

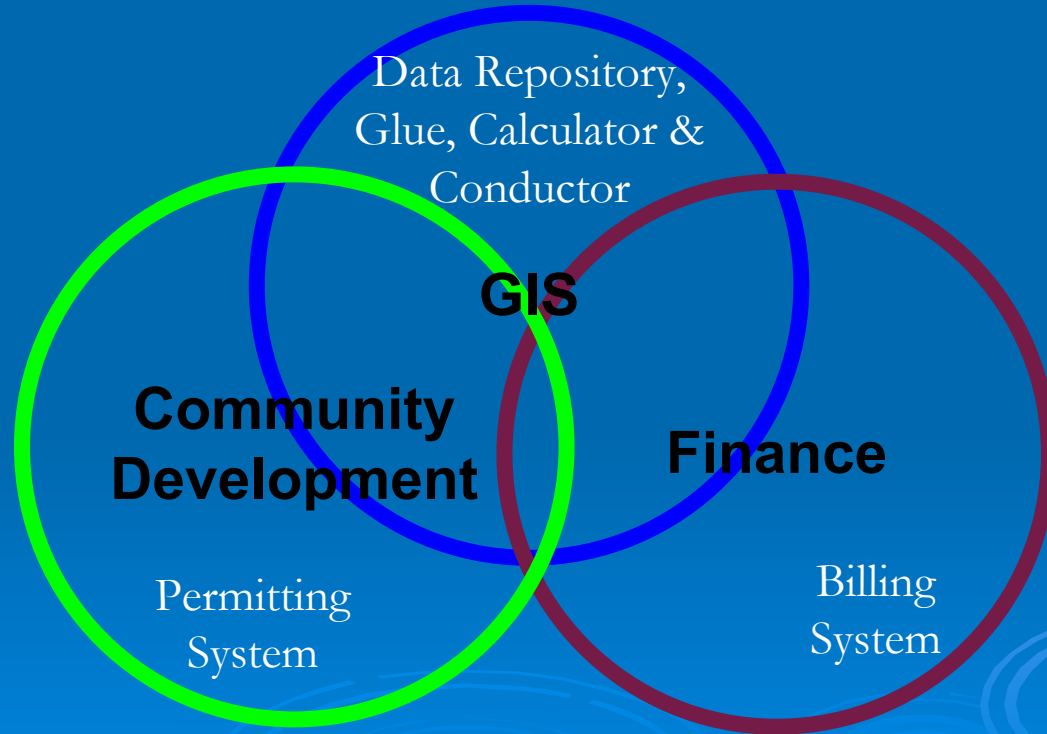
Municipal Stormwater Utility Data / Calculations / Billing

Downers Grove, Illinois

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GIS Specialist



Integration of Existing Systems *where possible*



Available Information

➤ DuPage County / VDG GIS

- Planimetric Data -Last updated in 2009 & 2010 *
- Parcel Shapes -Updated daily; available weekly
- Real Estate Data -Updated daily; available weekly

