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#### TRAINING GUIDE

# GIS Editing Tools for ArcGIS Desktop

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# Editing Tools for ArcGIS Desktop

Lucity GIS contains an editor extension that tracks edits made to the Lucity GIS geodatabase and ensures that those edits are synchronized with the Lucity<sup>M</sup> databases.

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#### Lucity GIS Editor Toolbar

Lucity GIS Edit Tools		<b>▼</b> X
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The table below lists the available tools. Click on the button name links to view detailed descriptions and explanations.

Tools

	Process Log	Toggles a dockable window that provides the ability to log events related to the Lucity GIS tools
•	GIS Edit Session Status	Displays the current <u>edit session status</u> (Red- session not enabled, Yellow-session is initializing, Green- Session is enabled).
aŭ	Lucity Data Loader	Imports/updates data to the geodatabase and Lucity database
1	Update Spatial Relationships	Forces configured spatial relationships to update
S	Force Synchronization	Forces features to synch with the Lucity database
*	Lucity Delete tool	Deletes features from both the geodatabase and the Lucity database
<u>F1</u> -	Sewer Tools	Various tools to renumber, merge and split sewer features
<u>P.</u> -	Storm Tools	Various tools to renumber, merge and split storm features
•	Street Tools	Various tools to renumber, split, merge, define, dissolve, and generate street features
₿ -	Water Tools	Various tools to renumber, merge and split water features
Û	Clear Lucity Edit Cache	Clears outstanding edits in the Lucity edit cache
Disable Lucity Editor	Disable Lucity Editor	Disables the Lucity Editor extension
Settings	Lucity Settings	Controls various user and mxd specific settings
Alias Import	Lucity Alias Import	Sets Lucity alias names based upon current map configuration
/	Direct Spatial Updates	Tool that directly updates Lucity from GIS based on spatial relationships found in the map. This is performed outside an edit session and without updating any GIS fields.
0	Lucity Help	A shortcut to the online Lucity GIS help manual was added. All tools also have an F1 shortcut to the related help menu topic.

### Editing Your Geodatabase

The Lucity Editing extension runs in the background of ArcMap. Every time an ArcMap edit session begins the Lucity extension checks to see if any Lucity layers are in the edit workspace. If there are Lucity Features in the edit workspace the extension will activate itself. During the edit session the extension will track the changes made inside any feature classes linked to Lucity and writes them to an edit cache in the GBAComm database. It automatically tracks new features, and attribute changes. When the ArcMap edit session is saved the changes that the extension has tracked are synced into the Lucity Databases and become permanent. There are situations where it is required that users use special tools provided by Lucity to make edits. These situations have to do with Common ID fields being changed, features being deleted, etc...

- In order to start editing your geodatabase, you will need to go to Editor > Start Editing. This command is on the ESRI Editor Toolbar. If you do not have an editor toolbar on your screen, go to View > Toolbars and you should be able to turn it on.
- When you start editing, Lucity GIS checks to see if you are logged in yet. If you have not yet logged into Lucity GIS in this ArcGIS session, you will be prompted to login.

Log On	
User Name	Password
Cancel	ОК

Note: This is the same login as your standard Lucity login.

• It processes for a few moments to retrieve the necessary data and settings, and will prompt you that upon completion of edits, the desktop application will be updated. You will only see this prompt once during the ArcGIS session.

Lucity GIS 🛛 🛛 🛛	
Lucity will now be updated with all edits	
ОК	

Warning: If you start editing a Lucity geodatabase and do not receive this message, something is wrong. Stop editing, close your project, reopen it, and try to start editing again. If you still do not receive this message, review the Lucity process log for further information. If needed contact a Lucity support representative. Another indicator that there is something wrong with the edit session is the color of the Lucity Edit Session Status.

• Once the edit session starts, the Lucity GIS Editing toolbar will be enabled. Also, the Edit Session Status will change from yellow to green.



• When saving edits, you will receive the prompt, "Lucity will now be updated."

#### Saving Edits to Geodatabase

1. When you have finished making you edits, go to Editor>>Stop Editing. If you select to save your edits, you will be prompted that Lucity is going to be updated with your edits.

Lucity GIS 🛛 🔀		
Lucity will now be updated with all edits		
ОК		
]		

- 2. It will pause for a few moments to figure out what needs to be updated. You will see a progress bar in the lower right-hand corner of ArcMap and the Edit Session Status will be yellow. Do not close ArcMap while this is processing or the changes will not be made to the desktop.
- 3. The progress bar runs twice to 100%. The first time, it is reordering features so that they are updated into the desktop in the correct order and retrieves necessary information needed for the synchronization. Depending upon how many features you are updating you may see a brief pause or a substantial pause at 100% during the first progress bar. This pause will depend upon your computer memory and how many features you updated.
- 4. After the second progress bar completes, it will automatically close. This means that the desktop application updates are finished and the Edit Session Status will be green.

Notes: When you delete a feature from the map, it does not delete the feature from the desktop; it changes its status to "Not in Map". To tell whether or not something is in the map, open the Inventory module for that feature and find the feature you are interested in. If the "Show in Map" button is enabled, the feature is in the geodatabase. If the "Show in Map" button is disabled, the feature is not in the geodatabase. There is a special delete tool that will allow you to delete features both in the map and in the desktop application.

#### Lucity Edit Session Status

On the Lucity Edit toolbar there is a tool that indicates the status of your edit session. When ArcMap is out of the edit session the circle is grey. When in an edit session, the color changes between yellow, green or red.



- Yellow- Processing edits or initializing
- Green- Tracking edits
- Red- Not tracking edits

Note: If you are having trouble editing, check to make sure that this status is either yellow or green.

#### Editing Behind the Scenes

There are three checks performed to determine editing status:

- The workspace matches the Lucity geodatabase.
- The version of the geodatabase is configured with Lucity.
- The feature classes are linked to Lucity.

#### Processes before saving edits:

• If the feature's CommonID field is updated, the extension will check to see if the feature already exists in Lucity. If it does exist, the extension will populate the feature's attribute data with the information in Lucity.

Note: This is not the case if the GIS field is not null or if the Lucity field is null.

• If a shape or area is changed and the always update length are option is checked in the Feature Class setup, then the Lucity length and area fields will be updated.

#### Business Rules for Editing

Even with a custom geodatabase integration, there are still some standard business rules that must be followed to meet Lucity requirements. The following are the business rules adhered to by Lucity. It is not required for all data in the geodatabase to follow these rules; Lucity places no restrictions on data in the geodatabase. However, only those features that meet the requirements will propagate to the Lucity inventory database and will be accessible in the desktop inventory modules.

- 1. Every feature must have a unique text identifier. This is defined as the "Feature Class Common Link Field 1" in the Custom Geodatabase form.
- 2. Sewer pipes and storm pipes must be drawn or digitized in direction of flow.

#### Clear Lucity Edit Cache

All edits made during an ArcMap edit session are tracked in the GBAARCED table in the LucityComm database. When you save your edit session the *Lucity GIS* Extension will process through the GBAARCED table updating the Lucity database with the edits.

You may find that it is necessary to clear the edit cache. Some typical reasons may include:

- Saving your edit session after running the Update Spatial Relationship and Force Synchronization tools takes too long to process.
- If you clear the edit cache you can then re-select a smaller number of features and then run the Force Synchronization tool on the new set.
- You performed the "Calculate" function on a field that either isn't in the desktop or the desktop doesn't need to be updated with the values. Whenever you run the "Calculate" function on the field, every record that is modified is added to the GBAARCED table. Thus, saving your edits will take additional time processing through the GBAARCED table.
- A bad record exists in the GBAARCED table. It is recommended that you contact a Lucity support representative to confirm that a bad record exists and the GBAARCED table can be cleared.

Important: If you clear the Lucity Edit Cache it will clear all records added by the current user. The Lucity database will not be updated with edits that are cleared from the Lucity Edit Cache! You will either need to perform the edits again in a new edit session, or run the Force Synchronization tool on the previously edited features in order for the Lucity database to get updated correctly.

To clear the Lucity Edit Cache:

1. Start an edit session in ArcMap. It is important that you are logged into the desktop application as the user whose edits you wish to remove from the Lucity Edit Cache. If you are not logged into the program as that user, you will need to restart ArcMap so that you can log back into the desktop application as the correct user.

Log On	
User Name	Password
Cancel	ОК

2. Select Clear Lucity Edit Cache on the Lucity GIS Edit Toolbar.

🗄 🕒 🥒 🖌 S 🐰   🖾 - 🖳 - 🧱 - 🎙 - Clear Lucity Edit Cache 🔲 Disable Lucity Editor	Settings	Ŧ
---	----------	---

3. A dialog will appear listing how many features will be deleted from the Lucity edit cache. To continue and have the records removed, click "Yes".

ucity GIS	
This will clear all of the features you currently have in the Lucity edit cache. There are currently 304 features in the edit cache, 304 of which are yours. Do you want to proceed?	
Yes No	

## Lucity Data Loader

The Lucity Data Loader allows users to perform a mass data import and/or update to the geodatabase and Lucity. The tool will import features into both a Lucity linked feature class and the corresponding Lucity table at the same time. It can also be used on existing features to update spatial and attribute data. The Lucity GIS Data Loader can perform the following functions:

- Insert new features into the geodatabase and Lucity database
- Update spatial information for existing features in the geodatabase
- Update attribute information for existing features in the geodatabase and Lucity database

To use the tool, complete the following steps:

1. In ArcMap, start an edit session.

2. Click on the Data Loader tool an on the Lucity GIS Edit toolbar. The following form will appear:



3. Select the destination feature class from the drop down list. Only editable feature classes that are linked to Lucity will be listed.



4. Select the source data. Use the browse button to navigate to the location of the source data. The source data can be a feature class or shapefile.

Step 2: Select source data	
(This is the data that will be imported)	

5. Select a saved field mapping (Optional). If this is a routine import in which users previously saved the field mapping they can select the mapping from the list to automatically load the saved settings.

Step 3 (Optional):	Select saved field mapping for feature class	
test3 FleetTest		
inverted.		
Load Ma	pping Delete Mapping	

6. Enter a filter syntax (Optional). If users wish to limit the records that are imported from the source file they can specify the select filter criteria in the text box.

Note: Only include the syntax that follows the "SELECT \* FROM <tablename> WHERE". For example: MODEL = 'FORD'

- 7. Using the grid on the right, map the source fields to the destination fields.
  - Use the field lookup button for a list of fields from the source data
  - If a field needs a constant value assigned, type the constant value directly into the grid with a leading "=". For example, if a field should be updated so all records have the value "Hank" enter "=Hank".

	Feature Class Field	Import Field/Value	Field Lookup
	FLG_VEH_CD (Reet ID)	VEHICLENUM	
	FLG_VEH_TY (FLG_VEH_TY)		
	FLG_CL_CD (FLG_CL_CD)		
	FLG_MAN_CD (FLG_MAN_CD)		
	FLG_MODEL (FL_MODEL)	MODEL	
0	FLG_OPERATR (FLG_OPERATR)	=Hank	
	FLG_ID (FLG_ID)		
	FLG_DB (In GBA Database?)		

- 8. Finally, specify any additional options:
  - Save Field Mapping. Check this box to save the field mapping. The next time the Lucity Data Loader tool is used on that feature class the saved mapping will be available.
  - Allow features without IDs to be imported. This special option for importing data allows data to be imported without IDs. This is available so that data can be brought into the geodatabase without an ID and later the IDs can be entered directly into the geodatabase itself. An example of this would be if a series of meters were GPS in the field, but not numbered, they could be imported into the geodatabase and numbered within the geodatabase. If you choose to import data without IDs it is critical that the data is only imported once; otherwise, the data will continually append itself to the geodatabase.
  - Do not import null/empty string attribute data. If a field in the source record contains a null/empty string value the value will not be sent to the destination record in the feature class or Lucity database. This is especially important when using the Lucity Data Loader to update existing features.
  - Do not overwrite a non-null value with null/empty string. If using the Lucity Data Loader to update an existing feature this will prevent existing information from being overwritten with null/empty string data.
- 9. Click Import to begin the import process. The import will automatically save your edit session after performing the import. Click Yes, on the following dialog to start the import process.

