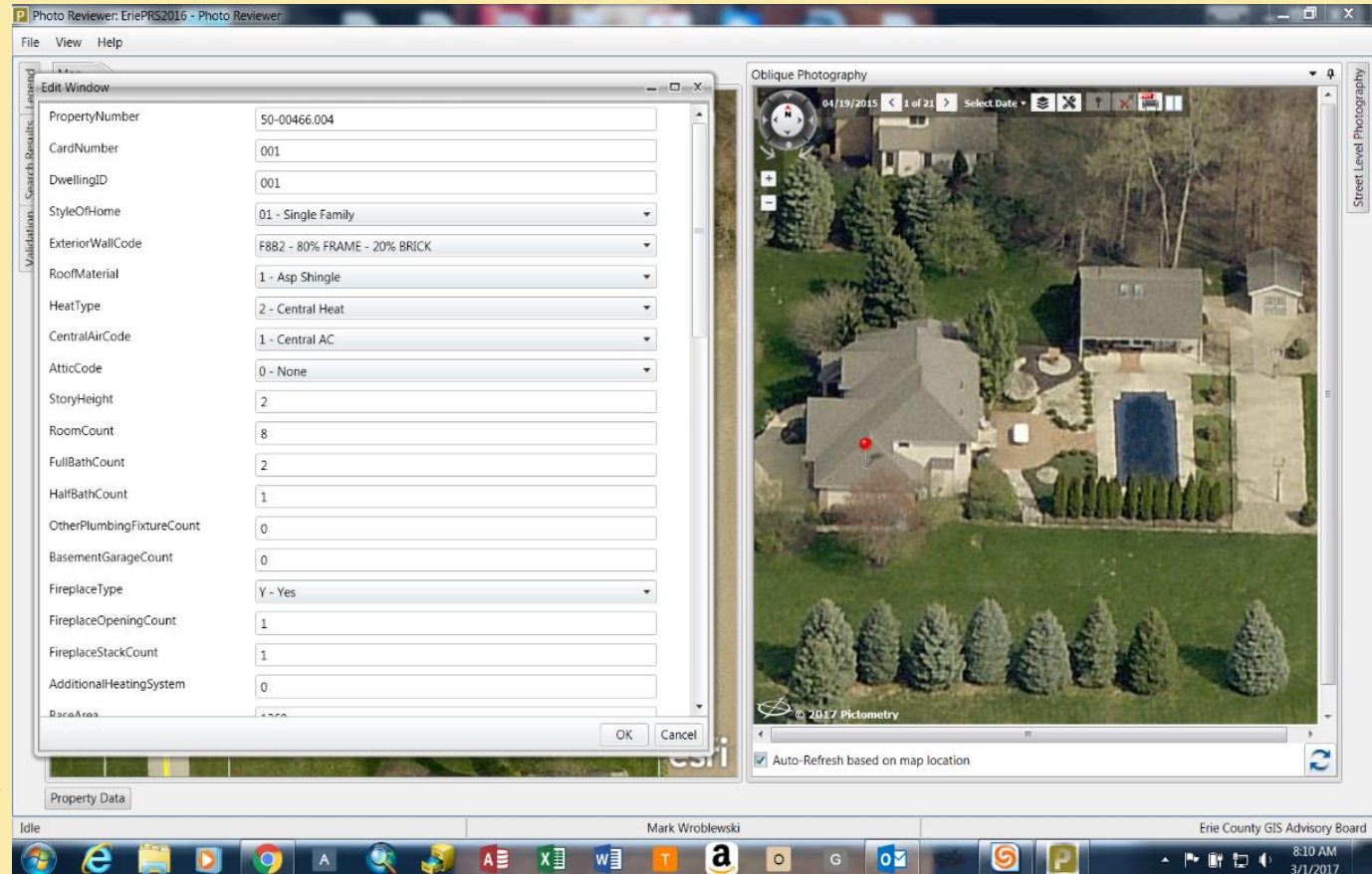
The screenshot displays the 'Photo Reviewer' application window. The interface is divided into several sections:

