Continued Stormwater Program Discussion

Public Works Committee

September 12, 2016

Follow Up to PWC Questions

- Scenario Clarification
- During the Aug. 15, 2016 Public Works Committee (PWC) meeting, the following additional information was requested:
  - 2004 Citizen Stormwater Task Force Final Report Recommendations
  - Examples of tasks in stormwater Level of Service (LOS) scenarios
  - List of National Pollutant Discharge Elimination System (NPDES) requirements to be completed
  - Consideration of potential large stormwater projects for Capital Improvement Project (CIP) sales tax
  - Peer community stormwater program comparisons

Scenario Clarification

Comparison of Stormwater Scenarios 1-4: Revised Sept. 6, 2016

Historical Stormwater Scenario FY 2012 - 2015				Stormwater Scenario #1 Minimal Maintenance				Stormwater Scenario #2 Increased Maintenance				Stormwater Scenario #3 Recommended Maintenance				Stormwater Scenario #4 Recommended Maintenance + $3M CIP			
SUMMARY	Stormwater not a priority **1 Part-time field crew** Other Public Works priorities pull from stormwater crew Snow response Impact:		Provides: N/A	SUMMARY	Stormwater a priority **1 Full-time field crew** Other Public Works priorities at same level of service Snow response Impact:		Provides: 3 Drivers	SUMMARY	Dedicated Stormwater Team **2 Full-time field crews** No Impact to other Public Works priorities Snow response Impact:		Provides: 6 Drivers 1 Dump Truck 1 Utility Truck	SUMMARY	Dedicated Stormwater Team/Impactful to Quality of Life **3 Full-time field crews** Regional Leaders in Stormwater/Environmental Issues Snow response Impact:		Provides: 9 Drivers 2 Dump Truck 2 Utility Truck	SUMMARY	Dedicated Stormwater Team/Improved Quality of Life **3 Full-time field crews** Regional Leaders in Stormwater/Environmental Issues Snow response Impact:		Provides: 9 Drivers 2 Dump Truck 2 Utility Truck
LEVEL OF SERVICE	Reactive repairs PW field crews construct patches only 60+ day work order response time Minimal NPDES response/training Occasional inspections Reactive cusomer service response			LEVEL OF SERVICE	Reduced reactive repairs, more proactive PW field crews construct CIP < $75,000 Decreased work order response time Increased NPDES response Increased field inspections NPDES staff training Increased public involvement Increased customer service			LEVEL OF SERVICE	PW field crews construct CIP < $150,000 Limited system replacement program Tracking of environmental permitting Proactive NPDES response Proactive field inspections System inspection program implemented Small system repairs routine Increased NPDES staff training Increased public participation Increased customer service			LEVEL OF SERVICE	Green Infrastructure projects Small Capital Projects implementation Additional water quality programs PW field crews construct CIP < $600,000 System deficiency replacement program Limited CIP system upgrades designed/built in-house NPDES physical improvements / training program System inspection program Environmental permitting program Increased public involvement/participation Increased customer service			LEVEL OF SERVICE	Move beyond structure flooding projects Capital Projects implementation Additional water quality programs PW field crews construct CIP < $600,000 System deficiency replacement program CIP system upgrades designed/built in-house NPDES physical improvements / training program System inspection program Environmental permitting program Increased public involvement/participation Increased customer service Capital Improvement Program of $2.5M in projects & $500k soft cost (staff) = $3M		
STAFF		FTE	Quantity	STAFF		FTE	Quantity	STAFF		FTE	Quantity	STAFF		FTE	Quantity	STAFF		FTE	Quantity
	Equipment Operator	0.675	2		Supervisory Engineer	0.25	1		Supervisory Engineer	0.50	1		Supervisory Engineer	1.00	1		Supervisory Engineer	1.00	1
	Maintenance Worker	0.675	1		Equipment Operator	0.80	2		Equipment Operator	0.80	4		Equipment Operator	0.80	6		Equipment Operator	0.80	6
	Field Supervisor	0.675	1		Maintenance Worker	0.80	1		Maintenance Worker	0.80	2		Maintenance Worker	0.80	3		Maintenance Worker	0.80	3
	Sr./Staff Engineer	0.50	1		Field Supervisor	0.80	1		Field Supervisor	0.80	2		Field Supervisor	0.80	3		Field Supervisor	0.80	3
