CLACKAMAS RIVER WATER
BOARD OF COMMISSIONERS
WORK SESSION
February 22, 2021 at 6:00pm
THIS MEETING WILL HAVE REMOTE ACCESS VIA ZOOM*
AGENDA
16770 SE 82nd Drive, Clackamas, OR 97015

Clackamas River Water

To protect the health of our customers, staff, and commissioners, CRW's Board of Commissioners and most of its staff will attend this meeting through an online Zoom meeting. Anyone who wishes to attend the meeting may do so by internet at https://us02web.zoom.us/j/86720995176 or by calling the following number 12532158782 and join meeting 86720995176#. Passcode: 292307

Work Session @ 6:00pm

Call to Order, Roll Call

1. **System Development Charge (SDC) Discussion-** *Carol Bryck, Chief Financial Officer & Sergey Tarasov with FCS Group*
2. **Capital Planning Update-***Adam Bjornstedt, Chief Engineer & Carol Bryck, Chief Financial Officer*
3. **Progress Update on the 2020 Board Goals for the General Manager-** *Todd Heidgerken, General Manager*
4. **Commissioner Communications-** *CRW Board of Commissioners*
5. **General Manager Update-** *Todd Heidgerken, General Manager*

Public Comment

Adjourn Work Session

Work Session Reminders:

a. Work Session – audio only
b. No decisions will be made by the CRW Board
c. Staff may get direction or a sense of the board on key issues
d. Members of the public are allowed to attend but not participate *(public comment provided at the end of the session)*

The meeting location is accessible to persons with disabilities. A request for accommodations for persons with disabilities should be made at least 48 hours before the meeting to Adora Campbell (503) 722-9226.

Agenda Item – 1

CLACKAMAS RIVER WATER

BOARD WORK SESSION

February 22, 2021

SUBJECT	System Development Charge (SDC) Discussion
PRINCIPAL STAFF PERSON	Carol Bryck, Chief Financial Officer
DOCUMENTS ATTACHED	Methodology memo from FCS Group PowerPoint Presentation from FCS Group

Agenda Summary

BACKGROUND

System Development Charges (SDC) are one-time fees charged to help pay for water system growth related needs. SDCs are paid when a new or larger water meter is requested. The amount of an SDC is based on the use of a methodology to calculate the reimbursement fee and an improvement fee.

The SDC methodology used by CRW was last updated in 1997 with Ordinance 01-97 which was effective February 1, 1998. The Ordinance included a mechanism to increase the SDC rates using the Seattle Engineering News Record (ENR) Construction index. The SDC rates are updated annually in July.

In May 2020, CRW contracted with FCS Group to update the SDC methodology using the recent Water System Master Plan as the basis for the charges. Adam Bjornstedt and I have been working with Sergey Tarasov of FCS Group to clarify and identify components of the SDC rate calculation.

The work session presentation provides an opportunity to our consultant and staff to provide an overview of the updated methodology with the Board prior to considering adoption at a future Board meeting. The Board will also have an opportunity to ask questions. A SDC methodology is adopted by Ordinance which requires two readings. Staff is preparing to have an SDC Rate Hearing and the first reading of the ordinance at the March 11, 2021 regular meeting. The second reading and request for final adoption of the Ordinance will be scheduled for May 13, 2021. The SDC rates as adopted will be effective in July 2021.

Clackamas River Water

Clackamas River Water

WATER SYSTEM DEVELOPMENT CHARGE UPDATE

FINAL REPORT
February 2021

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FCS GROUP
Solutions-Oriented Consulting

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GLOSSARY

ADD	average day demand
AWWA	American Water Works Association
CAAGR	compounded average annual growth rate
CCI	construction cost index
CIAC	contribution in aid of construction
CWIP	construction work in progress
CRW	Clackamas River Water District
EHU	equivalent housing unit
ENR	engineering news record
FY:	fiscal year starting July 1 and going through June 30
GPD	gallons per day
GPM	gallons per minute
MCE	meter capacity equivalent
MDD	maximum day demand
MG	million gallons
MGD	million gallons per day
M&S	meters and services
ORS	Oregon Revised Statutes
R&R	renewal and replacement
SDC	system development charge
SFR	single family residential
T&D	transmission and distribution
WSMP	Water System Master Plan

INTRODUCTION

In April 2019, Carollo Engineers, Inc. (Engineer) finalized the development of the Water System Master Plan (WSMP) for Clackamas River Water's (CRW) North and South Water Systems. Following the completion of the WSMP, in 2020 CRW engaged FCS GROUP to update their system development charges (SDCs) based on the capital improvement plan and capacity information included in the WSMP.

SYSTEM DEVELOPMENT CHARGE BACKGROUND

Oregon Revised Statutes (ORS) 223.297 to 223.314 authorize local governments to establish system development charges (SDCs), one-time fees on new development paid at the time of development. SDCs are intended to recover a fair share of the cost of existing and planned facilities that provide capacity to serve future growth.

ORS 223.299 defines two types of SDCs:

- A *reimbursement fee* designed to recover "costs associated with capital improvements already constructed, or under construction when the fee is established, for which the local government determines that capacity exists"
- An *improvement fee* designed to recover "costs associated with capital improvements to be constructed"

ORS 223.304(1) states, in part, that a reimbursement fee must be based on "the value of unused capacity available to future system users or the cost of existing facilities" and must account for prior contributions by existing users and any gifted or grant-funded facilities. The calculation must "promote the objective of future system users contributing no more than an equitable share to the cost of existing facilities." A reimbursement fee may be spent on any capital improvement related to the system for which it is being charged (whether cash-financed or debt-financed) and on the costs of compliance with Oregon's SDC law.

ORS 223.304(2) states, in part, that an improvement fee must be calculated to include only the cost of projected capital improvements needed to increase system capacity for future users. In other words, the cost of planned projects that correct existing deficiencies or do not otherwise increase capacity for future users may not be included in the improvement fee calculation. An improvement fee may be spent only on capital improvements (or portions thereof) that increase the capacity of the system for which it is being charged (whether cash-financed or debt-financed) and on the costs of compliance with Oregon's SDC law.

SDC CALCULATION

OVERVIEW

In general, SDCs are calculated by adding a reimbursement fee component and an improvement fee component—both with potential adjustments. Each component is calculated by dividing the eligible cost by available future capacity in units of demand. The unit of demand becomes the basis of the charge. **Table 1** shows this calculation in equation format:

Table 1. SDC Calculation

Eligible Costs of Available Capacity in Existing Facilities	+	Eligible Costs of Capacity Increasing Capital Improvements	=	SDC per Unit of Available Future Capacity
Units of Available Future Capacity		Units of Available Future Capacity		

REIMBURSEMENT FEE

The reimbursement fee is the cost of available capacity per unit of available future capacity. In order for a reimbursement fee to be calculated, unused capacity must be available to serve future growth. For facility types that do not have available capacity, no reimbursement fee may be calculated.

IMPROVEMENT FEE

The improvement fee is the cost of planned capacity-increasing capital projects per unit of capacity that those projects will provide for future users. In reality, the capacity added by many projects serves a dual purpose of both meeting existing demand and serving future growth. To compute a compliant improvement fee, capacity enhancing related costs must be isolated, and costs related to meeting current demand must be excluded.

The capacity approach to allocate costs to the improvement fee basis was used. Under this approach, the cost of a given project is allocated to growth by the portion of total project capacity that represents capacity for future users. That portion, referred to as the improvement fee eligibility percentage, is multiplied by the total project cost for inclusion in the improvement cost basis.

Adjustments to the Cost Basis

All accumulated SDC revenue currently available in fund balance is deducted from its corresponding cost basis. This practice prevents a jurisdiction from double-charging for projects that were in the previous methodology's improvement fee cost basis but have not yet been constructed. For this analysis it was assumed that the entire SDC fund balance was associated with the improvement fee and deducted from the improvement fee cost basis. The adjustment described above does not impact CRW's existing credit policy.

CUSTOMER BASE & CAPACITY

The available future capacity calculation is the basis by which an SDC is charged. The charge basis should approximate a pro rata share of total system costs (that is, charges that accurately reflect a customer's demand for system capacity). For water utilities, this is often related to either *potential demand* or *estimated demand*. Estimated demand is often approximated by converting such factors as customer type and customer size into **equivalent housing units (EHUs)** based on *projected water use*, while potential demand is often measured by meter size or other surrogates for *maximum potential demand*.

Water systems, generally, must be sized to meet potential demand. For example, while the estimated demand for a commercial establishment served by a 1-inch meter may be no different than that of a customer served by a 5/8-inch meter, its potential is 2.5 times that of the smaller meter (based on American Water Works Association safe operating capacity by meter size) because of the additional flow capacity. There are exceptions a water utility may consider when serving customers that require large volumes without significant peaking.

For this analysis the charges are calculated in both potential demand, expressed in **meter capacity equivalents (MCEs)**, and estimated demand, expressed in EHUs.

EXISTING DEMAND

Potential Demand and MCE Calculation

According to CRW's records, the water utility had 12,458 accounts in fiscal year (FY) 2020. The standard meter size for CRW is a 3/4-inch meter, which equates to 1 MCE. Applying the MCE flow factor ratios utilizing 3/4-inch equivalents by meter size results in 16,223 MCEs in FY 2020. **Table 2** provides a summary of meter-based accounts, flow factors and MCEs. (The MCE calculation used is based on American Water Works Association (AWWA) flow factors, proportionate to a 3/4-inch safe operating flow capacity).

Table 2. FY 2020 Customer Data

Meter	Accounts FY2020	MCE Factor (3/4" Equivalent)	MCEs (FY2020)
3/4"	11,205	1.00	11,205
1"	750	1.67	1,250
1 1/2"	181	3.33	603
2"	246	5.33	1,312
3"	37	10.67	395
4"	19	16.67	317
6"	12	33.33	400
8"	2	53.33	107
10"	4	76.67	307
12"	1	112.50	113
18"	1	215.12	215
Total	**12,458**		**16,223**

Notes:

1. Flow factors based on AWWA Standards, 1984 and 1990.
2. Flow factors for 18" meter are based on regression analysis utilizing smaller meter size data.
3. Includes wholesale accounts.

Estimated Demand and EHU Calculation

From the WSMP, *Tables 3.13 Projected Parameters* provided the definition of EHUs for each system. This analysis used the medium definition of 166 gallons per day (gpd) per EHU for the north system and 253 gpd per EHU for the south system. The charges developed for this SDC update are system wide; therefore, a system wide weighted average gpd per EHU was derived using additional WSMP data.

Section *3.5.2.1 of the WSMP* defined the medium scenario for an EHU as the average single family residential (SFR) gpd for the prior 4-year period. In order to calculate the system wide average gpd per EHU, historical system specific data for SFR customers was utilized. The SFR accounts for each system were multiplied by gpd per EHU for that specific system, and number of days per year to estimate total demand. The north and south demand by year was combined and divided by combined SFR accounts and number of days per year. The latest 4-year gpd per EHU were averaged to estimate a system wide average of 202 gpd per EHU. **Table 3** provides the summary of the system wide average calculation for CRW.

Table 3. System Wide Average EHU

Year	North			South			Total System		
	gpd/EHU	SFR Accounts	Est. Demand	gpd/EHU	SFR Accounts	Est. Demand	Est. Demand	SFR Accounts	gpd/EHU
2013	169	6,709	413,844,665	245	4,920	439,971,000	853,815,665	11,629	201
2014	167	6,687	407,606,085	245	4,893	437,556,525	845,162,610	11,580	200
2015	166	6,754	409,224,860	269	4,901	481,204,685	890,429,545	11,655	209
2016	160	6,888	403,361,280	252	4,922	453,965,904	857,327,184	11,810	198
4-Year Average	166			253					202

Notes:

1. Tables 3.8 of the North and South WSMP were used for SFR account data.
2. Tables 3.13 of the WSMP were used for the gpd/EHU data.
3. Estimated demand was calculated by multiplying gpd/EHU by SFR and number of days in a year accounting for 2016 leap year.

To calculate existing FY 2020 EHUs, the data from the north and south WSMP tables *3.16* (north) *Projects Summary – Medium Scenario* and *3.15 South System Demand Projection Summary – Medium Scenario* was used. The tables provided EHUs, average day demand (ADD) and maximum day demand (MDD) for the years of 2017, 2028 and 2038. The EHU and gpd/EHU data were used to calculate the system wide EHU projections for 2017, 2028 and 2038. The weighted annual average compounding growth rate was calculated using the 2017 and 2028 projections and applied to the 2017 figures to estimate FY 2020 system wide EHUs of 40,193. **Table 4** provides the summary of the system wide calculation of the FY 2020 EHUs.

Table 4. FY 2020 System Wide EHUs

Year	2017	2028	2038
North EHUs	37,802	40,612	42,653
North gpd/EHU	166	166	166
North Demand - gpd	**6,275,132**	**6,741,592**	**7,080,398**
South EHUs	6,578	7,535	8,691
South gpd/EHU	253	253	253
South Demand - gpd	**1,664,234**	**1,906,355**	**2,198,823**
Total Demand - gpd	**7,939,366**	**8,647,947**	**9,279,221**
System Wide gpd/EHU	202	202	202
System Wide EHUs	**39,267**	**42,771**	**45,893**
CAAGR	0.78%		

Fiscal Year	*EHUs*	*CAAGR*	*EHU w. CAAGR*
2017	39,267	0.78%	39,573
2018	39,573	0.78%	39,882
2019	39,882	0.78%	40,193
2020	40,193		

FY 2020 Estimated EHUs	**40,193**

Notes:

1. System specific EHU data is from tables 3.16 (north) and 3.15 (south) of the north and south WSMP.
2. CAAGR - cumulative annual average growth rate.

FUTURE ALLOCABLE CUSTOMER BASE

Based on the review of the north and south WSMP, CRW's existing system can support varying levels of capacity based on the function of service of the system. Capacity information was provided for the following functions:

1. Supply / Treatment
2. Pumping
3. Storage

Supply / Treatment

From the WSMP, *Chapter 5 – Water Supply – North System* indicates that CRWs existing treatment plant was designed to support 30.0 million gallons per day (mgd). Due to operational constraints, the operational capacity is limited to 23.0 mgd (rounded) as identified in *Section 5.3.1 Comparison of*

Projected Demand to Available Sources. Comparing 23.0 mgd supply / treatment capacity to the existing MDD of 16.0 mgd, identified in Table 5.2 of the north WSMP, indicates that the system currently has 30.4 percent of unused capacity.

Utilizing the unused capacity of 30.4 percent for supply / treatment and existing EHU and MCE figures of 40,193 EHUs and 16,223 MCEs, future available capacity was calculated as identified in **Table 5**.

