

Executive Summary

Consolidation Feasibility Study

CITY OF OTHELLO

and

Adams County Water District No.1

Basin View Water Association

Bird Dog Family LTD Partnership II

Highland Estates Water System

Meadow Lane Water Association

Othello Manor Water System

Rainier Tracts Water Association

Summerset West Water Association

August 31, 2016

Introduction and Background

In 2015 Drinking Water State Revolving Fund awarded the City of Othello several grants to study the feasibility of consolidating small water systems into Othello's water system. The goal of these consolidation feasibility studies is to provide the City of Othello and each small water system owner a basis for considering integration of the small water system into the City of Othello's water system. The analysis and alternatives for each system vary depending on the specific locations, conditions, and situations within the small system and its potential impact on the City of Othello's water supply and infrastructure.

Each of the eight individual system studies focuses on a specific individual system and therefore provides a narrow view, analysis and conclusions related only to the individual system with cost distributed on a "by system" basis to the users.

Purpose of Executive Summary

This summary represents the collective findings of the individual studies. The purpose of this Executive Summary is to provide a broader view of the consolidation, not as individual systems, but as groups of individual users, with the primary question to be answered being:

"Does the City have the capacity to extend water service to serve these users and can it be done at the current out of city rate of \$51/month while operating at a surplus?"

1.1 Executive Summary

Estimated Impact to the City Water System

Infrastructure

The City has adequate supply, storage and distribution capacity to provide service to the eight systems considered for consolidation. Improvements to the City's existing supply, storage and distribution infrastructure is not required.

Water Rights

- The City has adequate water rights to provide service to the eight systems
- The consolidation study assumes the existing water rights held by the eight systems will be transferred to the City of Othello
- The estimated demands of the eight water systems exceeds the potential volume of water rights transferred to the City

Estimated Cost to Consolidate the Water Systems

The estimated total cost to improve the eight existing systems to the City of Othello standards and extend City water service is estimated as follows (See Figure 1):

Estimated Cost to Improve Individual Systems:	\$5,354,000
<u>Estimated Cost to Extend City Water Service:</u>	<u>\$3,166,000</u>
Total:	\$8,520,000

Potential Funding

- The DWSRF Loan Program provides low-interest construction loans to publicly-owned (municipal) drinking water systems in Washington.
- Projects that involve consolidating two or more systems can receive up to 50 percent principal forgiveness.
- For systems receiving subsidies, loan rates are currently 1% per year with terms up to 24 years.
- Prior to applying for funds the proposed project needs to be included in an APPROVED Water System Plan (WSP) prior to the application deadline (September 30).
- A maximum of \$3,000,000 can be awarded to each water system/entity applying this loan cycle. Applications for restructuring (combining) systems may combine loan limits up to a maximum of \$6,000,000.

Estimated Debt Service

Annual/monthly debt service on an \$8.5 million dollar loan is estimated as follows:

1% for 20 years with no subsidy: \$472,000 / \$39,350

1% for 24 years with 50% subsidy: \$200,000 / \$16,750

Estimated Revenue

Annual/ monthly revenue of the eight systems is estimated based on current “outside” City water rates as follows:

\$398,000 / \$33,000

Conclusion

- The City has the supply, storage and distribution system capacity to provide service to the eight identified systems with no improvements needed to existing City infrastructure
- The City’s current water rights are adequate to provide service to the eight identified systems
- Consolidation will allow the transfer of additional water rights to the City though the estimated demands from the eight systems will exceed the water rights transferred to the City for a net decrease in available water rights
- The City can extend water service to the eight identified systems, improve the systems existing infrastructure to City standards, and if funded through DWSRF with 50% forgiveness do so with a net surplus at current “outside” City water rates
 - This does NOT include additional operation/maintenance/administrative costs which have not been estimated. The net surplus may cover or defray these potential expenses
- Extending City water system infrastructure to the eight systems may potentially allow other water systems and new developments in the area to connect to the extended City water

system which would bring in additional revenue at little to no additional cost (build it they will come philosophy)

- Extending service to this portion of the “Othello Growth Area” (as defined in Othello’s Comprehensive Plan) will:
 - Add users which will spread future costs of infrastructure improvements to more users lowering the future potential “per user” cost of improvements (supply/storage)
 - Utilizing DWSRF to extend City infrastructure through consolidation could potentially reduce by 50% the cost of extending service without consolidation

Important Notes

- One or more of the eight systems refusing to consolidate would affect the conclusions (in some cases significantly)
- Assurances would need to be obtained from DWSRF regarding the 50% principal forgiveness
- The costs estimated herein are “conceptual costs” and would need to be refined if the City desired to move forward with consolidation (this could be done during the forthcoming WSP update)
- The City may want to consider contacting other water systems and/or developers in the area to determine level of interest in consolidation to spread the cost out further
- Moving forward with consolidation will likely require substantial outreach by the City to take the existing interest shown by these systems and generate the momentum needed to turn the conceptual consolidation plan into a reality

The following sections provide supporting information for the above statements. Detailed information regarding the individual systems and consolidation impacts are provided in the eight individual system consolidation studies.

