



# Billboards: Leveraging GIS & Workflow Management

October 30, 2019

*Presented by:*  
Cardno



# Introductions

## **Craig Payne, GISP** | Asset Management & Geospatial Services Manager

29 years of experience

- > Asset Management / Workflow Management
- > GIS / Signage / Utilities / Software Implementation

### ***Representative Project Experience***

#### ***Signage Inventories***

- George Department of Transportation
- Florida Department of Transportation
- Texas Department of Transportation
- City of Clearwater, FL
- City of St. Pete Beach, FL
- City of Cocoa, FL

### ***Software Implementation***

- SYNODAS
- Lucity
- Oracle WAM
- Cartegraph
- ESRI



# Introductions

## **Tanya Camacho, GISP** | Senior Analyst

- > 12 years of experience
- > Asset Management / Workflow Management
- > GIS / Signage / Utilities
- > Software Implementation

### ***Representative Project Experience***

#### ***Signage Inventories***

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- ESRI



# Agenda

- > Regulations 
- > Asset Registry
  - GIS
  - Spreadsheets
  - Database
- > Workflow Management
  - Applications
  - Permits
  - Invoices
  - Violations
- > Open Discussion & Crossword Puzzle



# Regulations

## > United States

- Highway Beautification Act of 1965
- Federal & State Regulations

## > Canada

- Sign legislation has been in effect for over 50 years and is similar to other jurisdictions throughout North America.
- Ontario Ministry of Transportation - Public Transportation and Highway Improvement Act (PTHIA)
- The Transportation Infrastructure Act – Manitoba. Removal of Unauthorized Advertising
- The Erection of Signs Adjacent to Provincial Highways Regulations, 1986
- The Highway Transportation Act - Saskatchewan Department of Highways and Transportation



***Regulations enable agencies with the legal authority to regulate signage upon or adjacent to a controlled route or provincial highway.***





# Applications

- > Ontario Ministry of Transportation (MOT) Applications
  - Hard-Copy Application for Highway Corridor Management Permits - submitted to local Highway Corridor Management Office
  - Online Permit Portal



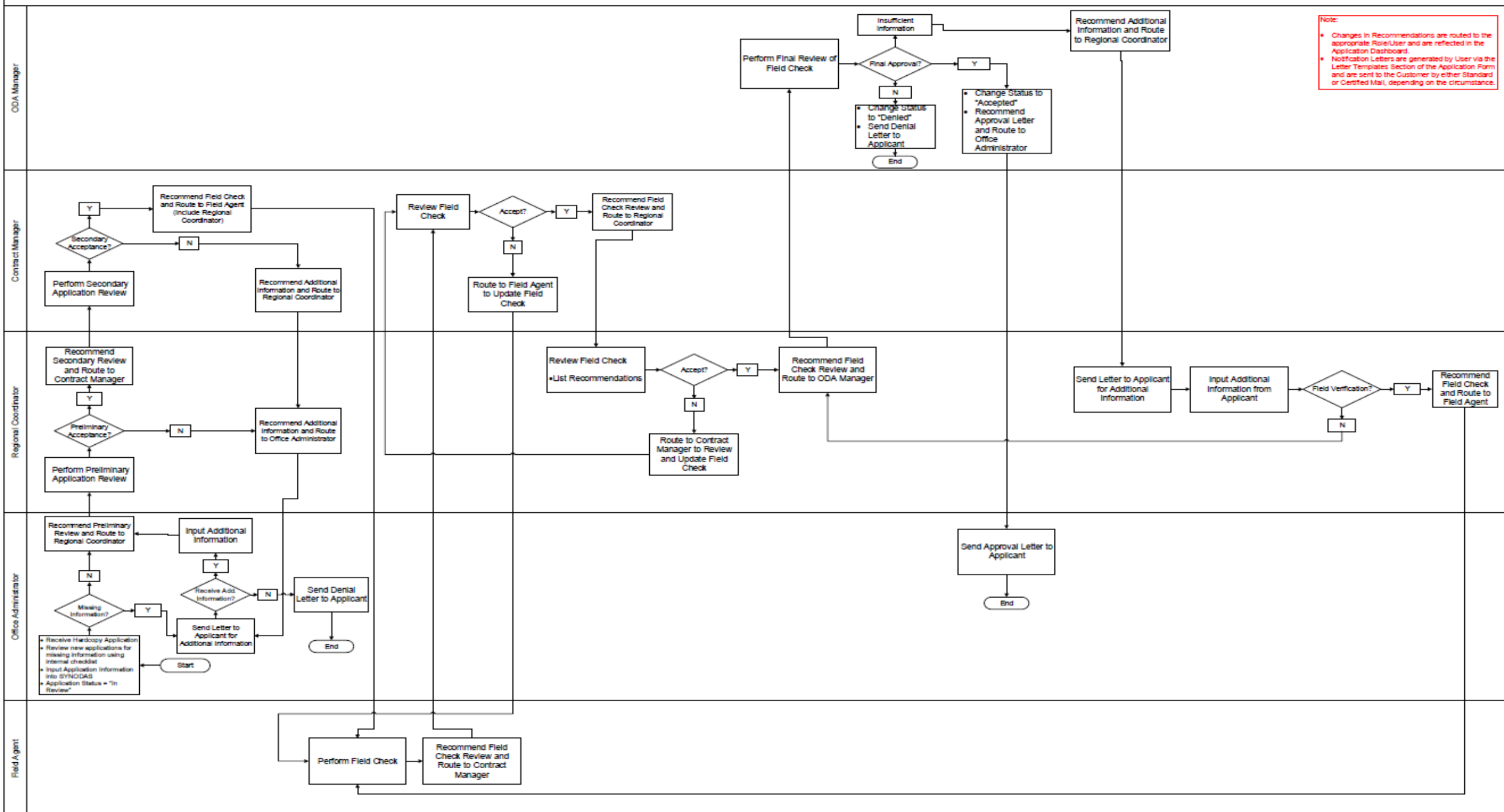
## Highway Corridor Management

- Apply for a permit
- Track a permit application
- Make a payment
- Submit an Inquiry
- Submit Additional Documentation
- View Permit Controlled Areas

# Applications Process




- > Review
- > Field Check
- > Request for Additional Information
- > Secondary Application Review
- > Approval/Denial