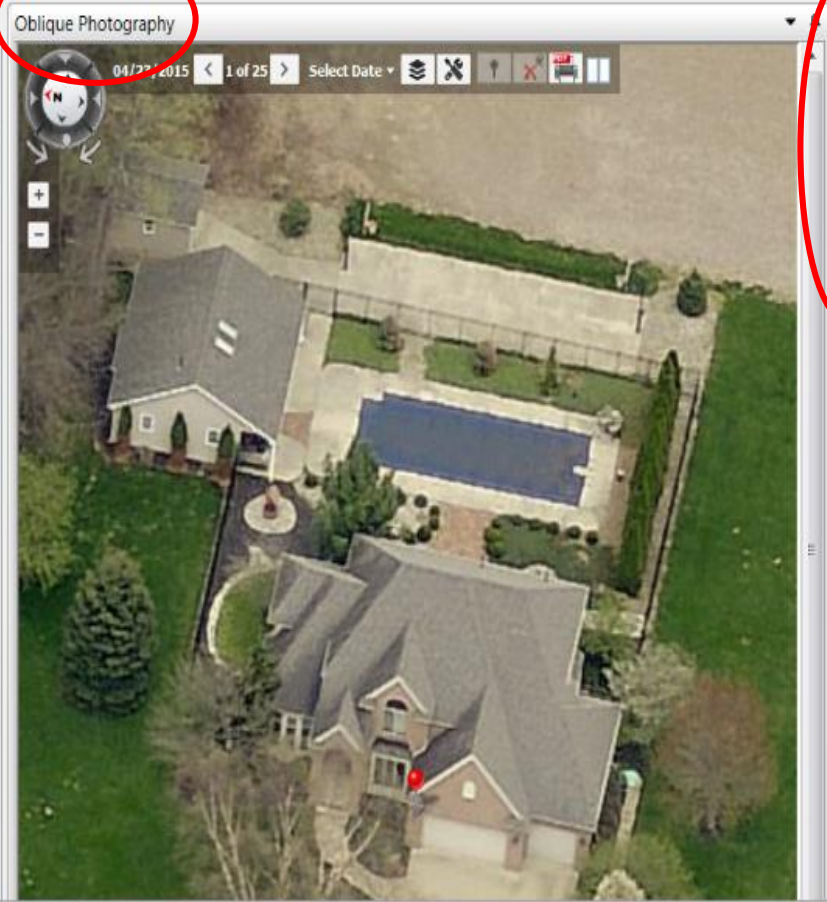
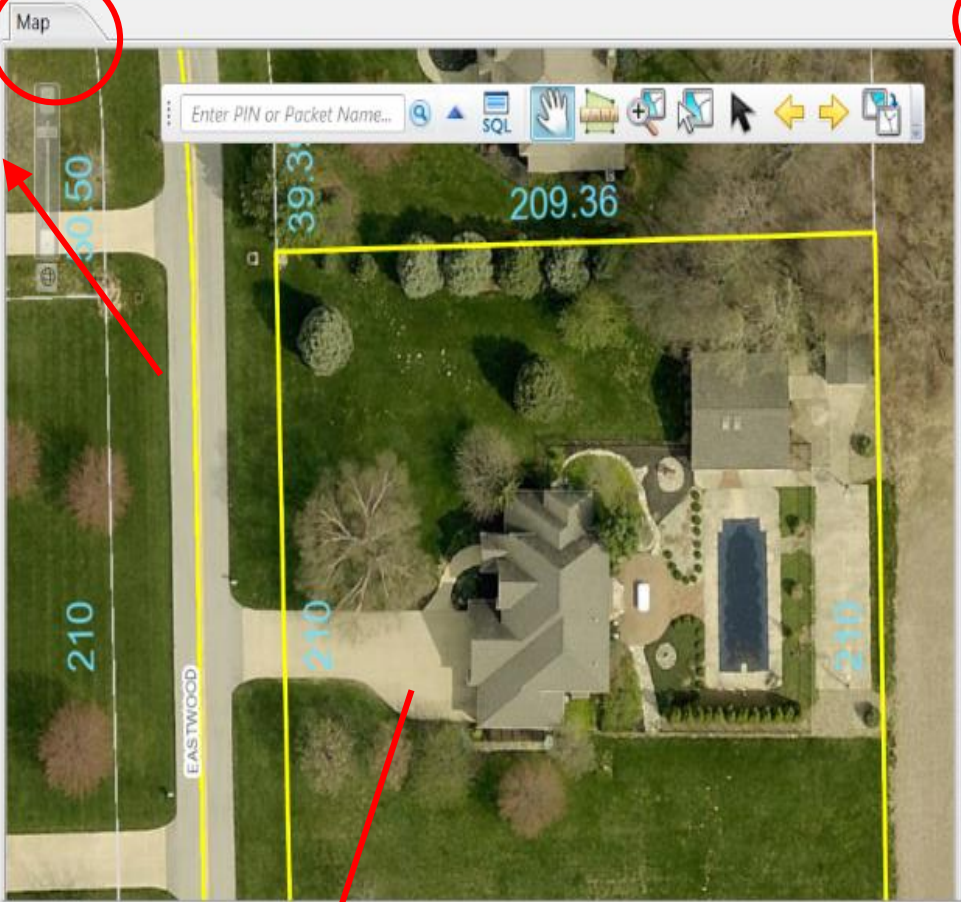
- Search Results:** A table with columns: PropertyNumber, Packet, Ordinal, RoutingNumber, UseCode. The first row shows: 50-00466.004, Milan_15, 24, 50-00045-043000, 510 - Single family owner oc.
- Validation:** A section with dropdown menus for Status (Fail) and Fail Reason (Other). A text field contains the comment: 'OUTBUILDINGS - INCORRECT DIMS [17] BATHHSE 32x25, [18]rfshel dimensions'. There are 'OK' and 'Cancel' buttons.
- Sketch Review Results:** A section with fields for Status Code (Fail), Reason Code (Other), and Comment (OUTBUILDINGS - INCORRECT DIMS [17] BATHHSE 32x25). A 'Copy Results to Photo Review' button is present.
- Map:** An aerial photograph of a residential property with a yellow rectangular highlight. The map includes a legend, search bar, and navigation tools. Dimensions are labeled on the map: 210, 39.39, 209.36, 208.26, and 210. The street name 'EASTWOOD' is visible.

The application window title is 'Photo Reviewer: EriePRS2016 - Photo Reviewer'. The taskbar at the bottom shows the user 'Mark Wroblewski' and the system date '8:00 AM 3/1/2017'.

Photo Reviewer

- The ability to see improvements from multiple perspectives while reviewing the CAMA characteristics makes the desktop review process very effective.
- Measuring tools, mark-up tools and the ability to edit the CAMA data provide the level of detail required for consistent assessments





Property Data

Parcel (1)

Note (1)

Land (2)

Drag a column header and drop it here to group by that column

	PropertyNumber	CardNumber	DwellingID	StyleOfHome	ExteriorWallCode	RoofMaterial	HeatType	CentralAirCode	AtticCode	Stor	
		50-00466.004	001	001	01 - Single Family	F8B2 - 80% FRAME - 20% BRICK	1 - Asp Shingle	2 - Central Heat	1 - Central AC	0 - None	2

Street Level Collection

Street Level Imagery

- Self-Collected Pilot
- Kelleys Island (approx. 6 sq miles)
- Collected Approx. 50 linear miles of roadway

