

Show Me the Edits!

Enterprise Audit Tracking at CenterPoint Energy



Agenda

- Introductions
- Business Challenges
- Solution Overview
- Business Benefits

Introductions

Skye Perry | SSP Innovations

- Principal Consultant
- Esri & Schneider Electric Technical Architect



esri

Partner Network
Silver



ArcGIS Online
Specialty

Jacob George | CenterPoint

- GIS Manager
- PM for All Edits Project

Business Challenges - Common GIS Questions

- How do we view ALL Edits in a version?
- What's the easiest way to verify edits against a work order, plat, or field survey?
- How do we know the user didn't edit anything else (on the other side of the map)?
- Can we QAQC ALL Edits in a version?
- Is there any way to Audit the edits in GIS?
- Who did What, When, and Where?



Business Challenges – *CenterPoint* Challenges

- **Editing 24x7** including offshore staff
- Posting **100's of Sessions**/Versions per Day
- Do Not Have Time to Review Each Version
- Custom Batch Reconcile & Post (BRP)
- Need Ability to Query Edits by Version / Editor
after Posting has Occurred
- Need to Keep History of Version Edits Indefinitely
- Need to Query for Feature Level Edits Across Posted Versions *based on Attribution*
 - Ex: Work Order / Service Request

Solution: *ALL Edits Report & QA Tool*

Total Control and Tracking Capabilities of Edits

- Esri Versions
- Schneider Electric Sessions / Designs

Interactive Analysis Before Posting

- Text-based Reports
- Graphical Representation on the Map

ALL Edits are Captured:

- Additions
- Changes / Updates
- Deletes

Save Full Report to Database For Later Viewing

ALL Edits Report & QA Tool

Run Automatically on Versions Prior to Post

- Schneider Electric *PX Subtask*
- Schneider Electric *GDBM Action Handler*
- CenterPoint uses *SSP API* via custom Batch Reconcile & Post Application

Edit Report & Shape Data Saved to Database

- Saved in SSP Format
- Version can be Posted
- Report can be Viewed *AFTER Posting Has Occurred*
- Includes Shape Data
- Allows For Review of Edits After the Fact

Retrieve All Edits for Posted Version

Form to Query the Posted Versions

SSP Retrieve All Edits

Search Criteria

Version Name: Owner:

Create Date: Report Date:

	Field Name	Field Value
▶	SR Number	
	Job Cost #	

****If more than one field value is specified, an "OR" is applied to the search.

Search Against All Edits Datastore: Active Archive

Select a Report:

	Version Name	Owner	Create Date	Report Date
--	--------------	-------	-------------	-------------

Records found: 0 Please modify your search criteria.

Search on Version Name

Configure as a dropdown or as a text box that supports wildcard characters

- Search for all Versions with Work Order Number
 - Ex: WO_1234
 - Ex: SN_ or DN_

The screenshot shows the 'SSP Retrieve All Edits' dialog box. The 'Search Criteria' section has 'Version Name' set to 'No Preference' and 'Owner' set to 'No Preference'. The 'Create Date' and 'Report Date' are both set to '9/23/2014'. A table below shows 'Field Name' and 'Field Value' for 'SR Number' and 'Job Cost #'. The 'Search Against All Edits Datastore' is set to 'Archive'. A callout window titled 'Search Criteria' shows the 'Version Name' dropdown menu with options: 'No Preference', 'SN_223', 'SN_240', 'SN_255', 'SN_370', and 'SN_437'. The 'Select a Report' section is empty. The status bar at the bottom says 'Records found: 0 Please modify your search criteria.' and has 'OK' and 'Cancel' buttons.

SSP Retrieve All Edits

Search Criteria

Version Name: No Preference

Owner: No Preference

Create Date: 9/23/2014

Report Date: 9/23/2014

Field Name	Field Value
SR Number	
Job Cost #	

***If more than one field value is specified, an "OR" is applied to the search.

Search Against All Edits Datastore: Active Archive

Select a Report:

Version Name	Owner	Create Date	Report Date
--------------	-------	-------------	-------------

Records found: 0 Please modify your search criteria.

