

Infrastructure Ballots

July 1, 2013 Pre-Council Meeting

Stormwater & Street Infrastructure
August 2014

Sewer Infrastructure – November 2013

Infrastructure Ballots

August 2014 Ballot
Street Projects
\$19.1 Million

Project	Current Estimate	Project Description	Watershed	Ward
Forum Boulevard - Chapel Hill Rd. to Woodrail Ave., plus intersection improvement at Green Meadows Road	\$12,700,000	Reconstruct Forum Boulevard to current street standards between Chapel Hill and Woodrail. New bridge over Hinkson Creek. Improvements to intersection of Forum and Green Meadows Road.	Hinkson	4 and 5
Clark Lane/Route PP from Woodland Springs Ct. to Ballenger Lane	\$6,400,000	Reconstruct Clark Lane/Route PP to current street standards between Woodland Springs Ct. and Ballenger Lane.	Hominy	3
GRAND TOTAL	\$19,100,000			

Infrastructure Ballots

August 2014 Ballot
Stormwater Projects
\$42.5 Million

	Project	Current Estimate	Group Totals	Project Description	Watershed	Ward
Annual Projects	Annual CAM Retrofits	\$50,000	\$750,000	(15 years) Incorporating retrofits in redevelopment areas and other locations	Hinkson Creek	All
	Annual Floodplain Mapping	\$50,000	\$750,000	(15 years) Use existing models to update floodplain maps for the City's creeks through FEMA. Existing information 20+ years old.	All	All
	Annual Downtown Improved Tree Planters	\$25,000	\$375,000	(15 years) Install improved street tree planters to reduce runoff from downtown.	Flat Branch	1
	Annual Stormwater Management Projects	\$200,000	\$3,000,000	(15 years) Fund stormwater components in street & sewer projects, projects that require immediate action (failed systems) that are too large for City crews.	All	All
	Annual Property Acquisition	\$50,000	\$750,000	(15 years) Buying floodplain and flooding properties.	All	All
	Annual Erosion Control Projects	\$75,000	\$1,125,000	(15 years) Address severe erosion problems.	All	All
	Annual Small Extension Projects	\$75,000	\$1,125,000	(15 years) Small projects to help property owners in a more timely manner.	All	All
	Annual Lining and Emergency Repair	\$300,000	\$4,500,000	(15 years) Cured In Place Pipe (CIPP lining)	All	All
1-2 Years Projects in CIP	Garth at Oak Tower	\$400,000		Replace RCB in front of Oak Tower that is deteriorated.	Flat Branch	1
	Sexton Rd at Jackson	\$315,000		Address street and structure flooding	Flat Branch	1
	Sexton Rd at McBaine	\$265,500		Address street and structure flooding	Flat Branch	1
	Flat Branch Basin System Inventory Model	\$400,000		Inspection, assessment and existing drainage system and model to determine what improvements are needed to eliminate structure and street flooding.	Flat Branch	1
	Stormwater Master Plan	\$400,000		Formulate a comprehensive stormwater management plan for the City.	All	All
	Calvert Drive Water Quality	\$700,000		Install a large water quality cell off the west end of Calvert Drive. This can be considered a hot spot and should be a priority for CAM. It will also help with stormwater management on Quail Drive. This project lies between Quail and Vandiver/Sylvan.	Hinkson Creek	3
	Oak Forest (Kelley) Detention Retrofits	\$180,000		Retrofit City owned detention basins just north of Green Meadows and approx. 1600 feet east of Providence to better manage runoff.	Hinkson Creek	6
	Wilson Ross	\$150,000		Replace undersized, failing, inadequate system in conjunction with sewer project.	Hinkson Creek	6
	Vandiver, Sylvan Quail	\$2,450,000	\$5,260,500	Reroute storm system around warehouse with much larger pipe. Replace failing CMP. Install streambank stabilization to minimize erosion in downstream channel.	Hinkson Creek	3

