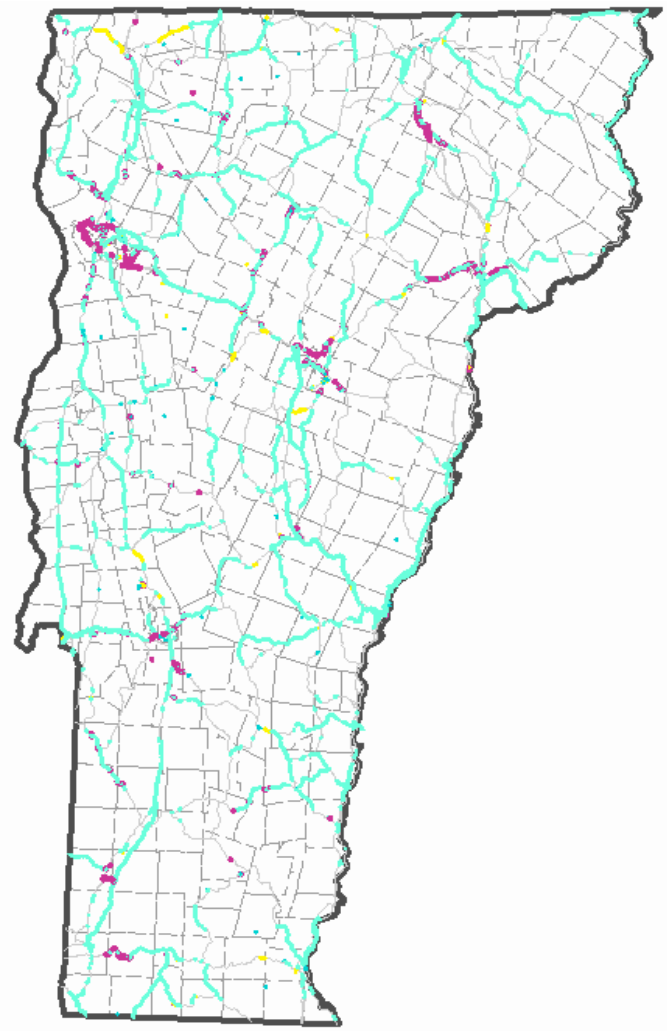

MAKING RIGHT OF WAY DATA ACCESSIBLE

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Agency of Transportation
Nina Safavi
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nina.safavi@state.vt.us

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OVERVIEW

- Statewide Picture - Need for Change
- Project Design + Implementation
- Real World Use

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LEGACY "SYSTEMS"

1927 Floods →

← 2011 Tropical Storm Irene

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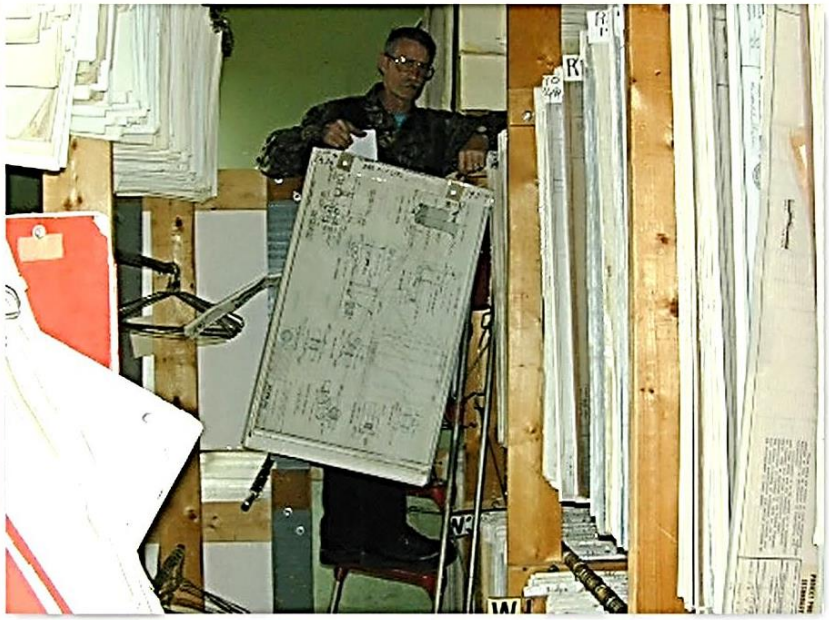
THE PAPER AGE



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THE DIGITAL AGE

- 22,000+ projects
- 2,100+ CADD
- 7000+ scanned
- 2,056 scanned half-sized
- 2TB of scanned drawings
- Route Logs
- Thousands of acquisition documents

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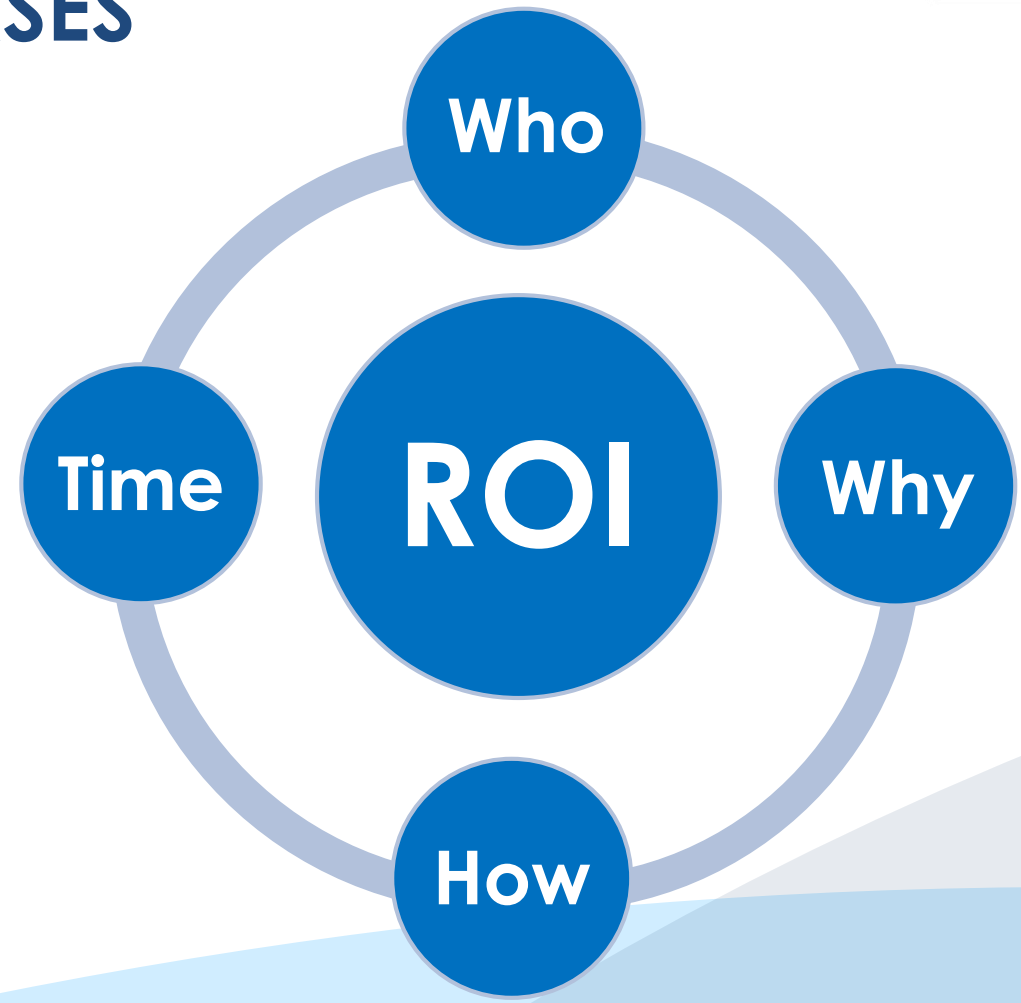
USE CASES



