City of Ontario, Oregon

WATER SYSTEM MASTER PLAN

2020

anderson perry & associates, inc.

engineering · surveying · natural resources

LA GRANDE, OR. WALLA WALLA, WA. REDMOND, OR. HERMISTON, OR.

1901 N. Fir Street
La Grande, Oregon 97850
(541) 963-8309
www.andersonperry.com

WATER SYSTEM MASTER PLAN

FOR

CITY OF ONTARIO, OREGON

OCTOBER 2020

DRAFT FOR AGENCY REVIEW

ANDERSON PERRY & ASSOCIATES, INC.

La Grande, Redmond, and Hermiston, Oregon
Walla Walla, Washington

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Executive Summary

Introduction

This Executive Summary briefly summarizes the Water System Master Plan (WSMP) prepared by Anderson Perry & Associates, Inc., for the City of Ontario, Oregon. The recommendations outlined hereafter have been developed in cooperation with the City of Ontario's Public Works Department as contracted through Jacobs Engineering Group, Inc. The focus of this WSMP is on the City's water system components, including the water supply, treatment, storage, and distribution systems. This WSMP includes an analysis of the existing systems and their performance, an evaluation of system needs and improvement alternatives, and a summary of the City's current water department financial status and potential funding opportunities for improvements. Included in this Executive Summary is a brief discussion of the population, design criteria, summary of the evaluation and needs of water system components, categories of improvements and summary of costs, and potential action items related to this WSMP. For a more detailed discussion of the information presented in this Executive Summary, refer to the individual chapters of this WSMP.

Objectives of this Water System Master Plan

The primary objectives of this WSMP are to accomplish the following:

1. Establish planning criteria.

2. Analyze the individual components of the existing water supply system considering capacity, compliance with current water quality standards, water rights, condition of components, operational dependability, and cost of operation. Potential water supply system improvements to meet the planning criteria are identified.

3. Analyze the existing water storage facilities considering capacity, condition of reservoirs, and distribution system pressures. Potential reservoir improvements to meet the planning criteria are identified.

4. Update the existing water model, identify distribution system deficiencies and alternatives for meeting current and future water system needs. Provide an updated map of the City's existing distribution system based on the updated water model.

6. Prepare a summary of current and future water system needs, as well as recommended improvements with associated estimated costs and layout schematics. Estimated costs will be presented with a prioritized Capital Improvements Plan.

Population

To estimate future water system demands, population projections must be made. The City of Ontario's 2019 Portland Research Center-estimated population of 11,485 was used as the basis for current population and water use analysis in the development of this WSMP.

Population projections for this WSMP are based on a residential annual growth rate of 0.5 percent per year through the planning year 2040, resulting in a population within the city limits of 12,753 by 2040. Chapter 2 of this WSMP presents more information on historic and projected populations within the City of Ontario.

In recognizing the potential to bring in additional water service customers located in commercial and industrial zoned areas of both the city limits and the urban growth area, an additional increase in water demands has been incorporated into the water system analysis. Based on discussions with City staff, two industrial/commercial projected 2040 growth scenarios were developed. The scenarios project residential growth with both an additional 2.0 million gallons per day (MGD) and 4.0 MGD of commercial growth. The larger demand growth projection with 4.0 MGD of additional commercial demand was used in the development of potential future improvements needed to address City growth.

Design Criteria

When establishing design standards for a water system, primary consideration must be given to state and federal rules and regulations governing water quality and construction standards for water systems. These regulations are set by both the Environmental Protection Agency and Oregon Health Authority - Drinking Water Services (DWS). In addition to these public health and safety requirements, many other factors control the design parameters for municipal water systems, as discussed in Chapter 2.

Chapter 2 presents a summary of the water system design criteria for evaluating the existing water system and developing improvements to satisfy present and future needs for each. Application of these criteria is discussed further in the specific chapters that address the water supply, treatment, storage, and distribution system facilities.

