Geodatabase Configuration Tool Overview

In this session, we'll introduce you to the Lucity Geodatabase Configuration tool. We'll give you information about geodatabase setup, feature class setup, and the many tools that can be used for configuration.

Table of Contents

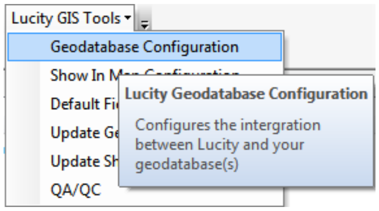
Geodatabase Configuration

Once you have created the geodatabase connections with the Lucity Administration tool you can use the Lucity Geodatabase Configuration tool in ArcCatalog to perform all other configurations.

Users must have the following Lucity Security permissions to use this tool:

- GIS > GIS System Configuration > Run
- GIS > Admin Connection Strings > Edit

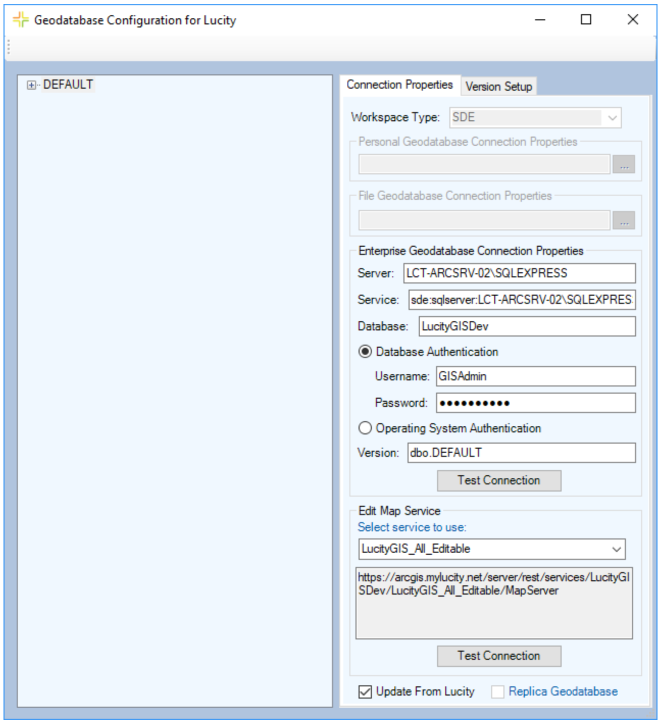
In ArcCatalog, Click on **Lucity GIS Tools >> Geodatabase Configuration**.



Lucity Geodatabase Configuration

Configures the intergration between Lucity and your geodatabase(s)

The following dialog will appear:



Workspace Type: SDE

Personal Geodatabase Connection Properties

File Geodatabase Connection Properties

Enterprise Geodatabase Connection Properties

Server: LCT-ARCSRV-02\SQLEXPRESS

Service: sde:sqlserver:LCT-ARCSRV-02\SQLEXPRES

Database: LucityGISDev

● Database Authentication

Username: GISAdmin

Password: ••••••••••

○ Operating System Authentication

Version: dbo.DEFAULT

Edit Map Service

Select service to use:

LucityGIS_All_Editable

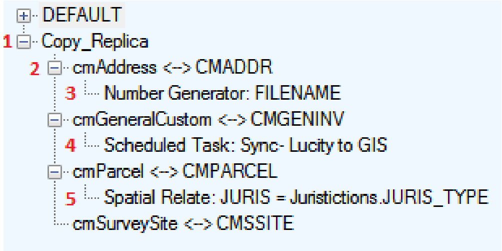
https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_All_Editable/MapServer

☑ Update From Lucity □ Replica Geodatabase

The left side of the dialog lists all the geodatabase connections that are currently configured with Lucity.

> *Note: If there are no connections configured, you will need to use the Lucity Administration Tool to create a new connection prior to using this tool.*

Expanding the nodes on the left side of the dialog shows the various components of the geodatabase. The dialog will be updated to show data applicable to the selected node type. The nodes can represent 5 types of data:



```
⊞ DEFAULT
1 ⊟ Copy_Replica
   2 ⊟ cmAddress <-> CMADDR
      3 Number Generator: FILENAME
     ⊟ cmGeneralCustom <-> CMGENINV
      4 Scheduled Task: Sync- Lucity to GIS
     ⊟ cmParcel <-> CMPARCEL
      5 Spatial Relate: JURIS = Juristictions.JURIS_TYPE
       cmSurveySite <-> CMSSITE
```

1. **Geodatabase:** At a minimum you will have at least one geodatabase connection and it will be called DEFAULT. Selecting this type of node will let you modify the connection information and version setup for the geodatabase.

2. **Feature Class:** This will be listed in the format of “{Feature class name} <-> {Lucity table name}”. For the image above, cmAddress is the feature class name and that feature class is mapped to the Lucity CMADDR table. Selecting this type of node will let you modify the properties for the feature class and its fields.

3. **Number Generator:** This will start with the word “Number Generator” and will then list the feature class field name that is configured. Select this node to modify the number generator properties.

4. **Scheduled Task:** This will start with the word “Scheduled Task” and will then list the type of GIS Scheduled Task. Select this node to modify the scheduled task properties.

5. **Spatial Relate:** This will start with the word “Spatial Relate” and will then list the feature class field name that is updated. Select this node to modify the spatial relationship properties.

Connection Properties

The Connection Properties tab shows you the geodatabase connection information. To setup a Personal or File geodatabase, simply browse to the database location. ArcSDE setup is covered in the following section.

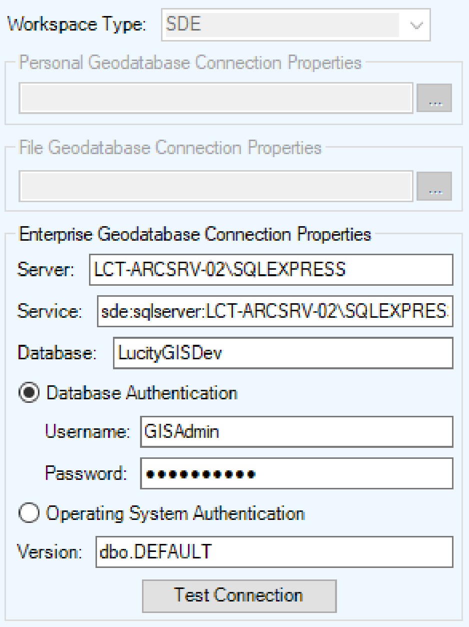
Enterprise Geodatabase Connection Properties

- **Server:** This must contain the name of the machine where ArcSDE is installed.

- **Service:** The name of the instance for the SDE database. This supports either spatial or direct connections.

- **Spatial Connect:** This field should contain the port where ArcSDE is installed. By default, this is typically 5151. Do not include the /tcp identifier; enter only the number for the port.

- **Direct Connect:** Enter the name of the direct connect driver and the name of the server instance.
  - **SQL Server Example:** sde:sqlserver:GIS_SERVER\DATA
  - **Oracle Example:** sde:Oracle11g:GIS_SERVER\DATA



Workspace Type: SDE

Personal Geodatabase Connection Properties

File Geodatabase Connection Properties

Enterprise Geodatabase Connection Properties

Server: LCT-ARCSRV-02\SQLEXPRESS

Service: sde:sqlserver:LCT-ARCSRV-02\SQLEXPRES

Database: LucityGISDev

● Database Authentication

Username: GISAdmin

Password: ●●●●●●●●●●

○ Operating System Authentication

Version: dbo.DEFAULT

- **Database:** This must contain the name of your SQL Server geodatabase. Instead, it is the geodatabase that contains the infrastructure data that you want to integrate with the desktop. For Oracle geodatabases this must be blank.

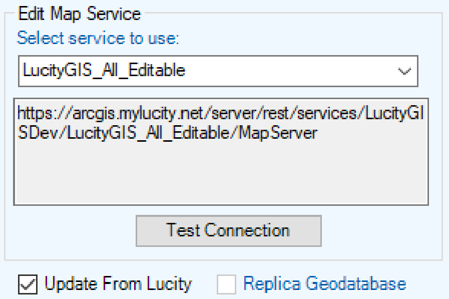
- **Authentication type:** Used by Lucity to connect to the geodatabase. If you specify DB you must also populate the UserName and Password fields.

UserName: If using DB authentication type, you must specify a user. This user must have permission to ALL feature classes linked to Lucity.

Password: If using DB authentication type, you must also specify a password for the user.

- **Version:** This information is always required; it designates the name of the ArcSDE version that Lucity will use when connecting to the geodatabase. For Oracle, the Version is case sensitive.

Edit Map Service



Edit Map Service

Select service to use:

LucityGIS_All_Editable

https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_All_Editable/MapServer

☑ Update From Lucity □ Replica Geodatabase

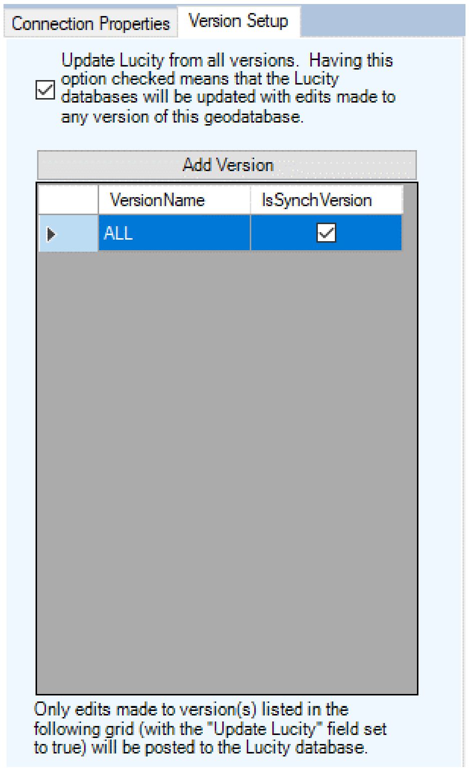
- **URL:** This is the URL for a map/feature service that contains this geodatabase’s feature classes linked to Lucity.

- **Update From Lucity:** This indicates if the geodatabase should be updated with edits made in the Lucity desktop and web interfaces.

- **Replica Geodatabase:** This indicates if the geodatabase is a replica geodatabase. If this is checked, functionality with the configuration tool will change preventing some actions (such as deleting feature classes) and enable other actions (such as associating feature classes)

Version Setup

Clients using an enterprise geodatabase (ArcSDE) can indicate which versions of their geodatabase are "Lucity versions". This gives users the ability to selectively choose which versions should update the Lucity database when they are edited in ArcMap.



☑ Update Lucity from all versions. Having this option checked means that the Lucity databases will be updated with edits made to any version of this geodatabase.

	VersionName	IsSynchVersion
▸	ALL	☑

Only edits made to version(s) listed in the following grid (with the "Update Lucity" field set to true) will be posted to the Lucity database.

> *Note: If **Update Lucity from all Versions** is checked then the information listed in the grid is ignored as edits to ALL versions of the geodatabase will be posted to the Lucity database. If that option is not checked, then edits made to only those versions listed in the grid with the **IsSyncVersion** option checked will update Lucity.*

Add/Delete a Version

To add a version:

1. Click the **Add Version** button.
2. A new line will be added to the version grid. Fill in the version name and check **IsSyncVersion** if you want to update the version.

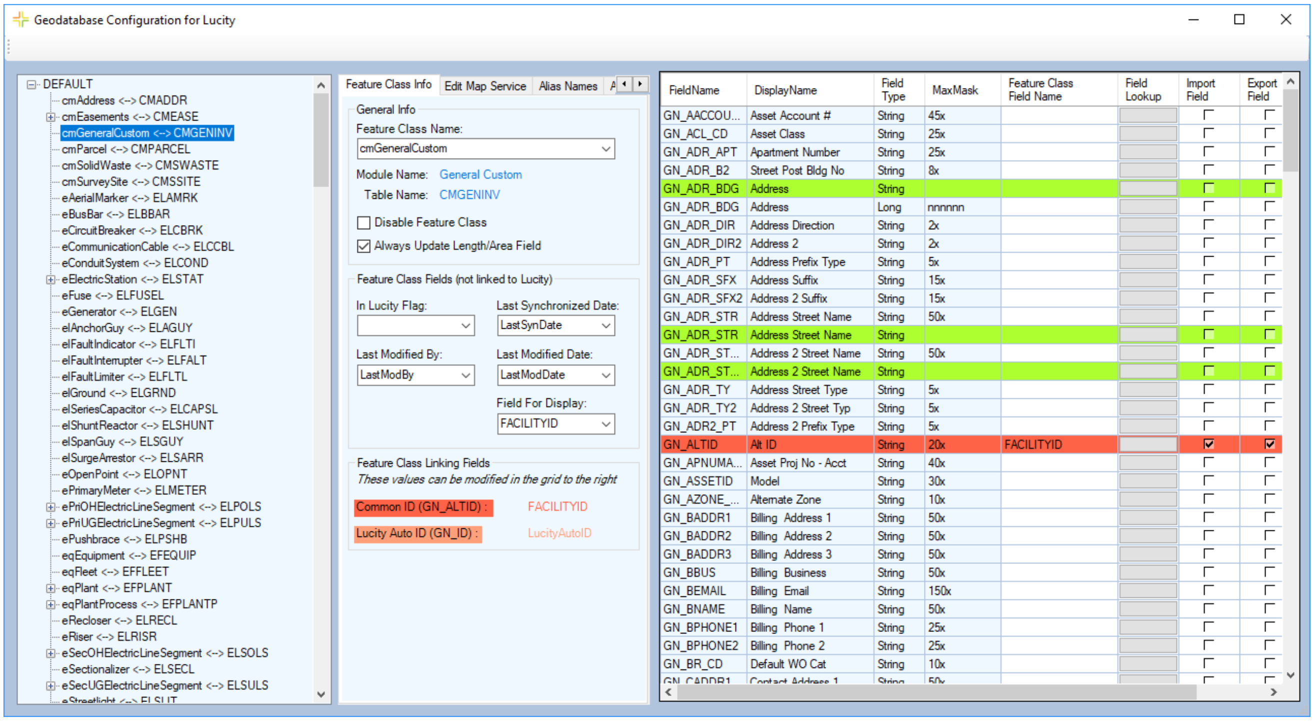
> *Note: For Oracle geodatabases, this information is case-sensitive.*

To delete a version:

1. Right-click on the version you want to delete and choose **Delete**.
2. The version will be removed from the grid.

Feature Class Configuration

To view feature class configurations, expand the correct database node from the grid on the left. A list of all feature class mappings will be displayed. Select the feature class node to view its configuration.



Geodatabase Configuration for Lucity

DEFAULT
- cmAddress <--> CMADDR
- cmEasements <--> CMEASE
- cmGeneralCustom <--> CMGENINV
- cmParcel <--> CMPARCEL
- cmSolidWaste <--> CMSWASTE
- cmSurveySite <--> CMSSITE
- eAerialMarker <--> ELAMRK
- eBusBar <--> ELBBAR
- eCircuitBreaker <--> ELCBRK
- eCommunicationCable <--> ELCCBL
- eConduitSystem <--> ELCOND
- eElectricStation <--> ELSTAT
- eFuse <--> ELFUSEL
- eGenerator <--> ELGEN
- elAnchorGuy <--> ELAGUY
- elFaultIndicator <--> ELFLTI
- elFaultInterrupter <--> ELFALT
- elFaultLimiter <--> ELFLTL
- elGround <--> ELGRND
- elSeriesCapacitor <--> ELCAPSL
- elShuntReactor <--> ELSHUNT
- elSpanGuy <--> ELSGUY
- elSurgeArrestor <--> ELSARR
- eOpenPoint <--> ELOPNT
- ePrimaryMeter <--> ELMETER
- ePriOHElectricLineSegment <--> ELPOLS
- ePriUGElectricLineSegment <--> ELPULS
- ePushbrace <--> ELPSHB
- eqEquipment <--> EFEQUIP
- eqFleet <--> EFFLEET
- eqPlant <--> EFPLANT
- eqPlantProcess <--> EFPLANTP
- eRecloser <--> ELRECL
- eRiser <--> ELRISR
- eSecOHElectricLineSegment <--> ELSOLS
- eSectionalizer <--> ELSECL
- eSecUGElectricLineSegment <--> ELSULS
- eStreetlight <--> ELSLIT

General Info

Feature Class Name: cmGeneralCustom

Module Name: General Custom

Table Name: CMGENINV

☐ Disable Feature Class

☑ Always Update Length/Area Field

Feature Class Fields (not linked to Lucity)

In Lucity Flag:

Last Synchronized Date: LastSynDate

Last Modified By: LastModBy

Last Modified Date: LastModDate

Field For Display: FACILITYID

Feature Class Linking Fields

These values can be modified in the grid to the right

Common ID (GN_ALTID) : FACILITYID

Lucity Auto ID (GN_ID) : LucityAutoID

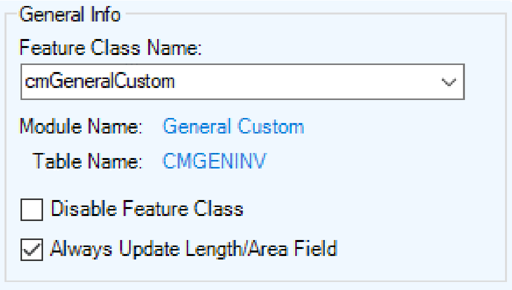
FieldName	DisplayName	Field Type	MaxMask	Feature Class Field Name	Field Lookup	Import Field	Export Field
GN_AACCOU...	Asset Account #	String	45x			☐	☐
GN_ACL_CD	Asset Class	String	25x			☐	☐
GN_ADR_APT	Apartment Number	String	25x			☐	☐
GN_ADR_B2	Street Post Bldg No	String	8x			☐	☐
GN_ADR_BDG	Address	String				☐	☐
GN_ADR_BDG	Address	Long	nnnnnn			☐	☐
GN_ADR_DIR	Address Direction	String	2x			☐	☐
GN_ADR_DIR2	Address 2	String	2x			☐	☐
GN_ADR_PT	Address Prefix Type	String	5x			☐	☐
GN_ADR_SFX	Address Suffix	String	15x			☐	☐
GN_ADR_SFX2	Address 2 Suffix	String	15x			☐	☐
GN_ADR_STR	Address Street Name	String	50x			☐	☐
GN_ADR_STR	Address Street Name	String				☐	☐
GN_ADR_ST...	Address 2 Street Name	String	50x			☐	☐
GN_ADR_ST...	Address 2 Street Name	String				☐	☐
GN_ADR_TY	Address Street Type	String	5x			☐	☐
GN_ADR_TY2	Address 2 Street Typ	String	5x			☐	☐
GN_ADR2_PT	Address 2 Prefix Type	String	5x			☐	☐
GN_ALTID	Alt ID	String	20x	FACILITYID		☑	☑
GN_APNUMA...	Asset Proj No - Acct	String	40x			☐	☐
GN_ASSETID	Model	String	30x			☐	☐
GN_AZONE_...	Alternate Zone	String	10x			☐	☐
GN_BADDR1	Billing Address 1	String	50x			☐	☐
GN_BADDR2	Billing Address 2	String	50x			☐	☐
GN_BADDR3	Billing Address 3	String	50x			☐	☐
GN_BBUS	Billing Business	String	50x			☐	☐
GN_BEMAIL	Billing Email	String	150x			☐	☐
GN_BNAME	Billing Name	String	50x			☐	☐
GN_BPHONE1	Billing Phone 1	String	25x			☐	☐
GN_BPHONE2	Billing Phone 2	String	25x			☐	☐
GN_BR_CD	Default WO Cat	String	10x			☐	☐
GN_CADDR1	Contact Address 1	String	50x			☐	☐

Feature Class Information Tab

General Form Information

- **Feature Class Name**: This is the name of the feature class. This is NOT the alias name.

> *Note: If the owner of the feature class is not dbo, then you must specify the owner in the format of "Owner.FeatureClassName".*



General Info

Feature Class Name: cmGeneralCustom

Module Name: General Custom

Table Name: CMGENINV

☐ Disable Feature Class

☑ Always Update Length/Area Field

- **Module Name**: This field is read-only for existing items in the feature class list. This is the name of the Lucity module to which the geodatabase feature class is related.

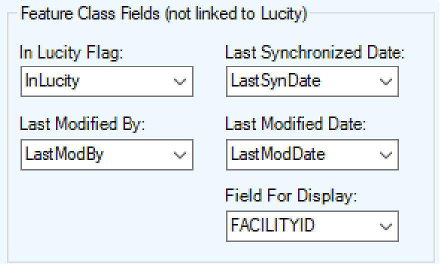
- **Table Name**: This field is read-only and shows the Lucity table name that corresponds to the selected Lucity module.

- **Disable Feature Class**: This flag allows you to disable a feature class that you are not using, but do not want to delete from the setup.

- **Always Update Length/Area**: This flag indicates whether the Lucity GIS Extension should update the feature class field linked to the Lucity's length/area field when the shape of a feature has changed. If checked, the program will update the field in the feature class mapped to the Lucity length/area field. It updates the values in this field based on the shape.length and shape.area fields. If this option is left unchecked, the Length/Area fields will only be populated when the feature is first created.

Feature Class Fields (Not linked to Lucity)

- **In Lucity Flag Field:** This field is controlled by Lucity to indicate to users whether each record in the feature class has been synchronized with Lucity. This should be a short integer field and should be assigned a domain that classifies 0=No or False and 1= Yes or true. This domain will make it easier for end users to understand the values that will be stored in the field.



Feature Class Fields (not linked to Lucity)

In Lucity Flag: InLucity

Last Synchronized Date: LastSynDate

Last Modified By: LastModBy

Last Modified Date: LastModDate

Field For Display: FACILITYID

- **Last Modified By:** This field is controlled by Lucity to indicate which user last modified the record from an edit session in the map.

- **Last Modified Date:** This field is controlled by Lucity to indicate what date the record was last modified from an edit session in the map.

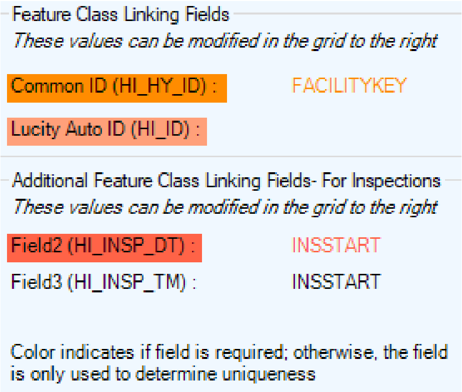
- **Last Synchronized Date:** This field is controlled by Lucity to indicate the date when the record was last synchronized with Lucity.