Note: During the import process any spatial relationships and number generators that are setup will automatically be run

Lucity GIS		X
This tool will automatically	save your edit session AFTER perfo	rming the import.
Are you sure you want to pr	oceed?	
	Yes	No

10. The process of the import will be displayed in the lower right-hand corner of the ArcMap window. Once complete a dialog similar to the following will be displayed to indicate the results of the import.

Lucity GIS	x
Data was successfully loaded! Out of 3 records: 2 were inser were skipped. The edit session will now be saved to update successful changes.	ted, 1 were updated, 0 Lucity with the
	ОК

# Update Spatial Relationships

#### 💋 Update Spatial Relationships tool

To aid in general editing and maintaining relationships between features, *Lucity GIS* has a special functionality that will automatically update features in a feature class based on their location relative to features in other feature classes. For example, most clients will want to have a relationship set up between Sewer Pipes and Sewer Structures so that sewer pipes are automatically assigned the upstream and downstream structure numbers. If this spatial relationship is not set up, the user has to maintain these fields manually. Another example is to create a relationship between the parcel feature class and the sewer service lateral feature class so that when new service laterals are drawn, they are automatically assigned an address based on the parcel proximity.

To use the tool, complete the following steps:

- 1. In ArcMap, start an edit session.
- 2. Click on the Update Spatial Relationships tool 🗾 on the Lucity GIS Edit toolbar.
- 3. If there are features currently selected in the map, you will receive a message similar to the one below. This verifies how many features are currently selected. To continue, click "Yes".

Lucity GIS
You currently have 51 features selected. Do you want to update spatial relationships for these features?
Yes No

Note: If no features are currently selected, using the Update Spatial Relationships tool drag a box around the feature(s) you want updated.

4. A status bar will appear in the lower right- hand corner of ArcMap showing the progress of the update. After the status has reached 100% you must save your edit session to finish the update process.

Note: Do not use this tool to force features to synchronize to the desktop application; instead, use the Force Synchronization tool. This tool will not synchronize features that are not the target of a spatial relationship.

Note: It is not necessary to use this tool on features you are currently editing; the desktop application automatically updates spatial relationships anytime you make any changes to a feature.

This tool is most commonly used for these situations:

- 1. On data loaded using the ESRI data loader to update upstream and downstream structure numbers on sewer pipes and storm conduits.
- 2. On any other data loaded using the ESRI data loader that participates in spatial relationships. For example, if trees are loaded using a data loader and you want to assign trees to the streets they associated with (if they are close enough to a street to be considered a street tree), you can use this tool to select the trees. If the street layer is in the map, and if you have the relationship setup, it will update the trees to assign an attribute with the street number.
- 3. In situations where spatial relationships did not get updated due to an error in the software.
- 4. In situations where you have created new spatial relationships among your features. Since the system does not automatically run the new relationship on existing features you would need to use this tool to update the database.

Note: If, after using this tool, the attributes do not update as you are expecting them to update, it is possible that you do not have the features snapped, or it is possible that you do not have the spatial relationship properly defined.

Note:\_\_\_

#### Force Features to Synchronize with the Desktop Application

S The Force Synchronization tool will update the Lucity database with the data from the selected features in the geodatabase without making any changes to the features.

Note: This tool DOES NOT update the geodatabase with information from the desktop application.

To force features in the map to be synchronized with Lucity:

- 1. In ArcMap, start an edit session.
- 2. Click the Force Synchronization tool <sup>S</sup> on the *Lucity GIS* Edit toolbar.
- 3. If there are currently selected features, you will receive a message similar to the one below. This verifies how many features are currently selected. To continue, click "Yes".

Lucity GIS
You currently have 345 features selected. Do you want to force these to synchronize to Lucity?
Yes No

Note: If no features are currently selected, using the Force Synchronization tool drag a box around the feature(s) you want updated.

4. A status bar will appear in the lower right hand corner of ArcMap showing the progress of the synchronization. After the status has reached 100% you must save your edit session to finish the synchronization process.

This tool is most commonly used for the following situations:

- 1. To update the Lucity database with edits made to features outside of an edit session, such as running the ESRI calculate tool on a field outside an edit session.
- 2. To update the Lucity database with edits made to features during an edit session in which the Lucity GIS Extension was NOT loaded.
- 3. In situations where the feature didn't get synched to the Lucity database due to an error in the software.

Note: The Force Synchronization tool WILL NOT update the Lucity database correctly if the following edits were made in an edit session in which the Lucity GIS Extension was not loaded: Line Splits, Line Merges, Renumbering Features, Feature Deletes. These types of edits MUST be made during an edit session in which the Lucity GIS Extension is loaded and using the appropriate Lucity edit tools.

## Deleting Features from the Map

The Lucity GIS delete tool *w* will delete all selected features from both the geodatabase AND the Lucity database. Use extreme caution when using this tool to prevent the unintentional deletion of features.

To delete features from both the geodatabase and the desktop application:

- 1. In ArcMap, start an edit session.
- 2. It is highly recommended that you modify the selectable layers in your map using the ESRI selection window in the table of contents. Only make selectable the layer(s) in the map from which you wish to delete features. A check placed in the box to the left of the layer indicates that the layer is selectable.

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Selectable (no features selected)		^
🚸 General Custom	🖌 🖓 O	
🚸 Solid Waste	M 🛛 🖸	
🔅 Equipment	M 🛛 🖸	
🔅 Fleet	M 🛛 0	
🚸 Facility Site Asset	M 🛛 0	
🚸 Facility Furnishing	M 🛛 0	
👴 Facility Door	M 🛛 0	
💠 Facility Roof	M 🛛 0	
💠 Park Playground Equipment	M 🛛 0	
💠 Park Furniture	M 🛛 0	

- 3. Click the Lucity Delete tool **b** on the *Lucity GIS Edit* toolbar.
- 4. Using the Lucity Delete tool, select the feature(s) in the map you wish to delete by drawing a box around the feature(s).
- 5. The following prompt will appear with the number of selected features and asking for confirmation of the delete.



6. The selected features will automatically be deleted and they should no longer appear in the map. To complete the deletion process users must save their edit session. Once the save edit process has been completed, the features will no longer exist in the map or in Lucity.

Note: If you accidentally deleted the wrong feature in the map using the Delete tool, you can recover this feature by: NOT saving the edit session, or by using the Undo function to undo the delete and then clearing the Lucity Edit Cache by selecting Editing Tools>>Clear Lucity Edit Cache on the Lucity GIS Edit toolbar.

#### Disable Lucity Editor

To disable Lucity GIS editing, place a check mark in this box Disable Lucity Editor. When this box is checked you will not receive any Lucity editing messages and your edits will not be updated in the Lucity databases.

Note: This setting is only active during that ArcMap session. If you exit the map and reopen it, you will need to check the option again if you do not want Lucity editor enabled.

#### Settings

The settings option allows you to set up defaults specific to the .mxd or user.

🔜 Lucity GIS Settings	
MXD Specific Settings Currently logged in client: Logout	
Current default client:	
New default client: Demo SQL Server	~
Save new default client value	
User Specific Settings: Search Tolerance: 7 Disable 'Lucity will now be updated' prompt	
when saving edits	
Uisable Lucity Editor Extension	
Save Close	.::

- 1. MXD Specific Settings:
  - Click "Logout" to log out of the current client.
  - Choose a new default client from the drop down list.
  - Check the "Save new default client value" to set the new client to the default
- 2. User Specific Settings:
  - The search tolerance determines how close you need to be to a feature in the map before the Open Module tool will recognize it or select it. Enter a new search tolerance (in pixels) in the field provided.
  - To disable the "Lucity will now be update" prompt for the user, check the box labelled "Disable 'Lucity will now be updated' prompt when saving edits.
  - To disable the Lucity editor extension for a specific user, check the box labelled "Disable Lucity Editor Extension."

#### Sewer Editing Tools

Click on the arrow next to the Sewer tool to view the Sewer Editing menu.

🛅 🔵   🍰 🥖 S 🐰	<u>R</u> -	🏊 = 🗱 = 🔰 = 🗎	Disable Lucity Editor Settings Alias Import
	R	Sewer Renumber	
	35	Sewer Split	
	<u>105</u>	Sewer Merge	

- Sewer Merge is only enabled when two linear features are selected in the map.
- Sewer Split is only enabled if one linear feature is selected in the map.
- Sewer Renumber is only enabled if one feature is selected in the map.

#### Merging Sewer Pipes

Merge Sewer Pipe Tool

The Merge Sewer Pipe tool will merge two sewer pipes in the map and in the *Lucity* database. The tool also offers the ability to delete the associated sewer structure from the map and the *Lucity* database.

Note: The Sewer Merge Tool is only enabled if all of the following conditions are met: (1) You have two features selected in the map (2) The features selected are linear

To merge two features in the map:

- 1. In ArcMap, start an edit session.
- 2. Select two adjacent sewer features in the map. You can do this by dragging a box around the two pipes or by clicking on one pipe and then holding down the SHIFT key while clicking on the second pipe.
- 3. Click the Sewer Merge tool on the Lucity GIS Edit toolbar.
- 4. The merge tool requires that edits be saved before and after performing the merge. You will receive one of the following prompts asking you if you want to proceed.

Lucity GIS	
This tool will automatically save your edit session AFTER performing the merge.	
Are you sure you want to proceed?	
Yes No	
Lucity GIS	
It has been detected that you have unsaved edits. This tool will automatically save your edit session	BEFORE and AFTER performing the split. Are you sure you want to pro
Yes No	

5. Click Yes and the following dialog will appear.

Existing From Pipe E Alt PipeID: Fe From Feature Type*: C Sanitary Structure Inventory C From Feature ID*: C	xisting Split Feature ature Type: Sanitary S Common ID: 117000 Don't delete feature	truct	ting To Pipe Alt PipelD: 'eature Type":	
All ripelD: Pe From Feature Type*: C Sanitary Structure Inventory From Feature ID*: C	ature Type: Sanitary 5 Common ID: 117000 Don't delete feature	To F	eature Type":	
From Feature Type": C Sanitary Structure Inventory C From Feature ID*: C	Common ID: 117000 Don't delete feature	ToF	eature Type":	
From Feature ID*:	Don't delete feature		a second and a second	and the second second
From Feature ID*:			Sanitary Structure	e inventory
	Delete feature from GIS	only To F	eature ID*:	
116999 O	Delete from GIS and Lu	city	117001	
GIS Length: Lucity Length*: S	elect a status for the stru	cture: Gi	IS Length:	Lucity Length":
335.64933501440 335.65 N	/A	¥ 35	0.0007083470	350
Manual Entry     Use Lucity Auto Nor	nber O Use End	Point IDs	O Use Existing	Longer Pipe ID
New Pipe Length		Archive (Opt	ional)	
GIS Length: 685.65 Lucity Lev	ngth: 685.65	Arabica	in a state of a lateral	This will be an
🔿 Set Lucity Length – GIS Length 🔘 Use Lu	city Calculated Length	a pipe rec	cord in the Lucity	inventory
		module fo	or both of the pre	merged pipes.
New Pipe Attributes- Copy from		Archived pip	e status:	
O F F	Existing To Pine			

- Existing From Pipe: This is read-only information about the pre-merged from pipe.
- Existing Split Feature: This is the existing sewer structure information and lists the various merge options for the structure.
  - Don't Delete Feature: Select this option if you want to keep the structure in both the desktop inventory module and in the structure feature class.
  - Delete Feature From GIS Only: Select this option if you want to keep the structure in the desktop inventory module, but would like the feature removed from the structure feature class. Note: This option is disabled if the tool was unable to locate a structure within 1 map unit of the common end point for the two pipes or if the structure feature class is not editable.
  - Delete from GIS and Lucity: Select this option if you want to remove the structure from both the desktop inventory module and the structure feature class. Note: This option is disabled if the tool was unable to locate a structure within 1 map unit of the common end point of the two pipes, the structure feature class is not editable, or the structure doesn't exist in the desktop inventory module.
  - Structure Status: This combo box is only enabled if you choose an option that would keep the structure record within the desktop inventory. The combo box lists the various status types that are defined in the status pick list field in the desktop structure inventory module.
- Existing To Pipe: This is read-only information about the pre-merged to pipe.
- New Alt ID: You can choose to manually enter a new Alt Pipe ID, use a Lucity auto number (this option is only enabled if you have an Alt Pipe ID field in your feature class that is configured to use a number generator), use the end point IDs or use the Alt Pipe ID from the longer pipe.
- New Pipe Length: This option is only enabled if the tool calculates a difference between the GIS and Lucity pipe lengths. You can choose to set the Lucity length to be equal to the GIS length or you can use the Lucity calculated length.
- New Pipe Attributes-Copy from: You can choose to copy over the attributes from the premerged from pipe, pre-merged to pipe, or the longer pipe.