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WHO

Pavement Management, Structures Section, Mapping Section, Utilities, Operations, Rail, Property Management, District Personnel, Environmental Management, Roadway Design

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WHY

Emergency Readiness

Alternative Energy

Asset Management

Project Delivery

Green Stormwater Infrastructure

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TIME FOR CHANGE

- VT needed a better way to make ROW data easy to find.
- Keep CADD as platform for roadway design.
- Utilize GIS as a platform for managing the data.

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PROJECT GOALS

1. Create a combined data model
   - Repeatable method of CADD-GIS conversion
   - Process to review and digitize scans
2. Publish data as a web service
   - Direct user access
3. Advance web based viewer
   - Link data to other internal systems

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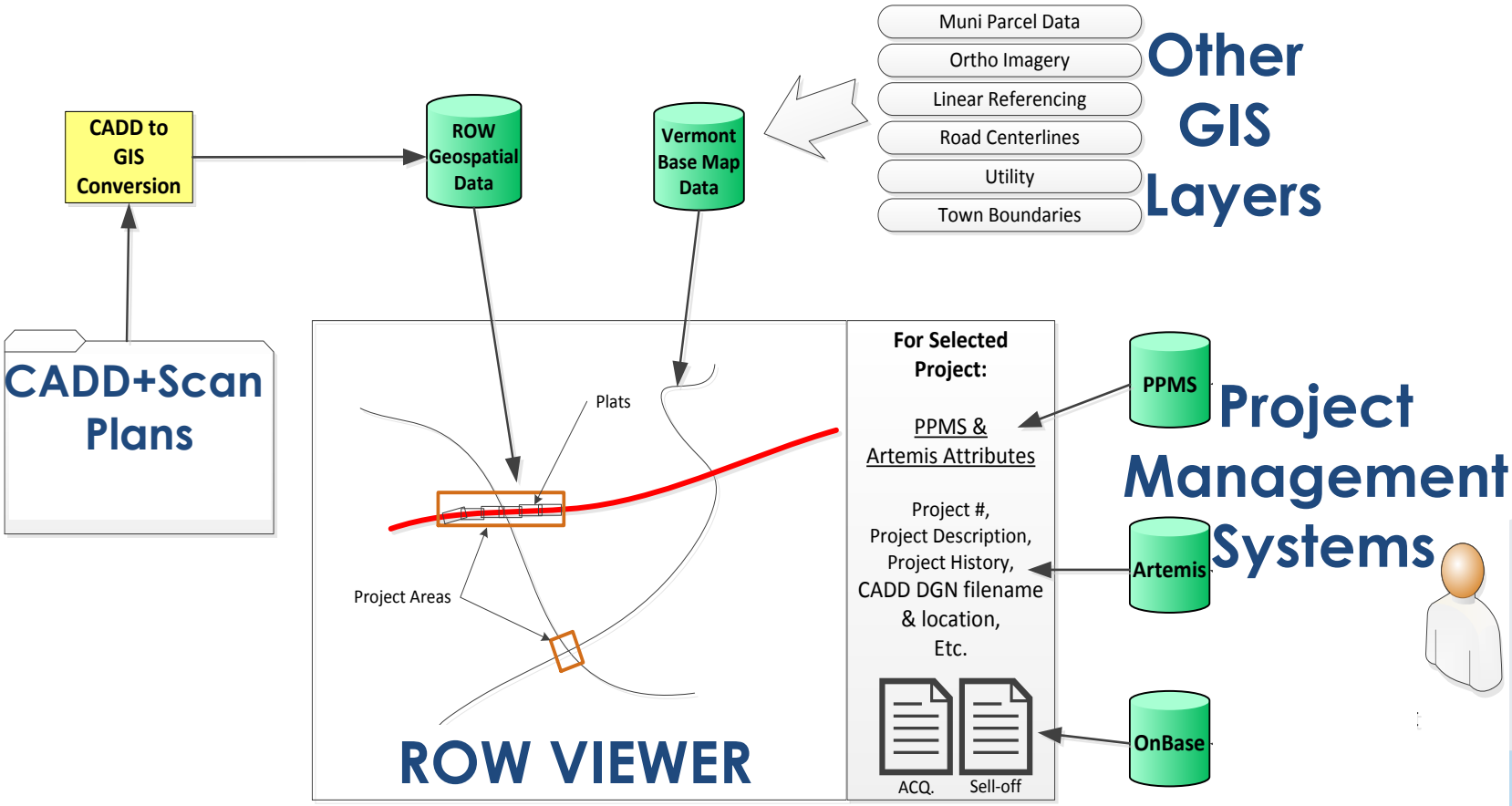
DESIGN