					Sr./Staff Engineer	1.00	1		Sr./Staff Engineer	1.00	2		Sr./Staff Engineer	1.00	2		Sr./Staff Engineer +1 staff	1.00	3
					Sr. Engineering Tech	1.00	1		Sr. Engineering Tech	1.00	1		Sr. Engineering Tech	1.00	1		Sr. Engineering Tech +1 staff	1.00	2
					Environmental Specialist	1.00	1		Environmental Specialist	1.00	1		Environmental Specialist	1.00	1		Environmental Specialist	1.00	1
					Inspector - NPDES	1.00	1		Inspector - NPDES	1.00	1		Inspector - NPDES	1.00	1		Inspector - NPDES	1.00	1
																	Const. Project Manager	1.00	1
																	Construction Inspector	1.00	2
	Total FTEs and positions	3.2	5		Total FTEs and positions	7.45	9		Total FTEs and positions	11.9	14		Total FTEs and positions	15.6	18		Total FTEs and positions	20.6	23
	Sub-Total Annual Staff Cost		$367,514		Sub-Total Annual Staff Cost		$712,000		Sub-Total Annual Staff Cost		$1,150,000		Sub-Total Annual Staff Cost		$1,500,000		Sub-Total Annual Staff Cost		$2,000,000
EQUIPMENT	Utility Truck		n/a	EQUIPMENT	Utility Truck		Shared PWO	EQUIPMENT	Utility Truck		$4,896	EQUIPMENT	Utility Truck	2 ea	$9,792	EQUIPMENT	Utility Truck	2 ea	$9,792
VERP	Backhoe		n/a	VERP	Backhoe		$6,994	VERP	Backhoe		$6,994	VERP	Backhoe		$6,994	VERP	Backhoe		$6,994
COSTS	Dump Truck		n/a	COSTS	Dump Truck		Shared PWO	COSTS	Dump Truck		$16,150	COSTS	Dump Truck	2 ea	$32,300	COSTS	Dump Truck	2 ea	$32,300
	Pick-up Truck		n/a		Pick-up Truck	4 ea	$8,499		Pick-up Truck	5 ea	$10,615		Pick-up Truck	8 ea	$16,984		Pick-up Truck	10 ea	$21,230
	Skidsteer		n/a		Skidsteer		$6,910		Skidsteer		$6,910		Skidsteer		$6,910		Skidsteer		$6,910
	Skidsteer Trailer		n/a		Skidsteer Trailer		$906		Skidsteer Trailer		$906		Skidsteer Trailer		$906		Skidsteer Trailer		$906
													Trackhoe - mid size		$8,066		Trackhoe - mid size		$8,066
													Trackhoe Trailer		$1,326		Trackhoe Trailer		$1,326
	Sub-Total Annual Equipment Costs		$0		Sub-Total Annual Equipment Costs		$23,309		Sub-Total Annual Equipment Costs		$46,471		Sub-Total Annual Equipment Costs		$83,278		Sub-Total Annual Equipment Costs		$87,524
ANNUAL	Repairs & Maintenance		$25,304	ANNUAL	Tools		$4,500	ANNUAL	Tools		$9,000	ANNUAL	Tools		$17,500	ANNUAL	Tools		$17,500
EXPENDABLE	Fuel & Lubricants		$23,916	EXPENDABLE	Commodities & Contractual Services		$8,780	EXPENDABLE	Commodities & Contractual Services		$18,000	EXPENDABLE	Commodities & Contractual Services		$36,000	EXPENDABLE	Commodities & Contractual Services		$36,000
COSTS	Supplies, services, charges		$163,641	COSTS	In-House Construction Materials		$231,000	COSTS	In-House Construction Materials		$465,000	COSTS	In-House Construction Materials		$715,000	COSTS	In-House Construction Materials		$715,000
	(1 part time crew)				(2 full time crews)				(3 full time crews)				(3 full time crews)				Yearly CIP Contracts		$2,500,000
	SUB-TOTAL ANNUAL COSTS		$580,375		SUB-TOTAL ANNUAL COSTS		$979,589		SUB-TOTAL ANNUAL COSTS		$1,688,471		SUB-TOTAL ANNUAL COSTS		$2,351,778		SUB-TOTAL ANNUAL COSTS		$5,356,024
ONE-TIME	Utility Truck		n/a	ONE-TIME	Utility Truck		Shared PWO	ONE-TIME	Utility Truck		$70,000	ONE-TIME	Utility Truck	2 ea	$140,000	ONE-TIME	Utility Truck	2 ea	$140,000
EQUIPMENT	Backhoe		n/a	EQUIPMENT	Backhoe		$107,000	EQUIPMENT	Backhoe		$107,000	EQUIPMENT	Backhoe		$107,000	EQUIPMENT	Backhoe		$107,000
COSTS	Dump Truck		n/a	COSTS	Dump Truck		Shared PWO	COSTS	Dump Truck		$177,039	COSTS	Dump Truck	2 ea	$354,078	COSTS	Dump Truck	2 ea	$354,078
	Pick-up Truck		n/a		Pick-up Truck	4 ea	$112,000		Pick-up Truck	5 ea	$140,000		Pick-up Truck	8 ea	$224,000		Pick-up Truck	10 ea	$280,000
	Skidsteer		n/a		Skidsteer		$90,000		Skidsteer		$90,000		Skidsteer		$90,000		Skidsteer		$90,000
	Skidsteer Trailer		n/a		Skidsteer Trailer		$11,000		Skidsteer Trailer		$11,000		Skidsteer Trailer		$11,000		Skidsteer Trailer		$11,000
													Trackhoe mid size		$100,000		Trackhoe mid size		$100,000
													Trackhoe Trailer		$20,000		Trackhoe Trailer		$20,000
	Sub-Total One-Time Equipment Costs		$0		Sub-Total One-Time Equipment Costs		$320,000		Sub-Total One-Time Equipment Costs		$595,039		Sub-Total One-Time Equipment Costs		$1,046,078		Sub-Total One-Time Equipment Costs		$1,102,078
TOTAL COST			**$580,375**	**TOTAL COST**			**$1,299,589**	**TOTAL COST**			**$2,283,510**	**TOTAL COST**			**$3,397,856**	**TOTAL COST**			**$6,458,102**

