

SECTION VIII

SECTION VIII – CAPITAL IMPROVEMENT PROGRAM

This Capital Improvement Program (CIP) has been developed in a manner consistent with the City's water system needs as well as State and federal regulations. Water System Plan (WSP) Updates are typically required every six years. Therefore, a schedule of improvements must extend at least 6 years into the future to correspond with the next 6-year WSP Update. Schedules for improvements outside of the 6-year planning period are not required.

SUMMARY OF CAPITAL IMPROVEMENTS

The following is a summary of the capital improvements that are identified in the various preceding sections of this WSP Update. Summaries of operational improvements are provided in Section VI. Unless otherwise stated, the opinions of cost in this report are based on implementation of the improvements through a public bid process. Unit costs are based on recently constructed projects in southwest Washington. Total project costs for the improvements are estimated using a 25% construction contingency, sales tax, mobilization, and adjusted unit prices where construction conditions may be difficult or where materials are expected to be marked up due to relatively limited quantity on the job site. Administrative, legal, engineering, environmental, permitting and construction management costs are added to the subtotal of construction costs and contingencies. The planning level estimates are conservative to ensure that adequate funding is appropriated for each project. Industry standards for planning level estimates should be accurate within a range of minus 20% to plus 50%. Specific project cost estimates are included in Appendix H.

- A. Ranney Well Source Project – 2-3 new laterals will be installed to increase the output capacity of the Ranney Well to match the water rights of 2,800 gpm. An emergency generator and other electrical improvements will also be installed. Upon completion of the project the Ranney Well will have 5-6 operating laterals, three pumps of which only two are needed to meet that treatment plant capacity, and an emergency generator. A preliminary opinion of cost for the improvements is \$1,140,000 and construction would be completed by 2014.

- B. WTP Ventilation Improvements – The existing WTP has had an ongoing ventilation problem due to chlorine off gassing during filter backwash cycles. The City will install ventilation panels over the treatment units to improve operator safety and to prolong the life of the WTP equipment and building.

The City will also complete some electrical and control upgrades to the plant. A preliminary opinion of cost for the improved ventilation system is \$203,000. The City is looking to complete engineering in 2016, ventilation improvements in 2017, and electrical improvements in 2018.

- C. Additional Reservoir Storage – The storage analysis indicates the City will require approximately 245,000 gallons of additional storage by the year 2033. The City's goal is to install a minimum 500,000 gallon reservoir by the year 2027. The existing water treatment plant site has room for another reservoir and is considered the most likely option. While a reservoir on the west side would provide some redundancy, the lack of high ground would mean a west side reservoir would require a booster pumping station. Constructing the reservoir in the low area would also mean constructing it to meet strict seismic requirements due to liquefaction concerns over most of the City. The water treatment plant site has available land, eliminates a pumping station, and does not have the liquefaction concerns of the rest of the City. A preliminary opinion of cost for the additional reservoir is \$1,340,000.

- D. Lakeshore Drive and Island Aire Drive – This water main project is needed to meet DOH minimum fire flows and City of Woodland Fire Flow Goals. The improvement includes approximately 2,100 feet of 12" water main along Lakeshore Drive and through Horseshoe Lake Park, 600' of 8" water main on Lakeshore Drive south of Island Aire Drive, and approximately 450 feet of 6" water main at the end of Island Aire Drive. A preliminary opinion of cost for this improvement is \$334,000.

- E. Scott Avenue/SR 503 - A project along Scott Avenue and SR 503 between Goerig Street and Scott is needed to meet the City's fire flow goals and will also provide a significant level of reliability to the east side of the City's water system. If a problem were to occur in the City's current 12" water main feeding the east side of the water system, the existing water main along Scott Avenue and SR 503 cannot supply the necessary water to the east side of the system. The improvement requires approximately 1,400 linear feet of 12" water main on Scott from Goerig to SR 503 and 1,000 of 12" water main along SR 503 from Scott to Goerig. A preliminary opinion of cost for this improvement is \$265,000.

In November 2012 the City was awarded a \$2,000,000 grant from the Transportation Improvement Board to re-construct the Scott/SR 503 Intersection and \$260,000 to re-pave East Scott. The City is looking to complete this waterline improvement as part of those larger road projects within the next 3 years.