- **Field for Display:** This is the field name that will be displayed with the various Lucity GIS tools. By default, this field will be set to the common ID of the feature class.

Feature Class Linking Fields

- **Common ID:** (Required) The unique identifier assigned by the user for this asset. The value for this field cannot be directly modified; it is automatically populated based on the field mappings from the grid at the right of the page. Every module has one field that defines the asset as unique. These fields are highlighted in the grid to the right. To enter a value in this field, find the corresponding highlighted field and type the field name into the Feature Class Field Name column.

- **Lucity AutoID:** (Strongly Recommended) This field is used by Lucity to store an indexed long integer link between the records in the feature class and the records in the Lucity inventory table. This field must be long integer. The value for this field name is not editable; to update this value, use the grid to the right to find the corresponding highlighted field. Not having this field will impact the performance of some of the Lucity GIS tools as additional resources will be used to determine the AutoID value based upon the common ID.



Feature Class Linking Fields

These values can be modified in the grid to the right

Common ID (HI_HY_ID) : FACILITYKEY

Lucity Auto ID (HI_ID) :

Additional Feature Class Linking Fields- For Inspections

These values can be modified in the grid to the right

Field2 (HI_INSP_DT) : INSSTART

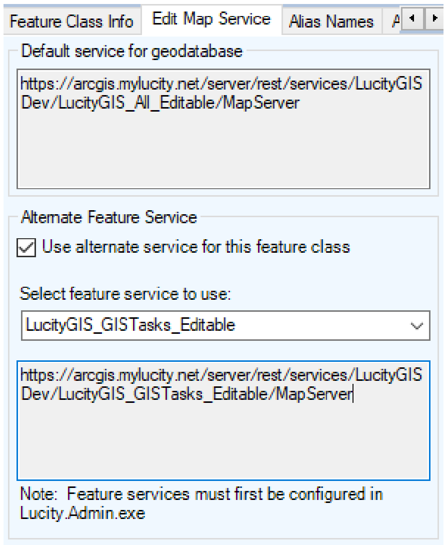
Field3 (HI_INSP_TM) : INSSTART

Color indicates if field is required; otherwise, the field is only used to determine uniqueness

- **Additional Linking Fields For Inspections:** These are additional fields that are used for inspection modules. The color indicates if the field is required. The value for this field name is not editable; to update this value, use the grid to the right to find the corresponding highlighted field.

Edit Map Service Tab

Some Lucity tools (Lucity Spatial Updater, Lucity GIS Updates via Feature Service, GIS Scheduled Tasks) interact with Lucity linked feature classes via feature services. The Edit Map Service tab can be used to define a feature service for an individual feature class. Note: By default, if a feature service hasn't been defined at the feature class level, Lucity will use the edit map service defined at the geodatabase level.



Default service for geodatabase

https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_All_Editable/MapServer

Alternate Feature Service

☑ Use alternate service for this feature class

Select feature service to use:

LucityGIS_GISTasks_Editable

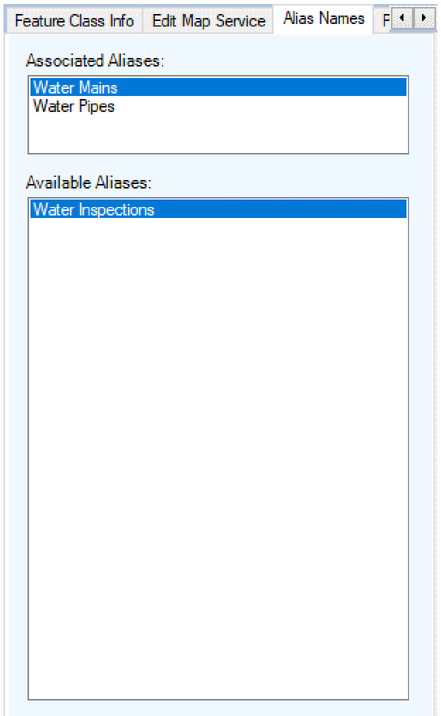
https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_GISTasks_Editable/MapServer

Note: Feature services must first be configured in Lucity.Admin.exe

- **Default Service for geodatabase:** This is read-only. This indicates the service that is defined at the geodatabase level. This is defined on the geodatabase connection info tab or in UI Admin in the Connection Strings module.
- **Alternate Feature Service-** Allows an admin to select a specific feature service to use for this feature class.
    - The dropdown contains a list of feature services as defined in the Lucity Admin GIS Services module.
    - Only services that have been defined as having feature access capabilities are shown.

Alias Names Tab

Aliases are alternate names for feature classes that provide a unique identity. They are used by the Lucity Webmap, Lucity Viewer, Lucity Mobile for Android, and any other Lucity application that interacts with map/feature services to identify which feature classes are linked to Lucity. These Lucity mapping applications check the feature classes loaded into them and check the display names of those feature classes against the alias names listed in the Geodatabase Configuration.



Associated Aliases:

Water Mains
Water Pipes

Available Aliases:

Water Inspections

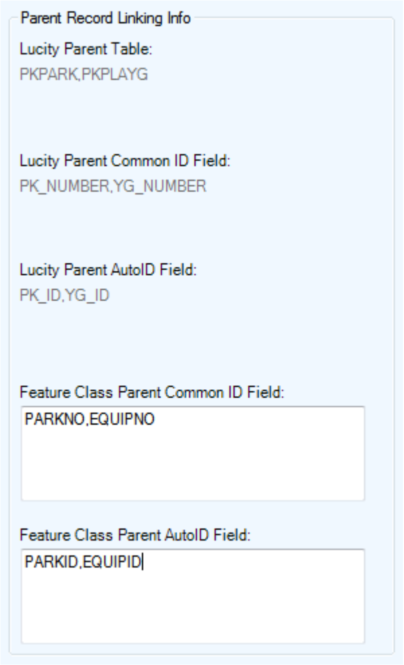
The Alias Names tab has two grids. The **Associated Aliases** grid is a list of all the aliases assigned to the feature class.

- Right-click on an existing record to get a menu with options to **Add**, **Edit**, **Delete**, or **Disassociate**.
- Disassociating a record in this grid will detach it from the selected feature class and move it to the Available Aliases grid.
- Whenever a feature class appears in the web map or mobile map with a name from this list, Lucity will connect it to the associated module.

The **Available Aliases** grid is a list of aliases already added but aren't associated to any feature class.

- Right-click on an existing record to get a menu with options to **Add**, **Edit**, **Delete**, or **Associate**.
- Associating a record in this grid will attach it to the selected feature class, remove it from this grid, and add it to the **Associated Aliases** grid for the selected feature class.

Parent Record Linking Tab



Parent Record Linking Info

Lucity Parent Table:
PKPARK,PKPLAYG

Lucity Parent Common ID Field:
PK_NUMBER,YG_NUMBER

Lucity Parent AutoID Field:
PK_ID,YG_ID

Feature Class Parent Common ID Field:
PARKNO,EQUIPNO

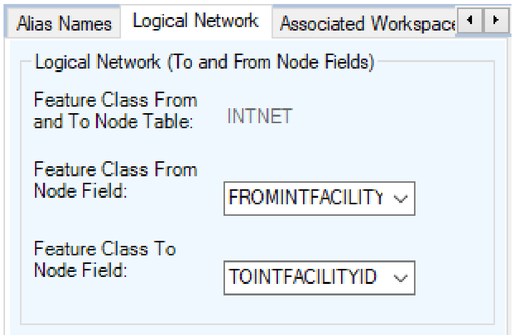
Feature Class Parent AutoID Field:
PARKID,EQUIPID

Some feature classes have parent-child relationships. Some relationships are required where others are not. For example, A Park Furniture feature can be associated to a Park feature, but it isn't a requirement. On the other hand, a Facility Site Asset feature must be associated to a Facility Site asset. These associations are maintained via a linking field in the child table. This field is typically a long integer field that stores the parent record's Auto ID (the ID assigned by the database). For Lucity to acknowledge this relationship, this field must be included in the feature class mappings.

The Parent Linking tab will assist you in populating the GIS field linked to the parent's Auto ID. If using this functionality, a user would just need to populate the parent's Common ID field and the Lucity GIS extension will handle the rest.

- **Lucity Parent Table:** This is a read-only field. This lists the table(s) that can have a relationship to the current feature class.
- **Lucity Parent Common ID Field:** This is a read-only field. These are the field(s) in the parent table(s). This is typically the same field that is used as the Common ID for the parent Table.
- **Lucity Parent Auto ID Field:** This is a read only field. These are the Auto ID field(s) in the parent table(s).
- **Feature Class Parent Common ID Field:** This is a field in the feature class that contains the string unique identifier that links the feature to the parent feature class or table. For example, if a Park Furniture feature class is being set up, this field will be the Park Number field. Separate multiple fields by commas. This field should correspond with the fields in the Lucity Parent Common ID field. Include the comma even if no field is to be used.
- **Feature Class Parent Auto ID Field:** This is a field in the feature class that contains the auto ID of the parent feature class or table. For example, if a Park Furniture feature class is being set up, this field will be the Park AutoID field. Separate multiple fields by commas. This field should correspond with the fields in the Lucity Parent AutoID field. Include the comma even if no field is to be used.

Logical Network Tab



Logical Network (To and From Node Fields)

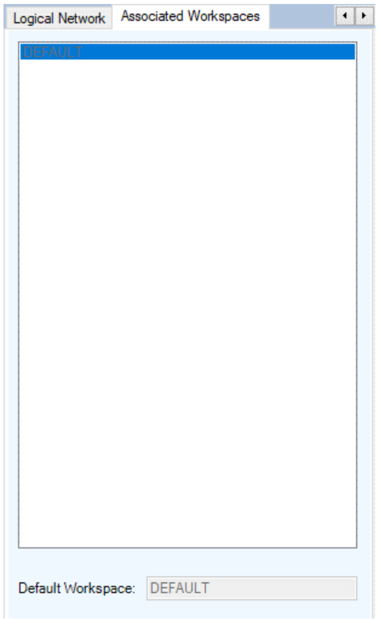
Feature Class From and To Node Table: INTNET

Feature Class From Node Field: FROMINTFACILITY

Feature Class To Node Field: TOINTFACILITYID

- **Feature Class From and To Node Table**: This is read-only. It shows which table the to-and-from-nodes will be stored. The feature class(es) that contains the to-and-from-node point features should be configured to sync to this Lucity table.
- **Feature Class From Node Field**: This field stores the name of the string field that will store the upstream or from-node identifier.
    - For Street Segments, this is the from-intersection and is optional, unless the Accident module is being used, in which case it is required.
    - This field should be a text or character field.
- **Feature Class To Node Field**: This field stores the name of the string field that will store the downstream or to-node identifier.
    - For Street Segments, this is the to-intersection and is optional*, unless the Accident* module *i*s being used, in which case it is required.
    - This field should be a text or character field.

Associated Workspaces Tab



DEFAULT

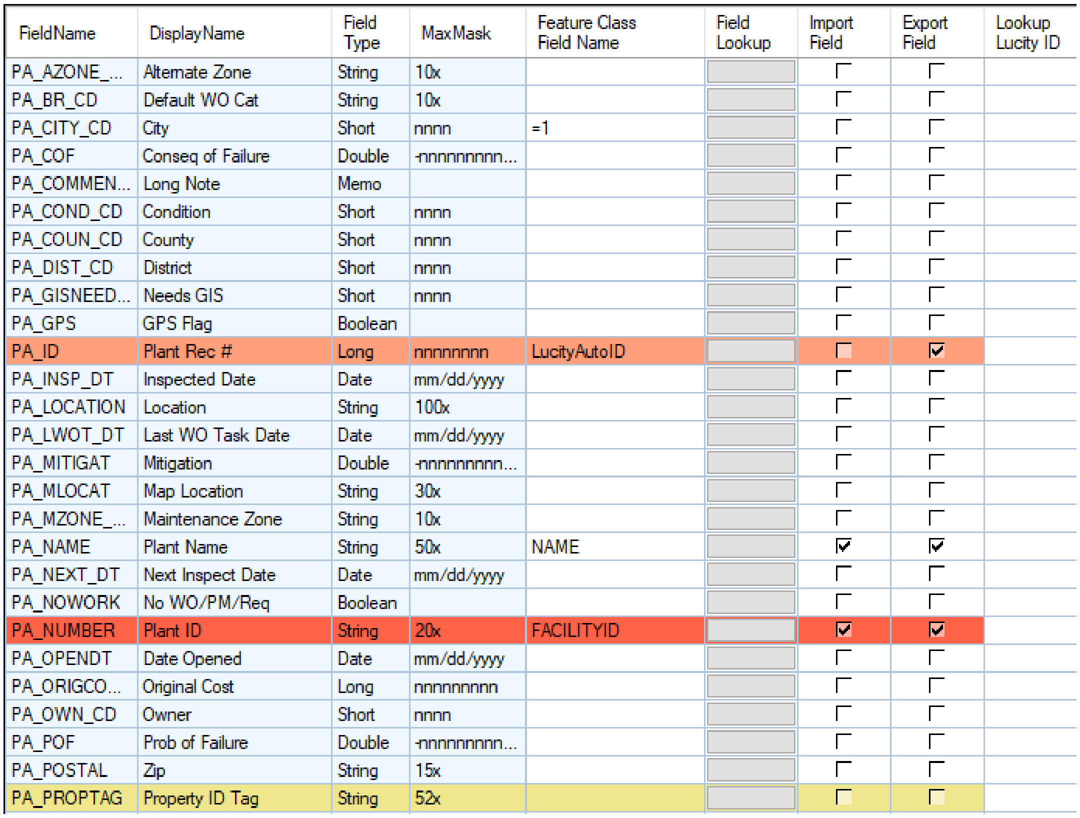
Default Workspace: DEFAULT

A feature class configuration can be associated between multiple geodatabase connections. For example, a client has a feature class named SewerPipe that exists in both a parent and replica geodatabase. Instead of having to create a feature class mapping for both geodatabases, the feature class mapping only must be created against the parent geodatabase connection, and then the feature class mapping can be associated to the replica geodatabase connection.

- The **Associated Workspaces** grid shows all the geodatabases that this feature class is associated to. This grid is read-only. To associate/disassociate a feature class there is a right-click context menu when you select the replica geodatabase node that gives you these options.
- **Default Workspace:** Each feature class is required to have a default workspace connection. The default workspace for a feature class is the workspace it is associated to that isn't marked as a replica workspace. Note: A feature class is not able to be associated to more than one non-replica geodatabase.

Feature Class Fields Grid

The feature class fields grid allows you to manage the feature class fields are mapped to Lucity fields. A mapping between the two enables the Lucity application to update the feature class when the data is updated in the Lucity desktop or web application. A mapping also enables the Lucity extension in ArcMap to update the Lucity database when the data is updated in the feature class during an ArcMap edit session.



FieldName	DisplayName	Field Type	MaxMask	Feature Class Field Name	Field Lookup	Import Field	Export Field	Lookup Lucity ID
PA_AZONE_...	Alternate Zone	String	10x			☐	☐	
PA_BR_CD	Default WO Cat	String	10x			☐	☐	
PA_CITY_CD	City	Short	nnnn	=1		☐	☐	
PA_COF	Conseq of Failure	Double	-nnnnnnnnn...			☐	☐	
PA_COMMEN...	Long Note	Memo				☐	☐	
PA_COND_CD	Condition	Short	nnnn			☐	☐	
PA_COUN_CD	County	Short	nnnn			☐	☐	
PA_DIST_CD	District	Short	nnnn			☐	☐	
PA_GISNEED...	Needs GIS	Short	nnnn			☐	☐	
PA_GPS	GPS Flag	Boolean				☐	☐	
PA_ID	Plant Rec #	Long	nnnnnnnn	LucityAutoID		☐	☑	
PA_INSP_DT	Inspected Date	Date	mm/dd/yyyy			☐	☐	
PA_LOCATION	Location	String	100x			☐	☐	
PA_LWOT_DT	Last WO Task Date	Date	mm/dd/yyyy			☐	☐	
PA_MITIGAT	Mitigation	Double	-nnnnnnnnn...			☐	☐	
PA_MLOCAT	Map Location	String	30x			☐	☐	
PA_MZONE_...	Maintenance Zone	String	10x			☐	☐	
PA_NAME	Plant Name	String	50x	NAME		☑	☑	
PA_NEXT_DT	Next Inspect Date	Date	mm/dd/yyyy			☐	☐	
PA_NOWORK	No WO/PM/Req	Boolean				☐	☐	
PA_NUMBER	Plant ID	String	20x	FACILITYID		☑	☑	
PA_OPENDT	Date Opened	Date	mm/dd/yyyy			☐	☐	
PA_ORIGCO...	Original Cost	Long	nnnnnnnnn			☐	☐	
PA_OWN_CD	Owner	Short	nnnn			☐	☐	
PA_POF	Prob of Failure	Double	-nnnnnnnnn...			☐	☐	
PA_POSTAL	Zip	String	15x			☐	☐	
PA_PROPTAG	Property ID Tag	String	52x			☐	☐	

- **FieldName:** The field name in the Lucity table.
- **DisplayName:** The field caption in Lucity.
- **Field Type:** The type of data stored in the field.
- **MaxMask:** The data format. A numeric value followed by an "x" indicates the number of characters allowed.
- **Feature Class Field Name:** This is the name of the field in the feature class. This is NOT the field alias name. If you are unsure of the field name, use the **Field Lookup** button.
    - In version 2016+, you may specify a default value here, instead of a field. Just add the prefix "=" in front of the value and all new records synced from GIS will have that field in Lucity populated with that value. This value is validated when a validation is run against the feature class, and during the sync process from GIS to Lucity.

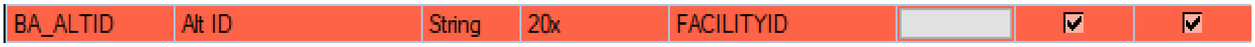
      > *Note: Do NOT put quotes around the default value, even if it is a string value. The program will detect what the value is, based on the leading "=", and parse it into the correct data type.*
- **Field Lookup:** This button column displays a list of the feature class fields.

  > *Note: If a connection to the geodatabase was unsuccessful, then no fields will be listed.*
- **Import Field:** Indicates that data in the field will be imported into Lucity.

- **Export Field:** Indicates that data in the field will be updated in GIS from Lucity.

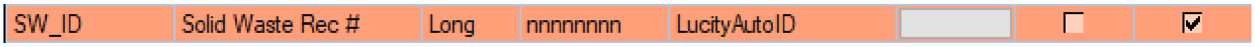
- **Lookup Lucity ID:** This column only works for feature classes linked to Lucity inspection modules and only for fields linked to a parent record number. The feature class must contain an ID for the Lucity asset the inspection is for. Lucity expects this field to contain the parent record number. If the ID stored in the feature class is the asset's Common ID instead of the parent record number, check the Lookup Lucity ID field. This is necessary because Lucity needs the parent record number and this will cause the sync process to look up the parent record number based on the Common ID of the parent.

Color Coding



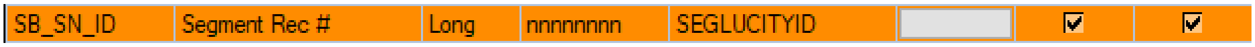
BA_ALTID	Alt ID	String	20x	FACILITYID		☑	☑

- **Red:** Required Field. This is the Common ID (FacilityID) field for the asset inventory module.



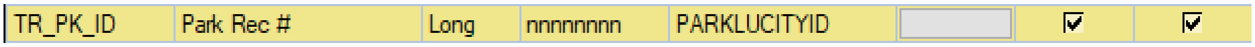
SW_ID	Solid Waste Rec #	Long	nnnnnnnn	LucityAutoID		□	☑

- **Pink:** Recommended Field**.** Typically, this is the Lucity Auto ID field. Although, technically this field isn't required, it is strongly recommended that the feature class contain a field that stores the Lucity Auto ID. Not having this field will impact the performance of some of the Lucity GIS tools as additional resources will be used to determine the Auto ID value based on the common ID.



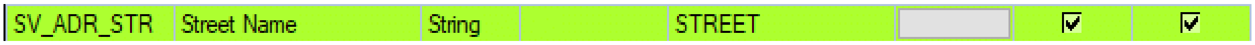
SB_SN_ID	Segment Rec #	Long	nnnnnnnn	SEGLUCITYID		☑	☑

- **Orange:** Required Field. Stores the required ID number of related features (the parent record number)



TR_PK_ID	Park Rec #	Long	nnnnnnnn	PARKLUCITYID		☑	☑

- **Yellow:** These are considered parent-linking fields. They typically store the ID of the related feature.



SV_ADR_STR	Street Name	String		STREET		☑	☑

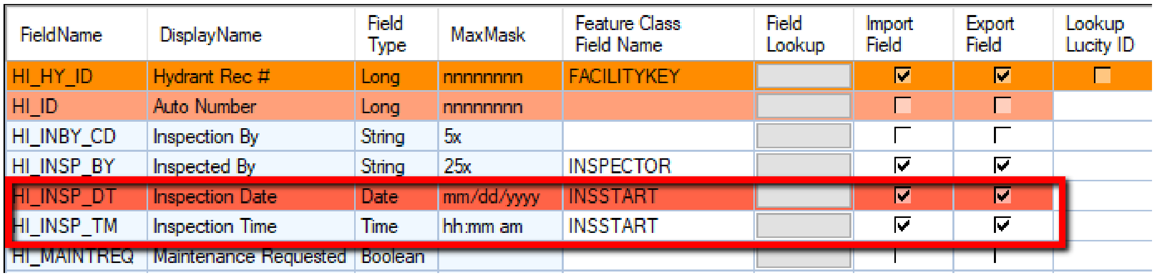
- **Green:** Building and Address composite fields.

Lucity Code/Type fields

Only the Lucity code fields are displayed in the Feature Class Fields grid. The Domain Configuration tool can be used to further define the mapping between a GIS field to a Lucity picklist field. Lucity supports mapping a text GIS domain to Lucity numeric picklist and vice versa.