Table 5. Supply / Treatment Existing and Unused Capacity in EHUs and MCEs

Supply / Treatment	mgd	% Share
Operational capacity	**23.00**	**100.0%**
Maximum day demand	16.00	69.6%
Unused capacity	7.00	**30.4%**

Supply / Treatment	MCEs	% Share
Existing	16,223	69.6%
Future (unused)	**7,097**	**30.4%**
Total	**23,320**	**100.0%**

Supply / Treatment	EHUs	% Share
Existing	40,193	69.6%
Future (unused)	**17,584**	**30.4%**
Total	**57,777**	**100.0%**

Existing EHUs of 40,193 and MCEs of 16,223 were divided by the current utilized supply / treatment capacity share of 69.6 percent to estimate the total supply / treatment capacity expressed in EHUs and MCEs. The net difference between the total capacity EHUs of 57,777 and MCEs of 23,320 and existing EHUs of 40,193 and MCEs 16,223, respectively, was calculated to be the unused share of existing available supply / treatment capacity, which is 17,584 EHUs and 7,097 MCEs.

The WSMP for either system does not include capacity enhancing supply treatment projects; therefore, future available capacity EHUs of 17,584 and MCEs of 7,097 remain the same under the existing system and after the improvements identified in the CIPs are implemented.

Pumping

Chapter 6 of both WSMPs provided the firm and required capacities for each booster pumping station. The CIP in the WSMPs did include projects associated with expanding capacity. **Tables 6 and 7** provide the summary of existing and future firm and required capacities as well as pumping capacity expressed in EHUs and MCEs, using data for planning year 2019 from the WSMP.

Table 6. Pumping Firm and Required Capacity

Pumping	Required Exist. (gpm)	Existing Firm (gpm)	Future Firm (gpm)
Mather	11,338	15,300	18,900
Otty	2,427	4,500	4,500
Kirkwood	41	-	100
Redland-Mather	2,900	3,889	3,889
Beavercreek	1,575	2,083	2,083
Henrici	478	750	750
Holcomb	684	-	-
Barlow	53	-	-
Hunter Heights	1,045	430	1,130
Total	**20,541**	**26,952**	**31,352**

Notes:

1. Otty represents 90th and Harmony.
2. Redland-Mather's pumping is performed through the Hattan Pump Station.

Table 7. Pumping Existing and Future Available Capacity in EHUs and MCEs

Pumping	gpm	% Share
Existing required capacity	20,541	76.2%
Existing available capacity	6,411	23.8%
Existing firm capacity	**26,952**	**100.0%**

Existing required capacity	20,541	65.5%
Future available capacity	10,811	34.5%
Future firm capacity	**31,352**	**100.0%**

Pumping - Existing Available	MCEs	% Share
Existing	16,223	76.2%
Future (unused)	5,063	23.8%
Total	**21,286**	**100.0%**

Pumping - Existing Available	EHUs	% Share
Existing	40,193	76.2%
Future (unused)	12,544	23.8%
Total	**52,737**	**100.0%**

Pumping - Future Available	MCEs	% Share
Existing	16,223	65.5%
Future	8,538	34.5%
Total	**24,761**	**100.0%**

Pumping - Future Available	EHUs	% Share
Existing	40,193	65.5%
Future	21,154	34.5%
Total	**61,347**	**100.0%**

Similar to the supply / treatment discussion above, existing EHUs of 40,193 and MCEs of 16,223 were divided by the current utilized pumping capacity share of 76.2 percent to estimate the total pumping capacity expressed in EHUs and MCEs. The net difference between the total existing pumping capacity EHUs of 52,737 and MCEs of 21,286 and existing EHUs of 40,193 and MCEs of 16,223, respectively, was calculated to be the unused share of existing available pumping capacity, which is 12,544 EHUs or 5,063 MCEs.

Once the CIPs in the WSMPs are implemented, the available future pumping capacity will increase to 34.5 percent compared to the existing capacity of 23.8 percent. Performing the same calculation discussed above will result in future available pumping capacity of 21,154 EHUs or 8,538 MCEs.

Storage

Chapter 6 of both WSMPs provided the existing and required storage capacity. Similar to the supply / treatment function, the CIP in the WSMPs did not include projects associated with expanding capacity. **Tables 8 and 9** provide the summary of existing and future storage capacity and requirements as well as storage capacity expressed in EHUs and MCEs, using data for planning year 2019 from the WSMP.

Table 8. Storage Required and Available Capacity

Storage	Existing Required (MG)	Existing Available MG
Mather	6.83	14.00
Otty	5.51	6.80
Henrici	1.21	1.55
Beavercreek	1.85	3.50
Redland-Mather	1.23	2.00
Hunter Heights	1.05	1.20
Barlow	0.27	0.23
Total	**17.95**	**29.28**

Notes:

1. MG capacities may include rounding.
2. Based on WSMP, Beavercreek Elevated Reservoir is counted as available capacity, but only if added withing the first 10-year window.

Table 9. Storage Existing and Unused Capacity in EHUs and MCEs

Storage	MG	% Share
Existing required	17.95	61.3%
Existing available capacity	11.33	38.7%
Existing firm capacity	**29.28**	**100.0%**

Storage	MCEs	% Share
Existing	16,223	61.3%
Future (unused)	10,240	38.7%
Total	**26,462**	**100.0%**

Storage	EHUs	% Share
Existing	40,193	61.3%
Future (unused)	25,370	38.7%
Total	**65,562**	**100.0%**

Consistent with the supply / treatment and pumping sections, existing EHUs of 40,193 and MCEs of 16,223 were divided by the current utilized storage capacity share of 61.3 percent to estimate the total storage capacity expressed in EHUs and MCEs. The net difference between the total storage capacity EHUs of 65,562 and MCEs of 26,462 and existing EHUs of 40,193 and MCEs of 16,223, respectively, was calculated to be the unused share of existing available storage capacity, which is 25,370 EHUs and 10,240 MCEs.

The WSMP for either system does not include capacity enhancing storage projects; therefore, future available capacity EHUs of 25,370 and MCEs of 10,240 remain the same under the existing system and after the improvements identified in the CIPs are implemented.

REIMBURSEMENT FEE BASIS

COST BASIS

The reimbursement fee is the eligible cost of available capacity per unit of growth that such available capacity will serve. Calculation of the reimbursement fee begins with the historical cost of assets or recently completed projects that have unused capacity to serve future users. For each asset or project, the eligible cost is the cost portion of the asset or project that is available to serve future users.

To avoid charging future development for facilities provided at no cost to CRW or its ratepayers, the reimbursement fee cost basis must be reduced by any grants or contributions used to fund the assets or projects included in the cost basis. Furthermore, unless a reimbursement fee will be specifically used to pay debt service, the reimbursement fee cost basis should be reduced by any outstanding debt related to the assets or projects included in the cost basis to avoid double charging for assets paid for by debt service in the rates.

CRW's records list $115,882,793 in water fixed assets, net of small vehicles, and $10,482,495 in construction work in progress as of the end of FY 2020. These assets were then allocated into six functional categories:

1. Supply / treatment
2. Pumping
3. Storage
4. Transmission & distribution
5. Meters & services
6. General

It was determined that in five of these six categories there was available capacity for future users. The meters & services category was deducted since it is paid for through a separate fee. Customer Base & Capacity Section of this report provides the available existing capacity to future users for the supply / treatment, pumping and storage functions. The WSMP did not provide equivalent information for the transmission and distribution function; therefore, it was assumed that the transmission and distribution assets are sized to support the available supply / treatment capacity. The general assets were assumed to be in support of the rest of the system and allocated as all other allocable assets. **Table 10** provides the summary of existing capacity available to future users by function of service.

Table 10. Available Existing System Capacity

Available Existing Unused Capacity	Supply / Treatment	Pumping	Storage	Trans. & Distribution
% Available unused capacity	30.43%	23.79%	38.70%	30.43%

Notes:

1. Supply / treatment identified in table 5 of this report.
2. Pumping identified in table 7 of this report.
3. Storage identified in table 9 of this report.
4. Transmission & distribution assumed to be equivalent to supply / treatment.

REIMBURSEMENT FEE COST BASIS CALCULATION

The reimbursement fee cost is calculated by multiplying the capacity share of each asset category by the net asset value (original cost less contributions) of that category. General plant is allocated as the total capacity share of all other assets. **Table 11** provides the summary of the reimbursement fee cost basis calculation.

Table 11. Net Reimbursement Fee Cost Basis

Reimbursement Fee Cost Basis	Supply / Treatment	Pumping	Storage	T&D	M&S	General	Total
Plant in service	$ 17,671,328	$ 9,197,963	$ 11,201,208	$ 65,912,412	$ 5,396,797	$ 6,503,085	$ 115,882,793
plus: CWIP	167	45,843	9,390,467	1,077,227	-	(31,209)	10,482,495
less: Meters & services					(5,396,797)		(5,396,797)
less: CIAC	(6,589)	(6,590)	(17,591)	(11,856,238)			(11,887,008)
Net plant in service	**$ 17,664,905**	**$ 9,237,217**	**$ 20,574,084**	**$ 55,133,400**	**$ -**	**$ 6,471,876**	**$ 109,081,483**
Reallocation of General	1,114,175	582,617	1,297,665	3,477,418		(6,471,876)	-
Adjusted net plant in service	**$ 18,779,080**	**$ 9,819,834**	**$ 21,871,749**	**$ 58,610,819**	**$ -**	**$ -**	**$ 109,081,483**
Unused capacity	30.43%	23.79%	38.70%	30.43%			
Reimbursement fee cost basis	**$ 5,715,376**	**$ 2,335,818**	**$ 8,463,351**	**$ 17,838,075**	**$ -**	**$ -**	**$ 34,352,620**
less: unused share of existing debt	(958,023)	(306,010)	(1,803,693)	(2,990,057)			(6,057,783)
Net reimbursement fee cost basis	**$ 4,757,352**	**$ 2,029,808**	**$ 6,659,659**	**$ 14,848,018**	**$ -**	**$ -**	**$ 28,294,837**

Notes:

1. Capacity percentages are not rounded, which may cause differences if applying them to the second decimal point.

IMPROVEMENT FEE BASIS

COST BASIS

An improvement fee is the eligible cost of planned projects per unit of future capacity that such projects will serve. For this section, capital improvement information was obtained from Chapter 8 of both North and South WSMP.

IMPROVEMENT FEE COST BASIS CALCULATION

The improvement fee cost basis is based on a specific list of planned capacity-increasing capital improvements. The portion of each project that can be included in the improvement fee cost basis is determined by the extent to which each new project creates capacity for future users. **Tables 12, 13 and 14** show project specific and summary improvement fee cost basis information.

Table 12. Net Improvement Fee Cost Basis

Improvement Fee Cost Basis	Supply / Treatment	Pumping	Storage	T&D	M&S	General	Total
Total capital improvement program	$ 500,000	$ 6,374,000	$ 8,250,000	$ 291,074,000		$ 800,000	306,998,000
less: renewal and replacement share	(347,826)	(5,039,003)	(7,572,831)	(253,531,565)		(530,459)	(267,021,684)
Net capital improvement program	**$ 152,174**	**$ 1,334,997**	**$ 677,169**	**$ 37,542,435**	**$ -**	**$ 269,541**	**$ 39,976,316**
Reallocaton of General	1,033	9,062	4,597	254,849		(269,541)	-
Adjusted capital improvement program	**$ 153,207**	**$ 1,344,060**	**$ 681,766**	**$ 37,797,284**	**$ -**	**$ -**	**$ 39,976,316**
less: improvement SDC fund balance	(5,974)	(52,405)	(26,582)	(1,473,724)			(1,558,685)
Net improvement fee cost basis	**$ 147,233**	**$ 1,291,655**	**$ 655,183**	**$ 36,323,559**	**$ -**	**$ -**	**$ 38,417,631**

Notes:

1. Capacity percentages are not rounded, which may cause differences if applying them to the second decimal point.

Note, the net capital improvement program is reduced by any improvement fee revenue currently held by CRW to avoid double-charging for projects that were in the previous methodology's improvement fee cost-basis, and are also in the current WSMP, but have not yet been constructed.