1.2 Estimated Impact to City Water System

1.2.1 Infrastructure (Supply, Storage and Distribution)

The City has adequate supply, storage and distribution capacity to provide service to the eight systems considered for consolidation. Improvements to the City's existing supply, storage and distribution infrastructure is not required to serve the eight systems.

1.2.2 Water Rights

The consolidation studies have evaluated the water rights and concluded the following:

- The City has adequate water rights to provide service to the eight systems
- The consolidation study assumes the existing water rights held by the eight systems will be transferred to the City of Othello
- The estimated demands of the eight water systems exceeds the potential volume of water rights transferred to the City

The following tables indicate which systems have water right certificates, which systems have water rights under the "permit exempt well", the estimated quantity of water rights that could potentially be transferred to the City (actual quantity would be determined by ECY), and the estimated net effect on the City's water rights post-consolidation/transfer.

Table 1: Current City of Othello Water System Demands

System	Water Right Type		Current Water Rights		Est. System Water Use	Net Effect on City Water Rights
	Permit Exempt Well	Water Right Certificate	Qi (gpm)	Qa (ac-ft/yr)	Qa (ac-ft/yr)	Qa (ac-ft/yr)
Adams Co. Water Dist. No.1	n/a	n/a			18.3	-18.3
Basin View Water Assoc.		X	50	38.0	10.6	27.4
Bird Dog Family Partnership II	X			5.6	32.5	-26.9
Highland Estates Water System		X	100	12.6	6.6	6
Meadow Lane Water System	X			5.6	5.6	0
Othello Manor Water System	X			5.6	98.5	-92.9
Rainier Tracts Water Assoc.	X			5.6	6.0	-0.4
Summerset West Water Assoc.		X	100	23.5	27.9	-4.4
Total			250	96.5	206.0	-109.5

Table 2: Post-Consolidation Water Rights - City of Othello

Description	Qi (gpm)	Qa (ac-ft/yr)
Current Water Rights	9,550	7,100.0
Water Rights Held by eight Systems ⁽¹⁾	250	96.5
Post-Consolidation Water Rights ⁽²⁾	9,800	7,196.5

⁽¹⁾ From Table 1

⁽²⁾ The actual quantity of transferable water rights will be determined by ECY

1.3 Estimated Cost to Consolidate the Water Systems

The estimated cost to improve the eight existing systems to the City of Othello standards and extend City water service is estimated as follows (See Figure 1):

Estimated Cost to Improve Individual Systems:	\$5,354,000
Estimated Cost to Extend City Water Service:	\$3,166,000
Total:	\$8,520,000

The following tables estimate the costs summarized above.

Table 3: Estimated Cost to Improve the Individual Systems to City of Othello Water System Standards

System	Estimated Cost ⁽¹⁾	Current Connections	\$/Conn.
Adams Co. Wtr Dist. No.1	\$ 2,620,000	338	\$ 7,800
Basin View Water Assoc.	\$ 420,000	22	\$ 8,200
Bird Dog Family Partnership II	\$ 98,000	51	\$ 4,500
Highland Estates Water System	\$ 205,000	16	\$ 12,800
Meadow Lane Water System	\$ 410,000	25	\$ 16,400
Othello Manor Water System	\$ 36,000	152	\$ 200
Rainier Tracts Water Assoc.	\$ 380,000	27	\$ 14,100
Summerset West Water Assoc.	\$ 1,185,000	72	\$ 16,500
Total	\$ 5,354,000	703	\$ 7,600

⁽¹⁾ From individual system consolidation feasibility reports

Table 4: Estimated Cost to Extend City Service to Consolidate the Water Systems ⁽¹⁾

