

Stormwater Utilities in CT?!

NEMO Program MS4 Webinar

10/1/19

UConn Center for Land Use Education and Research





Welcome to the CLEAR Webinar Series!

This is the 3rd presentation in the 2019 series

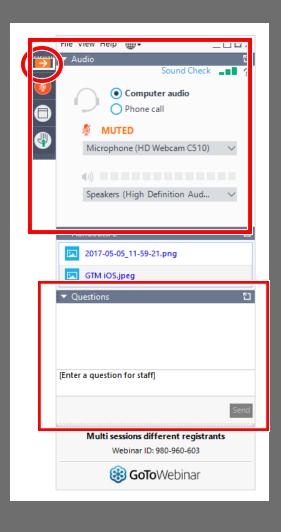
- Oak Mortality in Eastern CT
- MS4 Permit Year 3
- Stormwater Utilities in CT You Are Here!
- Sea Level Rise Affecting Road Flooding and Marsh
 Migration Along CT's Coast Oct. 16
- Getting to 2% Case Studies in Impervious Cover
 Disconnection Nov. 14







Navigating the Webinar



- Open and close your Panel
- View, Select, and Test your audio
- Submit questions
- Handouts
- Recording: http://clear.uconn.edu





Today's Topics

- Stormwater Utilities Overview
- CT's First Stormwater Utility
- Expanding beyond NewLondon





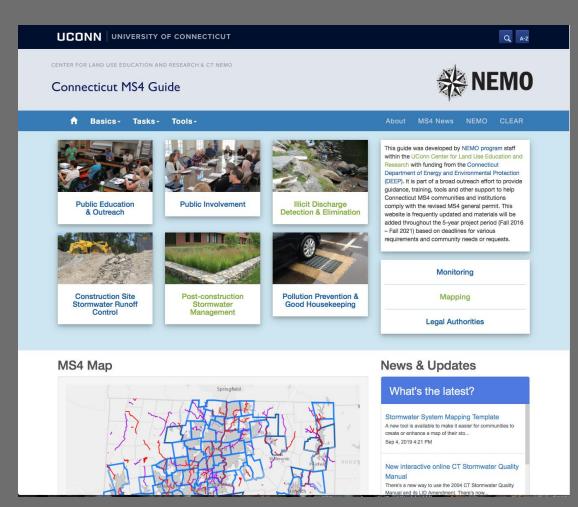




NEMO MS4 Support

CT DEEP funded support program

- MS4 Educator
- Online MS4 Guide
- Mapping resources
- Listserv
- Workshops & webinars
- Templates & tools



http://nemo.uconn.edu/ms4





What is a Stormwater Utility?

- Fee for using stormwater infrastructure
- Provides reliable funding source for maintenance, upgrades, regulatory costs
- Separate from general fund
- Typically based on impervious cover
- Growing number in response to MS4

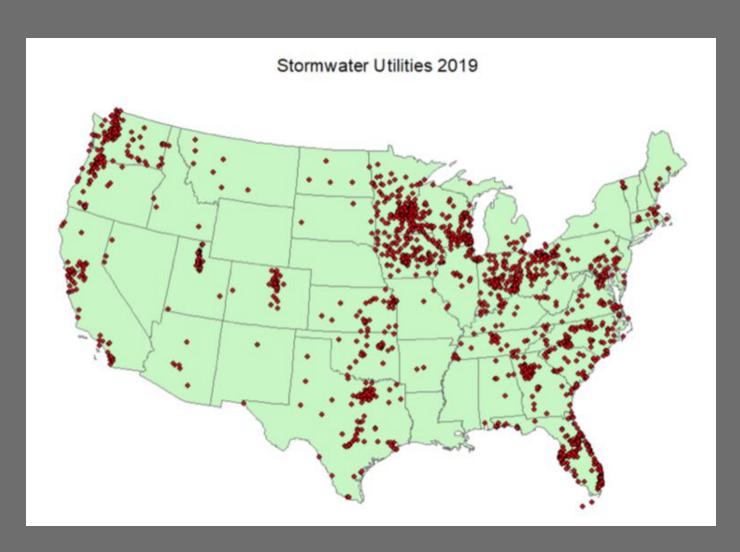






Across the Country

- 1716 (or more)
- 40 states
- 6 states have 100+
- Largest = L.A. (3M+ people)
- Smallest = Indian CreekVillage, FL (88 people)
- Avg. monthly fee = \$5.85(SFR)