Composite Date fields

Lucity Date and Time fields can link to a GIS composite DateTime field. The difference between the two is that Lucity stores the Date in one field and the Time in another. A typical Esri Date field can store both the Date and Time component all in one field. To link a GIS composite DateTime field to Lucity, link the GIS field to both the Lucity Date field and the Lucity Time field.



FieldName	DisplayName	Field Type	MaxMask	Feature Class Field Name	Field Lookup	Import Field	Export Field	Lookup Lucity ID
HI_HY_ID	Hydrant Rec #	Long	nnnnnnnn	FACILITYKEY		☑	☑	□
HI_ID	Auto Number	Long	nnnnnnnn			□	□	
HI_INBY_CD	Inspection By	String	5x			□	□	
HI_INSP_BY	Inspected By	String	25x	INSPECTOR		☑	☑	
HI_INSP_DT	Inspection Date	Date	mm/dd/yyyy	INSSTART		☑	☑	
HI_INSP_TM	Inspection Time	Time	hh:mm am	INSSTART		☑	☑	
HI_MAINTREQ	Maintenance Requested	Boolean						

X/Y fields

Lucity X-coordinate and Y-coordinate fields can be manually linked to a GIS field. However, if they are not mapped to a GIS field, then Lucity will automatically populate these Lucity fields based on the feature's x/y coordinate information during the ArcMap sync process.

Composite Address fields

Lucity breaks out street address information into the following fields:

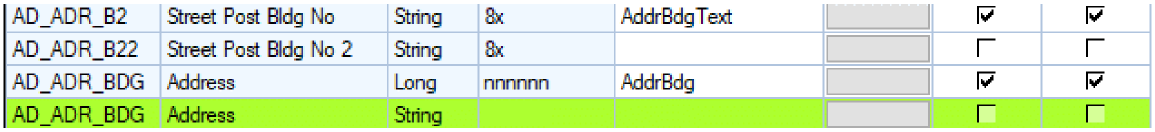
- Building Number
- Building Suffix
- Street Direction
- Street Prefix
- Street Name
- Street Type
- Street Suffix

Each of these fields that you use in Lucity need to have a matching field in the feature class. Alternatively, you can use the composite address fields in the feature class fields grid to map a field in your feature class that contains the entire building number or the entire street name.

Note: If you map to a composite field, you should NOT map to the individual Building or Street component fields.

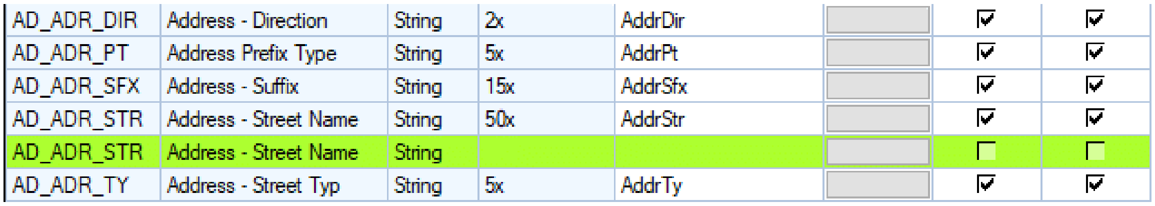
Multiple field configuration

- Building Configuration



AD_ADR_B2	Street Post Bldg No	String	8x	AddrBdgText		☑	☑
AD_ADR_B22	Street Post Bldg No 2	String	8x			□	□
AD_ADR_BDG	Address	Long	nnnnnn	AddrBdg		☑	☑
AD_ADR_BDG	Address	String				□	□

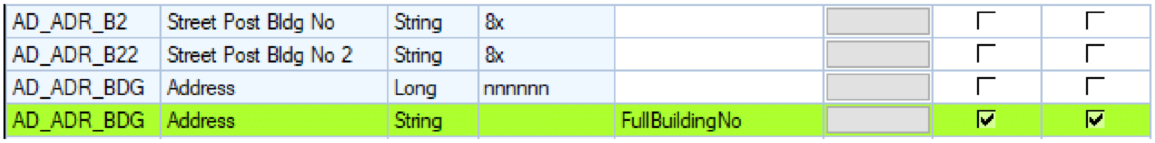
- Street Name Configuration



AD_ADR_DIR	Address - Direction	String	2x	AddrDir		☑	☑
AD_ADR_PT	Address Prefix Type	String	5x	AddrPt		☑	☑
AD_ADR_SFX	Address - Suffix	String	15x	AddrSfx		☑	☑
AD_ADR_STR	Address - Street Name	String	50x	AddrStr		☑	☑
AD_ADR_STR	Address - Street Name	String				□	□
AD_ADR_TY	Address - Street Typ	String	5x	AddrTy		☑	☑

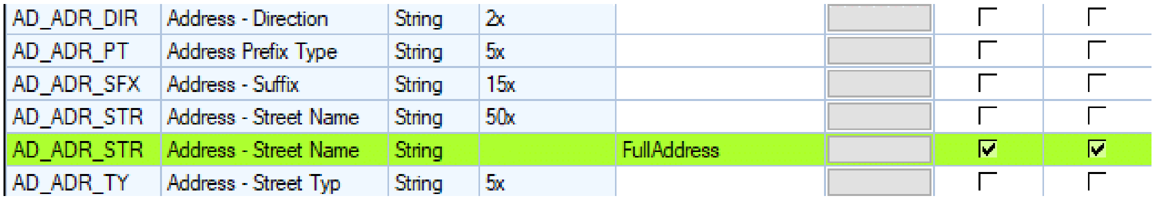
Single field configuration (Composite)

- Building Configuration



AD_ADR_B2	Street Post Bldg No	String	8x			☐	☐
AD_ADR_B22	Street Post Bldg No 2	String	8x			☐	☐
AD_ADR_BDG	Address	Long	nnnnnn			☐	☐
AD_ADR_BDG	Address	String		FullBuildingNo		☑	☑

- Street Name Configuration



AD_ADR_DIR	Address - Direction	String	2x			☐	☐
AD_ADR_PT	Address Prefix Type	String	5x			☐	☐
AD_ADR_SFX	Address - Suffix	String	15x			☐	☐
AD_ADR_STR	Address - Street Name	String	50x			☐	☐
AD_ADR_STR	Address - Street Name	String		FullAddress		☑	☑
AD_ADR_TY	Address - Street Typ	String	5x			☐	☐

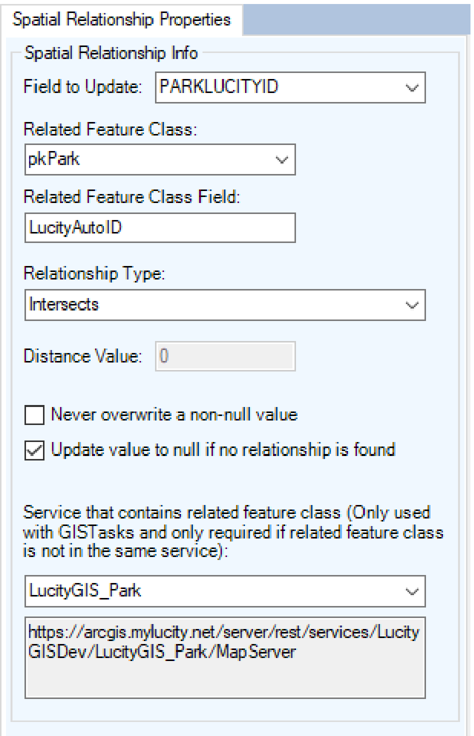
Spatial Relationships

Spatial relationships automatically update features based on their location relative to other features, to aid general editing and maintaining these relationships in ArcMap.

There are four ways in which spatial relationships are triggered:

1. Within an ArcMap edit session, when a feature is created or when an existing feature's shape is changed.
2. Within an ArcMap edit session, using the *Update Spatial Relationships* tool on the Lucity GIS Edit toolbar. This tool is typically used if the data was imported using a non-Lucity import tool or was added during a non-Lucity edit session.
3. When the Lucity Data Loader is used.
4. When features are synchronized through a scheduled task (GIS to Lucity), if the option is set.

> *Note: There are some spatial relationships that are hard-coded and updated automatically by the Lucity GIS extension during the ArcMap sync process. These include to/from-node information for Sewer Pipes, Storm Conduits, Water Pipes (Distribution, Raw, and Recycled), Street Mainline Cabling, Park Irrigation Pipes, Facility Irrigation Pipes, and Fiber Optic Cables*



Spatial Relationship Properties

Spatial Relationship Info

Field to Update: PARKLUCITYID

Related Feature Class: pkPark

Related Feature Class Field: LucityAutoID

Relationship Type: Intersects

Distance Value: 0

□ Never overwrite a non-null value

☑ Update value to null if no relationship is found

Service that contains related feature class (Only used with GISTasks and only required if related feature class is not in the same service):

LucityGIS_Park

https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_Park/MapServer

- **Field to Update:** The field name in the selected feature class that will be updated.

- **Related Feature Class:** The name of the feature class that is related to the selected feature class.

> *Note: The related feature class must be stored in the same geodatabase as the selected feature class.*

- **Related Feature Class Field:** The field name in the related feature class that contains the value that will be used to populate the **Field to Update**.

- **Relationship Type:** The type of relationship. See the following section for a description of the relationship types.

- **Distance Value:** Distance used with the relationship. This field only applies if using the "Is Within a Distance Of" relationship type.

- **Never overwrite a non-null value:** Check this box to ensure that data populated in the **Field To Update** is never overwritten if a value already exists.

- **Update value to null if no relationship is found:** Check this box to allow the Field to Update to be set to null if no relationship is found.

- **Service that contains related feature class-** Provides the service to use for GIS Scheduled tasks if the related feature class is in a different service.

<u>**Relationship Types**</u>

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

- **Is Contained by:** Finds any features in the selected 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 selected feature class.

- **US Intersect Distance:** Finds the first feature in the related feature class that intersects the feature in the selected feature class and then calculates the distance along the line that the intersection occurs (from the to-point). The selected feature class must be a polyline, edge, or complex edge feature class.

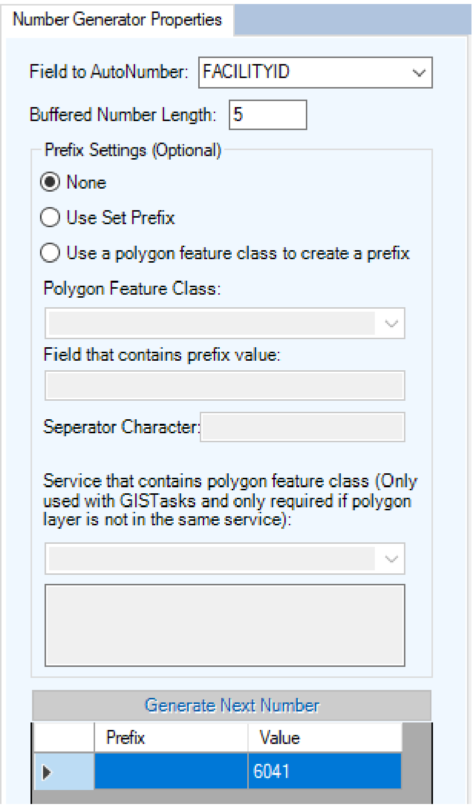
- **Midpoint Intersect:** Finds any feature in the related feature class that intersects the midpoint of the feature in the selected feature class. This relationship is designed for polyline, edge, or complex edge features as the selected feature class, and a polygon feature for the related feature class.
- **Force Related Feature to Self-Update:** This relationship finds any features that intersect the feature in the selected feature class and adds them to the edit cache so that they are synced to the desktop even if the records have not changed. This is used primarily for the Street Segment feature class (as the selected feature class) and the Street Intersection feature class (as the related feature class). This forces the Intersections to automatically recalculate the Intersection configurations for the diagram in the desktop Intersection module when Street Segments are changed.
- **Is Within Distance of:** Finds all features in the related feature class that are with a specified distance of the feature in the selected feature class.

Number Generator

Number generators are designed to assist the user in populating a feature class field with a unique value. When features are created or modified in an ArcMap edit session, if the field configured with a number generator doesn't contain a value, the Lucity GIS extension will populate this field with the next incremental value.

There are four ways in which number generators are triggered:

1. Within an ArcMap edit session, when a feature is created or edited.
2. Within an ArcMap edit session using the *Force Sync* tool on the Lucity GIS Edit toolbar. This tool is typically used if the data was imported using a non-Lucity import tool or was added during a non-Lucity edit session.
3. When the *Lucity Data Loader* is used.
4. When features are synchronized through a scheduled task (GIS to Lucity), if the option is set.



Number Generator Properties

Field to AutoNumber: FACILITYID

Buffered Number Length: 5

Prefix Settings (Optional)

● None

○ Use Set Prefix

○ Use a polygon feature class to create a prefix

Polygon Feature Class:

Field that contains prefix value:

Seperator Character:

Service that contains polygon feature class (Only used with GISTasks and only required if polygon layer is not in the same service):

	Prefix	Value
▶		6041

- **Field to AutoNumber**- The field that will be auto numbered. This should be a text field, large enough to support the numbers that will be generated based on the settings on this dialog
- **Buffered Number Length**- Use this field to indicate a fixed min length. This causes the number to contain buffered zeroes.
    - For example: If a buffered length of 5 is entered, and the next number generated is 985, the resulting auto number that will be populated is 00985.
    - This is optional and allows for easier number sorting.
- **Prefix Settings (Optional)**:
    - **None:** This is marked by default. If this remains checked, there will be no prefix used in the auto-number values.
    - **Use Set Prefix:** This allows specifying a prefix in the next number grid and a separator character.
    - **Use a polygon feature class to create a prefix:** Uses a polygon feature class field to generate a prefix based on a feature's spatial relation to the polygon feature class.
    - **Polygon Feature Class:** The name of the polygon feature class that the auto number prefix is based on.

      > *Note: This feature class does not have to be linked to Lucity, but it does have to reside in the same geodatabase as the selected feature class.*

    - **Field that contains prefix value:** The field that contains the value that will be used for the prefix.
    - **Separator Character:** Character used between the prefix and next number values. This field is only enabled if a prefix option was enabled.
    - **Service that contains related feature class:** Provides the service to use for GIS Scheduled tasks if the related polygon feature class is in a different service.
- **Generate Next Number:** Click this button to generate a new row in the grid. You can generate multiple rows only if **Use a polygon feature class to create a prefix** is checked. Otherwise, you will only be able to generate one record in the grid.

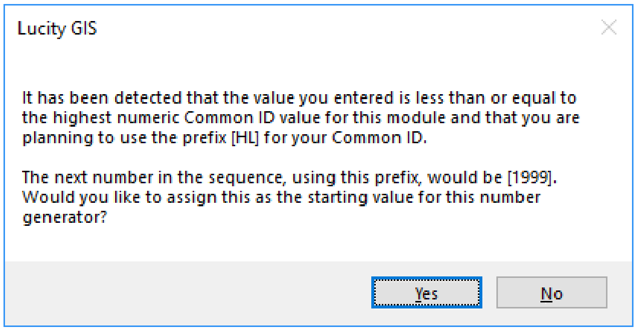
- **Next Number Grid:** This grid is used to show what the next number(s) will be.
    - The **Prefix** column will be disabled if not using a prefix
    - The **Value** column will be the next number value used with a feature
    - If **Use a polygon feature class to create a prefix** is being used, multiple rows can be used in this grid. Each row should have a unique prefix value. For example, if setting up a number generator based on a quarter-section polygon feature class, you would want to create a record for each possible quarter-section since a feature in each quarter section may have a different next number (A-12, B-005, C-12, D-01, etc.).

> *Note: When a new feature is created in the selected feature class, if no next number is set, then the number generator will set the new feature to 1, set the next number to 2, and continue from there. The same is true if Use a polygon feature class to create a prefix is being used.*

Validate a Number Generator

Any time you populate the next number grid with a value, the program will automatically validate what you entered against what is in the database. Here's how it works:

1. If the value you entered is lower than the highest number in the database, then a dialog will appear suggesting a starting value equal to the *highest number + 1*.
2. If **Yes** is selected, then the value will be populated with what the program suggests. Otherwise, it will keep the value you entered (at your own risk!).
3. The validation does take prefix values into account (if any are used).

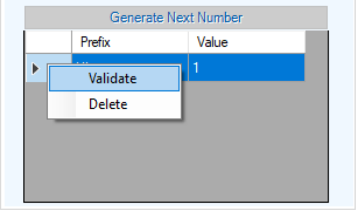


Lucity GIS

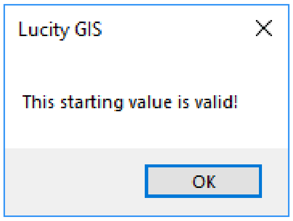
It has been detected that the value you entered is less than or equal to the highest numeric Common ID value for this module and that you are planning to use the prefix [HL] for your Common ID.

The next number in the sequence, using this prefix, would be [1999]. Would you like to assign this as the starting value for this number generator?

4. You may also *manually* validate your number generator's next number at any time.



- To do this, simply right click the number and select **Validate**.
- This is handled the same way as populating the value in the grid, except you will also be prompted if the starting value is valid.

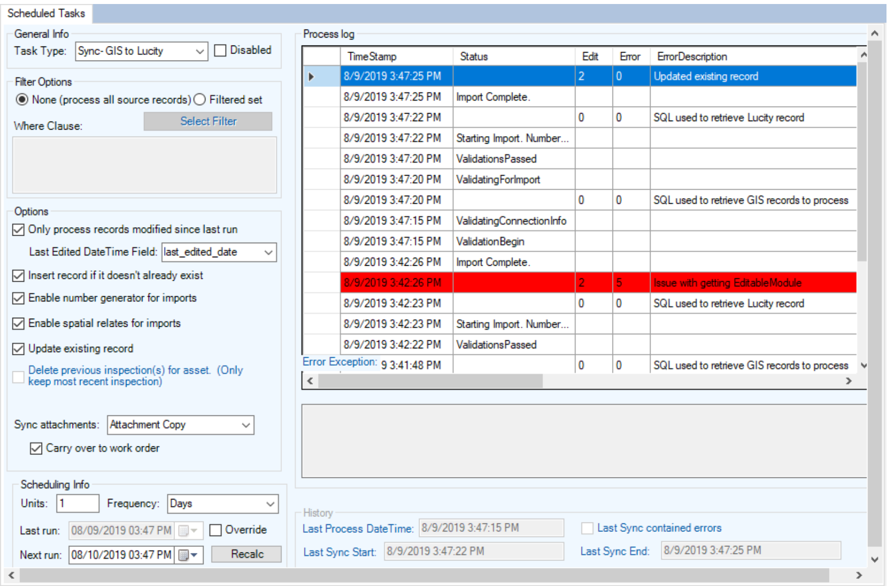


Lucity GIS

This starting value is valid!

Scheduled Tasks

Scheduled Tasks are designed to push data back and forth between Lucity and the geodatabase. There are two types of synchronizations the tasks can be configured to perform:



Scheduled Tasks

General Info

Task Type: Sync- GIS to Lucity ☐ Disabled

Filter Options

● None (process all source records) ○ Filtered set

Where Clause: Select Filter

Options

☑ Only process records modified since last run

Last Edited DateTime Field: last_edited_date

☑ Insert record if it doesn't already exist

☑ Enable number generator for imports

☑ Enable spatial relates for imports

☑ Update existing record

☐ Delete previous inspection(s) for asset. (Only keep most recent inspection)

Sync attachments: Attachment Copy

☑ Carry over to work order

Scheduling Info

Units: 1 Frequency: Days

Last run: 08/09/2019 03:47 PM ☐ Override

Next run: 08/10/2019 03:47 PM Recalc

Process log

TimeStamp	Status	Edit	Error	ErrorDescription
8/9/2019 3:47:25 PM		2	0	Updated existing record
8/9/2019 3:47:25 PM	Import Complete.			
8/9/2019 3:47:22 PM		0	0	SQL used to retrieve Lucity record
8/9/2019 3:47:22 PM	Starting Import. Number...			
8/9/2019 3:47:20 PM	ValidationsPassed			
8/9/2019 3:47:20 PM	ValidatingForImport			
8/9/2019 3:47:20 PM		0	0	SQL used to retrieve GIS records to process
8/9/2019 3:47:15 PM	ValidatingConnectionInfo			
8/9/2019 3:47:15 PM	ValidationBegin			
8/9/2019 3:42:26 PM	Import Complete.			
8/9/2019 3:42:26 PM		2	5	Issue with getting EditableModule
8/9/2019 3:42:23 PM		0	0	SQL used to retrieve Lucity record
8/9/2019 3:42:23 PM	Starting Import. Number...			
8/9/2019 3:42:22 PM	ValidationsPassed			
9 3:41:48 PM		0	0	SQL used to retrieve GIS records to process

Error Exception:

History

Last Process DateTime: 8/9/2019 3:47:15 PM ☐ Last Sync contained errors

Last Sync Start: 8/9/2019 3:47:22 PM Last Sync End: 8/9/2019 3:47:25 PM

1. **Lucity to GIS:** Currently this is only available for inspection feature classes

2. **GIS to Lucity:** This is supported for all GIS enabled modules (inventory and inspection).

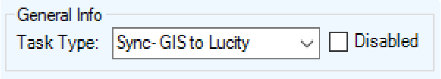
Scheduled Tasks can be configured to run automatically. The GIS Task Runner will process any Scheduled Task that is due based upon the user defined frequency and other criteria. This functionality greatly expands the Lucity and GIS integration capabilities with use of feature services. Edits to the feature service, regardless of who did it and what environment they did it in, can be picked up by Lucity. Some potential examples:

- Collector for ArcGIS (iOS & Android)- including disconnected editing.
- Lucity Web Map.
- ArcGIS.com map viewer.
- Any other 3rd party apps that support feature service editing.

