

**From:** E Easterly <[emeasterly@comcast.net](mailto:emeasterly@comcast.net)>  
**Sent:** Tuesday, September 15, 2020 8:36 AM  
**To:** Robert Chandler <[RChandler@cityofsalem.net](mailto:RChandler@cityofsalem.net)>  
**Subject:** Salem Stormwater Master Plan update

Dear Dr. Chandler:

The attached pages include questions, queries and challenges to the draft 2020 Stormwater Master Plan that will be considered by Council on September 28th.

I ask that you review each of the points raised in preparation for you presentation to Council on that date.

With regards,

E.M. Easterly  
503-363-6221

## Comments and Commentary on the proposed 2020 Salem update of the Stormwater Master Plan (SWMP)

E.M. Easterly

- Page 1-3      Why is the West Bank Basin not included in Table 1.1?
- Page 1-10     Has there been an update to the following statement: “FEMA Region 10 will develop new guidance for NFIP communities by the fall of 2017.”
- Page 1-21     States: “For the remaining nine basins, a total of 288 projects were listed,”  
The number of projects statement does not agree with Table 6-10 on Page 6-6 of the 2000 SWMP. See attached graphic.
- Page 1-21     States: “41 of which were identified as Early Action Items to be completed within five years. ... eight of which were Early Action Items.”  
Twenty years has passed; why only eight of the Early Action Items have been completed? Why is there no explanation?
- Page 1-22     Why is the listing order and numerical sequence planning order of Table 1-4 different?
- Page 1-24     Why are portions of West Salem within the Salem city-limits along the Willamette River not included in the West Bank basin? How does this exclusion comply with Policy 1.3at Page 2-2?  
Note: According to the Map Page 16-4 this West Bank area is included in Willamette Slough Basin. For linguistic and logical reasons, I ask that Willamette Slough Basin be renamed:      **Willamette Slough/Wallace Marine Basin.**
- Page 2-7      What is the time line for Policy 4.1?
- Page 2-12     Policy 8.1(5) a major revision of the current Salem Stormwater Master Plan states:  
“Provide for flexibility in expenditures, which will not be limited by watershed or basin, or the need for matching non-SDC funds.”  
  
This new Policy 8.1(5) appears to imply that projects other than 309 listed projects or the 5-percent small conveyance projects can appropriately can be funded by Stormwater SDC moneys. How is that assumption justified since the expenditure of Stormwater SDC funds must comply with the SWMP language at Page 4-2?  
  
“Revenues generated through an SDCi must be used for constructing capital improvements that increase capacity or for repaying the debt on completed capacity increasing capital improvements.”  
  
Such “flexibility” was demonstrated when staff recommended purchasing land alongside Wallace Marine park with Stormwater SDC revenues. A land purchase does not equal an increase of stormwater conveyance capacity.
- Page 5-3      States: “The estimated cost for these projects is based on estimates contained in the 2000 Stormwater Master Plan with a multiplier of 1.668 applied to convert the 2000 values to 2019 dollars.”  
  
Why then are the modifications of 2000 SWMP project costs increased by a multiplier of 1.714 in the Draft SWMP 2020 Battle Creek, Glenn-Gibson Creek, etc. project costs?



## Review of Salem SDC eligible projects

E.M. Easterly

The list of eligible stormwater related capital conveyance projects was adopted in the 2000 Salem Stormwater Master Plan (SWMP). That original list identified 289 projects with an estimated cost of \$203,562,000. That summary list is included on the next page.

The 2002 Salem adopted System Development Charges attributed to new growth is summarized in the chart below.

**Table 3 Data**    2002 Stormwater SDC Calculation  
pg 15

	Projects from SWMP Table 6-10	Attributed to Growth	5-percent small conveyance	Projects sans 5%	Growth % of Projects
Battle Creek	15,798,000	2,588,239	123,249	2,464,990	16.38%
Croisan Creek	8,764,000	1,614,126	76,863	1,537,263	18.42%
East Bank	7,794,000	1,502,711	71,558	1,431,153	19.28%
Glenn Gibson	13,945,000	2,079,848	99,040	1,980,808	14.91%
Little Pudding	30,604,000	1,723,602	82,076	1,641,526	5.63%
Mill Creek	20,987,000	1,213,877	57,804	1,156,073	5.78%
Pringle Creek	61,413,000	14,278,013	679,905	13,598,108	23.25%
Upper Claggett Creek	40,045,000	1,709,129	81,387	1,627,742	4.27%
West Bank	4,212,000	717,828	34,182	683,545	17.04%
Total	203,562,000	27,427,373	1,306,064	26,121,308	13.47%

The **2020 Stormwater SDC eligible projects** numbers are listed in the chart at the bottom of the next page.