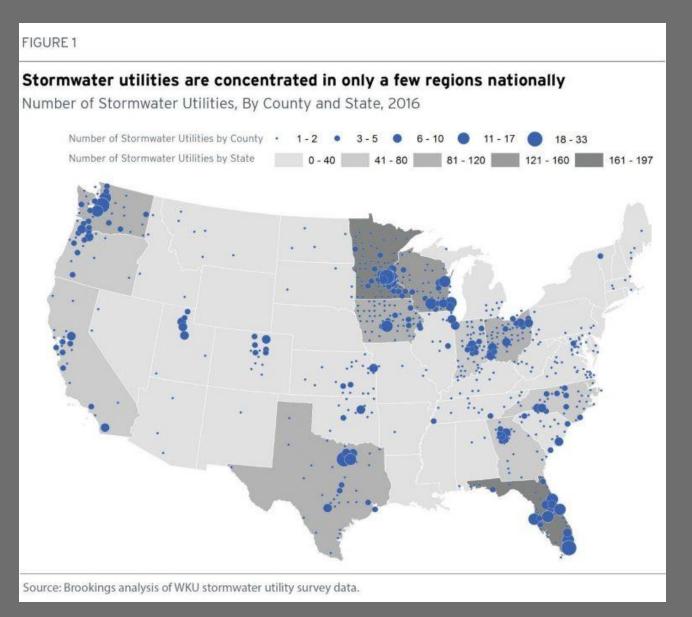
(Western Kentucky University Stormwater Utility Survey 2019)





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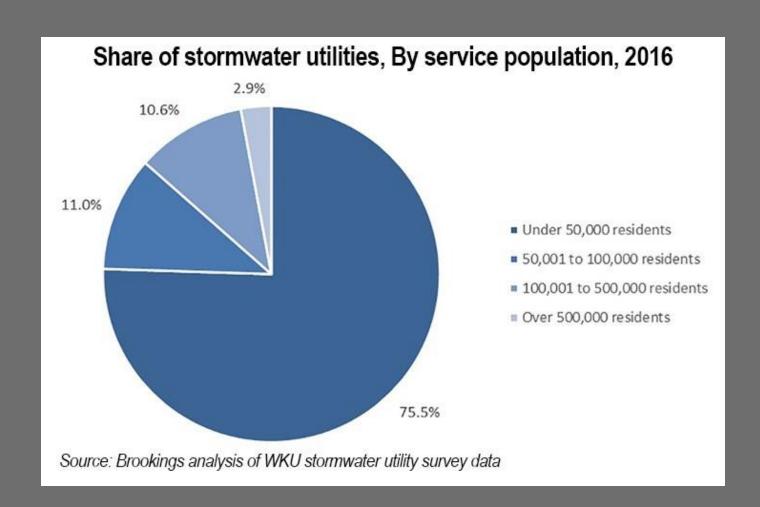






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22 (or so) in New England

Maine (5): Lewiston (2006), Long Creek (2010), Bangor (2012), Portland (2015), Augusta

Mass (11): Chicopee (1998), Reading (2006), Newton (2006), Fall River (2008), Westfield (2010), Gloucester (2011), North Hampton (2014), Milton (2016), Chelmsford (2017), Braintree (2019), Shrewsbury (2019)

VT (5): South Burlington (2005), Burlington (2009), Williston (2014), Colchester (2017), Saint Albans (2018)

CT (1): New London, CT (2018)





CONTACT US

The Day

Local News

New stormwater authority tackles flooding in New London



BUY PHOTO

New London police officer Deana Nott walks back to dry land after talking to motorists stranded in their cars due to flooding on Bank St. in New London during torrential rains Wednesday, Sept. 12, 2018. (Sean D. Elliot/The Day)



CITY OF NEW LONDON STORWATER MANAGEMENT

HISTORY AND SUCCESSFUL IMPLEMENTATION

TALKING POINTS

- BRIEF OVERVIEW OF NEW LONDON'S STORMWATER NEEDS AND MS4 REQUIREMENTS
- DISCUSS THE LOGIC OF FUNDING STORMWATER SERVICES THROUGH A USER BASED FEE
- ESTIMATE REVENUE REQUIRED TO MEET PRIORITY NEEDS
- PRESENT A TIMELINE FOR FULL IMPLEMENTATION
- IMPORTANT FACTORS THAT LEAD TO A SUCCESSFUL IMPLEMENTATION

