

# MANAGING SAFETY ASSETS ON A UNIVERSITY CAMPUS

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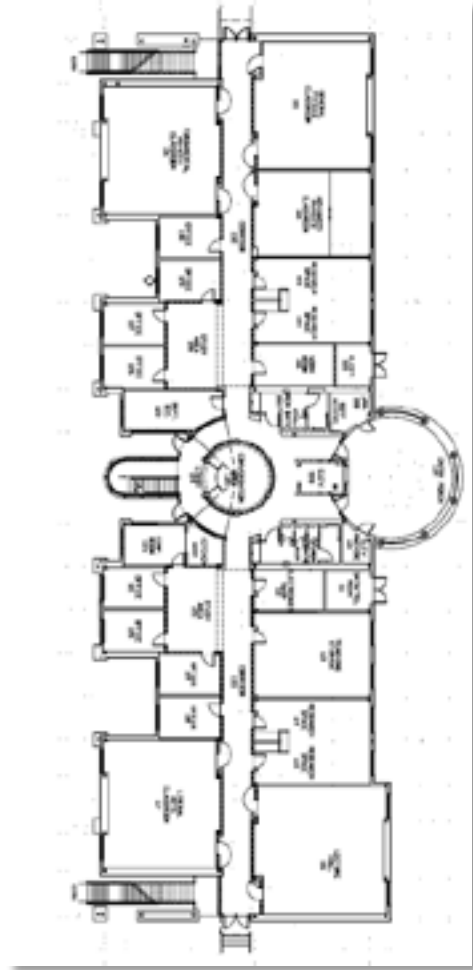
Mari Cruz Escarcega  
MS GIS Program  
University of Redlands

# Partner

- University of Redlands Facilities Department
- Founded in 1906
- Provide maintenance and repair to 60 buildings



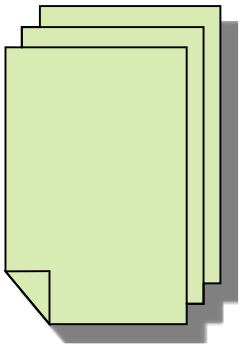
# Campus Maps



Floor plan

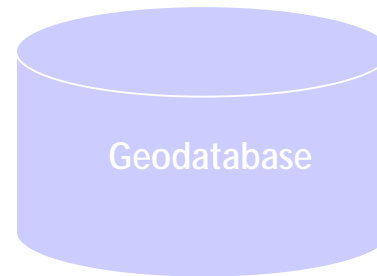
# Problem Statement

- Data exists in multiple formats
- Keeping data current
- Risk of loosing documentation



# System Design

- Organizing data
- Developing Geodatabase
- Creating map layers
- Web Development