NOTE: The LOS for each scenario increases and builds upon the previous level. Scenario 4 = Scenario 3 plus CIP.

2004 Citizen Stormwater Task Force Recommendations

- General status update of 2004 Task Force Recommendations was included in the Stormwater Information book provided to current PWC members.

Scenario 1 LOS Examples

- Reduce reactive system repairs = more proactive, dedicate staff
- Increased response = more proactive approach to:
  - NPDES requirements
  - Field inspections
  - Staff training
  - Customer service

Scenario 2 LOS Examples

Scenario 1 plus:

- Develop tracking system for all environmental permitting
- Dedicated storm system inspection program implemented
- Increased public participation

Scenario 3 LOS Examples

Scenario 2 plus:

- Active storm system replacement
- Green infrastructure (rain gardens, native plant buffers, etc.)
- Additional water quality programs (educational/public engagement activities, green infrastructure, etc.)
- Dedicated NPDES training program implemented

Scenario 4 LOS Examples

Scenario 3 plus implementation of dedicated $3M CIP:

- Stormwater investigations/studies to retrofit non-functioning infrastructure, i.e. detention ponds
- Dedicated SWMP board/panel/committee, at City Council discretion

NPDES Requirements

NPDES Permit has 6 Minimum Control Measures (MCMs) that the City is required to comply with:

- Public Outreach and Education
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management
- Municipal Pollution Prevention/Good Housekeeping

Draft permit is in hand, schedule for final permit is Fall 2016

NPDES Requirements (cont.)

NPDES permit requirements must be Implemented regardless of LOS. Implementation will require more resources than currently budgeted.

For example:

- Illicit Discharge Detection and Elimination (IDDE)
- Good Housekeeping

Potential CIP Projects

If PWC follows the 2007 priorities, approximately 7 structure flooding issues caused by inadequate public infrastructure have already been verified that need to be completed.

If priorities are changed:

- 28 additional known structure flooding issues exist
- 6 major storm pipe failures
- 19 nuisance flooding issues
- 9 severe stream instability problems

Mix of public and private property

Peer Communities Stormwater Program Comparisons

MO Communities	Arnold	Columbia	Independence	Lee's Summit
SW Funding Sources	Utility fees/GF	Utility & Develop Fees	Sales tax, Develop fees	GF/GO Bonds
Fee-Res Unit	$3/month	$1.44/month	N/A (¼ cent sales tax)	---
Fee-Commercial/ Industrial Use	Calc based on impervious area	$5/lot or $0.05/100ft^2 of impervious area	N/A (¼ cent sales tax)	---
Functions performed by Utility	Maint, Cap Outlay, WQ, Education	Maint, Cap Outlay, WQ, Education	Maint, Cap Outlay, WQ, Education	Maint, Cap Outlay
2014 SW Utility Revenue	$600,000	$1.4 M	$3.9 M	varies
Revenue-Res Unit	$322,100	$820,000	N/A	---
% Revenue-Residential	54%	59%	---	---
2014 SW Op Expense	$600,000	$994,000	$3 M	$30,000
2014 SW CIP Budget	$0	$170,000	$0 - $500,000	$1.7 M (1-time GO Bond)
Annual CIP Proj. Needs	$400,000	$2.2 M	$1.6 M	$1.9 M
SW Revenue/Capita	$19	$13	$34	---
SW Revenue/HH	$45	$30	$73	$0
Holder of MS4 Permit	MDNR	City	City	City
Holder of NPDES Permit	City	City	City	City

Questions?