REMEMBER SEPTEMBER 11, 2015





BANK STREET

BROAD STREET

REMEMBER SEPTEMBER 11, 2015





BROAD STREET

GARFIELD & JEFFERSON

THE MS4 PERMIT

MS4 DEFINED

- MUNICIPAL
- SEPARATE
- S_{TORM}
- Sewer
- System

• THIS GENERAL PERMIT REQUIRES EACH MUNICIPALITY TO TAKE STEPS TO KEEP THE STORMWATER ENTERING ITS STORM SEWER SYSTEMS CLEAN BEFORE THAT STORMWATER ENTERS WATER BODIES

SIX MINIMUM CONTROL MEASURES

- PUBLIC OUTREACH
- PUBLIC PARTICIPATION
- ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)
- CONSTRUCTION SITE STORMWATER RUNOFF CONTROL
- POST CONSTRUCTION STORMWATER MANAGEMENT
- POLLUTION PREVENTION AND GOOD HOUSEKEEPING



CITY-WIDE STORMWATER INFRASTRUCTURE

STORMWATER SYSTEM ASSETS

- ESTIMATED VALUE OF MORE THAN \$50 MILLION
- DRAINAGE OUTFALLS: 60
- DRAINAGE STRUCTURES: 1,100
- CATCH BASINS: 1,100
- ROADS: 63 MILES (MOST WITH DRAINAGE PIPES)
- STORMCEPTORS®: 4
- ADDITIONAL MAPPING AND INVESTIGATIONS ARE NEEDED TO FULLY UNDERSTAND ASSETS

CURRENT LACK OF FUNDING LEADS TO OPERATIONS AND MAINTENANCE CHALLENGES

- NO DEDICATED STORMWATER STAFF REACTIVE MAINTENANCE BASED ON IMMEDIATE PROBLEMS
- DEFERRED MAINTENANCE OF STORM SEWERS AND CATCH BASINS
- NO LONG TERM PROGRAM PLAN HISTORICALLY "TASK ORIENTED" FOR PUBLIC WORKS BUDGETING PURPOSES
- CITY HAS NOT KEPT UP WITH INDUSTRY BEST PRACTICES FOR INFRASTRUCTURE RE-INVESTMENT WHICH IS 2% OF ASSET VALUE OR \$1,000,000 ANNUALLY
- MS4 STORMWATER PERMIT CONTINUES TO EVOLVE REQUIRING ADDITIONAL O&M RESOURCES



STORMWATER REGULATORY MANDATES

- THE CITY HAS BEEN AN MS4 PERMIT HOLDER SINCE 2003.
- THE PERMIT IS <u>REQUIRED</u> UNDER THE FEDERAL CLEAN WATER ACT AND ADMINISTERED BY THE DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION (DEEP).
- THE MS4 PERMIT AUTHORIZES MUNICIPALITIES TO DISCHARGE STORMWATER FROM THE PUBLIC STORMWATER SYSTEM INTO LOCAL WATERS
- NEW MS4 PERMIT **EFFECTIVE JULY 1, 2017**
- NEW REQUIREMENTS:
 - ENHANCED OPERATION, MAINTENANCE, AND MAPPING REQUIREMENTS
 - STORMWATER ACTIVITIES FOCUSING ON ILLICIT DISCHARGE AND DETECTION ELIMINATION (IDDE), POST CONSTRUCTION STORMWATER MANAGEMENT REGULATIONS AND STORMWATER RETROFITS
 - ADDITIONAL REQUIREMENTS REQUIRED TO ENHANCE BEST MANAGEMENT PRACTICES IN THE PUBLIC EDUCATION AND IDDE PROGRAMS TO ADDRESS WATER QUALITY IMPAIRMENTS PHOSPHOROUS, NITROGEN, BACTERIA, AND MERCURY

STORMWATER MANAGEMENT FUNDING APPROACH

WHEN DO WE HAVE TO WORRY ABOUT THIS?