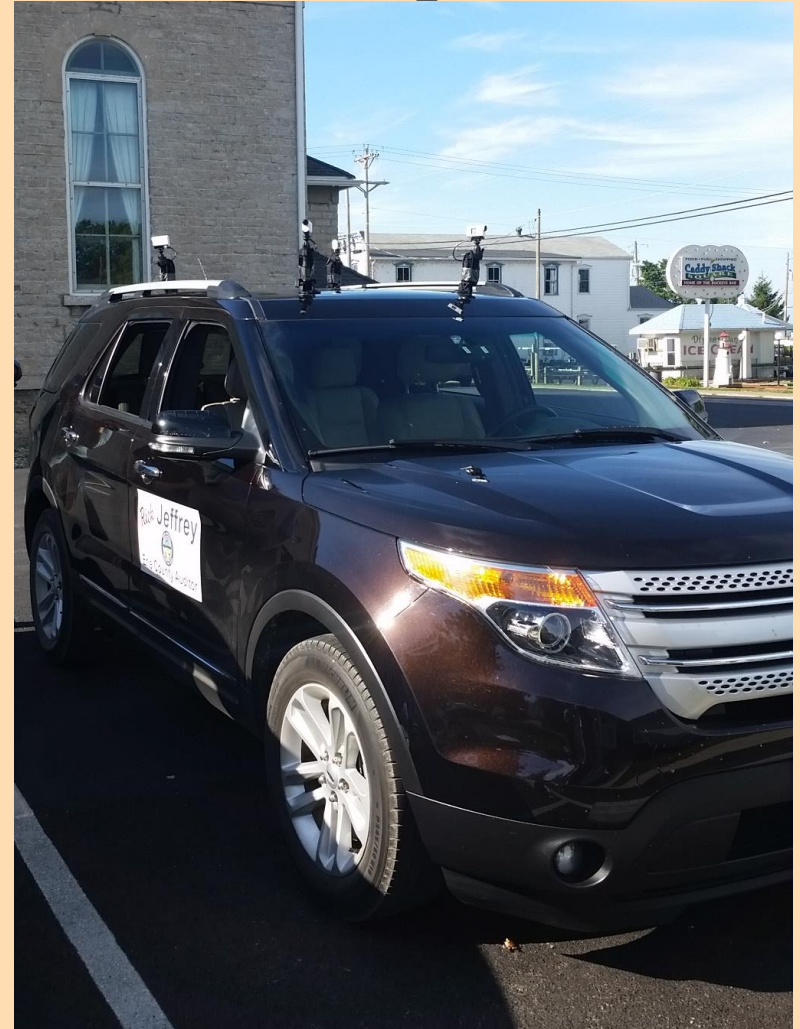
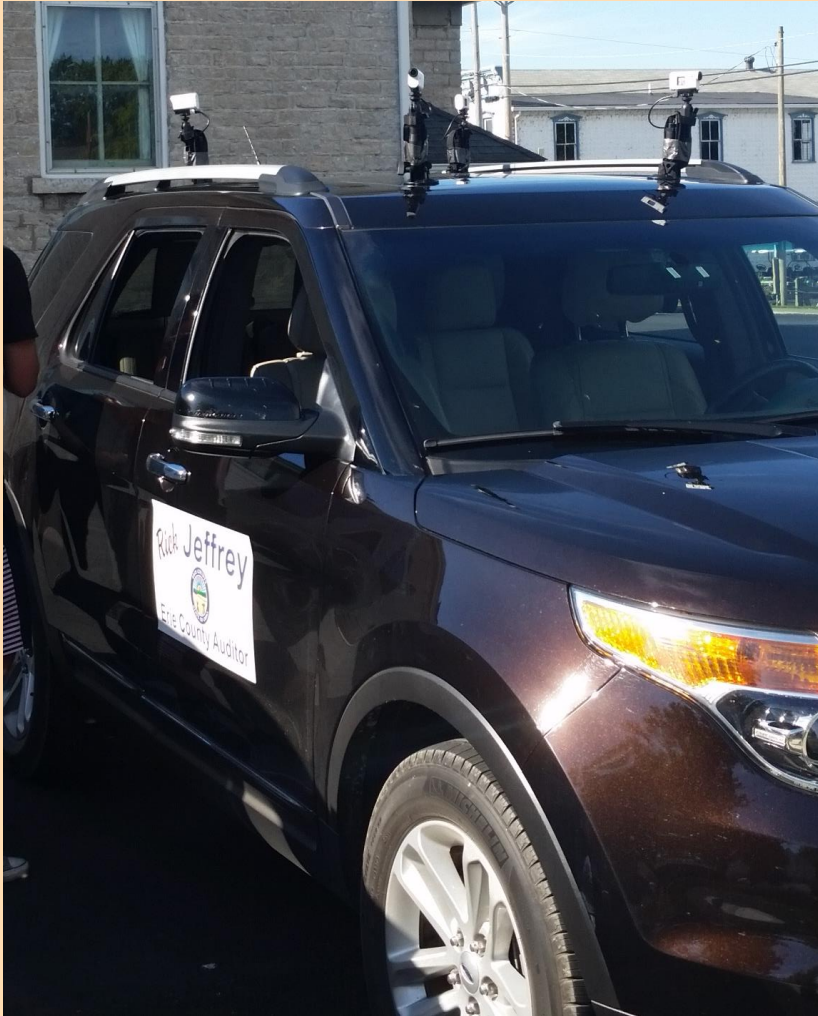
The screenshot displays a GIS application interface with three main components:

- Map:** An aerial view of a street intersection. A yellow rectangle highlights a specific parcel. The map includes a search bar with the text "Enter PIN or Packet Name...", navigation tools, and a legend. The parcel is labeled with various numbers: 80+, 90, 97.15, 117.89, 153.5, 156.67, 154.2, 162.8, 162.3, 104.8, 107.2, 82.7, 82.7, 93.72, 92.95, 384.78, and 117.89. The streets are labeled "LAKESHORE" and "DIVISION". The Esri logo is visible in the bottom right corner of the map.
- Street Level Photography:** A 360-degree panoramic view of a brick building with green awnings. The view is labeled "Street Level Photography" and includes a "Mapillary" logo. A checkbox for "Auto-Refresh based on map location" is checked.
- Property Data:** A table displaying property information. The table has columns for PropertyNumber, UseCode, Neighborhood, NeighborhoodDesirability, ParcelType, CType, Acres, and FinalValue_Lar. The data row shows: PropertyNumber: 54-00942.000, UseCode: 430 - Restaurant,cafeteria &/or bar, Neighborhood: 45402 - Kelleys CBD, NeighborhoodDesirability: 3 - Average, ParcelType: 4 - Commercial, CType: 1 - Commercial Business District, Acres: 0.148, FinalValue_Lar: 0.

The application interface includes a menu bar (File, View, Help), a search bar, and a status bar at the bottom showing "Idle", "Travis Gregorich", and "Bruce Harris & Associates, Inc.".

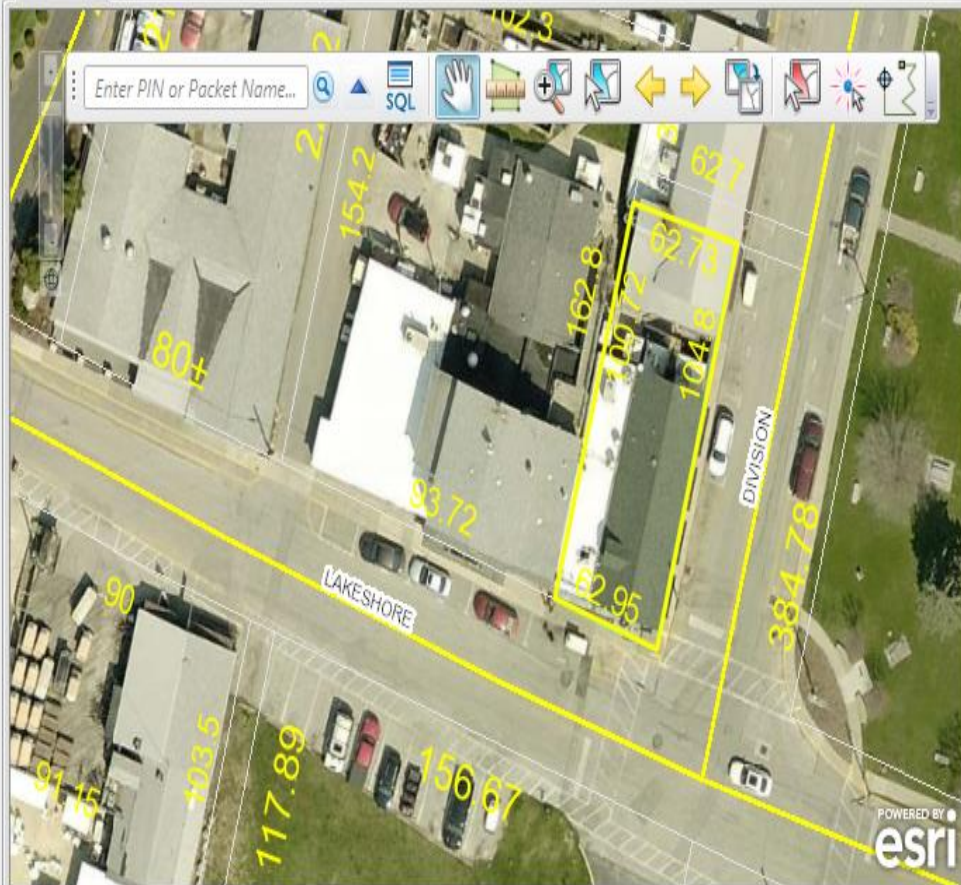
Street Level Collection

- 4 Digital cameras
- Magnet base mounted brackets
- Used a combination of 90° & 45° camera angles