# Data Types



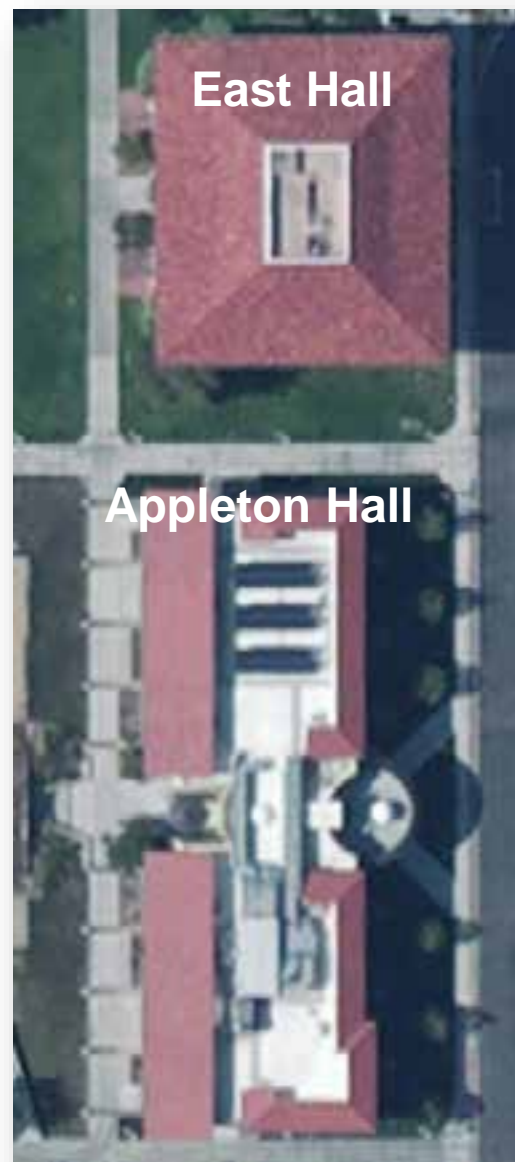
Safety Assets



Rooms



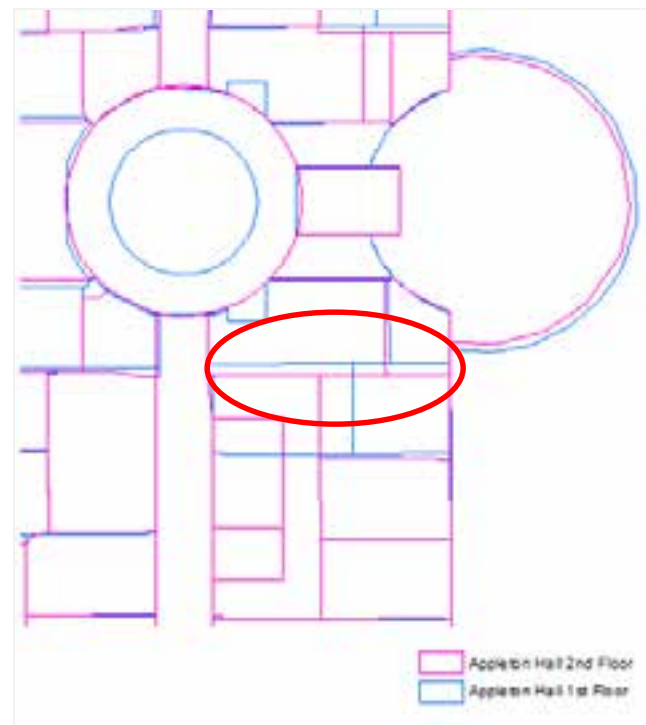
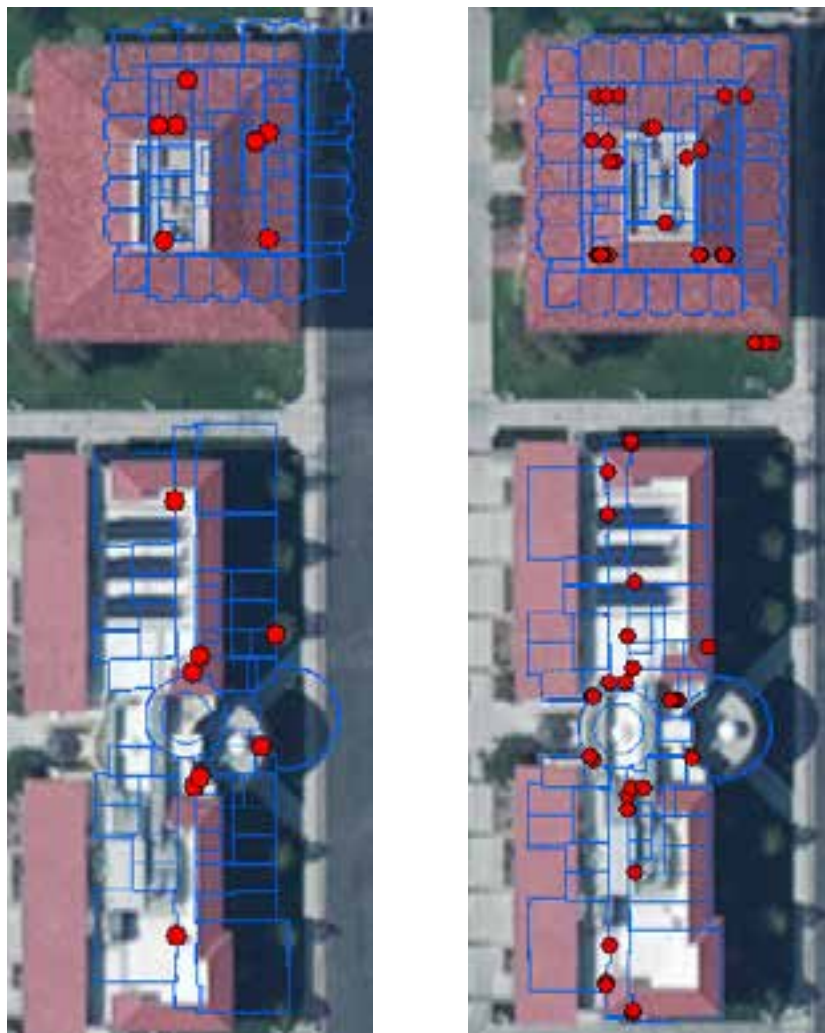
Floors