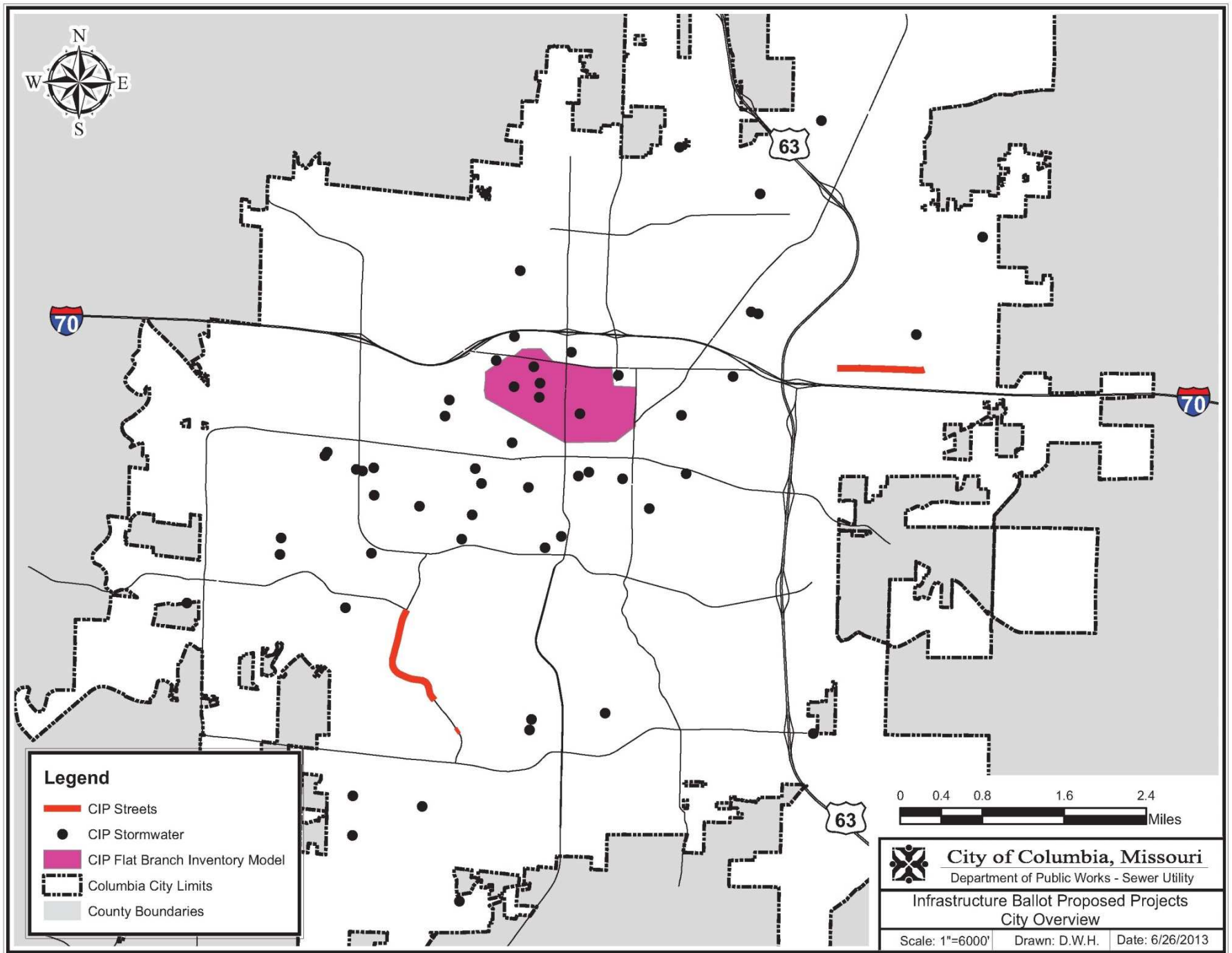
	Project	Current Estimate	Group Totals	Project Description	Watershed	Ward
3-5 Years Projects in CIP	Capri Estates	\$350,000		Retrofit storm drain system into neighborhood which doesn't have one. Area annexed in 80s or 90s and was promised a storm drain system.	Bear Creek	2
	East Downtown	\$1,500,000		Replace failing CMP and undersized RCP. Work is to go from just west of College and Elm to Hitt and Elm. Do the Hitt and Elm first since it is in danger of collapse.	Flat Branch	1
	Greenwood Stewart Phase II	\$1,600,000		Replace old, failing RCB on new alignment, and extend system to address other flooding issues. Use LID to do as much of this as possible.	Flat Branch	4
	Lakeshire Estates Lake Modification	\$150,000		Rehabilitate dam to reduce risk of flooding and dam failure. Incorporate water quality features.	Hinkson Creek	3
	Martinshire Drive	\$500,000		Replace undersized CMP to alleviate severe yard and house flooding. Alternatively, look for LID retrofits to accomplish same goal since pipe is not very old.	County House Branch	4
	Mill Creek Phase 3	\$200,000		Improve intersection of Valencia & El Cortez and install LID	Mill Creek	5
	Rockhill Road	\$550,000		Replace old, undersized, and failing CMP.	Hinkson Creek	6
	Rollins at Rock Creek	\$500,000		Replace failing and undersized large CMP.	County House Branch	
	Royal Lytham - Fallwood	\$376,500		Resolve house and severe yard flooding problems.	Mill Creek	4
	7th & Locust to 8th & Cherry	\$1,200,000		Replace Rock Boxes on new alignment. Install improved street tree planters.	Flat Branch	1
	Fifth and Elm to Sixth	\$672,500		Replace dilapidated Rock Box on new alignment.	Flat Branch	1
	Stewart Park Drainage	\$92,000	\$7,691,000	Help stabilize streambanks in park. This was promised to the neighborhood after several stormwater management projects upstream increased flow to the park.	Flat Branch	4

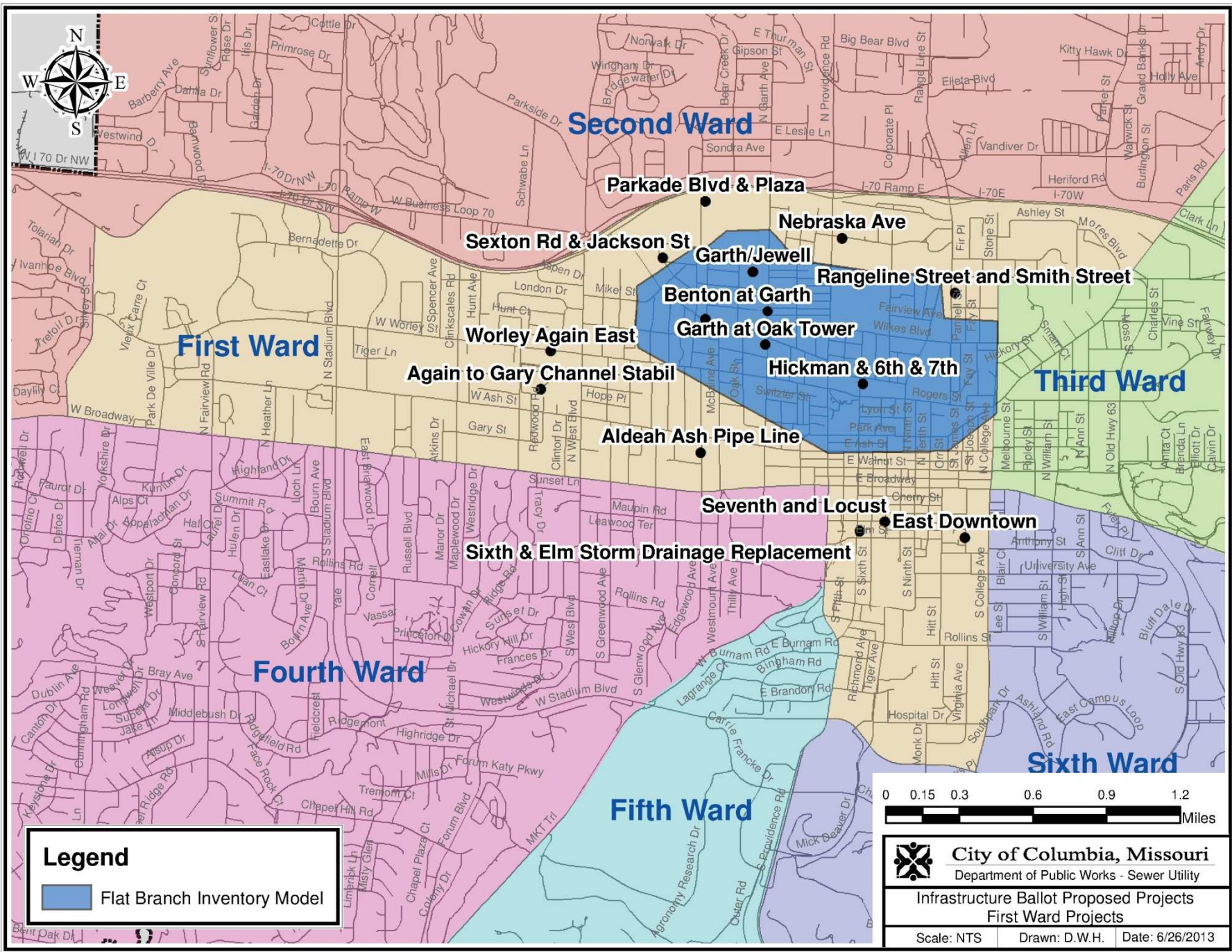
	Project	Current Estimate	Group Totals	Project Description	Watershed	Ward
Cured In Place	Aldeah Ash Pipe Lining	\$150,000		Line 730LF of 30"-36" VCP @ \$150/LF.	Flat Branch	1
	West Boulevard at Stadium Pipe Lining	\$100,000		300' north of the intersection with Stadium. Pipe is approximately 20' deep.	Flat Branch	4