➤ Village of Downers Grove

- Utility Billing System
- Permitting System

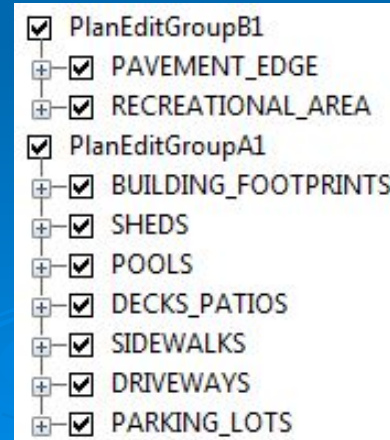
Ongoing Process to support SWU

Building demolitions / permits

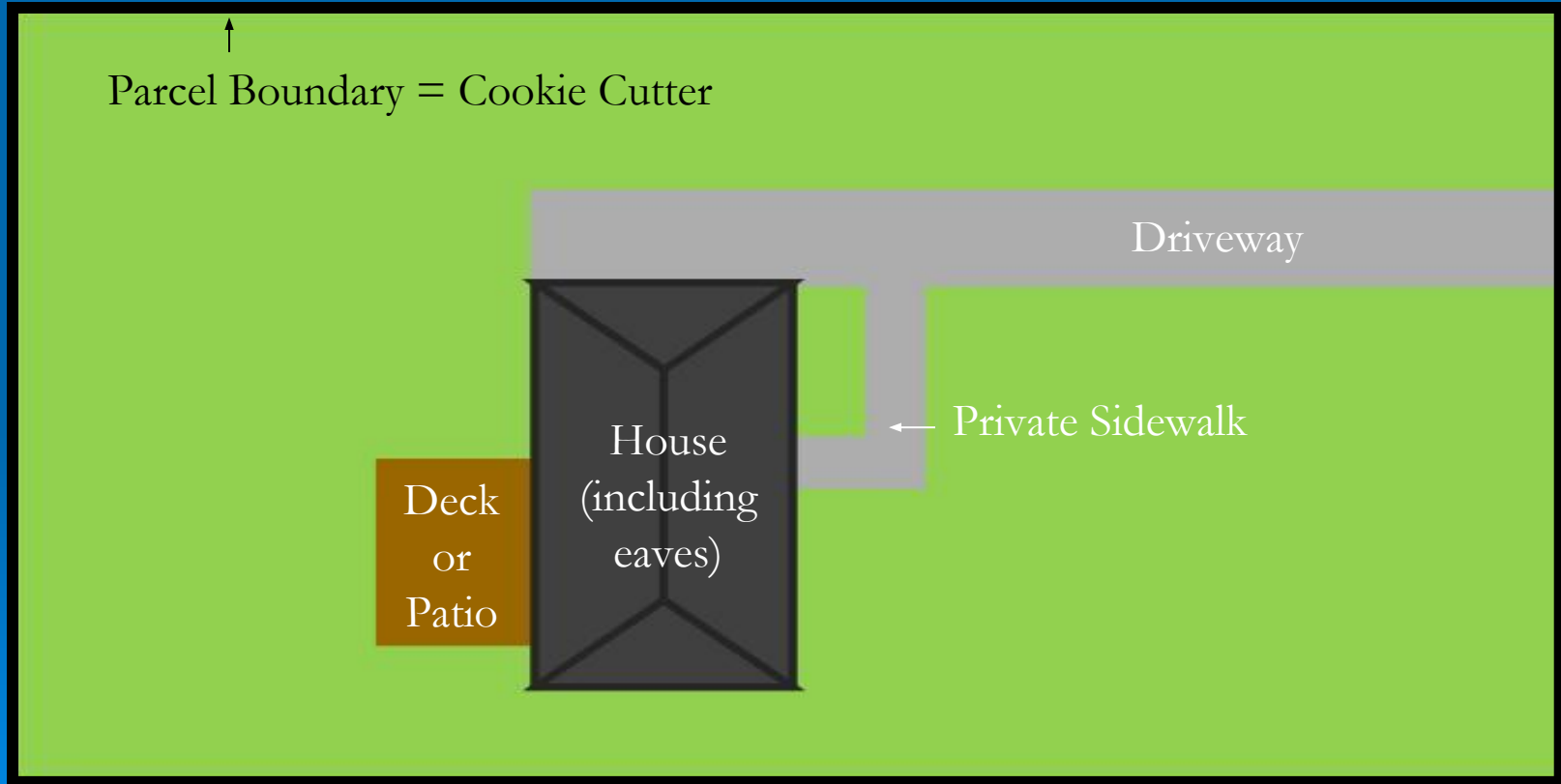
- Permits tracked by CD in Eden Finance software
- SW Engineers note impervious impact
- Queries/Views to track those permits requiring edits
- Planimetrics maintained in-house,