Table 13. Project Specific North System Portion of the Improvement Cost Basis

Project	Description - North System Projects	Total	Type Capacity	Type R&R	Type Improvement	Function	Capacity Share of Improvement	Total Eligible (Future Capacity)	Estimated Timing
	General								
G-01	Water Treatment Plant And Seismic Facility Plan	$ 250,000	0%	0%	100%	Supply / Treatment	30.43%	$ 76,087	1-5 years
G-02	2028 Water System Master Plan	200,000	0%	0%	100%	General	33.69%	67,385	5-10 years
G-03	2038 Water System Master Plan	200,000	0%	0%	100%	General	33.69%	67,385	11-20 years
	Programmatic								
P-01	Repair & Replacement Pipeline Program	55,143,000	0%	100%	0%	T&D	30.43%	-	1-20 years
P-02	Seismic System Pipeline Program	65,011,000	0%	100%	0%	T&D	30.43%	-	11-20 years
	Pressure Zone								
PZ-01	Mather Zone low pressure area near Kirkwood zone	44,000	0%	0%	100%	Pumping	34.48%	15,172	11-20 years
	Storage								
ST-01	Seismic Isolation Valves at Exiting Tanks	1,050,000	0%	0%	100%	Storage	38.70%	406,301	5-10 years
ST-02	Storage Condition Evaluation	250,000	0%	100%	0%	Storage	38.70%	-	11-20 years
ST-03	Storage Repair & Rehabilitation	1,000,000	0%	100%	0%	Storage	38.70%	-	11-20 years
	Pump Station								
PS-01	High Lift Pump Station	525,000	100%	0%	0%	Pumping	34.48%	525,000	5-10 years
PS-02	Kirkwood Pump Station	76,000	0%	0%	100%	Pumping	34.48%	26,207	11-20 years
PS-04	Pump Station Condition Evaluation	250,000	0%	100%	0%	Pumping	34.48%	-	11-20 years
PS-05	Pump Station Repair & Rehabilitation	3,000,000	0%	100%	0%	Pumping	34.48%	-	11-20 years
	Distribution Pipeline								
D-01	SE Jennsen Rd	121,000	0%	100%	0%	T&D	30.43%	-	11-20 years
D-02	SE Flavel Dr Pipe Upsize	277,000	0%	0%	100%	T&D	30.43%	84,304	11-20 years
D-03	Johnson Creek Blvd New Pipe	935,000	0%	0%	100%	T&D	30.43%	284,565	1-5 years
D-04	Springwater Corridor New Pipe	347,000	0%	0%	100%	T&D	30.43%	105,609	11-20 years
D-05	SE 72nd Ave Pipe Upsize	341,000	0%	0%	100%	T&D	30.43%	103,783	11-20 years
D-06	SE Catalina Ln and SE Pembroke Ct Pipe Upsize	332,000	0%	50%	50%	T&D	30.43%	50,522	11-20 years
D-07	SE 75th Ct Pipe Upsize	125,000	0%	0%	100%	T&D	30.43%	38,043	11-20 years
D-08	SE Sunnyside Rd at Clackamas Promenade Pipe Upsize	73,000	0%	0%	100%	T&D	30.43%	22,217	11-20 years
D-09	SE Ryan Ct Pipe Upsize	102,000	0%	50%	50%	T&D	30.43%	15,522	11-20 years
D-10	SE Kuehn Rd/SE Aldercrest Dr New Pipe	506,000	0%	50%	50%	T&D	30.43%	77,000	11-20 years
D-11	SE Rusciff Rd and SE Eric St Pipe Upsize	735,000	0%	0%	100%	T&D	30.43%	223,696	11-20 years
D-12	SE Parmenter Ct Pipe Upsize	258,000	0%	0%	100%	T&D	30.43%	78,522	11-20 years
D-13	SE Thiessen Rd and SE Oatkin Rd Pipe Upsize	509,000	0%	0%	100%	T&D	30.43%	154,913	11-20 years
D-14	SE Wilshire Ct Pipe Upsize	220,000	0%	50%	50%	T&D	30.43%	33,478	11-20 years
D-15	SE Webster Rd Pipe Upsize	185,000	0%	50%	50%	T&D	30.43%	28,152	11-20 years
D-16	SE Stohler Rd Pipe Upsize	182,000	0%	0%	100%	T&D	30.43%	55,391	11-20 years
D-17	SE Brentwood Ct Pipe Upsize	78,000	0%	0%	100%	T&D	30.43%	23,739	11-20 years
D-18	SE Rofini St Pipe Upsize	207,000	0%	0%	100%	T&D	30.43%	63,000	11-20 years
D-19	SE 55th Ave Pipe Upsize	193,000	0%	0%	100%	T&D	30.43%	58,739	11-20 years
D-20	82nd Drive Replacement (2)	3,018,000	0%	100%	0%	T&D	30.43%	-	5-10 years
D-21	HLPS to 152nd Ave Reservoir New Pipe	15,052,000	100%	0%	0%	T&D	30.43%	15,052,000	1-5 years
D-22	82nd Drive Replacement (1)	438,000	0%	100%	0%	T&D	30.43%	-	1-5 years
D-23	Manfield / Strawberry Lane / Kirkwood PS / Kirkwood Rd.	1,313,000	0%	100%	0%	T&D	30.43%	-	5-10 years
D-24	Roots Road - Hwy I 205 Crossing	443,000	0%	100%	0%	T&D	30.43%	-	5-10 years
D-25	SE Thiessen Road	533,000	0%	50%	50%	T&D	30.43%	81,109	11-20 years
D-26	Johnson St Improvements	145,000	0%	0%	100%	T&D	30.43%	44,130	11-20 years
D-27	82nd Avenue Replacement (3)	4,900,000	0%	50%	50%	T&D	30.43%	745,652	5-10 years
D-28	Lake Rd To Ambler Rd	546,000	0%	100%	0%	T&D	30.43%	-	5-10 years
D-29	SE Orchid Ave	64,000	0%	100%	0%	T&D	30.43%	-	11-20 years
D-30	SE Jennings Ave New Pipe	506,000	0%	50%	50%	T&D	30.43%	77,000	11-20 years
Total North System Projects		**$ 159,683,000**	**$ 15,577,000**	**$ 134,239,000**	**$ 9,867,000**		**$ 3,107,625**	**$ 18,684,625**	

Table 14. Project Specific South System Portion of the Improvement Cost Basis

Project	Description - South System Projects	Total	Type Capacity	Type R&R	Type Improvement	Function	Capacity Share of Improvement	Total Eligible (Future Capacity)	Estimated Timing
	General								
D-01	Water Treatment Plant And Seismic Facility Plan	250,000	0.00%	0.00%	100.00%	Supply / Treatment	30.43%	$ 76,087	1-5 years
D-02	2028 Water System Master Plan	200,000	0.00%	0.00%	100.00%	General	33.69%	67,385	5-10 years
D-03	2038 Water System Master Plan	200,000	0.00%	0.00%	100.00%	General	33.69%	67,385	11-20 years
	Programmatic								
P-01	Repair & Replacement Pipeline Program	22,953,000	0.00%	100.00%	0.00%	T&D	30.43%	-	1-20 years
P-02	Seismic System Pipeline Program	41,976,000	0.00%	100.00%	0.00%	T&D	30.43%	-	11-20 years
	Pressure Zone								
PZ-02	New Beavercreek Pressure Zone	1,879,000	0.00%	0.00%	100.00%	Pumping	34.48%	647,929	11-20 years
	Storage								
ST-01	Seismic Isolation Valves at Existing Tanks	700,000	0.00%	0.00%	100.00%	Storage	38.70%	270,867	5-10 years
ST-02	Storage Condition Evaluation	250,000	0.00%	100.00%	0.00%	Storage	38.70%	-	11-20 years
ST-03	Storage Repair & Rehabilitation	5,000,000	0.00%	100.00%	0.00%	Storage	38.70%	-	11-20 years
	Pump Station								
PS-03	Hunger Heights Pump Station	350,000	0.00%	0.00%	100.00%	Pumping	34.48%	120,689	11-20 years
PS-04	Pump Station Condition Evaluation	250,000	0.00%	100.00%	0.00%	Pumping	34.48%	-	11-20 years
PS-05	Pump Station Repair & Rehabilitation	-	0.00%	100.00%	0.00%	Pumping	34.48%	-	11-20 years
	Distribution Pipeline								
D-31	Barlow Crest New Pipe	1,194,000	0.00%	0.00%	100.00%	T&D	30.43%	363,391	11-20 years
D-32	S Brunner Rd Pipe Upsize	1,207,000	0.00%	50.00%	50.00%	T&D	30.43%	183,674	11-20 years
D-33	Forsythe Road (1)	966,000	0.00%	100.00%	0.00%	T&D	30.43%	-	1-5 years
D-34	Forsythe Road (2)	886,000	0.00%	100.00%	0.00%	T&D	30.43%	-	1-5 years
D-35	Bradley Road	664,000	0.00%	100.00%	0.00%	T&D	30.43%	-	1-5 years
D-36	S Overlook Rd Pipe	945,000	0.00%	50.00%	50.00%	T&D	30.43%	143,804	11-20 years
D-37	S Archer Dr Pipe Upsize	134,000	0.00%	0.00%	100.00%	T&D	30.43%	40,783	11-20 years
D-38	S Holcomb Blvd Pipe Upsize	675,000	0.00%	0.00%	100.00%	T&D	30.43%	205,435	11-20 years
D-39	E Edgewood St Pipe Upsize	389,000	0.00%	50.00%	50.00%	T&D	30.43%	59,196	1-5 years
D-40	S Dick Dr and S Lucky Ln Pipe Upsize	1,601,000	0.00%	50.00%	50.00%	T&D	30.43%	243,630	11-20 years
D-41	S Clear Acres Dr Pipe Upsize	348,000	0.00%	0.00%	100.00%	T&D	30.43%	105,913	11-20 years
D-42	S Sandalwood Rd and S Brook Ct Pipe Upsize	1,022,000	0.00%	50.00%	50.00%	T&D	30.43%	155,522	11-20 years
D-43	WS Wildflower Ln and S Pam Dr Pipe Upsize	620,000	0.00%	0.00%	100.00%	T&D	30.43%	188,696	11-20 years
D-44	S Neibur Rd Pipe Upsize	1,788,000	0.00%	0.00%	100.00%	T&D	30.43%	544,174	11-20 years
D-45	S Redland Rd New Pipe	2,010,000	0.00%	0.00%	100.00%	T&D	30.43%	611,739	11-20 years
D-46	SE Beckman Rd New Pipe	980,000	0.00%	50.00%	50.00%	T&D	30.43%	149,130	11-20 years
D-47	S Burkstrom Rd Pipe Upsize	301,000	0.00%	50.00%	50.00%	T&D	30.43%	45,804	11-20 years
D-48	S Canter Ln Pipe Upsize	743,000	0.00%	50.00%	50.00%	T&D	30.43%	113,065	11-20 years
D-49	S Norman Rd, S Elida Rd/S Glisan Rd New Pipe	1,178,000	0.00%	0.00%	100.00%	T&D	30.43%	358,522	11-20 years
D-50	Fischers Mill Rd Upsize; S Hinkle Rd/S Kimball Rd New Pipe	11,309,000	0.00%	0.00%	100.00%	T&D	30.43%	3,441,870	11-20 years

Project	Description - South System Projects	Total	Type Capacity	Type R&R	Type Improvement	Function	Capacity Share of Improvement	Total Eligible (Future Capacity)	Estimated Timing
D-51	S Dillman Rd Pipe Upsize	$ 390,000	0.00%	0.00%	100.00%	T&D	30.43%	$ 118,696	11-20 years
D-52	S Grasle Rd south of Team Ct Pipe Upsize	199,000	0.00%	0.00%	100.00%	T&D	30.43%	60,565	11-20 years
D-53	S North End Rd, S Terry Michael Dr New Pipe	1,079,000	0.00%	0.00%	100.00%	T&D	30.43%	328,391	11-20 years
D-54	S Thayer Rd, S Walker Rd, S Ferguson Rd Pipe Upsize	4,743,000	0.00%	0.00%	100.00%	T&D	30.43%	1,443,522	11-20 years
D-55	S Maplelane Rd New Pipe, New PRV Station	3,012,000	0.00%	0.00%	100.00%	T&D	30.43%	916,696	1-5 years
D-56	S Maplelane Road	347,000	0.00%	50.00%	50.00%	T&D	30.43%	52,804	11-20 years
D-57	S Loder Rd, Thimble Creek Dr Pipe Upsize	1,380,000	0.00%	50.00%	50.00%	T&D	30.43%	210,000	5-10 years
D-58	S Ferguson Rd, S Heidi St Pipe Upsize	1,288,000	0.00%	50.00%	50.00%	T&D	30.43%	196,000	5-10 years
D-59	S Creek Rd Pipe Upsize	932,000	0.00%	0.00%	100.00%	T&D	30.43%	283,652	11-20 years
D-60	S Athens Rd, S Olympus Rd Pipe Upsize	1,206,000	0.00%	50.00%	50.00%	T&D	30.43%	183,522	1-5 years
D-61	Beavercreek Loop Connection	1,033,000	100.00%	0.00%	0.00%	T&D	30.43%	1,033,000	5-10 years
D-62	Henrici Rd New Pipe; Henrici Tank PRV Station	2,605,000	0.00%	0.00%	100.00%	T&D	30.43%	792,826	1-5 years
D-63	Danny Ln Pipe Upsize	511,000	0.00%	50.00%	50.00%	T&D	30.43%	77,761	1-5 years
D-64	S Saddle Ln Pipe Upsize	393,000	0.00%	0.00%	100.00%	T&D	30.43%	119,609	11-20 years
D-65	Woodglen Way, Crystal Ct Pipe Upsize	536,000	0.00%	0.00%	100.00%	T&D	30.43%	163,130	11-20 years
D-66	Beavercreek - Henrici Rd	959,000	0.00%	0.00%	100.00%	T&D	30.43%	291,870	11-20 years
D-67	S Quail Crest Ln Pipe Upsize	344,000	0.00%	50.00%	50.00%	T&D	30.43%	52,348	5-10 years
D-68	S Mossy Rock Ct, S Greeentree Dr Pipe Upsize	676,000	0.00%	50.00%	50.00%	T&D	30.43%	102,870	11-20 years
D-69	S Clear View Ct Pipe Upsize	350,000	0.00%	0.00%	100.00%	T&D	30.43%	106,522	11-20 years
D-70	S Farm Pond Ct Pipe Upsize	330,000	0.00%	0.00%	100.00%	T&D	30.43%	100,435	11-20 years
D-71	S Hawthorne Ct, S Firethorne Ct Pipe Upsize	778,000	0.00%	50.00%	50.00%	T&D	30.43%	118,391	11-20 years
D-72	S Lammer Rd Pipe Upsize	886,000	0.00%	50.00%	50.00%	T&D	30.43%	134,826	5-10 years
D-73	S Levi Ct, S Levi Rd Pipe Upsize	850,000	0.00%	0.00%	100.00%	T&D	30.43%	258,696	11-20 years
D-74	S Leland Rd, S Beavercreek Rd Pipe Upsize	2,216,000	0.00%	0.00%	100.00%	T&D	30.43%	674,435	11-20 years
D-75	S Leslie Ave Pipe Upsize	382,000	0.00%	0.00%	100.00%	T&D	30.43%	116,261	11-20 years
D-76	S Kamrath Rd Pipe Upsize	735,000	0.00%	0.00%	100.00%	T&D	30.43%	223,696	11-20 years
D-77	S Ferguson Rd Pipe Upsize	680,000	0.00%	0.00%	100.00%	T&D	30.43%	206,957	11-20 years
D-78	Henrici Rd New Pipe; Henrici Tank PRV Station	520,000	0.00%	0.00%	100.00%	T&D	30.43%	158,261	11-20 years
D-79	S Redland School Rd, S Redland Rd New Pipe	1,802,000	0.00%	0.00%	100.00%	T&D	30.43%	548,435	1-5 years
D-80	Redland Road	830,000	0.00%	0.00%	100.00%	T&D	30.43%	252,609	11-20 years
D-81	Ferguson Road (1)	1,006,000	0.00%	0.00%	100.00%	T&D	30.43%	306,174	11-20 years
D-82	Redland Road	733,000	0.00%	0.00%	100.00%	T&D	30.43%	223,087	11-20 years
D-83	S Jason Dr Pipe Upsize	419,000	0.00%	0.00%	100.00%	T&D	30.43%	127,522	11-20 years
D-84	S Dans Ct Pipe Upsize	667,000	0.00%	0.00%	100.00%	T&D	30.43%	203,000	11-20 years
D-85	S Lance Ct Pipe Upsize	564,000	0.00%	0.00%	100.00%	T&D	30.43%	171,652	11-20 years
D-86	S Copley Ct Pipe Upsize	753,000	0.00%	0.00%	100.00%	T&D	30.43%	229,174	11-20 years
D-87	S Hentrici Rd (between Redland Rd and S Bogynski Rd) Pipe Upsize	1,713,000	0.00%	0.00%	100.00%	T&D	30.43%	521,348	11-20 years
	Backbone								
BB-02	Backbone project	6,500,000	0.00%	0.00%	100.00%	T&D	30.43%	1,978,261	1-10 years
Total South System Projects		**$ 147,315,000**	**$ 1,033,000**	**$ 62,570,000**	**$ 96,772,000**		**$ 45,439,882**	**$ 21,291,691**	

SYSTEM DEVELOPMENT CHARGES

CALCULATION

Dividing the sum of the net functional cost bases identified in **Tables 11 and 12** by the future available capacity identified in **Tables 5, 7 and 9** results in the calculated SDC. The charges are calculated both on a per MCE and a per EHU basis. **Tables 15 and 16** provide the calculation of the charges.