That listing is accurate so far as it includes actual current Stormwater identified projects.

It is inaccurate in so far as it fails to distinguish between the total projects completed from the original 2000 Stormwater Master Plan 309 list and the updated new projects included in the 2020 Stormwater Master Plan.

To the extent that the draft 2020 Stormwater Master Plan claims that just 41 of the original 289 listed 309 projects have been completed over the last twenty years that claim is incorrect. Put simply, staff has failed to acknowledge the new projects included in the Battle Creek basin that were not included in the 2000 Stormwater list of eligible projects. Nor does the draft 2020 Stormwater Master Plan accurately accounted for the Battle Creek basin eligible Stormwater SDC funded projects that have, in fact, been completed.

The 2000 Battle Creek basin listed projects on the next page totals 22. Only five projects from the original 2000 Battle Creek basin project list remain on the 2020 list. Ten new projects have been added to the 2020 Battle Creek basin project list.

Basin Name	Number of Projects	Number of Detention Projects	Cost	Comments
Battle Creek Basin	22	2	\$ 15,798,000	
Croisan Creek Basin	15	1	\$ 8,764,000	
East Bank Basin	17	0	\$ 7,794,000	
Glenn Gibson Basin	23	6	\$ 13,945,000	
Little Pudding Basin	44	0	\$ 30,604,000	The Little Pudding basin is very expensive because there are many undersized channels and the basin slope is relatively flat.
Mill Creek Basin	39	0	\$ 20,987,000	Reflects the tributary drainage systems within Salem's UGB. Full recommendation pending Section 205 Study.
Pringle Creek Basin	58	3	\$ 61,413,000	The Pringle Creek basin is very expensive because there are many undersized channels and bridges and the basin slope is relatively flat.
Upper Claggett Creek Basin	60	1	\$ 40,045,000	The Upper Claggett Creek basin is very expensive because there are many undersized pipes and channels and the basin slope is relatively flat.
West Bank Basin	11	1	\$ 4,212,000	
<b>Subtotal</b>	<b>289</b>	<b>14</b>	<b>\$ 203,562,000</b>	
System Inventory/Monitoring Program/Modeling	-	-	\$ 3,000,000	This allowance is based on a preliminary estimate of the cost to monitor water quality and quantity, update the system inventory, and upgrade the model.
Water Quality Facilities	-	-	\$ 4,071,000	This allowance is 2% of the subtotal.
Stream/ Habitat Improvements	-	-	\$ 6,107,000	This allowance is 3% of the subtotal.
<b>Total</b>			<b>\$ 216,740,000</b>	

2020 Draft SWMP 

2000 Adopted SWMP 

*Summary Listing of Stormwater Facilities*

Basin	Total Number of Projects	Total Estimated Cost (2019)	Number of Short Term Projects	Total Cost of Short Term Projects	Number of Intermediate Term Projects	Total Costs of Intermediate Term Projects	Number of Long Term Projects	Total Costs of Long Term Projects	Date of Basin Plan
Battle Creek Basin	15	\$18,820,000	3	\$4,110,000	1	\$520,000	11	\$14,190,000	2019
Croisan Creek Basin	12	\$9,440,000	0	\$-	1	\$520,000	11	\$8,920,000	2000
East Bank Basin	15	\$12,390,000	9	\$7,360,000	2	\$670,000	4	\$4,210,000	2000
Glenn-Gibson Basin	11	\$8,930,000	0	\$-	3	\$1,160,000	8	\$7,770,000	2000
Little Pudding Basin	42	\$49,660,000	3	\$2,990,000	8	\$4,340,000	31	\$40,060,000	2000
Mill Creek Basin	36	\$66,560,000	11	\$9,320,000	7	\$14,780,000	18	\$43,180,000	2019
Pringle Creek Basin	55	\$109,300,000	5	\$2,000,000	3	\$11,460,000	47	\$95,840,000	2019
Upper Claggett Basin	52	\$53,310,000	1	\$130,000	2	\$590,000	49	\$52,590,000	2000
West Bank Basin	5	\$2,930,000	0	\$-	2	\$1,940,000	3	\$2,130,000	2000
<b>Total</b>	<b>243</b>	<b>\$330,060,000</b>	<b>32</b>	<b>\$25,910,000</b>	<b>29</b>	<b>\$35,980,000</b>	<b>187</b>	<b>\$268,890,00</b>	