Buildings

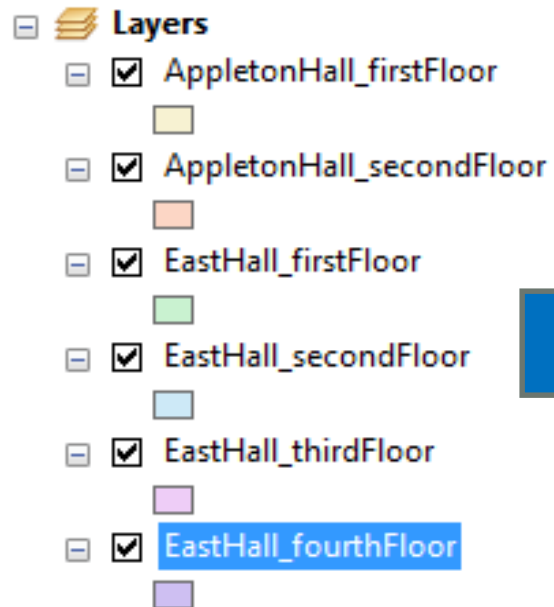


# Original Data

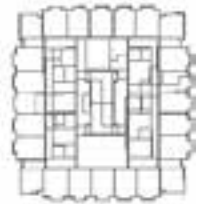


# Data Scrubbing

- Organizing Data
- Data Input
- Merge
- Feature Classes
  - 2 Types



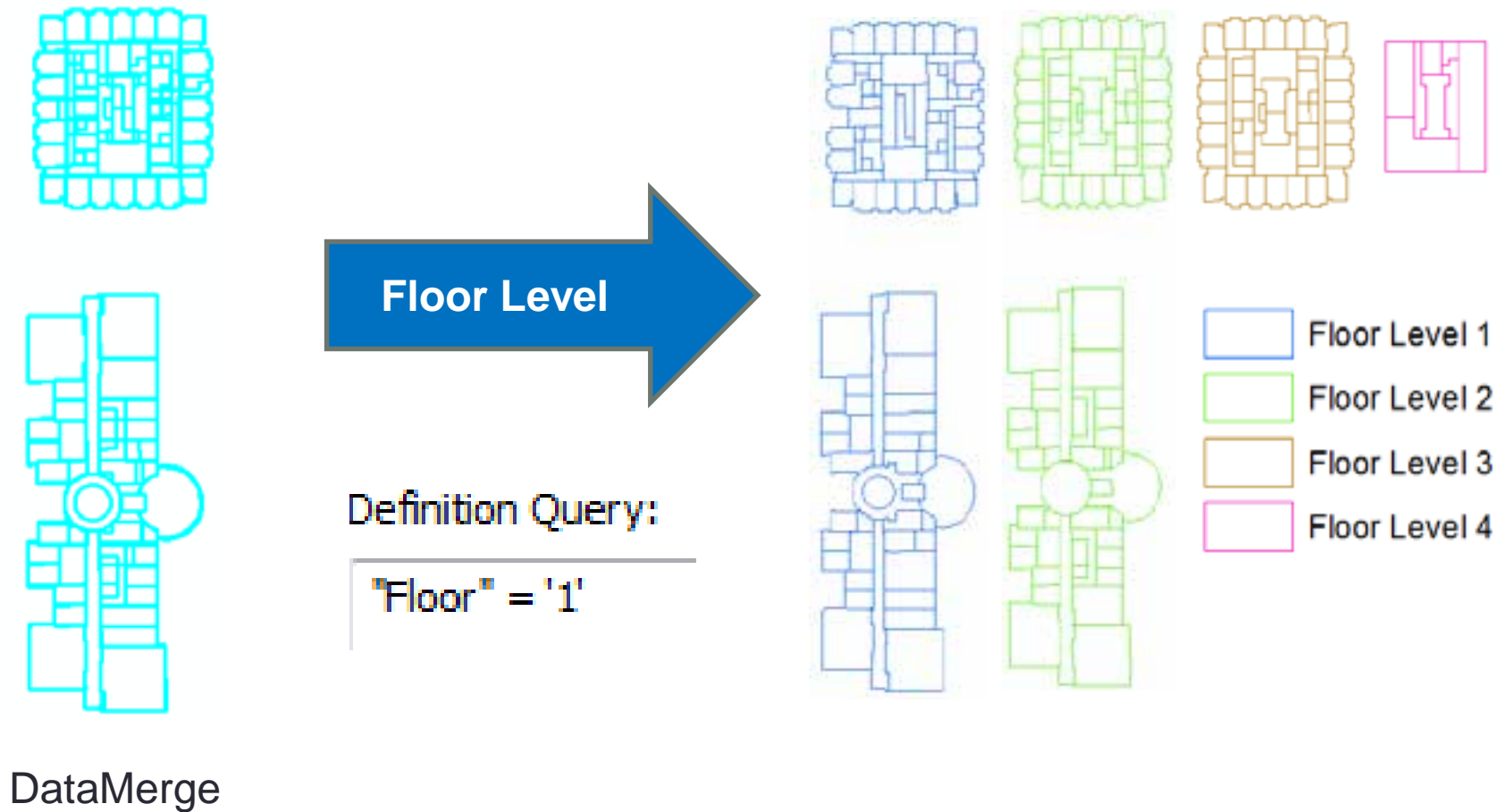
Merge



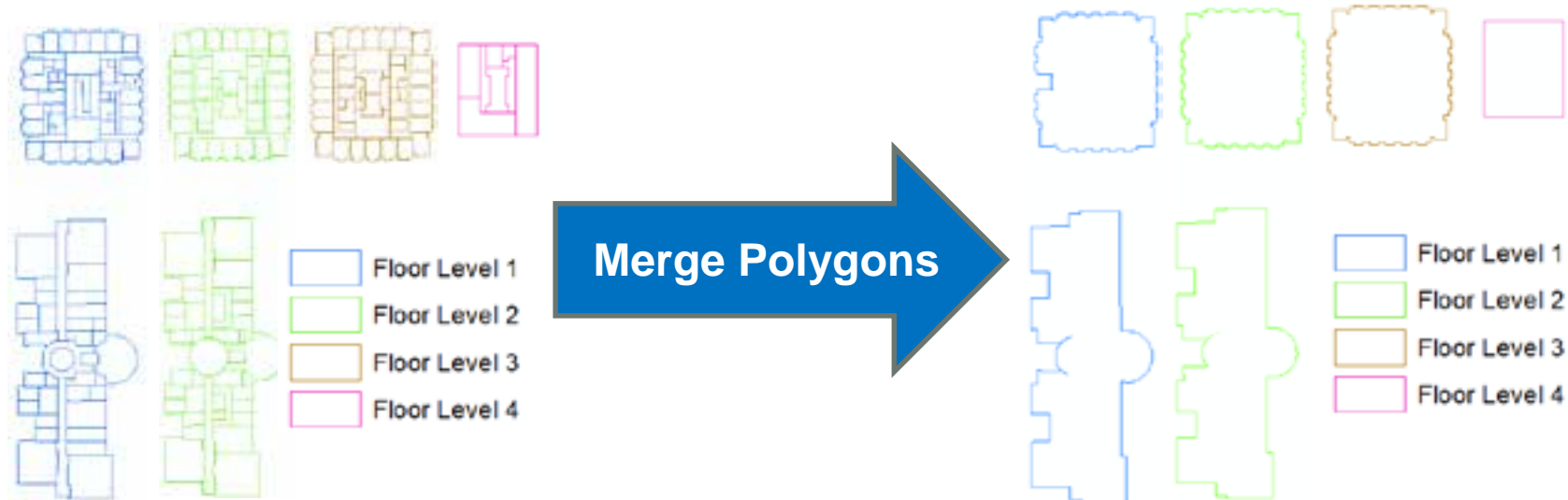
DataMerge



# Floor Definition Query

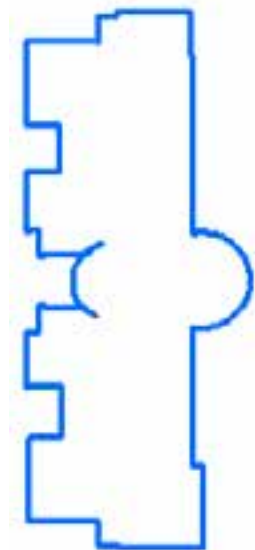
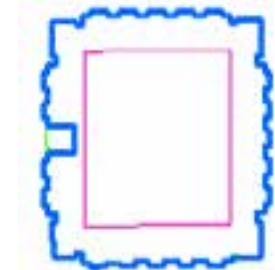
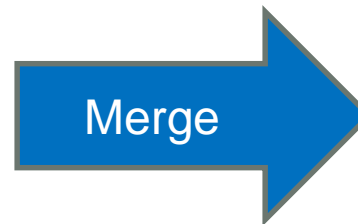
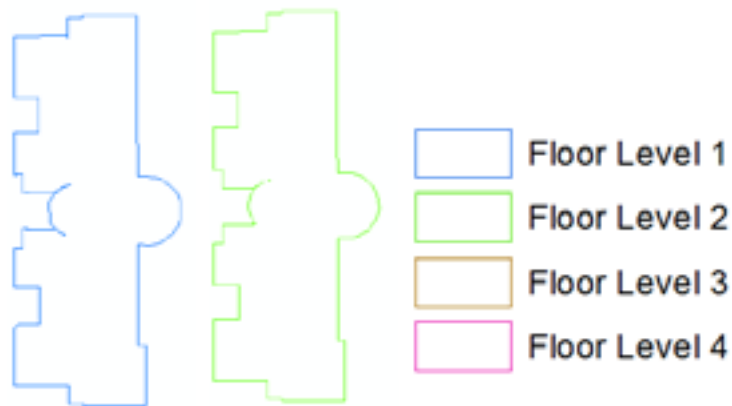


# Merge Polygons



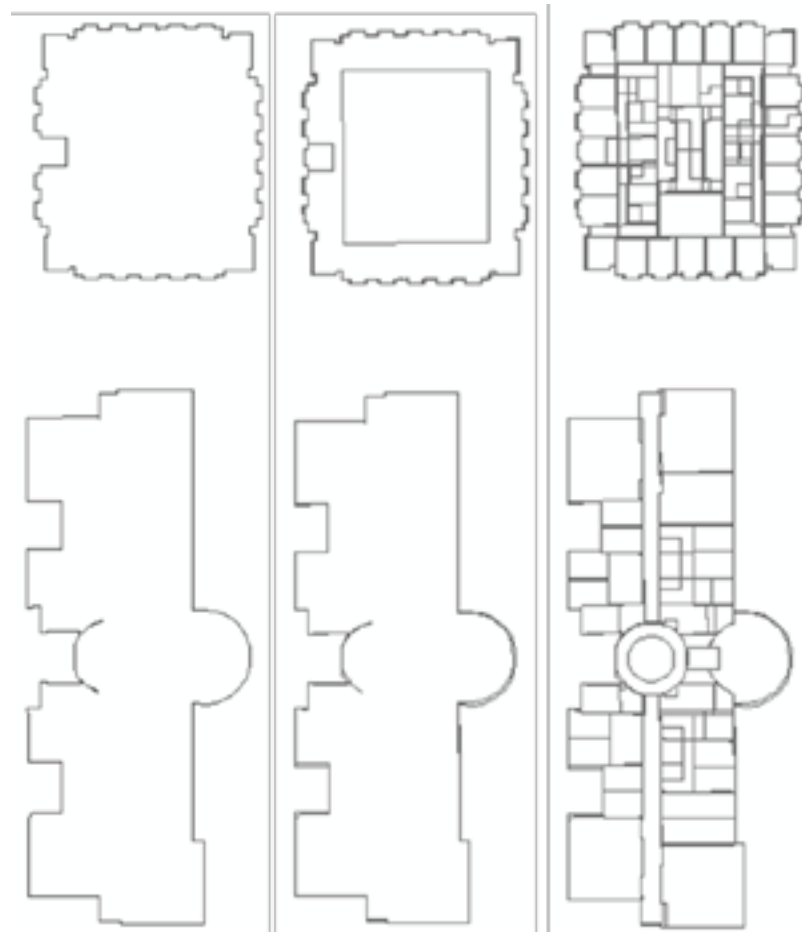
Floor Level Feature Classes

# Final Geoprocessing



Floors

# Final Building Feature Classes



Buildings

Floors

Rooms

BLDG_ID *	Shape *	Sq_Footage	BLDG_Name *	BLDG_Code *
1	Polygon (2D)	21300	Appleton Hall	224
2	Polygon (2D)	54917	East Hall	227

Buildings

BLDG_Name	BLDG_Code *	Floor *	FloorID *
East Hall	227	1	EAS_1
Appleton Hall	224	1	APL_1
East Hall	227	2	EAS_2
Appleton Hall	224	2	APL_2
East Hall	227	3	EAS_3
East Hall	227	4	EAS_4

Floors

FloorID *	Rm_ID *	Rm_No *	RmType	Room Description	Notes
APL_1	APL_101	101	Classroom	<Null>	
APL_1	APL_102	102	Classroom	<Null>	
APL_1	APL_103	103	Lab	Research Space	
APL_1	APL_104	104	Lab	Research Space	
APL_1	APL_105	105	Utility	Electrical	
APL_1	APL_106	106	Lab	Instructional Lab	
APL_1	APL_108	108	Boat Access	<Null>	
APL_1	APL_107	107	Restroom	women	