Existing Water System

The City of Ontario utilizes water drawn from the Snake River along with six shallow alluvial wells to supply the City with water. The Snake River is the City's primary water supply source. The City currently holds groundwater rights allowing up to 14.28 cubic feet per second (cfs) (6,400 gallons per minute [gpm]) to be withdrawn from City wells. The City currently holds a permitted surface water right allowing up to 20.1 cfs (9,020 gpm) to be withdrawn from the Snake River.

Both well water and surface water are treated at the City's existing water treatment facility. The water treatment facility consists of an "old plant" constructed in 1981 and a "new plant" constructed in 2005. Both treatment plants induce coagulation and then remove the floc particles by gravity (old plant) or through an upflow adsorption clarifier (new plant). The City's water treatment plant is reported to have a treatment capacity of 10.0 MGD (6,940 gpm).

Currently, the City has four operating water storage reservoirs, all of which are actively used, with a total available storage volume of 10.76 million gallons (MG). Existing reservoirs include the Eastside Reservoirs (A and B), Westside Reservoir, and Bench Reservoir.

The City's distribution system consists of a piping network along with three booster pump stations that provide water and system pressure to the City's users. The City has more than 480,000 feet of piping in its distribution system. The distribution system piping consists of asbestos cement, ductile iron, polyvinyl chloride, and steel piping. Piping within the distribution system generally ranges from 2- to 24-inch diameter, with the majority being 6-, 8-, and 12-inch piping.

Water Quality Requirements

The City of Ontario's water system comes under the jurisdiction of the DWS. The DWS assumed primary (responsibility) from the U.S. Environmental Protection Agency (EPA) in February 1986 for enforcement of the federal Safe Drinking Water Act (SDWA). Therefore, the City works primarily with the DWS as the regulating agency with regard to their water system. The City has not received any regulatory violations from the DWS in the last 5 years.

The DWS conducted a sanitary survey of the Ontario water system on June 15, 2017. The only deficiency noted was the lack of a continuous chlorine analyzer with a low-level alarm at the discharge location of the booster pump station adjacent to Eastside Reservoirs 3A and 3B. This has since been corrected.

In summary, many regulations affect operation of the City of Ontario's water system. The City of Ontario has good water quality with a well-run water system meeting federal and state water quality criteria.

Deficiencies

The deficiencies of the water system are outlined hereafter.

Supply and Treatment

- Current water treatment capacity will not meet projected future demands. It is estimated that the water treatment capacity is currently approximately 1.0 MGD below system water supply capacity needs.
- Current treatment capacity can barely meet current peak day demands and will not meet projected future demands.
- The WesTech treatment system has some operational challenges in treating surface water.
- Some equipment/infrastructure at the existing water treatment plant has exceeded its useful service life. This is discussed further in Chapters 3 and 6.

Storage

- The Bench Reservoir storage capacity is not fully utilized. The Bench Reservoir has a storage capacity of 3.0 million gallons (MG). However, only 2.0 MG of this storage capacity is currently utilized to avoid over-pressurizing the distribution system to fill the Bench Reservoir. Refer to Chapter 4 for further discussion.
- The Eastside Reservoirs have exceeded their service life and need to be replaced.
- Current water storage capacity does not meet projected future storage requirements. It is projected that 1.0 MG to 4.0 MG of additional storage may be needed by 2040, depending on commercial growth in the community. Refer to Chapter 4 for further discussion.

Distribution

- The Distribution system does not adequately serve areas expected to experience future commercial and industrial growth.

- A few localized areas have poor distribution system looping, which limits water circulation (potentially impacting water quality) and fire flow capacity.

Summary of Existing Water Supply and Treatment, Storage, and Distribution System Recommended Improvements

Supply and Treatment

The following summarizes potential options for the City to develop and/or acquire additional source water and treatment capacity. These options are listed in order of priority.