## 2020 City of Salem DRAFT Stormwater Master Plan

**Table 15.4**

*West Bank Basin Plan Project List*

TDSIP Proj. ID	Location	Recommended Improvement	Estimated Cost (2019)	Construction Time Frame
WBB3	From Cascade Drive to 9th and Gerth	Replace undersized pipe	\$402,283	Long term (over 10 years)
WBB4	8th Ave between Gerth Ave and Rosemont Ave	Replace undersized pipe	\$668,124	Intermediate term (5 - 10 years)
WBB5	Senate St between 6th Ave and the Willamette River	Replace undersized pipe	\$1,269,912	Intermediate term (5 - 10 years)
WBB6	Culvert across the Salem-Dallas Hwy, near Moores Wy	Replace undersized pipe	\$416,833	Long term (over 10 years)
WBB11	Eola Drive near intersection with Sunwood Dr	Add detention capacity at Woodhaven Detention Facility	\$177,005	Long term (over 10 years)
		total	\$2,934,157	

**Notes:**

The West Bank Basin Project List is based on results of 2000 *Stormwater Master Plan*, updated using staff input to reflect completed projects and current requirements.

Estimated costs include allowances for permitting, acquisition, pre-design, and final design (15%); administration (6%); construction management (9%); and contingency (40%).

Each project has a small conveyance improvement allowance based on 5% of the subtotal.

The 2000 to 2019 dollar conversion is 1.668, which is based on the Engineering News Record Construction Cost Indices for Seattle, San Francisco, and Los Angeles.

**Table 6-9**  
**West Bank Basin DSIP Project List**

DSIP Proj. ID	City of Salem CIP ID	Location	Recommended Improvement	Total <sup>1</sup>	Early Action Item?	Comments
WBB1		Wallace Rd between Orchard Hts and Tayblin Rd	Replace undersized pipe	\$ 224,315		Street CIP G.O. Bond F (2000-01, 2004-05) , bad pipe, alignment, debris, proposed Walker School Park
WBB2		From Wallace Rd and Glen Creek Rd to Gerth Ave and 8th	Replace undersized pipe	\$ 1,181,238	Yes	
WBB3		From Cascade Drive to 9th and Gerth	Replace undersized pipe	\$ 229,692	Yes	Adverse grade
WBB4		8th Ave between Gerth Ave and Rosemont Ave	Replace undersized pipe	\$ 381,480	Yes	High water complaints
WBB5		Senate St between 6th Ave and the Willamette River	Replace undersized pipe	\$ 725,084		Heavy roots, silt, gravel, bad joints
WBB6		Culvert across the Salem-Dallas Hwy, near Moores Wy	Replace undersized pipe	\$ 238,000		ODOT coordinations, LWI implications
WBB7		Culvert across Eola Dr near the intersection of Eola Dr and Turnage St	Replace undersized culvert	\$ 81,294		Street CIP (2004-05)
WBB8		Culvert across Jasper Wy near intersection with Eola Dr	Replace undersized culvert	\$ 8,628		
WBB9		Along Eola Dr between Gehlar Rd and Sunwood Dr	Replace undersized pipe	\$ 91,452		Street CIP (2004-05)
WBB10		Barberry St between 23rd Ct and Eola Dr	Replace undersized pipe	\$ 101,065		Street CIP (2004-05)
WBB11		Eola Dr near intersection with Sunwood Dr	Add detention capacity at Woodhaven Detention Facility	\$ 748,850	Yes	
			Subtotal	\$ 4,011,097	-	
			Small conveyance improvement allowance	\$ 200,554.87	-	This allowance is 5% of the subtotal.
			Total (\$)	\$ 4,211,652		

1. INCLUDES ALLOWANCES FOR PERMITTING, ACQUISITION, PREDESIGN, AND FINAL DESIGN (15%), ADMINISTRATION (8%), CONSTRUCTION MANAGEMENT (9%) AND CONTINGENCY (40%).

Note: The 2000 West Bank basin also includes a Small conveyance improvement allowance equal to 5% of the basin subtotal.

Page 6-6

Questions: The chart below compares the original 2000 DSIP project list with the updated 2020 DSIP list.