	East Nifong Culvert Lining	\$150,000	\$400,000	Line Corrugated Metal Pipes under E. Nifong Blvd	Clear Creek	6
New Program	Mitigation Bank Program	\$1,000,000	\$1,000,000	Start local stream and wetland mitigation bank to provide place for local projects to pay into when they have to do mitigation to acquire Army Corps permits. This may help with Hinkson Creek TMDL work, too.		
6-10 Years Projects in CIP	Alan Lane	\$240,000		Improve storm drainage to address street flooding and erosion and failing CMPs. Neighborhood has minimal stormwater management.	Hinkson Creek	3
	Bourn Avenue	\$650,000		Installing variety of improvements for length of Bourn, including inlets, bulbouts, address some open channel concerns	County House Branch	4
	Braemore	\$275,000		Replace old, undersized CMP system. Extend storm drain system to alleviate street and house flooding. Use LID retrofits to keep downstream problems from getting worse.	County House Branch	4
	Leawood Subdivision	\$1,775,000		Replace old, undersized CMP system. Extend storm drain system to alleviate street and house flooding. Use LID retrofits to keep downstream problems from getting worse.	County House Branch	4
	Bray Longwell	\$250,000		Rehabilitate the neighborhood systems and install water quality treatment where possible. Include English/Subella/Jake, Bray & Bradshaw, Bray & Longwell.	Meridith Branch	4
	English Subella Jake	\$180,000		Rehabilitate the neighborhood systems and install water quality treatment where possible. Include English/Subella/Jake, Bray & Bradshaw, Bray & Longwell.	Meridith Branch	4
	Business 70-Jewell to Garth	\$250,000		Replace old dilapidated system which runs underneath buildings with modern system on new alignment.	Flat Branch	1
	Gillespie Bridge Rd at Meredith Branch	\$600,000		Replace old, undersized CMP. May require raising road.	Meridith Branch	4
	Grasslands & Brandon	\$1,100,000		Replace old, undersized, and failing culvert near east end of Brandon. Reconfigure road and replace driveway culverts along Brandon to alleviate severe street flooding.	Flat Branch	5
	South Greenwood	\$200,000		Replace rusting out CMP. There are also flooding concerns on the upstream side and bad erosion at the existing outlet.	Flat Branch	4
	Sixth and Hickman RCB	\$950,000		Replace failing reinforced concrete box at 6th and Hickman	Flat Branch	1