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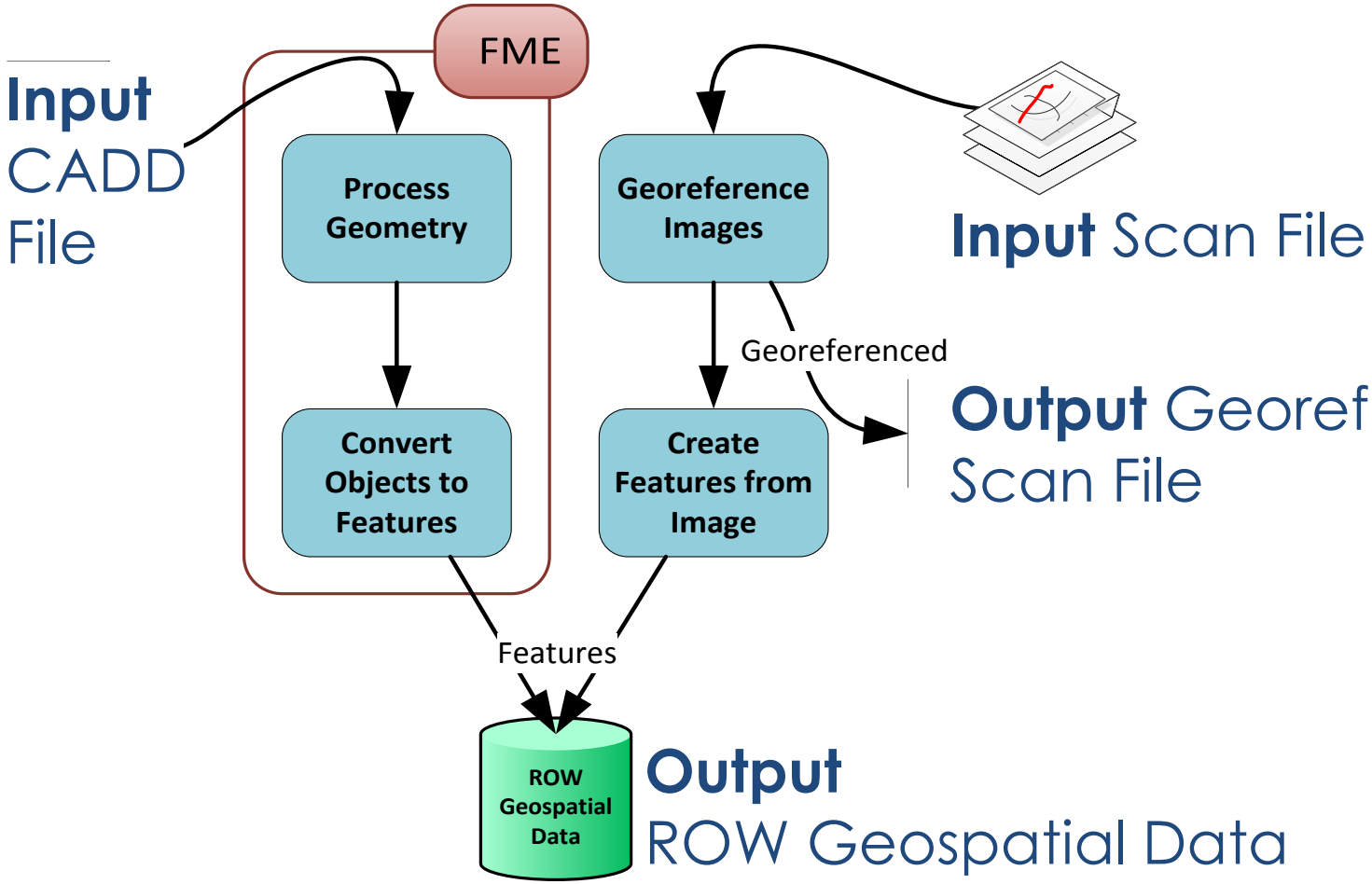
CADD TO GIS WORKFLOW



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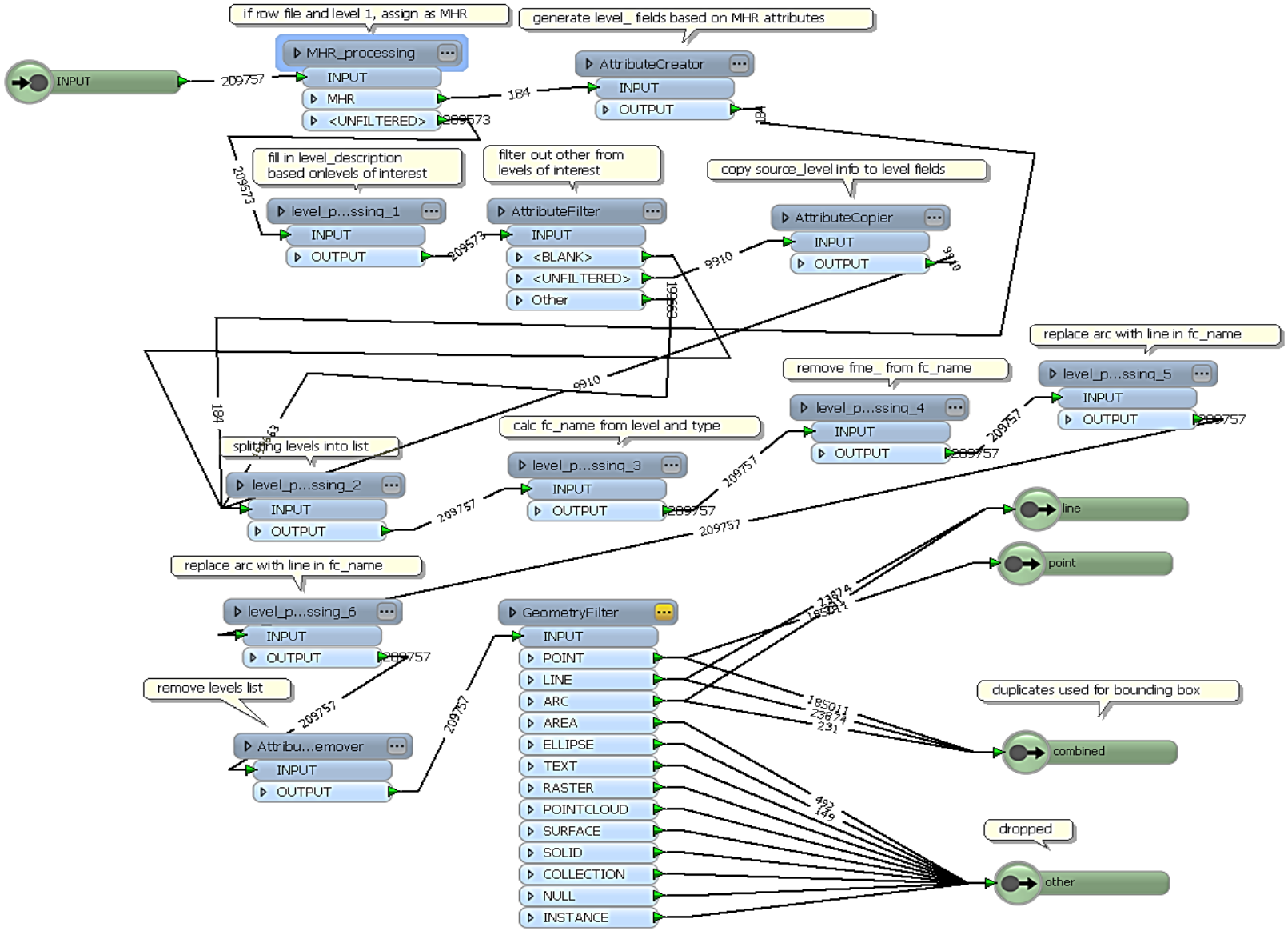
if row file and level 1, assign as MHR
generate level_ fields based on MHR attributes
INPUT
209757
MHR_processing
INPUT
MHR
<UNFILTERED>
209573
184
AttributeCreator
INPUT
OUTPUT
184
fill in level_description based onlevels of interest
filter out other from levels of interest
copy source_level info to level fields
level_p...ssing_1
INPUT
OUTPUT
209573
AttributeFilter
INPUT
<BLANK>
<UNFILTERED>
Other
9910
19968
AttributeCopier
INPUT
OUTPUT
replace arc with line in fc_name
remove fme_ from fc_name
level_p...ssing_5
INPUT
OUTPUT
209757
level_p...ssing_4
INPUT
OUTPUT
209757
calc fc_name from level and type
level_p...ssing_3
INPUT
OUTPUT
209757
splitting levels into list
level_p...ssing_2
INPUT
OUTPUT
209757
replace arc with line in fc_name
level_p...ssing_6
INPUT
OUTPUT
209757
remove levels list
Attribu...emover
INPUT
OUTPUT
209757
GeometryFilter
INPUT
POINT
LINE
ARC
AREA
ELLIPSE
TEXT
RASTER
POINTCLOUD
SURFACE
SOLID
COLLECTION
NULL
INSTANCE
line
point
duplicates used for bounding box
combined
185011
23874
231
492
149
dropped
other