1. 2.0 MGD Expansion at Existing Water Treatment Plant

- Install a new 2.0 MGD WesTech Trident (or similar) treatment/filtration basin in the existing water treatment plant that was previously constructed with the required concrete pad and associated piping to accommodate an additional treatment basin.
- Utilize an improved filter media more suitable to surface water treatment (mixed media adsorption clarifier configuration) in both the existing treatment basins and the new treatment basin.
- Increase pumping from supply sources by 2.0 MGD (surface water and/or groundwater) to feed the new treatment equipment.
- This is anticipated to address the current 1.0 MGD supply deficiency and provide an additional 1.0 MGD of supply capacity to meet future development-related demands.

2. Secure City Water Right Permits

- An extension of time to beneficially use the City's surface water right has been filed. Once the extension is granted, a Claim of Beneficial Use (COBU) to "prove up" on the City's surface water withdrawal or a water right permit amendment to add surface water right points of diversion is recommended to be submitted to the Oregon Water Resources Department (OWRD).
- Water right transfer T-8078 (which provided multiple diversion points for most of the City's groundwater rights) requires a COBU be filed by October 1, 2025 (one year after the water must be beneficially used.) It is recommended that the City submit either a COBU to certify the water right for the current pumping capacity of all the City's wells or a permit amendment to add groundwater right points of diversion.
- Once the extension of time on the City's surface water right has been granted and both surface water and groundwater right COBUs filed, a transfer application, including the certificated portion of the surface water right and groundwater permit G-4485, can be submitted to allow multiple shallow alluvial well and surface water diversion points. Additionally, water right permit amendments may need to be filed on the "non-certified" portions of the water right permits to add additional points of appropriation to the permitted water rights.

- Coordination with OWRD staff on the City's intended path to water right transfers and permit amendments is recommended prior to submitting COBUs or permit amendments.

3. 8.0 MGD Treatment Expansion

- Expand water treatment capacity at either the existing treatment plant site or the proposed north site to meet projected residential, commercial, and industrial growth.
- Increase the City's surface water source capacity to accommodate treatment expansion by increasing the Snake River raw water withdrawal capacity.
- Consider system reliability, redundancy, and operations with the selection of a new treatment plant site.

Storage

Based on discussions with City staff, development patterns, system operations, and future water demands, operational changes to existing storage reservoirs and further development of new water storage should be implemented to address future growth.

Water levels in the Bench Reservoir are controlled by distribution system pressures provided by the Eastside and Westside booster pump stations. Due to this configuration and a single pressure zone in the distribution system, maximum water levels in the reservoir can only reach 30 feet (of the total 48-foot reservoir height) before distribution system pressures when trying to fill the Bench Reservoir from the booster pump stations become high. With system improvements, water would ideally be delivered directly to the Bench Reservoir through a booster pump system and transmission line. This would allow for full utilization of the Bench Reservoir storage volume, providing the system with approximately 1.0 MG of additional storage.

The Eastside Reservoirs were constructed in the 1960s and have surpassed their service life. Recently, the reservoirs have had significant maintenance costs and should be replaced. Replacement of the Eastside Reservoirs both at the existing Eastside Reservoir site and at the existing treatment plant site was evaluated in this plan. The new reservoir(s) could be installed at either site. However, one 3.0 MG reservoir constructed at the existing water treatment site is recommended and would consolidate operations, decrease system pressure losses, and improve distribution system water circulation and resulting pressures.

Based on the 2040 projected population growth, the City will require a new storage reservoir (in addition to the existing full 3.0 MG Bench, Eastside, and Westside Reservoirs capacity) in the next 10 to 20 years. It is recommended a 3.0 MG ground-level storage reservoir be constructed adjacent to the existing Bench Reservoir. Adding storage capacity at a raised elevation would decrease the City's reliance on booster pumps and allow for continued gravity-fed pressure in an extended power outage. Depending on what water supply options are developed to utilize the full volume of the existing Bench Reservoir, additional booster pump and transmission line improvements may be needed to supply the new reservoir.

During the planning period covered by this WSMP, the City will need to continue maintaining the existing water storage reservoirs. City staff have developed a prioritized approach to maintain each storage reservoir. These maintenance projects are included in the City's 2020 Capital Improvements Plan (CIP). The City is encouraged to continue evaluating and maintaining the existing storage reservoirs throughout the planning period.