6-10 Years Projects in CIP continued on next page

	Project	Current Estimate	Group Totals	Project Description	Watershed	Ward
6-10 Years Projects in CIP	Hinkson Avenue	\$300,000		Replace old, dilapidated system from near Hinkson and Williams to Melbourne	Hinkson Creek	3
	Mary Jane - Jamesdale	\$150,000		Remove existing pipe and install a low water crossing and stabilize stream banks. Water overflows the existing pipe and then flows down Mary Jane and causes flooding. The pipe is also being washed out.	Bear Creek	3
	Mill Creek Detention Retrofits	\$300,000		Retrofit detention basins on PUD properties for WQ storm	Mill Creek	5
	Nebraska Ave	\$350,000		Alleviate bad street flooding. Use LID to alleviate hot-spot concerns.	Bear Creek	1
	Old Plank South Side	\$162,000		Install stormwater management to address severe street, drive and yard flooding and erosion.	Little Bonne Femme	5
	Parkade Plaza/Blvd	\$350,000		Replace old system near end of life to prevent failure and reduce structure flooding.	Bear Creek	2
	Proctor Drive	\$600,000		Replace old, undersized RCB. May require raising road.	Bear Creek	2
	Rockingham Dr - E. Briarwood	\$550,000		Upstream of large Rollins culvert, some backyard flooding and piping issues, opportunity for LID work to help culvert	County House Branch	4
	Rollins Cowan Ridge	\$170,000		Replace and expand old failing, undersized system.	County House Branch	4
	Wayne Road	\$68,000		Install system to address street flooding on Wayne between Bingham and Brandon.	Flat Branch	5
	W. Briarwood	\$250,000		Basement flooding, failing retaining wall, heavy flow from Stadium consider roadside WQ improvements	County House Branch	4
	Woodland & Northridge	\$400,000		Replace old, failing CMP system.	Bear Creek	3
	Worley-Again East Watershed	\$1,400,000	\$11,520,000	Replace old, undersized system and install detention and LID practices to alleviate flooding along County House Branch. Also addresses CAM	County House Branch	1

	Project	Current Estimate	Group Totals	Project Description	Watershed	Ward
10+ Years Projects in CIP	Rangeline & Smith Street	\$600,000		Replace old, undersized, and failing VCP system, possibly on new alignment.	Bear Creek	1
	Sinclair Rd Culvert at Chesterfield	\$340,000		Replace undersized and failing CMP. May be part of a road improvement project.	Mill Creek	5
	Sinclair Rd Culverts at Mill Creek	\$1,000,000		Replace badly undersized and failing CMPs. May be part of a road improvement project.	Mill Creek	5
	New Haven Road	\$225,000		Replace badly undersized culvert on new alignment. Include a water quality/education component for runoff from school.	Clear Creek	6
	2302 Business 70 E. (near Como Tire)	\$400,000		Replace undersized pipe on a new alignment. Alternatively, check to see if detention could be installed in MoDOT right of way such that ex pipe has enough capacity.	Hinkson Creek	3
	6th and 7th near Hickman	\$200,000		Replace an old, failed concrete box pipe with a system that will encourage infiltration.	Flat Branch	1
	Brown Station Rd @ Jamesdale	\$50,000		Stabilize channel to protect Brown Station Road.	Bear Creek	3
	Crestridge Culvert Replacement	\$140,000		Replace old box culvert which is undersized and leads to flooding on College Park just north of Ridgemont	County House Branch	4
	Benton at Garth	\$150,000		Address flooding by extending public system to back yard areas.	Flat Branch	1
	Fredora to Stewart	\$600,000		Install LID practices such that ex. system can be lined rather than replaced w/ open dig.	Flat Branch	4
	Again to Gary Channel Stabilization	\$553,000	\$4,258,000	Stabilize channel to protect utilities and adjacent properties.	County House Branch	1
	GRAND TOTAL		\$42,504,500			