- Archive: (Optional) Select this option if you wish to maintain a record in the desktop pipe inventory module for both the pre-merged pipes. If you select this option, the pre-merged pipes will not be deleted from the desktop inventory module.
  - The status combo box lists the various status types that are defined in the status pick list field in the desktop sewer pipe inventory module.
  - Selecting this option will update the following information for the existing to and from pipe:
    - 1. The pipe status will be updated to the status selected from the list.
    - 2. The ability to create requests, work orders and PM/Work Template records against the pipe is now disabled. This is done by the tool updating the NT\_NOWORK field.
    - 3. The show in map is disabled for the pipe.
- Advanced Settings: This allows you to override the default settings that control what associations should be updated with the use of this tool.

Lucity GIS - Sewer Merge			
Existing From Pipe	Existing Split Feature	Existing To Pipe	New Pipe Associations
At PipelD From Feature Type* Sankary Structure Inventory From Feature ID* 115393	Feature Type: Sanitary St Common ID: 117000 Don't delete feature Delete feature from GIS Delete from GIS and Luc Select a status for the struct	At PipelD: To Feature Type*: Santasi Structure Inventory only To Feature ID*: aty 117001 https://www.linko.logi.com/sol/santability/	Place a check next to the modules you want to have associated to the new pipe A check will update all records related to the two pre-merged pipes so they are now associated to the new merged pipe.
Licely Lengin : Licely Lengin : 335 6433501440 335 65 New At PpelD (Optional) From Feature Type : 5 anitary Structure From Feature ID: 116393	N/A New Alt PipelD:	To Feature Type: Sanitary Structure I To Feature Type: Sanitary Structure I To Feature ID: 117001	Not having a check will keep the records related to the two pre-merged pipes associated to the pre- merged pipes.
New Pipe Length GIS Length 885.55 Lu Set Lucty Length = GIS Length O New Pipe Attributes: Copy from	city Length: 685.65	Archive (Dptional) Archive pre-merged pipes. This will keep a pipe record in the Luckly inventory module for both of the pre-merged pipes. Archived pipe status:	Construction Rehab V Overflows Requests V Work Orders
Existing From Pipe     O     Longer Pip     OK	Cancel	Advanced Settings *As listed in Lucity	Master Projects

- 6. When you have finished making selections, click OK.
- 7. The following message will appear when the process is finished.

Lucity GIS 🛛 🛛 🔀
Merge completed successfully!
ОК

Note:\_\_\_\_

#### Splitting Sewer Pipes

The Lucity GIS Extension includes this tool used for splitting sewer features in the geodatabase and in the Lucity database.

Note: This tool is only enabled if all of the following conditions are met: (1) You have one feature selected in the map (2) The feature selected is linear.

To split a sewer pipe in the map:

- 1. In ArcMap, start an edit session.
- 2. Select a sewer pipe in the map.
- 3. Click the Sewer split tool on the *Lucity GIS* Edit toolbar.
- 4. The split tool requires that edits be saved before and after performing the split. You will receive one of the following prompts.

Lucity GIS	$\mathbf{X}$
This tool will automatically save your edit session AFTER performing the s	lit.
Are you sure you want to proceed?	
Yes No	
	_
Lucity GIS	
It has been detected that you have unsaved edits. This tool will automatically save	your e
Yes	

5. Click Yes. Using the mouse, left-click on the line where you want the split to occur.



6. The following dialog will appear if you have more than one editable sewer structure feature class in the map. You will need to select a feature class that will contain the split structure.

Edit Tools- Select Insert Structure Feature Class				
Select feature class for inserted feature: Note: Only editable feature classes that ar will search the selected feature class for ar tolerance. A new feature will be created if OK	currently in the map are listed. This split tool     existing feature located within the edit snap an existing feature is not found.      Cancel			

Existing From Point Feature Type: Sanitary Structure Inventor Common ID: 119408	Existing Pipe Alt I GIS Length: 406	PipelD: 1194 Luci	108 1y Length: 406		Existing To Point Feature Type: Sanitary Structure Inventor Common ID: 119410
	Conflicting Pipe Length  Set Lucity Length = GIS	S Length () P	oportionally Split P	ipe in Lucity	
Splk ③ D 〇 P	istance Along the Line ercentage Along the Line	141.10	Orientation From Start From End F	Point of Line Point of Line	
New Alt PipeID for US Pipe (Opt Upstream Feature ID: 119408	ional) New Split Feature Ty	Point Info		New Alt Pipe Jpstream Fea	D for DS Pipe (Optional) sture ID: biFestureTy
Alt PipelD:	Common I	Structure Inve	ntory [	Oownstream	Feature ID: 119410
Manual Entry				Manual Er	tay
Use Lucity Auto Number	<li>Manua</li>	Manual Entry		Use Lucit	ty Auto Namber
Use End Point IDs O Use Luck		se Lucity Auto Number 💿 Use En		Use End P	foint ID s
Use Existing Pipe's Alt PipelD	)		(	Use Existi	ng Pipe's Alt PipelD
OK	Cancel Archive (C Archive (C Archive pipe re for the	ptional) e pre-split pipe. cord in the Luc pre-split pipe.	This will keep a ity inventory modul	Arch e Ope	ved pipe status:

- Existing From Point: This is read-only information for the existing upstream structure.
- Existing Pipe: This is read-only information for the existing pipe.
- Existing To Point: This is read-only information for the existing downstream structure.
- Conflicting Pipe length: This option is only enabled when length of the pipe in the desktop is different than the length of the pipe in GIS. If this option is enabled you can choose to set the Lucity length equal to the GIS length or you can proportionally split the pipe in the desktop to match the split in GIS.
- New Alt PipeID for US Pipe: You have the option to manually enter an Alt Pipe ID for the new upstream pipe, use a Lucity auto number (this is only enabled if you have auto numbers set up), use end point IDs, or use the existing pipe's Alt PipeID.
- New Split Point (Required): The new structure must be assigned a common ID before proceeding. You have the option to manually enter the common ID or use a Lucity auto number (this is only enabled if you have the option setup with the Geodatabase Configuration tool). Note: If a structure already existed at the point along the line where you chose to perform the split then this section will be disabled and will contain the existing structure information.
- New Alt PipeID for DS Pipe: You have the option to manually enter an Alt ID for the new downstream pipe, use a Lucity auto number (this is only enabled if you have auto numbers set up), or use end point IDs.
- Archive: (Optional) Select this option if you wish to maintain a record in the Lucity pipe inventory module for the pre-split pipe. If you select this option, the pre-split pipe will not be deleted from the Lucity inventory module.
- The status combo box lists the various status types that are defined in the status pick list field in the Lucity sewer pipe inventory module.
- Selecting this option will update the following information for the pre-split pipe:
  - 1. The pipe status will be updated to the status selected from the list.

- 2. The ability to create requests, work orders and PM/Work Template records against the pipe is now disabled. This is done by the tool updating the NT\_NOWORK field.
- 3. The show in map is disabled for the pipe.
- Advanced Settings: This allows you to override the default settings that control what associations should be updated with the use of this tool

Existing From Point Feature Type: Sanitary Structure Inve Common ID: 119409	ntor GIS Ler	Alt PipelD: 119408 S Length: 406 Lucity Length: 406		Existing To Point Feature Type: Sanitary Structure Invent Common ID: 119410	New Ppe Associations     Place a check next to the modules     you want to have associated to the     new pipes.     A check will update all records
	Conflicting	Pipe Length IV Length - GIS Length () P	reportionally Split Piper in	Lucity	related to the pre-split pipe so they are now associated to both of the two new pipes. Not having a check will keep the
	Distance Alor     Percentage A	Along the Line 141.10 OF from Start Point of Line From Start Point of Line From End Point of Line		of Line of Line	records related to the pre-split pe
New Alt PipeID for US Pipe Upstream Feature ID: 11 Downstream Feature ID:	e (Optional) 9408 IbFeatureTy	New Split Point Info Feature Type: Sanitary Structure Inve	ntory Down	at PipelD for DS Pipe (Optional) am Feature ID: biFeatureTy stream Feature ID: 119410	Construction     Fishab     Overflows
Ak PipelD:  Manual Entry  Use Lucity Auto Numbe  Use End Point ID:  Use EndPoint ID:	r.	Common ID: Manual Entry Use Lucity Auto Numb	Alt Pig	elD: nual Entry E Luchy Auto Number E End Point IDs E Entries Plant Ab Real D	Requests     Work Orders     PMAWork Templates     Master Projects
Othe Exiting Pipe's All	Cancel	Archive (Optional) Archive pre-split pipe.	This will keep a aity inventory module	Archived pipe status:	The following pipe will be updated in the case where only one pipe can be astociated (i.e. Requests) O Longer Pipe     New From Pipe     New From Pipe

- 7. When you have finished making selections, click OK.
- 8. The following message will appear when the process is finished.



Note:\_\_\_\_\_

#### Renumber a Sewer Structure

The Lucity GIS Extension includes this tool used for renumbering your sewer structures, pipes, pump stations and service laterals.

Note: This tool is only enabled if you have one feature selected in the map.

To renumber a feature:

- 1. In ArcMap, start an edit session.
- 2. Select a sewer feature in the map.
- 3. Click the Renumber Sewer Structure tool on the Lucity GIS Edit Toolbar.
- 4. The renumber tool requires that edits be saved before and after performing the renumber. You will receive one of the following prompts.

Lucity GIS
This tool will automatically save your edit session AFTER performing the renumber.
Are you sure you want to proceed?
Yes No
Lucity GIS
It has been detected that you have unsaved edits. This tool will automatically save your edit session BEFCRE and AFTE
Yes No

5. Click Yes and the following dialog will appear.



- 6. Enter the new number and select OK.
- 7. The following message will appear when the process is finished.

Lucity GIS 🛛 🛛 🔀
Renumber completed successfully!
ОК

GIS Editing Tools for ArcGIS Desktop (v2014r2)

#### Storm Editing Tools

Click on the arrow next to the Storm tool to view the Storm Editing menu.



- Storm Merge is only enabled when two linear features are selected in the map.
- Storm Split is only enabled if one linear feature is selected in the map.
- Storm Renumber is only enabled if one feature is selected in the map.

#### Merging Storm Conduits

Merge Storm Conduits Tool

The Merge Storm Conduits tool will merge two storm conduits in the map and in the *Lucity* database. The tool also offers the ability to delete the associated storm structure from the map and the Lucity database.

Note: The Storm Merge Tool is only enabled if all of the following conditions are met: (1) You have two features selected in the map (2) The features selected are linear

To merge two features in the map:

- 1. In ArcMap, start an edit session.
- Select two adjacent storm features in the map. You can do this by dragging a box around the two conduits or by clicking on one conduit and then holding down the SHIFT key while clicking on the second conduit.
- 3. Click the Storm Merge tool on the Lucity GIS Edit toolbar.
- 4. The merge tool requires that edits be saved before and after performing the merge. You will receive one of the following prompts asking you if you want to proceed.