Description	Est. Quan.	Units	Unit Price	Amount
Transmission Main: 8-inch				
Transmission Main	14,200	LF	\$28	\$397,600
Valves, fittings, restraints	14,200	LF	\$7	\$94,667
Fire hydrants	14,200	LF	\$9	\$127,800
Service connections	14,200	LF	\$2	\$25,560
Surface Restoration	14,200	LF	\$2	\$28,400
Transmission Main: 10-inch				
Transmission Main	8,200	LF	\$32	\$262,400
Valves, fittings, restraints	8,200	LF	\$8	\$65,600
Fire hydrants	8,200	LF	\$9	\$73,800
Service connections	8,200	LF	\$2	\$14,760
Surface Restoration	8,200	LF	\$2	\$16,400
Transmission Main: 12-inch				
Transmission Main	2,800	LF	\$35	\$98,000
Valves, fittings, restraints	2,800	LF	\$10	\$28,000
Fire hydrants	2,800	LF	\$9	\$25,200
Service connections	2,800	LF	\$2	\$5,040
Surface Restoration	2,800	LF	\$2	\$5,600
Transmission Main: 14-inch				
Transmission Main	4,900	LF	\$38	\$186,200
Valves, fittings, restraints	4,900	LF	\$15	\$71,867
Fire hydrants	4,900	LF	\$9	\$44,100
Service connections	4,900	LF	\$2	\$8,820
Surface Restoration	4,900	LF	\$2	\$9,800
Railroad Crossings				
16" Casing / 8" Carrier	60	LF	\$500	\$30,000
24" Casing / 12" Carrier	60	LF	\$600	\$36,000
Irrigation Canal Crossings				
24" Casing / 10" Carrier	200	LF	\$500	\$100,000
36" Casing / 14" Carrier	200	LF	\$700	\$140,000
Other				
PRV Stations	2	EA	\$15,000	\$30,000
Subtotal				\$1,926,000
Mobilization 10%				\$193,000
Contingency 20%				\$385,000
Estimated construction cost				\$2,504,000
Environmental approvals allowance (assuming must meet DWSRF loan requirements)				\$36,000
Engineering 25% (design, construction management/inspection)				\$626,000
ESTIMATED PROJECT COST				\$3,166,000

⁽¹⁾ See attached Figure 1

1.4 DWSRF Consolidation Loan/Grant Funding Program

If consolidation is desired an attractive funding source would be using the DWSRF loan program. Pertinent DWSRF program information is summarized below.

Program Description and Goals

The Washington State Legislature passed laws to create a DWSRF Loan Program consistent with federal law. Loan repayments, loan interest, and State match funds supplement the federal capitalization grant.

The DWSRF Loan Program provides low-interest construction loans to publicly-owned (municipal) drinking water systems in Washington. The DWSRF Loan Program goals are:

- Provide loans to water systems for capital improvements that increase public health protection and compliance with drinking water regulations.
- Protect the health of the people of Washington State by ensuring safe and reliable drinking water.

Subsidy (grant)

DOH is required to award subsidy, or principal forgiveness, in an amount equal to 20 to 30 percent of the capitalization grant award. Principal forgiveness will be awarded based on the following criteria:

- Projects where the average monthly water rate with the loan will exceed 2.0 percent of the median household income (MHI) for the service area (also known as the Affordability Index) can receive up to 30 percent principal forgiveness.
- Projects where the average monthly water rate with the loan will exceed 3.5 percent of the MHI for the service area can receive up to 50 percent principal forgiveness.
- **Projects that involve a consolidation of another system can receive up to 50 percent principal forgiveness.**
- If subsidy funds are still available after awarding subsidy as described above, up to 30 percent principal forgiveness will be awarded to applicants with a debt service coverage ratio of less than 1.20.

Not all systems that qualify for subsidy and are on the eligible funding list may necessarily receive it. There will be a set amount available and it will be awarded based on project score.

Maximum Award

The maximum of \$3,000,000 can be awarded to each water system/entity applying this loan cycle. Multiple owners of one project (shared facilities) that are restructuring (combining) systems may combine loan limits up to a maximum of \$6,000,000.

Loan Terms

Eligible restructuring/consolidation projects proposed by municipal Group A water systems. Projects must result in a change in ownership.

Interest Rate: 1% interest rate on loan and 50% Principal Forgiveness

Loan Fee: 0

Loan Repayment Period: 24 years or life of the project, whichever is less

Reduced interest and subsidy is limited. Not all water systems that are eligible for subsidies will receive principal forgiveness and reduced interest rates.