Legend

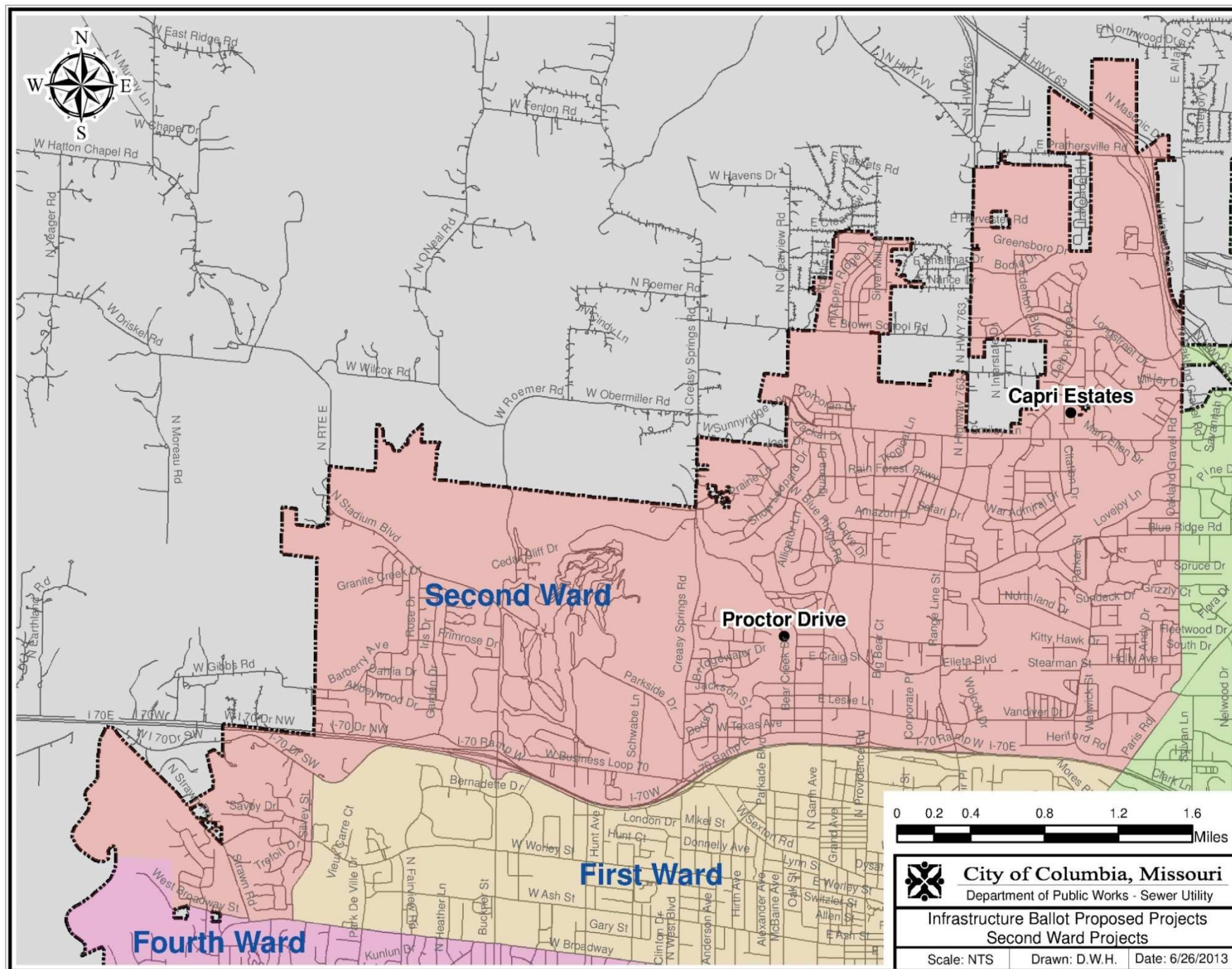
 Flat Branch Inventory Model

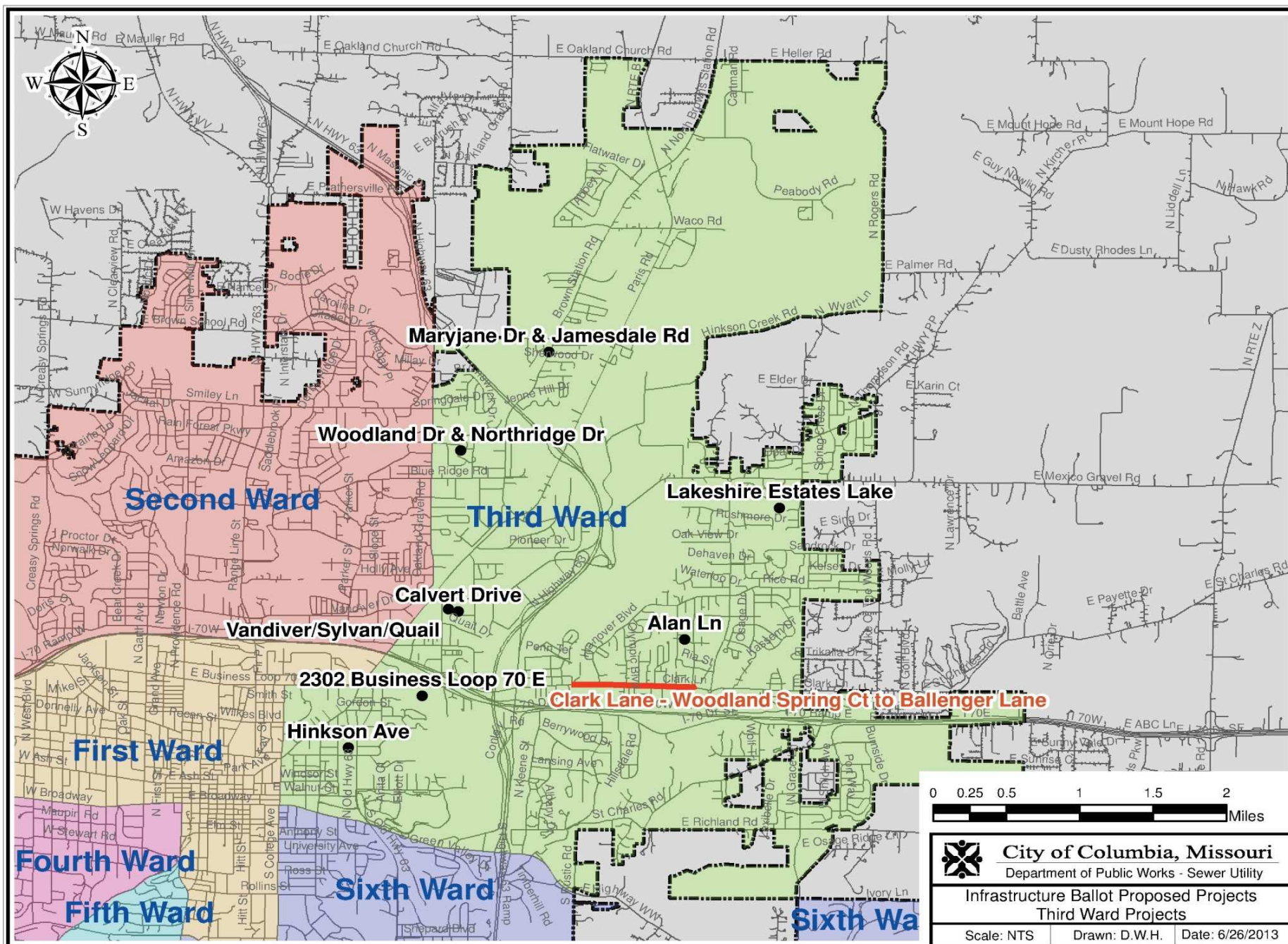
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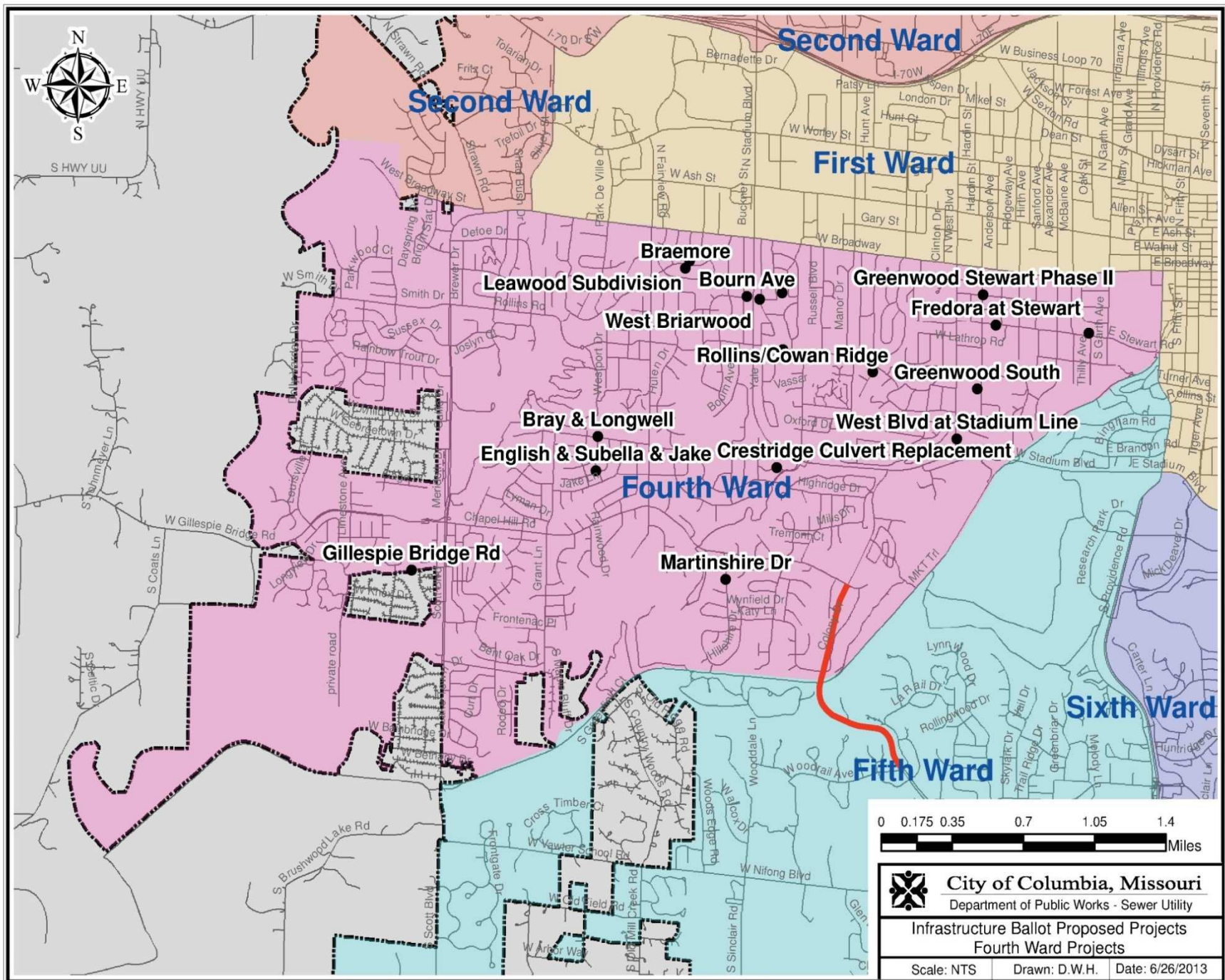
 **City of Columbia, Missouri**
Department of Public Works - Sewer Utility