Distribution

The recommended distribution system improvements summarized below have been separated into three categories: high priority improvements, medium priority improvements, and long-term/future development improvements.

High Priority Improvements: Improve system looping near Treasure Valley Community College for improved water circulation and fire flow capacity. Approximately 1,500 feet of 8-inch diameter water line is recommended to be installed. The Ontario Public Works department began work on this improvement in fiscal year 2020-21.

Medium Priority Improvements: Provide distribution system piping to connect two dead-end lines in the southwest corner of the City and tie the 24-inch diameter transmission line in Malheur Drive to the 12-inch piping in S.W. 4th Avenue. These improvements are anticipated to improve system looping, increase available flow capacity from the Bench Reservoir, and allow industrial and commercial growth in this area. Approximately 10,000 feet of 16-inch diameter piping is anticipated to be extended from the Westside booster pump station along Sunset Drive, S.E. 18th Avenue, and Highway 201 to the existing piping near Airport Way. Approximately 5,300 feet of 16-inch diameter piping is anticipated to be extended from Malheur Drive to S.W. 4th Avenue.

Long-Term/Future Development Improvements: Provide minimum 12-inch distribution system piping to improve system looping and fire flow in the east side of the City near S.W. 5th and Lincoln Avenues as development occurs.

To meet the objectives of this WSMP, address identified deficiencies, and support growth and development in the City, recommended water system improvements have been identified and are summarized below on Table ES-1. Figure ES-1 also summarizes costs associated with the proposed improvements.

TABLE ES-1
RECOMMENDED WATER SYSTEM IMPROVEMENT PROJECTS

Implementation Priority	Chapter	Improvement Type	Recommended Improvement	Estimated Cost within Implementation Time Frame		
				2020 to 2025**	2025 to 2030	2030 to 2040
1	3, 4, 5	Capital Improvements/ Maintenance	High priority: existing booster pump station, treatment plant, and storage improvement/ maintenance projects	$2,300,000		
2	3	Treatment	2.0 MGD expansion at the existing water treatment plant	$1,615,000		

3	3	Supply, Treatment	Decommission old clearwell and add new 600,000-gallon clearwell/finished water pump station	$2,150,000 to $3,200,000		
4	5	Distribution	High/medium priority distribution system improvements in commercial and industrial growth areas	$2,046,000		
5	4	Storage, Distribution	Replace Eastside Reservoirs and booster pump station		$5,600,000 to $7,500,000	
6	3	Supply, Treatment	8.0 MGD treatment expansion*		$11,200,000 to $16,200,000	
6	4	Storage	Utilization of the full Bench Reservoir storage volume (assumed to occur with treatment expansion)			
7	3, 4, 5	Capital Improvements/ Maintenance	Medium priority: existing booster pump station, treatment plant, and storage improvement/ maintenance projects		$682,000	
8	4	Storage	Additional storage capacity for long-term growth			$7,500,000
			TOTALS	$8,111,000 to $9,161,000	$17,500,000 to $24,400,000	$7,500,000
TOTAL RECOMMENDED IMPROVEMENT COST YEARS 2020 THROUGH 2040						**$33,150,000 to $41,000,000**

**Assumed to include certification of existing City water rights.*

***Includes 3 percent annual inflation to anticipated year of implementation.*

Action Items and Implementation Schedule

To move forward with completing the water system improvements summarized in this WSMP, the following action items are recommended.Action Item

The City will need to:

- Submit and obtain approval of this WSMP from the DWS.
- Finalize and adopt this WSMP and the recommended improvements once agencies review and approve the draft WSMP.

- Review and update its comprehensive plan to incorporate the findings of this WSMP.
- Hold public information meetings to inform citizens of the need for and scope of the improvement projects, to answer questions, and to explain the need for potential increases in user fees.
- Develop a funding plan for the desired improvements during the time frames indicated in the CIP.
- Begin discussions with property owners to identify available lands for potential land acquisition associated with recommended improvements.
- Develop the required permitting (e.g., new surface water withdrawal, boring under highways, river crossings, etc.)
- Obtain certificated water rights for existing permits to better secure City water supply sources.
- Prepare funding applications, as applicable, for the associated water system improvements projects and submit them to the appropriate funding agencies.