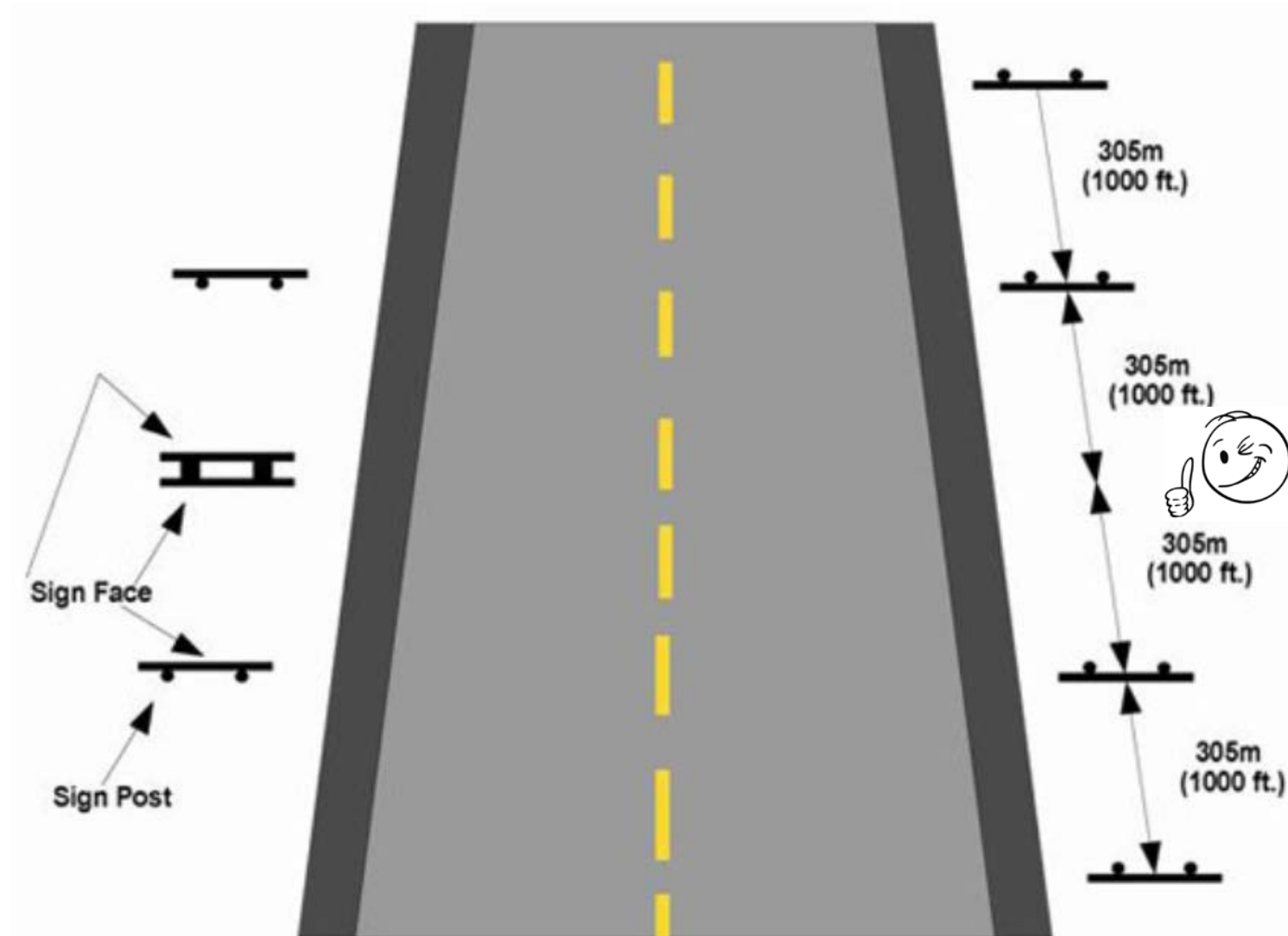




# Applications Review

- > Message on the Billboard
- > Billboard Requirements
  - Dimensions
  - Number of Faces 
  - Sign Height
  - Location
  - Angle As Related to Highway
  - Setback Distance
  - Proximity to Built-Up Areas
  - Standard/MMS 
  - Spacing Requirements 
  - And more!

**Diagram: Billboard Signing - Spacing Requirements**




# Permitting

- > Permit Compliance 
  - Signs Must Be Placed Within Six Months Of Issuance Of Permit
  - Each Billboard Must Be Covered By A Permit Up To 5 Years
    - One Permit Per Sign
    - Renewal annually up to a maximum of (5) five years at which time a new application may be required from the initial date of the original permit.
    - Five year requirement not required for sign permits issued prior to September 24, 1994
  - Maintain approved permit specifications



# Asset Registry

## > Annual Inventory

-  – GPS/GIS
- Sign Location
- Sign Description
- Condition Assessment
- Photos
- Permit Compliance

## > Unauthorized Advertising

## > Controlled Route/Provisional Highway





# Challenges

- > Challenges of Signage
  - Accurate Inventory
  - Regulatory Enforcement
  - Unauthorized Advertising
  - Communication with Customers
  - Missing Application Data
  - Sign Removal
  - Change Management
  - Funding