- WATER QUALITY ISSUES ARE A PROBLEM <u>NOW</u> AND STORMWATER MANAGEMENT IS PART OF THE SOLUTION
- STORMWATER PROGRAM IS NOT ADEQUATELY FUNDED ON AN ANNUAL BASIS TO MEET CURRENT NEEDS
- MS4 PHASE II PERMIT REQUIRES A SIGNIFICANT INCREASE TO EXISTING STORMWATER PROGRAMS

WHAT HAPPENS IF WE DO NOTHING?

- STILL HAVE TO MEET PERMIT CONDITIONS AND MANDATED PROGRAM INCREASES ARE EXPENSIVE
- DETERIORATION OF EXISTING ASSETS VALUED OVER \$50 MILLION
- MS4 NONCOMPLIANCE CAN RESULT IN FINES & POTENTIAL 3RD PARTY SUITS

WHY A STORMWATER UTILITY MODEL?

- FEE BASED SYSTEM PROVIDES AN EQUITABLE AND FLEXIBLE DISTRIBUTION OF COST
- NO IMPACT ON TAX BASE AND USERS PAY FOR THEIR IMPACT



STORMWATER PROGRAM FUNDING MECHANISMS

- OPTION A: TAX INCREASE
 - BASED ON PROPERTY VALUE
 - EXCLUDES CONTRIBUTION BY TAX EXEMPT PROPERTIES
 - FUNDING NOT GUARANTEED
- OPTION B: STORMWATER UTILITY (USER FEE)
 - BASED ON IMPERVIOUS COVER
 - ALL PROPERTY INCLUDED
 - DEDICATED FUNDING STORMWATER ENTERPRISE FUND

BASIS FOR STORMWATER FUNDING

- ALL SYSTEM USERS PAY THEIR FAIR SHARE
- COMPLETELY BASED ON SQUARE FEET (SF) OF IMPERVIOUS COVER (IC) NOT PROPERTY VALUE
- RESIDENTIAL EQUIVALENT UNIT (REU) = 1000 SF OF IC
- CREDIT AND APPEALS SYSTEM
- QUARTERLY INTEGRATED BILLING SYSTEM WITH WATER AND SEWER BILLS
- ADEQUATE FUNDING FOR OPERATIONS AND MAINTENANCE AND CAPITAL IMPROVEMENTS

STORMWATER PROGRAM FEES

Property Type	Units	Total IC	% of IC	Average IC	REU	Qı	uarterly Cost	R	evenue	
Residential										
0-1000	286	191,916	0.47%	671	1	\$	7.50	\$	8,580	
1000-2000	1930	3,021,388	7.42%	1,565	2	\$	15.00	\$	115,800	
2000-3000	1520	3,705,912	9.10%	2,438	3	\$	22.50	\$	136,800	
3000 +	1218	5,504,091	13.52%	4,519	5	\$	37.50	\$	182,700	
Commercial	828	16,880,522	41.46%	20,387	20.4	\$	152.90	\$	506,416	
Tax Exempt	168	7,078,629	17.39%	42,135	42.1	\$	316.01	\$	212,359	
Municipal	112	4,330,290	10.64%	38,663	38.7	\$	289.97	\$	129,909	
Totals	6062	40,712,748	100.00%					\$ 1	1,292,563	
Residential Equivalent	t Unit =	1000	Square Feet	(SF) of Impe	rvious	Cove	er (IC) =	\$7.50		



RECOMMENDATIONS OF THE STORMWATER COMMITTEE

GENERAL RECOMMENDATIONS

- ESTABLISH A STORMWATER ORDINANCE
- CREATE A STORMWATER AUTHORITY
- ESTABLISH A USER BASED FEE FUNDING PLAN
- ESTABLISH A DEDICATED ENTERPRISE FUND FOR STORMWATER
- ADMINISTER THE PROGRAM THROUGH THE W&WPCA
- UTILIZE EXISTING CONTRACT OPERATIONS



IMPLEMENTATION TIMELINE

- MAR 2017 WWPCA REQUEST TO COUNCIL FOR STORMWATER STUDY
- JUN 2017 FIRST STORMWATER TASK FORCE MEETING (TOTAL OF 6 MEETINGS)
- MAY 2018 PUBLIC HEARING TO CONSIDER SWU PROPOSAL
- JUN 2018 COUNCIL APPROVAL AND CREATION OF A STORMWATER UTILITY
- OCT 2018 FIRST STORMWATER CHARGES ON UTILITY BILLS
- OCT 2018 STORMWATER MAINTENANCE WORK BEGINS