## Four unexplained anomalies”

					Percent Increase
<b>1.</b> Why have the 2020 Project WBB11 costs been reduced?	WBB3	\$229,692	WBB3	\$402,283	75.14%
	WBB4	\$381,480	WBB4	\$668,124	75.14%
	WBB5	\$725,084	WBB5	\$1,269,912	75.14%
	WBB6	\$238,000	WBB6	\$416,833	75.14%
	WBB11	\$748,850	WBB11	\$177,005	-76.36%
	<b>Total</b>	<b>\$2,323,106</b>		<b>\$2,934,157</b>	<b>26.30%</b>
<b>2.</b> Why is the no Small conveyance improvement allowance included in Table 15.4?					
<b>3.</b> Why is the project multiplier 1.7514 rather than the stated 1.668 in the notes for Table 15.4?					
<b>4.</b> Table 6-9 does not include the 5% allowance. Does Table 15.4 include a 5% allowance?					

## Amy Johnson

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**From:** Robert Chandler  
**Sent:** Thursday, September 17, 2020 11:03 AM  
**To:** CityRecorder  
**Cc:** Judy Postier; Glenn Davis; Amy Johnson  
**Subject:** FW: Stormwater Master Plan update testimony  
**Attachments:** SW Draft 2020 vs Draft 2019.pdf

Hi Ruth,

One more from Mr. Easterly. He emailed it to the Mayor and all the councilors, but not to the City Recorder.

Robert

**Robert D. Chandler, PhD, PE**

*Assistant Public Works Director*

City of Salem | Public Works Department

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**From:** E Easterly <emeasterly@comcast.net>  
**Sent:** Thursday, September 17, 2020 8:33 AM  
**To:** Brad Nanke <BNanke@cityofsalem.net>; Cara Kaser <CKASER@cityofsalem.net>; Chuck Bennett <CBennett@cityofsalem.net>; Chris Hoy <CHoy@cityofsalem.net>; Jackie Leung <JLeung@cityofsalem.net>; Jim Lewis <JLewis@cityofsalem.net>; Matthew Ausec <MAUSEC@cityofsalem.net>; Tom Andersen <TAndersen@cityofsalem.net>; Vanessa Nordyke <VNordyke@cityofsalem.net>  
**Cc:** Robert Chandler <RChandler@cityofsalem.net>  
**Subject:** Stormwater Master Plan update testimony

Dear Council Member,

Attached please find my initial written testimony regarding the pending September 28th Council hearing on the proposed SWMP revision. Additional testimony has and will be submitted.

E.M.



To: Salem City Council  
From: E.M. Easterly  
Re: Pending Salem Stormwater Master Plan Update  
Date: September 17, 2020

I encourage you to carefully review the 236 pages of the proposed Draft Salem Stormwater Master Plan offered by City staff. The recommendations contained therein are a direct response to the Stormwater expenditure appeal you heard and denied on July 13<sup>th</sup>.

You may have chosen to ignore my July 13<sup>th</sup> Stormwater SDC expenditure appeal; staff has not. Below are two versions of the draft Stormwater Master Plan update.

- **The first** was published by the Public Works staff September 2019 prior to the November 2019 staff recommendation to purchase the Taybin land next to Wallace Marine Park.

**2019 Draft SWMP Policy 8.1 Stormwater Development Charges**

The City shall implement a stormwater development charge (SDC) methodology on new development to help pay for existing and planned stormwater infrastructure. The SDC methodology shall consider the costs related to stormwater conveyance, flow control, and treatment. The SDC methodology may incorporate adjustments to charges based on the types and locations of stormwater facilities.

Page 2-11 Sept 2019 Draft SWMP

- **The second** version was published September 11, 2020 in anticipation of the Sept 28<sup>th</sup> public hearing to update the 20-year-old Salem Stormwater Master Plan.

**2020 Draft SWMP Policy 8.1 Stormwater System Development Charges**

The City shall implement a stormwater system development charge (SDC) methodology on new development to help pay for eligible stormwater infrastructure. To the maximum extent feasible, the SDC methodology shall:

- (1) Incorporate growth costs related to stormwater conveyance, flow control, and treatment;
- (2) Allow for adjustment of growth units based on the types and locations of stormwater facilities used;
- (3) Minimize complexity of administering and calculating costs per unit of growth;
- (4) Calculate costs per unit of growth commensurate with historic expenditures per unit of non-growth; and
- (5) Provide for flexibility in expenditures, which will not be limited by watershed or basin, or the need for matching non-SDC funds."