Eligibility/Planning Documents

All applicants are required to have an approved water system plan (WSP), a small water system management program (SWSMP), or plan amendment containing the proposed DWSRF project prior to submitting a funding application. Application cycle deadline is generally September 30th of the respective year.

If consolidation were to be pursued the consolidation would need to be included in the City's upcoming WSP update with the final WSP submitted to and approved by DOH prior to September 30. Funding the entire consolidation effort through DWSRF would require a minimum of 2 applications over 2 years

1.5 Estimated Debt Service

The debt service on the estimated costs funded through the DWSRF program is estimated in the following table.

Table 5: Estimated Debt Service

Description	Improve individual systems to City of Othello Water System Standards	Extend City water service	Total
Estimated Cost	\$ 5,354,000	\$ 3,166,000	\$ 8,520,000
DWSRF Loan			
Estimated Annual Debt Service ⁽¹⁾	\$ (252,031.37)	\$ (149,034.61)	\$ (401,065.98)
Estimated Monthly Debt Service	\$ (21,002.61)	\$ (12,419.55)	\$ (33,422.17)
Connections	703	703	703
Monthly cost per connection	\$ (30)	\$ (18)	\$ (48)
DWSRF Loan w/50% loan forgiveness			
Estimated Debt Service ⁽¹⁾	\$ (126,015.69)	\$ (74,517.31)	\$ (200,532.99)
Estimated Monthly Debt Service	\$ (10,501.31)	\$ (6,209.78)	\$ (16,711.08)
Connections	703	703	703
Monthly cost per connection	\$ (15)	\$ (9)	\$ (24)