Note:

- *Merges, Splits, Renumbers, and Deletes must still be done in an ArcMap editing environment with the Lucity extension enabled, for the Lucity inspection, construction, and work history to be properly updated.*
- *Number generators and spatial relationships can be performed (if the options are set) when scheduled tasks sync features with Lucity.*
- *Features must meet the Lucity module requirements for them to be synced. For example, required fields such as the Common ID must be populated with a unique value.*
- *Scheduled tasks interact with the feature class via map and/or feature services. Before setting up a scheduled task, you must make sure there is a map service defined at either the feature class or geodatabase level.*

General Info

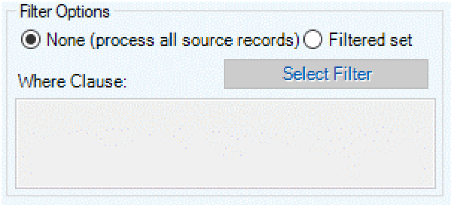

General Info

Task Type: Sync- GIS to Lucity ☐ Disabled

- **Task Type:** The type of synchronization that will be performed by this GIS Task. The options are: **Sync- Lucity to GIS** and **Sync- GIS to Lucity**.
- **Disabled:** Check this box if this task should be disabled. This will prevent the scheduled task from being processed by the GIS Task Runner service.

Filter Options

Select whether the task will process all records (default) or process a filtered set.

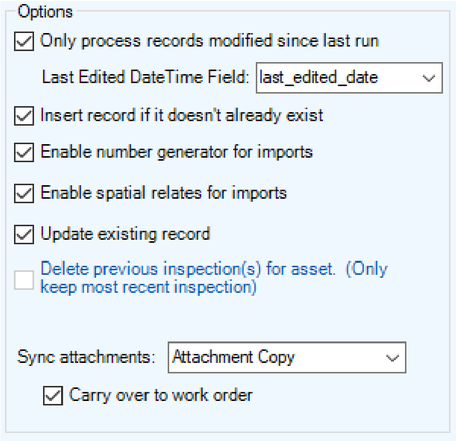

Filter Options

● None (process all source records) ○ Filtered set

Where Clause:

- If using a filtered set, the **Select Filter** button will only be enabled for task types of **Sync- Lucity to GIS**.
- If manually entering the **Where Clause**, it must pass validation in the underlying data source.

Options


Options

☑ Only process records modified since last run

Last Edited DateTime Field: last_edited_date

☑ Insert record if it doesn't already exist

☑ Enable number generator for imports

☑ Enable spatial relates for imports

☑ Update existing record

☐ Delete previous inspection(s) for asset. (Only keep most recent inspection)

Sync attachments: Attachment Copy

☑ Carry over to work order

- **Only process records modified since last run:** This option checks through the records that were selected for processing and only processes those records that were edited since the last time the scheduled task processed.

> *Note: If this option is checked and the task type is **Sync- GIS to Lucity**, then you must also provide the **Last Edited DateTime Field**, which is part of Esri's Editor Tracking. If the task type is **Sync- Lucity to GIS**, then the Lucity LastModDate fields will be used.*

- **Last Edited Date Time Field:** This option is only enabled if **Only Process records modified since last run** is checked, and the task type is **Sync- GIS to Lucity**.

- **Insert record if it doesn't already exist:** Allows for new records to be inserted into the GIS feature class or Lucity module depending on the task type.

- **Enable number generator for imports:** Assigns the Common ID for each new record in the import task using the feature class' number generator.

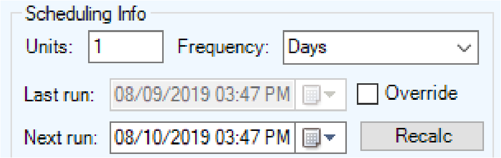
- **Enable spatial relates for imports:** Applies the feature class' spatial relationships to each new record in the import and updates the record's fields accordingly.

- **Update existing record:** Allows updates to existing records in the GIS feature class or Lucity module depending on the task type.

- **Delete previous inspection(s) for asset:** This option is only enabled if the task type is **Sync- Lucity to GIS**. This option causes the task to delete any inspection in the feature class that isn't the most recent inspection for an asset. The purpose of enabling this option is if you want the feature class to only contain the most recent inspection for each feature.

Scheduling Info

This section is configured so the task is processed by the GIS Task Runner service at regular intervals.



Scheduling Info

Units: 1 Frequency: Days

Last run: 08/09/2019 03:47 PM ☐ Override

Next run: 08/10/2019 03:47 PM

- **Units:** Enter a numeric value that indicates how often the process should run. This value is used in conjunction with the Frequency. For example, if Units = 3 and Frequency = Hours then the scheduled task will run every 3 hours.

- **Frequency:** Select the desired frequency from the drop down. The options are Minutes, Hours, Days, or Months.

- **Last Run:** This is disabled by default, showing the last time the scheduled task ran. For new scheduled tasks this will be blank.

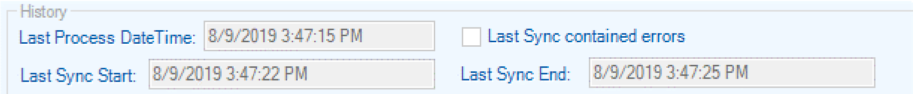
- **Override:** For new scheduled tasks, or to reset the last run date to trigger the scheduled task to be processed again; this option enables the **Last run** text box.

- **Next Run:** This indicates the next time the scheduled task should be processed. The GIS Task Runner service uses this value to determine which scheduled tasks to process.

- **Recalc:** If the Units, Frequency, or Last Run information was updated, then the **Recalc** button will update the **Next run** field based on the new settings.

History

This section is read-only and shows when the scheduled task was last picked up, when the sync process started, and when it last finished.



History

Last Process DateTime: 8/9/2019 3:47:15 PM

□ Last Sync contained errors

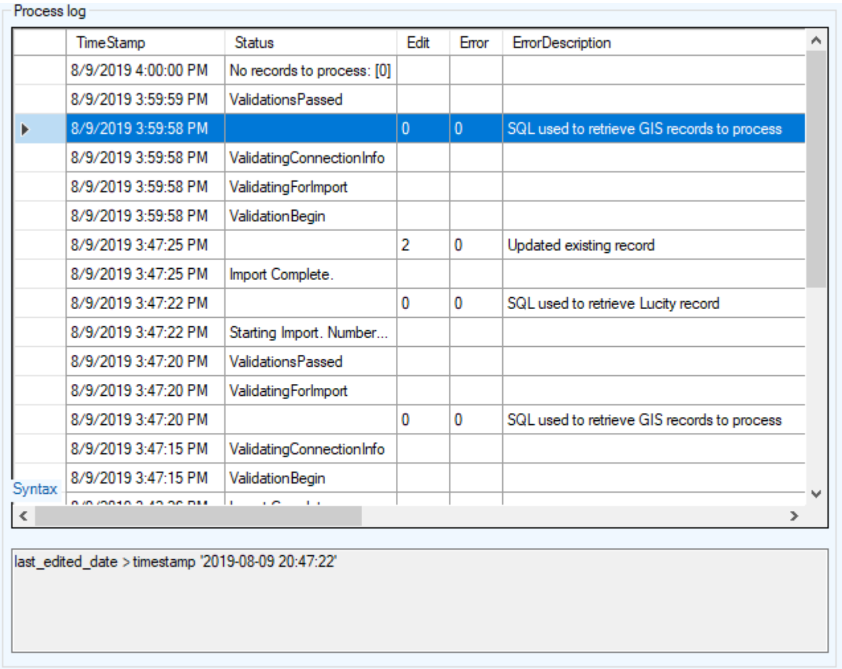
Last Sync Start: 8/9/2019 3:47:22 PM

Last Sync End: 8/9/2019 3:47:25 PM

- **Last Process DateTime:** The last time the GIS Task Runner processed this scheduled task.
- **Last Sync Start:** The last time this scheduled task started a sync process.
- **Last Sync End:** The last time this scheduled task ended a sync process.

Process log

This section is read-only and shows all logging related to the previous processing of the scheduled tasks. When a scheduled task is processed (either manually or via the GIS Task Runner service), logging entries are recorded in CMGISTASKLOG. Entries are removed after 30 days.



Process log

TimeStamp	Status	Edit	Error	ErrorDescription
8/9/2019 4:00:00 PM	No records to process: [0]			
8/9/2019 3:59:59 PM	ValidationsPassed			
8/9/2019 3:59:58 PM		0	0	SQL used to retrieve GIS records to process
8/9/2019 3:59:58 PM	ValidatingConnectionInfo			
8/9/2019 3:59:58 PM	ValidatingForImport			
8/9/2019 3:59:58 PM	ValidationBegin			
8/9/2019 3:47:25 PM		2	0	Updated existing record
8/9/2019 3:47:25 PM	Import Complete.			
8/9/2019 3:47:22 PM		0	0	SQL used to retrieve Lucity record
8/9/2019 3:47:22 PM	Starting Import. Number...			
8/9/2019 3:47:20 PM	ValidationsPassed			
8/9/2019 3:47:20 PM	ValidatingForImport			
8/9/2019 3:47:20 PM		0	0	SQL used to retrieve GIS records to process
8/9/2019 3:47:15 PM	ValidatingConnectionInfo			
8/9/2019 3:47:15 PM	ValidationBegin			

Syntax

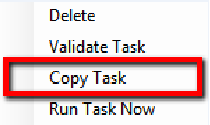
last_edited_date > timestamp '2019-08-09 20:47:22'

- **TimeStamp:** The time the entry was inserted.
- **Status:** Various descriptions to indicate the processing status.
- **Edit:** 1=Inserts, 2=Updates, 3=Deletes.
- **Error**: 1=TransactionalDetails, 2=ValidationFailed, 3=ProcessFailed, 4=ServiceIssue, 5=BusinessObjectIssue, 6=MissingData.
- **ErrorDescription:** Further details regarding the edit or error.
- **ErrorException:** Further details regarding the error.
- **GUID:** The processing batch GUID.
- **ModID:** The Lucity Module ID.
- **LucityID:** The Lucity Record ID.
- **GISID:** The GIS feature's ObjectID.
- **Syntax:** The syntax used for retrieving, updating, inserting, or deleting.

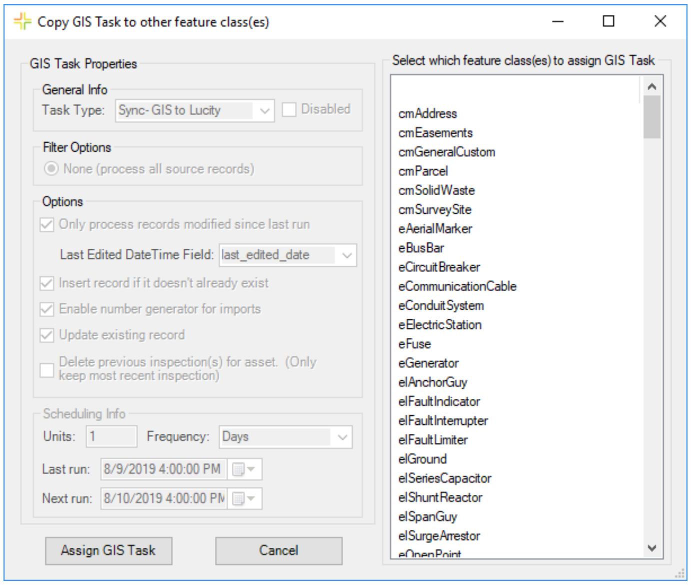
Copying a Scheduled Task

To automate the process of setting up scheduled tasks for multiple feature classes, you can use the Copy GIS Task tool to create a new scheduled task for multiple feature classes:

1. In the Lucity Geodatabase Configuration tool, right-click on the existing scheduled task and click **Copy Task**.



2. The following dialog will appear:


Copy GIS Task to other feature class(es)

GIS Task Properties

General Info

Task Type: Sync- GIS to Lucity ☐ Disabled

Filter Options

● None (process all source records)

Options

☑ Only process records modified since last run

Last Edited DateTime Field: last_edited_date

☑ Insert record if it doesn't already exist

☑ Enable number generator for imports

☑ Update existing record

☐ Delete previous inspection(s) for asset. (Only keep most recent inspection)

Scheduling Info

Units: 1 Frequency: Days

Last run: 8/9/2019 4:00:00 PM

Next run: 8/10/2019 4:00:00 PM

Select which feature class(es) to assign GIS Task

cmAddress
cmEasements
cmGeneralCustom
cmParcel
cmSolidWaste
cmSurveySite
eAerialMarker
eBusBar
eCircuitBreaker
eCommunicationCable
eConduitSystem
eElectricStation
eFuse
eGenerator
elAnchorGuy
elFaultIndicator
elFaultInterrupter
elFaultLimiter
elGround
elSeriesCapacitor
elShuntReactor
elSpanGuy
elSurgeArrestor
eOpenPoint

> *Note: GIS Task properties are all read-only. Any item that needs to be altered can be done on an individual basis after the copy is completed.*

3. On the form select the feature class(es) you wish to create a new Scheduled Task for using the existing scheduled task properties. Once the feature classes have been selected click the **Assign GIS Task** to complete the process.

Validate a Scheduled Task

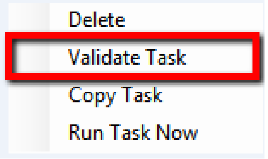
A validation tool is available for scheduled tasks that will run the following checks.

> *Note: These same checks are also performed when running the scheduled tasks.*

- Verifies at least one option has been set: insert, update, delete.
- Verifies there are feature classes linked to parent module (for inspections only).
- Validates Lucity to GIS field mappings.
- Validates list of fields used to determine record uniqueness.
- Tests connection to map service for feature class.

- Validates feature class exists in the service.
- Export Validations.
  - Confirms the feature class is an inspection feature class.
  - Tests the connection to parent feature class service(s).
  - If Use Last Sync Date option is enabled: verifies the Lucity module contains a Last Modified Date field.
  - If Delete option is enabled: verifies that the Lucity module has a Most Recent Inspection flag.
  - Tests the SQL syntax used to obtain the list of Lucity records.
- Import Validations.
  - If Use Last Sync Date option is enabled- confirms that a GIS DateTime Field is defined and exists in the layer in the service.
  - Confirms that the scheduled task's Last Sync DateTime is populated.
  - If feature class configuration contains the Lucity Last Sync Date field- confirms it exists in the layer in the service.
  - Confirms that the Lucity module contains a Last Mod Date field.
  - Tests the SQL syntax used to obtain the list of GIS records from service.

1. To run the validations, in the Lucity Geodatabase Configuration tool, right-click on the scheduled task and click **Validate Task**.

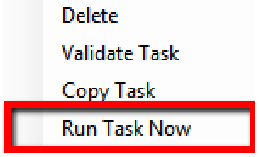


2. The validation will start. Once complete, you will receive a dialog indicating if the validation passed without errors. Any errors, or tests that failed validation, will be reported in the process log.

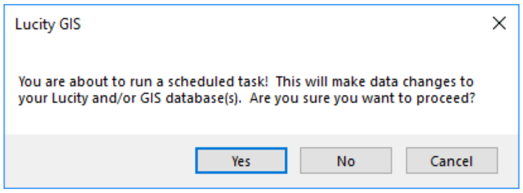
Manually Run a Scheduled Task

The Lucity GIS Task Runner service kicks off every minute and determines if any scheduled task is due to run. There may be situations in which the scheduled task needs to be run manually.

1. In the Lucity Geodatabase Configuration tool, right-click on the existing Scheduled Task and click **Run Task Now.**



2. The following confirmation dialog will appear. Click **Yes** if you want to proceed.



You are about to run a scheduled task! This will make data changes to your Lucity and/or GIS database(s). Are you sure you want to proceed?

3. Once complete, you will receive a dialog indicating if the task completed with or without errors. Any errors or other processing details will be reported in the process log.

Tools

The following are various tools available within the Lucity Geodatabase Configuration program.

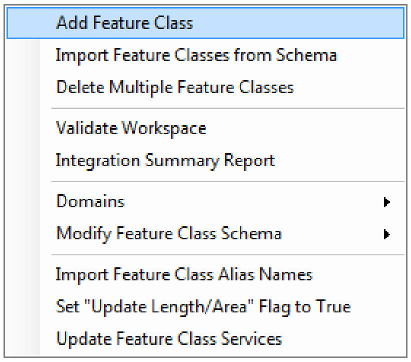
Geodatabase Context Menu Tools

There are many tools available that can be used on individual feature classes, or on all feature classes in a geodatabase connection, that alter the feature class schema. To use any of these tools, you will be prompted to enter geodatabase credentials that will have the necessary permissions to make schema changes, and you must be able to acquire an exclusive lock on the feature class.

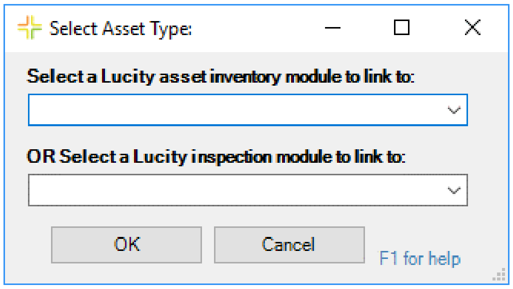
Add a Feature Class Configuration

1. To add a new feature class configuration, in the tree on the left of the Geodatabase Configuration dialog, right-click on the geodatabase node to which the feature class resides and select **Add Feature Class**.

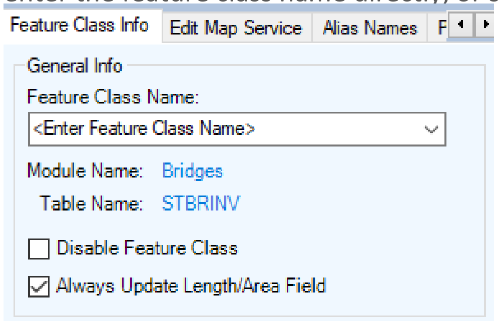
> *Note: This option is not available for replicate geodatabases. Instead, refer to the Associate Feature Class(es) tool.*


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services

2. The following dialog will appear. Select the asset or inspection type for which this new feature class will be linked.


Select Asset Type:
Select a Lucity asset inventory module to link to:
OR Select a Lucity inspection module to link to:
OK
Cancel
F1 for help

3. The Geodatabase Configuration dialog will be updated to indicate the new feature type. You must enter the name of the feature class before this new feature class configuration can be saved. Either enter the feature class name directly, or select it from the drop-down list:



Feature Class Name: <Enter Feature Class Name>

Module Name: Bridges

Table Name: STBRINV

□ Disable Feature Class

☑ Always Update Length/Area Field

4. Fill out the remainder of the feature class and field mapping configuration. To save, simply exit the tool, or click on another feature class node.

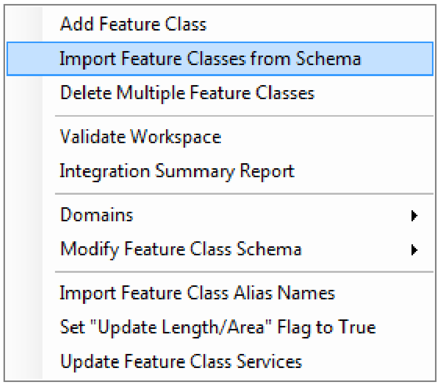
Import Feature Classes from Schema

The Import Feature Classes from Schema tool provides a quick way to configure Lucity to work with specific pre-configured geodatabases. This tool has stored configurations based on Esri Local Government Information Model, and Lucity geodatabase, schemas.

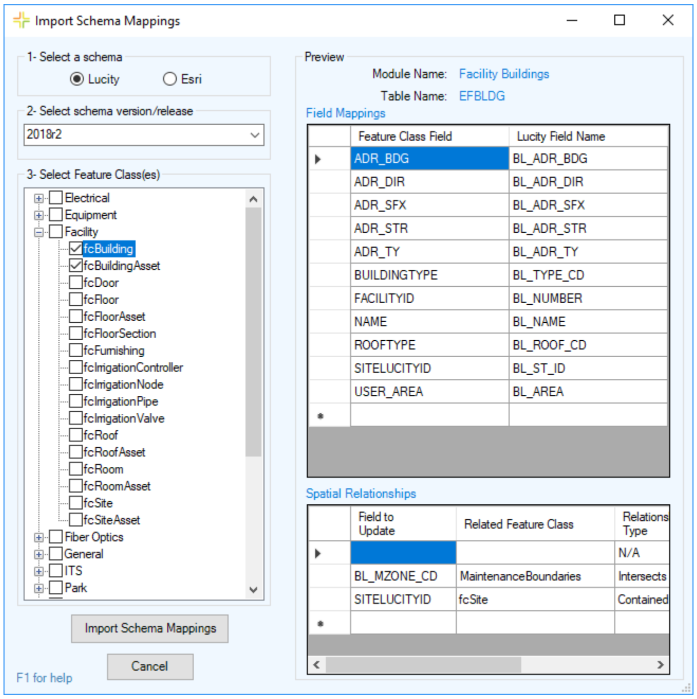
- This tool does not create the feature classes in the geodatabase. It simply creates configuration records in the Lucity geodatabase configuration to recognize feature classes and fields based on one of these standardized schemas.
- This tool does not create or update any Domains. This must be done after the import using the Domain Configuration tool.

To import feature class configurations from a default schema:

1. Right-click on the geodatabase connection node that contains the feature classes you wish to load the mappings for and click **Import Feature Classes from Schema**.


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services

2. The following dialog will appear:



1- Select a schema: ● Lucity ○ Esri

2- Select schema version/release: 2018r2

3- Select Feature Class(es):

- ☐ Electrical
- ☐ Equipment
- ☐ Facility
  - ☑ fcBuilding
  - ☑ fcBuildingAsset
  - ☐ fcDoor
  - ☐ fcFloor
  - ☐ fcFloorAsset
  - ☐ fcFloorSection
  - ☐ fcFurnishing
  - ☐ fcIrrigationController
  - ☐ fcIrrigationNode
  - ☐ fcIrrigationPipe
  - ☐ fcIrrigationValve
  - ☐ fcRoof
  - ☐ fcRoofAsset
  - ☐ fcRoom
  - ☐ fcRoomAsset
  - ☐ fcSite
  - ☐ fcSiteAsset
- ☐ Fiber Optics
- ☐ General
- ☐ ITS
- ☐ Park

Preview

Module Name: Facility Buildings

Table Name: EFBLDG

Field Mappings

Feature Class Field	Lucity Field Name
ADR_BDG	BL_ADR_BDG
ADR_DIR	BL_ADR_DIR
ADR_SFX	BL_ADR_SFX
ADR_STR	BL_ADR_STR
ADR_TY	BL_ADR_TY
BUILDINGTYPE	BL_TYPE_CD
FACILITYID	BL_NUMBER
NAME	BL_NAME
ROOFTYPE	BL_ROOF_CD
SITELUCITYID	BL_ST_ID
USER_AREA	BL_AREA

Spatial Relationships

Field to Update	Related Feature Class	Relations Type
		N/A
BL_MZONE_CD	MaintenanceBoundaries	Intersects
SITELUCITYID	fcSite	Contained

3. Select a schema. You can either select a Lucity geodatabase schema or an Esri Local Government Information Model schema.