through a DuPage County Feature Service

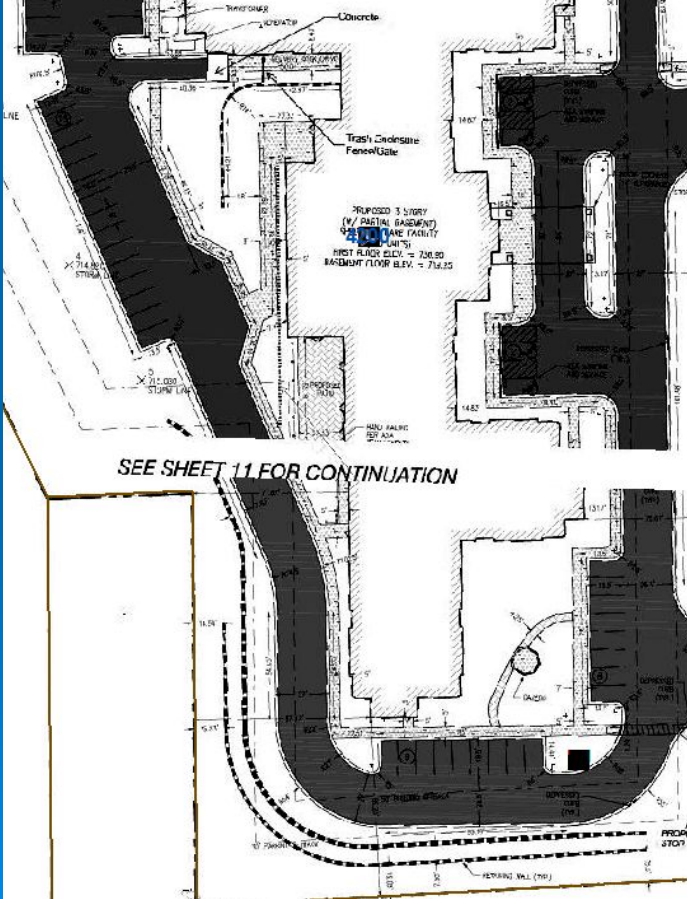
Assist Utility Billing Clerk



Impervious Area



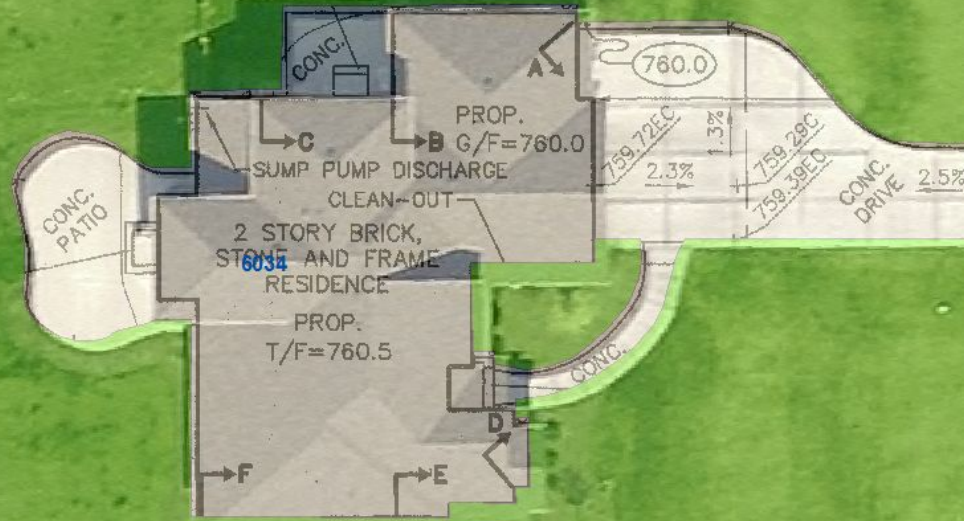
Updating



Planimetrics



Updating Planimetrics



Monthly Billing Process

Stormwater Utility Monthly Process for Parcels & Calculations

1. New Parcels from DuPage County ...
2. Eden Parcel Refresh - Owners ...
3. Review/Oversee any Changes ...
4. **KAREN** ... Make Changes ... in ArcMap ...
5. Eden Parcel Refresh - Addresses ...
6. Eden Parcel Refresh - Retired ...
7. Update 'Old' Retired Parcels and 'New' Parcels in Service Locations ...
 - a. 1 >> 1 ... Change the SLIPN from old ones to the new ones
 - b. 1 >> 1 ... Make Retired SLAs inactive and Create new SL
 - c. 1 >> M ... Create new Service Locations
8. Send Janice a detailed memo on what needs to be updated in UBA based on above
9. Compare GIS Parcels to Active Service Locations in Eden
 - a. Use ArcMap ...
 - b. Select by Location ...
 - c. Click ParcelID on Attributes Table ...
10. Use Access Open ...
11. Click ParcelID on Attributes Table ...
12. Click Import Computer ...
13. Click Import Data ...
14. Run Python Script ...

```
1. Run Python Script ... takes approx 15 mins ...
2. Check Multiple Active Assets ... Monthly Parcels ... Query: EdenMainFullAssets_Month2.chk
3. Check in Eden for Service Orders ...
4. Make any changes needed in GIS & Eden to Service Locations & UBA
5. Compare Owners for Parcel IDs ...
6. Review & Make any changes needed in Eden to parcel only UBA Customers
7. New Plannometric Data from DuPage County ...
8. GIS Framework ...
9. Report for Structure ...
10. Run ArcMap ...
11. Click ParcelID on Attributes Table ...
12. Click Import Data ...
13. Click Import Data ...
14. Run Python Script ...
```

Now 500+ lines Python code ...

```
graph LR
    A[Data Sources] --> B[GIS Processing]
    B --> C[Finance Integration]
    C --> D[Reporting & Analysis]
    D --> E[Final Output]
```


Monthly Billing Process


performed monthly (billed bi-monthly)

- New Parcels (changes / combinations / splits)
- Parcel ownership changes
- Retired/Old & New Parcels
- Update Finance Accounts as needed
- Compare GIS & Finance
- New Planimetrics (all changes)
- Script ...