Lucity GIS	
This tool will automatically save your edit session AFTER performing the merge.	
Are you sure you want to proceed?	
Yes No	
Lucity GIS	
It has been detected that you have unsaved edits. This tool will automatically save your edit session BEFO	RE and AFTER performing the split. Are you sure you want to proceed?
Yes No	

5. Click Yes and the following dialog will appear.

+ Lucity GIS- Storm Merge		
Existing From Pipe Alt PipelD: From Feature Type*: Storm Structure Inventory From Feature ID*: 4564	Existing Split Feature Feature Type: Storm Stru Common ID: 4562 Onl delete feature Delete feature from GIS Delete from GIS and Luc	Existing To Pipe           Alt PipeID:           To Feature Type":           Storm Structure Inventory           S only           To Feature ID":           ucity           4560
GIS Length: Lucity Length": 601.69031420225 754.3	Select a status for the struc None	Cluster: GIS Length: Lucity Length": 594.4457701435 275.5
New Alt PipelD (Optional) From Feature Type: Storm Structure Inv From Feature ID: 4564 Manual Entry Use Lucity Auto	e New Alt PipelD:	To Feature Type: Storm Structure Inv To Feature ID: 4560 Point ID: O Use Existing Longer Pipe ID
New Pipe Length GIS Length: 1196.14 Luci Set Lucity Length = GIS Length O U: New Pipe Attributes- Copy from:	y Length: 1029.8 ie Lucity Calculated Length	Archive (Optional)  Archive pre-merged pipes. This will keep a pipe record in the Lucity inventory module for both of the pre-merged pipes.  Archived pipe status:
O Existing From Pipe O Longer Pipe	O Existing To Pipe	
ОК	Cancel	Advanced Settings "As listed in Lucity

- Existing From Pipe: This is read-only information about the pre-merged from pipe.
- Existing Split Feature: This is the existing storm structure information and lists the various merge options for the structure.
  - Don't Delete Feature: Select this option if you want to keep the structure in both the desktop inventory module and in the structure feature class.
  - Delete Feature From GIS Only: Select this option if you want to keep the structure in the desktop inventory module, but would like the feature removed from the structure feature class. Note: This option is disabled if the tool was unable to locate a structure within 1 map unit of the common end point for the two pipes or if the structure feature class is not editable.
  - Delete from GIS and Lucity: Select this option if you want to remove the structure from both the desktop inventory module and the structure feature class. Note: This option is disabled if the tool was unable to locate a structure within 1 map unit of the common end point of the two pipes, the structure feature class is not editable, or the structure doesn't exist in the desktop inventory module.
  - Structure Status: This combo box is only enabled if you choose an option that would keep the structure record within the desktop inventory. The combo box lists the various status types that are defined in the status pick list field in the desktop structure inventory module.
- Existing To Pipe: This is read-only information about the pre-merged to pipe.
- New Alt ID: You can choose to manually enter a new Alt Pipe ID, use a desktop auto number (this option is only enabled if you have an Alt Pipe ID field in your feature class that is configured to use a number generator), use the end point IDs or use the Alt Pipe ID from the longer pipe.
- New Pipe Length: This option is only enabled if the tool calculates a difference between the GIS and desktop pipe lengths. You can choose to set the Lucity length to be equal to the GIS length or you can use the Lucity calculated length.

- New Pipe Attributes-Copy from: You can choose to copy over the attributes from the premerged From Pipe, pre-merged To Pipe, or the longer pipe.
- Archive: (Optional) Select this option if you wish to maintain a record in the desktop pipe inventory module for both the pre-merged pipes. If you select this option, the pre-merged pipes will not be deleted from the desktop inventory module.
  - The status combo box lists the various status types that are defined in the status pick list field in the desktop storm conduit inventory module.
  - Selecting this option will update the following information for the existing to and from pipe:
    - 1. The pipe status will be updated to the status selected from the list.
    - 2. The ability to create requests, work orders and PM/Work Template records against the pipe is now disabled. This is done by the tool updating the NT\_NOWORK field.
    - 3. The show in map is disabled for the pipe.
- Advanced Settings: This allows you to override the default settings that control what associations should be updated with the use of this tool.

+ Lucity GIS- Storm Merge			
Existing From Pipe Alt PipelD: From Feature Type*: Storm Structure Inventory From Feature ID*: 4564 GIS Length: Lucity Length*: 601.69031420225 754.3	Existing Split Feature Feature Type: Stoam Stru Common ID: 4552 Don't delete feature Delete feature from GIS Delete from GIS and Lu Select a status for the struc None	char Existing To Pipe Alt PipelD: To Feature Type*: Storm Structure Inventory only To Feature ID*: only 4560 Stare: GIS Length: Lucky Length*: 534.4457701435 275.5	New Pipe Associations Place a check next to the modules you want to have associated to the new pipe. A check will update all records related to the two pre-merged pipes to they are now associated to the new merged pipe. Not having a check will kere the records related to
New Alt PipelD (Optional) From Feature Type: Storm Structure In From Feature ID: 4564 Manual Entry Dise Lucity Aut	ve New At PipelD:	To Feature Type: Storm Structure Inv To Feature ID: 4560 Point IDs O Use Existing Longer Pipe ID	the two pre-merged pipes associated to the pre- merged pipes.
New Pipe Length GIS Length: 1195.14 Luci Set Lucky Length = GIS Length () U New Pipe Attributes- Copy from: Existing From Pipe () Longer Pipe OK.	ty Length: 1023.8 se Lucky Calculated Length O Existing To Pipe	Archive (Optional) Archive pre-merged pipes. This will keep a pipe record in the Luchy inventory module for both of the pre-merged pipes. Archived pipe status: Advanced Settings 'As lated in Luchy 'As lated in Luchy	Construction Construction Illicit Dircharge Requests Work Orders PMAWork Templates Master Projects

- 6. When you have finished making selections, click OK.
- 7. The following message will appear when the process is finished.

Lucity GIS 🛛 🔀
Merge completed successfully!
ОК

Note:\_\_

#### Splitting Storm Conduits

The Lucity GIS Extension includes this tool used for splitting storm features in the geodatabase and in the desktop.

Note: This tool is only enabled if all of the following conditions are met: (1) You have one feature selected in the map (2) The feature selected is linear.

To split a storm conduit in the map:

- 1. In ArcMap, start an edit session.
- 2. Select a storm conduit in the map.
- 3. Click the Storm split tool on the *Lucity GIS* Edit toolbar.
- 4. The split tool requires that edits be saved before and after performing the split. You will receive one of the following prompts.

Lucity GIS	
This tool will automatically save your edit session AFTER performing the split.	
Are you sure you want to proceed?	
Yes No	
Lucity GIS	×
It has been detected that you have unsaved edits. This tool will automatically save your edit session	n BEFORE and AFTER performing the split. Are you sure you want to proceed?
Yes No	

5. Click Yes. Using the mouse, left-click on the line where you want the split to occur.



6. The following dialog will appear if you have more than one editable storm structure feature class in the map. You will need to select a feature class that will contain the split structure.

Edit Tools- Select Insert Structure F	eature Class
Select feature class for inserted feature: Note: Only editable feature classes that an will search the selected feature class for an tolerance. A new feature will be created if OK	<ul> <li>currently in the map are listed. This split tool existing feature located within the edit snap an existing feature is not found.</li> <li>Cancel</li> </ul>

Existing From Point Feature Type: Stom Structure Inventory Common ID: 4560	Existing Pipe A GIS Length: 463.16	it PipelD:	ly Length: 27.8		Existing To Point Feature Type: Storm Structure Inventory Common ID: 4568
	Conflicting Pipe Length Set Lucity Length = G	ilS Length 🔿 P	toportionally Sp	ikt Pipe in Lucity	
Spl © f	) Instance Along the Line Percentage Along the Line	158.71	Orientation From SI From Er	tart Point of Line nd Point of Line	
New Alt PipelD for US Pipe (Op Upstream Feature ID: 4560	tional) New Sp Feature	lit Point Info Type:		New Alt Pipe Upstream Fea	ID for DS Pipe (Optional) ature ID: IbFeatureTy
Downstream Feature ID: bFe	atureTy Storm	Structure Invention	ory	Downstream	Feature ID: 4568
Manual Entry	Common	no.		Manual Er	ntry
Use Lucity Auto Number	Mark	ual Entry		Use Luck	Auto Number
O Use End Point IDs	O Use I	Lucity Auto Numi	ber	O Use End P	Point ID s
Use Existing Pipe's Alt Pipel	D			O Use Existi	ng Pipe's Alt PipelD
	Archive	(Optional)		Auch	ined along stations
UK	Lancel Archi	ve pre-split pipe.	This will keep	a Arch	ived pipe status:

- Existing From Point: This is read-only information for the existing upstream structure.
- Existing Pipe: This is read-only information for the existing pipe.
- Existing To Point: This is read-only information for the existing downstream structure.
- Conflicting Pipe length: This option is only enabled when length of the pipe in Lucity is different than the length of the pipe in GIS. If this option is enabled you can choose to set the Lucity length equal to the GIS length or you can proportionally split the pipe in Lucity to match the split in GIS.
- New Alt PipeID for US Pipe: You have the option to manually enter an Alt Pipe ID for the new upstream pipe, use a Lucity auto number (this is only enabled if you have auto numbers set up), use end point IDs, or use the existing pipes Alt PipeID.
- New Split Point (Required): The new structure must be assigned a common ID before proceeding. You have the option to manually enter the common ID or use a Lucity auto number (this is only enabled if you have the option setup with the Geodatabase Configuration tool). Note: If a structure already existed at the point along the line where you chose to perform the split then this section will be disabled and will contain the existing structure information.
- New Alt PipeID for DS Pipe: You have the option to manually enter an Alt ID for the new downstream pipe, use a Lucity auto number(this is only enabled if you have auto numbers set up), or use end point IDs.
- Archive: (Optional) Select this option if you wish to maintain a record in the desktop pipe inventory module for the pre-split pipe. If you select this option, the pre-split pipe will not be deleted from the desktop inventory module.
  - $\circ~$  The status combo box lists the various status types that are defined in the status pick list field in the desktop storm pipe inventory module.
  - Selecting this option will update the following information for the pre-split pipe:
    - 1. The pipe status will be updated to the status selected from the list.

- 2. The ability to create requests, work orders and PM/Work Template records against the pipe is now disabled. This is done by the tool updating the NT\_NOWORK field.
- 3. The show in map is disabled for the pipe.
- Advanced Settings: This allows you to override the default settings that control what associations should be updated with the use of this tool.

Lucity GIS Storm Split						
Existing From Point Feature Type: Storm Structure Inventory Common ID: 4550	Existing Pipe GIS Length: 4	Alt PipelD	v Length: 278		Existing To Point Feature Type: Stam Structure Inventory Common ID: 4568	New Pipe Associations Place a check next to the modules you want to have associated to the new pipes. A check will undete all records
Spl ⊙1	Conflicting Pipe Len Set Lucity Length Distance Along the Lin Percentage Along the	geh n = GIS Length () Pr ne (158.71) Line ()	Orientation	<sup>2</sup> ipe in Lucity Point of Line Point of Line		related to the pre-split pipe so they are now associated to both of the two new pipes. Not having a check will keep the records related to the pre-split pipe. Imprections
New Alt PpelD for US Ppe (D) Upstream Feature ID: 4550 Downstream Feature ID: bFe Alt PipelD:	nonal) New Fea	v Split Point Info ture Type: om Structure Invento mon ID:	ny [1	New Alt Pipel Upstream Fea Downstream I Alt PipelD:	D for DS Pipe (Optional) Aure ID: biFostureTy Feature ID: 4558	Construction Illicit Discharge Requests Work Orders
Manual Entry     Use Excity Auto Number     Use End Point IDs     Use Existing Pipe's Alt Pipel	0 I	fanual Entry Jse Lucity Auto Numb		Manual En     Use Lucity     Use End P     Use Existe	kty Auto Number Get (Ds 19 Pipe's Alt PipelD	PM/Work Templates     Master Projects
Advanced Settings	Cancel	tive (Optional) Inchive pre-split pipe ipe record in the Luci or the pre-split pipe.	This will keep a ity inventory modu	Archi le Ope	ved pipe status: rational	the case where only one pipe can be associated (i.e. Requests)

- 7. When you have finished making selections, click OK.
- 8. The following message will appear when the split process is finished.