4. Select the schema version/release.
   - For Lucity, this will be the Lucity version number (2018, 2018r2, etc).
   - For Esri, this will be the release year and month (2016_06, 2017_03, etc).

5. Select the feature class(es) you would like to load the schema mappings for.

6. Preview by selecting a specific feature class on the left side.
   - The **Field Mappings** grid will show which fields in the feature class will be mapped to which fields in Lucity.
   - The **Spatial Relationships** grid will show the default spatial relationships for the feature class.

   > *Note: Currently, you are not able to modify the defaults. However, once you import the schema, you can them modify the feature class configuration just like any other feature class.*

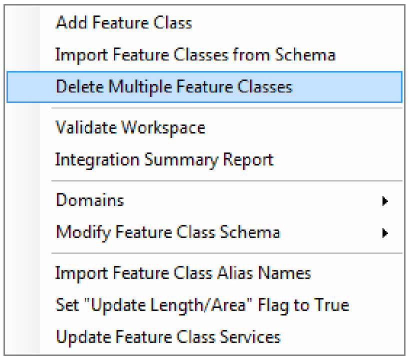
7. Click the **Import Schema Mappings** button once you are ready to run the import.

8. The validation results dialog will appear with feedback from the import process.

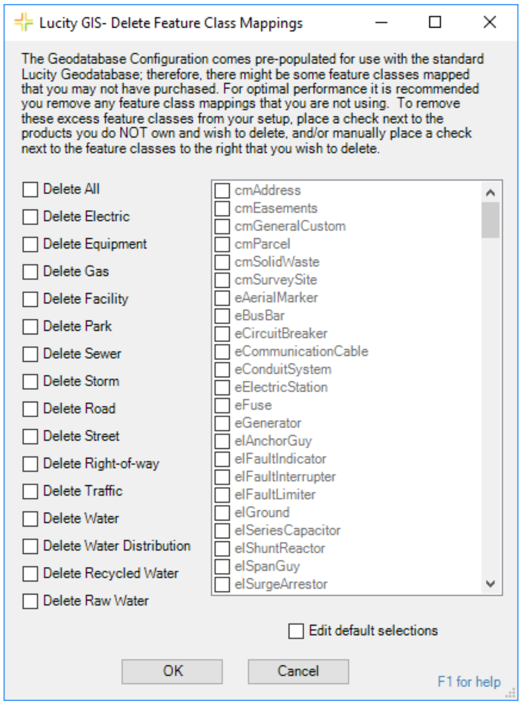
Delete Multiple Feature Classes

Lucity versions prior to 7.5 were populated with the Lucity geodatabase schema. You may find that you are not using the Lucity default geodatabase schema, or you may only be implementing a few of the feature classes. Instead of deleting these feature classes one by one, you can use the Delete Multiple Feature Classes tool to perform a mass delete.

1. From the tree on the left of the Geodatabase Configuration dialog, right-click the geodatabase node that contains the feature class mappings you wish to delete and select **Delete Multiple Feature Classes**.


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services

2. The following dialog will appear. Check all products you wish to delete the feature classes from.



The Geodatabase Configuration comes pre-populated for use with the standard Lucity Geodatabase; therefore, there might be some feature classes mapped that you may not have purchased. For optimal performance it is recommended you remove any feature class mappings that you are not using. To remove these excess feature classes from your setup, place a check next to the products you do NOT own and wish to delete, and/or manually place a check next to the feature classes to the right that you wish to delete.

□ Delete All
□ Delete Electric
□ Delete Equipment
□ Delete Gas
□ Delete Facility
□ Delete Park
□ Delete Sewer
□ Delete Storm
□ Delete Road
□ Delete Street
□ Delete Right-of-way
□ Delete Traffic
□ Delete Water
□ Delete Water Distribution
□ Delete Recycled Water
□ Delete Raw Water

□ cmAddress
□ cmEasements
□ cmGeneralCustom
□ cmParcel
□ cmSolidWaste
□ cmSurveySite
□ eAerialMarker
□ eBusBar
□ eCircuitBreaker
□ eCommunicationCable
□ eConduitSystem
□ eElectricStation
□ eFuse
□ eGenerator
□ elAnchorGuy
□ elFaultIndicator
□ elFaultInterrupter
□ elFaultLimiter
□ elGround
□ elSeriesCapacitor
□ elShuntReactor
□ elSpanGuy
□ elSurgeArrestor

□ Edit default selections

3. In the grid on the right, the program automatically checks all feature classes that are associated to the selected product type. If you wish to override the default selections, check **Edit default selections**.

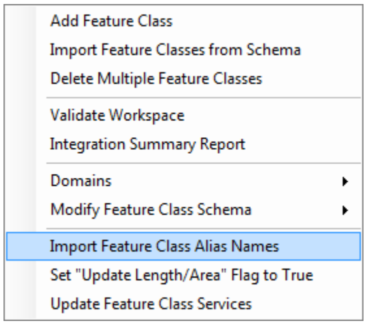
4. Click **OK** to delete the marked feature class configurations.

Import Feature Class Alias Names

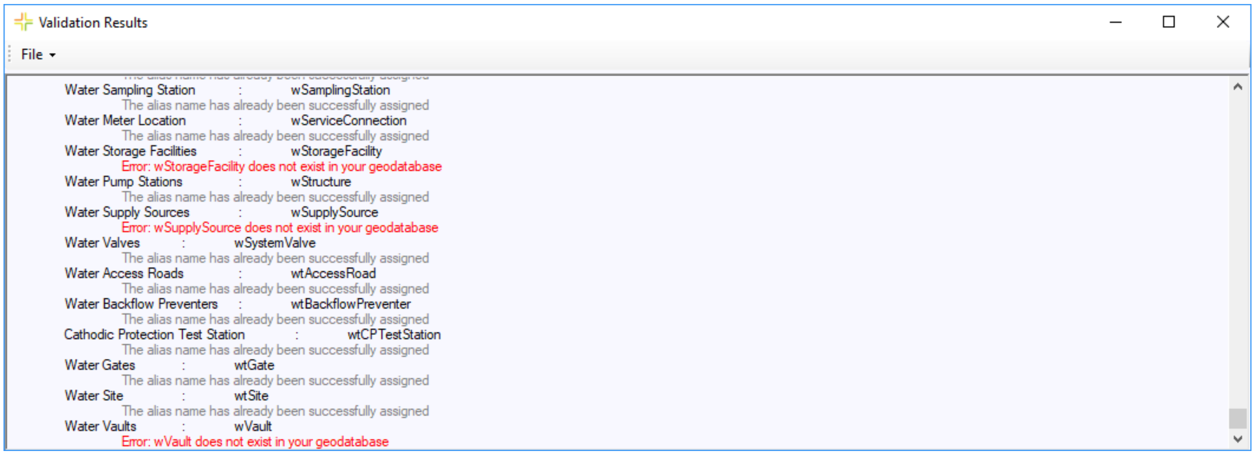
Aliases are alternate names for feature classes that provide a unique identity. They are used by the web map, mobile map, and all other Lucity GIS applications that interact with map/feature services to identify which feature classes are linked to Lucity. These Lucity mapping applications check the feature classes loaded into them and check the display names of those feature classes against the alias names listed in Geodatabase Configuration. This tool is designed to update the geodatabase configuration with the default alias names from the geodatabase connection in ArcCatalog.

1. Select the geodatabase connection or feature class node.

2. Right click on the selected node and select **Import Feature Class Alias Names**.


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services

3. The import will start immediately, and a log screen will appear that provides additional information including any errors.

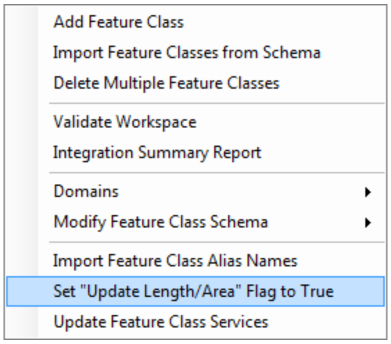


```
Water Sampling Station        :        wSamplingStation
          The alias name has already been successfully assigned
Water Meter Location          :        wServiceConnection
          The alias name has already been successfully assigned
Water Storage Facilities      :        wStorageFacility
          Error: wStorageFacility does not exist in your geodatabase
Water Pump Stations           :        wStructure
          The alias name has already been successfully assigned
Water Supply Sources          :        wSupplySource
          Error: wSupplySource does not exist in your geodatabase
Water Valves         :        wSystemValve
          The alias name has already been successfully assigned
Water Access Roads            :        wtAccessRoad
          The alias name has already been successfully assigned
Water Backflow Preventers     :        wtBackflowPreventer
          The alias name has already been successfully assigned
Cathodic Protection Test Station         :        wtCPTestStation
          The alias name has already been successfully assigned
Water Gates          :        wtGate
          The alias name has already been successfully assigned
Water Site           :        wtSite
          The alias name has already been successfully assigned
Water Vaults         :        wVault
          Error: wVault does not exist in your geodatabase
```

Set "Update Length/Area" Flag to True

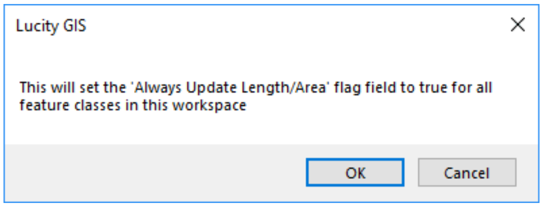
By default, when you add a new feature class, the Update Length/Area flag is set to false. This property determines if the feature class's field linked to the Lucity length/area field should be updated with the Esri shape length/area if the geometry is modified in the map. You may wish to ensure that all feature class configurations have this property set to true. Instead of inspecting each feature class configuration individually to check this value, you can run this tool to set the value to true for all feature classes.

1. From the tree on the left of the Geodatabase Configuration dialog, right-click on the geodatabase node that contains the feature class configurations you wish to update and select **Set Update Length/Area Flag to True**.


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services

> *Note: This option is not available for replicate geodatabases.*

2. The following dialog will appear for confirmation:

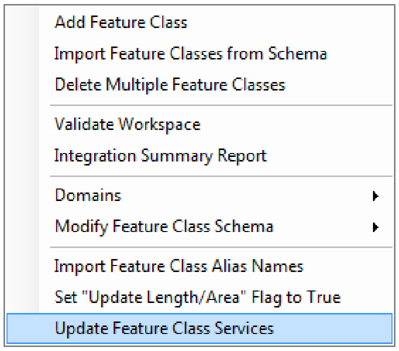


This will set the 'Always Update Length/Area' flag field to true for all feature classes in this workspace

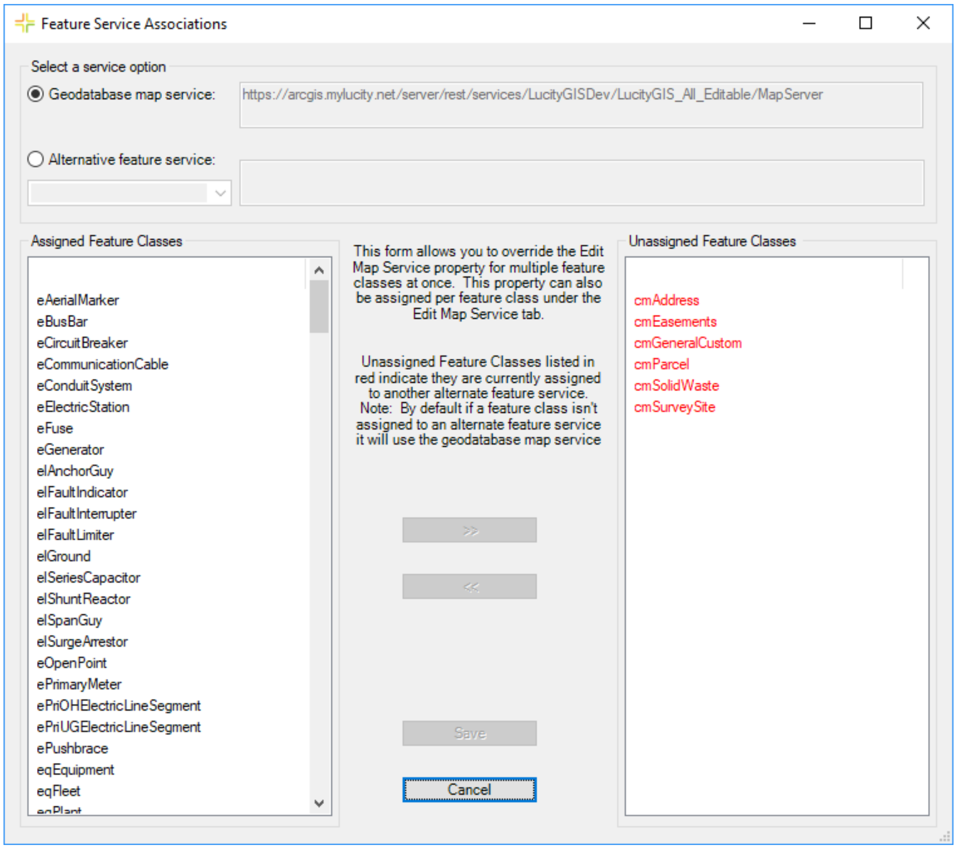
Update Feature Class Services

Use this tool to automate the process of defining feature class level services for multiple feature classes:

1. In the Lucity Geodatabase Configuration tool, right-click on the geodatabase node that contains the feature classes in which you want to associate to a service and select **Update Feature Class Services**.


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services

2. The following dialog will appear.



Feature Service Associations

Select a service option

● Geodatabase map service: https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_All_Editable/MapServer

○ Alternative feature service:

Assigned Feature Classes

eAerialMarker
eBusBar
eCircuitBreaker
eCommunicationCable
eConduitSystem
eElectricStation
eFuse
eGenerator
elAnchorGuy
elFaultIndicator
elFaultInterrupter
elFaultLimiter
elGround
elSeriesCapacitor
elShuntReactor
elSpanGuy
elSurgeArrestor
eOpenPoint
ePrimaryMeter
ePriOHElectricLineSegment
ePriUGElectricLineSegment
ePushbrace
eqEquipment
eqFleet
eqPlant

This form allows you to override the Edit Map Service property for multiple feature classes at once. This property can also be assigned per feature class under the Edit Map Service tab.

Unassigned Feature Classes listed in red indicate they are currently assigned to another alternate feature service. Note: By default if a feature class isn't assigned to an alternate feature service it will use the geodatabase map service

Unassigned Feature Classes

cmAddress
cmEasements
cmGeneralCustom
cmParcel
cmSolidWaste
cmSurveySite

3. Select either **Geodatabase map service** or **Alternative feature service**.
    - The **Assigned Feature Classes** list will show the feature classes currently assigned to the selected service.
    - The **Unassigned Feature Classes** list will show the feature classes currently not assigned to the selected service. Items in red indicate the feature class has another service defined at the feature class level.

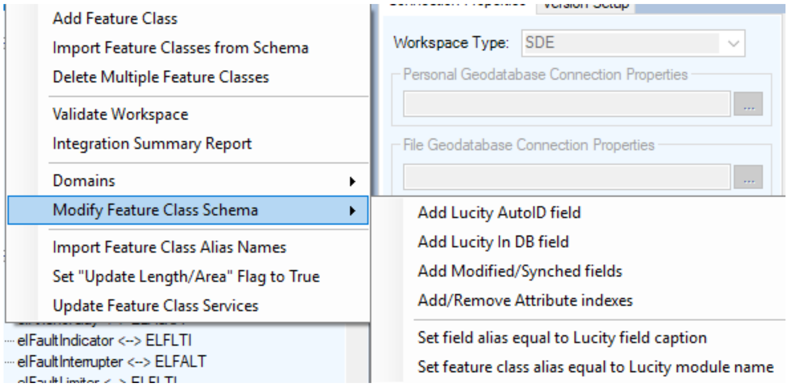
> *Note: The Alternative feature service dropdown will only contain services defined as editable in **Lucity Admin >> GIS >> GIS Services**.*

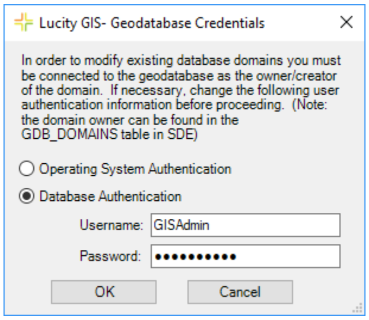
4. Select the feature class(es) from the **Unassigned Feature Classes** list that you would like to associate to the selected service. Alternatively, you could select feature class(es) from the **Assigned Feature Classes** list to disassociate them from the selected service.

5. Use the **<<** and **>>** to associate and disassociate the selected feature classes. Once done, click the **Save** button.

Feature Class Schema Tools

There are various tools available that can be applied on individual feature classes or all feature classes in a geodatabase connection that alter the feature class schema. To use any of these tools, you will be prompted to enter geodatabase credentials that will have the necessary permissions to make schema changes and you must be able to acquire an exclusive lock on the feature class.


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services
elFaultIndicator <--> ELFLTI
elFaultInterrupter <--> ELFALT
Workspace Type: SDE
Personal Geodatabase Connection Properties
File Geodatabase Connection Properties
Add Lucity AutoID field
Add Lucity In DB field
Add Modified/Synched fields
Add/Remove Attribute indexes
Set field alias equal to Lucity field caption
Set feature class alias equal to Lucity module name


Lucity GIS- Geodatabase Credentials

In order to modify existing database domains you must be connected to the geodatabase as the owner/creator of the domain. If necessary, change the following user authentication information before proceeding. (Note: the domain owner can be found in the GDB_DOMAINS table in SDE)

○ Operating System Authentication

● Database Authentication

Username: GISAdmin

Password: ••••••••••

OK Cancel

Add Lucity AutoID Field

Starting with version 7.1, this field is no longer required. However, for best performance, it is strongly recommend that this field exists in each feature class. Once the field is added and mapped to Lucity, the Lucity extension will maintain it, requiring no data input from the user. Use this tool to create this field in your feature class(es) and map it to Lucity.

Add Lucity 'In DB' Field

Starting with version 7.1, this field is no longer required. It is a simple boolean field that indicates if there is an associated feature in the Lucity database. Once the field is added and mapped to Lucity, the Lucity extension will maintain it, requiring no data input from the user. Use this tool to create this field in your feature class(es) and map it to Lucity.

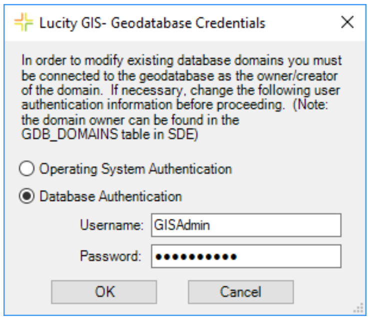
Add Modified/Synched Fields

This tool is used to create 3 fields in your feature class(es): Last Modified Date, Last Modified By, and Last Sync Date. Once these fields are added and mapped to Lucity, the Lucity extension will maintain them, requiring no data input from the user.

Add/Remove Attribute indexes

Use this tool to add or remove attribute indexes to or from a field in your feature class. This is primarily for unique ID fields (Lucity Auto ID or Common ID) to optimize processing and speed up the performance of Lucity GIS tools.

1. If you are using an enterprise geodatabase, you will be prompted for your admin credentials:

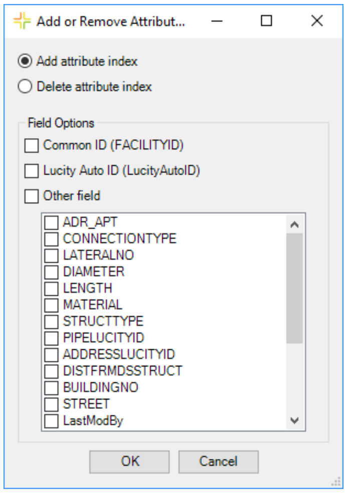


In order to modify existing database domains you must be connected to the geodatabase as the owner/creator of the domain. If necessary, change the following user authentication information before proceeding. (Note: the domain owner can be found in the GDB_DOMAINS table in SDE)

○ Operating System Authentication
● Database Authentication

Username: GISAdmin
Password: ••••••••••

2. If you run this tool against an individual feature class, rather than the entire geodatabase, an additional option is given to add or remove an index from any of the fields in the feature class. Otherwise, you only have the option to add or remove the index from each feature class's Lucity Auto ID and/or Common ID fields.