FACTORS THAT LEAD TO A SUCCESSFUL SWU IMPLEMENTATION

- ENABLING LEGISLATION
- PUBLIC OUTREACH AND TASK FORCE
- ESTABLISHED WWPCA
- UPDATED BILLING SOFTWARE
- IN HOUSE GIS CAPABILITIES
- IN HOUSE ENGINEERING
- SUCCESSFUL CONTRACT OPERATIONS
- HIGH PERCENTAGE OF TAX EXEMPT PROPERTIES
- POLITICAL SUPPORT

DETERMINING FEES BASED ON ZONING/ASSESSOR'S INFORMATION

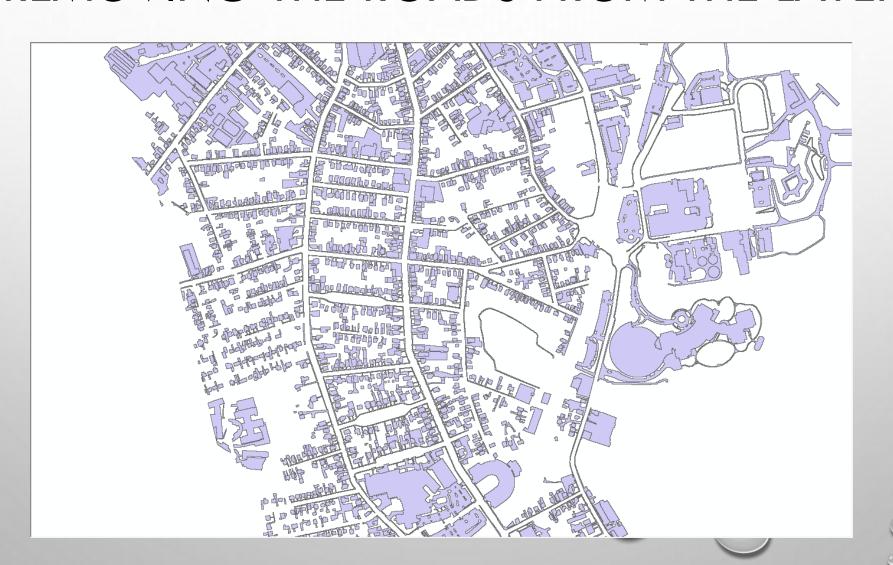
4	А	В	С	D	E	F	G	Н	1	J
1 Stre	eet#	Street_Name	PID	Grantee	Mailing_Address	Use_Code	Use_Descript	Zone		
2		STUART AVE		1 NEW LONDON CITY OF_OCE	181 CAPTAINS WALK	903C	MUNICIPAL MDL_94	OS		
3		BRIDGE TO WATERFRD		2 NEW LONDON CITY OF_PEN	181 STATE ST	9030	MUNICIPAL MDL_00	OS		
4	7	6 NEPTUNE AVE		3 PICAZIO HARRY F III	28 GRASSY ILL RD	1010	Single Family	R_1A		
5	7	2 NEPTUNE AVE		4 PICAZIO HARRY F III	28 GRASSY HILL RD	1010	Single Family	R_1A		
6	6	8 NEPTUNE AVE		5 17 PARK STREET LLC	28 GRASSY HILL RD	1060	Land w_OBs	R_1A		
7	115	3 OCEAN AVE		7 GUILLOCHEAU MARITZA MAIANO	1153 OCEAN AVE	1010	Single Family	R_1A		
8	115	7 OCEAN AVE		8 HANRAHAN JAMES M And CHERYL L	305 GLENWOOD AVE	1010	Single Family	R_1A		
9	116	5 OCEAN AVE		9 DUDDY JOHN S And JOANNE M	1165 OCEAN AVE	1010	Single Family	R_1A		
10		7 BENTLEY AVE	1	0 NEDZEL CORRINA L And CARL	7 BENTLEY AVE	1010	Single Family	R_1A		
11	1	1 BENTLEY AVE	1	1 CURCURO DONALD J	11 BENTLEY AVE	1051	Four Family	R_1A		
12	1	5 BENTLEY AVE	1	2 FAGIN SANDRA E	15 BENTLEY AVE	1010	Single Family	R_1A		
13	1	9 BENTLEY AVE	1	3 RETTURA VINCENZO	PO BOX 424	1010	Single Family	R 1A		
14	1	7 PARK ST	1	4 17 PARK STREET LLC	28 GRASSY HILL RD	1210	BOARDNG HS	R 1A		
15	9	4 NEPTUNE AVE	1	5 MARZANO CONCETTINA	639 RIDGE RD	1010	Single Family	R_1A		
16	9	0 NEPTUNE AVE	1	6 BARCELO DIANE M	90 NEPTUNE AVE	1010	Single Family	R 1A		
17	8	2 NEPTUNE AVE	1	7 GOUR LANA TRUSTEE	54 SOUTH MAPLE STREET	1010	Single Family	R 1A		
18	1	4 PARK ST	1	8 BLACKBURN JAMES D 85 And	PO BOX 1622	3020	INNS MDL 94	R_1A		
19	1	0 PARK ST	1	9 BLACKBURN VIVIAN	216 GLENWOOD AVE	1040	Two Family	R 1A		
20	4	1 STUART AVE	2	0 LAVOIE KENNETH J	501 DEEP WOOD DR	1050	Three Family	R 1A		
21	4	3 STUART AVE	2	1 NAPHEN MICHAEL And	43 STUART AVE	1010	Single Family	R 1A		
22	4	7 STUART AVE	2	2 SWAIN THOMAS W IV	47 STUART AVE	1050	Three Family	R_1A		
23	4	9 STUART AVE	2	3 LEADER SYLVIA TRUSTEE	15 CENTER CT	1010	Single Family	R_1A		
24	10	5 STUART AVE	2	4 STATTLER RANDALL C	105 STUART AVE	1010	Single Family	R 1A		
25	Δ Veolia	η HIGHI ΔΝΠ ΔVE a data request	2	5 KING WILLIAM F	40 HIGHI ΔND ΔVF	1010	Single Family	R 1Δ		▼