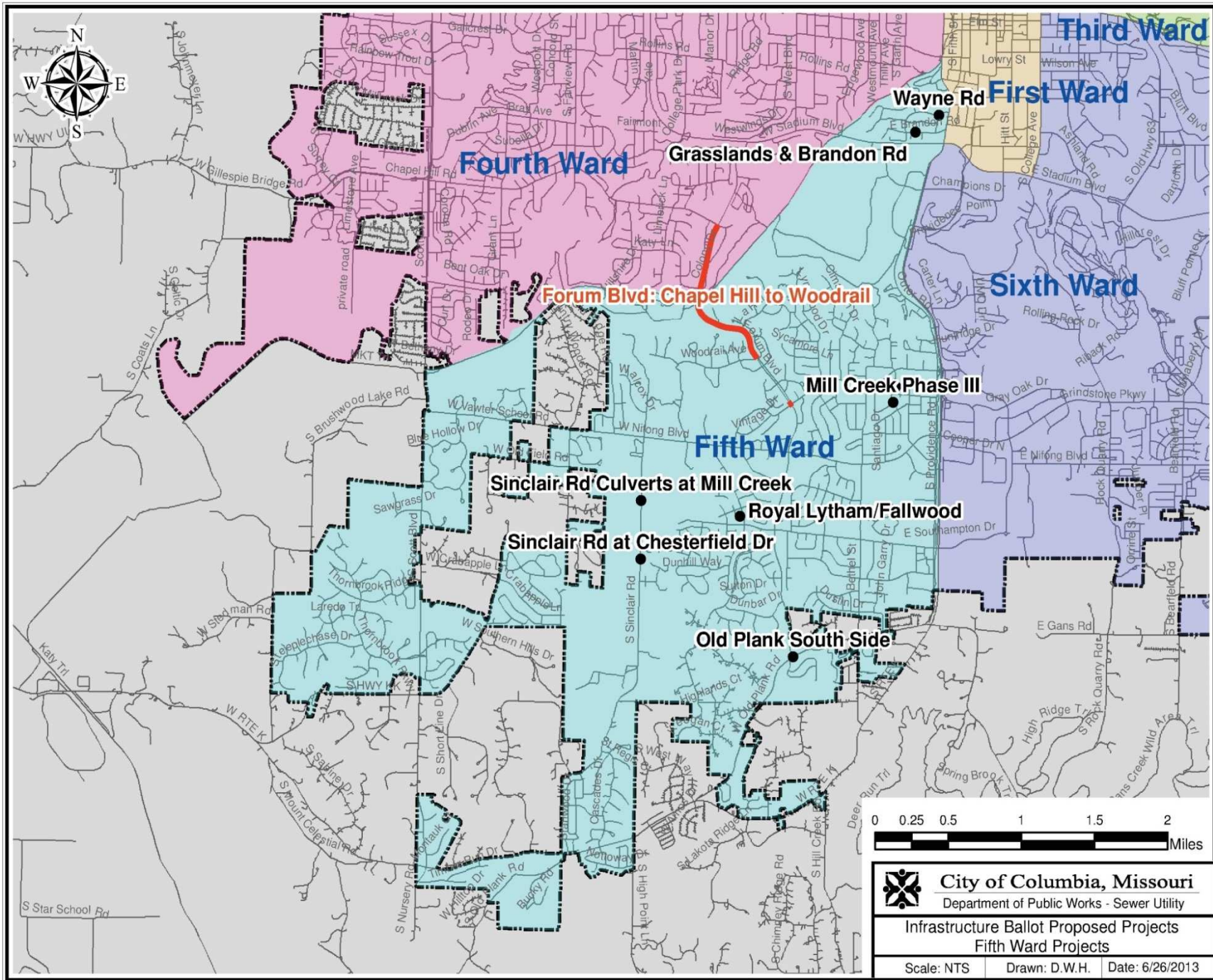
Infrastructure Ballot Proposed Projects
First Ward Projects