# Sign Management

## > Sign Management Recommendations

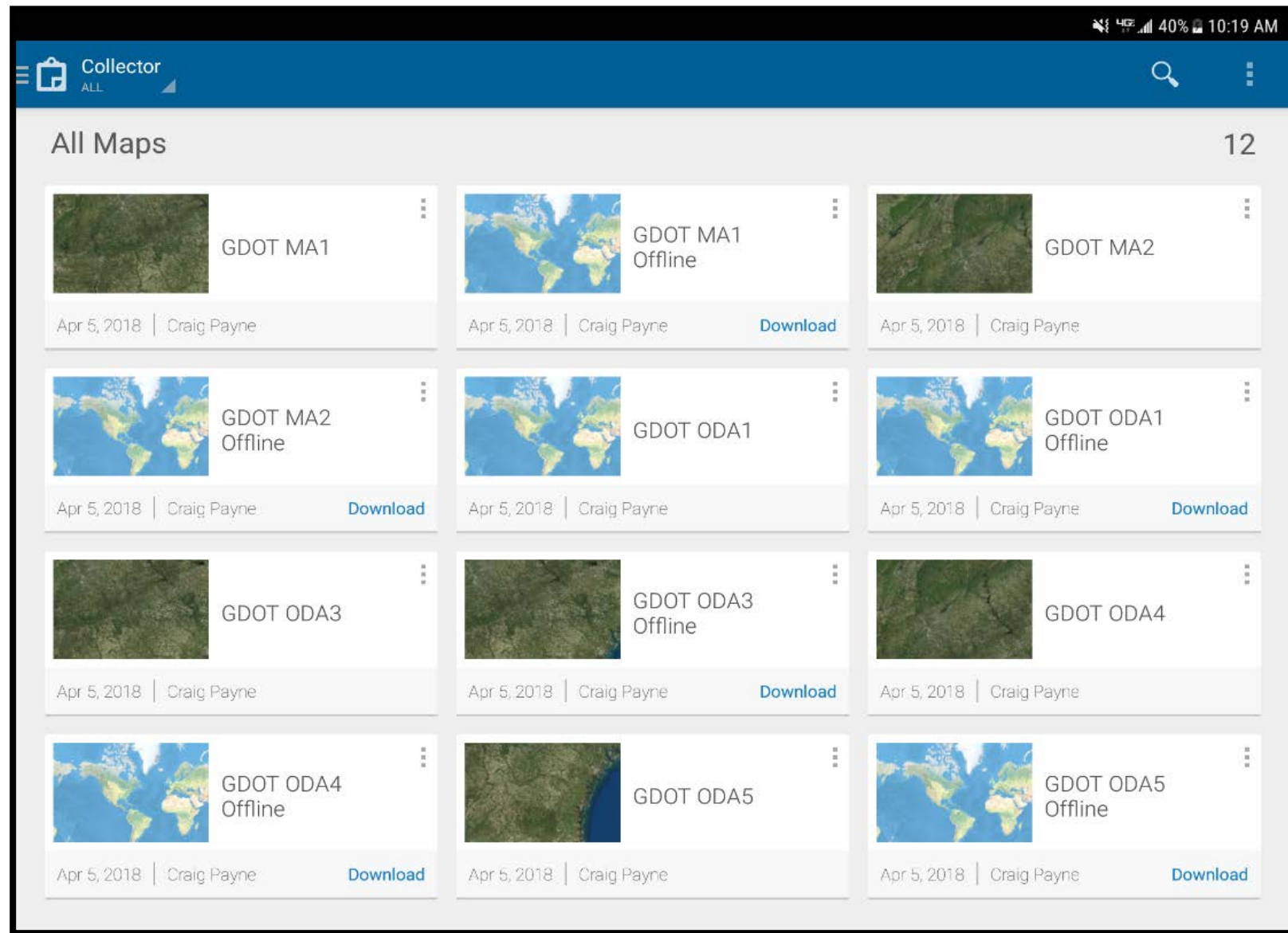
- Annual GIS-based Inventory
- Workflow Management System (WMS)
  - Central repository
  - Business process tracking
  - Permit lifecycle tracking
  - GIS Interface/Integration
  - Online application & payment processing
  - Public Permit Search
  - Customer Access Portal



# Mobile Data Collection

## ArcGIS Collector

- > ArcGIS Online
- > ArcGIS Portal
- > Map Service
  - Online/Offline Editing
  - ESRI Basemaps