DETERMINING IMPERVIOUS COVERAGE WITH GIS





REMOVING THE ROADS FROM THE LAYER

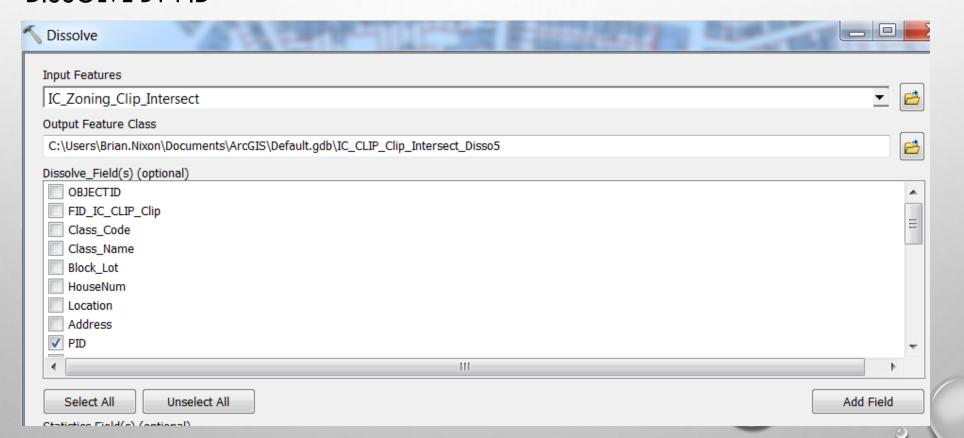


REMOVING THE SIDEWALKS FROM THE LAYER





- INTERSECT
- DISSOLVE BY PID



DETERMINING IMPERVIOUS COVERAGE BY PARCEL

		lip_Intersect			Chara Aaa	10 1	:
L	FID*	Shape *	PID	Shape_Length	Shape_Area	IC 245400 0000	A
H		Polygon	0	35288.299285	315122.8033	315122.8033	Ξ
L		Polygon	1	19137.199167	626850.759249	626850.759249	
L		Polygon	3	158.923397	834.006962	834.006962	
_		Polygon	4	124.165563	721.508798	721.508798	
_		Polygon	5	346.621154	5461.459007	5461.459007	
_		Polygon	7 8	462.627548	4569.271925	4569.271925	
_		Polygon	_	282.726194	2341.487681	2341.487681	
_		Polygon	9	276.995044	1120.80293	1120.80293	
_		Polygon	10	307.733086	1818.232271	1818.232271	
_		Polygon	11	403.314159	2616.609321	2616.609321	
_		Polygon		439.95998	2639.539046	2639.539046	
_		Polygon	13 14	377.261704	1988.666948	1988.666948	
_		Polygon		911.009091	12591.982927	12591.982927	
_		Polygon	15	158.141416	1174.283463	1174.283463	
_		Polygon	16	162.69127	1312.692584	1312.692584	
_		Polygon	17	395.896717	1609.922022	1609.922022	
		Polygon	18	286.568245	2465.986025	2465.986025	
_		Polygon	19	338.155029	2665.472822	2665.472822	
_		Polygon	20	298.213276	3596.329406	3596.329406	