OK Cancel

Search Criteria

Version Name:

- No Preference
- SN_223
- SN_240
- SN_255
- SN_370
- SN_437

Select a Report:

Search on Version Owner

Dropdown of all owners of posted versions:

- Search for all Versions posted by a specific user

SSP Retrieve All Edits

Search Criteria

Version Name: No Preference

Owner: No Preference

Create Date: 9/23/2014

Report Date: 9/23/2014

Field Name	Field Value
SR Number	
Job Cost #	

Search

Search Against All Edits Datastore: Active Archive

Select a Report:

Version Name	Owner	Create Date	Report Date
--------------	-------	-------------	-------------

Records found: 0 Please modify your search criteria.

OK Cancel

Owner:

No Preference

Bob

John

Peter

Search on Feature Attributes

Configurable list of attributes searched across all tables / feature classes

- “OR” SQL search applied because of storage format
- Will locate all versions with a match

SSP Retrieve All Edits

Search Criteria

Version Name: No Preference Owner: No Preference Clear

Create Date: 9/23/2014 Report Date: 9/23/2014 Search

Field Name	Field Value
SR Number	
Job Cost #	

****If more than one field value is specified, an "OR" is applied to the search.

Search Against All Edits Datastore: Active Archive

Select a Report:

Version Name	Owner	Create Date	Report Date
--------------	-------	-------------	-------------

Records found: 0 Please modify your search criteria.

OK Cancel

Field Name	Field Value
SR Number	
Job Cost #	

****If more than one field value is specified, an "OR" is applied to the search.

Provide Archival of Edits

Active tables get large over a period of months

- Searching active tables slows down
- Batch DB job provided to move edits from active to archive based on a schedule
- Moves edits older than a configured timeframe
 - Ex. Older than 3 months
- Archive is slower but searches run much less frequently

SSP Retrieve All Edits

Search Criteria

Version Name: No Preference Owner: No Preference Clear

Create Date: 9/23/2014 Report Date: 9/23/2014 Search

Field Name	Field Value
SR Number	
Job Cost #	

****If more than one field value is specified, an "OR" is applied to the search.

Search Against All Edits Datastore: Active Archive

Select a Report:

Version Name	Owner	Create Date	Report Date
--------------	-------	-------------	-------------

Search Against All Edits Datastore: Active Archive

Version Search Results

All matches displayed

- Select any version to load All Edits Report
- Loaded on top of SDE.Default in ArcMap
- Shows Full Edit Report for Version
 - (though version no longer exists)

SSP Retrieve All Edits

Search Criteria

Version Name: No Preference Owner: No Preference Clear

Create Date: 9/23/2014 Report Date: 9/23/2014 Search

Field Name	Field Value
SR Number	
Job Cost #	

***If more than one field value is specified, an "OR" is applied to the search.

Search Against All Edits Datastore: Active Archive

Select a Report:

Version Name	Owner	Create Date	Post Date
SN_370	Bob	01/18/2012	01/18/2012
SN_437	Joe	01/18/2012	01/18/2012