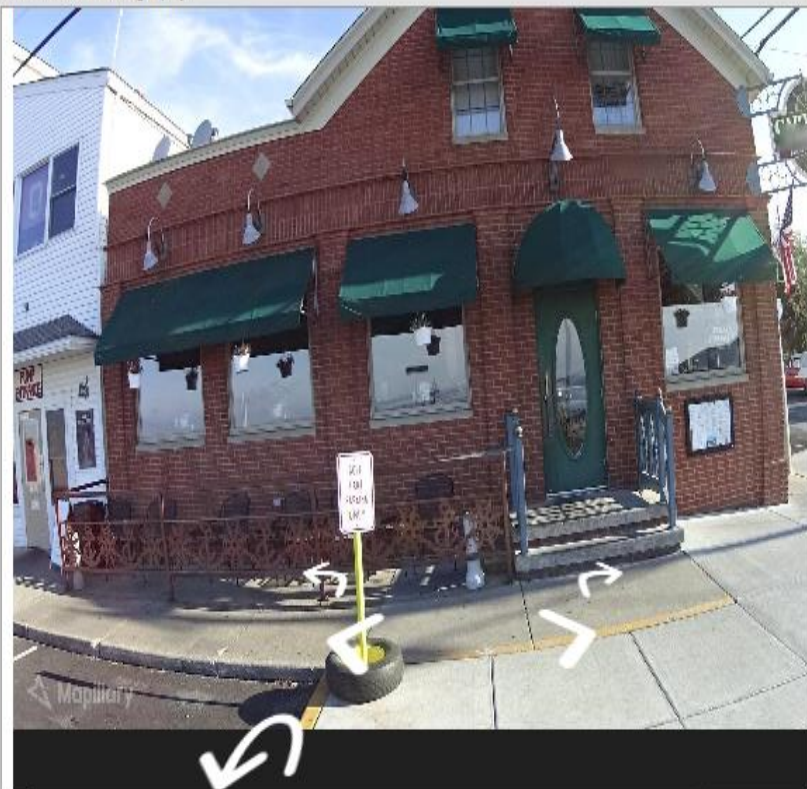


Mapillary

Map



Street Level Photography



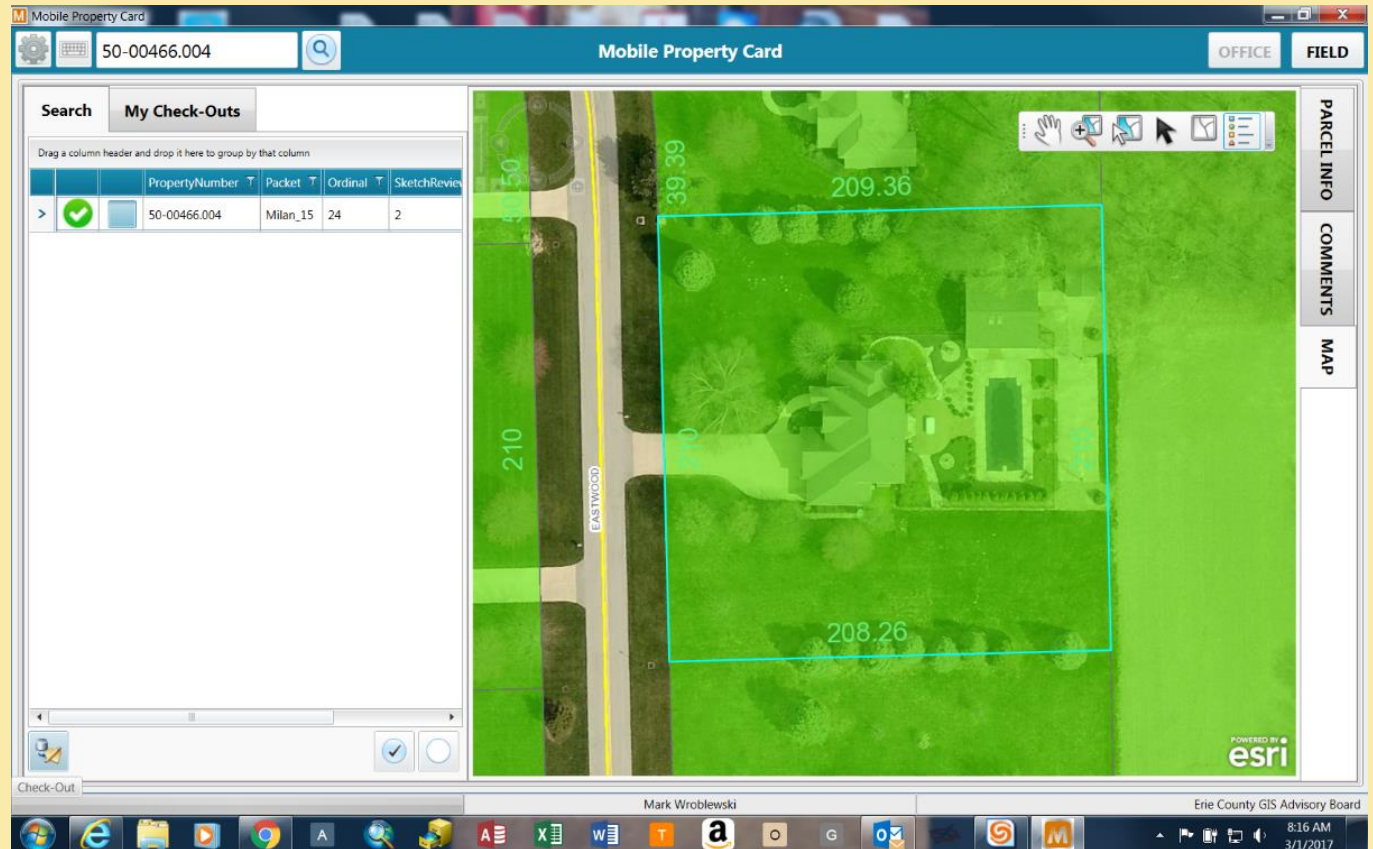
Auto-Refresh based on map location

Property Data

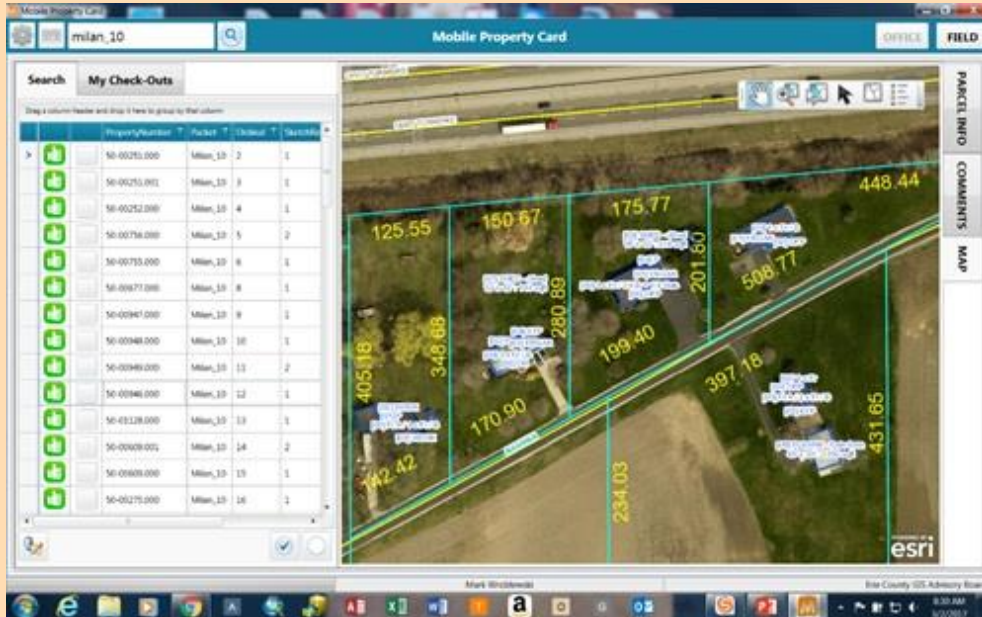
Property Data									
Drag a column header and drop it here to group by that column									
	PropertyNumber	UseCode	Neighborhood	NeighborhoodDesirability	ParcelType	CType	Acres	FinalValue_Lar	
		54-00942.000	430 - Restaurant,cafeteria &/or bar	45402 - Kelleys CBD	3 - Average	4 - Commercial	1 - Commercial Business District	0.148	0

Mobile Property Record Card

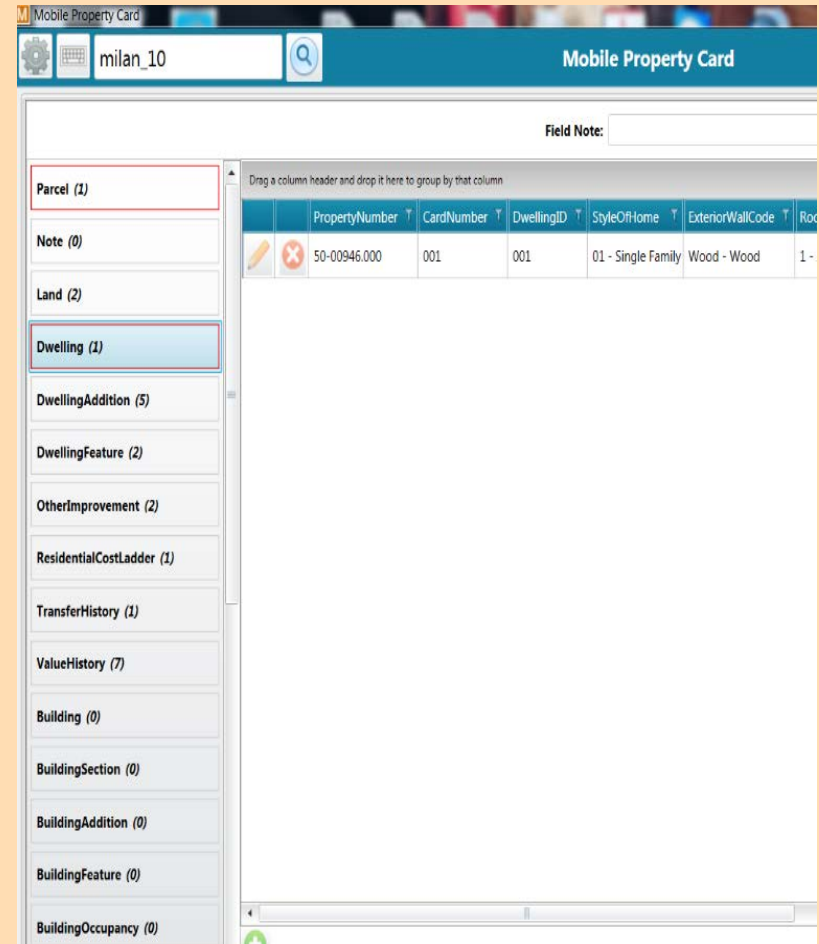
- Tile Cache provides mobile map.
- Checkout all parcels that require field checks.
- Checkin / checkout with no internet dependency in the field



Mobile Property Record Card



- CAMA property database available in logical tab format in the field.



- Checkout all parcels that require field checks.
- Checkin / checkout with no internet dependency in the field

Mobile Property Record Card - Tablets



- Field appraisers use Dell 12" Rugged Tablets
- Shoulder straps help support tablet while working
- Rugged tablets have built-in stylus, 2 batteries and they are designed for all climates.

Quality Control Application

- Data Entry Review
- Import “Characteristics” prior to entry
- Fail parcels if edits do not need standards

The screenshot displays the 'Quality Control Reviewer: EriePRS2016 - QC Reviewer' application. The interface includes a navigation pane on the left with buttons for QUEUE, SEARCH, OPEN, APPROVED, and DECLINED. The main area shows a 'Queue' of appraisal records. A search bar at the top right allows for entering a PIN or route name. The table below lists appraisal details:

PropertyNumber	Packet	Ordinal	FieldAppraisal_Status	FieldAppraisal_Comment	FieldAppraisal_ClientUser	FieldAppraisal_ClientDate
25-00004.000	2017_Commercial_NC	41	Submitted	bdlg complete	DavidM_ECGISAB	1/30/2017 10:47:23 AM
41-00047.000	2017_Commercial_NC	108	Submitted	renovate to bar and bike shop	DavidM_ECGISAB	1/30/2017 10:47:35 AM
42-01972.007	2017_Commercial_NC	124	Submitted	add new asphalt paving section to parking lot	DavidM_ECGISAB	1/30/2017 10:48:08 AM
50-00258.000	2017_Commercial_NC	130	Submitted	new addition	DavidM_ECGISAB	2/23/2017 7:25:47 AM
53-00002.000	2017_Commercial_NC	134	Submitted	main bldg rehab. metal siding on 30'x30 bldg	DavidM_ECGISAB	2/23/2017 7:26:00 AM
53-00168.000	2017_Commercial_NC	135	Submitted	cleminshaw jay is working on it.	DavidM_ECGISAB	2/23/2017 7:26:03 AM
53-00170.000	2017_Commercial_NC	136	Submitted	call dale schnittker @ 419_499_6337 to discuss.	DavidM_ECGISAB	2/23/2017 7:26:06 AM
01-00360.000	Berlin_1	15	Submitted		MAW	1/26/2017 8:01:53 AM
01-00010.000	Berlin_1	17	Submitted		MAW	1/26/2017 8:01:53 AM
01-00149.000	Berlin_1	18	Submitted		MAW	1/26/2017 8:01:53 AM
01-00243.002	Berlin_1	28	Submitted		MAW	1/26/2017 8:01:53 AM
01-00633.000	Berlin_1	32	Submitted		MAW	1/26/2017 8:01:53 AM
02-00011.000	Berlin_1	47	Submitted		MAW	1/26/2017 8:01:53 AM
02-00003.000	Berlin_1	51	Submitted		MAW	1/26/2017 8:01:53 AM
02-00012.000	Berlin_1	52	Submitted		MAW	1/26/2017 8:01:53 AM
02-00009.000	Berlin_1	54	Submitted		MAW	1/26/2017 8:01:53 AM
02-00006.000	Berlin_1	56	Submitted		MAW	1/26/2017 8:01:53 AM
02-00004.000	Berlin_1	57	Submitted		MAW	1/26/2017 8:01:53 AM
02-00016.000	Berlin_1	58	Submitted		MAW	1/26/2017 8:01:53 AM
01-00373.000	Berlin_1	68	Submitted		MAW	1/26/2017 8:01:53 AM
01-00622.000	Berlin_10	8	Submitted		MAW	1/26/2017 8:01:53 AM
01-00238.000	Berlin_10	10	Submitted		MAW	1/26/2017 8:01:53 AM