Lucity GIS	×
Split completed succe	ssfully!
ОК	
ОК	

Note:\_\_\_\_\_

#### Renumber a Storm Structure

The Lucity GIS Manager<sup>™</sup> Extension includes this tool used for renumbering your storm structures, conduits, pump stations and detention basins.

Note: This tool is only enabled if you have one feature selected in the map.

To renumber a feature:

- 1. In ArcMap, start an edit session.
- 2. Select a storm feature in the map.
- 3. Click the Storm Renumber tool on the Lucity GIS Edit Toolbar.
- 4. The renumber tool requires that edits be saved before and after performing the renumber. You will receive one of the following prompts.

Lucity GIS
This tool will automatically save your edit session AFTER performing the renumber.
Are you sure you want to proceed?
Yes No
Lucity GIS
It has been detected that you have unsaved edits. This tool will automatically save your edit session BEFO
Yes No

5. Click Yes and the following dialog will appear.

🕂 Lucity GIS- Storm Renumber 📃 🗖 🔀
Enter new number for
Storm Structure Inventory '4570'
Update Construction Records to reflect new number
Update Requests to reflect new number
Update Work Orders to reflect new number
Update PM/Work Templates to reflect new number
Update Master Project records to reflect new number
OK Cancel

- 6. Enter the new number and select OK. The following dialog will appear.
- 7. The following message will appear when the renumber process is finished.

Lucity GIS 🛛 🛛 🔀
Renumber completed successfully!
ОК

GIS Editing Tools for ArcGIS Desktop (v2014r2)

#### Water Editing Tools

A 🔷 🥖	S	X   <u>F1</u> -	🛬 - 💈	🥻 - 😼 -	Clear Lucity Edit Cache	e 🔲 Disable Lucity Editor	Settings 🖕
				R <b>j</b>	Water Renumber		
				4	Water Split		
				亷	Water Merge		

- Water Merge is only enabled when two linear features are selected in the map.
- Water Split is only enabled if one linear feature is selected in the map.
- Water Renumber is only enabled if one feature is selected in the map.

#### Splitting Water Pipes

The Lucity GIS Manager<sup>M</sup> Extension includes this tool used for splitting water pipes in the geodatabase and in Lucity.

Note: This tool can only be used on features that already exist in the Lucity database.

To split pipes in the map:

- 1. In ArcMap, start an edit session.
- 2. Using the ESRI select tool, select the water pipe you'd wish to split in the map. Once a single pipe is selected in the map, the Split Water Pipe tool will be enabled.
- 3. Click the Split Water Pipe tool on the Lucity GIS Edit toolbar.
- 4. Using the Split tool, click on the line at the location where you want the split to occur. This tool uses your editor snapping environment.

Note: Don't worry if you aren't accurate regarding where to perform the split. You will later be able to enter a length where the split should occur.

5. You'll receive a prompt similar to the following. If any unsaved edits are detected, your edit session will be saved prior to using this tool. Then, after performing the split, the edit session will be saved again and the desktop will be updated. Click Yes to proceed.

Lucity GIS	
This tool will automatically save your edit session AFTER performing the split.	
Are you sure you want to proceed?	
Yes No	
Lucity GIS	
It has been detected that you have unsaved edits. This tool will automatically save your edit session BEFORE a	nd AFTER performing the split. Are you sure you want to proceed?
Yes No	

6. The following window will appear.



- Click on the drop-down menu to select from the structure type list. You can select from any editable feature classes that are currently in your map.
- This split tool will search the selected feature class for an existing feature located within the edit snap tolerance. If no existing feature is found, a new feature of the type selected will be created.

From Point Feature Type: Common ID:	C C L	ument Pipe ommon ID: 159 ucity Length: 343.74 GIS Length: 34	To Point Feature Type: Hydrant Common ID: 8173
	Conflicting	Pipe Length ity Length = GIS Length	plt Pipe in Lucity
	Split O Distance A Percentage	long the Line 161.63 Orientat	ion m Start Point of Line m End Point of Line
Pipe from [] to [] Common ID:	ty AutoNumber Sint IDs g Pipe ID	New Spit Point Info Feature Type: Water Hydrants Common ID: Manual Entry Use Lucity Auto Number OK Cancel	Pipe from [] to [8173] Common ID:

7. Click OK. The following window will appear:

- The From Point and To Point data is read-only. This is carried over from the desktop and identifies the common ID and feature type found at each point.
- The Current Pipe information is also read-only. This is carried over from the desktop and identifies the common ID, length in the desktop, and length in the map.
- If the tool finds a conflicting pipe length (i.e. the Lucity Length is different from the GIS Length), you have two options: You can set the length in the desktop to the length found in the map, or you can proportionally split the pipe in the desktop. If the Lucity Length and GIS Length are the same, the conflicting pipe length section will be disabled.
- In the Split section, indicate either the distance or percentage along the line where you'd like the split to occur. By default, the tool will identify the distance along the line based on the point at which you clicked. The Split section will be disabled if an existing feature was found within the edit snap tolerance. In that instance, the split distance will be predetermined.

- 8. In the Orientation section, choose whether the split distance or percentage is calculated from the start or end point of the line. The Orientation section will be disabled if an existing feature was found.
  - Two Pipe ID sections are provided. These are used to indicate the common IDs for the two new pipe records. You can choose to either manually enter a new pipe ID number for each pipe or use existing pipe IDs. If this feature class is set up for auto-numbering (in the Custom Geodatabase Synchronizer Setup), the "Use Lucity Auto Number" button will be enabled. End Point IDs can be used if an existing feature was found within the edit snap tolerance, or once the New Split Point Common ID is populated.
  - The New Split Point Info sections are used to indicate the common ID for the new feature inserted at the split point. You can manually enter an ID or use the Lucity auto-number if this feature class is set up for auto-numbering. The New Split Point section will be disabled if an existing feature was found within the edit snap tolerance. In that instance, the common ID will be pre-defined.
- 9. Click OK when you are finished configuring the split point and new feature.
- 10. The split tool will now process the split and insert a structure at the location you indicated. As previously mentioned in Step 5, your edit session will be saved; you will receive the standard Lucity edit prompts. When the process if complete, the following window will appear:



Note: If you renumber both new pipe sections (i.e. if you don't retain the original pipe number), the original pipe will be assigned the pipe ID of the longer of the two new pipe sections. Any water associations, work orders, requests, and PMs associated with the original pipe will be associated with the new pipe record; however, they will retain the original pipe ID. Both pipe sections will be associated to existing work orders and PMs.

#### Merge Water Pipes

The Lucity GIS Manager<sup>m</sup> Extension includes this tool used for merging water pipes in the geodatabase and in Lucity.

Note: This tool can only be used on features that already exist in the Lucity database.

To merge pipes in the map:

- 1. In ArcMap, start an edit session.
- 2. Using the ESRI select tool, select only the two adjacent pipes that need to be merged. No other pipes can be selected. Once the two pipes are selected in the map, the Merge Water Pipe tool will be enabled.
- 3. Click the Merge Water Pipe tool on the *Lucity GIS* Edit toolbar.

4. You'll receive a prompt similar to the following. If any unsaved edits are detected, your edit session will be saved prior to using this tool. Then, after performing the split, the edit session will be saved again and the desktop will be updated. Click Yes to proceed.

Lucity GIS	
This tool will automatically save your edit session AFTER performing the merge. Are you sure you want to proceed? Yes No	
Lucity GIS	1
It has been detected that you have unsaved edits. This tool will automatically save your edit session E	EFORE and AFTER performing the split. Are you sure you want
Yes No	

5. The following window will appear.

Existing From Pipe Common ID: 159	Existing Split Feature Feature Type: Water Hydrants	Existing To Pipe Common ID: 21784
From Feature Type*:	Common ID: 8173	To Feature Type*: Node
From Feature ID*:	<ul> <li>Don't delete feature</li> </ul>	To Feature ID*: 430
GIS Length: Lucity Length*: 343.740883624438 343.74	<ul> <li>Delete feature from GIS only</li> <li>Delete from GIS and Lucity</li> </ul>	GIS Length: Lucity Length*: 116.567338096473 116.57
Set Lucity Le	ength = GIS Length 🔿 Use Lucity Ca	Iculated Length
New Pipe Information		_
New Pipe Information From Feature Type: From Feature ID:	New Pipe ID: To F	eature Type: Node o Feature ID: 430
New Pipe Information From Feature Type: From Feature ID: Manual Entry Use Lucity	New Pipe ID: To F	eature Type: Node o Feature ID: 430 D: O Use Existing Longer Pipe ID

- The Existing From Pipe and To Pipe data is read-only. This is carried over from the desktop and identifies the pipe common ID and the related structure information for the pipe.
- The Existing Split Feature is also read-only. This is carried over from the desktop and identifies the feature type and common ID.
- In the Existing Split Feature section, choose one of the three options.
- If the tool finds a conflicting pipe length (i.e. the Lucity Length is different from the GIS Length for the newly merged pipe), you have two options: You can set the length in the desktop to the length found in the map, or you can proportionally split the pipe in the desktop. If the Lucity Length and GIS Length are the same, the New Lucity Pipe Length section will be disabled.
- The New Pipe Information section lists the new From and To feature information. This is read-only and was carried over from the desktop.
- In the New Pipe Information section, you will need to enter a New Pipe ID. You can choose to either manually enter a new pipe ID number, use the existing longer pipe ID, use end point IDs, or if this feature class is set up for auto-numbering (in the <u>Custom</u> <u>Geodatabase Synchronizer Setup</u>), the "Use Lucity Auto Number" button will be enabled.

• In the Request History section, you can choose to not associate the Requests with the new pipe, or disassociate the Requests from the old pipe and associate them to the new pipe (only one asset can be associated to each Request). The Associate New Pipe Record option is disabled. It will be made available for a future release.

Note: Requests can only be associated to the new pipe, not the old. If you selected "Don't Associate to New Pipe", the old pipe IDs will still be displayed in the Request but will no longer be linked to the Pipe Inventory records. If you selected "Associate New Pipe Record and Disassociate Old Pipe", all Requests related to either pipe will be associated to the new pipe.

• In the Work Order History section, you can choose to not associate the Work Orders with the new pipe, associate the Work Orders with the new pipe, or disassociate the Work Orders from the old pipe and associate them to the new pipe (multiple assets can be associated to each Work Order).

Note: If you selected "Don't Associate to New Pipe", the old pipe IDs will still be displayed in the Work Order Assets tab, but will no longer be linked to the Pipe Inventory record. If you selected "Associate New Pipe Record", the Work Order Assets tab will display the old and new pipe IDs, but only the new pipe ID will be linked to the Pipe Inventory record. If you selected "Associate New Pipe Record and Disassociate Old Pipe", the new and old pipe IDs displayed in the Work Order will be changed to the new pipe ID, and all will be linked to the same Pipe Inventory record.

• In the PM/Work Template section, you can choose to not associate the PMs with the new pipe, or disassociate the PMs from the old pipe and associate them to the new pipe. The latter option is selected by default. The Associate New Pipe Record option is disabled.

Note: If you selected "Don't Associated to New Pipe", the old pipe IDs will be removed from all PMs. If you selected "Associate New Pipe Record and Disassociate Old Pipe", the old pipe IDs will be removed from all PMs and the new pipe IDs will be added.