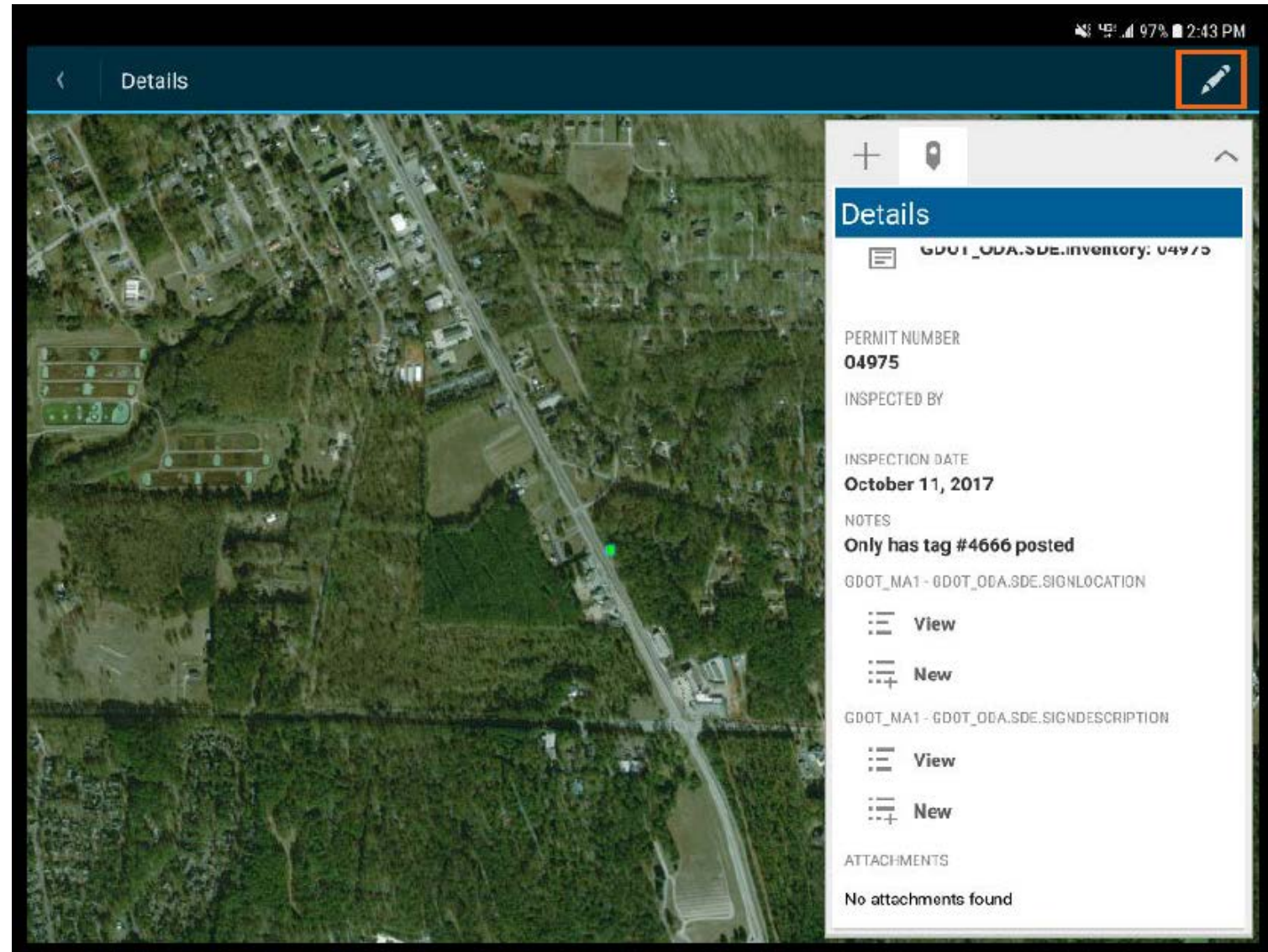




# Mobile Data Collection

## ArcGIS Collector

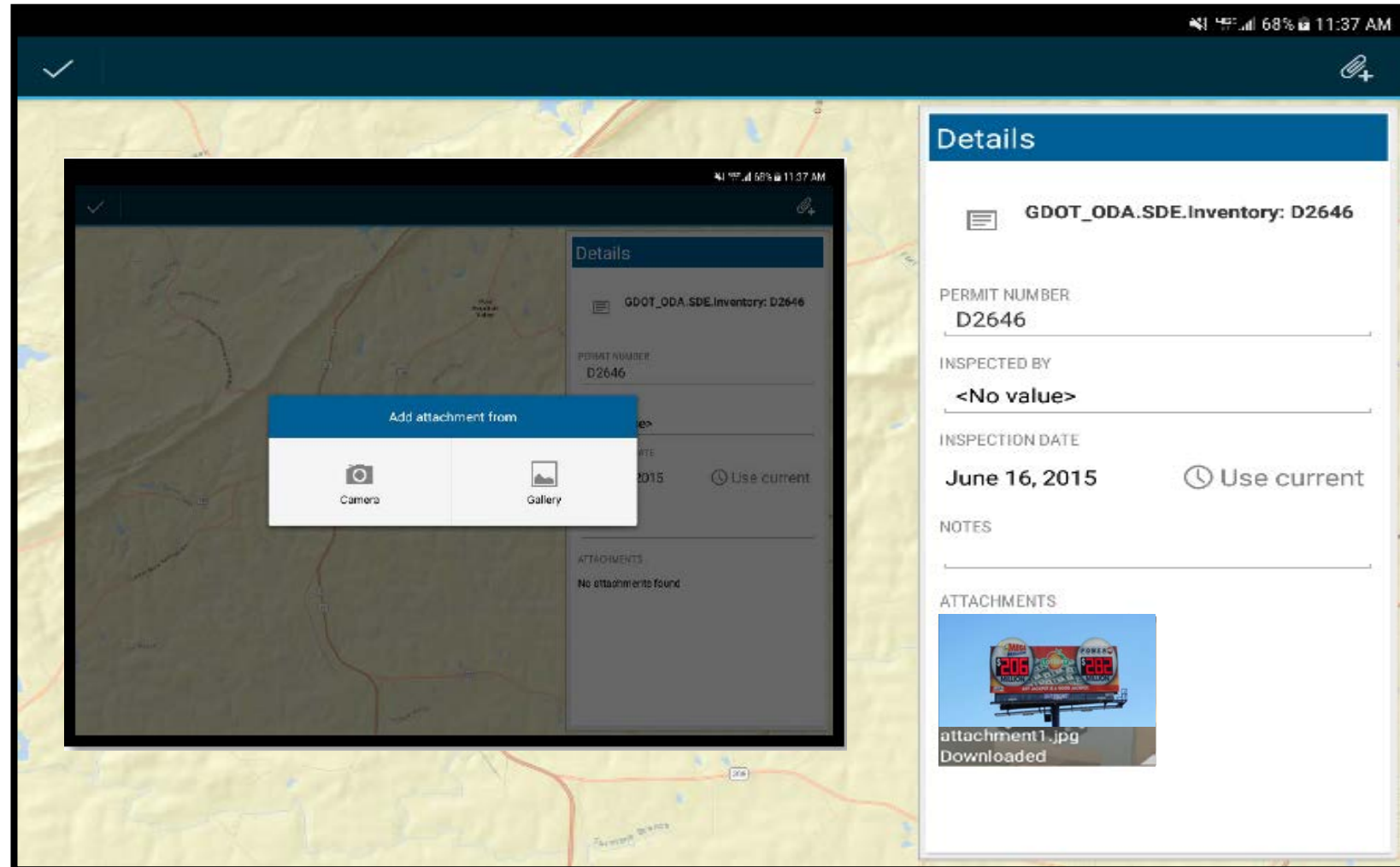
- > Permit Details
- > Inspection Information
- > Related Tables
  - Sign Location
  - Sign Description
  - Additional Inspections
    - Vegetation Management