The application window also shows a taskbar at the bottom with various icons and the system clock indicating 9:05 AM on 3/1/2017.



Quality Control Application

Queue is organized by the following categories:

- **Queue** – Submitted parcels from Photo Review and Mobile PRC.
- **Open** – Parcels that are open in review and have to be completed.
- **Approved** – Parcels that are entered into CAMA system and Accepted in PRS.
- **Declined** – Parcels that have to be reviewed by appraisers and possibly are field checks.

Quality Control Reviewer: EriePRS2016 - QC Reviewer

File View Help

Navigation

QUEUE
SEARCH
OPEN
APPROVED
DECLINED

Passed

groton SQL Details

Grouped by: Packet

PropertyNumber	Packet	Ordinal	FieldAppraisal_Status	FieldAppraisal_Comment	FieldAppraisal_ClientUser	FieldAppraisal_ClientDate	QcReview_Status	QcReview
Groton_1								
Groton_10								
Groton_11								
Groton_2								
Groton_3								
Groton_4								
Groton_5								
Groton_6								
Groton_7								
Groton_8								
Groton_9								
Groton_JCE								
Groton_NC2017								

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Idle Mark Wroblewski Erie County GIS Advisory Board

9:06 AM 3/1/2017



Quality Control Application

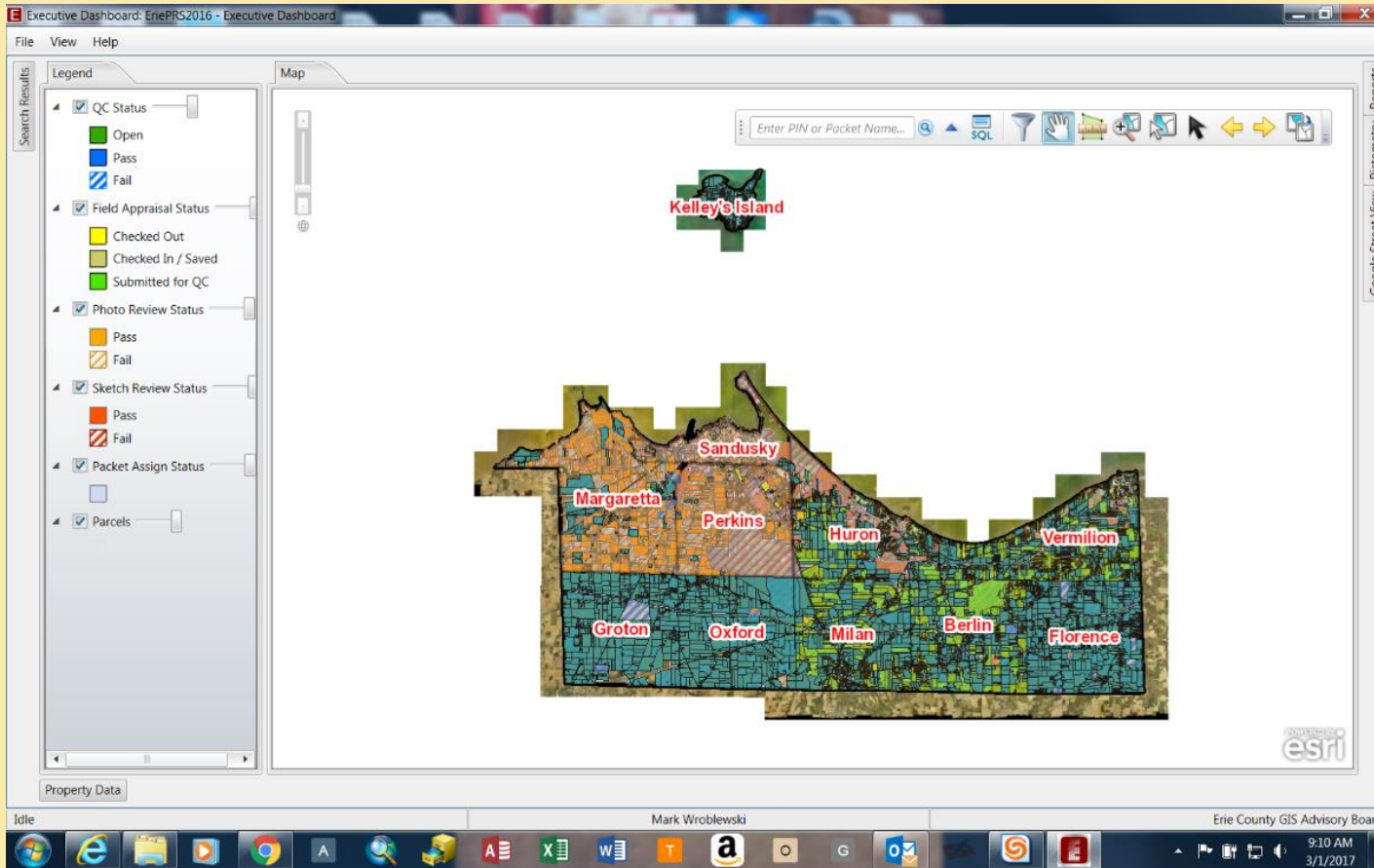
- The details for each parcel are available in the Queue.
- Comments, date, time and the reviewer are all visible.
- The Queue in the last step in finalizing parcel changes into the CAMA system and ensuring that each parcel has gone through the Paperless Reappraisal System – Project Management.