_		Polygon	21	414.093069	2150.284218	2150.284218	
_		Polygon	22	146.8452	1030.491053	1030.491053	
_		Polygon	23	161.377287	928.764989	928.764989	
_		Polygon	24	196.148896	1921.07579	1921.07579	
_		Polygon	25	275.147157	1596.901676	1596.901676	
_		Polygon	26	399.089678	2108.357234	2108.357234	
_		Polygon	27	298.453702	2535.418177	2535.418177	
_		Polygon	28	298.61085	2602.083727	2602.083727	
_		Polygon	29	310.545517	2593.141174	2593.141174	
_		Polygon	30	314.328075	2558.344799	2558.344799	
_		Polygon	31	274.279136	2369.793897	2369.793897	
_		Polygon	32	283.574119	2919.261031	2919.261031	
_		Polygon	33	189.11072	1589.016531	1589.016531	
_		Polygon	34	305.276556	2710.762481	2710.762481	
_		Polygon	35	468.08074	1799.036565	1799.036565	
_		Polygon	36	371.470415	2481.871166	2481.871166	
_		Polygon	37	424.961485	2676.549393	2676.549393	
_		Polygon	38	302.807452	2314.51791	2314.51791	
	38	Polygon	39	216.205963	1417.342757	1417.342757	-

LINKING BILLING SOFTWARE WITH IC LAYER

ISSUES

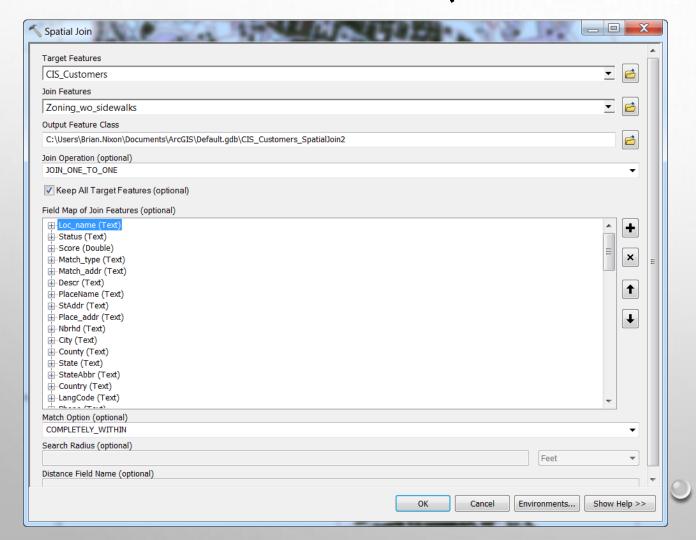
- NO MATCHING FIELD
- MUTIPLE METERS PER ACCOUNT
- DIFFERENT ADDRESSES THAN THE ASSESSOR'S INFORMATION
- NEW ACCOUNTS NEEDED FOR PROPERTIES WITHOUT SEWER/WATER

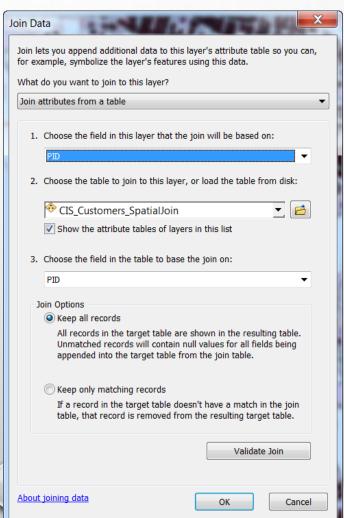
LINKING BILLING SOFTWARE WITH IC LAYER (CONTINUED)