- 6. Click OK when you are finished configuring the merge options.
- 7. The merge tool will now process the merge and delete the structure based on the options you selected. As previously mentioned in Step 4, your edit session will be saved; you will receive the standard Lucity edit prompts. When the process if complete, the following window will appear:



Note: If you assigned the newly merged pipe the ID from one of the old pipes, the other pipe record will be deleted (i.e. Pipe1 and Pipe2 were merged. If you assigned the new pipe an ID of Pipe1, the record for Pipe2 would be deleted, and vice versa). If you assigned the newly merged pipe an ID of anything other than the ID from the two old pipe records, the pipe record with the shorter pipe length will be deleted and the pipe record with the longer pipe length will be updated. When the pipe records are merged, the system will update the to and from feature information, pipe length, and pipe number. Requests, Work Orders, and PMs will then be associated/disassociated as indicated. The system then updates Water associations, carrying over any associations from the old pipe(s) to the new pipe record. The system then carries over any documents and comments associated to the old pipe(s) to the new pipe record.

#### Water Renumber

The Lucity GIS Manager™ Extension includes this tool used for renumbering your water structures.

Note: This tool is only enabled if you have one feature selected in the map.

To renumber a feature:

- 1. In ArcMap, start an edit session.
- 2. Select a water feature in the map.
- 3. Click the Water Renumber tool on the Lucity GIS Edit Toolbar.
- 4. The renumber tool requires that edits be saved before and after performing the renumber. You will receive one of the following prompts.

Lucity GIS	
This tool will automatically save your edit session AFTER performing the renumber.	
Are you sure you want to proceed?	
Yes No	
Lucity GIS	8
It has been detected that you have unsaved edits. This tool will automatically save your edit session BEFORE and AFTER p	erforming the split. Are you sure you want to proceed
Yes No	

5. Click Yes and the following dialog will appear.

🕂 Lucity GIS- Water Renumber 🛛 🔲 🔀
Enter new number for
Water Hydrants '5259'
<u> </u>
Update Construction Records to reflect new number
Update Requests to reflect new number
Update Work Orders to reflect new number
Update PM/Work Templates to reflect new number
Update Master Project records to reflect new number
OK Cancel

- 6. Enter the new number and select OK. The following dialog will appear.
- 7. The following message will appear when the renumber process is finished.

Lucity GIS 🛛 🛛 🔀
Renumber completed successfully!
ОК

## Street Editing Tools



- Street Feature Renumber is enabled when one feature is selected in the map.
- Segment Split is enabled when one linear feature is selected in the map.
- Segment Merge is enabled when two linear features are selected in the map.
- Subsegment Split is enabled when one linear feature is selected in the map.
- Subsegment Merge is enabled when two linear features are selected in the map.
- Supersegment Define is enabled when one or more linear features are selected in the map.
- Supersegment Dissolve is enabled when one or more linear features are selected in the map.
- Generate Supersegment is always enabled.

#### Splitting Street Segments

Lucity GIS includes this tool used for splitting street segment features in the geodatabase and in Lucity.

Note: This tool is only enabled if all of the following conditions are met: (1) You have one feature selected in the map (2) The feature selected is linear.

To split a street segment in the map:

- 1. In ArcMap, start an edit session.
- 2. Select a street segment in the map.
- 3. Click the Segment Split on the GIS Edit toolbar.
- 4. The split tool requires that edits be saved before and after performing the split. You will receive one of the following prompts.

Lucity GIS
This tool will automatically save your edit session AFTER performing the split.
Are you sure you want to proceed?
Yes No
Lucity CIS
It has been detected that you have unsaved edits. This tool will automatically save your edit session BEFO
Yes No

5. Click Yes. Using the mouse, left-click on the line where you want the split to occur.



- 6. The following dialog will appear if you have more than one editable street intersection feature class in the map. You will need to select a feature class that will contain the intersection.
- 7. Inserting an intersection is not required. You will have the option to not create an intersection feature in a later step.
- 8. If an intersection feature already exists at the location of the split, the tool will not create a new intersection and instead associate the new streets to the existing intersection.

Edit Tools- Sela	ect Insert St	ructure Feat	ure Clas	s		Ē		
Select feature cla Note: Only ed will search the tolerance. A n	ass for inserted fr itable feature cla selected feature ew feature will b OK	eature: asses that are cu class for an exi e created if an e	rrently in t sting featu existing fea Canc	he map are re located u ture is not f el	listed. <sup>-</sup> within th ound.	ſhis splil e edit sr	tool hap	
Lucity GIS- Stre	et Segment Spli	t					Evisting T.o.In	besection
Intersection ID: 39 From Street Name: S PORTLAND AVE	I21 GIS I	Segment ID: 3 Street Name: E ength: 346.31	1958 CALLE DEI Luci	NORTE OR y Length: 34	13		ntersection IC To Street Nan S PICO ST	): 3922 ne:
	Conflicting Set Lu Split Distance A	Segment Length sity Length = GIS Le Vong the Line	ngth () Pr 243.56	Orientation	alit Street i on Start Point	n Lucity of Line		
New Segment ID for From Intersection ID: To Intersection ID:	O Percentag the From Street 3921	e Along the Line New Interse Intersection	ction Info ID:	O From I	End Point New From To	of Line Segment I Intersectio	D for the To t in ID: in ID: 392	Street
Segment ID: 3950 Manual Entry Use Lucity Auto N	lumber	Manual E Manual E O Ute Luci O Do not cr	ntry ly Auto Num reate an inter	section	Segm	ent ID: [ anual Entry in Lucity A	y uto Number	
Use Existing Segr New Address Range Left	ment ID for the From Street Right	A	dvanced Set	tings	New	e Existing Address R Left	Segment ID lange for the	To Street Right
From 2436	From 2435 To		OK		From To	2486	From	2485

- Existing From Intersection: This is read-only information. It lists the intersection number and from street name as it is listed in Lucity for the existing street.
- Existing Street Segment: This is read-only information for the existing street segment.
- Existing To Point: This is read-only information. It lists the intersection number and to street name as it is listed in Lucity for the existing street.
- Conflicting Pipe length: This option is only enabled when length of the pipe in Lucity is different than the length of the pipe in GIS. If this option is enabled you can choose to set the Lucity length equal to the GIS length or you can proportionally split the street in Lucity to match the split in GIS.

- Split (Required): This is the calculated distance along the line where the mouse-click occurred. This value can be overwritten.
- Orientation: This indicates in what direction the split location is measured from.
- New Segment ID for the From Street (Required): The new street segment must be assigned a segment ID. You have the option to manually enter the ID, use a Lucity auto number (this is only enabled if you have auto numbers set up), use intersection IDs (this is only enabled if you have an intersection defined), or use the existing segment's ID. Note: By default, the longer street section is assigned the existing segment's ID, but again this can be overwritten.
- Intersection Info: If an existing intersection was found at the location of the mouse-click this section will be filled out automatically with the existing intersection info and will be read-only. If you don't have any editable intersection feature classes configured with Lucity in the map, this section will be disabled and the 'Do not create an intersection' will be checked. Otherwise, you have the option to manually enter the intersection ID, use a Lucity auto number (this is only enabled if you have auto numbers set up), or not create an intersection feature.
- New Segment ID for the To Street (Required): The new street segment must be assigned a segment ID. You have the option to manually enter the ID, use a Lucity auto number (this is only enabled if you have auto numbers set up), use intersection IDs (this is only enabled if you have an intersection defined), or use the existing segment's ID. Note: By default, the longer street section is assigned the existing segment's ID, but again this can be overwritten.
- New Address Range for the From Street (Optional): This is the address info for the new from street segment. Note: The left and right from address values will be pre-populated with the values from the pre-split street.
- New Address Range for the To Street (Optional): This is the address info for the new to street segment. Note: The left and right to address values will be pre-populated with the values from the pre-split street.
- Advanced Settings: This allows you to override the default settings that control what associations should be updated with the use of this tool.
- 9. When you have finished making selections, click OK.
- 10. The following message will appear when the process is finished.

Lucity GIS 🛛 🛛 🔀
Split completed successfully!
ОК

#### Merging Street Segments

Lucity GIS includes this tool used for merging street segment features in the geodatabase and in Lucity.

**Note:** The Street Merge Tool is only enabled if all of the following conditions are met: (1) You have two features selected in the map (2) The features selected are linear.

To merge two street segments in the map:

- 1. In ArcMap, start an edit session.
- 2. Select two adjacent street segment features in the map. You can do this by dragging a box around the two streets or by clicking on one street and then holding down the SHIFT key while clicking on the second street.
- 3. Click the Street Merge tool on the Lucity GIS Edit toolbar.
- 4. The merge tool requires that edits be saved before and after performing the merge. You will receive one of the following prompts asking you if you want to proceed.

Lu	icity GIS
1	This tool will automatically save your edit session AFTER performing the merge.
4	Are you sure you want to proceed?
	Yes No
Lu	ucity GIS
D	t has been detected that you have unsaved edits. This tool will automatically save you
	Yes

5. Click Yes and the following dialog will appear

🕂 Lucity GIS- Street Segment Merg	ye	
Existing From Street Segment ID: 3958 Street Name: E CALLE DEL NORTE DR From Intersection ID*: 3921 From Street Name: S PORTLAND AVE GIS Length: Lucity Length*: 346.31088513492 346.3	Existing Intersection Intersection ID: 3322 Don't delete feature Delete feature from GIS only Delete from GIS and Lucity Select a status for the structure: Dperational	Existing To Street Segment ID: 1078 Street Name: E CALLE DEL NORTE DR To Intersection ID*: 3923 To Street Name: S PENROSE DR GIS Length: Lucity Length*: 305 7402029676 305.7
New Street Segment From Intersection ID: 3921 From Street Name: S PORTLAND AVE	New Segment ID:	To Intersection ID: 3923 To Street Name: S PENROSE DR
OUse Existing Fr ✓ Merge Subsegments-This	om Segment ID OUse Existi option is disabled if the existing to	ng To Segment ID o or from street has multiple subsegments
New Street Segment Length           GIS Length:         652.05           Lucity Length = GIS Length         U	ity Length: 652 se Lucity Calculated Length	w Street Segment Attributes- Copy from: <ul> <li>Longer Street</li> </ul> <li>Existing From Street</li> <li>Existing To Street</li>
[	OK Cancel	*As listed in Lucity

- Existing From Street: This is read-only information about the pre-merged from street.
- Existing Intersection: If an intersection feature was located at the common endpoint of the two street features this section will be enabled. This is the existing intersection information and lists the various merge options for the intersection.
- Don't Delete Feature: Select this option if you want to keep the intersection in both the desktop inventory module and in the intersection feature class.

- Delete Feature From GIS Only: Select this option if you want to keep the intersection in the desktop inventory module, but would like the feature removed from the intersection feature class. Note: This option is disabled if the tool was unable to locate a structure within 1 map unit of the common end point for the two streets or if the intersection feature class is not editable.
- Delete from GIS and Lucity: Select this option if you want to remove the intersection from both the desktop inventory module and the intersection feature class. Note: This option is disabled if the tool was unable to locate an intersection within 1 map unit of the common end point of the two streets, the intersection feature class is not editable, or the intersection doesn't exist in the desktop inventory module.
- Structure Status: This combo box is only enabled if you choose an option that would keep the intersection record within the desktop inventory. The combo box lists the various status types that are defined in the status pick list field in the desktop intersection inventory module.
- Existing To Street: This is read-only information about the pre-merged to street.
- New Street Segment (required): You can choose to manually enter a new Segment ID, use a Lucity auto number (this option is only enabled if the segment ID field in the feature class is configured to use a number generator), use the end point IDs, use the existing segment ID of the from street, or use the existing segment ID of the to street.
- Merge Subsegments. By default, this option is enabled and checked if both of the premerged street segments only have one associated subsegment. Leave this option checked if you wish to maintain a one to one ratio between your street segment and subsegments; otherwise, the newly merged street segment will have two subsegments.
- New Street Segment Length: This option is only enabled if the tool calculates a difference between the GIS and Lucity street segment lengths. You can choose to set the Lucity length to be equal to the GIS length or you can use the Lucity calculated length.
- New Street Segment Attributes-Copy from: You can choose to copy over the attributes from the pre-merged from street, pre-merged to street, or the longer street.
- 6. When you have finished making selections, click OK. The following message will appear when the process is completed:

Lucity GIS	×
Merge completed successfu	lly!
ОК	

#### Renumber a Street Feature

Lucity GIS includes this tool used for renumbering your street segments, intersections, and structures.