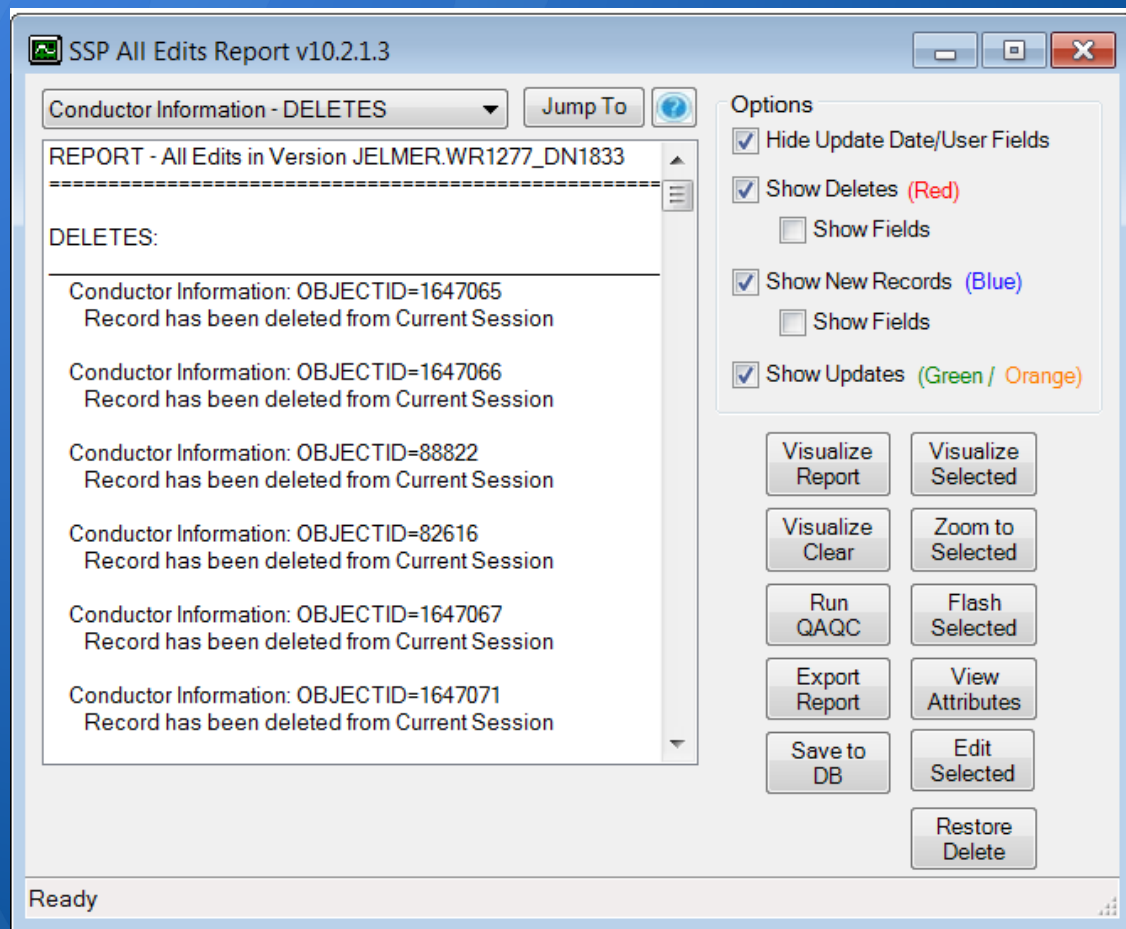
Select a Report:

Version Name	Owner	Create Date	Post Date
SN_370	Bob	01/18/2012	01/18/2012
SN_437	Joe	01/18/2012	01/18/2012

OK Cancel

Simple User Interface

Shows ALL Edits in the Current Version

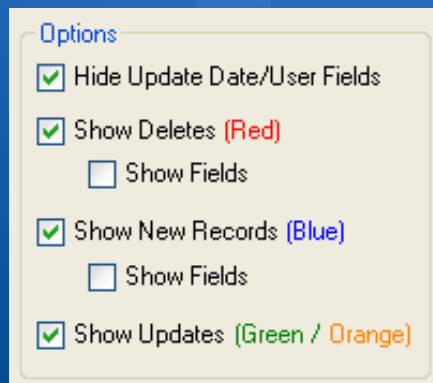


Text-based Edit Report

Deletes: Record Type, Objectid, and all attributes of the deleted record

Adds: Record Type, Objectid, and all attributes of the added record

Updates: Record Type, Objectid, and list of all fields that changed with the original AND updated values