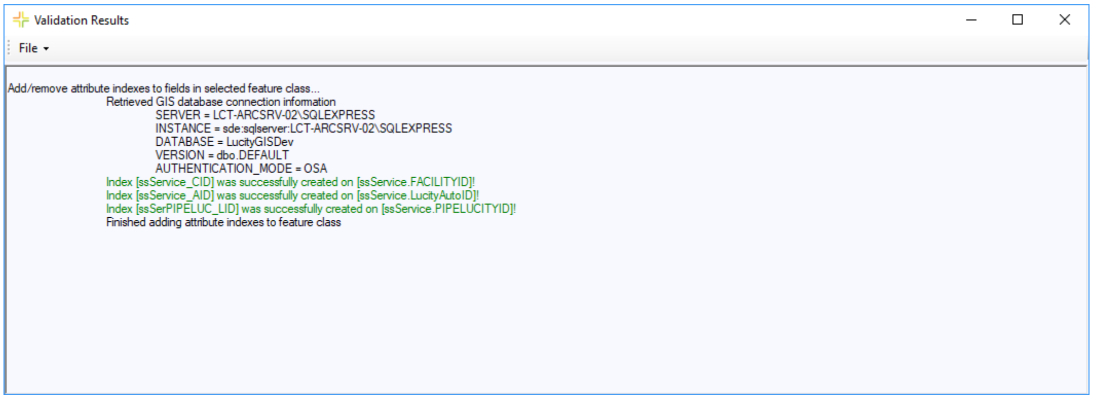


● Add attribute index
○ Delete attribute index

Field Options
□ Common ID (FACILITYID)
□ Lucity Auto ID (LucityAutoID)
□ Other field

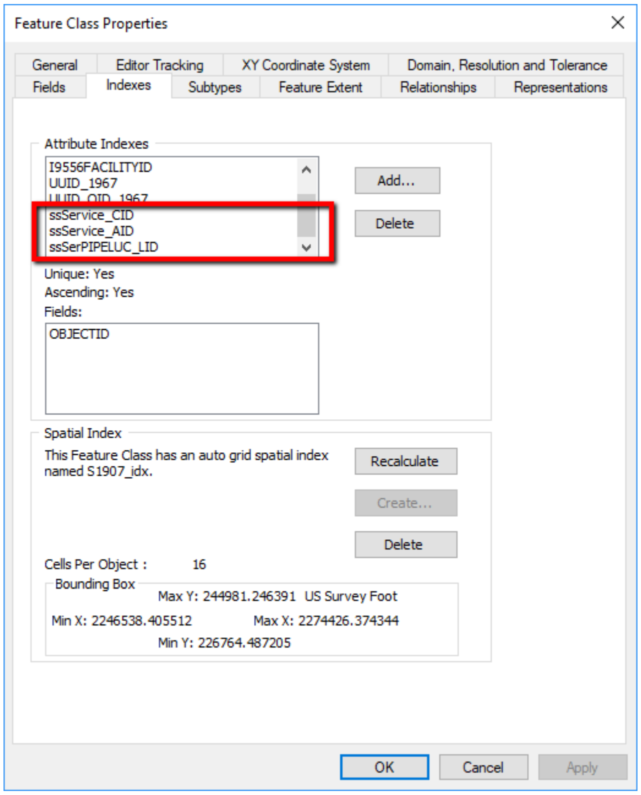
□ ADR_APT
□ CONNECTIONTYPE
□ LATERALNO
□ DIAMETER
□ LENGTH
□ MATERIAL
□ STRUCTTYPE
□ PIPELUCITYID
□ ADDRESSLUCITYID
□ DISTFRMDSSTRUCT
□ BUILDINGNO
□ STREET
□ LastModBy

3. Results of processing are written to the validation dialog.



```
Add/remove attribute indexes to fields in selected feature class...
                Retrieved GIS database connection information
                        SERVER = LCT-ARCSRV-02\SQLEXPRESS
                        INSTANCE = sde:sqlserver:LCT-ARCSRV-02\SQLEXPRESS
                        DATABASE = LucityGISDev
                        VERSION = dbo.DEFAULT
                        AUTHENTICATION_MODE = OSA
                Index [ssService_CID] was successfully created on [ssService.FACILITYID]!
                Index [ssService_AID] was successfully created on [ssService.LucityAutoID]!
                Index [ssSerPIPELUC_LID] was successfully created on [ssService.PIPELUCITYID]!
                Finished adding attribute indexes to feature class
```

4. Here is an example of attribute indexes created by the tool:



Attribute Indexes

I9556FACILITYID
UUID_1967
UUID_OID_1967
ssService_CID
ssService_AID
ssSerPIPELUC_LID

Unique: Yes
Ascending: Yes
Fields:
OBJECTID

Spatial Index

This Feature Class has an auto grid spatial index named S1907_idx.

Cells Per Object : 16

Bounding Box

Max Y: 244981.246391 US Survey Foot
Min X: 2246538.405512 Max X: 2274426.374344
Min Y: 226764.487205

Set Field Alias Equal to Lucity Field Captions

This tool is used to update the alias name for the feature class fields linked to Lucity. The alias names will be updated to match the Lucity field captions.

Set Feature Class Alias Equal to Lucity Module Name

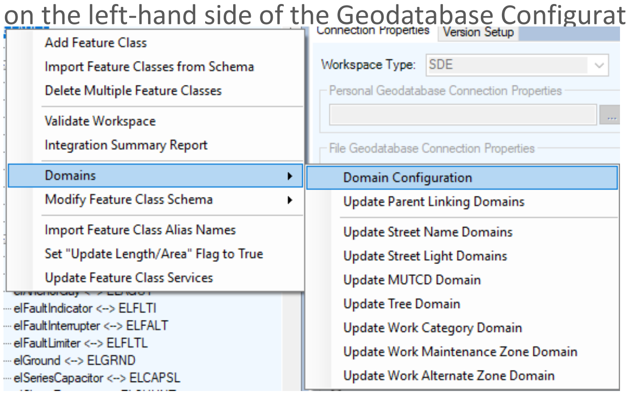
This tool is used to update the alias name for a feature class linked to Lucity. The alias name will be updated to match the Lucity module name. For example, a feature class linked to the Sanitary Structure Inventory module will have its alias updated to “Sanitary Structure”.

Domain Tools

Domain Configuration

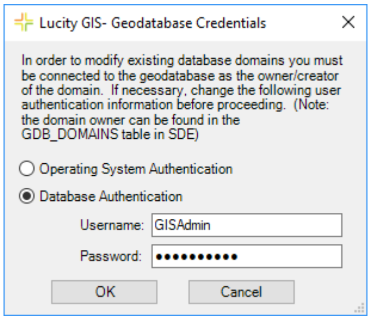
Fields in the geodatabase that are linked to a Lucity code/type field (picklist) should contain a domain. A domain provides the same functions in ArcMap that a picklist provides inside of Lucity. Domains ensure data integrity and help with data population during an edit session. To ensure data integrity between Lucity and the geodatabase, the picklist values should match up to the domain values. The Domain Configuration Tool within Geodatabase configuration allows users to quickly compare domains to picklists and fix differences between the two.

1. To access Domain Configuration, right-click on either a geodatabase or feature class node in the tree on the left-hand side of the Geodatabase Configuration dialog.


Connection Properties
Version Setup
Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services
elFaultIndicator <--> ELFLTI
elFaultInterrupter <--> ELFALT
elFaultLimiter <--> ELFLTL
elGround <--> ELGRND
elSeriesCapacitor <--> ELCAPSL
Personal Geodatabase Connection Properties
File Geodatabase Connection Properties
Domain Configuration
Update Parent Linking Domains
Update Street Name Domains
Update Street Light Domains
Update MUTCD Domain
Update Tree Domain
Update Work Category Domain
Update Work Maintenance Zone Domain
Update Work Alternate Zone Domain

Workspace Type: SDE

2. If you are integrated with an enterprise geodatabase you will be prompted with the following:



Lucity GIS- Geodatabase Credentials

In order to modify existing database domains you must be connected to the geodatabase as the owner/creator of the domain. If necessary, change the following user authentication information before proceeding. (Note: the domain owner can be found in the GDB_DOMAINS table in SDE)

○ Operating System Authentication

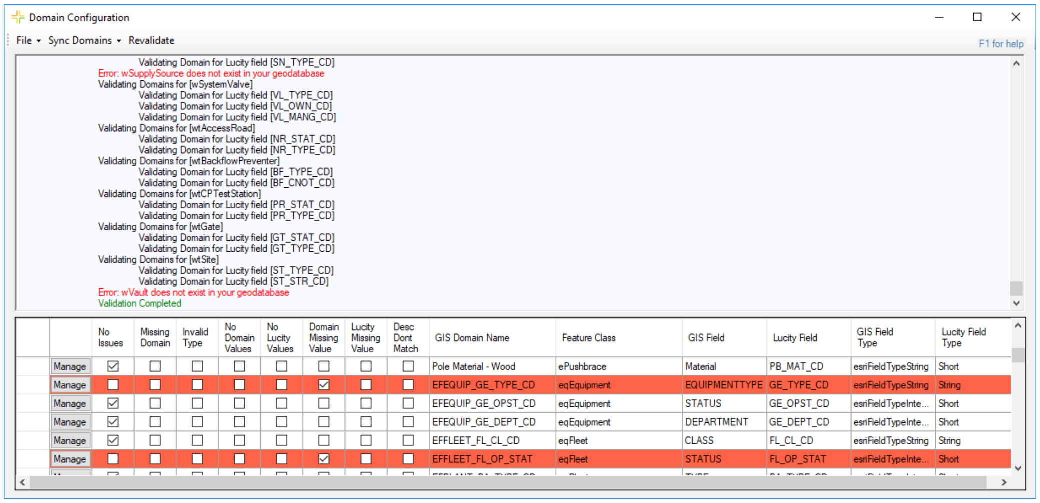
● Database Authentication

Username: GISAdmin

Password: ••••••••••

This dialog is asking the user to login as the Domain Owner. Domains within a geodatabase can only be edited by the original creator (domain owner). Often, not even system admin accounts can edit a domain if they weren't used to create it. Make an authentication choice and enter the username and password if needed. Click **OK**.

3. When this tool runs, it validates the Lucity picklists and GIS domains for all fields mapped between the two systems. The validation process is tracked and displayed in the resulting dialog:



```
                Validating Domain for Lucity field [SN_TYPE_CD]
Error: wSupplySource does not exist in your geodatabase
Validating Domains for [wSystemValve]
                Validating Domain for Lucity field [VL_TYPE_CD]
                Validating Domain for Lucity field [VL_OWN_CD]
                Validating Domain for Lucity field [VL_MANG_CD]
Validating Domains for [wtAccessRoad]
                Validating Domain for Lucity field [NR_STAT_CD]
                Validating Domain for Lucity field [NR_TYPE_CD]
Validating Domains for [wtBackflowPreventer]
                Validating Domain for Lucity field [BF_TYPE_CD]
                Validating Domain for Lucity field [BF_CNOT_CD]
Validating Domains for [wtCPTestStation]
                Validating Domain for Lucity field [PR_STAT_CD]
                Validating Domain for Lucity field [PR_TYPE_CD]
Validating Domains for [wtGate]
                Validating Domain for Lucity field [GT_STAT_CD]
                Validating Domain for Lucity field [GT_TYPE_CD]
Validating Domains for [wtSite]
                Validating Domain for Lucity field [ST_TYPE_CD]
                Validating Domain for Lucity field [ST_STR_CD]
Error: wVault does not exist in your geodatabase
Validation Completed
```

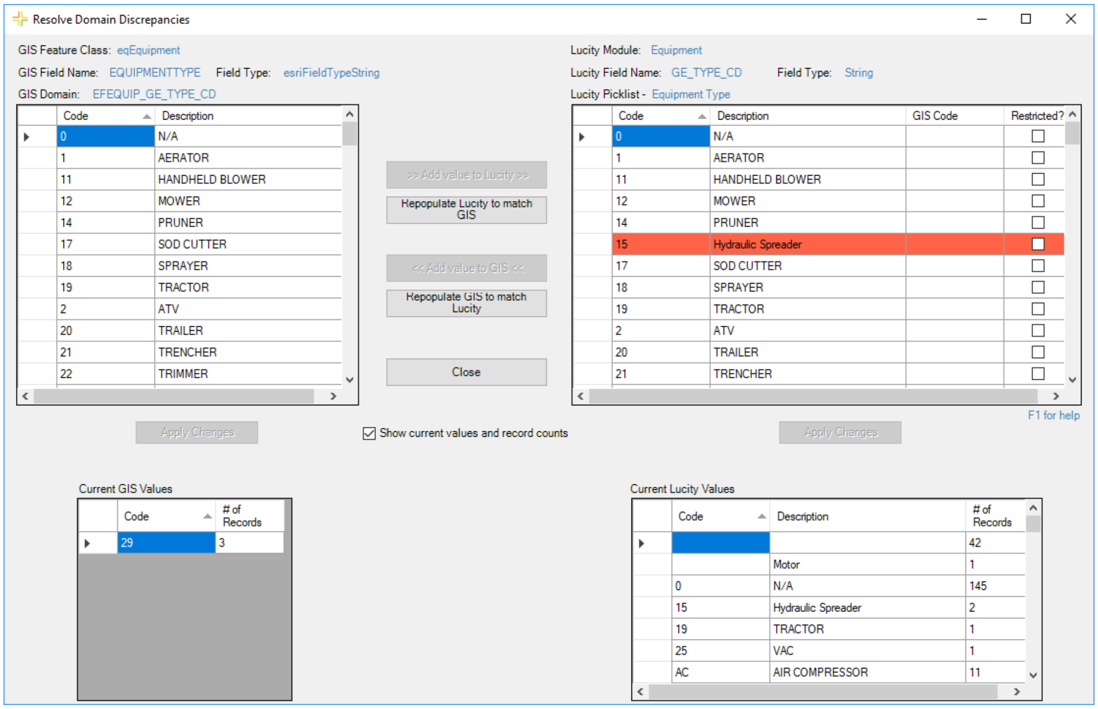
	No Issues	Missing Domain	Invalid Type	No Domain Values	No Lucity Values	Domain Missing Value	Lucity Missing Value	Desc Dont Match	GIS Domain Name	Feature Class	GIS Field	Lucity Field	GIS Field Type	Lucity Field Type
Manage	☑	□	□	□	□	□	□	□	Pole Material - Wood	ePushbrace	Material	PB_MAT_CD	esriFieldTypeString	Short
Manage	□	□	□	□	□	☑	□	□	EFEQUIP_GE_TYPE_CD	eqEquipment	EQUIPMENTTYPE	GE_TYPE_CD	esriFieldTypeString	String
Manage	☑	□	□	□	□	□	□	□	EFEQUIP_GE_OPST_CD	eqEquipment	STATUS	GE_OPST_CD	esriFieldTypeInte...	Short
Manage	☑	□	□	□	□	□	□	□	EFEQUIP_GE_DEPT_CD	eqEquipment	DEPARTMENT	GE_DEPT_CD	esriFieldTypeInte...	Short
Manage	☑	□	□	□	□	□	□	□	EFFLEET_FL_CL_CD	eqFleet	CLASS	FL_CL_CD	esriFieldTypeString	String
Manage	□	□	□	□	□	☑	□	□	EFFLEET_FL_OP_STAT	eqFleet	STATUS	FL_OP_STAT	esriFieldTypeInte...	Short

4. The top section shows the validation progress. The bottom section provides the results in a tabular format allowing you to easily review and resolve any conflicts.

5. Click the **Manage** button to resolve any conflicts.

Resolve Domain Discrepancies

1. After clicking the **Manage** button on the Domain Configuration results dialog, the following dialog will appear:



Resolve Domain Discrepancies

GIS Feature Class: eqEquipment
GIS Field Name: EQUIPMENTTYPE Field Type: esriFieldTypeString
GIS Domain: EFEQUIP_GE_TYPE_CD

Code	Description
0	N/A
1	AERATOR
11	HANDHELD BLOWER
12	MOWER
14	PRUNER
17	SOD CUTTER
18	SPRAYER
19	TRACTOR
2	ATV
20	TRAILER
21	TRENCHER
22	TRIMMER

Lucity Module: Equipment
Lucity Field Name: GE_TYPE_CD Field Type: String
Lucity Picklist - Equipment Type

Code	Description	GIS Code	Restricted?
0	N/A		☐
1	AERATOR		☐
11	HANDHELD BLOWER		☐
12	MOWER		☐
14	PRUNER		☐
15	Hydraulic Spreader		☐
17	SOD CUTTER		☐
18	SPRAYER		☐
19	TRACTOR		☐
2	ATV		☐
20	TRAILER		☐
21	TRENCHER		☐

>> Add value to Lucity >>
Repopulate Lucity to match GIS
<< Add value to GIS <<
Repopulate GIS to match Lucity
Close
F1 for help
Apply Changes
Apply Changes

☑ Show current values and record counts

Current GIS Values

Code	# of Records
29	3

Current Lucity Values

Code	Description	# of Records
		42
	Motor	1
0	N/A	145
15	Hydraulic Spreader	2
19	TRACTOR	1
25	VAC	1
AC	AIR COMPRESSOR	11

- ○ The grid on the top left shows the GIS domain values. The grid on the top right shows the Lucity picklist values. Discrepancies are shown in red.
- ○ Within this dialog you can: add/edit/delete GIS domain values, add/edit/delete Lucity picklist values, repopulate the GIS domain values to match Lucity, and repopulate the Lucity picklist values to match the GIS domain.
- ○ The **GIS Code** field is used to link a Lucity value to a Domain value with a different code. This is used when neither the picklist nor domain values can be changed. It can also be used to link together numeric picklists/domains to alphanumeric ones.
- ○ When **Show current values and record counts** is checked, two read-only grids appear at the bottom allowing you to view which of the domain's values are currently being used in GIS (left) and Lucity (right), and how many records in each are using them.

2. After making changes you must click the **Apply Changes** button at the bottom of the grid for the changes to save.

3. Click **Close** when you are finished. You will be returned to the Domain Configuration results dialog.

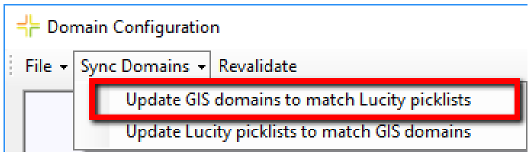
> *Note: The domain you just modified will still be listed as having a discrepancy. You must click the **Revalidate** button on the top menu if you wish to have the dialog refreshed.*

Update GIS Domains to match Lucity picklists

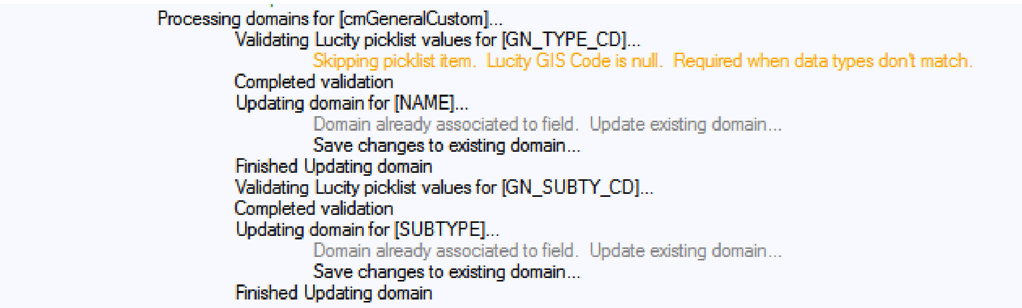
You can perform a mass update that will overwrite all the GIS domains with values from the related Lucity picklists.

- If a domain doesn't exist for a field, it is created in the geodatabase and then linked to the feature class field. By default, the domain name is given the Lucity table name and Lucity field name. For example, if a GIS field is mapped to sewer pipe's material field the assigned domain name will be SWNET_NT_MAT_CD.
- If multiple feature classes are mapped to the same field and there isn't already a GIS domain assigned to these fields this tool will only create one domain and assign it to all GIS fields linked to the Lucity field.
- If the GIS field type doesn't match the Lucity field type (GIS field is text, Lucity is numeric or vice versa), the Lucity GIS Code is required before the GIS domain can be updated.

1. From the Domain Configuration Results form, click **Sync Domains >> Update GIS domains to match Lucity picklists**.


Domain Configuration
File
Sync Domains
Revalidate
Update GIS domains to match Lucity picklists
Update Lucity picklists to match GIS domains

2. The tool will start processing the GIS domains. Results are shown in the upper section of the Domain Configuration dialog. Refer to the results for any issues.



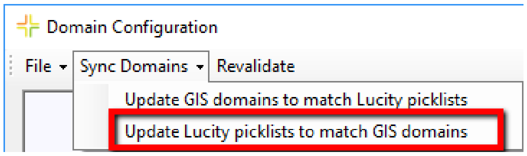
```
Processing domains for [cmGeneralCustom]...
        Validating Lucity picklist values for [GN_TYPE_CD]...
                Skipping picklist item.  Lucity GIS Code is null.  Required when data types don't match.
        Completed validation
        Updating domain for [NAME]...
                Domain already associated to field.  Update existing domain...
                Save changes to existing domain...
        Finished Updating domain
        Validating Lucity picklist values for [GN_SUBTY_CD]...
        Completed validation
        Updating domain for [SUBTYPE]...
                Domain already associated to field.  Update existing domain...
                Save changes to existing domain...
        Finished Updating domain
```

Update Lucity picklists to match GIS Domains

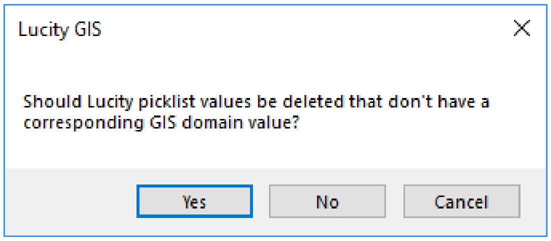
You can perform a mass update that will overwrite all the Lucity picklists with values from the related GIS domains.

- If a Lucity picklist value is hardcoded (unable to be altered) the tool will attempt to find the equivalent GIS domain code using the description. If it finds the matching GIS domain value it uses the Lucity GIS code field to store the corresponding GIS domain code.
- If the GIS field type doesn't match the Lucity field type (GIS field is text, Lucity is numeric or vice versa), the Lucity GIS Code will be used to store the corresponding GIS domain code. The Lucity picklist code will be automatically assigned a sequential number.

1. From the Domain Configuration results dialog, click **Sync Domains** >> **Update Lucity picklists to match GIS domains**.

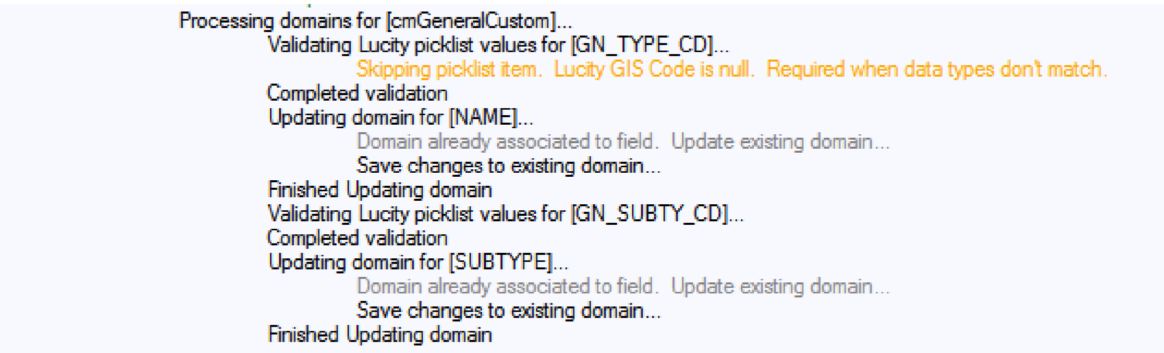

Domain Configuration
File
Sync Domains
Revalidate
Update GIS domains to match Lucity picklists
Update Lucity picklists to match GIS domains

2. The following dialog will appear. Select **Yes** if you want to delete Lucity picklist values that aren't in the GIS domain.