**Note:** This tool is only enabled if you have one feature selected in the map.

To renumber a feature:

- 1. In ArcMap, start an edit session.
- 2. Select a street feature in the map.
- 3. Click the Street Feature Renumber tool on the Lucity GIS Edit Toolbar.

4. The renumber tool requires that edits be saved before and after performing the renumber. You will receive one of the following prompts.



5. Click Yes and the following dialog will appear.

+ Lucity GIS- Renumber Feature
Enter new number for
Intersection Network '3909'
Update Construction Records to reflect new number
Update Meducers to reflect new number
Update PM/Work Templates to reflect new number
✓ Update Master Project records to reflect new number
OK Cancel

- 6. Enter the new number and select OK.
- 7. The following message will appear when the process is finished.

Lucity GIS	×
Renumber completed succes	ssfully!
ОК	

Note:\_\_\_

#### Splitting Street Subsegments

Lucity GIS includes this tool used for splitting street subsegment features in the geodatabase and in Lucity.

**Note:** This tool is only enabled if all of the following conditions are met: (1) You have one feature selected in the map (2) The feature selected is linear.

To split a street subsegment in the map:

- 1. In ArcMap, start an edit session.
- 2. Select a street subsegment in the map.
- 3. Click the Subsegment Split on the Lucity GIS Edit toolbar.
- 4. The split tool requires that edits be saved before and after performing the split. In addition, the street segment associated to the selected subsegment will be synched to the desktop. This will ensure that the selected subsegment is validated with the desktop application.

Lucity GIS	
This tool will automatically save your edit session AFTER performing the split.	
Are you sure you want to proceed?	
Yes No	
Lucity GIS	
It has been detected that you have unsaved edits. This tool will automatically save your edit	It session BEFORE and AFTER performing the split. Are you sure
Yes	No

5. Click Yes. Using the mouse, left-click on the line where you want the split to occur.

Street Segment: Edge ध्र	
Lucity GIS- Street Subsegment Split Subsegment to Splt Subsegment to Splt Subseg ID: 1078-1 Sidewalk Length	But N/A Sidewalk Length SE: N/A
Start Station: 0 % 0 # of Driveway End Station: 305.7 % 100 Approaches NW:	N/A # of Driveway Approaches SE: N/A
Split O Distance Along the Line O Percentage Along the Line	GIS Length: 305.74 Drientation • From Start Point of Line • From End Point of Line
New From Subsegment Info (A to Split)           Start Station:         %         0         Length:           End Station:         214.54         %         70.18         214.54	New To Subsegment Info (Split to B) Start Station: 214,54 & 70.18 Length: End Station: 305.7 & 100 91.16
End Desc:	End Desc.
Surface Type:	Pavement Type:
Group Number:	Group Number:
Sidewalk Length NW: SE: SE: SE: SE: SE: SE: SE: SE: SE: SE	Sidewalk Length     NW:     SE:       Driveway Approaches     NW:     SE:
ОК	Cancel

- Subsegment to Split: This is read-only information. It lists the information in the desktop for the existing subsegment.
- Split (Required): This is the calculated distance along the line where the mouse-click occurred. This value can be overwritten.
- Orientation: This indicates in what direction the split location is measured from.
- New From Subsegment Info (Optional): These fields will be automatically populated based upon the existing subsegment information. This information can be manually overwritten.

**Note:** The sidewalk length and driveway approach fields are calculated by the system based upon the length of the new subsegment to the original subsegment length.

• New To Subsegment Info (Optional): These fields will be automatically populated based upon the existing subsegment information. This information can be manually overwritten.

**Note:** The sidewalk length and driveway approach fields are calculated by the system based upon the length of the new subsegment to the original subsegment length.

- 6. When you have finished making selections, click OK.
- 7. The following message will appear when the process is finished.

Lucity GIS 🛛 🛛 🔀
Split completed successfully!
ОК

Note:	 		 

#### Merging Street Subsegments

🔽 Lucity GIS includes this tool used for merging subsegment features in the geodatabase and in Lucity.

**Note:** The Subsegment Merge Tool is only enabled if all of the following conditions are met: (1) You have two features selected in the map (2) The features selected are linear.

To merge two subsegments in the map:

- 1. In ArcMap, start an edit session.
- 2. Select two adjacent subsegment features in the map. You can do this by dragging a box around the two subsegments or by clicking on one subsegment and then holding down the SHIFT key while clicking on the second subsegment.
- 3. Click the Subsegment Merge tool on the Lucity GIS Edit toolbar.
- 4. The merge tool requires that edits be saved before and after performing the merge. You will receive one of the following prompts asking you if you want to proceed.

Lucity GIS	
This tool will automatically save your edit session AFTER performing the merge. Are you sure you want to proceed? Yes No	
Lucity GIS	
It has been detected that you have unsaved edits. This tool will automatically save your edit session	BEFORE and AFTER performing the split. Are you sure you want to p
Yes No	

5. Click Yes and the following dialog will appear.

Lucity GIS- Street Subsegment Merge	
Existing From Subseg:	Existing To Subseg
Subseg ID: 3820_3818-1	Subseg ID: 3820_3818-2
Start Station: 0 % 0	Start Station: 403.38 % 33.74
End Station: 403.38 % 33.74	End Station: 1195.7 % 100
Lucity Length: 403.38 GIS Length: 403.4256	Lucity Length: 792.32 GIS Length: 792.2636
Start Desc:	Start Desc:
End Desc:	End Desc:
Pavement Type: Asphalt	Pavement Type: Asphalt
Surface Type: N/A	Surface Type: N/A
Group Number: 110258	Group Number: 110258
Width: 45 # of Lanes: 3	Width: 45 # of Lanes: 3
Sidewalk NW: 336.44 SE: 90.44 Length	Sidewalk NW: 769.56 SE: 175.56 Length
# of Driveway NW: N/A SE: N/A Approaches	# of Driveway NW: N/A SE: N/A Approaches
Merged Subsegment	
Start Station: 0 % 0	at Detr:
End Station: 1195.7 % 100	
Length: 1195.7 Er	nd Desc:
Pavement Type: Asphalt v	fidth: 45 # of Lanes: 3
Surface Type: N/A Si	dewalk Length NW: 1166.00 SE: 266.00
Group Number: 110258 Dr	iveway Approaches NW: SE:
New Subsegment Attributes- Copy from: Longer Subseg C Existing From Subseg Exist	sting To Subseg OK Cancel

• Existing From Subseg: This is read-only information about the pre-merged from subsegment.

- Existing To Subseg: This is read-only information about the pre-merged to subsegment.
- Merged Subseg: These fields will be automatically populated based upon the existing subsegment information. This information can be manually overwritten.
  - The sidewalk length and driveway approach fields are calculated by the system based upon the length of the new subsegment to the original subsegment length.
- New Subsegment Attributes-Copy from: You can choose to copy over the attributes from the pre-merged from subseg, pre-merged to subseg, or the longer subsegment. Note: This option will be automatically set and disabled if you set the new street segment ID equal to the previous to or from street segment ID.
- 6. When you have finished making selections, click OK.
- 7. The following message will appear when the process is finished.

Lucity GIS 🛛 🛛 🔀	
Merge completed successfully!	
ОК	

#### Defining Supersegments

Lucity GIS includes this tool used for defining supersegments in the geodatabase and in Lucity. This tool can be used to create new supersegments or add to an existing supersegment.

**Note:** This tool is only enabled if all of the following conditions are met: (1) You have one or more features selected in the map (2) The features are linear.

To create a supersegment in the map:

- 1. In ArcMap, start an edit session.
- 2. Select a street supersegment in the map.
- 3. Click the Supersegment Define tool on the Lucity GIS Edit toolbar.
- 4. The define tool requires that edits be saved before and after performing the split. In addition, the street segment associated to the selected subsegment(s) will be synched to the desktop. This will ensure that the selected subsegment(s) are validated with the desktop.

	Lucity GIS
	This tool will automatically save your edit session BEFORE and AFTER defining the supersegment. In addition, the associated street segments will be synched to Lucky to ensure that the selected subsegments are validated with Lucky. Are you sure you want to proceed?
	Yes No
te:	

- 5. Click Yes. The dialog to the right will appear.
- Select an option:
  - Create a new supersegment- select this option to create a new supersegment record in the desktop.
  - Redefine an existing supersegment- select this option to redefine the subsegments in an existing supersegment.
  - Add to existing supersegment- select this option to add the selected subsegments to an existing supersegment
  - Redefine an existing supersegment- select this option to remove all subsegments associated to an existing supersegment and then only associate the selected subsegments.

+ Lucity GIS- Define Supersegment	×
C Select option:	
<ul> <li>Create a new supersegment</li> </ul>	
<ul> <li>Redefine an existing supersegment</li> </ul>	
<ul> <li>Add to an existing supersegment</li> </ul>	
O Remove from an existing supersegment	
Supersegment Attributes	2
Superseg ID:	
Desciption:	
Group:	
Pavement Type:	
Classification:	
OK Cancel	

Note: If you select the option to add to or redefine an existing supersegment the form will expand allowing you to select an existing supersegment

+ Lucity GIS- Define Supersegment	
Select option:	1 10646-1 10647-1 10647-1
Add to an existing supersegment     Remove from an existing supersegment	10640-1 10650-1 10651-1 10652-1 10652-1
Supersegment Attributes Superseg ID: Desciption:	1075-1 1076-1 1077-1 1078-1 1078-1
Group: Pavement Type:	1080-1 1081-1 1082-1 1096-1
Classification:	1097-1 1098-1 11228-1 11229-1 11230-1

- Supersegment Attributes: If you selected the option to create a new supersegment, then this section will be empty and you must enter a superseg ID before proceeding; otherwise, this section will be populated with the information from the existing supersegment.
- 6. When you have finished making selections, click OK.
- 7. A message will appear to inform you when the process is finished.

Lucity GIS	<
Supersegment completed successfully	ļ
ОК	

#### Dissolving Supersegments

Lucity GIS includes this tool used for dissolving supersegments in the geodatabase and in Lucity.

**Note:** This tool is only enabled if all of the following conditions are met: (1) You have one or more features selected in the map (2) The features are linear.

To dissolve a supersegment in the map:

- 1. In ArcMap, start an edit session.
- 2. Select a street supersegment in the map.
- 3. Click the Supersegment Dissolve tool on the Lucity GIS Edit toolbar.
- 4. The dissolve tool requires that edits be saved before and after performing the dissolve. You will receive a prompt similar to the following:

Lucity GIS
This tool will automatically save your edit session AFTER dissolving the supersegments.
Are you sure you want to proceed?
Yes No

5. Click Yes. The following dialog will appear. Click yes, if you wish to have the selected supersegment record(s) deleted from the desktop.