- F. SR 503, Scott to Gun Club – This improvement to meet fire flow goals would replace 2,314' of existing 6" water main along SR 503 with 12" water main. A preliminary opinion of cost is \$256,000.
- G. SR 503, Salmon Street to McCracken Road - Improvement to meet City fire flow goals requires approximately 1,200 feet of 12" water main. A preliminary cost estimate for this project is \$133,000.
- H. 5th Street north of Bozarth – Improvement to meet City fire flow goals requires approximately 650 feet of 8" water main from Bozarth to the Primary School and has a cost estimate of \$66,000.
- I. South Pekin Project –To meet the projected 20-year MDD plus the City's fire flow goals will require approximately 1,450 linear feet of 12" water main. 871' of the water main would be between Marty and Windflower, the other 579' would be between Lake Street and the Lilac Gardens. A preliminary opinion of cost for this improvement is \$160,000.
- J. Treatment Plant Road – This water main improvement will be needed to meet the projected 20-year MDD plus DOH minimum fire flows. The improvement will include approximately 1,000 feet of 12" water main. A preliminary opinion of cost for this improvement is \$111,000.
- K. West Scott Connector – A projected recommended for reliability and to loop the distribution system that will include a bore crossing under the railroad tracks. The project will include approximately 800 linear feet of 12" water main and approximately a 100' bore under the railroad tracks. A preliminary opinion of cost for this improvement is \$162,000.
- L. Scott Hill Booster Station – To provide water service to the future Scott Hill Park and a few homes near the treatment plant, a booster pump station needs to be installed. A preliminary opinion of cost for this improvement is \$368,000.

CAPITAL IMPROVEMENT PROGRAM SCHEDULE

Project schedules are based on priorities established by the City Council and are adjusted based on financial considerations and effects of project scheduling on other City projects. The City has identified safe and reliable service, low costs, financial viability and regulatory compliance as the highest priorities for

the water system. Recommended improvements must be prioritized with regard to implementation in either the 6-year or 20-year planning period. A recommendation for implementation in the 6-year period signifies a high priority and the improvement should be implemented prior to the next WSP update. A 20-year recommendation signifies that the improvement is not a significant priority and can be implemented after the next WSP update. The primary factors considered for prioritization of each of the operation program improvements and capital improvements are identified in Table VIII-1.