Rooms

# Geodatabase

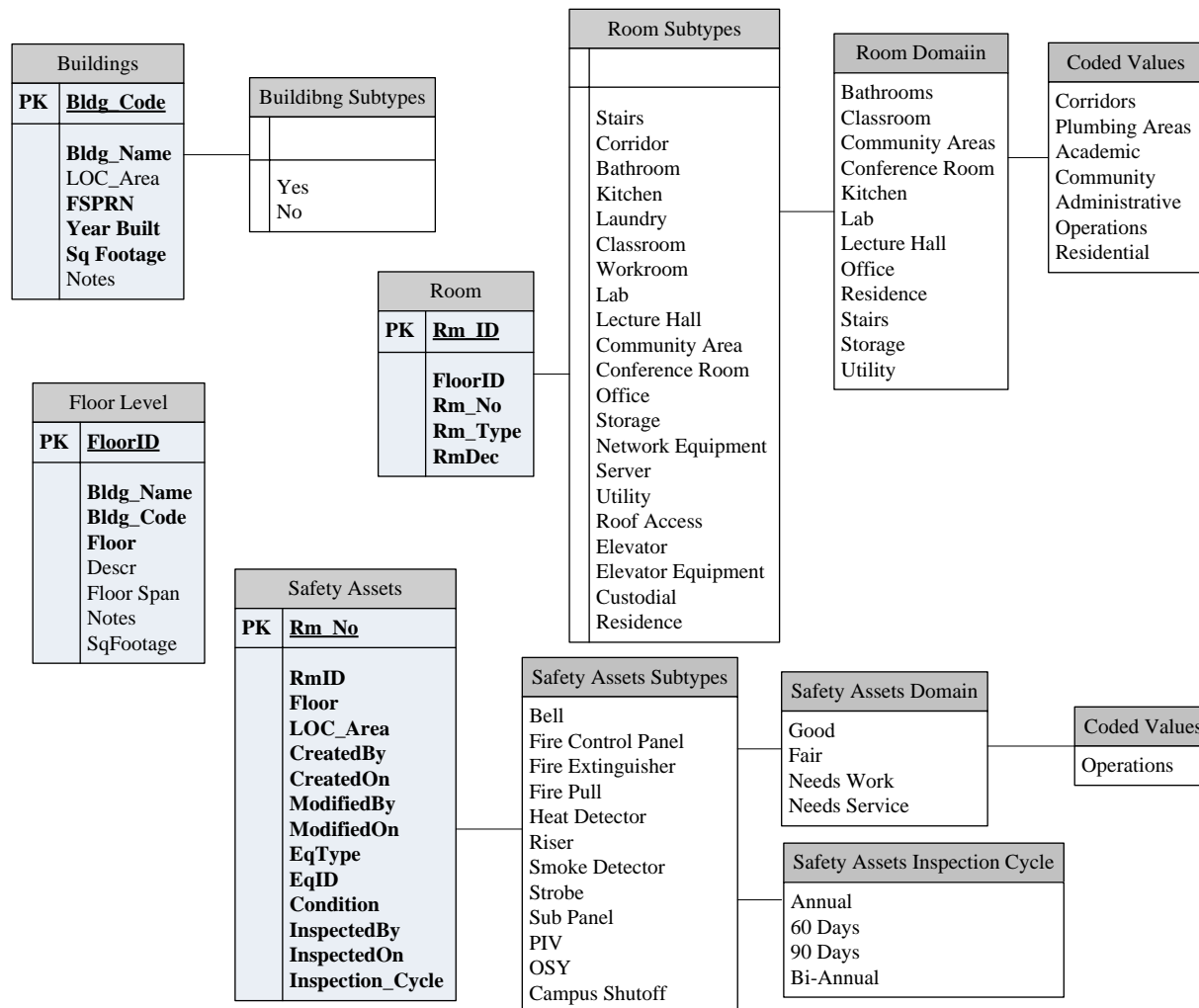
Buildings	
<b>PK</b>	<b><u>Bldg_Code</u></b>
	Bldg_Name LOC_Area FSPRN Year Built Sq Footage Notes

Floor Level	
<b>PK</b>	<b><u>FloorID</u></b>
	Bldg_Name Bldg_Code Floor Descr Floor Span Notes SqFootage

Room	
<b>PK</b>	<b><u>Rm_ID</u></b>
	FloorID Rm_No Rm_Type RmDec

Safety Assets	
<b>PK</b>	<b><u>Rm_No</u></b>
	RmID Floor LOC_Area CreatedBy CreatedOn ModifiedBy ModifiedOn EqType EqID Condition InspectedBy InspectedOn Inspection_Cycle

# Logical Model

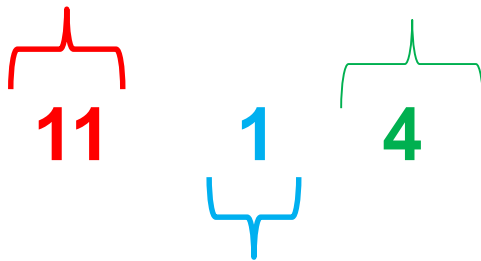




# Cleaning My Room

## Coding Standard

Campus use    Room description



Room type

Domain Name	Description
Community Area	Community Area
Condition	Condition
Conference Room	Conference Room
InspectionCycle	Inspection Cycle
Kitchen	Kitchen
Lab	Lab
Lecture Hall	Lecture Hall
Office	Office

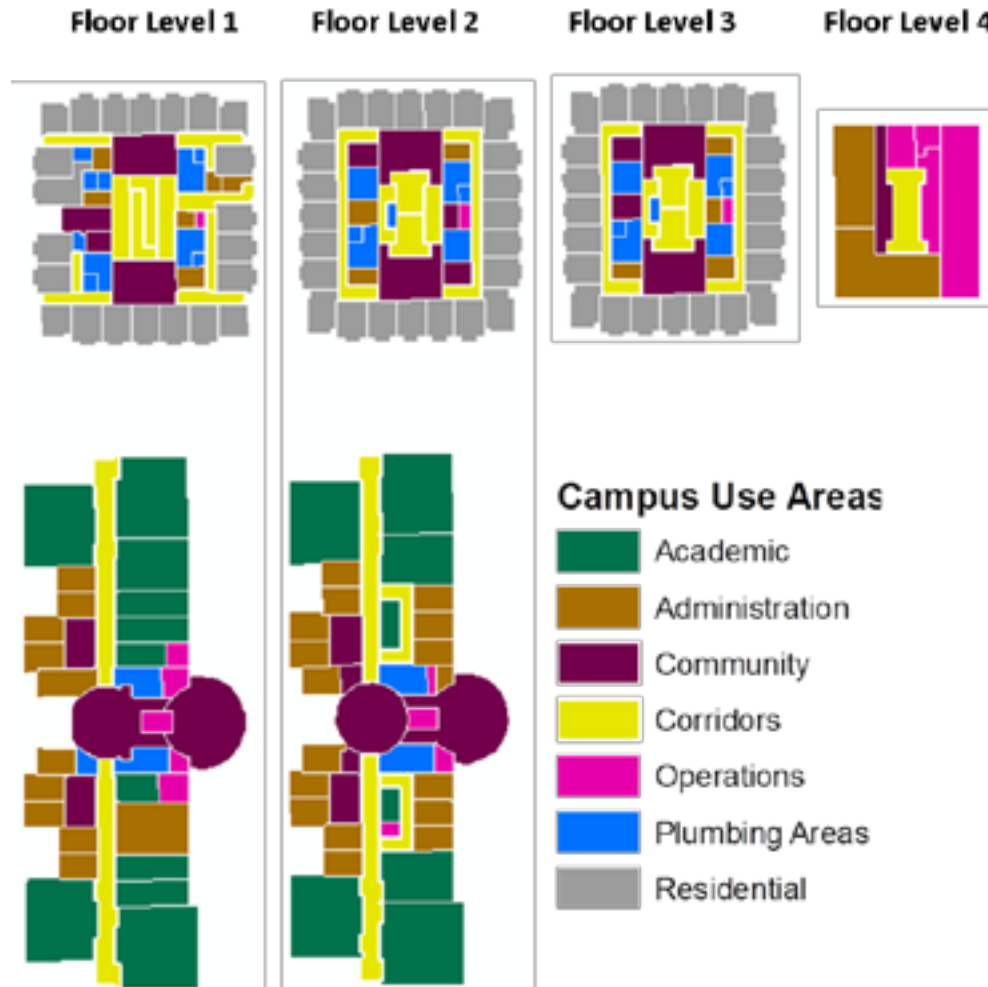
Domain Properties:

Field Type	Short Integer
Domain Type	Coded Values
Split policy	Default Value
Merge policy	Default Value

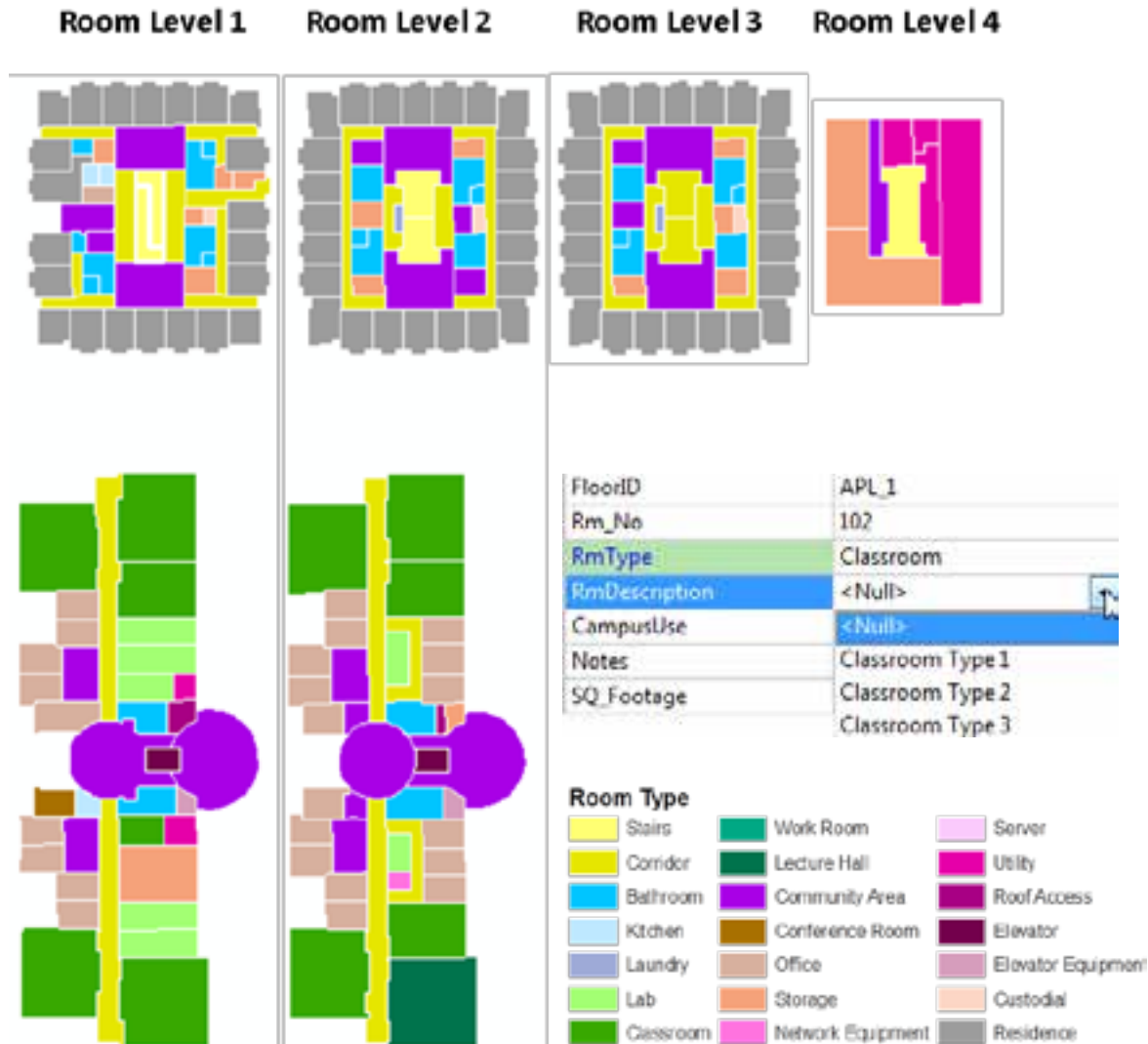
Coded Values:

Code	Description
1113	Instructional Lab
1111	Animal Care
1112	Computer Lab
1114	Research Space












# Campus Use



# Room Types



# Safety Assets

- SafetyAssets
- Equipment Type
-  Fire Bell
-  Campus Shutoff
-  Control Panel
-  Fire Extinguisher
-  Fire Pull
-  Heat Detector
-  OSY
-  PIV
-  Riser
-  Smoke Detector
-  Strobe
- Sub Panel

Feature Class Properties

General Editor Tracking XY Coordinates  
Z Coordinate System Domain, Resolution and Tolerance Fields

Subtypes Feature Extent Relationships Floor

Subtype Field: EqType

Default Subtype: Fire Extinguisher

Subtypes:

Code	Description
1502	Fire Control Panel
1503	Fire Extinguisher
1504	Fire Pull
1505	Heat Detector
1506	Smoke Detector
1507	Strobe

Default Values and Domains:

Field Name	Default Value	Domain
InspectionCycle	3	InspectionCycle
Rm_ID		
LOC_Area		
FloorID		
Notes		
Condition		Condition

Use Defaults Domain...