⁽¹⁾ Loan terms: 1% annual interest rate, 24 year repayment

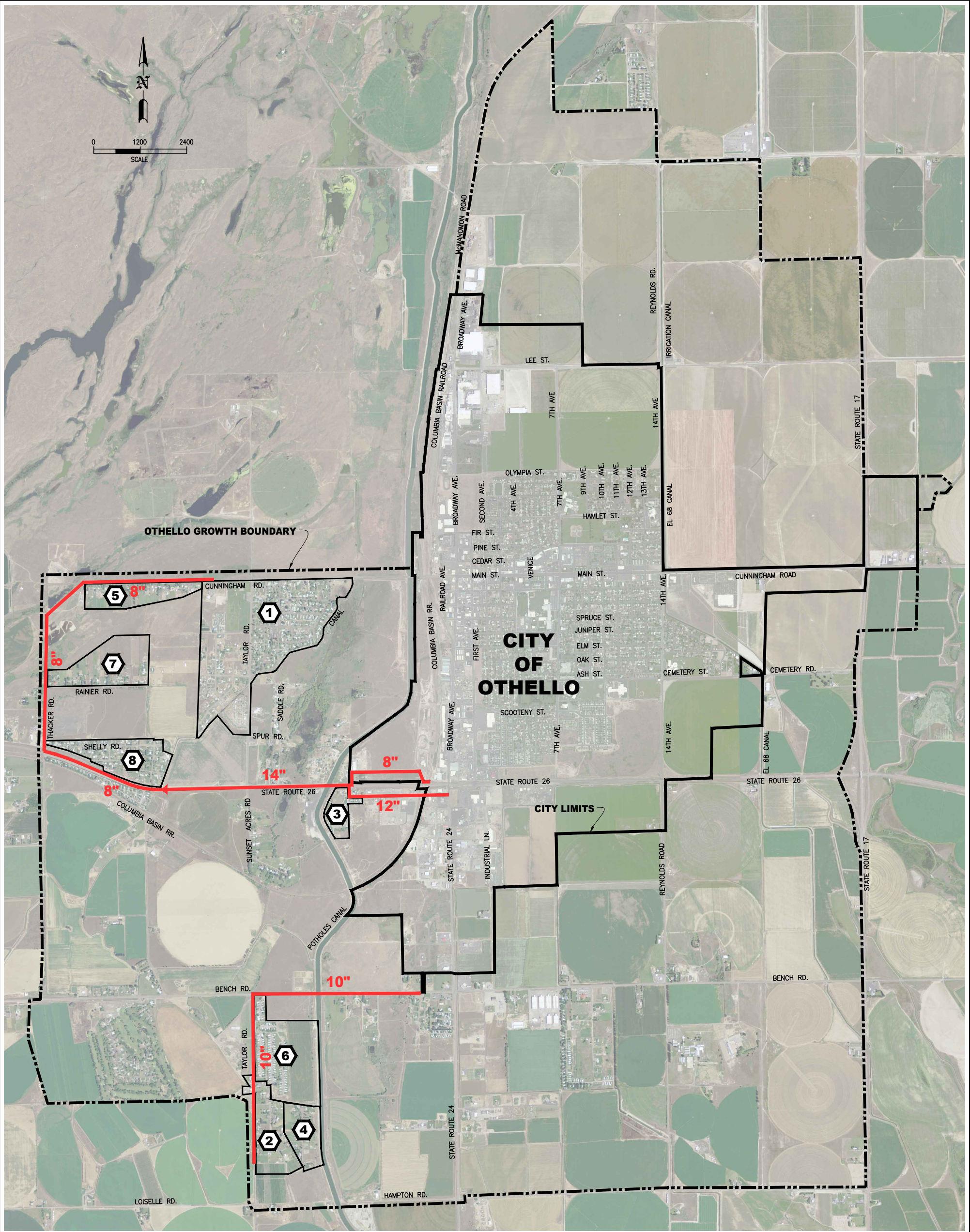
1.6 Estimated Revenue

The potential revenue associated with consolidating the eight systems is estimated in the following table.

Table 6: Estimated Revenue

System	Current Connections	Monthly Water Fee ⁽¹⁾ (outside City)	Estimated Monthly Revenue	Estimated Annual Revenue
Adams Co. Wtr Dist. No.1	338	\$ 51.23	\$17,300	\$207,600
Basin View Water Assoc.	51	\$ 51.23	\$2,600	\$31,200
Bird Dog Family Partnership II				
Residential Connections	7	\$ 51.23	\$400	\$4,800
Proposed 100 Unit Housing Development (4-inch Meter)	(n/a)	(n/a)	\$2,133	\$25,600
Highland Estates Water System	16	\$ 51.23	\$800	\$9,600
Meadow Lane Water System	25	\$ 51.23	\$1,300	\$15,600
Othello Manor Water System				
152 Unit Mobile Home Park (6-inch meter)	(n/a)	(n/a)	\$3,625	\$43,500
Rainier Tracts Water Assoc.	27	\$ 51.23	\$1,400	\$16,800
Summerset West Water Assoc.	72	\$ 51.23	\$3,700	\$44,400
Total			\$33,200	\$397,900
Estimated Debt Service (DWSRF W/50% loan forgiveness)			(\$16,700)	(\$200,500)
Estimated Net Surplus			\$16,500	\$197,400

⁽¹⁾ Does not include overage charges



- 1** ADAMS COUNTY WATER DISTRICT #1 – SYSTEM ID: 22525 X
• 341 CONNECTIONS
• OTHELLO WATER SYSTEM INTERTIE – UNKNOWN CAPACITY
- 2** BASIN VIEW WATER ASSOCIATION – SYSTEM ID: 04530 N
• 22 CONNECTIONS
• OTHELLO MANOR WATER SYSTEM INTERTIE – 300 GPM
• WELL #1 – 35 GPM
- 3** BIRD DOG FAMILY LTD PARTNERSHIP II – SYSTEM ID: 52172 8
• 58 CONNECTIONS
• WELL #1 – 33 GPM
- 4** HIGHLAND ESTATES WATER SYSTEM – SYSTEM ID: 32736 0
• 16 CONNECTIONS
• WELL #1 – 56 GPM

- 5** MEADOW LANE WATER ASSOCIATION – SYSTEM ID: 53190 T
• 25 CONNECTIONS
• WELL #1 – 70 GPM
- 6** OTHELLO MANOR WATER SYSTEM – SYSTEM ID: 64845 3
• 152 CONNECTIONS
• WELL #1 – 300 GPM
- 7** RAINIER TRACTS WATER ASSOCIATION – SYSTEM ID: 70910 M
• 20 CONNECTIONS
• WELL #1 – 45 GPM
- 8** SUMMERSET WEST WATER ASSOCIATION – SYSTEM ID: 85080 M
• 72 CONNECTIONS
• WELL #1 – 200 GPM

SCALE: AS SHOWN
DESIGNED: -
DRAWN: TVP
CHECKED:
APPROVED:
PROJ. NO.: 172-08
DATE: 8/26/16



VARELA AND ASSOCIATES, INC.
ENGINEERING AND MANAGEMENT

CITY OF OTHELLO, WASHINGTON
WATER SYSTEM CONSOLIDATION FEASIBILITY STUDIES

CONSOLIDATION FEASIBILITY STUDY
EXECUTIVE SUMMARY

FIGURE

1