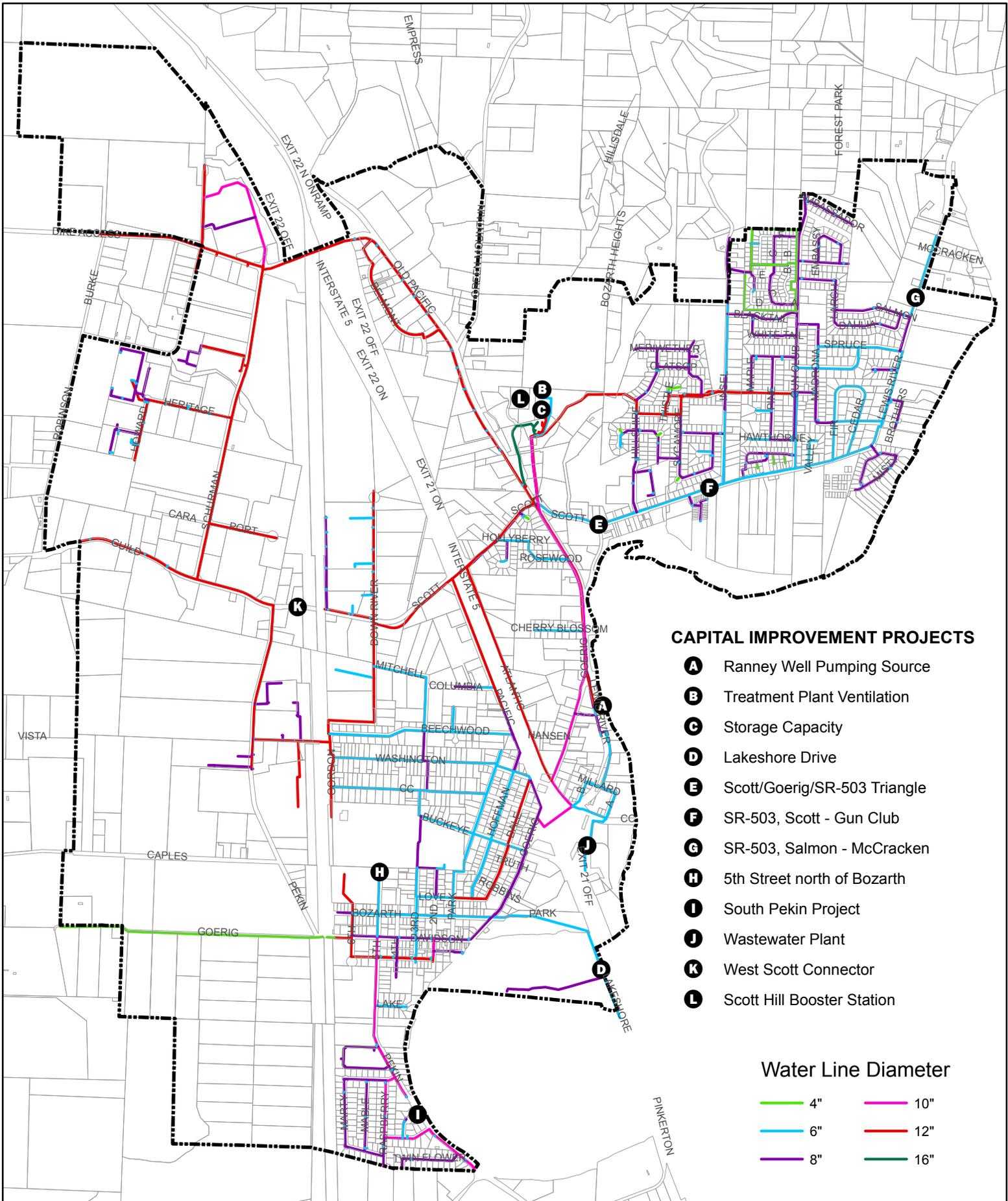
Table VIII-1 Project Scheduling Basis

No.	Description	Scheduling Basis
Operations Program		
1	Large Meter Replacement	6-year Planning Period – City will be replacing all older meters 2" and larger within the 6-year planning period. 3" and 4" meters will be replaced by the end of 2013
2	Large Scale Small Meter Replacement	20-year Planning Period – Smaller meters to be replaced when found to be broken or in need of repair.
3	Leak Detection	20-year Planning Period – City will focus on meter replacement in 6-year time period. Leaks will be repaired if they are found.
Capital Improvement Program		
A	Ranney Well Source Project	6-year Planning Period – City has secured \$973,000 PWTF Loan and will be conducting hydrogeological investigation in December of 2012. Project completion in winter of 2014.
B	Ventilation panels over the treatment units, electrical improvements	6-year Planning Period – Moderate short term priority, High long term priority for operator safety and to protect equipment from chlorine off gassing during filter backwash cycles. City has budgeted funds to complete design in 2013. Construction timing based on availability of funds in 2014.
C	Construct additional storage	20-year Planning Period – Low Priority – Storage is adequate through 2027. Will be further evaluated in the next WSP
D	Lakeshore Drive/Island Aire Drive Water Main	20-year Planning Period – While this is a high priority due to the current deficiency in meeting minimum DOH fire flow requirements, the City does not anticipate any funds to complete this project within the next six years.
E	Scott Avenue/SR 503	6-year Planning Period – City will attempt to coordinate work with street improvements planned in 2013 and 2015. Funding is expected to come from reserves and operating funds.
F	SR 503, Scott to Gun Club	20-year Planning Period – City will attempt to coordinate work with future street improvements. Funding is not anticipated within six years.
G	Lewis River Hwy(Salmon St. to McCracken Rd) Water Main	20-year Planning Period - Low Priority to meet City fire flow goals.
H	5 th Street north of Bozarth	20-year Planning Period – Low Priority to meet City fire flow goals
I	South Pekin Project	20-year Planning Period – Low Priority to meet City fire flow goals.
J	Treatment Plant Road Water Main	20-year Planning Period – Low priority to meet City fire flow goals.
K	West Scott to Guild Rd/N. Pekin Road Water Main Loop	20-year Planning Period – Low Priority to provide additional distribution system looping and reliability.
L	Scott Hill Booster Station	20-year Planning Period – To be installed when future park is developed.

The CIP Schedule is shown in Table VIII-2. Recommended implementation dates for the projects are based on the above priorities and integrated with the financial program analysis and recommendations in Section IX. The CIP and related basis of the recommendations in other Sections of this WSP are based on the best information available and represents a significant investment of resources by the City to reach a comprehensive understanding of water system issues. In summary, the CIP schedule should be evaluated on an annual basis and modified as needed during the City's annual budgeting process.

TABLE VIII-2 CAPITAL IMPROVEMENT PROGRAM SCHEDULE

CIP #	DESCRIPTION	2013	2014	2015	2016	2017	2018	FUNDING
1	Large Meter Replacement	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	O&M
2	Small Meter Replacement	Not Currently Scheduled in 6-year CIP						
3	Leak Detection	Not Currently Scheduled in 6-year CIP						
A	Ranney Well Source	\$300,000	\$840,000					PWTF/Reserves
B	Treatment Plant Ventilation				\$44,000	\$32,000	\$127,000	Rural County /Reserves
C	Storage Capacity	Not Currently Scheduled in 6-year CIP						
D	Lakeshore Drive	Not Currently Scheduled in 6-year CIP						
E	Scott/Goerig	\$110,000		\$155,000				Reserves
F	SR-503, Scott – Gun Club	Not Currently Scheduled in 6-year CIP						
G	SR-503, Salmon – McCrk.	Not Currently Scheduled in 6-year CIP						
H	5 th Street north of Bozarth	Not Currently Scheduled in 6-year CIP						
I	South Pekin Project	Not Currently Scheduled in 6-year CIP						
J	Wastewater Plant	Not Currently Scheduled in 6-year CIP						
K	West Scott Connector	Not Currently Scheduled in 6-year CIP						
L	Scott Hill Booster Station	Not Currently Scheduled in 6-year CIP						



CAPITAL IMPROVEMENT PROGRAM MAP
Water System Plan
Figure VIII-1