Should Lucity picklist values be deleted that don't have a corresponding GIS domain value?

3. The tool will start processing the Lucity picklists. Results are shown in the upper section of the Domain Configuration dialog. Refer to the results for any issues.

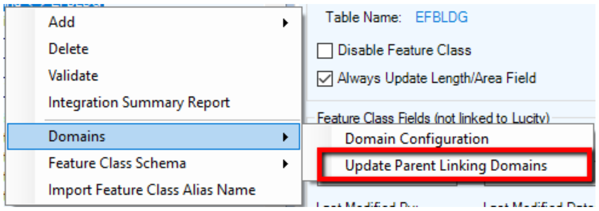


```
Processing domains for [cmGeneralCustom]...
        Validating Lucity picklist values for [GN_TYPE_CD]...
                Skipping picklist item.  Lucity GIS Code is null.  Required when data types don't match.
        Completed validation
        Updating domain for [NAME]...
                Domain already associated to field.  Update existing domain...
                Save changes to existing domain...
        Finished Updating domain
        Validating Lucity picklist values for [GN_SUBTY_CD]...
        Completed validation
        Updating domain for [SUBTYPE]...
                Domain already associated to field.  Update existing domain...
                Save changes to existing domain...
        Finished Updating domain
```

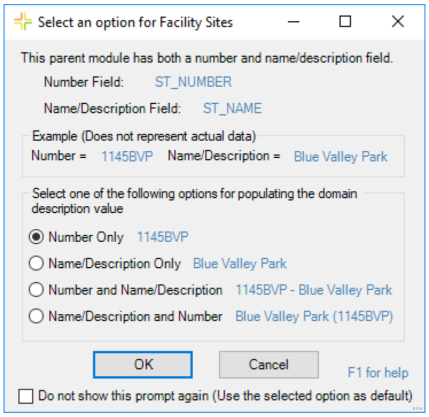
Update Parent Linking Domains

In many feature classes, there will be fields that link a feature to a related feature in another feature class. This is done by storing the related feature's Lucity Auto ID. For example, a Park Bench might store the ID of the Park that it belongs to. This provides important connection information for Lucity, but is less useful to users because it just displays a number. The Update Parent Linking Domains tool creates user-friendly domains for these fields. While the field will still store the linking ID, the domain could display the parent record's Common ID, Name/Description, Common ID and Name/Description, or Name/Description and Common ID.

1. To update parent linking domains, right-click on either a geodatabase or feature class node in the tree on the left-hand side of the Geodatabase Configuration dialog and select **Update Parent Linking Domains**


Add
Delete
Validate
Integration Summary Report
Domains
Feature Class Schema
Import Feature Class Alias Name
Table Name: EFBLDG
□ Disable Feature Class
☑ Always Update Length/Area Field
Feature Class Fields (not linked to Lucity)
Domain Configuration
Update Parent Linking Domains

2. The following dialog will appear.



This parent module has both a number and name/description field.

Number Field: ST_NUMBER

Name/Description Field: ST_NAME

Example (Does not represent actual data)

Number = 1145BVP Name/Description = Blue Valley Park

Select one of the following options for populating the domain description value

● Number Only 1145BVP

○ Name/Description Only Blue Valley Park

○ Number and Name/Description 1145BVP - Blue Valley Park

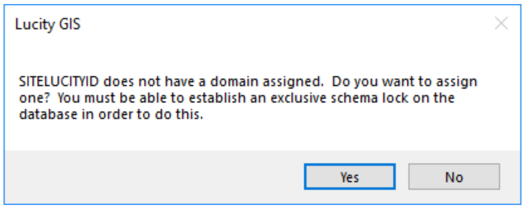
○ Name/Description and Number Blue Valley Park (1145BVP)

□ Do not show this prompt again (Use the selected option as default)

3. Select the description option and click **OK**.

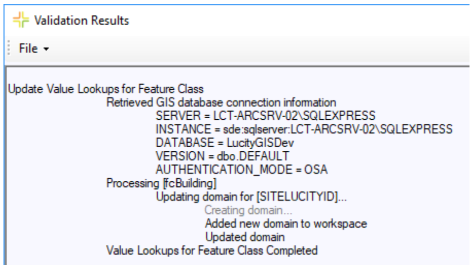
> *Note: When **Do not show this prompt again (Use the selected option as default)** is checked, any additional parent-linking domains that are currently configured will use the same option.*

4. If there currently is not a domain assigned to the GIS field the following dialog will appear. Click **Yes**.



SITELUCITYID does not have a domain assigned. Do you want to assign one? You must be able to establish an exclusive schema lock on the database in order to do this.

5. The domain will be created and/or updated. The process will write results to the Validation Results dialog.

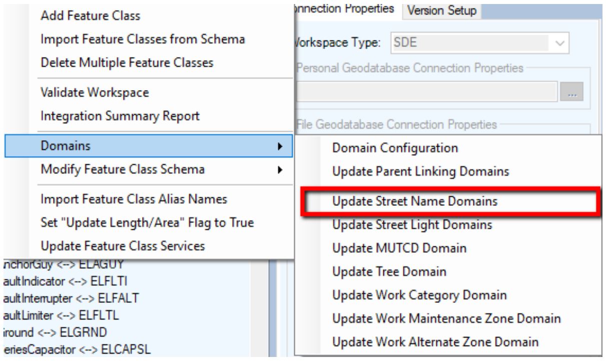


```
Update Value Lookups for Feature Class
            Retrieved GIS database connection information
                  SERVER = LCT-ARCSRV-02\SQLEXPRESS
                  INSTANCE = sde:sqlserver:LCT-ARCSRV-02\SQLEXPRESS
                  DATABASE = LucityGISDev
                  VERSION = dbo.DEFAULT
                  AUTHENTICATION_MODE = OSA
            Processing [fcBuilding]
                  Updating domain for [SITELUCITYID]...
                        Creating domain...
                        Added new domain to workspace
                        Updated domain
            Value Lookups for Feature Class Completed
```

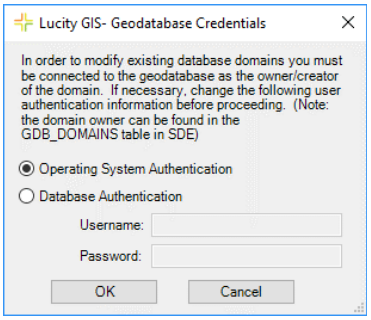
Update Street Name Domains

Lucity breaks out street address information into the following fields: Building Number, Building Suffix, Street Direction, Street Prefix, Street Name, Street Type, and Street Suffix. These fields in Lucity are associated to a library, which requires them to be handled in a different way from a typical Lucity picklist. To ensure data integrity, it is highly recommended that you configure a GIS domain for these fields that match the corresponding Lucity picklist.

1. Right click on a geodatabase node in the tree on the left-hand side of the Geodatabase Configuration dialog and select **Domains >> Update Street Name Domains**.


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services
nchorGuy <--> ELAGUY
aultIndicator <--> ELFLTI
aultInterrupter <--> ELFALT
aultLimiter <--> ELFLTL
iround <--> ELGRND
eriesCapacitor <--> ELCAPSL
nnection Properties
Version Setup
Vorkspace Type:
SDE
Personal Geodatabase Connection Properties
File Geodatabase Connection Properties
Domain Configuration
Update Parent Linking Domains
Update Street Name Domains
Update Street Light Domains
Update MUTCD Domain
Update Tree Domain
Update Work Category Domain
Update Work Maintenance Zone Domain
Update Work Alternate Zone Domain

2. After you click **Update Street Name Domains**, you will be prompted to choose the domain owner.



Lucity GIS- Geodatabase Credentials

In order to modify existing database domains you must be connected to the geodatabase as the owner/creator of the domain. If necessary, change the following user authentication information before proceeding. (Note: the domain owner can be found in the GDB_DOMAINS table in SDE)

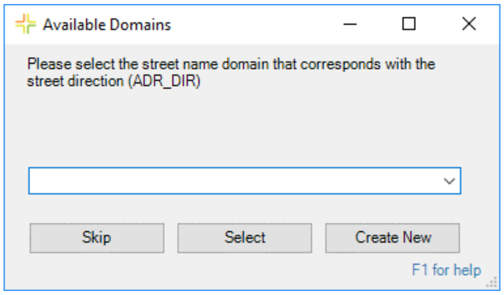
● Operating System Authentication

○ Database Authentication

Username:

Password:

3. Chose a domain option and click **OK**. A series of dialogs like the following will appear:



Available Domains

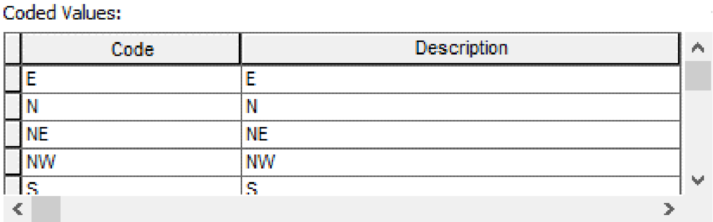
Please select the street name domain that corresponds with the street direction (ADR_DIR)

4. Click **Skip**, **Select**, or **Create New** to navigate through each dialog.

5. After you click **Select** on the last dialog, the validation results will be generated.

All street name domains are created using the values as they are defined in the Lucity Street Name List. The following is an example of what is created for each domain:

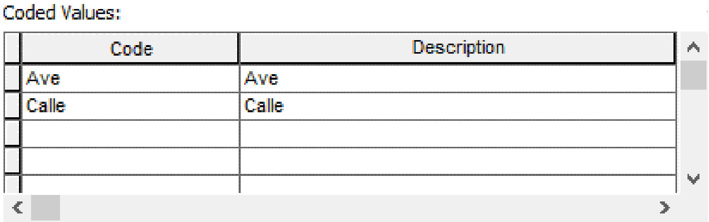
- **Street Direction (Lucity.StreetNameDirection):** This domain will automatically get associated to all fields linked to a Lucity street direction field (typically *_ADR_DIR).



Coded Values:

Code	Description
E	E
N	N
NE	NE
NW	NW
S	S

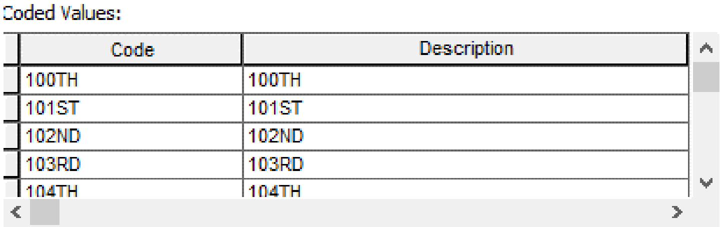
- **Street Prefix Type (Lucity.StreetNamePrefixType:** This domain will automatically get associated to all fields linked to a Lucity street prefix direction field (typically *_ADR_PT).



Coded Values:

Code	Description
Ave	Ave
Calle	Calle

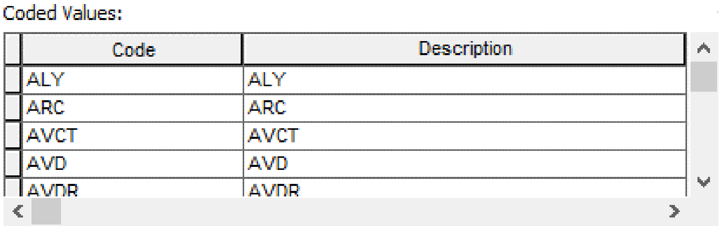
- **Street Name (Lucity.StreetNameName):** This domain will automatically get associated to all fields linked to a Lucity street name field (typically *_ADR_STR).



Coded Values:

Code	Description
100TH	100TH
101ST	101ST
102ND	102ND
103RD	103RD
104TH	104TH

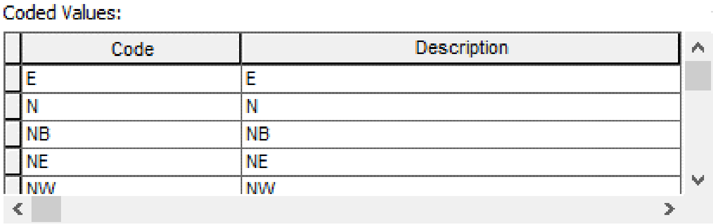
- **Street Type (Lucity.StreetNameType):** This domain will automatically get associated to all fields linked to a Lucity street type field (typically *_ADR_TY).



Coded Values:

Code	Description
ALY	ALY
ARC	ARC
AVCT	AVCT
AVD	AVD
AVDR	AVDR

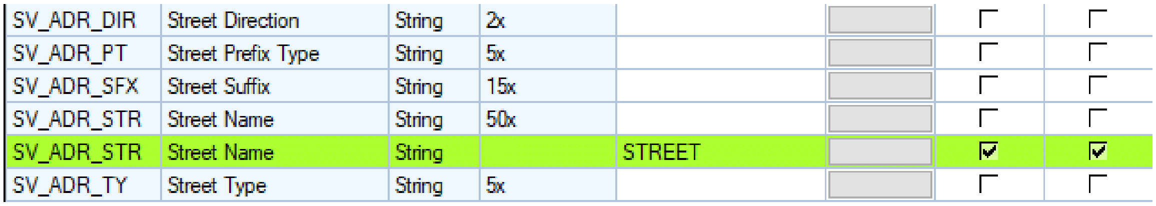
- **Street Suffix (Lucity.StreetNameSuffix):** This domain will automatically get associated to all fields linked to a Lucity street suffix field (typically *_ADR_SFX).



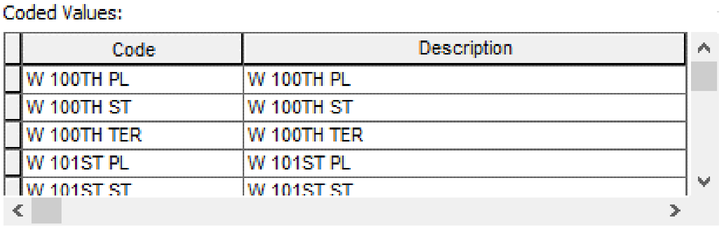
Coded Values:

Code	Description
E	E
N	N
NB	NB
NE	NE
NW	NW

- **Street Name Composite (Lucity.StreetNameComposite):** This domain will automatically get associated to all GIS composite street name fields. These are GIS fields that have been mapped to Lucity using the composite option (green line shown below).



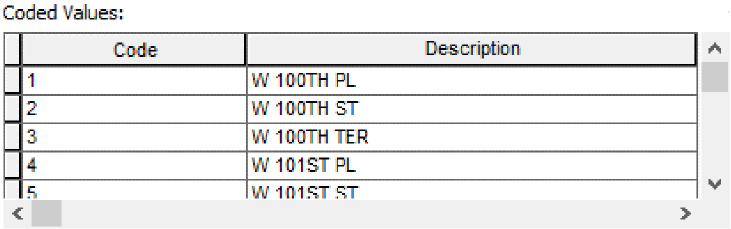
SV_ADR_DIR	Street Direction	String	2x			☐	☐
SV_ADR_PT	Street Prefix Type	String	5x			☐	☐
SV_ADR_SFX	Street Suffix	String	15x			☐	☐
SV_ADR_STR	Street Name	String	50x			☐	☐
SV_ADR_STR	Street Name	String		STREET		☑	☑
SV_ADR_TY	Street Type	String	5x			☐	☐



Coded Values:

Code	Description
W 100TH PL	W 100TH PL
W 100TH ST	W 100TH ST
W 100TH TER	W 100TH TER
W 101ST PL	W 101ST PL
W 101ST ST	W 101ST ST

- **Street Name List (Lucity.StreetNameList):** This domain will automatically get associated to all fields linked to a Lucity street list field (typically *_ADR_ID).



Coded Values:

Code	Description
1	W 100TH PL
2	W 100TH ST
3	W 100TH TER
4	W 101ST PL
5	W 101ST ST

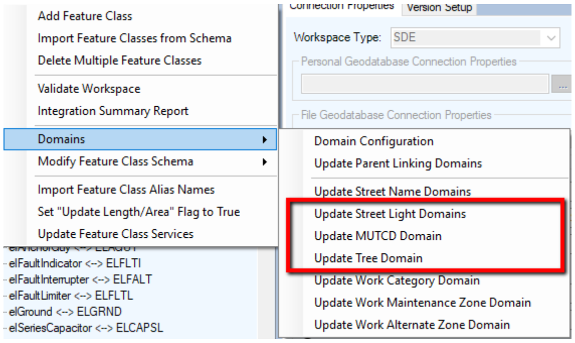
Update Street Light, MUTCD, and Tree Domains

Fields in the geodatabase that are linked to Lucity fields storing the following information should have a special domain assigned:

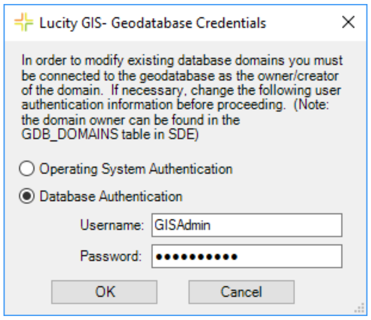
- Street Light Library codes.
- Street Sign codes (MUTCD).
- Tree codes.

These fields in Lucity are associated to a library, which requires them to be handled in a different way from a typical Lucity picklist. To ensure data integrity, it is highly recommended that you configure a GIS domain for these fields that match the corresponding Lucity picklist.

1. Right click on a geodatabase node in the tree on the left-hand side of the Geodatabase Configuration dialog and select **Domains >> Update Street Light**, **MUTCD**, or **Tree Doman(s)**.


Connection Properties
Version Setup
Workspace Type: SDE
Personal Geodatabase Connection Properties
File Geodatabase Connection Properties
Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services
elFaultIndicator <--> ELFLTI
elFaultInterrupter <--> ELFALT
elFaultLimiter <--> ELFLTL
elGround <--> ELGRND
elSeriesCapacitor <--> ELCAPSL
Domain Configuration
Update Parent Linking Domains
Update Street Name Domains
Update Street Light Domains
Update MUTCD Domain
Update Tree Domain
Update Work Category Domain
Update Work Maintenance Zone Domain
Update Work Alternate Zone Domain

2. After you click **Update Domains**, you will be prompted to choose the domain owner.


Lucity GIS- Geodatabase Credentials

In order to modify existing database domains you must be connected to the geodatabase as the owner/creator of the domain. If necessary, change the following user authentication information before proceeding. (Note: the domain owner can be found in the GDB_DOMAINS table in SDE)

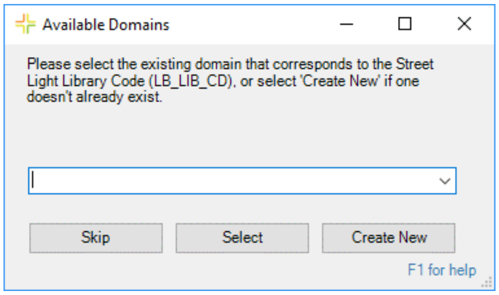
○ Operating System Authentication

● Database Authentication

Username: GISAdmin

Password: ••••••••••

3. Chose a domain option and click **OK**. A series of dialogs like the following will appear:

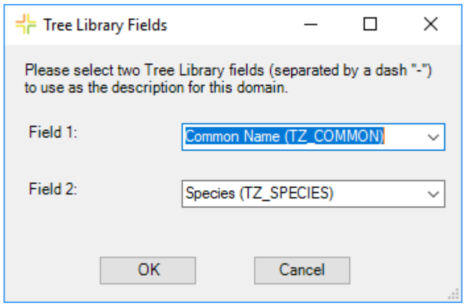

Available Domains

Please select the existing domain that corresponds to the Street Light Library Code (LB_LIB_CD), or select 'Create New' if one doesn't already exist.

4. Click **Skip**, **Select**, or **Create New** to navigate through each dialog.

5. When you click **Select** on the last dialog, the validation results will be generated.

6. If updating a Tree domain, you will get one extra dialog to select two fields (separated by a dash "-") to be used as the domain's description. The Tree Library code will be used as the domain's code.


Tree Library Fields

Please select two Tree Library fields (separated by a dash "-") to use as the description for this domain.

Field 1: Common Name (TZ_COMMON)

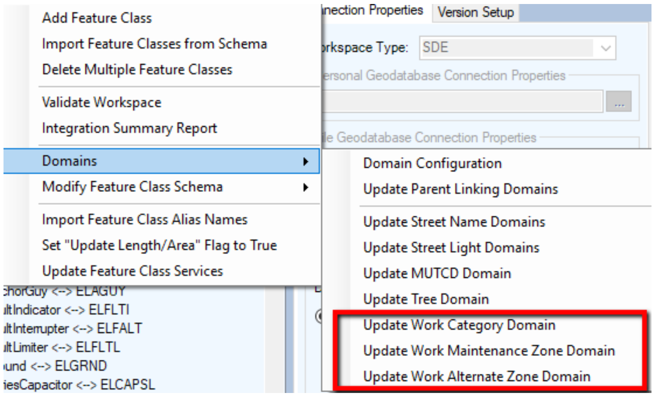
Field 2: Species (TZ_SPECIES)

Update Work Category, Maintenance Zone, and Alternate Zone Domain

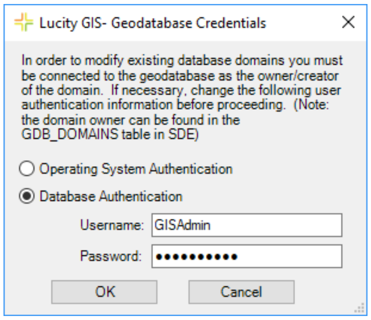
A tool exists for creating a domain for GIS fields linked to the Lucity default Work Category (*_BR_CD), Maintenance Zone (*_MZONE_CD), and Alternate Zone (*_AZONE_CD) fields. These fields are used to assign a default Work Category, Maintenance Zone, or Alternate Zone, so that when a Work Order or Request is created against the asset, it will automatically be assigned to that Work Category, Maintenance Zone, and Alternate Zone. Since these fields are not typical code/type picklists, the standard Domain configuration tool will not work for these fields, thus requiring the use of these tools.

These three options work the same, so here is an example using the Update Work Category Domain tool:

1. In the Lucity Geodatabase Configuration tool, right-click on the geodatabase node and select **Domains >> Update Work Category Domain**.