Options

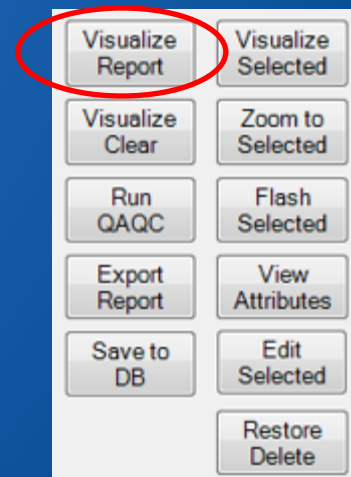
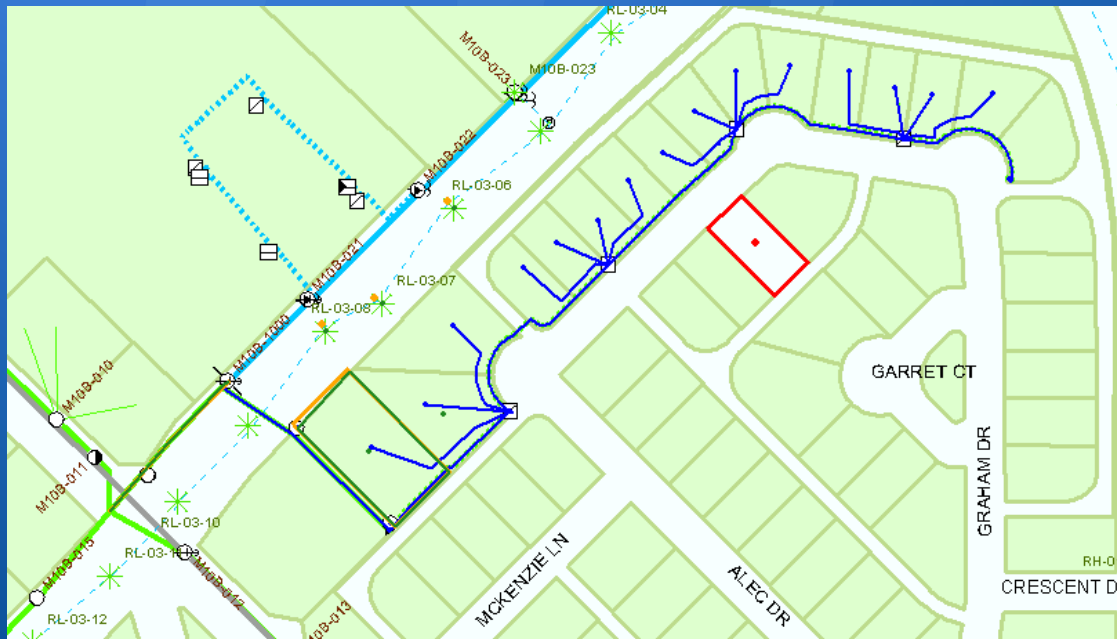
- Hide Update Date/User Fields
- Show Deletes (Red)
 - Show Fields
- Show New Records (Blue)
 - Show Fields
- Show Updates (Green / Orange)

- Quickly and Effectively Review the Edits
- Toggle the checkboxes to update the report
- Useful when QA'ing against other sources

Report Visualization

View the full extent of the edits in the version

- Additions – Blue
- Deletions – Red
- Updates - Green (with Orange showing original geometry)