Database Properties

General Domain

Domain Name	Description
Bathroom	Bathroom Type
Boolean	Boolean
Classroom	Type of classroom
Community Area	Community Area
Condition	Condition
Conference Room	Conference Room
InspectionCycle	Inspection Cycle
Kitchen	Kitchen

Domain Properties:

Field Type: Short Integer

Domain Type: Coded Values

Split policy: Default Value

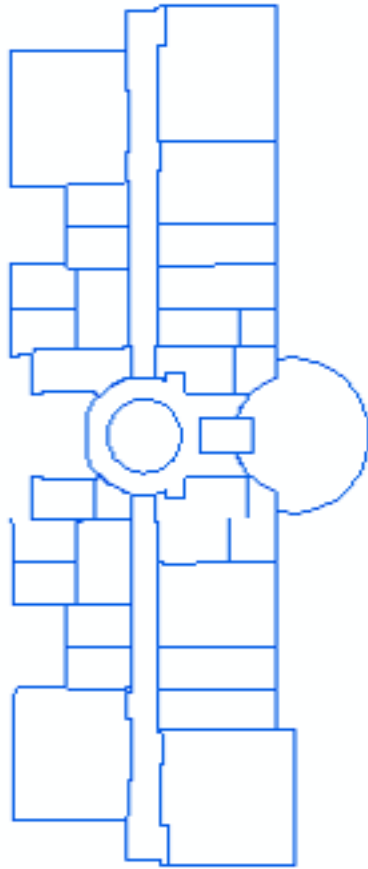
Merge policy: Default Value

Coded Values:

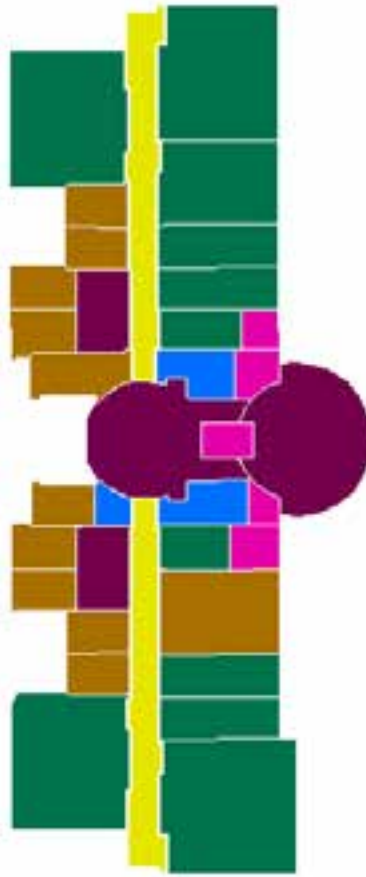
Code	Description
3	Annual
1	60 days
2	90 days
4	Bi-Annual