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DEMO

http://host.appgeo.com/vtrans/

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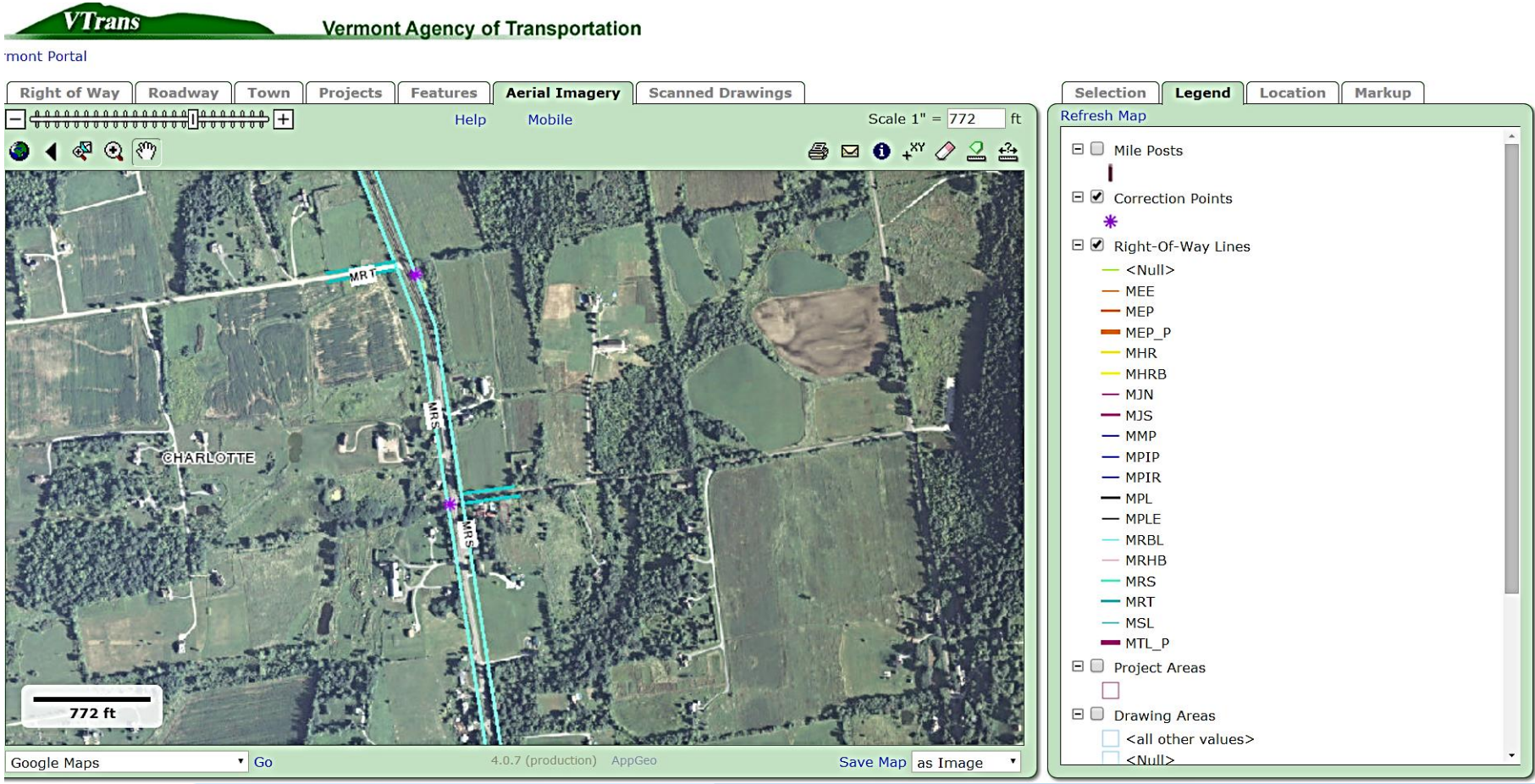
ORTHOIMAGAERY