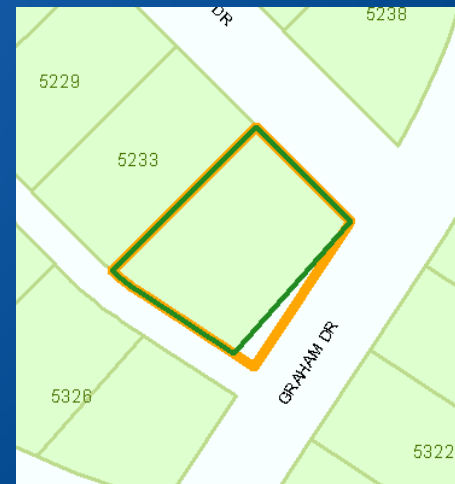
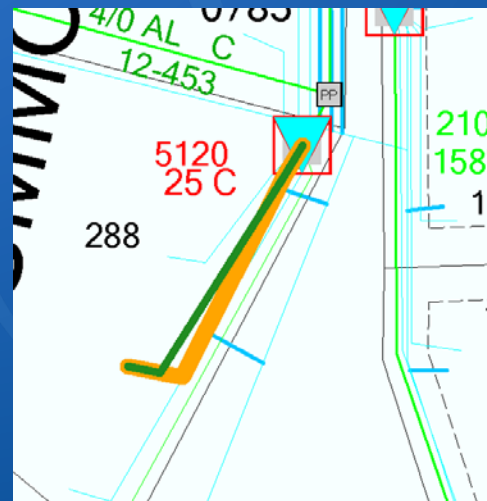
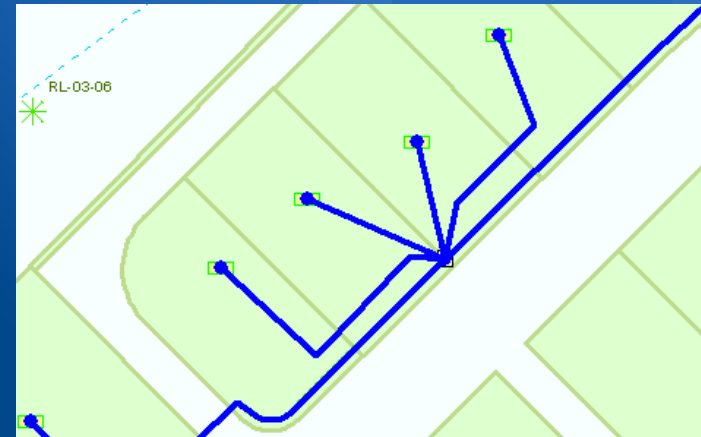
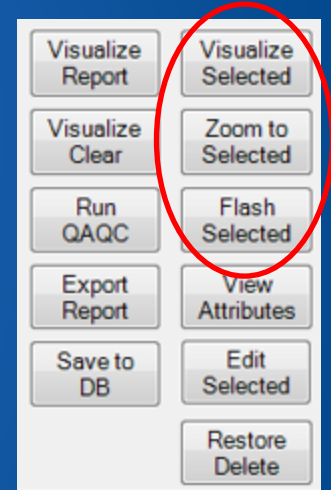


Allows QA to easily identify edits outside of designated area

Report Visualization

Select Any Item in the Report to:

- Zoom to Selected
- Flash Selected
- Visualize Selected
- Visualize Clear



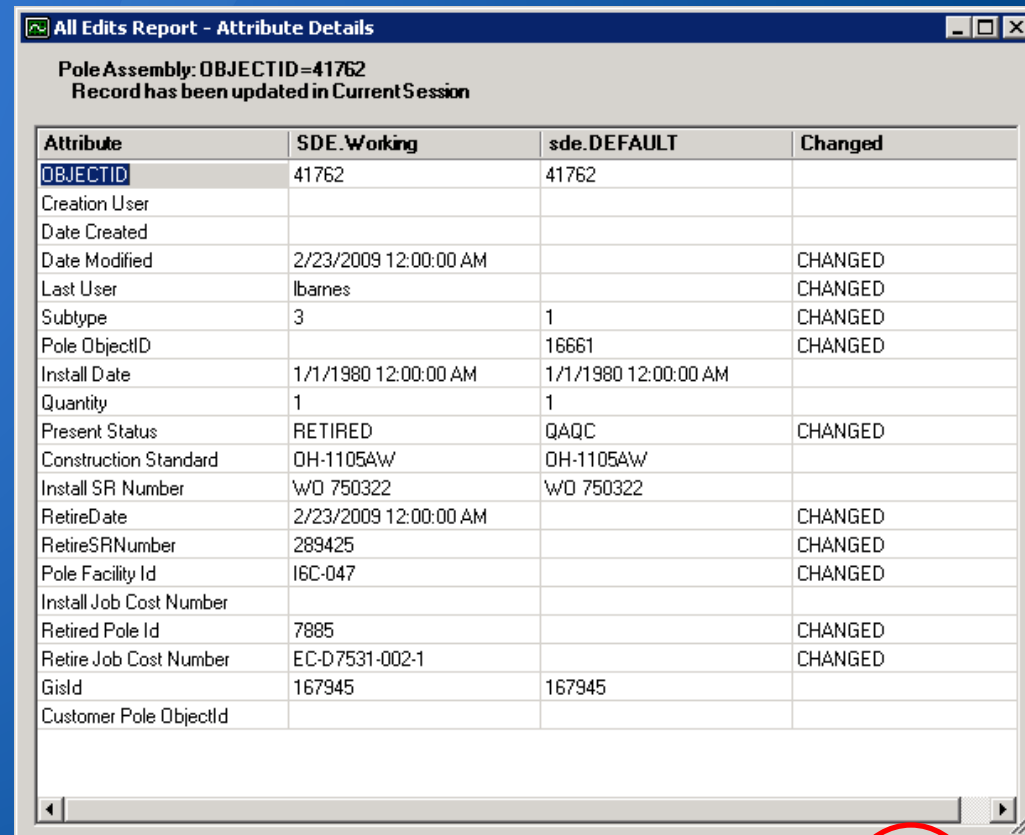
Report QA & Historical Tracking

View Attributes

- See changed fields
- Current Version vs. Parent Version

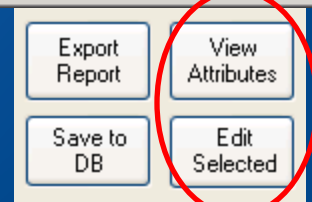
Edit Selected

- Selects the record on map
- Activates Attribute Editor



All Edits Report - Attribute Details
Pole Assembly: OBJECTID=41762
Record has been updated in Current Session

Attribute	SDE.Working	sde.DEFAULT	Changed
OBJECTID	41762	41762	
Creation User			
Date Created			
Date Modified	2/23/2009 12:00:00 AM		CHANGED
Last User	lbarnes		CHANGED
Subtype	3	1	CHANGED
Pole ObjectID		16661	CHANGED
Install Date	1/1/1980 12:00:00 AM	1/1/1980 12:00:00 AM	
Quantity	1	1	
Present Status	RETIRED	QAQC	CHANGED
Construction Standard	OH-1105AW	OH-1105AW	
Install SR Number	WO 750322	WO 750322	
RetireDate	2/23/2009 12:00:00 AM		CHANGED
RetireSRNumber	289425		CHANGED
Pole Facility Id	16C-047		CHANGED
Install Job Cost Number			
Retired Pole Id	7885		CHANGED
Retire Job Cost Number	EC-D7531-002-1		CHANGED
GisId	167945	167945	
Customer Pole ObjectID			