Table 15. SDC Calculation – MCE Basis

SDC - MCE Basis	Supply / Treatment	Pumping	Storage	T&D	Total
Net reimbursement cost basis	$ 4,757,352	$ 2,029,808	$ 6,659,659	$ 14,848,018	$ 28,294,837
Allocable future capacity - MCEs	7,097	8,538	10,240	7,097	
Reimbursement fee per MCE	**$ 670**	**$ 238**	**$ 650**	**$ 2,092**	**$ 3,650**
Net improvement cost basis	$ 147,233	$ 1,291,655	$ 655,183	$ 36,323,559	$ 38,417,631
Allocable future capacity - MCEs	7,097	8,538	10,240	7,097	
Improvement fee per MCE	**$ 21**	**$ 151**	**$ 64**	**$ 5,118**	**$ 5,354**
System Development Charge (per MCE)	**$ 691**	**$ 389**	**$ 714**	**$ 7,210**	**$ 9,004**

Table 16. SDC Calculation – EHU Basis

SDC - EHU Basis	Supply / Treatment	Pumping	Storage	T&D	Total
Net reimbursement cost basis	$ 4,757,352	$ 2,029,808	$ 6,659,659	$ 14,848,018	$ 28,294,837
Allocable future capacity - EHUs	17,584	21,154	25,370	17,584	
Reimbursement fee per MCE	**$ 271**	**$ 96**	**$ 263**	**$ 844**	**$ 1,473**
Net improvement cost basis	$ 147,233	$ 1,291,655	$ 655,183	$ 36,323,559	$ 38,417,631
Allocable future capacity - EHUs	17,584	21,154	25,370	17,584	
Improvement fee per MCE	**$ 8**	**$ 61**	**$ 26**	**$ 2,066**	**$ 2,161**
System Development Charge (per EHU)	**$ 279**	**$ 157**	**$ 288**	**$ 2,910**	**$ 3,634**

As discussed in the Customer Base & Capacity Section of this report, either the MCE or EHU bases are appropriate. The MCE approach is less burdensome to administer, because it is based on the physical characteristics of the connection. Utilities commonly utilize either the MCE or EHU approach for SDC fee basis. To equitably recover costs from peak based and large average consumption based future customers, utilities may choose to impose the greater of the two bases for meters 1.5-inches and above. Customers of that size often impact the system more through their total demand, represented by the EHU approach, than by their peaking behavior.

SCHEDULE OF SYSTEM DEVELOPMENT CHARGES

In order to impose water SDCs on an individual developing property, the number of MCEs is determined by the size of the property's water meter. The MCE calculation used is based on American Water Works Association (AWWA) flow factors, proportionate to a 3/4-inch safe operating flow capacity, as shown in **Table 17** where one MCE is a 3/4-inch by 3/4-inch meter.

Table 17. Water SDC Schedule (MCE Basis)

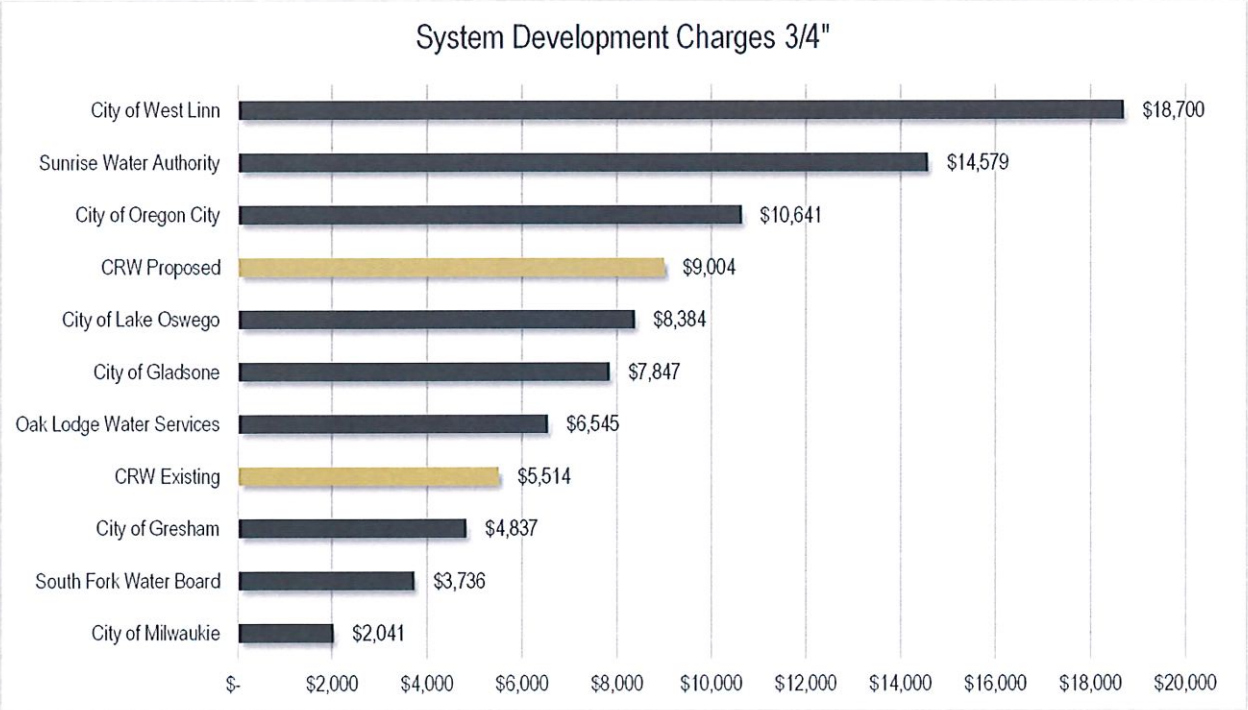
Meter	MCE Factor (3/4" Equiv.)	SDC
3/4"	1.00	$ 9,004
1"	1.67	15,007
1 1/2"	3.33	30,014
2"	5.33	48,023
3"	10.67	96,046
4"	16.67	150,072
6"	33.33	300,144
8"	53.33	480,231
10"	76.67	690,332
12"	112.50	1,012,986
18"	215.12	1,936,997

For new customers connecting to the system, the MCE basis serves as a multiplier for any required capacity greater than that provided by a 3/4-inch meter. Under the EHU basis for services of 1.5-inch or greater, the charge could be calculated based on the number of EHUs, defined as 202 gpd per EHU, multiplied by $3,634 (see **Table 16**).

COMPARISONS AND RECOMMENDATION

Table 18 shows how CRW's existing and proposed 3/4-inch by 3/4-inch water SDCs compare with SDCs adopted by other water utilities in the region. It should be noted, the comparisons include local and regional charges. Specifically, the cities of West Linn and Oregon City include South Fork Water Board's SDC. Based on these comparisons, the characteristics of the District, and this report's resulting calculations for both the MCE and EHU basis for SDCs, it is recommended that the MCE methodology be adopted for all meter sizes as presented in **Table 17**.

Table 18. Regional Comparisons



SDC IMPLEMENTATION

The SDCs calculated in this report represent our opinion of the maximum water SDCs that CRW can legally charge. CRW is under no legal obligation to impose the full, calculated SDC. However, CRW should be aware that any discounting or phase-in period that reduces SDC revenue will, other things being equal, increase the funding requirement from other resources.

CREDITS

A credit is a reduction in the amount of the SDC for a specific development. ORS 223.304 requires that SDC credits be issued for the construction of a qualified public improvement which is: required as a condition of development approval; identified in CRW's adopted SDC project list; and either "not located on or contiguous to property that is the subject of development approval," or located "on or contiguous to such property and is required to be built larger or with greater capacity than is necessary for the particular development project . . ."

Additionally, a credit must be granted "only for the cost of that portion of an improvement which exceeds the minimum standard facility size or capacity needed to serve" the particular project up to the amount of the improvement fee. For multi-phase projects, any "excess credit may be applied against SDCs that accrue in subsequent phases of the original development project."

ORS 223.304 authorizes agencies to grant credits beyond the minimum requirements stated above.

INDEXING

Oregon law (ORS 223.304) also allows for the periodic indexing of SDCs for inflation, as long as the index used is:

> (A) A relevant measurement of the average change in prices or costs over an identified time period for materials, labor, real property or a combination of these;
>
> (B) Published by a recognized organization or agency that produces the index or data source for reasons that are independent of the system development charge methodology; and
>
> (C) Incorporated as part of the established methodology or identified and adopted in a separate ordinance, resolution or order.

It is recommended that CRW index its charges to the Engineering News Record Construction Cost Index for the City of Seattle and adjust its charges annually. There is no comparable Oregon-specific index.

1

Presentation Overview

- System Development Charge (SDC) overview
  - » Legal framework
- Methodology
  - » Reimbursement fee
  - » Improvement fee
  - » System capacity
- SDC calculation & results
- Next steps

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SDC Overview

- One-time charge imposed on new development or expanded connection to system as a condition of service
  - » Different from water rates
  - » Developed properties only pay SDC if they redevelop & upsize capacity
- SDCs are for capital only
  - » In calculation basis
  - » In use of revenue
- SDCs include both future & existing components
- SDCs are for general facilities

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Legal Framework

ORS 223.297 - 314, known as *the SDC Act*, provides "a uniform framework for the imposition of system development charges by governmental units" and establishes "that the charges may be used only for capital improvements."

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SDC Methodology

- Consists of two components
  - » ***Reimbursement fee***: recovers costs associated with capital improvements already constructed or under construction available for future customers
  - » ***Improvement fee***: recovers costs associated with capital improvements to be constructed in the future to increase capacity and accommodate future customers

Reimbursement Fee

$$\frac{\text{Eligible Costs of Available Capacity in Existing Facilities}}{\text{Units of Available Future Capacity}}$$

+

Improvement Fee

$$\frac{\text{Eligible Costs of Capacity Increasing Capital Improvements}}{\text{Units of Available Future Capacity}}$$

=

SDC

per Unit of Available Capacity

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Units of Available Capacity

- Capacity can generally be expressed as
  - » ***Estimated demand***: based on average demand in gallons per day (gpd) per Equivalent Housing Units (EHUs)
  - » ***Potential demand***: based on number of meters expressed in 3/4-inch meter equivalents (MCEs)

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Units of Available Capacity (continued)

- **EHUs based on the Water System Master Plan (4-year average basis)**
  - » North System: 166 gpd
  - » South System: 256 gpd
  - » Calculated System Wide: 202 gpd/EHU
  - » MCEs based on American Water Works Association (AWWA) flow factors
  - » Proportionate to a 3/4-inch meter safe operating flow capacity

Meter	MCE Flow Factor (3/4")
3/4"	1.00
1"	1.67
1 1/2"	3.33
2"	5.33
3"	10.67
4"	16.67
6"	33.33
8"	53.33
10"	76.67
12"	112.50
18"	215.12

Note: The 18" factor was estimated using regression analysis.

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Units of Available Capacity – Existing

Meter	Accounts FY2020	MCE Factor (3/4")	MCEs (FY2020)
3/4"	11,205	1.00	11,205
1"	750	1.67	1,250
1 1/2"	181	3.33	603
2"	246	5.33	1,312
3"	37	10.67	395
4"	19	16.67	317
6"	12	33.33	400
8"	2	53.33	107
10"	4	76.67	307
12"	1	112.50	113
18"	1	215.12	215
Total	**12,458**		**16,223**

Notes:
1. Flow factors based on AWWA Standards, 1984 and 1990.
2. Flow factors for 18" meter are based on regression analysis utilizing smaller meter size data.
3. Includes wholesale accounts.

Year	2017	2028	2038
North EHUs	37,802	40,612	42,653
North gpd/EHU	166	166	166
North Demand - gpd	**6,275,132**	**6,741,592**	**7,080,398**
South EHUs	6,578	7,535	8,691
South gpd/EHU	253	253	253
South Demand - gpd	**1,664,234**	**1,906,355**	**2,198,823**
Total Demand - gpd	**7,939,366**	**8,647,947**	**9,279,221**
System Wide gpd/EHU	202	202	202
System Wide EHUs	**39,267**	**42,771**	**45,893**
CAAGR	0.78%		

Fiscal Year	*EHUs*	*CAAGR*	*EHU w. CAAGR*
2017	39,267	0.78%	39,573
2018	39,573	0.78%	39,882
2019	39,882	0.78%	40,193
2020	40,193		
FY 2020 Estimated EHUs	**40,193**		

Notes:
1. System specific EHU data is from tables 3.16 (north) and 3.15 (south) of the north and south WSMP.
2. CAAGR - cumulative annual average growth rate.