The screenshot displays the 'Quality Control Reviewer: EriePRS2016 - QC Reviewer' application window. The interface includes a navigation pane on the left with buttons for QUEUE, SEARCH, OPEN, APPROVED, and DECLINED. The main area shows a table of failed parcels with columns for User, FieldAppraisal_ClientDate, QcReview_Status, QcReview_FailReason, QcReview_Comment, QcReview_ClientUser, and QcReview_ClientDate. The table is titled 'Failed' and contains 18 rows of data. The Windows taskbar at the bottom shows the user 'Mark Wroblewski' and the system clock '9:08 AM 3/11/2017'.

User	FieldAppraisal_ClientDate	QcReview_Status	QcReview_FailReason	QcReview_Comment	QcReview_ClientUser	QcReview_ClientDate
	11/16/2016 2:58:30 PM	Fail		FC 2018 REVAL-CHECK REAR WDDK DIMS	pete102278_ECGISAB	12/6/2016 12:14:31 PM
	11/18/2016 11:56:20 AM	Fail		FC 2018 REVAL - VERIFY OUTBUILDINGS	ljoiner_ECGISAB	12/12/2016 10:06:50 AM
	12/7/2016 9:54:43 AM	Fail		FC 2018 Reval can not verify patio area	ljoiner_ECGISAB	12/7/2016 9:55:08 AM
	12/13/2016 7:42:18 AM	Fail		FC 2018 Reval - too many trees, remeasure and check outbuildings	ljoiner_ECGISAB	12/13/2016 8:53:35 AM
	11/21/2016 2:47:12 PM	Fail		FC 2018 REVAL - GAZEBO ?	ljoiner_ECGISAB	12/9/2016 8:24:32 AM
	2/16/2017 8:20:39 AM	Fail		Field Check	ECGISAB_Admin	2/16/2017 8:21:43 AM
	2/3/2017 8:31:56 AM	Fail		waiting for CB card	gjoiner_ECGISAB	2/3/2017 11:32:19 AM
	2/3/2017 8:35:52 AM	Fail		waiting for CB card	gjoiner_ECGISAB	2/3/2017 8:52:46 AM
	2/3/2017 8:55:39 AM	Fail		waiting for CB card	gjoiner_ECGISAB	2/3/2017 8:56:11 AM
	2/3/2017 8:57:17 AM	Fail		waiting for CB card	gjoiner_ECGISAB	2/3/2017 8:57:49 AM
	2/3/2017 8:58:25 AM	Fail		waiting for CB card	gjoiner_ECGISAB	2/3/2017 8:58:45 AM
	2/3/2017 8:59:47 AM	Fail		waiting for CB card	gjoiner_ECGISAB	2/3/2017 9:00:09 AM
	2/3/2017 9:00:39 AM	Fail		waiting for CB card	gjoiner_ECGISAB	2/3/2017 9:00:58 AM
	2/3/2017 9:01:23 AM	Fail		waiting for CB card	gjoiner_ECGISAB	2/3/2017 9:01:52 AM
	2/3/2017 9:03:40 AM	Fail		waitinf for CB card	gjoiner_ECGISAB	2/3/2017 9:04:00 AM
	2/3/2017 9:04:32 AM	Fail		waiting for CB card	gjoiner_ECGISAB	2/3/2017 9:04:58 AM
	2/3/2017 9:05:40 AM	Fail		waitinf for CB card	gjoiner_ECGISAB	2/3/2017 9:06:05 AM