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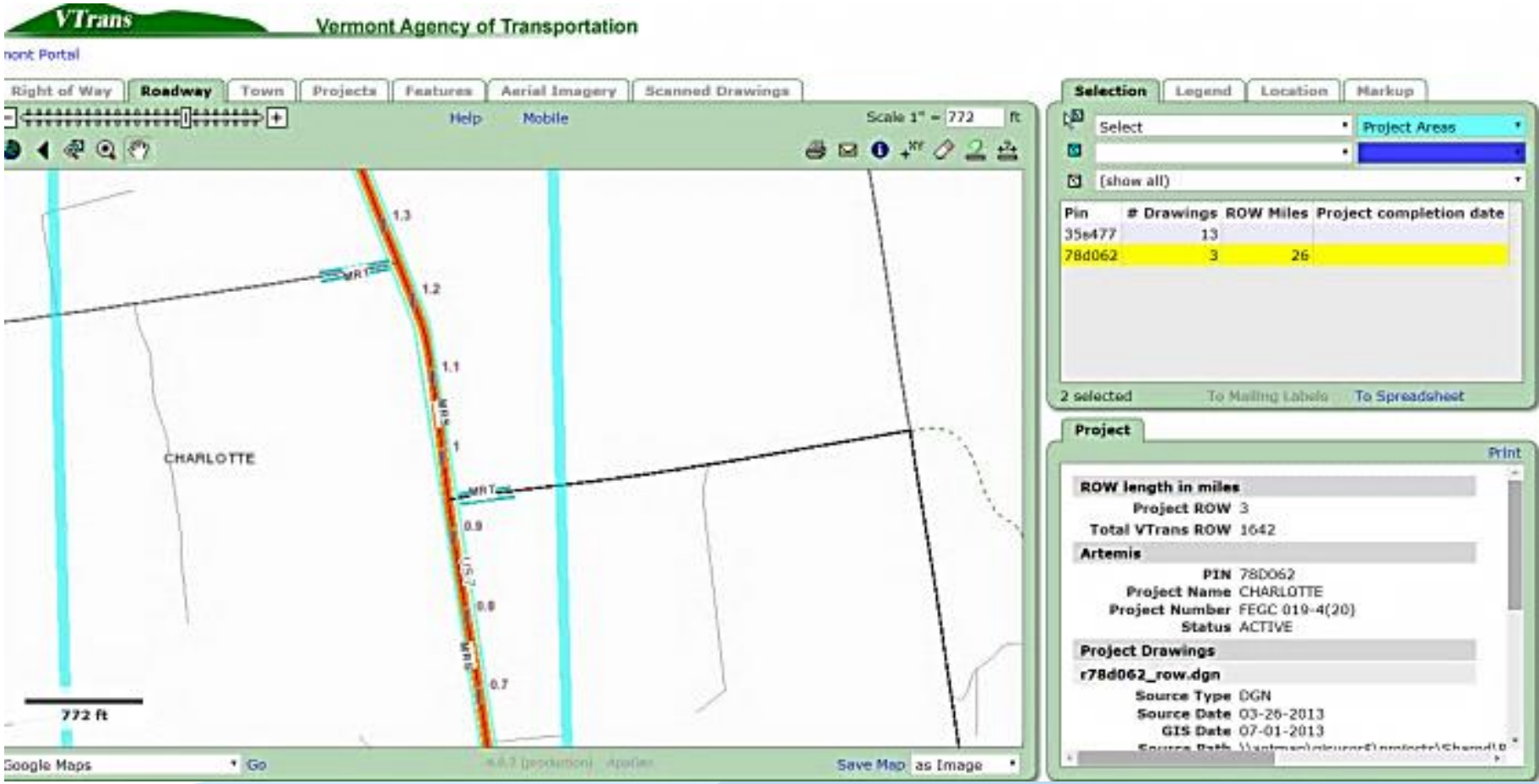
ROADWAY



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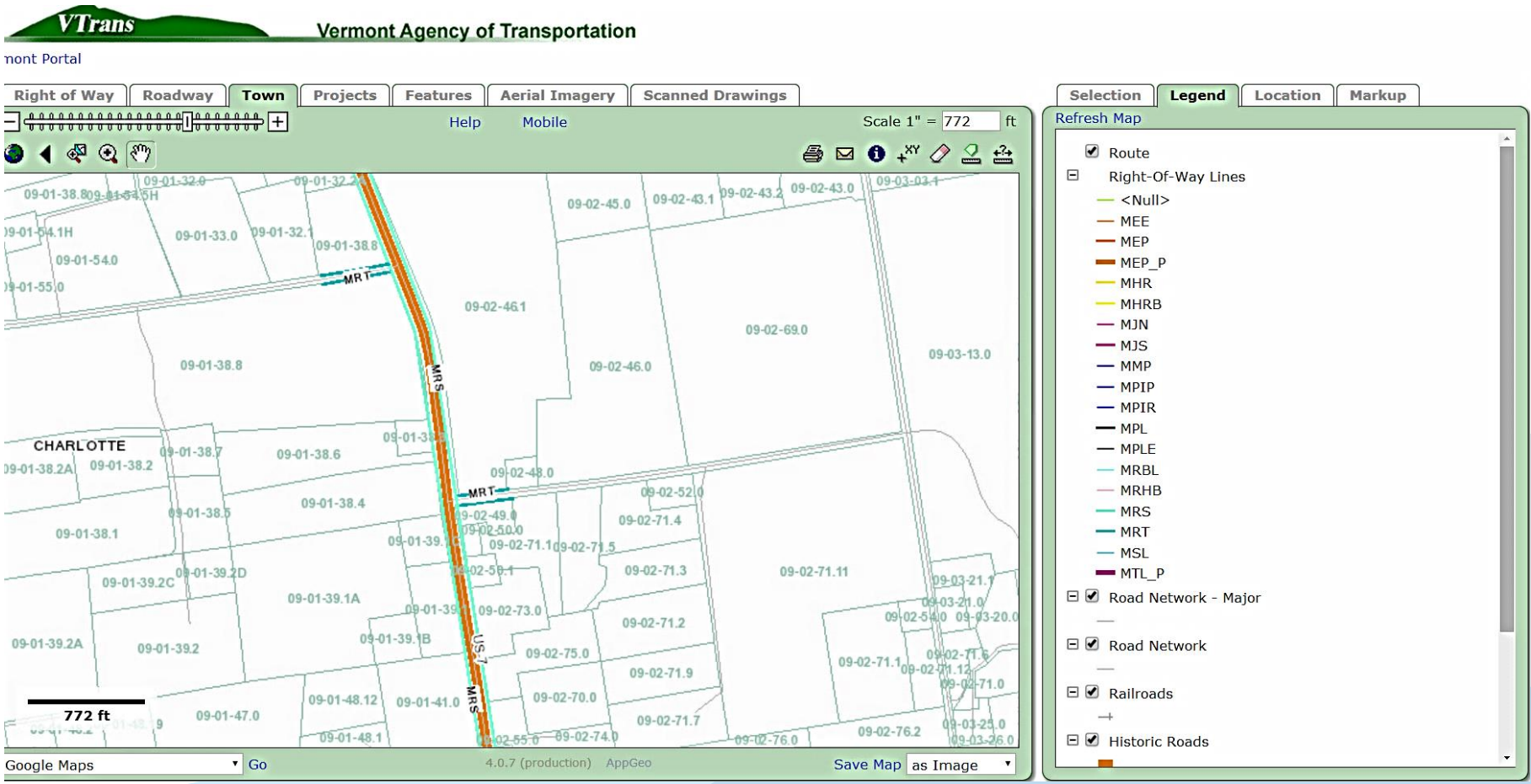
PARCELS