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Units of Available Capacity (continued)

MCEs	Supply / Treatment	Pumping	Storage	T&D
Maximum Capacity	23,320	24,761	26,462	23,320
Existing	16,223	16,223	16,223	16,223
Allocable Future Capacity (MCEs)	**7,097**	**8,538**	**10,240**	**7,097**

EHUs	Supply / Treatment	Pumping	Storage	T&D
Maximum Capacity	57,777	61,347	65,562	57,777
Existing	40,193	40,193	40,193	40,193
Allocable Future Capacity (EHUs)	**17,584**	**21,154**	**25,370**	**17,584**

- Supply / Treatment: operational capacity of treatment plant vs. MDD
- Pumping: firm pumping capacity (gpm) vs. required capacity
- Storage: total available storage capacity vs. required storage
- Transmission & Distribution: set equal to Supply / Treatment

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Reimbursement Fee Basis

Reimbursement Fee Basis	Supply / Treatment	Pumping	Storage	T&D	Total
Net Plant	$ 18,779,080	$ 9,819,834	$ 21,871,749	$ 58,610,819	$ 109,081,483
Unused Capacity	30.4%	23.8%	38.7%	30.4%	
Reimbursement Fee Basis	**$ 5,715,376**	**$ 2,335,818**	**$ 8,463,351**	**$ 17,838,075**	**$ 34,352,620**
less: Unused Share of Existing Debt	(958,023)	(306,010)	(1,803,693)	(2,990,057)	(6,057,783)
Total Eligible Assets	**$ 4,757,352**	**$ 2,029,808**	**$ 6,659,659**	**$ 14,848,018**	**$ 28,294,837**

- Net plant excludes
  - » Donated or grant funded assets
  - » Meters & services
- Unused capacity is based on infrastructure in the ground today

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Improvement Fee Basis

Improvement Fee Basis	Supply / Treatment	Pumping	Storage	T&D	Total
Total Capital Improvement Program	$ 503,066	$ 6,400,897	$ 8,263,643	$ 291,830,394	$ 306,998,000
less: Renewal and Replacement Share	(349,859)	(5,056,837)	(7,581,878)	(254,033,110)	(267,021,684)
Improvement Fee Basis	**$ 153,207**	**$ 1,344,060**	**$ 681,766**	**$ 37,797,284**	**$ 39,976,316**
less: SDC Fund Balance	(5,974)	(52,405)	(26,582)	(1,473,724)	(1,558,685)
Total Eligible Projects	**$ 147,233**	**$ 1,291,655**	**$ 655,183**	**$ 36,323,559**	**$ 38,417,631**

- **Project specific renewal and replacement share of costs were identified in the Master Plan**
  - » Includes a share of improvement projects
- **Improvement fee fund balance is deducted to avoid double counting for projects included in prior CIP list that have not been constructed**

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SDC Calculation – MCE Basis

Notes:	SDC - MCE Basis	Supply / Treatment	Pumping	Storage	T&D	Total
A	Net Reimbursement Cost Basis	$ 4,757,352	$ 2,029,808	$ 6,659,659	$ 14,848,018	$ 28,294,837
B	Allocable Future Capacity - MCEs	7,097	8,538	10,240	7,097	
C = A/B	**Reimbursement Fee per MCE**	**$ 670**	**$ 238**	**$ 650**	**$ 2,092**	**$ 3,650**
D	Net Improvement Cost Basis	$ 147,233	$ 1,291,655	$ 655,183	$ 36,323,559	$ 38,417,631
E	Allocable Future Capacity - MCEs	7,097	8,538	10,240	7,097	
F = D/E	**Improvement Fee per MCE**	**$ 21**	**$ 151**	**$ 64**	**$ 5,118**	**$ 5,354**
C + F	**System Development Charge (per MCE)**	**$ 691**	**$ 389**	**$ 714**	**$ 7,210**	**$ 9,004**

Meter	MCE Factor (3/4" Equiv.)	SDC
3/4"	1.00	$ 9,004
1"	1.67	15,007
1 1/2"	3.33	30,014
2"	5.33	48,023
3"	10.67	96,046
4"	16.67	150,072

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SDC Calculation – EHU Basis

Notes:	SDC - EHU Basis	Supply / Treatment	Pumping	Storage	T&D	Total
A	Net Reimbursement Cost Basis	$ 4,757,352	$ 2,029,808	$ 6,659,659	$ 14,848,018	$ 28,294,837
B	Allocable Future Capacity - EHUs	17,584	21,154	25,370	17,584	
C = A/B	**Reimbursement Fee per EHU**	**$ 271**	**$ 96**	**$ 263**	**$ 844**	**$ 1,473**
D	Net Improvement Cost Basis	$ 147,233	$ 1,291,655	$ 655,183	$ 36,323,559	$ 38,417,631
E	Allocable Future Capacity - EHUs	17,584	21,154	25,370	17,584	
F = D/E	**Improvement Fee per EHU**	**$ 8**	**$ 61**	**$ 26**	**$ 2,066**	**$ 2,161**
C + F	**System Development Charge (per EHU)**	**$ 279**	**$ 157**	**$ 288**	**$ 2,910**	**$ 3,634**

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Calculated vs. Existing SDCs

Meter	MCE Factor	Existing SDCs	Calculated SDCs	$ Difference
3/4"	1.00	$ 5,514	$ 9,004	$ 3,490
1"	1.67	9,190	15,007	5,817
1 1/2"	3.33	18,377	30,014	11,637
2"	5.33	29,404	48,023	18,619
3"	10.67		96,046	n/a
4"	16.67		150,072	n/a

- **Note:** Starting at 1.5-inch meter existing SDCs are calculated based on anticipated water demand as compared to equivalent residential unit (3/4-inch)
  - » Amounts shown for existing 1.5-inch and 2-inch are minimum charges

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Conclusions and Board Direction

- **Input on SDC methodology options (for 1.5-inch meters and above)**
  - » Option 1: Estimated demand: per EHU (202 gpd)
    - Captures large users taking up plant capacity
    - Requires estimated demand prior to connection
    - Should be revisited periodically to make sure demand has not been exceeded – additional administration
  - » Option 2: Potential demand: per MCE (meter size)
    - Captures peak demand requirements
    - Easy to administer
    - Does not capture impacts of low peaking large users
    - Common methodology in region
  - » Option 3: Maximum of the two
    - Captures both peak and large average users
    - Requires more administration
    - Large user SDCs reflect impact on system

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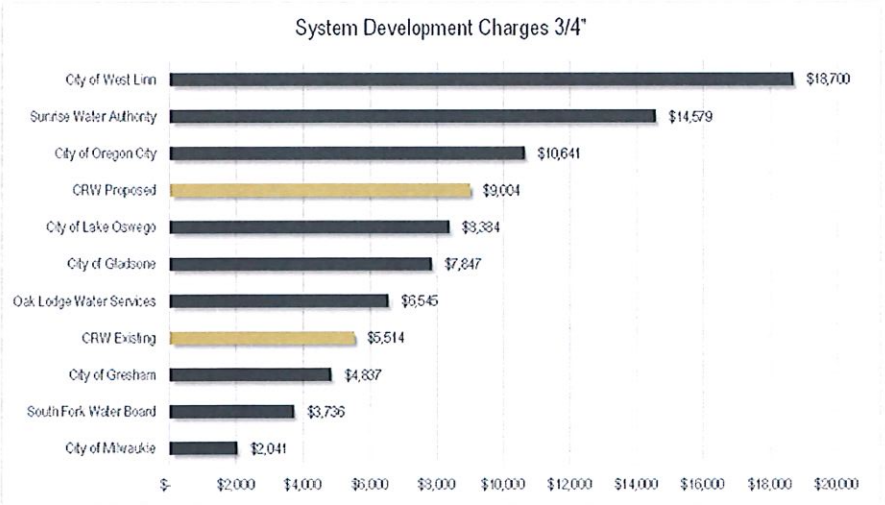
SDC Survey



Notes: includes local and regional charges, specifically for West Linn and Oregon City includes South Fork Water Board's SDCs.

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Next Steps

- **Set date for public hearing - DONE**
  - » At least 90 days in advance
- **Provide statutory notice - DONE**
  - » At least 90 days in advance of public hearing
- **Make report available to public during last 60 days of notice period**
- **Board can receive information about and discuss SDCs before scheduled public hearing**
  - » No action (vote) can be taken
- **Hold public hearing, adopt SDC ordinance**

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Thank you!
Questions?

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Agenda Item – 2

CLACKAMAS RIVER WATER

BOARD WORK SESSION

February 22, 2021

SUBJECT	Capital Planning Update
PRINCIPAL STAFF PERSON	Adam Bjornstedt, Chief Engineer Carol Bryck, Chief Financial Officer
DOCUMENTS ATTACHED	Exhibit A- Capital Planning Strategy Memo, dated 2/16/2021

Agenda Summary

BACKGROUND & DISCUSSION

This item will serve as a continuation of the capital planning discussion from the October 26th, 2020 Work Session. The attached memo presents a more detailed approach to the District's capital planning efforts for the next 6 years. The Board is requested to read and familiarize themselves with the memo to help focus the discussion at the Work Session.

The information presented in the memo includes recommendations regarding important questions relevant to CRW's capital improvement planning and implementation:

- ✓ What types of capital efforts are we going to invest in?
- ✓ How are we going to prioritize these efforts?
- ✓ What resources are available or needed, including general funding, staffing, and other considerations?
- ✓ What timeframes can we identify to plan for and complete improvements?

This discussion will review key sections of the memo, which takes an overall look at CRW's infrastructure needs as identified in recent studies and planning efforts. It will include an overview of what types of needs were determined and prioritized, how specific projects, scopes, and schedules will be developed as part of upcoming biennial budgets, and how these efforts can be supported by rates and other financial resources.

A PowerPoint presentation will be provided to aid the discussion at the Work Session. Slides will be provided prior to the meeting.

EXHIBIT A

Clackamas River Water

MEMO

To: Board of Commissioners
cc: Management Team
From: Adam Bjornstedt, Chief Engineer
Carol Bryck, Chief Financial Officer
Rob Cummings, Water Resources Manager
Date: February 16, 2021
RE: Capital Planning Strategy

I. Introduction/Background

Staff has been in discussion with the Board since late 2019 regarding the District's capital improvement strategy, including recent efforts captured in the Water System and Water Treatment Plant Facility master plans. This memorandum serves as a summary document of the District's recommended capital planning strategy, and how this strategy will be utilized to plan and implement a proactive capital improvement program addressing all aspects of the District's infrastructure.

The following is a recap of various capital planning discussions between Staff and the Board from the recent past:

- November 25, 2019 Work Session: Backbone and CIP project updates; WTP Facility Plan update including discussion on Hazards Analysis, Levels of Service, preliminary evaluation criteria, and formulation of improvement alternatives.
- January 27, 2020 Work Session: WTP Facility Plan update with Carollo Engineers including discussion of recommendations to meet evaluation criteria, high level costs of improvement options, phasing and layout of improvement alternatives, and a review of non-economic selection criteria.
- February 24, 2020 Work Session: Capital Project Funding discussion including rough scope and magnitude of funding, future rate increases, funding options, and how capital reserve, SDC, and rate stabilization funds would be utilized under certain assumptions.
- October 26, 2020 Work Session: Capital Planning Strategy discussion to build understanding of 1) capital improvement needs identified in recent planning studies, 2) funding needs, constraints, and impacts, and 3) outcomes and steps for moving forward.

Noted in these discussions has been the fact that CRW, with the recent or upcoming completion of some core planning efforts, will be poised to develop and implement a capital improvement program that addresses a wide range of infrastructure needs. From District supply, treatment, transmission, and storage, multiple system components will benefit from a holistic, proactive capital planning strategy. Key planning efforts have included:

1. Water System Master Plan (WSMP), completed May 2019: Provides a basis for identifying and pursuing specific improvements to the system in a 20 year planning horizon; this plan provides a basis for the District to exercise flexibility in scoping and budgeting for specific improvements.
    a. WSMP Total Identified Need $334,858,000 (2018 dollars; 20 year planning horizon)

2. WTP Facility Plan (WTPFP), estimated completion Spring 2021: Will identify categories of needed improvements to Water Treatment Plant facilities. Improvement alternatives with high-level budget estimates and specific categories of operational and enhancement projects will be proposed to improve the functionality, performance, and resilience of the plant for the 20 year planning horizon.
    a. WTPFP Total Identified Need $71,444,000 (2020 dollars; 20 year planning horizon)

3. Emergency/Resilience Planning: Risk and Resilience Assessment (RRA), completed December 2020: Identifies additional improvements for system resilience, some of which may be included in, or tied to, previously-identified improvements (in the Master Plan, etc.).
    a. RRA Total Identified Need $2,918,000 (2020 dollars; 20 year planning horizon)

4. Strategic Plan, ongoing: Will develop objectives, tactics, and measurements to address the three strategic objectives. Given that one of these objectives has to do with how the District will continue to manage and improve the water system to maximize its ability to provide safe, quality drinking water, the Strategic Plan will help carve a pathway for CRW's efforts to meet capital needs.

Evident from these planning efforts is the fact that the magnitude of infrastructure improvement needs far outweighs the District's availability of resources to address such needs in the short term. While this may seem alarming initially, this disparity is not uncommon for utilities in the drinking water and other sectors. Proven success in addressing a system's infrastructure deficiencies lies in a focused, comprehensive, and committed long-term capital planning program.

In the development of the above planning efforts, some criteria have been identified. While certain plans may relate more directly to some of these, the **common criteria** in the District's capital planning considerations are:

- *Age*- How does the age of our water system components affect their ability to contribute to long-term system health and function?
- *Capacity*- How will the system be able to meet current and future demands?
- *Water Quality*- How will the system be able to meet current and future water quality goals and requirements?
- *Resilience*- How will the system be able to meet hazard resilience goals and requirements?

Through these planning activities, it can be seen how a concurrent approach targeting the District's numerous water system improvement needs will yield a realistic strategy for planning and executing specific projects.

II. Evaluation of Planning Efforts

As was presented to the Board at the October 26, 2020 Work Session, our planning activity identifies several project categories. For both the treatment plant and distribution system, there are **replacement/repair** and **enhancement** projects needed to address specific deficiencies. While specific types of projects in these classifications will be discussed later in this memo, a general analysis was conducted to tie these plans together and help develop a more comprehensive capital planning scenario and strategy for the District. In performing this analysis, Staff followed several steps, using the master planning documents as basis. These steps included analyzing key considerations of District capital policy, philosophy, and strategy; developing future implementation scenarios; developing planning and evaluation criteria; analyzing CIP strategy and goal development; allocating categories of CIP projects to scenarios; prioritizing scenarios and recommendations; and developing CIP implementation strategy.

After completion of these steps, key categories of projects were developed. Understanding that the need far outweighs our funding and staffing capacities, it is necessary to prioritize key projects and groupings of projects for short term planning purposes. In the longer term, similar methods will be used to continually refine, and select projects from, the prioritized listings. As new needs materialize, priorities shift and adjustments must be made in a dynamic, flexible capital improvement program.

III. Recommendations and Outcomes

The above-referenced studies, as well as historic CRW practice in categorizing and prioritizing various areas of capital work, have resulted in recognition of three distinct areas of capital improvement need: **Water Treatment**, **Distribution System**, and **System Resilience**. These categories, their respective value (how they meet specific criteria), and examples (types) of projects, are shown in Table 1 below.

Table 1. CRW Capital Project Categories and Classifications

Category	Classification	Respective Value (Criteria Met)	Project Type
Water Treatment	Replace/Repair	Age	Existing process repair or replace; "In-kind"
	Enhancement	Capacity, WQ, Resilience, Age	Replacement or new process/facility that meets expanded goal
Distribution System	Replace/Repair	Age, Capacity, Resilience	Existing waterline, storage or pumping repair or replace; helps meet existing demand, deficiency, or risk
	Enhancement	Capacity, WQ, Resilience, Age	New waterline, storage, etc. to meet new/future demand or other criteria
System Resilience	Replace/Repair	Resilience	May be tied to capital projects or stand-alone
	Enhancement	Resilience	May be tied to capital projects or stand-alone

A. Classifications

Regarding improvement classifications, the two general definitions apply regardless of the category/area of focus:

- Replacement/Repair- Capital improvements which typically address replacement or renovation of existing equipment with "similar" to maintain current operational objectives. Criteria of Age, Resilience, and Capacity may be addressed by these projects, and often they simply address issues to "keep the system running" at its current level, without expanding system capabilities.
- Enhancement- Capital improvements which typically address upgrading capacity of existing processes, or replacing with similar or different equipment, to increase ability to meet Resilience, Capacity, Age and Water Quality criteria.