Monthly Billing Process - Script

- Clip all Layers at Village Limit
- Add Fields
- Union all Impervious Layers
- Clip to eliminate ROW
- Symmetrical Difference to find Pervious sf by parcel
- Eliminate invalid PINs
- Merge any Multipart Parcels
- Calculate Impervious Area
- Calculate ERUs by category
 - Multi Unit
 - Vacant
 - Tier 1, 2 & 3 Res
 - Non-Res
- Alter any exceptions
- Calculate Fees for comparison
- Eliminate unbilled PINs (Exempt, etc)
- Append to History
- Create Upload for Finance

Monthly Billing Process

- Check ERUs generated
 - Upload ERUs to Finance
 - Check Multiple Active Accounts
 - Check 1:1
 - Check Fee Totals
- 

Finance

Parcels

File Edit Record Navigate Form Reports Format Tab Help

Jump 1

Toolbox

Main Owners Custom Fields

Parcel # 0630404015 Parcel ID 21036

Property name SHOPPING CENTER Created On hold

Parcel type Parcel type Process In city

Subdivision Retired

Parent # Parent ID Land use

Tract Block Lot Area 9.315 Imp. surface area 108

UB acct # 6.3040.4015.02

Responsible Customer

Cust # 44986

Name NARE BUTTERFIELD LLC

Address 1901 N ROSELLE RD #650
SCHAUMBURG IL 60195

On account 0.00

Balance due

Group on account 0.00

accounts

Alerts

Notes

Service Type

Cycle

Prev Balance

Curr Balance

Balance Due

Active

Address 1300 BUTTERFIELD RD

Description Parcel 0630404015

Suite

stormw

Bi-Monthly Stormwater Utility Fee

cycle1

0.00

0.00

0.00

Mapping Applications

➤ Stormwater Utility Lookup *(2012 - present)*

Initial internal app to lookup ...

Impervious area

ERU

Residential tiers

Impact (tax vs fee)

etc

Mapping Application - Stormwater Lookup

The screenshot shows a web-based mapping application titled "Stormwater Utility Lookup". The interface includes a map with parcel boundaries, a search bar, and navigation controls (zoom in, zoom out, home). A popup window displays the following data for the selected parcel:

Parcels: BAKER, M & B AMBURGEY	
PIN	0908120023
OWNERSHIP_TYPE	
PROPNAME	BAKER, M & B AMBURGEY
EXEMPTCODE	6
PROPCCLASS	R
Area_Imp	3,575
SWU_ERU	1.00
SWU_FEE	22.86
UBCycle	1

Mapping Applications

➤ Stormwater Utility Lookup *(2012 - present)*

Initial internal app to lookup imp area, ERU, tiers, impact, etc

➤ Stormwater Calculator *(2016/2017)*

Council evaluated converting back to taxes

This app was made public to allow individuals to lookup difference



Mapping Application - Stormwater Calculator

This interactive map shows what each property would pay in 2017 if stormwater costs are continued to be funded by a

FEE versus a PROPERTY TAX LEVY.

Calculations are based on:

Total Revenue of \$3.9 million for stormwater costs in 2017

Taxable Value of Properties as of September 19, 2016

A monthly FEE of \$10.53 per ERU

Actual costs paid in 2017 may vary. Please check the box to acknowledge that you have read and understand this information.

OK

Mapping Application - Stormwater Calculator

The screenshot shows a web-based mapping application titled "Stormwater Calculator". At the top, there is a search bar containing "801 Burlington Ave" and a magnifying glass icon. Below the search bar is a satellite map with several property parcels outlined in blue. One parcel, labeled "4915", is highlighted with a red border. A pop-up window is open over this parcel, displaying the following information:

Parcel:0908120023

2017 Estimates
Stormwater as a Fee : \$126
Stormwater as a Tax : \$180

At the bottom of the pop-up window, there is a "Zoom to" link and a three-dot menu icon. The background of the application is a dark blue gradient with a white "SWU" logo in the top left corner and the text "Click on a location to reveal estimates ..." in the top right corner.

Recall ... By implementing the SWU, residents went from carrying 76% to 46% of the bill ...



Municipal Stormwater Utility

Downers Grove, Illinois

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