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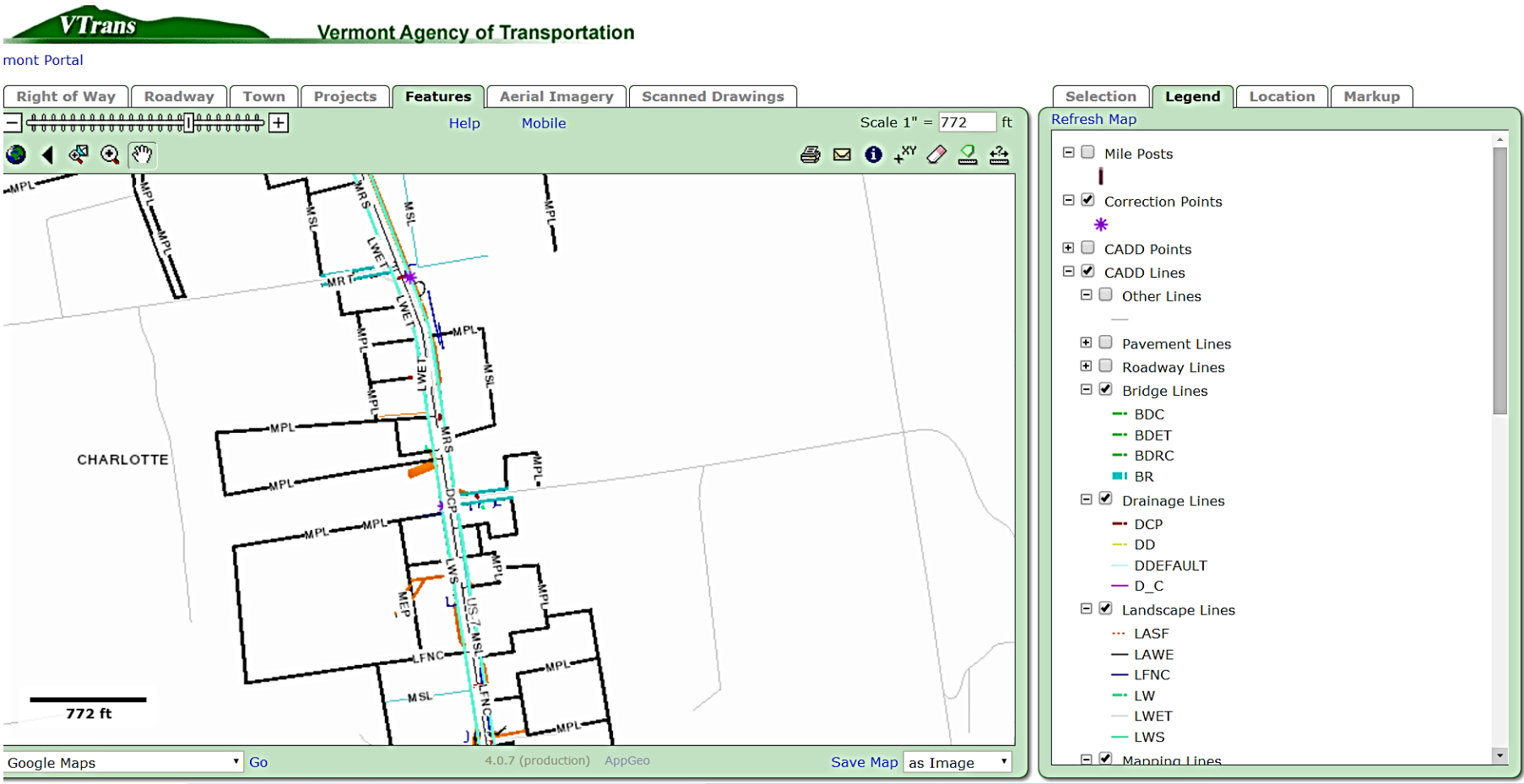
CADD OBJECTS



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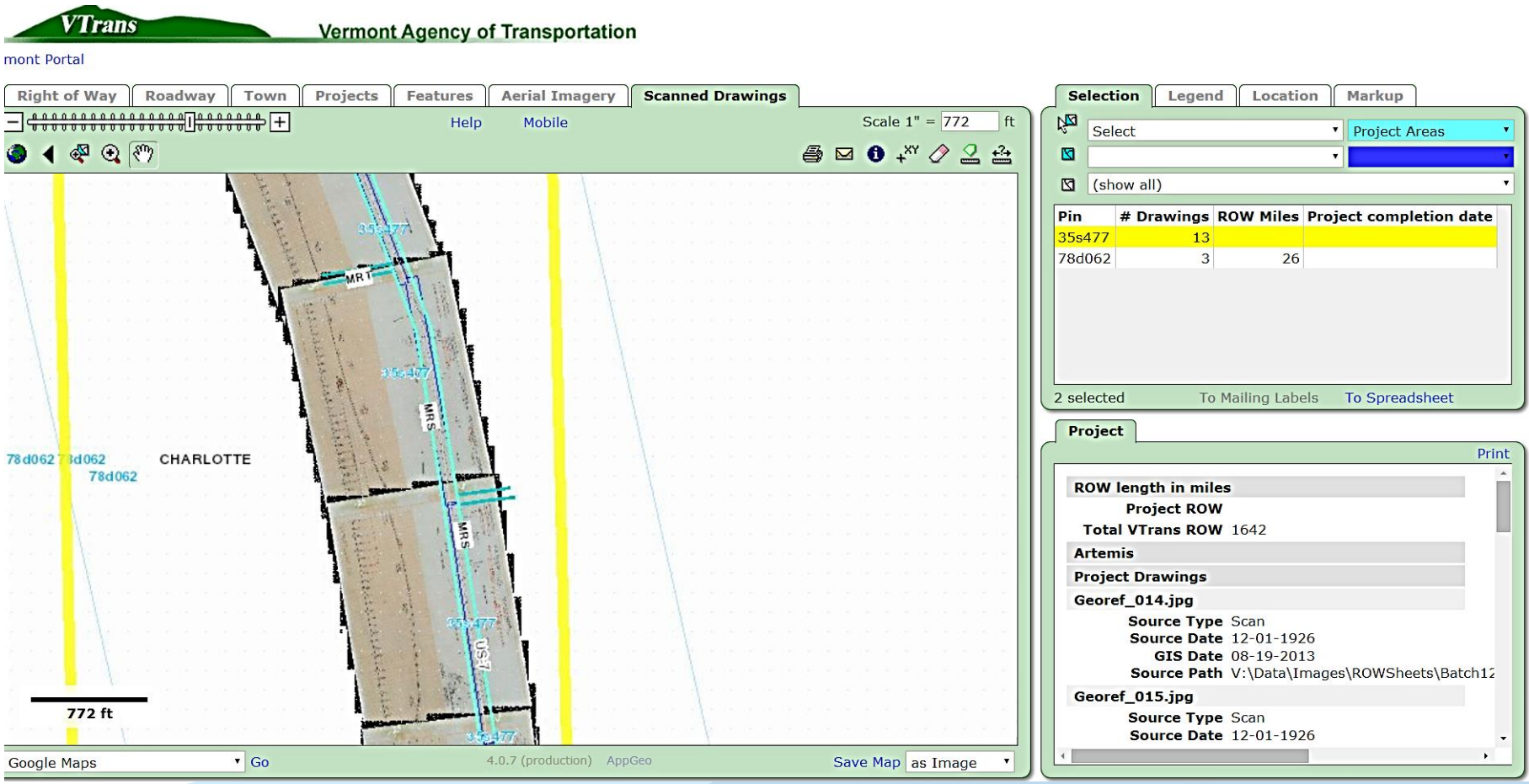
SCANS