For **Water Treatment**, as supported in the WTP Facility Plan –

- Replace/repair improvements are those that may target replacement of outdated, undersized, under-performing treatment equipment and related components; these projects may also tie to annual WTP capital/maintenance projects to keep existing processes running efficiently.
- Enhancement improvements are those which may include replacement of treatment processes with new facilities and technology that can better meet capacity, water quality, resilience, or other goals.

For the **Distribution System**, as supported in the Water System Master Plan –

- Replace/repair improvements may include replacement of outdated, undersized, under-performing waterlines, pump stations, reservoirs, and related components; these projects typically tie to WSMP project categories (i.e. "general, programmatic, storage, distribution", etc.), as well as addressing emergency or maintenance needs.
- Enhancement improvements are those which may address future demands (new development, fire flow, etc.) where increased capacity, through transmission and storage upgrades or expansion, are required.

For **Resilience** improvements, these may be included within the larger scope of specific improvement projects (such as building-in seismic resilience to upgraded or new infrastructure), but these can also be "stand-alone" projects to meet a specific resilience need or goal.

- For the purposes of this memo, resilience improvements are either built-in to other project category estimates (WTP, Distribution) or are generally shown to represent opportunity

projects to improve some facility resilience or security items, as identified in the 2020 Risk and Resiliency Assessment's mitigation strategies.

B. Value

Value is defined by an improvement's ability to sustain or realize District mission or strategic objectives, which can be met through the key common criteria (Age, Water Quality, Capacity, Resilience). The value of a capital improvement project or program can be determined by a number of economic or non-economic factors, including capital cost, operational or maintenance costs, number of customers affected, external mandates or requirements, cost share opportunity, and others. Value can be seen as direct or indirect (perceived), especially as it relates to support or "buy-in" by ratepayers and other stakeholders. Significant effort must be considered when developing capital plans and communicating recommendations and justification to decision makers, the public, and partner agencies. The more value recognized, typically the more support and momentum can be generated to plan and implement specific capital improvements.

C. Planning and Prioritization of Improvements

The planning, prioritization, and implementation of capital improvements is an ongoing task. As is common with utilities and public agencies, the need for system improvements to address short and long term system deficiencies commonly outweighs available resources. Funding, staffing, project formulation/execution timelines, and competing priorities are common obstacles. Regardless of the funding available, limitations may exist to meet scheduling and scoping needs of any given improvement project or program. The bottom line is that water infrastructure projects take significant time to plan, design, and build- there are no true "shovel-ready" projects at the outset of any capital plan. Taking this into account, Staff has attempted to consolidate by category a realistic approach towards more aggressively meeting the District's capital improvement planning needs. Table 2 provides a holistic break-down of project categories, example projects per category, and a rough estimate of annual or biennial budgeting goals and schedules, to accomplish a wide array of capital improvements. For the purposes of this memo, and the capital planning efforts to date, this plan covers a six-year planning horizon (through the FY 25-27 budget period).

Table 2. Proposed Capital Planning Priorities, Costs and Timelines

Category	Example Project Type(s)	Total Cost (Estimated Range)	Timeline	Comments
Treatment- R/R	Detailed Treatment Process Studies	$200K-$210K	FY 21-27 (phased over several budget cycles)	Required to scope future improvements to specific equipment and processes, such as filters, instrumentation, clearwell, seismic, etc.
Treatment- R/R	Treatment Process Renovations	$2.2M-$2.7M	FY 21-27 (phased over several budget cycles)	Required to maintain current capacity and prepare for larger-scale "progressive" WTP improvements plan ("Alt. 2b")
Treatment-Enhancement	Facility Plan "Alternative 2b"-Phases 1&2, New process additions	$50M-$70M	TBD	*Added to this table only as representative value- timeline is beyond 6-year planning horizon*
Distribution-R/R	Waterline replacements (replace substandard, aged, non-resilient lines)	$9.0M-$12.0M	FY 21-27 (phased over several budget cycles)	Ongoing "R/R program" targets significant waterline replacement to meet age/capacity issues (per WSMP)
Distribution-Enhancement	Upsize existing waterlines, pumping and transmission upgrades to distribute CRW water to other zones; enhance and build upon seismic transmission systems	$5.0M-$6.0M	FY 21-27 (phased over several budget cycles)	May meet current demands with some capacity for future growth (depends on scope); some of these projects may overlap with Distribution R/R work
Resilience	General facility site/security improvements	$100K-$250K	FY 21-27 (phased over several budget cycles)	As identified in RRA/Mitigation Strategies
Totals	6-year Total Estimated Cost Range: $16.5M-$21.16M (Annual average $2.75M-$3.53M)			

Note to Table 2:

1. Total cost range does not include longer term WTP enhancements (beyond 6-year planning window)
    a. All costs are high-level planning costs only, using AACE Level 5 estimates, for the year that each respective planning effort was completed (WSMP-2018, WTPFP-2020, Resilience/RRA-2020). Specific projects will be scoped and budgeted through additional cost analysis during respective fiscal year budgeting periods, which may include relative/current-year cost considerations.

D. Discussion of Proposed Plan

The capital improvement approach represented in Table 2 above seeks to meet the identified capital improvement criteria and objectives for the short-term planning window. Given the challenges with multiple needs in areas of the Distribution system (as defined in the Water System Master Plan), and the identified Treatment deficiencies from the WTP Facility Plan, assumptions must be made to capture key District goals and policy while moving forward with capital plans. While there are several ways in which this could happen, Staff believes the proposed plan will provide realistic, achievable ways to fulfill these goals and policies. Primary agency drivers or assumptions that have been incorporated into the current planning and prioritization of improvements are:

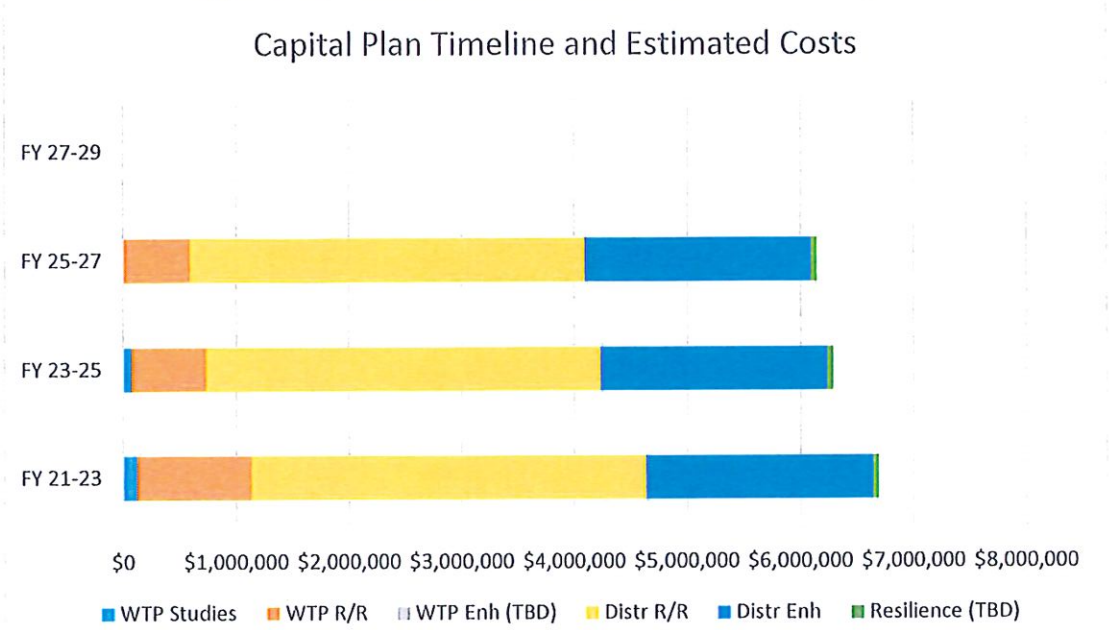
1. CRW's vision, mission, and strategic objectives clearly set forth the importance of providing safe, quality drinking water to our customers and community. To that end, a dynamic, well-planned capital improvement program is a critical part of achieving these foundational District goals.
2. As identified in the WTP Facility Plan, CRW's water treatment plant is in need of some key improvements to address short-term goals addressing infrastructure age concerns, while longer term improvements are needed for water quality, capacity, and resilience reasons.
3. As identified in the WSMP, the Distribution system possesses a significant quantity of undersized, outdated, and in some cases deficient (leaking or leak-prone) waterlines that are in need of replacement. It is necessary to continue a moderately aggressive main replacement program to address these types of deficiencies.
4. The District adopted a "Backbone" program in 2015 with the goals of maximizing the number of customers directly receiving CRW-treated water; building capacity, redundancy, and resilience; and replacing some outdated infrastructure. Continuing towards these goals by making additional system improvements to the South service area is seen as a short-term need. Maximizing use of existing infrastructure to meet existing demands, where possible, is the preferred approach- which will still enable realization of the original "Backbone" goals while helping conserve funding reserves for other large-scale improvements.
5. Funding sources and options will continue to be evaluated throughout this six-year timeframe. While borrowing or other funding sources will be assessed for long-term, larger-scale improvements, the proposed 6-year plan assumes typical CRW rate and SDC funding is available. (Further discussion on funding and rates is presented below).

E. Timing Considerations

While specific schedules for projects have yet to be developed, Figure 1 below provides a graphical

overview of the project categories presented in Table 2, including cost impacts per fiscal period.

Figure 1. Capital Plan Short-term Timeline and Estimated Costs per Biennium



Notes to Figure 1:
1. FY 27-29 costs TBD (beyond 6-yr planning horizon)
2. Estimated costs represent annual averages from ranges presented in table 2

F. Summary of Funding Options

Sufficiently funding capital improvement needs is one of the most critical obstacles to implementing a CIP program. For CRW, various funding mechanisms exist, and all have limitations and conditions for how and when financial resources can be utilized. A very general overview of potential financial resources and their possible application is provided in Table 3 below.

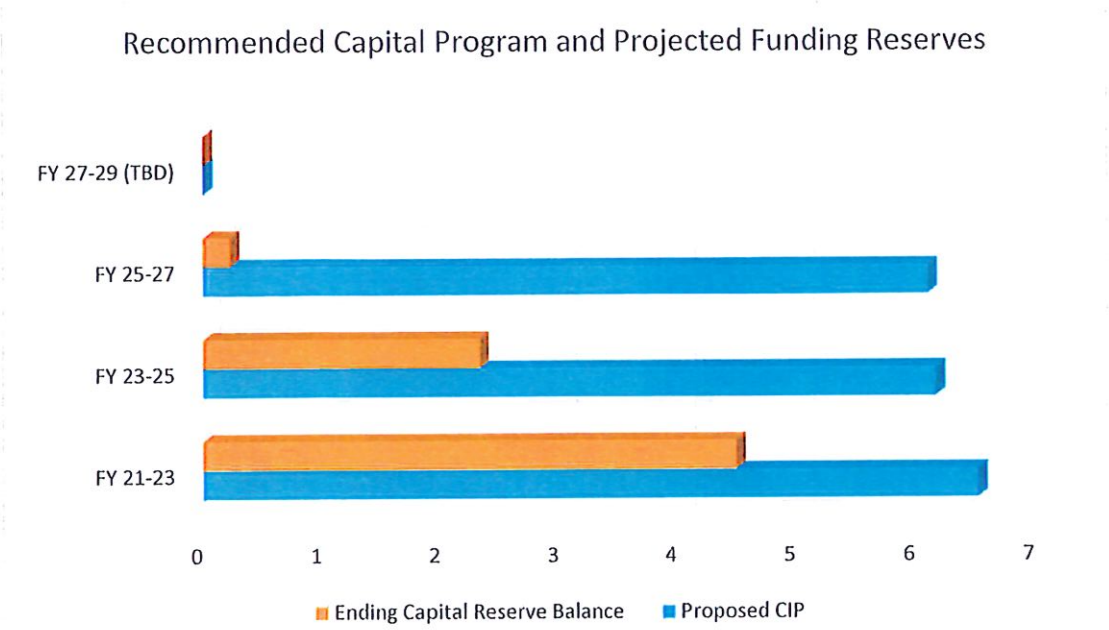
Table 3. Potential Financial Resources for CRW Capital Programs

Funding Type	Funding Source	Possible Capital-related applications	Timeframes/other considerations
CRW Capital Reserves	CRW rates & SDCs	Most capital improvements	Available to budget biennial CIP projects; fund can act as "savings" for future larger CIPs
CRW General Fund	CRW rates, SDCs, other revenue	Studies, capital outlay, other	Available to budget biennial needs
Municipal Bonds	Bond marketplace	Most capital improvements	Typically come with time constraints on application and spending; CRW can only borrow what debt covenants/rates can allow (i.e. "pay-off")
Low Interest Loans	Various federal or state programs	May be loan program specific, some capital projects may qualify	Typically come with time constraints on application and spending; CRW can only borrow what debt covenants/rates can allow (i.e. "pay-off")
Grants	Various federal or state programs	May be grant program specific, some capital projects may qualify	Typically come with time constraints on application and spending; selection is competitive (no guarantee); (usually include cost-share (in-kind) component
Partnership/cost share	Partner agencies	Most capital projects; need-specific	Need-specific, but would require negotiated agreements

With these funding possibilities come many considerations. For any non-grant funded options, whether CRW capital reserves, general fund, or external bonds or loans, the District must evaluate potential borrowed amounts against the ability to pay back and satisfy debt covenants. While current available capital reserves are part of this, the District's rate structure must be carefully considered. As we draw near to the final year of the current 8-year rate plan, the magnitude and duration of future rate increases is the critical component to any discussion of long term funding of capital improvements. As was discussed with the Board last year, a range of possible annual rate increases were reviewed in terms of supporting significant potential borrowing for funding large-scale capital improvements. Further deliberation and decisions on a future rate plan should parallel any long-term capital planning strategy.

It is clear, and not uncommon for water and other utilities, that the District's available funding is insufficient to immediately meet all infrastructure deficiencies. Figure 2 below shows available funding against the recommended capital improvement program (from Figure 1), to illustrate the likelihood of such an approach being supported by existing and future capital reserves, for the 6-year planning period.

Figure 2. Recommended Capital Program and Projected Funding Reserves



Notes to Figure 2:

1. Assumed available funding includes existing capital reserves, plus $2M added per year. Does not include SDC reserves.
2. Proposed CIP does not include studies or specific RRA "resilience" projects- assumed General Funded.
3. Assumed future rates will add sufficient revenue to capital reserves.