Recommended Improvements Summary Implementation Plan

To implement the recommended improvements, the City will need to secure monies to fund these improvements, while working closely with its citizens to inform them of the water system needs and the necessity for increased water user rates.

Water system improvements as outlined in this WSMP are intended to provide the City with a reliable, quality water system that will meet the needs of the City for the 20-year planning period and beyond. As development occurs, water system improvements will help the City meet these needs. With the CIP approach, the City will eliminate the need to borrow additional funds to complete some of the improvement projects. However, this approach can limit the speed at which more expensive improvements are implemented. If the City wishes to implement the water system improvements immediately due to rapid growth or aging infrastructure, funding from outside agencies would be needed. Both options will likely require water rates to be raised to adequately fund the recommended system improvements over the 20-year planning period.

Chapter 1 - Introduction

Purpose of Plan

This Water System Master Plan (WSMP) presents the results of a water system planning effort intended to provide information from which continued and future operations and future improvements to the City of Ontario, Oregon's municipal water system can be based. This WSMP is intended to satisfy the criteria of the Oregon Health Authority - Drinking Water Services (DWS) and Oregon Administrative Rule 333-061-0060. The DWS requires communities to maintain a current master plan that evaluates water system needs for at least a 20-year period. This WSMP is intended to fulfill DWS requirements and provide the City with a projected plan to meet water system needs for the next 20 years. The WSMP was authorized by an Agreement for General Engineering Services between the City and Anderson Perry & Associates, Inc., dated May 8, 2012, and subsequent Work Order No. 9, dated September 18, 2018. The purpose of the WSMP is to develop water system design criteria for a 20-year planning period; evaluate the adequacy of the existing water supply, storage, and distribution systems; identify any deficiencies or operational issues in the existing water system; evaluate alternatives for improving the City's water system; and provide a summary of the current water department financial status and potential funding programs for improvement implementation. The next section identifies the organizational layout of the WSMP.

Organization of this Water System Master Plan

This WSMP is divided into seven main chapters and an Executive Summary. Specifically, the WSMP includes:

A. An Executive Summary of the overall WSMP that describes water quality and service goals (design criteria), present and future water system deficiencies, the Engineer's recommended alternatives for achieving the goals and correcting the deficiencies, and the recommended implementation plan for funding, designing, and constructing improvements.

B. Chapter 1, "Introduction," discusses the objectives of the WSMP, describes the community and environment, and provides an overview of the City's existing water system.

C. Chapter 2, "Water System Requirements," presents the data upon which recommended improvements to the water system are based. Data relating to current and 20-year elements such as service area, population, land use, water use, fire flows, state and federal regulations, and the design criteria developed for this WSMP are presented. Included in this section are additional design criteria associated with providing service to future commercial/industrial customers with higher than typical water demands. A description of the water quality and level of service goals (design criteria) for the water system considering existing and anticipated future regulatory requirements, non-regulatory water quality needs of water users, flow and pressure requirements, capacity needs related to water use, and fire flow needs are also provided.

D. Chapter 3, "Water Supply and Treatment," discusses the operation and capacity of the existing water supply and treatment systems with respect to existing and future system demands and regulations. Information concerning water rights and permits for the appropriation of water from various sources is presented. Potential alternatives to further develop the City's water supply system are also presented.

E. Chapter 4, "Water Storage," discusses the existing storage reservoirs, presents the four primary components of water storage relative to the City's design criteria, discusses alternative types of storage facilities, and provides recommendations for storage improvements.

F. Chapter 5, "Distribution System," presents information related to the existing distribution system facilities, water quality test results, and fire flow information. Results from computer modeling of the water system are presented. Existing deficiencies and deficiencies likely to develop during the planning period are identified. Improvements are presented to address both existing and future anticipated limitations of the distribution system.