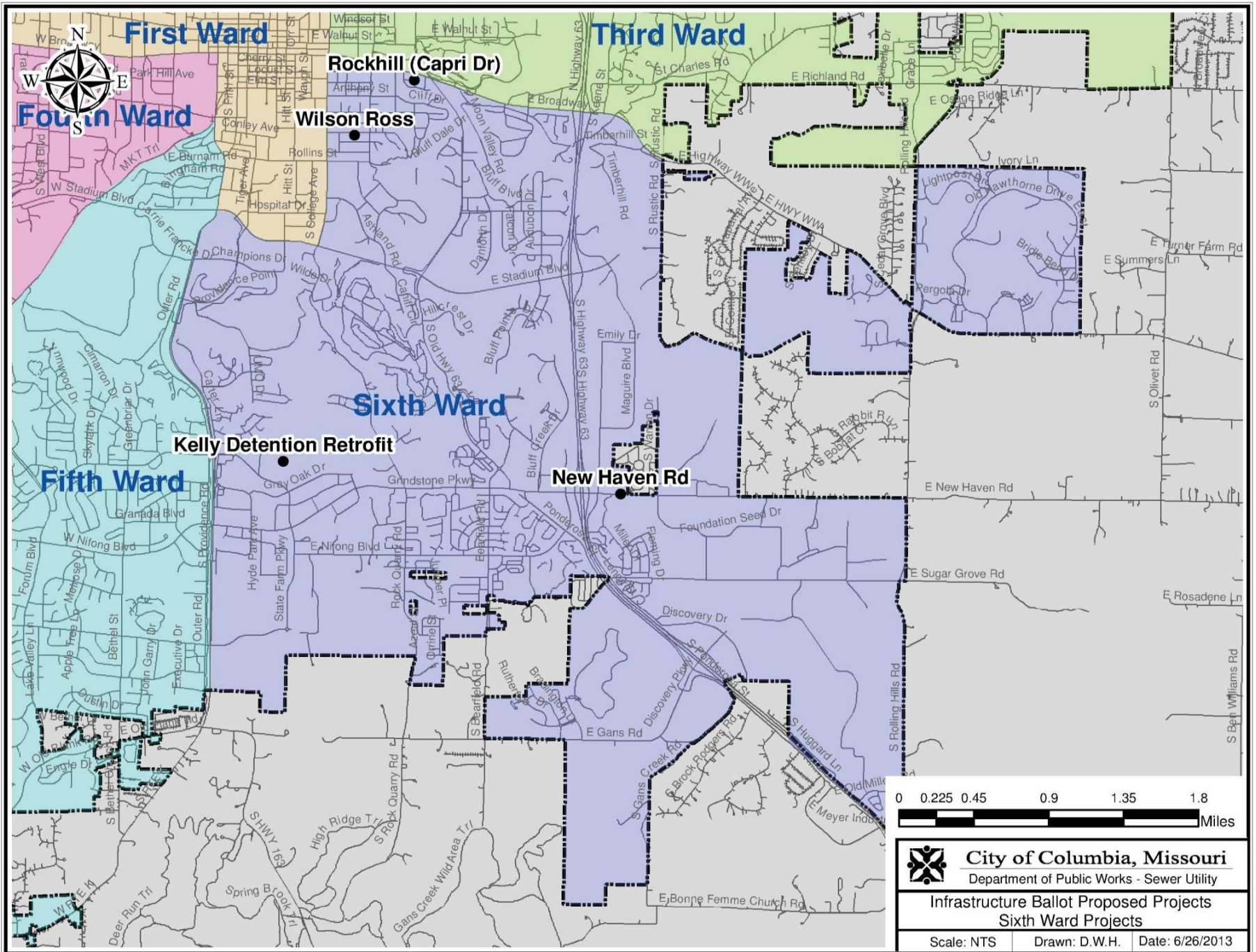
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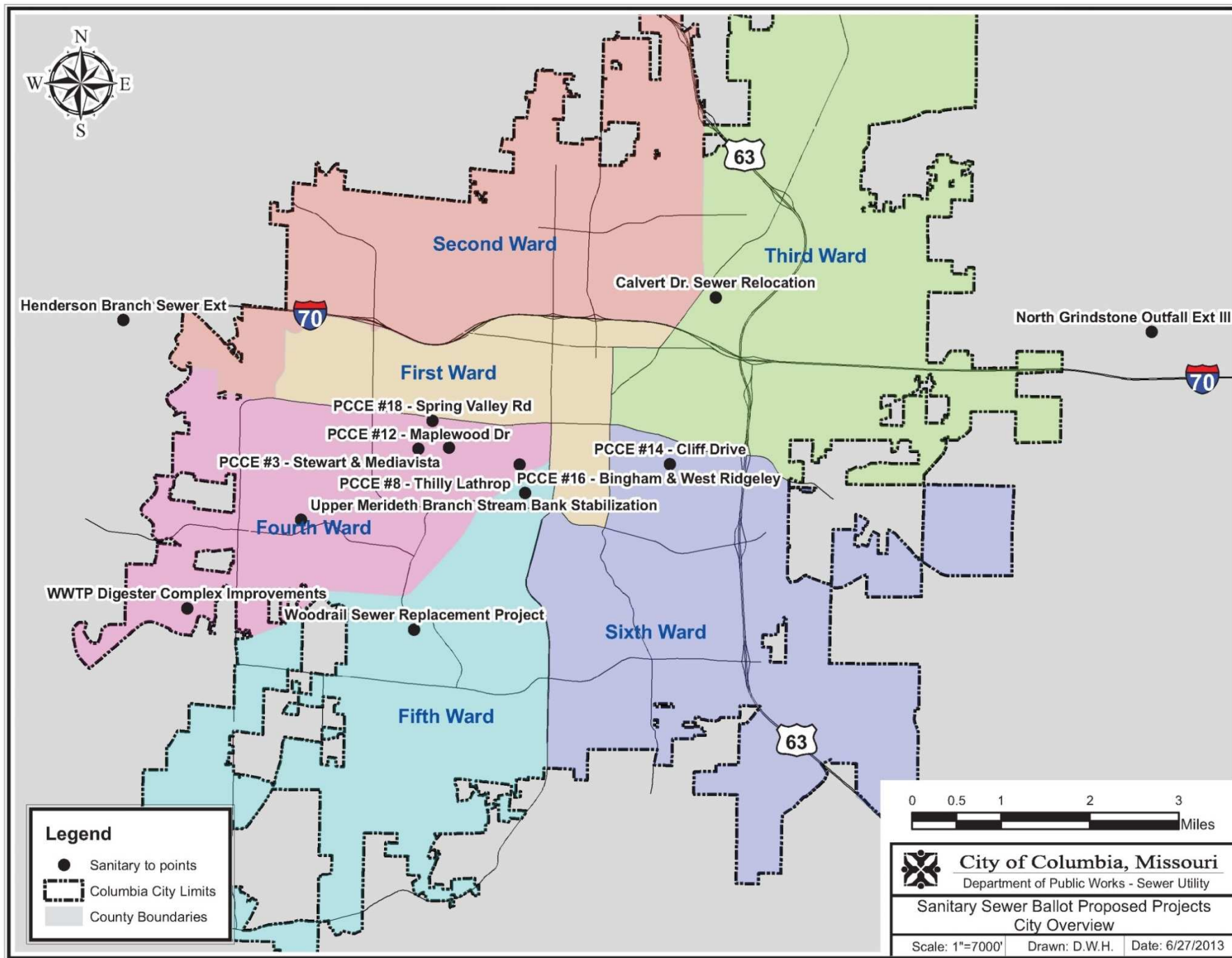