Lucity G	is 🔀
♪	You have 1 supersegment feautres selected. This tool will disassociate the subsegments currently associated to the selected supersegments. In addition you can delete the supersegment inventory record?
	Yes No Cancel

6. The following message will appear when the process is finished.

Lucity GIS 🛛 🛛 🔀
Supersegment Dissolve Complete!
ок

#### Generate Supersegment Feature

To generate a supersegment in the map:

- 1. In ArcMap, start an edit session.
- 2. Optional step: Select the supersegment(s) in the map in which you want the shape to be updated.
- 3. Click the Generate Supersegment Feature(s) tool on the Lucity GIS Edit toolbar.
- 4. The generate tool requires that edits be saved before and after generating the supersegments. You will receive a prompt similar to one of the following:

Lucity GIS
This tool will automatically save your edit session AFTER generating the supersegments.
Are you sure you want to proceed?
Yes No

5. Click Yes. The following dialog will appear.

🕂 Lucity GIS- Generate	Supersegments	
Select which supersegments to generate: Select from list Filter All Records Currently Selected	1 10645-1 10647-1 10649-1 10650-1 10652-1 10652-1 1075-1 1075-1 1076-1 1077-1 1078-1 1078-1 1078-1 1078-1 1080-1 1081-1 1082-1	
Lancei	1096-1	<u> </u>

- Select an option:
  - Select from list- select this option to select the supersegment(s) from the list on the right. All selected supersegments will be recreated in the map.
  - Filter- selecting this option will change the list box on the right to contain a list of supersegment module filters. All supersegments that meet the filter criteria will be recreated in the map.
  - All records- select this option to recreate all supersegments in the map that are linked to the desktop.

Note: This option may take some time to process as it is basically deleting and recreating the supersegment feature in GIS for each supersegment in the desktop.

- Currently selected- this option is only enabled if you have supersegments currently selected in the map.
- 6. The following message will appear when the process is finished.

Lucity GIS
Supersegment Generation Complete!
ок

Note:

#### Alias Import

The Alias Import tool in ArcMap is designed to take the aliases that are specified in the MXD for each feature class, and apply those to the Lucity Geodatabase configuration. This is a quick way to customize feature class names in a map, update the geodatabase configuration's alias lists, and then publish the mxd as a service that can be used by other Lucity mapping tools.

Note: Each feature class can be associated to multiple aliases; however, an alias can be associated to only one feature class.

To use the tool, complete the following steps:

1. In ArcMap, verify the feature classes have the desired layer name:

Time       HTML Popup       Lucty Field Links         General       Source       Selection       Display       Symbology       Fields       Definition Query       Labels       Joins & Relates         Layer Name:       Sever Manholes       Visible       Properties       Properties         Description:	Layer Properties							? 🛛
General       Source       Selection       Display       Symbology       Fields       Definition Query       Labels       Joins & Relates         Layer Name:       Sewer Manholes       Visible       Properties       Properties         Description:	Time			HTML Popup			ucity Field L	inks
Layer Name:       Sever Manholes         Description:       properties         Credits:       Scale Range         You can specify the range of scales at which this layer will be shown:       Show layer at all scales         Obort show layer when zoomed:       Out beyond:         Out beyond:       None>         In beyond:       None>         (None>)       (maximum scale)         (Maximum scale)       (Maximum scale)	General Source	e Selection	Display	Symbology	Fields	Definition Query	Labels	Joins & Relates
Description:       properties         Credits:	Layer Name:	Sewer Manholes				Visible		
Credis: Scale Range Vou can specify the range of scales at which this layer will be shown: Show layer at all scales Don't show layer when zoomed: Out beyond: (None> (ninimum scale) In beyond: (None> (maximum scale) Maximum scale) OK Cancel Appy	Description:					_	^	properties
Credis: Scale Range Vou can specify the range of scales at which this layer will be shown: Show layer at all scales Don't show layer when zoomed: Out beyond: (None> (ninimum scale) In beyond: (None> (maximum scale) Maximum scale) OK Cancel Appy								
Credis: Scale Range You can specify the range of scales at which this layer will be shown: ③ Show layer at all scales ③ Don't show layer when zoomed: ④ Ut beyond: 《None> ③ (minimum scale) In beyond: 《None> ④ (maximum scale) ④ K Cancel Apply							~	
Scale Range         You can specify the range of scales at which this layer will be shown:            • Show layer at all scales             • Don't show layer when zoomed:             Out beyond:            Out peyond:            In beyond:            (None>            (maximum scale)             DK     OK  Cancel  Apply	Credits:							
You can specify the range of scales at which this layer will be shown:            • Show layer at all scales             • Don't show layer when zoomed:             Out beyond:         Out beyond:            In beyond:            (None>            (maximum scale)             DK            OK            OK	- Scale Range						_	
Show layer at all scales     Don't show layer when zoomed:     Out beyond: <none> (minimum scale)     In beyond: <none> (maximum scale)     Section (maximum scale)     OK Cancel Apply</none></none>	You can specify th	e range of scales	at which this lay	er will be show	1:			
Obrit show layer when zoomed: Out beyond: <a href="https://www.scale">www.scale</a> In beyond: <a href="https://www.scale">www.scale</a> OK Cancel Apply	<ul> <li>Show layer at</li> </ul>	all scales						
Out beyond: <none> (minimum scale) In beyond: <none> (maximum scale)</none></none>	O Don't show lay	ver when zoomed:				A 44		
In beyond: <none> (maximum scale)</none>	Out beyond:	<none></none>	<ul> <li>(minii)</li> </ul>	num scale)			)	
OK Cancel Apply	In beyond:	<none></none>	v (max	imum scale)		6 Q	F	
OK Cancel Apply						52		
OK Cancel Apply								
OK Cancel Apply								
OK Cancel Apply								
OK Cancel Apply								
OK Cancel Apply								
						ОК	Cancel	Apply

2. On the *Lucity GIS* Edit toolbar, click the Alias Import button. The following message will appear:



3. Click Yes to continue. The Lucity process log will display the results of the import:



#### Direct Spatial Updates tool

The Direct Spatial Updates tool allows users to directly update a Lucity record from a feature that shares a location without updating the feature that is linked to the Lucity record.

<b>i</b>	.ucity	y Relati	ionship L	lpdates	1	ł	1	-	1st	2	APTer	+	1	
Lu	city I	Feature	Class:											
SV	Pipe	(Sanita	ry Pipe In	ventory)										
- F	Relati	ionship li	nfo:											
	•		Include Setting in Run?	RelateID	Related Feature Class		Relationship Type	Distance Value	Related Feature Class Field		Lucity Field to Update	Calculate Lucity ID	Do not overwrite a non-null value	Update value to null if no relationship is found
		•		279	cmParcel		Intersects	• 0	APN		NT_USER20			
		0		0	•			• 0	0					
(	Proce	ess Optio records	ons s in Lucity	y feature cla	ss 🔿 Selected features in Luc	ity fea	ature class 🔘 Selected featu	res in relate	d feature class		Run Update	5	Cancel	

#### **Features**

- Updates a Lucity module from a feature class that isn't linked to the Lucity module. It does this without updating the feature class that is linked to Lucity.
- This still requires the Lucity module to be related to a feature class as this is how the spatial update is calculated
- Does not require users to be in an ArcMap edit session.
- Is faster than a standard spatial relationship update.
- Direct Spatial Updates are only done on demand unlike spatial relationships which are automatically updated in many instances.
- Multiple Direct Updates can be setup and run all at once.
- Direct Updates are saved so they can be run in the future.

#### Example

- Your Sewer Service Lateral Inventory module needs to have the owner information populated.
- Owner information can be found in a Parcel feature class
- Owner information is not stored in the feature class linked to the service lateral inventory module.
  - You don't really want to add fields to your service lateral feature class to store owner information since this can change frequently.
- You can use the Direct Spatial Updates tool to setup a spatial relationship between the service lateral and parcel feature classes that will update the owner information in Lucity with the data in the Parcel feature class.
  - This is done without adding fields to your service lateral feature class and without having to update any fields in the GIS.

#### **Relationship Types**

• From Intersect: Finds any features in the Related Feature Class that intersect the from point of the feature in the Lucity Feature Class. This relationship only works for polyline, edge, or complex edge features.

- **To Intersect:** Finds any features in the Related Feature Class that intersect the To Point of the feature in the Lucity Feature Class. This relationship only works for polyline, edge, or complex edge features.
- **Contained by:** Finds any features in the Lucity Feature Class that are contained by features in the Related Feature Class. The Related Feature Class must be a polygon feature class.
- Intersects: Finds the first feature in the Related Feature Class that intersects the feature in the Lucity Feature Class.
- To Intersect Distance: Finds the first feature in the Related Feature Class that intersects the feature in the Lucity Feature Class. It then calculates the distance along the related feature between the intersection location and to point. If the Lucity Feature Class is of a polyline geometry type then it requires the 'to point' of the Lucity feature to intersect the related feature. This relationship type requires the related feature class to be a polyline.
- From Intersect Distance: Finds the first feature in the Related Feature Class that intersects the feature in the Lucity Feature Class. It then calculates the distance along the related feature between the intersection location and the from point. If the Lucity Feature Class is of a polyline geometry type then it requires the 'to point' of the selected feature to intersect the related feature. This relationship type requires the related feature class to be a polyline geometry type.
- Midpoint Intersect: Finds any feature in the Related Feature Class that intersects the midpoint of the feature in the Lucity Feature Class. This relationship is designed for polyline, edge, or complex edge features as the selected feature class, and a polygon feature for the Related Feature Class.
- Is Within a Distance of: Finds all features in the Related Feature Class that are with a specified distance of the feature in the Lucity Feature Class.

Note:\_\_\_

#### To Setup a Direct Spatial Relationship

- 1. If there is a set of records to run the tool against select them.
- 2. On the Editor Toolbar click on the 🖊 button. The following window will appear:

L	Lucity ucity wPipe	y Relat Feature (Sanita	ionship U Class: ny Pipe In	Jpdates ventory)	1	÷	1		124	2	Set-14	F+	1	
	Relati	ionship	Info:											
	•		Include Setting in Run?	RelateID	Related Feature Class		Relationship Type	Distance Value	Related Feature Class Field		Lucity Field to Update	Calculate Lucity ID	Do not overwrite a non-null value	Update value to null if no relationship is found
		Þ		279	cmParcel		Intersects 🗸	0	APN		NT_USER20			
		θ		0				0	•	)	9			
	Proce	ess Optio	ons Is in Lucit	y feature cla	ss ⊘ Selected features in Luci	ity fea	ature class	es in related	feature class		Run Update	s	Cancel	4

- 3. Select a *Lucity Feature Class*. This list will show all feature classes in the map that are related to Lucity. The Lucity module that is related to this feature class will be updated by the relationship.
- 4. Click the + button to add a relationship.
- 5. Enter the name of the *Related Feature Class*. Click the ... button for a list of all feature classes that are in the map. This is the feature class that will provide the data to update the Lucity module.
- 6. Select the *Relationship Type* and fill out the *Distance* value if needed.
- 7. Select the *Related Feature Class Field*. Click the ... button for a list of fields in the *Related Feature Class*. This is the field that will provide the data to update the Lucity module.
- 8. Select the *Lucity Field to Update*. Click the ... button for a list of the fields that can be updated in the Lucity module. This is the field in Lucity that will be updated.
- 9. Mark any desired settings.
- 10. Select the desired *Process Option*.
- 11. Check the *Include Setting in Run*? box for one or more Direct Spatial Updates.
- 12. Click Run Updates.
- 13. The process log will appear and provide information about the process.

Log Everything Gathenng settings for direct relate [279] Starting run on lucity feature class option Processing feature [12] Processing feature [13]
Gathering settings for direct relate [279] Starting run on lucity feature class option Processing feature [12] Processing feature [13]
Starting run on lucity feature class option Processing feature [13] Processing feature [13]
Processing feature [12] Processing feature [13]
Processing feature [13]
Processing feature [318]
Processing feature [319]
Processing feature [320]
Processing feature [321]
Processing feature [322]
Processing feature [323]
Processing feature [451]
Processing feature [452]
The following SQL failed: UPDATE SWNET SET NT_USER20 = 30426017A WHERE NT_ID = 28858. Exception message = Incorrect syntax near 'A'.
Processing feature [453]
Processing feature [455]
Processing feature [360]
Processing feature [1654]
Run complete.
Completed all Updates!