Report QA & Historical Tracking

Run 3rd Party QAQC

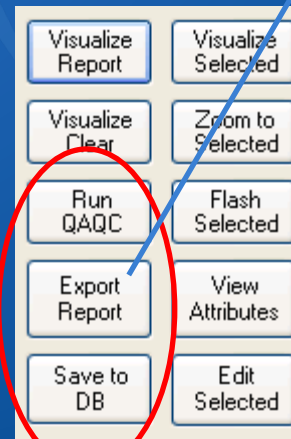
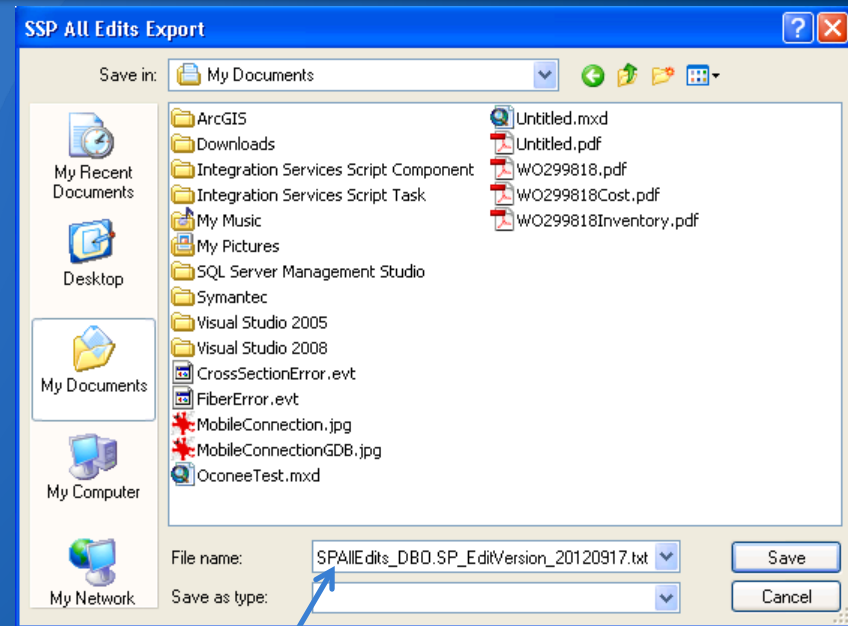
- Esri /ArcFM
- QA All Edited features & objects

Export Report

- Text-based Report
- Named with Version Name and Date

Save to DB

- Stores Report in Geodatabase
- Saves Edited Features
- Saves Edited Shapes



Restore Delete

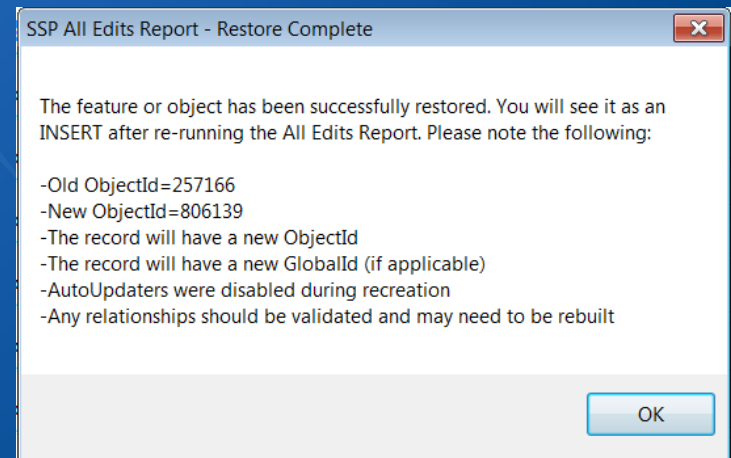
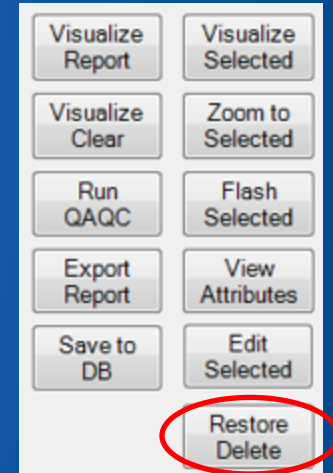
Quick way to recreate records that were incorrectly or inadvertently deleted...

Uses deleted report data to *recreate the record*

- Creates a new record matching deleted record
- ObjectID is reset
- GlobalID is reset
- AU's Disabled to recreate record as it previously existed

Relationships Work:

- Rels not based on OID or GlobalID
- Destination objects in relationships



Business Benefits

Enhanced Confidence in the GIS Data

- All Versions Written to All Edits Reports in GDB
- Fully Automated Reporting via GDBM
- Ability to Review Versioned Edits AFTER Posting
- Ability to Locate Versioned Edits by Attribute
- Active & Archive Data Store

Allows CenterPoint to maintain their high volume of version editing and posting while spending time in the most efficient areas (i.e. not on QAQC of every version).

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Questions?

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