# Mobile Data Collection

## ArcGIS Collector

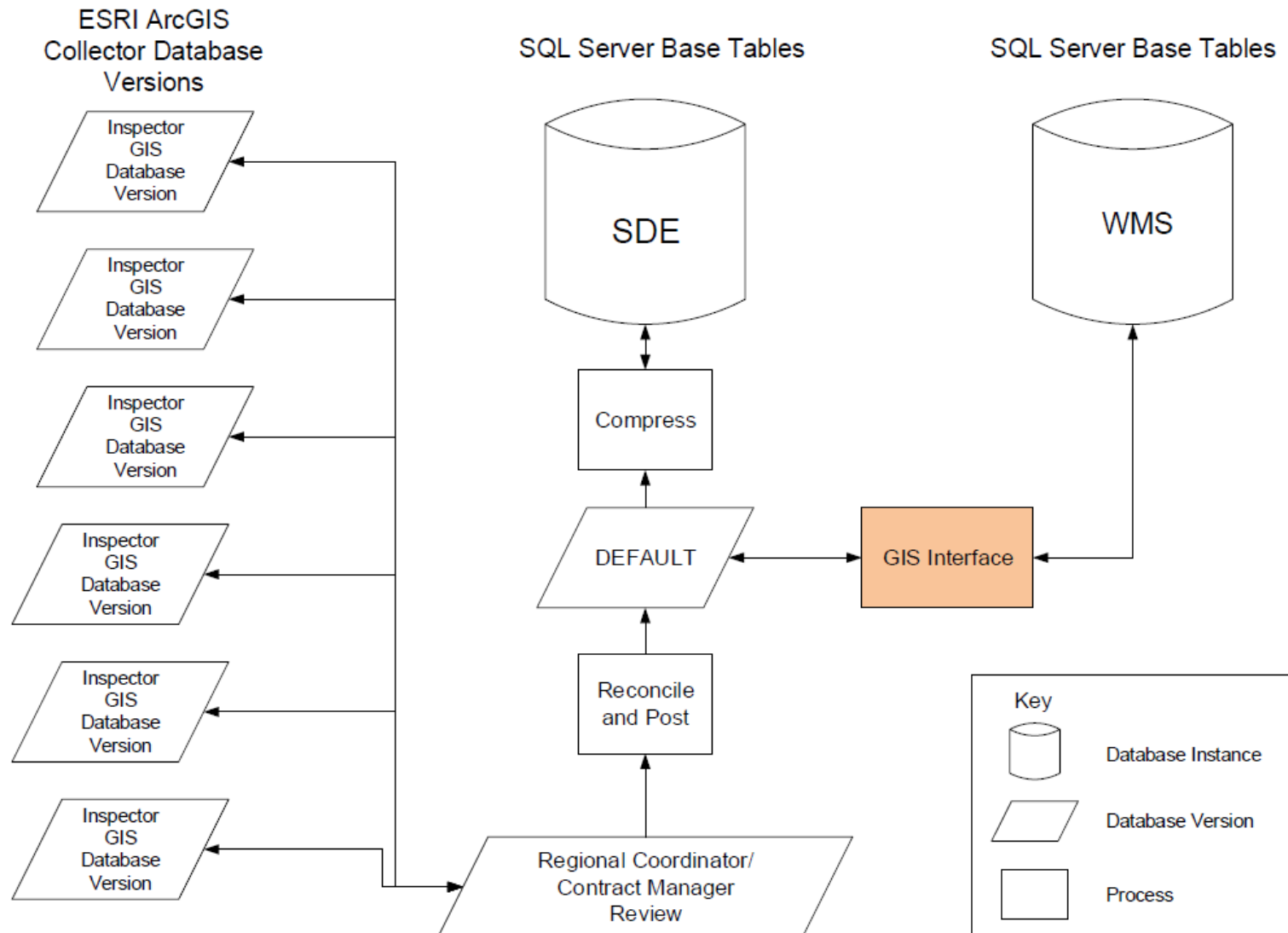
- > Inspection Information
- > Attachments
  - Photos



# Workflow Management System/GIS Interface



WMS/GIS Interface Diagram



# GIS Interface

Home > Permits > Permits Dashboard > Permit

Details	Permit Actions	Appeals/Violations																														
Permit Number: D1270 Permit Date: 7/5/2001 Permit Expiration Date: 4/1/2020 County: Baldwin (13009) Jurisdiction: Tennille Permit Type: Standard Sign	Application # 47878-59601   UNA Sign # n/a Tag Number: 3418R Sign Install Deadline: City: Permit Status: Active	0 Appeal(s) 0 Violation(s) Tag Status: In Place Inspection Date: 12/03/2018 Route: 002400 Sign Status: Standing GPS Date: 04/30/2013 <a href="#">Map Location</a>																														
<div>GIS Interface</div>																																
<div>Permit Owner</div> <div>Owner Name: 84 Outdoor, LLC (10485) Contact Information Name: Cheri Bomar Phone: 724-228-3636 Ext: E-Mail: cheri.bomar@84lumber.biz <a href="#">Edit</a></div> <div>Property Owner</div> <div>Owner Name: Childre, Phillip (9230) Contact Information Name: Phillip Childre Phone: 478-696-3839 Ext: E-Mail: echildre@windstream.net <a href="#">Edit</a></div>																																
<div>Sign Description</div> <div>Sign Construction Type: Stacked/Back-to-Back Illuminated?: <input checked="" type="checkbox"/> Sign in Place?: <input type="checkbox"/> Existing Permit Cancelled: Structure Height (ft): 44 Height Above Roadway (ft): 47 Structure Status: Standing Number of Poles: 1 Pole Type: Metal Description:</div> <div>Number of Faces: 4</div> <table><thead><tr><th>Length (ft)</th><th>Height (ft)</th><th>Area (sq.ft.)</th><th>Viewed Direction</th><th>MMS</th><th>MMS Type</th></tr></thead><tbody><tr><td>10.00</td><td>10.00</td><td>200.00</td><td>E</td><td><input type="checkbox"/></td><td></td></tr><tr><td>10.00</td><td>10.00</td><td>200.00</td><td>E</td><td><input type="checkbox"/></td><td></td></tr><tr><td>20.00</td><td>10.00</td><td>200.00</td><td>W</td><td><input type="checkbox"/></td><td></td></tr><tr><td>20.00</td><td>10.00</td><td>200.00</td><td>W</td><td><input type="checkbox"/></td><td></td></tr></tbody></table> <div>Sign Description Data from GIS</div>			Length (ft)	Height (ft)	Area (sq.ft.)	Viewed Direction	MMS	MMS Type	10.00	10.00	200.00	E	<input type="checkbox"/>		10.00	10.00	200.00	E	<input type="checkbox"/>		20.00	10.00	200.00	W	<input type="checkbox"/>		20.00	10.00	200.00	W	<input type="checkbox"/>	
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10.00	10.00	200.00	E	<input type="checkbox"/>																												
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20.00	10.00	200.00	W	<input type="checkbox"/>																												
20.00	10.00	200.00	W	<input type="checkbox"/>																												
<div>Sign Location</div> <div>County: Baldwin Latitude: 33.1518942 Distance from nearest right-of-way (ft): 36.00 Nearest Cross Routes: Incorporated Area?: <input type="checkbox"/> Zoned Jurisdiction?: <input type="checkbox"/></div> <div>City: Longitude: -83.2745748 Side of Roadway: S</div> <div>Route: 002400 Milepoint: 20.726 GPS Locator: AC GPS Date: 04/30/2013</div> <div>Sign Location Data from GIS</div>																																
<div>Additional Controlled Routes</div> <div>Is location visible to other controlled routes ? <a href="#">Please Select</a></div>																																
<div>Status Log</div> <div>Permit Status: <a href="#">Please Select</a> Sign Status: <a href="#">Please Select</a> Status Comment: <a href="#">Submit</a></div> <div>Please Note: Sign Status changes submitted here should also be routed as a <a href="#">Data Change Request with a Field Check</a></div> <table><thead><tr><th>Status Updated</th><th>Permit Status</th><th>Sign Status</th><th>User</th><th>Comment</th></tr></thead><tbody><tr><td colspan="5">No Status Log Information.</td></tr></tbody></table> <div><a href="#">view all</a></div>			Status Updated	Permit Status	Sign Status	User	Comment	No Status Log Information.																								
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No Status Log Information.																																