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REAL WORLD USE

- Rail
- Route Logs
- Operations

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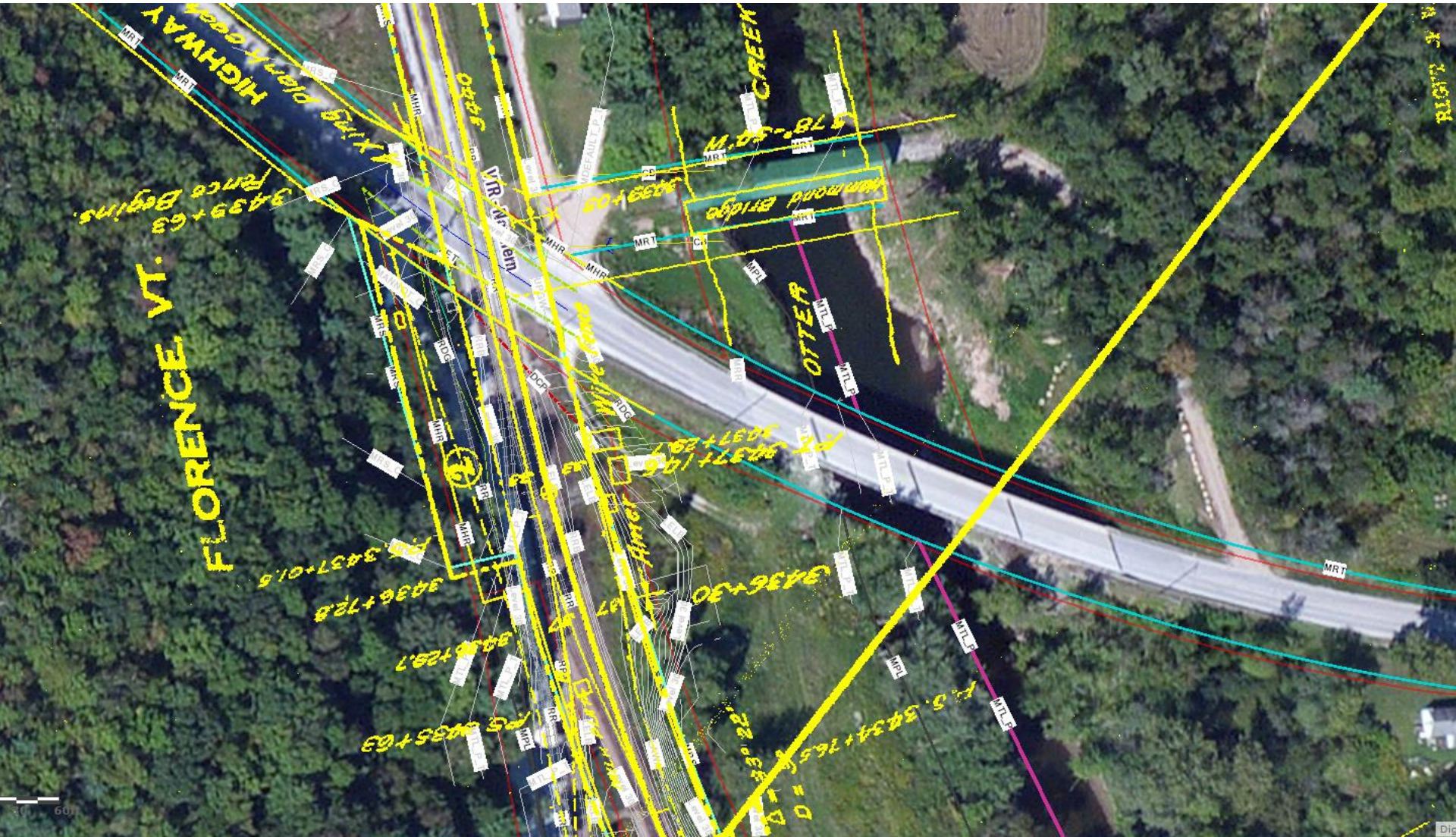
RAIL