While possible, Figure 2 depicts a scenario where capital reserves would be significantly drawn down by the end of FY 25-27. A likely way to balance the spend rate of such a capital program would be to practice flexibility in prioritization of specific types of projects, while targeting other areas. For example, less emphasis could be placed on Distribution R/R projects in a given fiscal period, while funding more WTP or other Distribution (enhancement) type projects to balance use of existing funds. However, a moderately aggressive plan would still "spend down" the capital reserves by the end of the 6-year planning period. After this period, likely borrowing of additional funds will be proposed to address larger, long-term capital improvements while rebuilding reserve balances. Additionally, consideration should be given to what future rate structure would be most practical to support this plan. It is suggested that a 5% per year rate increase starting in 2022 would provide for debt covenant coverage and allow us to meet reserve policy requirements.

A note on SDC Reserves- As stated in note 1 to Figure 2, SDC reserves are not included in the

"available funds", even though the District anticipates up to $1.5 million of SDC reserves in the next biennium. The recommended capital plan does not rely on SDC reserves from estimated SDC revenue.

G. Further Studies Required

While master planning activities have established levels of service and existing deficiencies, further study will be necessary to properly scope and design specific improvements in detail. Informational gaps that exist today will be bridged as budgets are formulated, and further study will provide definition and clarity to specific areas of need.

- For example, the Water Treatment Plant Facility Plan recognizes that certain treatment processes require renovation or enhancement in order to continue meeting current treatment goals, as well as expanded capacity to meet future goals. In order to quantify what these improvements will provide, how they will fit in with existing process trains, and how they will be sequenced while maintaining plant operations, detailed studies and designs are needed. In other words, higher level master planning activities have "set the stage" by identifying where deficiencies exist; now more detailed studies will provide specific information for design-level planning.

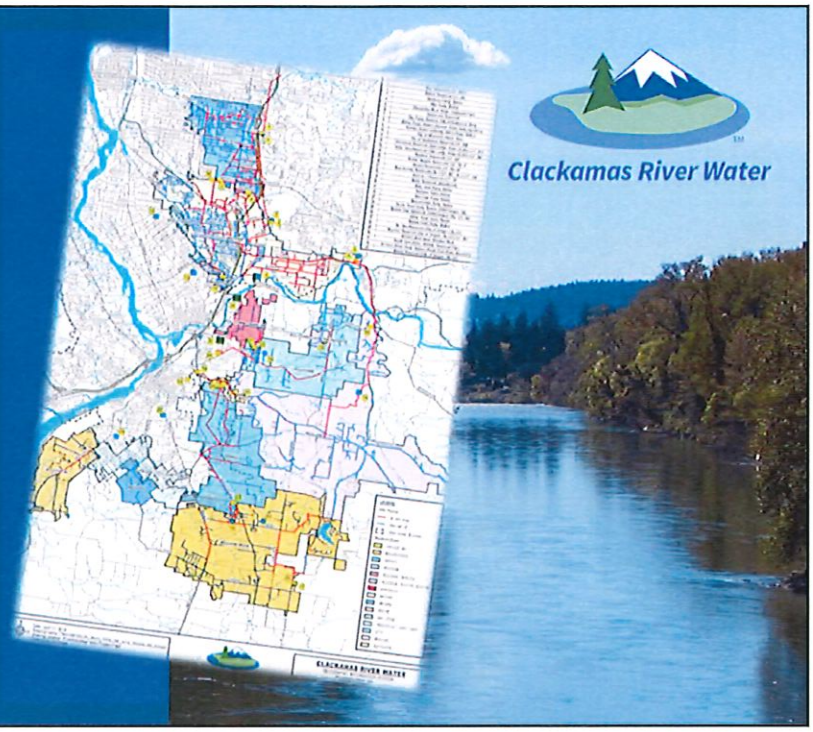
IV. Conclusions

The District must consider all alternatives in its analysis and adoption of capital improvement planning and strategy. A key question to ask is- "Is doing nothing an option?" While the District historically spends a significant amount of its revenues on capital improvements annually, a possible direction in planning for future improvements is to defer certain improvements in the short term in order to save funding resources for larger capital projects. While funding options have been discussed above, the question here really revolves around how much risk the District is willing to carry in terms of its continued operation and maintenance of the water system. While CRW has done an excellent job at keeping all of its facilities operating at a high level – providing quality water to its customers – there is a limit to just how long systems can be maintained and repaired in advance of major failure. CRW has historically planned and budgeted for capital improvements that have addressed a variety of system deficiencies. All facilities, whether piping or treatment processes, naturally have a "useful life" that, once passed, results in increased risk to the District. Continued capital planning – with system repair, replacement, and enhancement – is required due to the useful life constraints on all systems and facilities.

While deferred maintenance (as mentioned earlier) is commonly necessary for utilities due to insufficient resources to rectify all needs in a more rapid timeframe, a lack of deliberate planning for progressive improvements or replacements will likely result in failures and costly emergency repairs/replacements of water treatment and distribution infrastructure. Evidence of this is supported by several national infrastructure studies, including ASCE's "Infrastructure Report Card" and AWWA's "Buried No Longer" report. This "run-to-failure" or reactive approach – versus a planned, proactive methodology – will impact the District's ability to meet its vision and mission. A well-planned capital improvement program looks at a proactive approach for meeting system deficiencies, balancing reasonable deferred maintenance of system components with a reasonable rate of replacement and focus on short- and long-term needs.

In Staff's opinion, consideration of strictly a "do-nothing" approach in any attempt to build capital reserves for larger future investments is not a viable option. To continue meeting common criteria and strategic goals involving responsible planning and providing quality water, a more comprehensive, sequential capital improvement program is needed. Such a plan, coupled with reasonable ongoing maintenance and repair activities, is the best way to maintain the overall health of CRW's water system. The plan presented in this memo, while subject to possible variations as priorities are organized, is a progressive, practical approach to address current needs while planning for the future. As such, this plan must remain flexible to change and specific priorities and needs- as funding, staffing, and other resource limitations will continue to exist. With focused planning, significant progress can be made on reducing overall system deficiencies as identified in the District's recent master planning documents.

Capital Planning Strategy Update



Board Work Session
February 22, 2021

Presenters:

Adam Bjornstedt *Chief Engineer*

Carol Bryck *Chief Financial Officer*

1

CAPITAL PLANNING STRATEGY

- Refer to "Capital Planning Strategy" Memo,
  -February 16, 2021

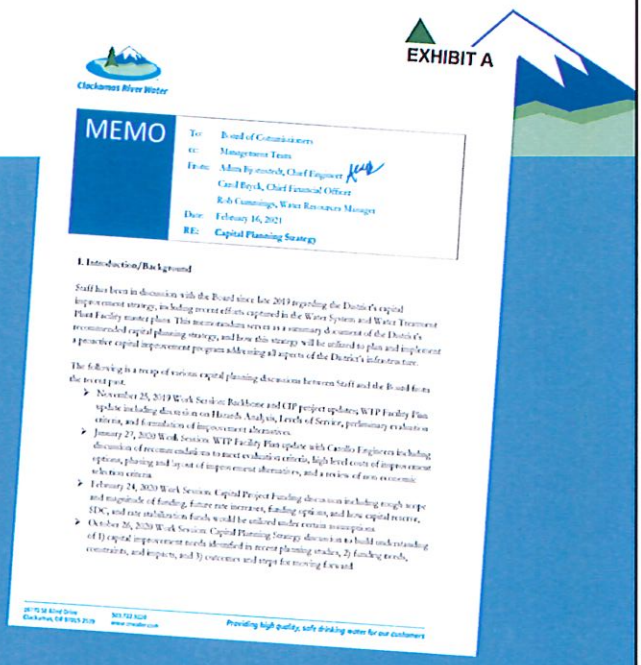


EXHIBIT A

Clackamas River Water

MEMO

To: Board of Commissioners
cc: Management Team
From: Adam Bjornstedt, Chief Engineer
Carol Bryck, Chief Financial Officer
Rob Cummings, Water Resources Manager
Date: February 16, 2021
RE: Capital Planning Strategy

I. Introduction/Background

Staff has been in discussion with the Board since late 2019 regarding the District's capital improvement strategy, including recent efforts captured in the Water System and Water Treatment Plant Facility master plans. This memorandum serves as a summary document of the District's recommended capital planning strategy, and how this strategy will be utilized to plan and implement a proactive capital improvement program addressing all aspects of the District's infrastructure.

The following is a recap of various capital planning discussions between Staff and the Board from the recent past.

- November 25, 2019 Work Session: Backbone and CIP project updates, WTP Facility Plan update including discussion on Hazards Analysis, Levels of Service, preliminary evaluation criteria, and formulation of improvement alternatives.
- January 27, 2020 Work Session: WTP Facility Plan update with Carollo Engineers including discussion of recommendations to meet evaluation criteria, high level costs of improvement options, phasing and layout of improvement alternatives, and a review of non-economic selection criteria.
- February 24, 2020 Work Session: Capital Project Funding discussion including rough scope and magnitude of funding, future rate increases, funding options, and how capital income, SDC, and rate stabilization funds would be utilized under certain assumptions.
- October 26, 2020 Work Session: Capital Planning Strategy discussion to build understanding of 1) capital improvement needs identified in recent planning studies, 2) funding needs, constraints, and impacts, and 3) outcomes and steps for moving forward.

Providing high quality, safe drinking water for our customers

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DISCUSSION OUTLINE

- What we've done/where we're at: planning studies completed
- Evaluation criteria
- Magnitude of need, "balanced approach"
- Infrastructure categories, classifications, value- *Table 1*
- Recommendations: Priorities, Costs, Timelines- *Table 2*
  - Primary Agency Drivers
- Financial Considerations- *Figure 1 & 2, Table 3*
- Conclusions & Next Steps

3

PLANNING COMPLETED OR IN PROGRESS

- **2018 Water System Master Plan.** Defines ~$330 million worth of improvements for (20-yr period).
- **WTP Facility Plan** (in progress). Will define phased improvements; ~$50-70 million including short and long term improvement strategies (20-yr period).
- **Emergency/Resilience Planning.** RRA/ERP developed to address AWIA defines additional infrastructure needs; ~$3 million (20-yr period).
- **2020 Strategic Plan.** Objectives should guide capital planning.

Note- Estimated cost ranges are in study-year dollars, AACE level 5 estimates.

All plans…

- Define system deficiencies and improvement needs, through the common criteria of **age, capacity, water quality, & hazard resilience**.
- Identify overall need – while detailed objectives and tactics, including specific project scoping and funding, will be addressed through annual project and budget planning.

4

EVALUATION CRITERIA (REVIEW)

- *Age*- How does the age of our water system components affect their ability to contribute to long-term system health and function?
- *Capacity*- How will the system be able to meet current and future demands?
- *Water Quality*- How will the system be able to meet current and future water quality goals and requirements?
- *Resilience*- How will the system be able to meet hazard resilience goals and requirements?

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MAGNITUDE OF NEEDS VS. RESOURCES

- Total need outweighs resources
- Common theme nationally
- **Balancing act**: Deferred maintenance and responsible capital improvements
- If we looked at it from a "bulk" standpoint…(All needs identified from planning studies):
  - **~$400 million** over 20 year period
  - = **~$20 million per year**
  - = **INFEASIBLE**

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CRW INFRASTRUCTURE CATEGORIES & CLASSIFICATIONS

CLASSIFICATIONS (REVIEW)

- Replace/Repair
- Enhancement

VALUE Discussion- An improvement's ability to sustain or realize District mission or strategic objectives… Direct/indirect, economic/non-economic factors, "buy-in"

Table 1. CRW Capital Project Categories and Classifications

Category	Classification	Respective Value (Criteria Met)	Project Type
Water Treatment	Replace/Repair	Age	Existing process repair or replace; "In-kind"
	Enhancement	Capacity, WQ, Resilience, Age	Replacement or new process/facility that meets expanded goal
Distribution System	Replace/Repair	Age, Capacity, Resilience	Existing waterline, storage or pumping repair or replace; helps meet existing demand, deficiency, or risk
	Enhancement	Capacity, WQ, Resilience, Age	New waterline, storage, etc. to meet new/future demand or other criteria
System Resilience	Replace/Repair	Resilience	May be tied to capital projects or stand-alone
	Enhancement	Resilience	May be tied to capital projects or stand-alone

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PROPOSED PRIORITIES, COSTS & TIMELINES

- 6-year plan allows time to address some immediate needs while planning for future
- Ongoing prioritization effort (annually- concurrent with budgeting efforts and guided by District drivers)
- Estimated cost ranges are in study-year dollars, AACE level 5 estimates

Table 2. Proposed Capital Planning Priorities, Costs and Timelines

Category	Example Project Type(s)	Total Cost (Estimated Range)	Timeline	Comments
Treatment- R/R	Detailed Treatment Process Studies	$200K-$210K	FY 21-27 (phased over several budget cycles)	Required to scope future improvements to specific equipment and processes, such as filters, instrumentation, clearwell, seismic, etc.
Treatment- R/R	Treatment Process Renovations	$2.2M-$2.7M	FY 21-27 (phased over several budget cycles)	Required to maintain current capacity and prepare for larger-scale "progressive" WTP improvements plan ("Alt. 2b")
Treatment- Enhancement	Facility Plan "Alternative 2b"- Phases 1&2, New process additions	$50M-$70M	TBD	*Added to this table only as representative value- timeline is beyond 6-year planning horizon*
Distribution- R/R	Waterline replacements (replace substandard, aged, non-resilient lines)	$9.0M-$12.0M	FY 21-27 (phased over several budget cycles)	Ongoing "R/R program" targets significant waterline replacement to meet age/capacity issues (per WSMP)
Distribution- Enhancement	Upsize existing waterlines, pumping and transmission upgrades to distribute CRW water to other zones; enhance and build upon seismic transmission systems	$5.0M-$6.0M	FY 21-27 (phased over several budget cycles)	May meet current demands with some capacity for future growth (depends on scope); some of these projects may overlap with Distribution R/R work
Resilience	General facility site/security improvements	$100K-$250K	FY 21-27 (phased over several budget cycles)	As identified in RRA/Mitigation Strategies
Totals	6-year Total Estimated Cost Range: $16.5M-$21.16M (Annual average $2.75M-$3.53M)			

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CAPITAL PLANNING AND PRIORITIZATION- *CRW DRIVERS*

- District Vision, Mission, & Strategic Objectives
- WTP Improvements required to continue meeting current and future criteria (age, water quality, capacity, resilience)
- WS Master Plan identified required ongoing repair/replacements (aging/leaking/ undersized piping)
- System enhancement goals (2015 "Backbone" objectives) etc.
- Planning and prioritization must fit funding availability and constraints, including rates and SDCs