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services
Domain Configuration
Update Parent Linking Domains
Update Street Name Domains
Update Street Light Domains
Update MUTCD Domain
Update Tree Domain
Update Work Category Domain
Update Work Maintenance Zone Domain
Update Work Alternate Zone Domain
nection Properties
Version Setup
rkspace Type:
SDE
ersonal Geodatabase Connection Properties
e Geodatabase Connection Properties
ChorGuy <--> ELAGUY
ltIndicator <--> ELFLTI
ltInterrupter <--> ELFALT
ltLimiter <--> ELFLTL
und <--> ELGRND
iesCapacitor <--> ELCAPSL

2. The following dialog will appear:



Lucity GIS- Geodatabase Credentials

In order to modify existing database domains you must be connected to the geodatabase as the owner/creator of the domain. If necessary, change the following user authentication information before proceeding. (Note: the domain owner can be found in the GDB_DOMAINS table in SDE)

○ Operating System Authentication

● Database Authentication

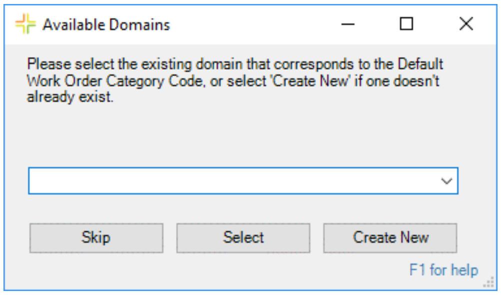
Username: GISAdmin

Password: ••••••••••

OK Cancel

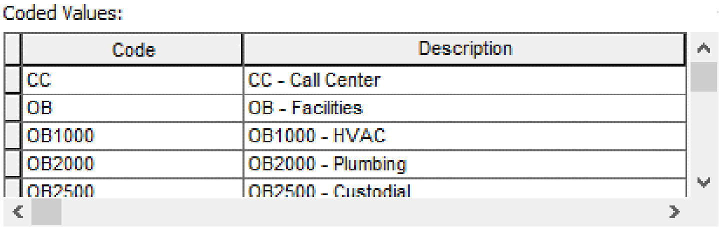
3. The dialog is asking for domain owner credentials. Domains within a geodatabase can only be edited by the original creator (domain owner). Enter the proper credentials and click **OK**.

4. The following dialog will appear, asking for the domain that corresponds to the default Work Order Category Code. If this is the first time the tool has been ran and you currently don't have a domain created, click the **Create New** button. Otherwise select the existing domain and click **Select**.



Please select the existing domain that corresponds to the Default Work Order Category Code, or select 'Create New' if one doesn't already exist.

5. Once complete, you can view details regarding the process in the results dialog. The following is an example of a Lucity.WorkCategory domain created by the tool:



Coded Values:

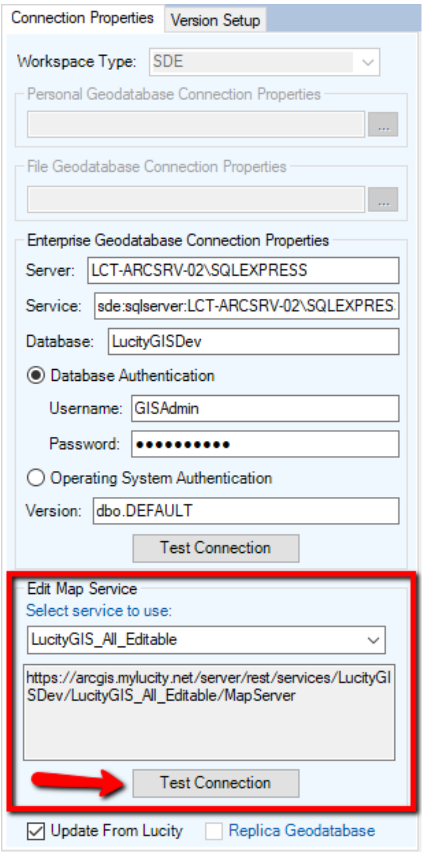
Code	Description
CC	CC - Call Center
OB	OB - Facilities
OB1000	OB1000 - HVAC
OB2000	OB2000 - Plumbing
OB2500	OB2500 - Custodial

Validation Tools

Once a geodatabase is configured, it is good idea to make sure that there are no problems with links between Lucity and the geodatabase. This helps ensure that all the expected data will be transferred. To run a check, there is a Validate tool within Geodatabase Configuration. This tool can either be run against the entire geodatabase, or an individual feature class.

Validations in the Lucity Geodatabase Configuration tool also include checks against map and feature services. One way to validate a service is to run the **Test Connection** button found in the **Edit Map Service** section of the **Connection Properties** tab for the geodatabase. This test will:

- Validate a connection can be made to the service with the URL and credentials provided.
- Analyze each layer wihin the service to determine if it has a connection to Lucity.



Workspace Type: SDE

Personal Geodatabase Connection Properties

File Geodatabase Connection Properties

Enterprise Geodatabase Connection Properties

Server: LCT-ARCSRV-02\SQLEXPRESS

Service: sde:sqlserver:LCT-ARCSRV-02\SQLEXPRES

Database: LucityGISDev

● Database Authentication

Username: GISAdmin

Password: ●●●●●●●●●●

○ Operating System Authentication

Version: dbo.DEFAULT

Edit Map Service

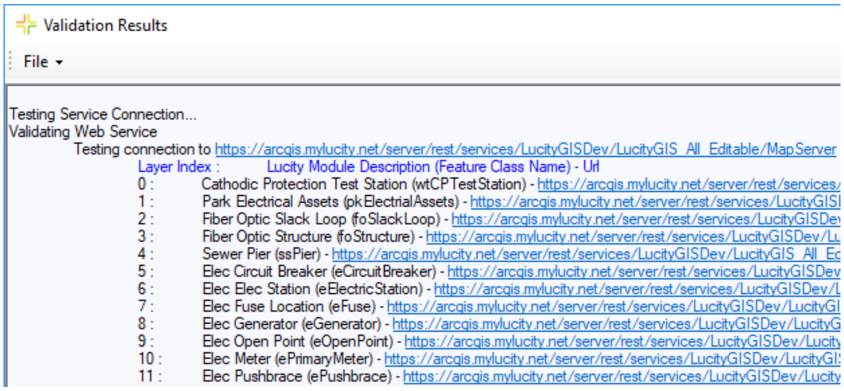
Select service to use:

LucityGIS_All_Editable

https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_All_Editable/MapServer

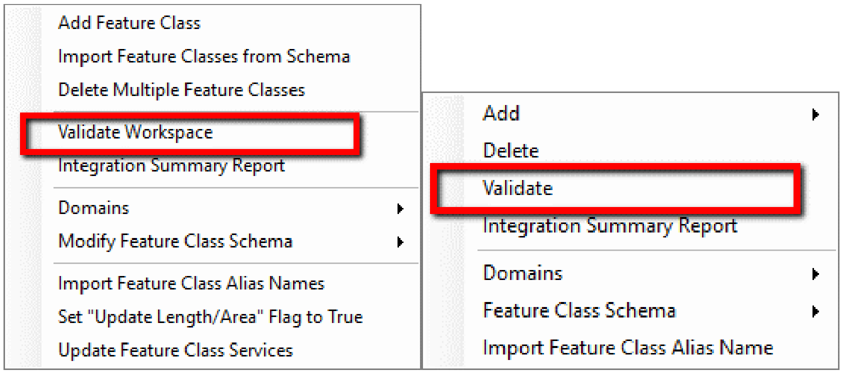
☑ Update From Lucity □ Replica Geodatabase

Results, including any errors, are reported in the validation results dialog. An example of the results is shown below.



```
Testing Service Connection...
Validating Web Service
           Testing connection to https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_All_Editable/MapServer
                      Layer Index :       Lucity Module Description (Feature Class Name) - Url
                      0 :       Cathodic Protection Test Station (wtCPTestStation) - https://arcgis.mylucity.net/server/rest/services/
                      1 :       Park Electrical Assets (pkElectrialAssets) - https://arcgis.mylucity.net/server/rest/services/LucityGISI
                      2 :       Fiber Optic Slack Loop (foSlackLoop) - https://arcgis.mylucity.net/server/rest/services/LucityGISDev
                      3 :       Fiber Optic Structure (foStructure) - https://arcgis.mylucity.net/server/rest/services/LucityGISDev/Lu
                      4 :       Sewer Pier (ssPier) - https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_All_Ec
                      5 :       Elec Circuit Breaker (eCircuitBreaker) - https://arcgis.mylucity.net/server/rest/services/LucityGISDev
                      6 :       Elec Elec Station (eElectricStation) - https://arcgis.mylucity.net/server/rest/services/LucityGISDev/L
                      7 :       Elec Fuse Location (eFuse) - https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGI
                      8 :       Elec Generator (eGenerator) - https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityG
                      9 :       Elec Open Point (eOpenPoint) - https://arcgis.mylucity.net/server/rest/services/LucityGISDev/Lucity
                      10 :      Elec Meter (ePrimaryMeter) - https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGI
                      11 :      Elec Pushbrace (ePushbrace) - https://arcgis.mylucity.net/server/rest/services/LucityGISDev/Lucity
```

The other map and feature service tests occur as part of the validation tools that are available in the geodatabase and feature class menus.


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains ▸
Modify Feature Class Schema ▸
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services
Add ▸
Delete
Validate
Integration Summary Report
Domains ▸
Feature Class Schema ▸
Import Feature Class Alias Name

There are three parts to this validation:

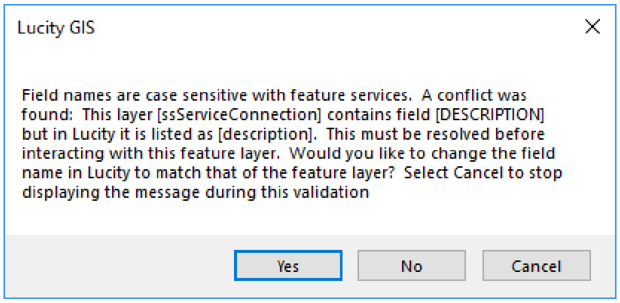
1. Validate setup in Lucity. This part checks to make sure required fields are populated and Lucity fields are valid.

2. Validate setup in geodatabase. This includes testing the connection to the geodatabase and confirming that the feature class exists, fields exist, data types are compatible, etc.

3. Validate setup in map service. This test is skipped if the **Update Geodatabase From Lucity** and **Enable Lucity Spatial** System Settings are disabled. This part will validate the following:

    - A connection can be made to the service.
    - The feature class exists in the service.
    - The feature class fields exist in the service.

Part of the service validation is to verify that the service layer fields exist. The Lucity tools interact with services using the ArcGIS REST API, in which field names are case sensitive. If a conflict in case is found during the validation, the following dialog will appear:



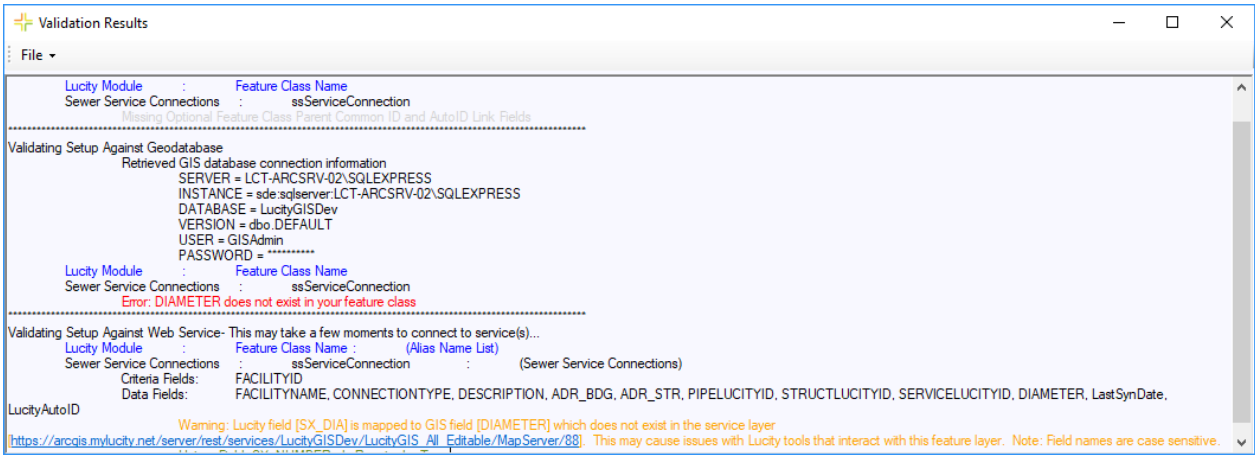
Field names are case sensitive with feature services. A conflict was found: This layer [ssServiceConnection] contains field [DESCRIPTION] but in Lucity it is listed as [description]. This must be resolved before interacting with this feature layer. Would you like to change the field name in Lucity to match that of the feature layer? Select Cancel to stop displaying the message during this validation

- **Yes:** The case will be updated in Lucity.
- **No:** No changes will be made.

> *Note: This may cause failures when attempting to read or update the field via the feature service.*

- **Cancel:** No changes will be made, and further case conflicts will be ignored for the rest of this validation run.

Once the validation process is complete, you will receive a validation results dialog indicating whether the validation passed. The following is an example of the validation results:

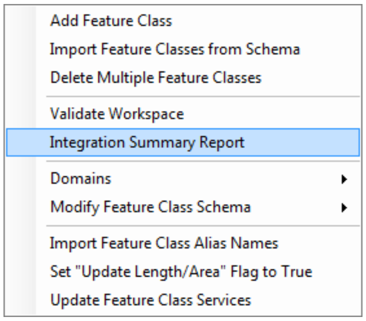


```
         Lucity Module          :          Feature Class Name
         Sewer Service Connections    :          ssServiceConnection
                  Missing Optional Feature Class Parent Common ID and AutoID Link Fields
*****************************************************************************************
Validating Setup Against Geodatabase
                  Retrieved GIS database connection information
                           SERVER = LCT-ARCSRV-02\SQLEXPRESS
                           INSTANCE = sde:sqlserver:LCT-ARCSRV-02\SQLEXPRESS
                           DATABASE = LucityGISDev
                           VERSION = dbo.DEFAULT
                           USER = GISAdmin
                           PASSWORD = **********
         Lucity Module          :          Feature Class Name
         Sewer Service Connections    :          ssServiceConnection
                  Error: DIAMETER does not exist in your feature class
*****************************************************************************************
Validating Setup Against Web Service- This may take a few moments to connect to service(s)...
         Lucity Module          :          Feature Class Name :          (Alias Name List)
         Sewer Service Connections    :          ssServiceConnection          :          (Sewer Service Connections)
                  Criteria Fields:     FACILITYID
                  Data Fields:         FACILITYNAME, CONNECTIONTYPE, DESCRIPTION, ADR_BDG, ADR_STR, PIPELUCITYID, STRUCTLUCITYID, SERVICELUCITYID, DIAMETER, LastSynDate,
LucityAutoID
                           Warning: Lucity field [SX_DIA] is mapped to GIS field [DIAMETER] which does not exist in the service layer
[https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_All_Editable/MapServer/88]. This may cause issues with Lucity tools that interact with this feature layer. Note: Field names are case sensitive.
```

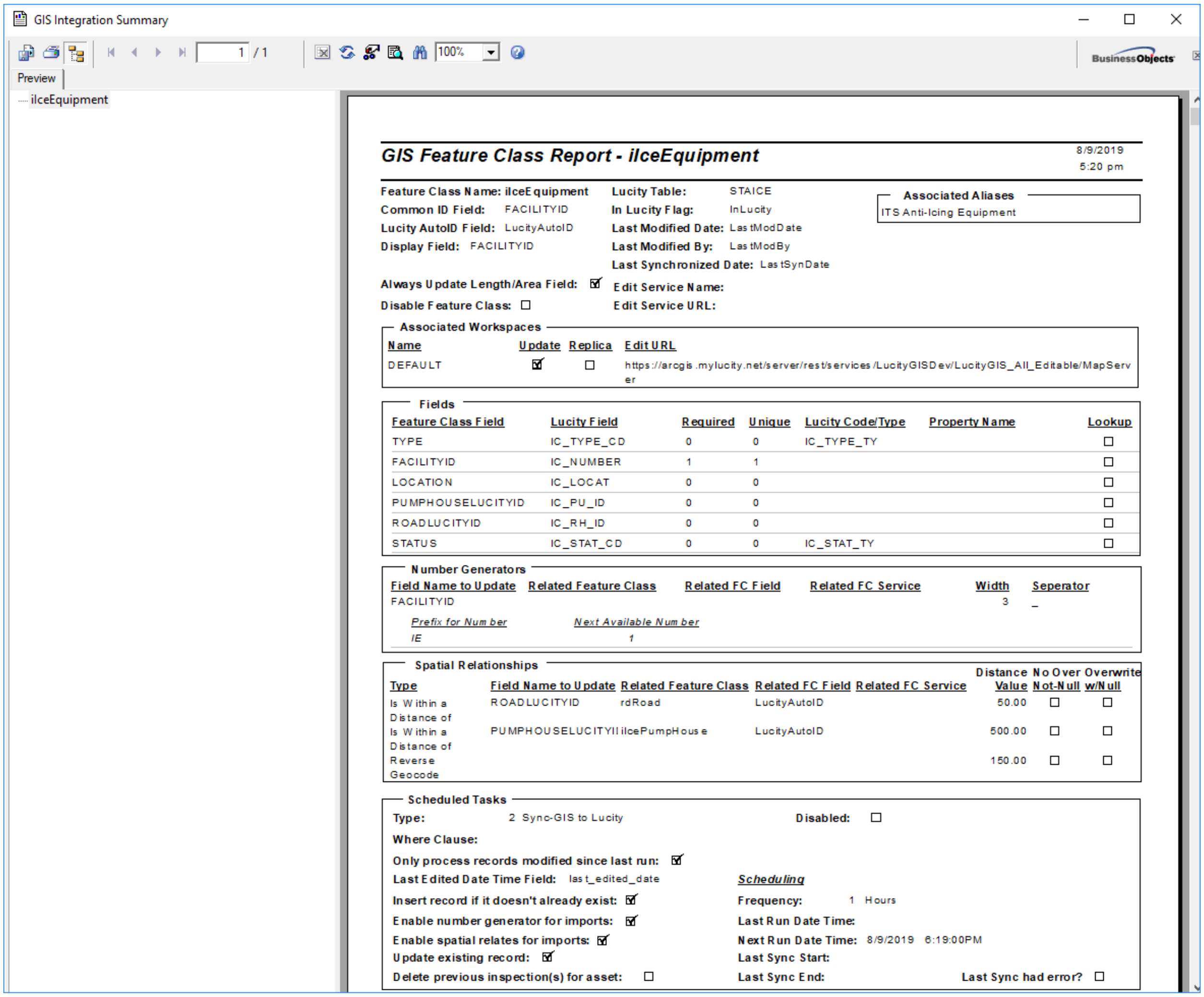
Integration Summary Report

Sometimes it can be helpful to have a concise overview of how a feature class is linked to Lucity. This is accomplished using the Integration Summary Report tool. This tool generates a Crystal report of all a feature class's information that pertains to its integration with a Lucity module, including associated workspaces, field mappings, number generators, spatial relationships, and scheduled tasks, and all relevant details within each.

1. To launch an Integration Summary Report, right-click the geodatabase or the feature class, and select **Integration Summary Report**.


Add Feature Class
Import Feature Classes from Schema
Delete Multiple Feature Classes
Validate Workspace
Integration Summary Report
Domains
Modify Feature Class Schema
Import Feature Class Alias Names
Set "Update Length/Area" Flag to True
Update Feature Class Services

2. If ran against an individual feature class, the report will only contain one page for that feature class. If ran against the entire geodatabase, the report will contain as many pages as there are feature classes linked to Lucity.



GIS Feature Class Report - ilceEquipment

8/9/2019
5:20 pm

Feature Class Name: ilceEquipment
Common ID Field: FACILITYID
Lucity AutoID Field: LucityAutoID
Display Field: FACILITYID

Lucity Table: STAICE
In Lucity Flag: InLucity
Last Modified Date: LastModDate
Last Modified By: LastModBy
Last Synchronized Date: LastSynDate

Associated Aliases
ITS Anti-Icing Equipment

Always Update Length/Area Field: ☑
Disable Feature Class: □

Edit Service Name:
Edit Service URL:

Associated Workspaces

Name	Update	Replica	Edit URL
DEFAULT	☑	□	https://arcgis.mylucity.net/server/rest/services/LucityGISDev/LucityGIS_All_Editable/MapServer

Fields

Feature Class Field	Lucity Field	Required	Unique	Lucity Code/Type	Property Name	Lookup
TYPE	IC_TYPE_CD	0	0	IC_TYPE_TY		□
FACILITYID	IC_NUMBER	1	1			□
LOCATION	IC_LOCAT	0	0			□
PUMPHOUSELUCITYID	IC_PU_ID	0	0			□
ROADLUCITYID	IC_RH_ID	0	0			□
STATUS	IC_STAT_CD	0	0	IC_STAT_TY		□

Number Generators

Field Name to Update	Related Feature Class	Related FC Field	Related FC Service	Width	Seperator
FACILITYID				3	_

Prefix for Number	*Next Available Number*
IE	*1*

Spatial Relationships

					Distance	No Over	Overwrite
Type	Field Name to Update	Related Feature Class	Related FC Field	Related FC Service	Value	Not-Null	w/Null
Is Within a Distance of	ROADLUCITYID	rdRoad	LucityAutoID		50.00	□	□
Is Within a Distance of	PUMPHOUSELUCITYII	ilcePumpHouse	LucityAutoID		500.00	□	□
Reverse Geocode					150.00	□	□

Scheduled Tasks

Type: 2 Sync-GIS to Lucity
Disabled: □
Where Clause:
Only process records modified since last run: ☑
Last Edited Date Time Field: last_edited_date
Insert record if it doesn't already exist: ☑
Enable number generator for imports: ☑
Enable spatial relates for imports: ☑
Update existing record: ☑
Delete previous inspection(s) for asset: □

Scheduling
Frequency: 1 Hours
Last Run Date Time:
Next Run Date Time: 8/9/2019 6:19:00PM
Last Sync Start:
Last Sync End:
Last Sync had error? □