# GIS Viewer

gis.synodas.com/viewers/gdot/agency/

## ODA Sign Inventory

Esri World Geocoder

Enhanced Search

By Shape By Value Results

Search layer: Signs

Search alias: Search by Permit #

Enter a Permit #

\*Required Permit Number is D4056 D2626

Search

☐ Limit search to map extent

34.3281195 -86.8614939 Degrees

30mi

POWERED BY esri

Earthstar Geographics



# GIS Viewer

The screenshot displays the GIS Viewer application interface. The browser tabs at the top include 'Outdoor Advertising', 'Public Permit Search', 'Routing Dashboard', and 'GDOT ODA Sign Inventory'. The address bar shows 'gis.synodas.com/viewers/gdot/agency/'. The main map area shows an aerial view of Duluth, Georgia, with a green line indicating a road or boundary. A search bar at the top right contains 'Esri World Geocoder'. On the left, a sidebar shows a list of selected features with details for a specific permit.

**ODA Sign Inventory** Esri World Geocoder

**Enhanced Search**

By Shape By Value Results

Features selected: 1

- PermitNumber: D2626
- PermitOwner: OUTFRONT Media LLC-Atlanta
- PermitStatus: Active
- QC: Yes
- VegA:
- VegA\_Status:
- VegB:
- VegB\_Status:
- Status: Inventory Complete
- PermitType: Standard
- HeightAboveRoadway: 65
- NumberOfFaces: 2
- Lighting: Yes
- Face1Width: 48
- Face2Width: 48
- Face3Width:

**Sign Details:**

- Waypoint: 7.408
- Distance Off EOP: 56
- Within City Limits: Yes
- GPS Locator: SW
- GPS Date: 05/06/2013
- Roadway Side: West
- Urban Area Boundary: Atlanta
- Add Ctrl Rte: Yes

**2019 Photo 1**

2018-02-18 05:11

Zoom to

33.9821009 -84.1545838 Degrees

200ft

POWERED BY esri





# Workflow Management

## — WMS Features

- Central Repository
- Routing & Recommendations
- Customer Letters & Violation Templates
- Batch Invoicing
- Online application submittals
- Online payment processing
- Permit Transfers
- Permit Inquiry

Application Details | Field Investigation(s) | Appeals/Board Reviews

Standard MMS

Application #: 740357-63165  
Application Date: 3/18/2013  
Status: In Legal  
Fee Paid:   
Receipt: 66452

Property Information

Parcel Number:   
Parcel Size:   
Parcel Dimensions:

Applicant Information

Current Sign Owners: AJS Outdoor Advertising, 1711 Oakmont...

408107  
Business Name: AJS Outdoor Advertising  
Title:  
First Name:  
Last Name:  
Address: 1711 Oakmont Place  
City: Dalton  
State\*: Georgia  
Phone:  
Email:  
Zip code: 30720  
Ext.:

Property Owner Information

Current Property Owners: Fireball Properties, LLC, 1711 Oakmont...

413412  
Business Name: Fireball Properties, LLC  
Title: Properties  
First Name: Fireball  
Last Name: Properties  
Address: 1711 Oakmont Place  
City: Dalton  
State: Georgia  
Phone: 706-226-8684  
Email:  
Zip code: 30720  
Ext.:

Sign Location

File Upload

Browse Upload All

File Upload

Date Uploaded	Original File Name	Full Description	Delete?
12/2/2013	comments/83165/Certified Letter.pdf	Permit Application File Closed	✖
5/2/2013	comments/83165/1367499757265.pdf	Request for Administrative Hearing	✖
3/28/2013	comments/83165/Denial 740357.pdf	Denial Letter	✖

Sign Description

Recommendations and Routing

Recommendation: Please Select  
Next Step: Please Select  
Route To: Please Select

Route

User Role

Date	Route From	Route To	Recommendation	Next Step
No Route information.				

view all

Comments

Submit

Date	Comment	Commented By
1/3/2014	Permit Status Changed from Unauthorized to To Legal Dept. . Update.	Brian Asherbranner

Sent Letters

Choose the letter you would like to create:

Please Select Go

Sent Date	Letter Type	Sent By
No letters.		