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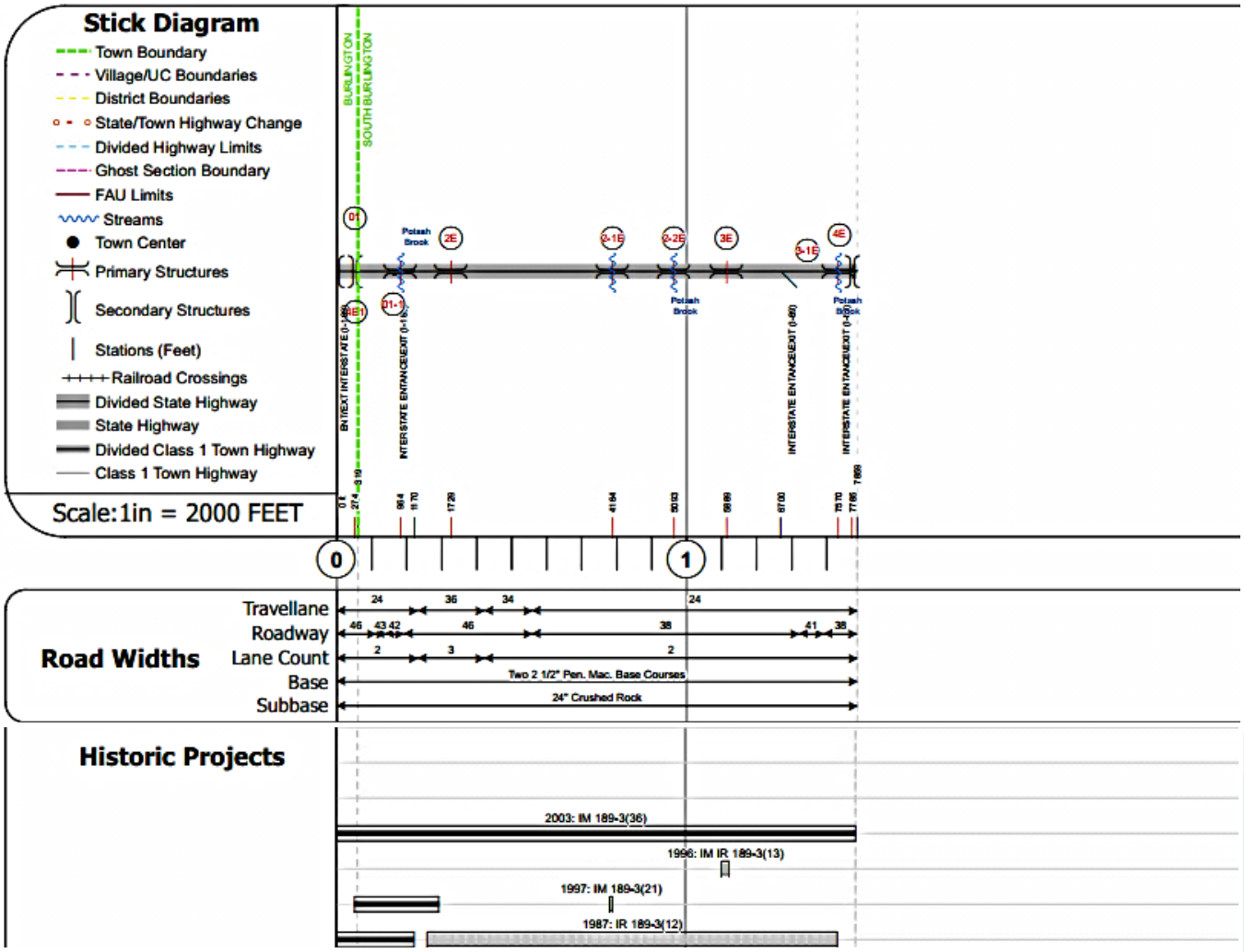
ROUTE LOGS



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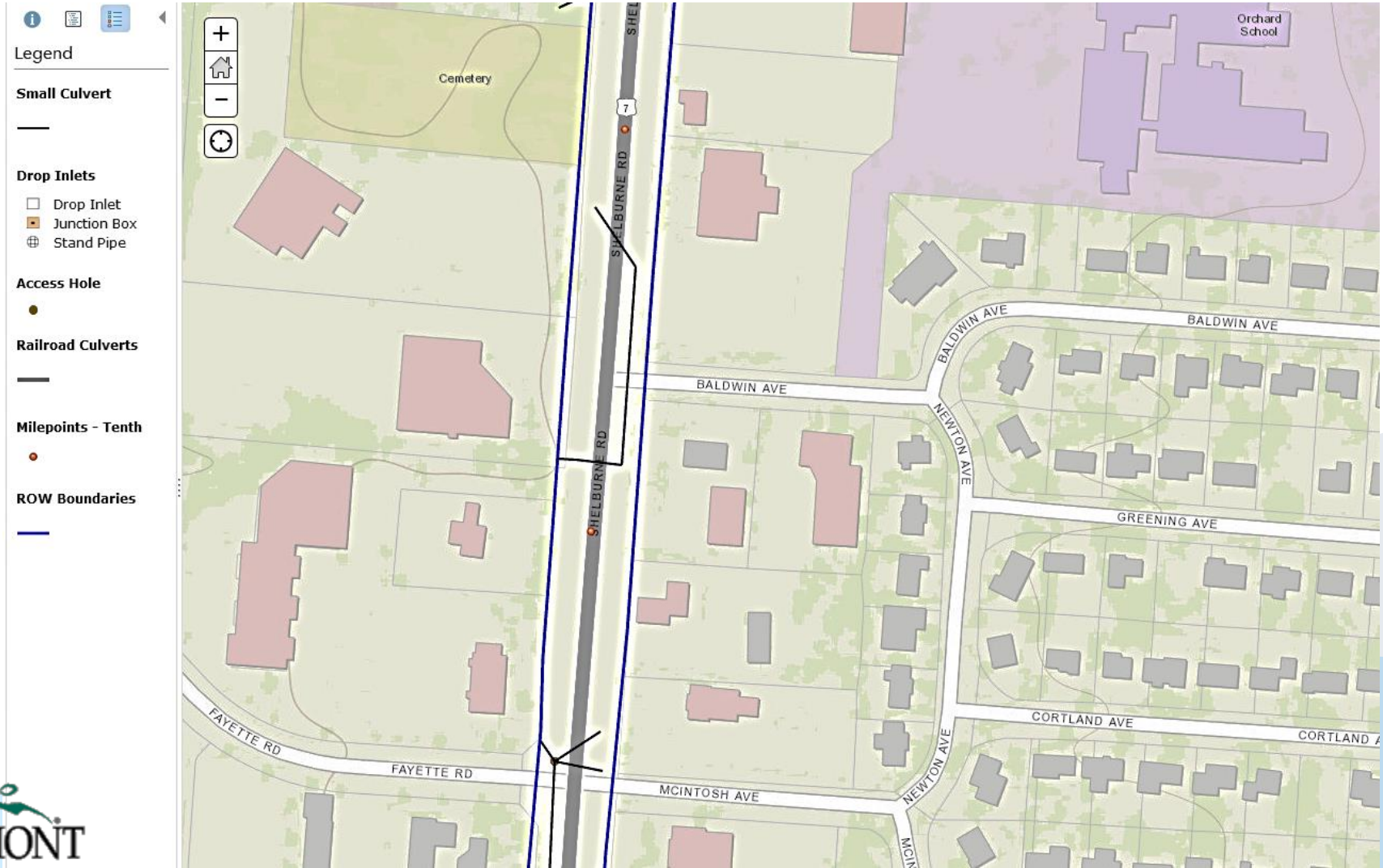
OPERATIONS



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QUESTIONS?

THANK YOU

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