Executive Dashboard



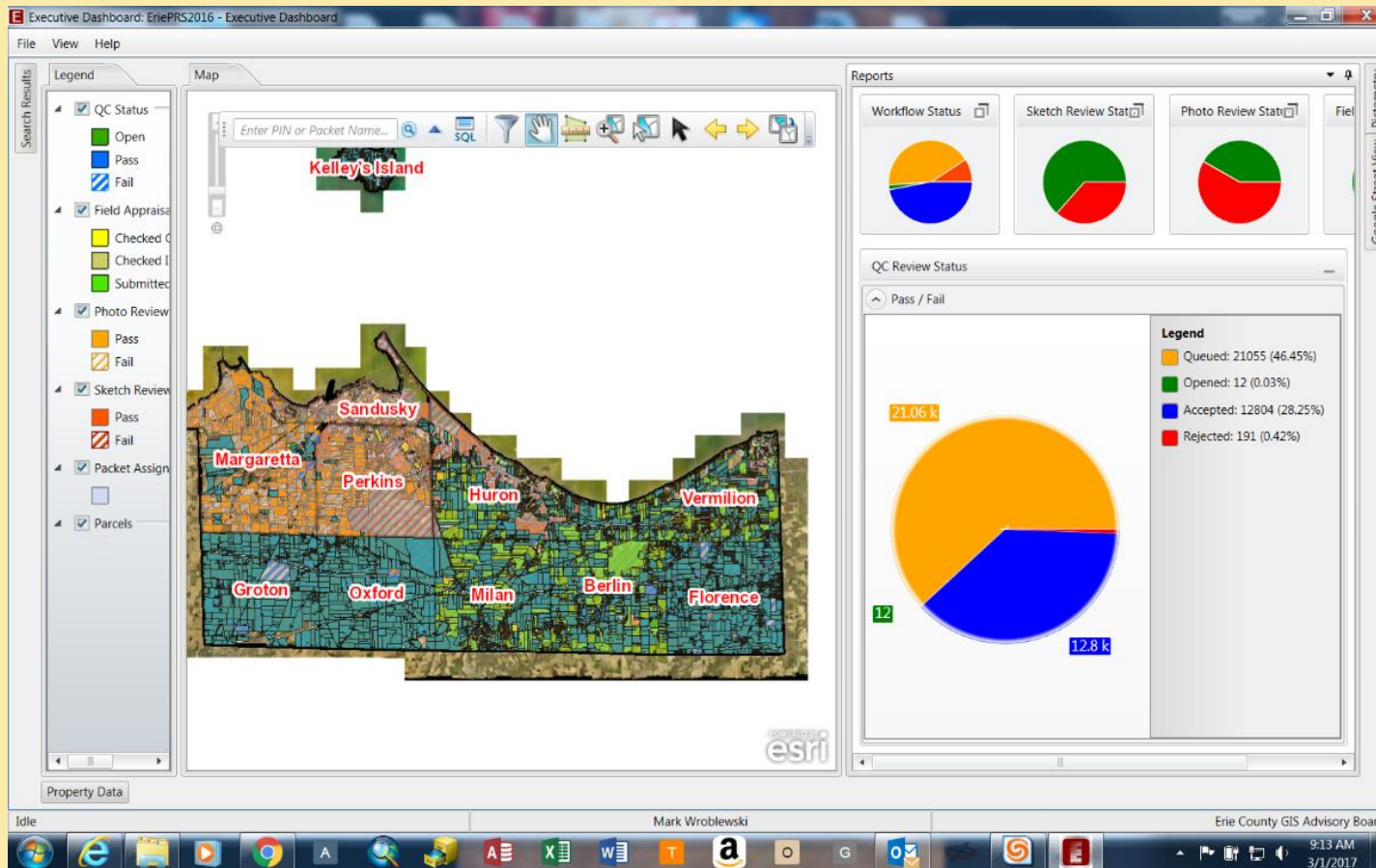
Monitor General Workflows

Create Filters and Selections

Review each workflow status



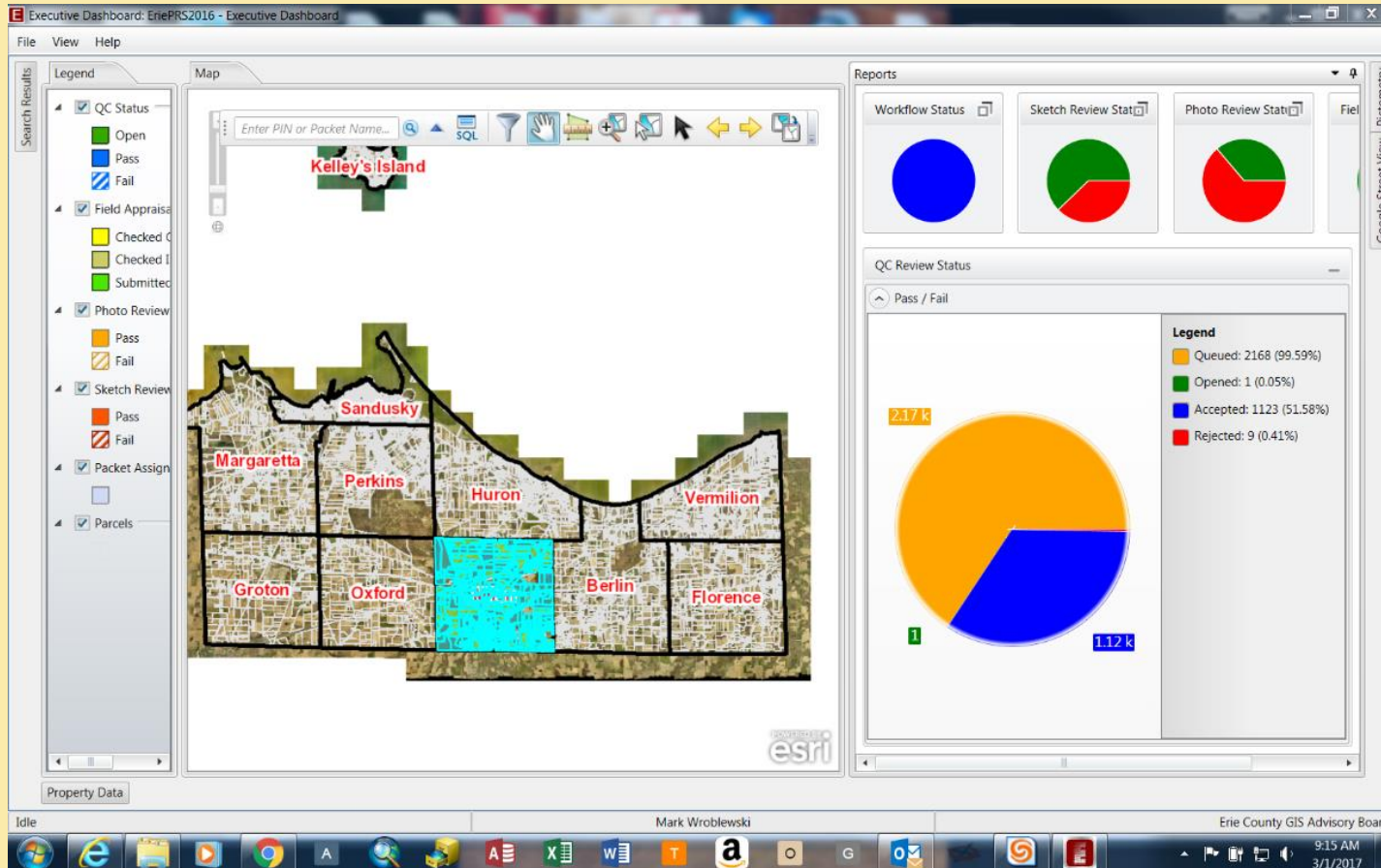
Executive Dashboard



- Monitor General Workflows
- Review each workflow status
- Project Management statistics
- Visualization tools make project meeting more productive.



Executive Dashboard



- Being able to filter and select work by Taxing District makes managing every aspect of the project easy.
- This level of detail identifies areas for additional review (i.e. field checks, volume in Queue to be reviewed).



Adaptive Workflows

How do I keep the data updated?

Parcels

- Geometry is compared and updated nightly
- New Parcels **ALWAYS** override existing workflows

CAMA Data (Export / Import)

- XML and TXT run on nightly routine
- Imports can be turned on and off as needed (Log files)
- Characteristics are marked as “IS UPDATED” or “IS NEW”

Cycles

Listing

Objectives : Building Inventory Review

Review

Objectives : Value Based Review

New Construction

Objectives : Active Permit Review



CYCLE OVERVIEW



PRIS DATABASE

LISTING (PHASE 1)

REVIEW (PHASE 2)

NEW CONSTRUCTION (PHASE 3)



LISTING OVERVIEW

① PACKET BUILDER



Organize parcels into packets and plan field visits.

② SKETCH REVIEWER



Validate the size and existence of structures, additions, and improvements on a parcel, and flag failures.

③ PHOTO REVIEWER



Query a packet and flag parcels as pass/fail.

④ MOBILE PROPERTY CARD



View a packet and check property data from a mobile device (wifi not required).

⑤ QUALITY CONTROL REVIEWER



Review all data before reentering into CAMA.

⑥ EXECUTIVE DASHBOARD



View project progress in real-time using thematic maps and reports. Search and identify individual parcels, and view all system information.

CYCLICAL REAPPRAISAL

DAILY
CAMA UPDATE

① PACKET BUILDER



② SKETCH REVIEWER



③ PHOTO REVIEWER



④ MOBILE PROPERTY CARD



⑤ QUALITY CONTROL REVIEWER



⑥ EXECUTIVE DASHBOARD



DAILY
CAMA UPDATE

① PACKET BUILDER



④ MOBILE PROPERTY CARD



⑤ QUALITY CONTROL REVIEWER



⑥ EXECUTIVE DASHBOARD



DAILY
CAMA UPDATE

① PACKET BUILDER



④ MOBILE PROPERTY CARD



⑤ QUALITY CONTROL REVIEWER



⑥ EXECUTIVE DASHBOARD



Overview

Create efficiency from the desktop and mgmt perspectives

Mobile Challenge to replicate paper (time constraints w/ tabular data)

Gain efficiencies through importing “Characteristic data”



Trials and Tribulations

Learning Curve

- *The Digital World*

Tablets in the Field

- Adverse Conditions
- Technical Assistance

Traditional Methodology

- "Paper is Easier"

Benefits

Value-Added Benefits

- Efficient Desktop Review Methods

Return On Investment (ROI)

- Increase “Market Value” on buildings
- omitted and unpermitted structures
- validate both new and legacy data
- Negotiated Services (In-house vs. Contracted)
- ”Doing More with Less”