- EXPORTED BILLING SOFTWARE REPORT OF ALL ACTIVE CUSTOMERS IN NEW LONDON
- GEOCODED ADDRESSES



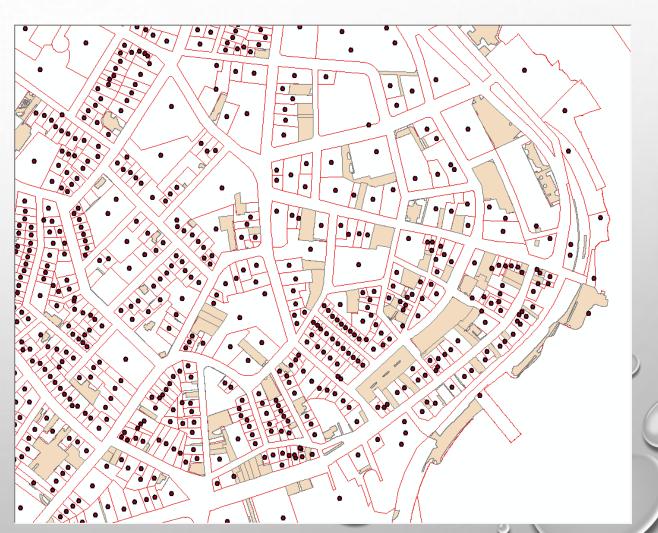
LINKING BILLING SOFTWARE WITH IC LAYER (CONTINUED)



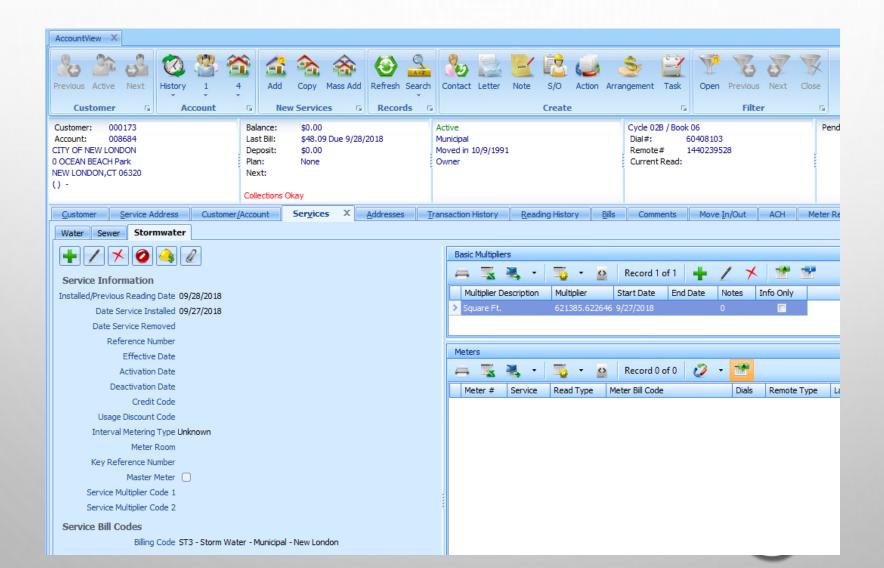


LINKING BILLING SOFTWARE WITH IC LAYER (CONTINUED)

561 PARCELS WITHOUT ACCOUNTS



STORMWATER BILLING IMPLEMENTATION





What about other towns?

M. Randall Collins Jr. - Advocacy Manager for Public Policy & Advocacy with Connecticut Conference of Municipalities (CCM).

CCM is the state's largest, nonpartisan organization of municipal leaders, representing towns and cities of all sizes from all corners of the state, with 169 member municipalities.

More than 20 years' experience working at the State Capitol representing a wide range of clients before the General Assembly, Executive Branch and State Agencies and has worked at CCM for 7 years.

Randy oversees the Committees on Commerce, Finance Revenue & Bonding, Government Administration & Elections, Transportation, and Veterans' Affairs. He has also focused on Land Use, and Environmental policy issues and was the CCM lead in negotiating the current MS4 permit.

Outside of the Capitol, Randy served 6 years in the United States Marine Corps and deployed twice in support of Operation Enduring and Operation Iraqi Freedom. He currently lives in West Hartford with his wife Valerie and two young sons Jackson and Reagan.