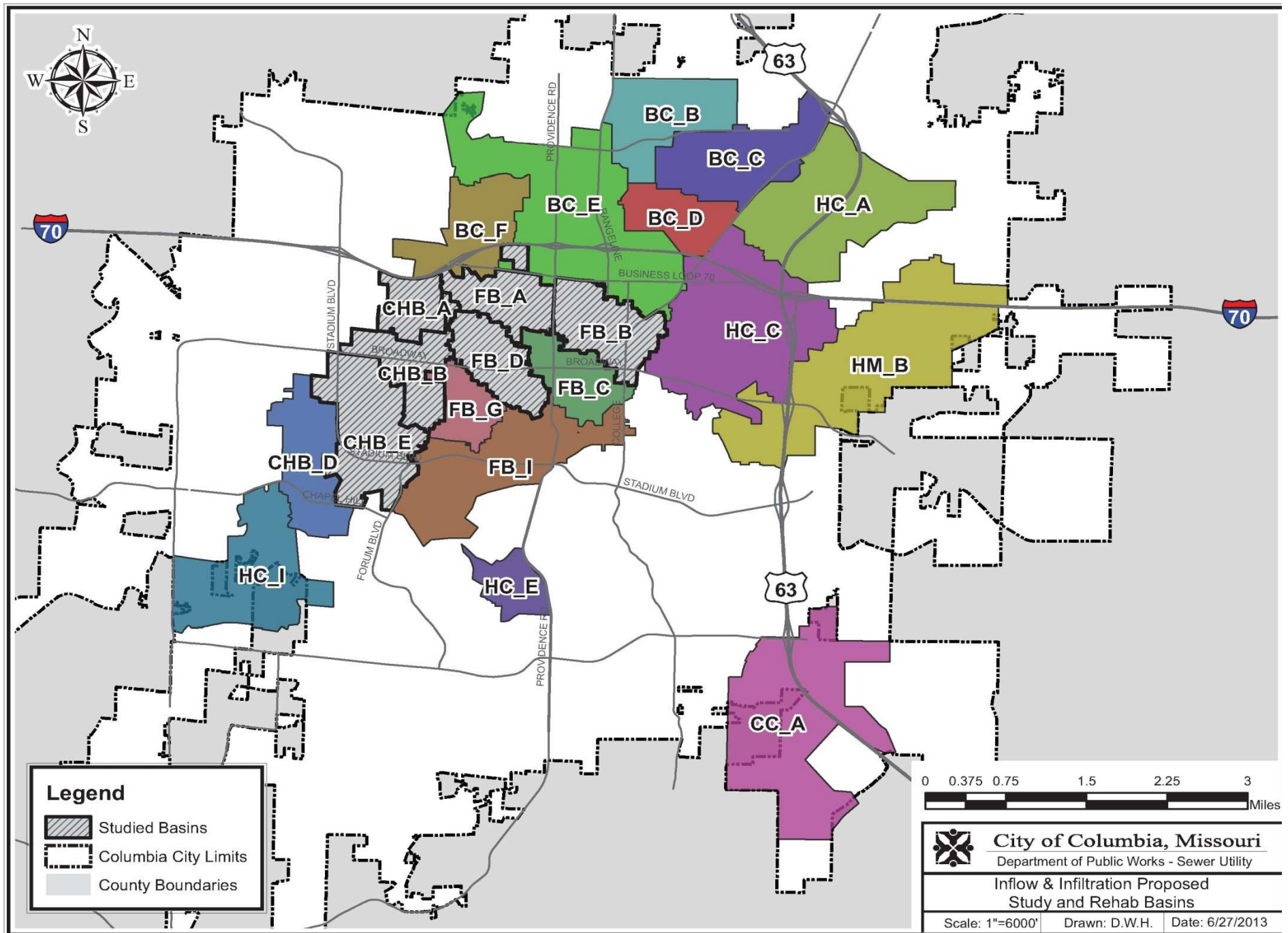


Infrastructure Ballots

November 2013 Ballot
Sanitary Sewer Projects
\$32.34 Million

Project	Yearly Amount	Total Estimate	Project Description	Ward
Inflow and Infiltration Reduction	\$15,930,000		Basin priorities based on Sewer Master Plan, flow monitoring and overflow reports.	
Annual I/I Improvements	\$2,000,000	\$10,000,000		All
Annual Sewer System Improvements - C43183 (ID #750)	\$1,000,000	\$5,000,000		All
Upper Merideth Branch Stream Bank Stabiliz. C43245 (ID #1531)		\$450,000	Stabilization of creek at sewer crossings in University Park subdivision where undermined.	4
Woodrail Sewer Replacement Project (ID #1528)		\$260,000	Replace a surface main with an underground main.	5
Calvert Drive Sewer Relocation (ID #1698)		\$220,000	Relocation of sanitary sewer currently under a building on Calvert Drive in conjunction with a stormwater improvement project.	3
Sewer Main & Manhole Rehabilitation	\$3,500,000			
Annual Sewer Main and Manhole Rehab - C43100 (ID #753)	\$700,000	\$3,500,000		All
Private Common Collector Elimination	\$3,770,000		Priority based on when petition was received and scoring matrix.	
Annual Private Common Collectors - C43112 (ID #752)	\$500,000	\$2,500,000		All
PCCE #3 - Stewart & Medavista (ID #780)		\$100,000	Eliminate private common collector in Stewart and Medavista Road area. Mostly funded, additional funding needed for construction.	4
PCCE # 8 : Thilly Lathrop C43221 (ID #1241)		\$570,000	Eliminate private common collector in Thilly and Lathrop area. Project partially funded, additional money needed for construction.	4
PCCE #12 - Maplewood Drive C43238 (ID #1368)		\$140,000	Eliminate private common collector on Maplewood Drive.	4
PCCE #14 - Cliff Drive C43239 (ID #1367)		\$290,000	Eliminate private common collector on Cliff Drive.	6
PCCE #18 - Spring Valley Road C43241 (ID #1365)		\$40,000	Eliminate private common collector on Spring Valley Road. Project partially funded, additional funding for construction.	4
PCCE #16 - Bingham Rd & West Ridgeley Road C43240(#1366)		\$130,000	Eliminate private common collector in Bingham and Ridgeley Road area	5
WWTP - Digester Complex Improvements (ID #1303)	\$4,100,000		Phase 2 of Wastewater Treatment Plant improvements.	
Sewer Trunk Extensions	\$4,440,000			
Annual 100-Acre Point Trunks Revolving Fd - C43111 (ID #749)	\$140,000	\$700,000	Funding for qualifying 100-acre point requests.	Any
Henderson Branch Sewer (ID #1060)		\$2,600,000	Trunk sewer extension to Midway.	2/county
North Grindstone Outfall Phase III (ID #732)		\$1,140,000	Trunk sewer extension to Route Z.	3/county
Bond Fincancing Cost	\$600,000			
Total Proposed Sewer Bond	\$32,340,000			





Sewer Ballot History

- ❖ 1998 - \$18.9 Million
- ❖ 2003 - \$18.5 Million
 - \$9.2 Million for sewer extensions
 - \$4.3 Million for system upgrades
 - \$5.0 Million for rehab/repair of existing system
- ❖ 2008 - \$77.0 Million
 - \$67 Million for WWTP Improvements
 - \$6 Million for sewer extensions
 - \$4 Million for rehab/repair of existing system
- ❖ 2013 – \$32.3 Million
 - \$4.1 Million for WWTP digester improvements
 - \$4.5 Million for sewer extensions
 - \$7.7 Million for rehab/repair/
 - \$16.0 Million for inflow & infiltration reduction

2013 Sewer Bond Rate Impact Analysis

Fiscal Year	Avg Monthly Residential Charge (based on 7 ccfs)	Monthly Base Charge	Monthly Charge per ccf	Avg Monthly Increase	% Increase
2013 (Current)	\$24.20	\$7.300	\$2.414		
2014	\$24.20	\$7.300	\$2.414	\$0.00	0%
2015	\$25.65	\$7.738	\$2.559	\$1.45	6%
2016	\$25.65	\$7.738	\$2.559	\$0.00	0%
2017	\$26.93	\$8.125	\$2.687	\$1.28	5%
2018	\$26.93	\$8.125	\$2.687	\$0.00	0%
2019	\$27.20	\$8.206	\$2.714	\$0.27	1%

To maintain a debt ratio at 1.10 or higher, rate increases and timed bond sales are anticipated. Rate increases are based on 2% growth in expenses, 1% growth in revenues and bond sales in
FY14 (\$7.421M 2008 Ballot & \$6.7M 2013 Ballot)
FY16 (\$12.82M 2013 Ballot)
FY18 (\$12.82M 2013 Ballot).