view all

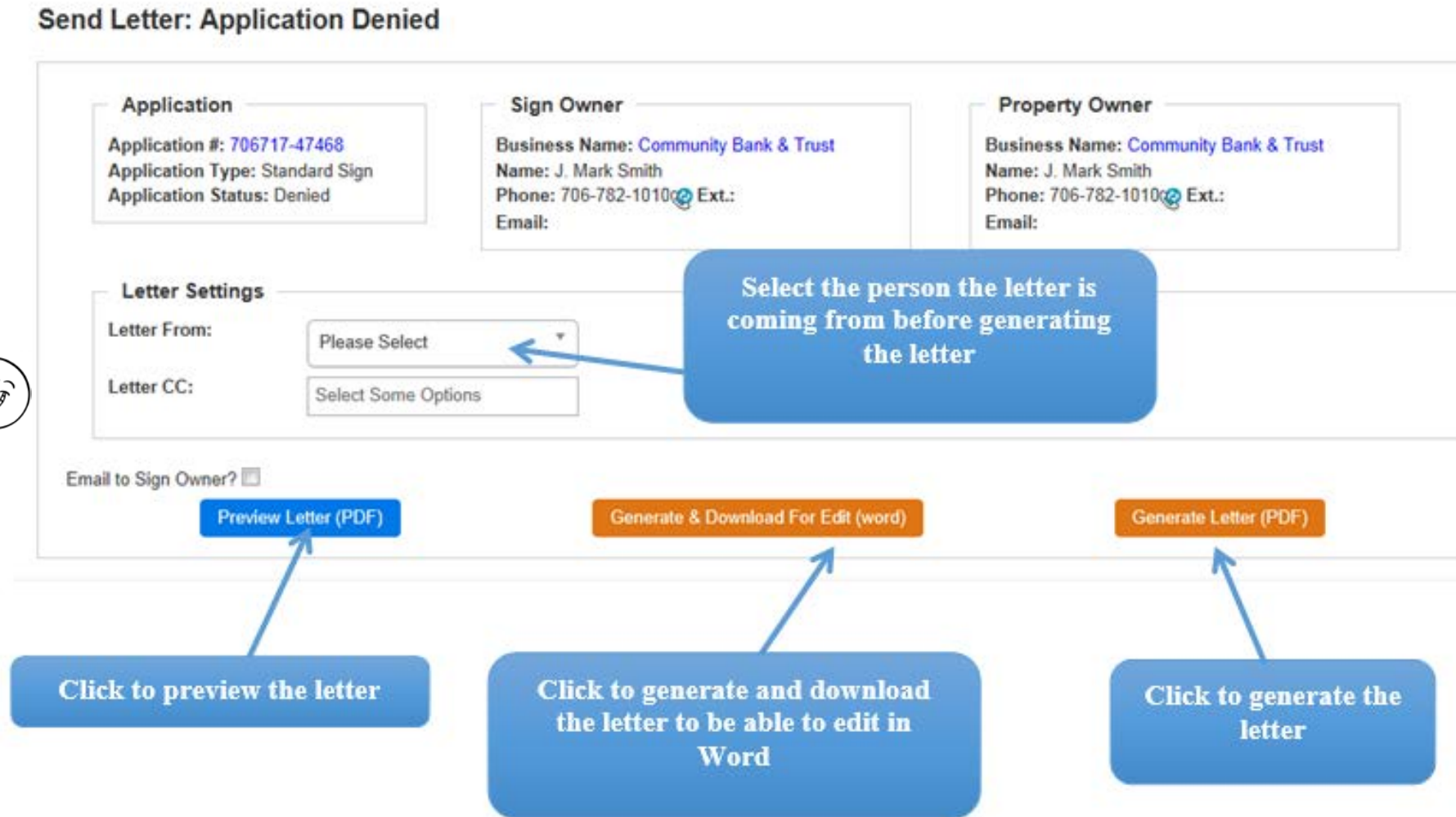
Routing & Recommendations

Sent Letters

# Workflow Management

## – WMS Features

- Central Repository
- Routing & Recommendations
- Customer Letters & Violation Templates
- Batch Invoicing 
- Online application submittals
- Online payment processing



# Customer Access Portal

- Online application submittals & payment processing
- Customers can view assets, invoices, and violations
- Track Application Status
- E-mail Notifications
- Public Permit Search
- GIS Viewer

**Customer Portal - Clear Channel Outdoor**

Welcome: CAP User

[My Account](#)

[Logout](#)



[Home](#) [Submit New Form ▾](#) [My Permits](#) [Public Permit Search](#) [GIS Viewer](#) [Contact Us](#)

**Pending Forms** 3

Submitted Forms 8

Invoices 20

Violations 4

Forms listed below are in progress. Edit the form to continue submission or click "Pay" to submit payment if required.

[Refresh Page](#)

Actions	Form Type	Created Date	Created By	Last Updated Date	Status	Fee Due	Request #
<a href="#">Edit</a>	MMS Application	03/21/2018 08:58:46	User,CAP	03/21/2018 08:58:47	Pre-Submittal	0.00	49
<a href="#">Edit</a>	MMS Application	03/21/2018 08:58:09	User,CAP	03/21/2018 08:58:11	Pre-Submittal	0.00	48
<a href="#">Edit</a>	MMS Application	03/21/2018 08:55:29	User,CAP	03/21/2018 08:55:30	Pre-Submittal	0.00	47

# Customer Access Portal

- Online application submittals & payment processing
- Customers can view assets, invoices, and violations
- Track Application Status
- E-mail Notifications
- Public Permit Search
- GIS Viewer

**Customer Portal - Clear Channel Outdoor**

Welcome: CAP User

[My Account](#)

[Logout](#)



[Home](#) [Submit New Form](#) [My Permits](#) [Public Permit Search](#) [GIS Viewer](#) [Contact Us](#)

Pending Forms (3)

Submitted Forms (8)

**Invoices (20)**

Violations (4)

Invoice #	Invoice Date	Invoice Amount	Amount Paid	Date Paid	Balance	VOID
<a href="#">1004574</a>	4/19/2018	\$85.00	\$85.00	4/19/2018	\$0.00	<input type="checkbox"/>
<a href="#">1004573</a>	4/19/2018	\$300.00	\$300.00	4/19/2018	\$0.00	<input type="checkbox"/>
<a href="#">1004572</a>	3/22/2018	\$85.00	\$85.00	3/22/2018	\$0.00	<input type="checkbox"/>
<a href="#">1004571</a>	3/22/2018	\$85.00	\$85.00	3/22/2018	\$0.00	<input type="checkbox"/>
<a href="#">1004570</a>	3/22/2018	\$300.00	\$300.00	3/22/2018	\$0.00	<input type="checkbox"/>
<a href="#">1004569</a>	3/21/2018	\$85.00	\$85.00	3/21/2018	\$0.00	<input type="checkbox"/>

# Customer Access Portal

- Online application submittals & payment processing
- Customers can view assets, invoices, and violations
- Track Application Status
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**Customer Portal - Clear Channel Outdoor**

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[Pending Forms](#) (3)

[Submitted Forms](#) (8)

[Invoices](#) (20)

[Violations](#) (4)