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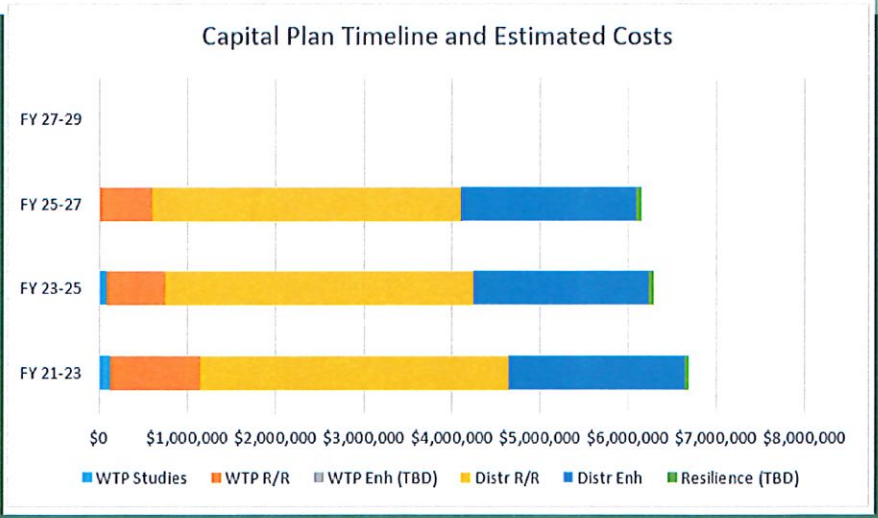
FUNDING AND SCHEDULES

- FY 27-29 costs TBD (beyond 6-yr planning horizon)
- Estimated costs represent annual averages from ranges presented in table 2
- Estimated costs are in study-year dollars, AACE level 5 estimates

Figure 1. Capital Plan Short-term Timeline and Estimated Costs per Biennium



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SUMMARY OF FUNDING OPTIONS

- Table 3- Potential Financial Resources
- CRW reserves
- Other sources- all have conditions/constraints
- Timeframes associated with any capital improvements, cradle to grave.
  - **No true "shovel-ready" projects**
  - **Every project requires planning, design, and management**

Table 3. Potential Financial Resources for CRW Capital Programs

Funding Type	Funding Source	Possible Capital-related applications	Timeframes/other considerations
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CRW General Fund	CRW rates, SDCs, other revenue	Studies, capital outlay, other	Available to budget biennial needs
Municipal Bonds	Bond marketplace	Most capital improvements	Typically come with time constraints on application and spending; CRW can only borrow what debt covenants/rates can allow (i.e. "pay-off")
Low Interest Loans	Various federal or state programs	May be loan program specific, some capital projects may qualify	Typically come with time constraints on application and spending; CRW can only borrow what debt covenants/rates can allow (i.e. "pay-off")
Grants	Various federal or state programs	May be grant program specific, some capital projects may qualify	Typically come with time constraints on application and spending; selection is competitive (no guarantee); (usually include cost-share (in-kind) component
Partnership/cost share	Partner agencies	Most capital projects; need-specific	Need-specific, but would require negotiated agreements

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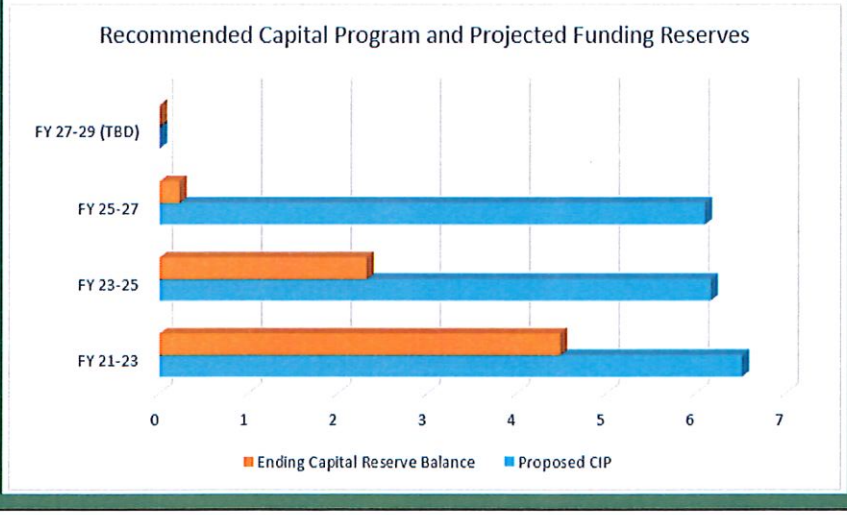
RECOMMENDED PLAN & FUNDING RESERVES

Figure 2. Recommended Capital Program and Projected Funding Reserves

- Assumed available funding includes existing capital reserves, plus $2M added per year. Does not include SDC reserves.
- Proposed CIP does not include studies or specific RRA "resilience" projects- assumed General Funded.
- Assumed future rates will add sufficient revenue to capital reserves



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RATES AND SYSTEM DEVELOPMENT CHARGES (SDC)

- Recommended plan would significantly draw down reserves by end of FY 25-27.
- Beyond 6-year planning period, borrowing would be proposed to address larger capital improvements.

- Assumed future rates will add sufficient revenue to capital reserves- suggested 5% per year rate increase starting in 2022 (after current 8-yr rate plan) to provide for debt covenants and reserve policy.
- SDC Reserves not included in recommended plan, even though we anticipate up to $1.5 million of SDC reserves available in next biennium.

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CONCLUSIONS & NEXT STEPS

- Recommended plan supports responsible planning, strategic objectives
- Balancing capital improvements with reasonable deferred maintenance
  - Doing nothing is not an option, not consistent with District mission and vision
  - Within CRW financial, staffing, and other resource limitations
- Proactive planning and funding of projects to meet established criteria promotes long term system health, reliability, and resilience.

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CONCLUSIONS & NEXT STEPS

- Recommended approach to timing and funding capital improvements for the next 6 years.
- Major investments like WTP improvements, that require borrowing, are projected beyond the 6-year period.
- The Board will affirm this approach and consider specific projects through the ongoing budget process (each biennium), and approval of future rate increases.
- A 5% annual rate increase, starting in 2022, will allow for the implementation of the recommended capital plan. This will be re-evaluated on a biennial basis as part of the budget process.
- This balanced approach allows for-
  - Progress in addressing identified needs
  - Better defining details for future improvements
  - Implementing improvements necessary for larger-scale future projects
  - Time to pursue activities that will influence funding options

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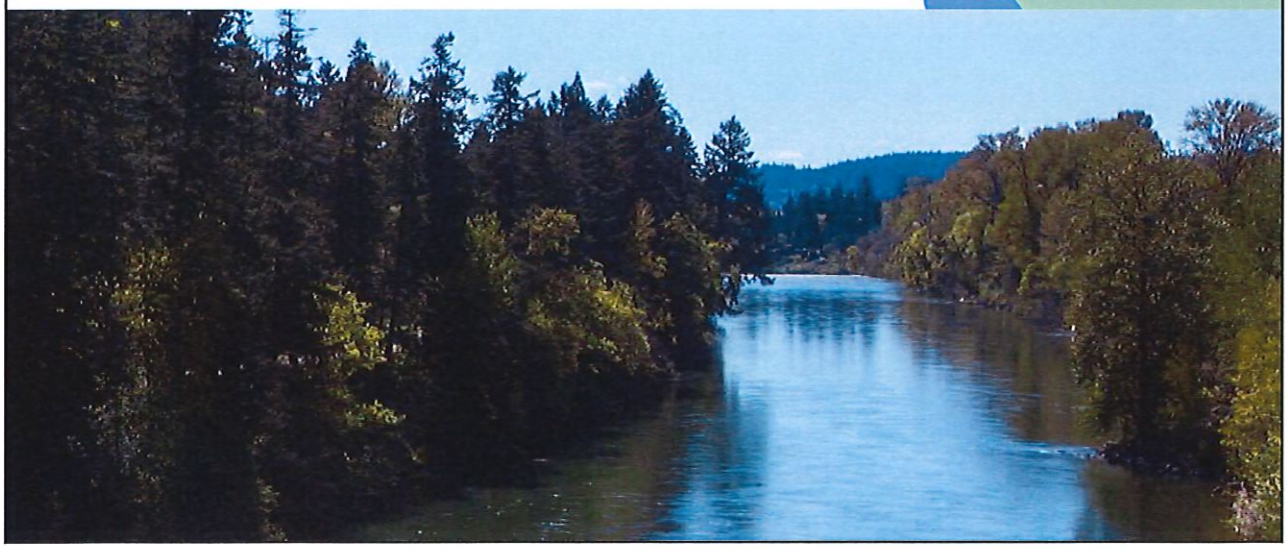
QUESTIONS



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Agenda Item – 3

CLACKAMAS RIVER WATER

BOARD WORK SESSION

February 22, 2021

SUBJECT	Report on the 2020 Board Goals for the General Manager
PRINCIPAL STAFF PERSON	Todd Heidgerken, General Manager
DOCUMENTS ATTACHED	Report on the implementation of the 2020 Board Goals for the General Manager

Agenda Summary

BACKGROUND

A prudent practice and part of the Board's contract with the General Manager, the General Manager is to report the progress of the previous calendar year goals annually in February. The purpose of this work session topic is to report on the implementation of the 2020 Board Goals for the General Manager.

On December 12, 2019 the Board approved the 2020 goals for the General Manager. The goals have been developed in four categories:

- Conduct planning activities to prepare CRW for the future
- Completion of current capital projects and preparation for the future
- Implement opportunities to expand communications with the Board and those relying on CRW for water
- Establish agreements that provide benefits and stability to CRW

Within these four goal categories there were 11 goal areas and 14 specific actions. The attached table provides more details on the actions and the progress on the respective actions.

The General Manager will review with the Board the attached information and answer any questions.

2020 Clackamas River Water (CRW) Board Goals for the General Manager

	Actions by December 31, 2020	Progress Report
Conduct planning activities to prepare CRW for the future		
Strategic Planning	• Complete CRW strategic planning process in order to provide direction and input for future CRW strategic priorities	• Complete. The Board accepted the strategic planning outcomes during the October Board meeting. This included a refreshed vision and mission, identification of values and the creation of three strategic goals.
Water Treatment Plant Facilities Master Plan	• Complete the water treatment plant facilities master plan	• In Process. A Board work session was held in January to review progress on the planning efforts and discuss options. In October, staff reviewed approach to future capital planning and confirmed a preferred alternative (Option 2b) for the consultant to focus on as part of the water treatment plant facilities master plan. The planning effort is anticipated to be completed by June 2021.
Emergency Preparedness Planning	• Complete the American Water Infrastructure Act (AWIA) Risk and Resilience Assessment (RRA) and certify process completion by December 30, 2020 as required by the Act	• Complete. The RRA is complete and certified prior to the December 30, 2020 deadline.
	• Initiate the CRW Emergency Response Plan (ERP) as required by AWIA (due in 2021)	• Initiation of ERP Complete. The ERP development has been started. An AWIA compliant template has been provided and integration of our existing Emergency Operations Plan into the template is underway. Given this early start, it is anticipated that the ERP will be completed well ahead of the deadline for completion which is June of 2021
Completion of current capital projects and preparation for the future		
Backbone Projects - Phase 1	• Complete remaining Phase 1 Backbone Projects	• Complete. The remaining Phase 1 Backbone Projects are complete. The Board was presented with a final overview during the June Board work session.
Prepare Plan for Funding Next Round of Capital Projects	• Review capacity and funding strategies for future capital projects	• Complete. The Board was presented information during the February Board work session regarding funding capacity and impacts on water rates. A follow up work session was held in October to review general approaches to paying for capital projects.
	• Outline projects that would be funded using future bond funding	• In Process. The October Board work session focused on infrastructure needs. Direction was provided from the Board that will be incorporated into a memorandum that will be presented and discussed at the February 2021 Board Work Session.
Implementation of Capital Improvement Projects (CIP)	• Continue to implement CIP projects approved in the 2019-2021 Budget and identify and report on progress	• Substantial Progress Consistent with Goal. In addition to County/City/State related projects, seven capital improvement projects have been identified in the 2019-2021 CIP. Four projects have been completed. Forsythe Road Waterline project is substantially complete (final paving remains) and the 82nd Drive Waterline project design is complete (projected construction completion July 2021). The status of projects is included in the Monthly Report.
Implement opportunities to expand communications with the Board and those relying on CRW for water		
Board	• Provide a "State of the District" report	• Complete. The report was presented to the Board during the March work session.
Customers/Public	• Complete Customer Survey and incorporate relevant information into the strategic planning process	• Complete. Results were presented to the Board during the March work session.

Establish agreements or processes that provide benefits and stability to CRW		
Clackamas Regional Water Supply Commission (CRWSC)	• Initiate discussions through either the CRWSC or the North Clackamas County Water Commission (NCCWC) to provide additional water to Sunrise Water Authority	• Initiation of Water Supply Agreement Complete. The CRWSC Board agreed with initiating discussions with the NCCWC to develop a water supply agreement. CRW has been waiting for the NCCWC to collect information regarding demands, supply points, and timing. NCCWC has recently collected that information and staff have held an initial meeting to discuss.
Oregon City Coordination	• Establish a process to clean up the service territory with Oregon City (Legacy issue to address the withdrawal of areas served by Oregon City yet still shown as part of CRW's service area) • Work with Oregon City to develop an agreement to address remaining issues identified in the Joint Engineering Study	• Completed Establishment of Process. Staff from Oregon City and CRW have been meeting to outline a process for the withdrawals. A consultant has been hired and a memorandum of understanding (MOU) has been entered into by both CRW and Oregon City to allow for costs to be shared. A process on how to proceed with the initial properties has been created. Staff is now working on identifying properties that would be subject to the withdrawal. • In Process. The initial focus has been on the withdrawal process (see update above). There is no additional progress to share on other items identified in the report.
Collective Bargaining Agreement	• Complete collective bargaining agreement	• Extended with Board Approval. The Board approved a one-year extension to the existing agreement and established a cost-of-living adjustment for one year and modified the agreement to reflect changes adopted by the Oregon Legislature.

Agenda Item – 4

CLACKAMAS RIVER WATER

BOARD WORK SESSION

February 22, 2021

SUBJECT	Commissioner Communications
PRINCIPAL STAFF PERSON	CRW Board of Commissioners
DOCUMENTS ATTACHED	

Agenda Summary

BACKGROUND

Time is being set aside during the work session to provide an opportunity for Commissioners to:

- Identify topics for consideration at future works sessions or board meetings;
- Discuss future agenda items.

Agenda Item – 5

CLACKAMAS RIVER WATER

BOARD WORK SESSION

February 22, 2021

SUBJECT	General Manager Update
PRINCIPAL STAFF PERSON	Todd Heidgerken, General Manager
DOCUMENTS ATTACHED	None

Agenda Summary

BACKGROUND	Time has been set aside to briefly update and inform the Board on topics since the February Board Meeting.