Page 2-11/12 Sept 2020 Draft SWMP

- **Comparing the two Stormwater Master Plans**

The expanded language of the draft 2020 Stormwater Master Plan version is, after the fact, an effort by staff to justify their November 2019 recommendation to purchase the Taybin property even though, at that time of the recommendation, a land purchase using the 5% conveyance allowance Stormwater SDC funds was an illegal recommendation for two reasons:

- (a) The 5-percent small conveyance allowances were limited to and included in each of the nine separate stormwater basin revenue allocations. The 5% allowance was not as City Manager Powers and City staff have claimed a city-wide small projects allocation of stormwater SDC revenues.
- (b) The 5-percent small conveyance allowances were specifically described as:



“relatively smaller pipes (36 inches in diameter or smaller) and comparable open ditches; ... for these small conveyance system components ... 5% was added to the project total within each drainage basin ...”

Page 6-5 2000 SWMP

### • Stormwater Capacity Projects in Jeopardy

On September 28<sup>th</sup> Council is being asked to adopt the revised 2020 Stormwater Master Plan. This Plan version offers a major modification to the original intent of the Salem Stormwater Master Plan. The 5-percent small conveyance allowance, indeed, the entire SDC revenue stream will now become a city-wide slush fund unencumbered by a need for matching non-SDC funds or even require that the SDC revenues are to be spent on one of the adopted lists of 309 projects.

This change directly contradicts the original System Development Charge language which requires:

“Revenues generated through an SDCi must be used for constructing capital improvements that increase {Stormwater} capacity ...”

Page 4-3 2020 Draft SWMP

### • The Funding Flaws

The calculation of the new-development portion of stormwater capital improvements was adopted by the City in 2002. That adopted process calculated that just \$27,427,373 of the City's \$203,562,000 identified 309 project list or 13.43% of the \$203,562,000 were eligible for Stormwater SDC funding. The five-percent small conveyance allocation equals \$1,306,064. See chart below.

How much of the \$27 plus million has been spent over the last 20-years has not been published? How much the \$1.31 million 5% small conveyance allocation has been spent over the last 20-years has not been disclosed.

**Table 3 Data** 2002 Stormwater SDC Calculation  
pg 15

	Projects from SWMP Table 6-10	Attributed to Growth	5-percent small conveyance	Projects sans 5%	Growth % of Projects
Battle Creek	15,798,000	2,588,239	123,249	2,464,990	16.38%
Croisan Creek	8,764,000	1,614,126	76,863	1,537,263	18.42%
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Upper Claggett Creek	40,045,000	1,709,129	81,387	1,627,742	4.27%
West Bank	4,212,000	717,828	34,182	683,545	17.04%
<b>Total</b>	<b>203,562,000</b>	<b>27,427,373</b>	<b>1,306,064</b>	<b>26,121,308</b>	<b>13.47%</b>

As the proposed 2020 Stormwater Master Plan states: only eight (8) of the forty-one (41) 2000 Stormwater **priority** 309 projects have been accomplished in the last 20-years. Yet staff is recommending Council adopt a Stormwater Master Plan update that permits staff the ability to spend SDC revenue unconstrained by the current Salem Stormwater Master Plan policies or the obligations contained in ORS 223.309. That is what staff did last November when they illegally recommended using Stormwater SDC funds, which are by code restricted to constructing stormwater capital capacity improvements, to purchase land alongside Wallace Marine park

- **New Projects**

In so far as the draft 2020 Stormwater Master Plan contains new projects it is incumbent upon the City to revise the 309-list eligible for SDC revenue funding as required under ORS 223.307. Thus, the simple inflation calculus used to update eligible projects costs in the draft 2020 Stormwater Master Plan and the annual inflation review of Stormwater SDC fees are an inadequate update of Stormwater SDC charges to new-development. The City needs must include as an essential ingredient of any update to the Salem Stormwater Master Plan an updated version of the 2002 Stormwater SDC fee generation analysis based upon the new 309 project list. The 2020 draft Stormwater Master Plan before you does not do this.

- **Conclusion**

I encourage you to not adopt the current draft update to the Salem Stormwater Master Plan without clearly exploring the consequences of this new Stormwater Master Plan that provides staff carte blanche to recommend the expenditure of Stormwater SDC revenues without adherence to the spirit and intent of the State of Oregon Systems Development Charge legislation.

I urge you to return the draft 2020 Stormwater Master Plan to staff so that staff might address the incomplete and flawed elements in this well intended and, for the most part, thoughtful update to the Salem Stormwater Master Plan. As with similar complex projects the devil is in the details; for example, in addition issues raised above, the numerical values offered in the 2020 draft Stormwater Master Plan update simply do not add up.