## Open Violations

Permit #	Permit Status	Violation Type	Open Date
D0409	Active	No Tag	2/25/2013
D0480	Active	No Tag	2/25/2013
D1996	Active	No Tag	2/25/2013

[view all](#)

## Closed Violations

Permit #	Permit Status	Violation Type	Open Date	Closed Date
A0384	Active	No Tag	11/25/2013	12/4/2013
C0905	Active	No Tag	2/25/2013	2/27/2013
D1212	Active	No Tag	2/25/2013	12/3/2013

[view all](#)

# Agency CAP Access

- Inter Agency Routing
  - > Review
  - > Field Check
  - > Approval
- Customer Portal Forms
  - Provide Customer with feedback
  - Update Status
  - E-mail notifications

Welcome: Craig Payne   My Account   Help   Logout



[Home](#)   [Applications ▾](#)   [Permits ▾](#)   [Unauthorized Signs ▾](#)   [GIS](#)   [Search ▾](#)   [Customer Management ▾](#)   [Administration ▾](#)

[Synodas Admin ▾](#)

Inter Agency Routings 0

Customer Portal Forms 9

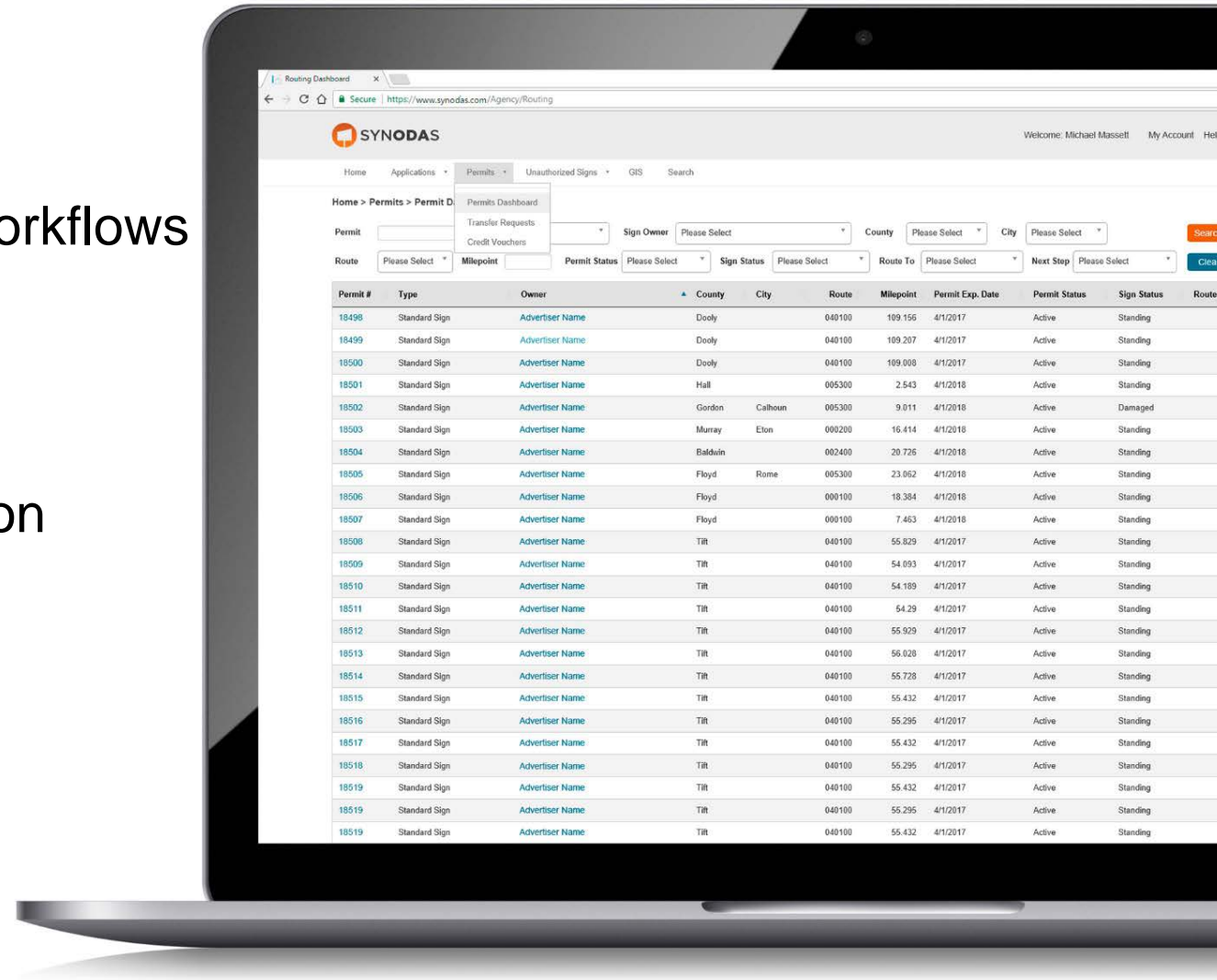
Refresh Page

Actions	Customer	Form Type	Created Date	Created By	Last Updated Date	Status	Customer Portal Request #
<a href="#">Edit</a>	Clear Channel Outdoor	Permit Extension Request	04/19/2018 16:58:56	User,CAP	04/19/2018 16:58:57	E-Submittal	63
<a href="#">Edit</a>	Clear Channel Outdoor	Vegetation Management Application	04/19/2018 16:57:07	User,CAP	04/19/2018 16:57:58	Denied	62
<a href="#">Edit</a>	Clear Channel Outdoor	Sign Application (Standard or MMS)	04/19/2018 16:32:44	User,CAP	04/19/2018 16:54:41	Approved	61



# Benefits

- > Central Data Repository
- > GIS-based asset registry
- > Streamlines business processes & workflows
- > Reduces/eliminates paperwork
- > Expedites the application process
- > Improves Customer/Agency Interaction
- > Supports Litigation



# Open Discussion

**Need more information?**

**Contacts:**

**Craig Payne, GISP**

**d: 727-431-1571**

**m: 727-423-5494**

**e: [craig.payne@cardno.com](mailto:craig.payne@cardno.com)**

**Tanya Camacho, GISP**

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**m: 813-523-0879**

**e: [tanya.camacho@cardno.com](mailto:tanya.camacho@cardno.com)**