OK Cancel Apply

# Data Comparison



Shapefile



Campus Use



PDF Documentation

# Data is Organized

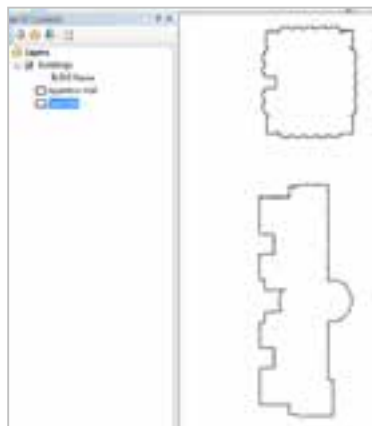


Desktop





# Publish Feature Services



Buildings Feature Service



Floors Feature Service

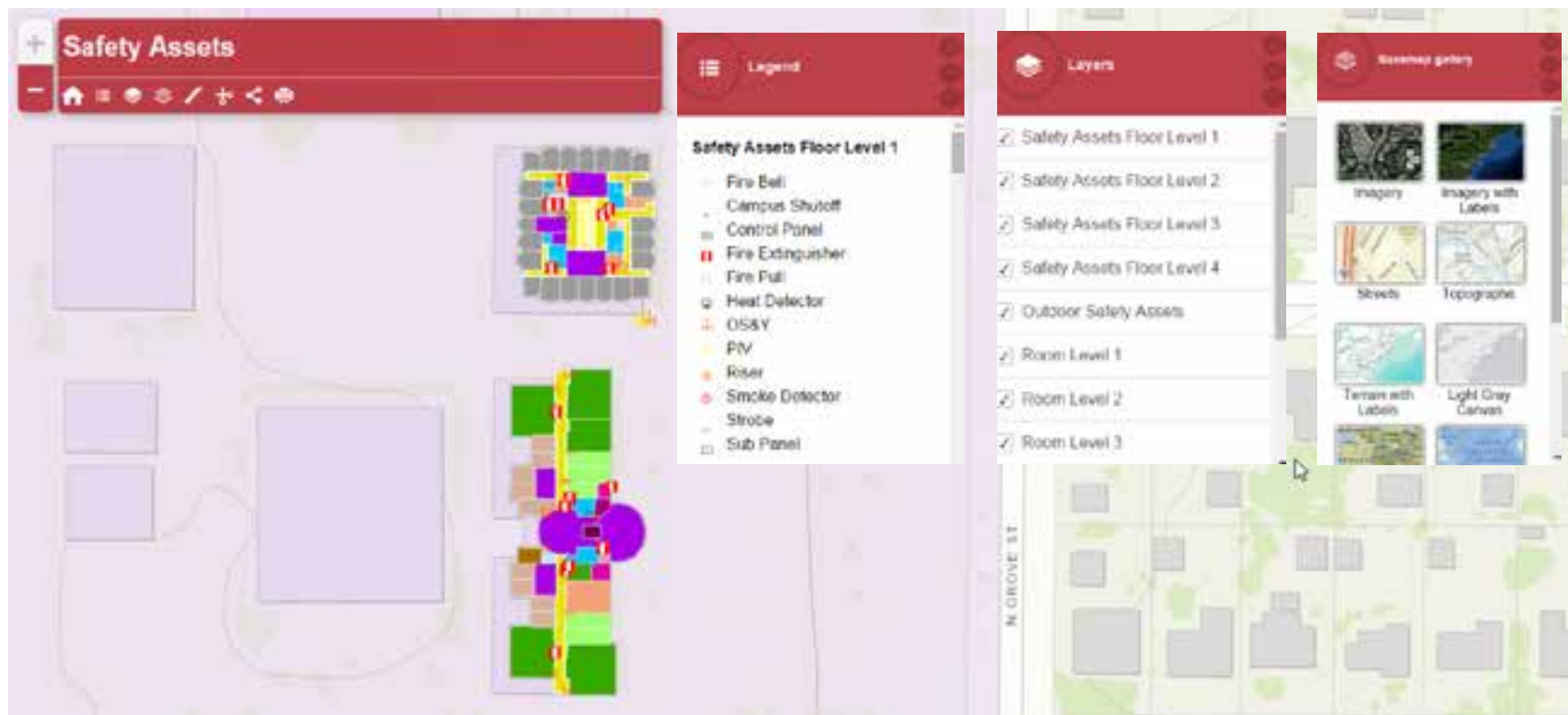


Rooms Feature Service

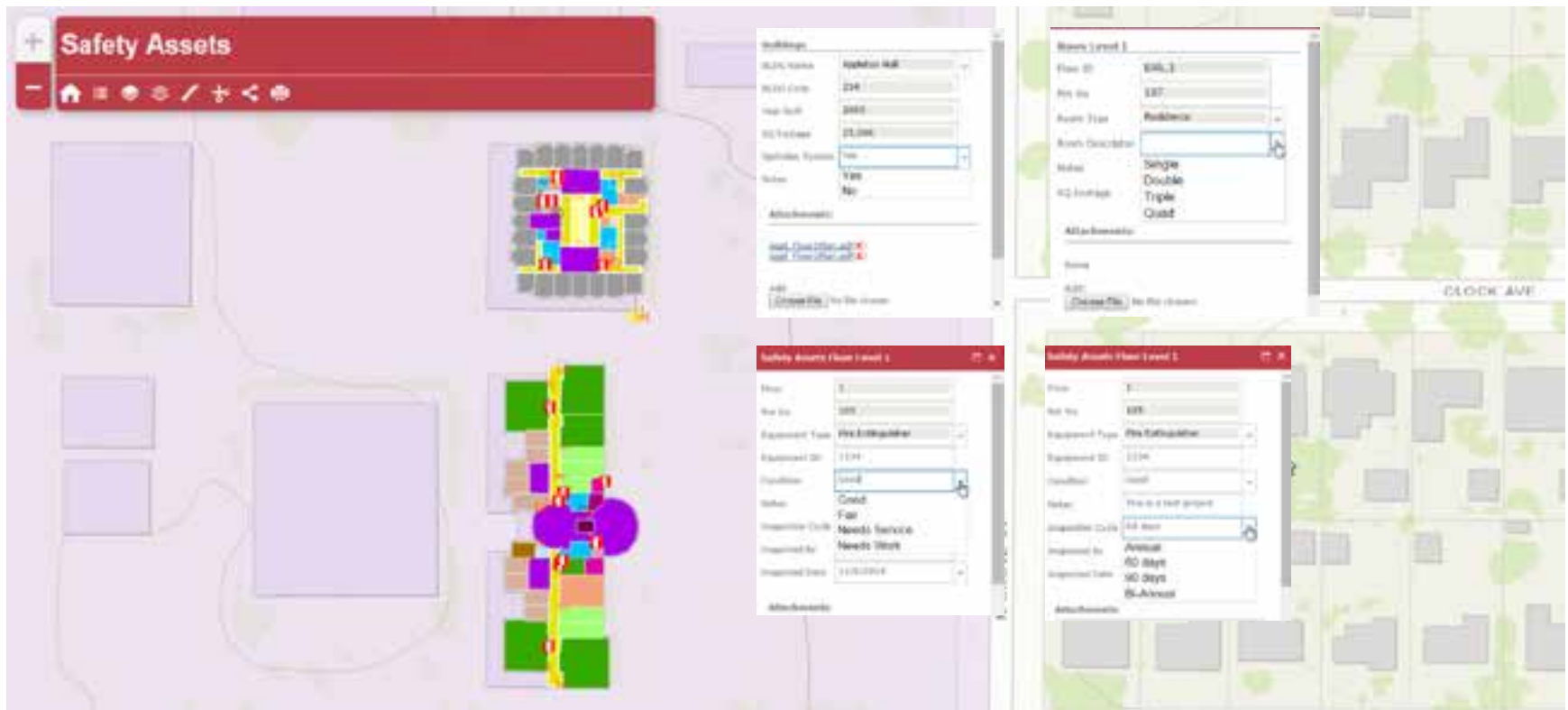


Safety Assets Feature Service

# Web Widgets



# Web Application Pop-Ups



# Summary

- Data is available in a single location
- Identify where equipment is located
- Improve safety planning

# Questions

## Thank You

Mari Escarcega

909-725-8431

[escarcega2@gmail.com](mailto:escarcega2@gmail.com)