G. Chapter 6, "Recommended System Improvements and Improvements Prioritization," presents information related to water supply, storage, and distribution system improvements developed through analysis of the system. Recommended improvements are prioritized for inclusion in a Capital Improvements Plan with identified time frames for implementation. Cost estimates are presented for the high priority water system improvements.

H. Chapter 7, "Current Financial Status and Project Financing," provides a summary of the water department financial status and a description of alternatives to finance water system improvements including local financing such as user rates and financing assistance programs.

I. The "Appendices" contain key materials referenced in this WSMP, which are provided for reference by City staff. This information includes water right information, test results, and other applicable water system information.

Sources of Information

The conclusions and recommendations outlined in this WSMP are based on data, information, and records provided by the City's Public Works Department administered by Jacobs Engineering Group, Inc. This information includes, in part, past flow records (supply and usage), descriptions of system operation, condition of system components and identification of problem areas, water quality data, and system layout and sizing. The recommendations and conclusions are, therefore, dependent in part on the completeness and accuracy of the information provided.

Previous plans, studies, databases, and standards for the City's water system have been referenced with the development of this WSMP. These items include:

- 2002 Water Master Plan (Keller and Associates, Inc.)
- 2008 WaterCAD Modeling Files (Keller and Associates, Inc.)
- 2010 Water Distribution Master Plan Update Addendum No. 1 (Keller and Associates, Inc.)
- 2014 Water Treatment Plant Audit (Murraysmith & Associates, Inc./CH2M/Aquamize)
- 2017 Water and Sewer Rate Study (CH2M)
- 2017 Water Management and Conservation Plan (CH2M)
- 2008 Supplemental Standards for Public Works Construction (Revised July 2011)

- 2010 Well Construction Aquifer Testing Report (Holladay Engineering)
- 2019 City of Ontario Water System GIS Database

Review and Updating of Water System Master Plan

This WSMP should be periodically reviewed and updated to stay current with population growth, water system demands, and changing state and federal regulations. The DWS requires WSMPs be updated every 20 years. However, due to the projected growth of the City over the next five to ten years, it is recommended this WSMP be reviewed at five-year intervals and be updated at ten-year intervals, or as growth dictates.

Objectives of this Water System Master Plan

The primary objectives of this WSMP are to accomplish the following:

1. Establish planning criteria including service area boundaries; population growth projections; past, present, and future water usage patterns; fire flow requirements; federal and state standards; system pressures; and service goals.

2. Analyze the individual components of the existing water supply and treatment systems considering capacity, compliance with current water quality standards, water rights, condition of components, operational dependability, and cost of operation. Develop the water supply needs for the planning period and identify alternatives for meeting long-term water supply needs including alternatives for correcting existing system deficiencies. Evaluate the historic performance of the City's water treatment plant and wells and the ability to maintain capacity and develop additional capacity. Evaluate water supply development/improvement options and associated capital/operation and maintenance costs.

3. Analyze the existing water storage facilities considering capacity, condition of reservoirs, and distribution system pressures. Assess the City's storage capacity considering, operational storage, equalization storage, fire reserve storage, and emergency storage. Identify the storage requirements of the water system for the planning period. Evaluate water storage development/improvement options and associated costs.

4. Utilizing existing distribution system maps, geographic information system mapping, and City records, update the existing water model to depict current conditions and present future improvement options. Identify distribution system deficiencies and alternatives for meeting current and future system needs. Provide estimated costs for implementing recommended high priority improvements. Prepare proposed water distribution improvement figures or maps.

5. Prepare a summary of current and future water system needs as well as recommended improvements with associated estimated costs and layout schematics. Recommendations will be made for meeting the water system needs for the planning period, and an implementation schedule will be developed to outline a phased, prioritized plan to address any recommended system improvements to be implemented over the next ten years.

6. Provide a summary of the existing water department financial condition noted in previous studies completed for the City. Information is also provided about potential state and federal

grant and loan programs that may be available to assist the City in implementing any identified water system improvements.

Regional Setting

The City of Ontario is located in the northeastern portion of Malheur County, Oregon. Malheur County is bordered on the north by the Baker County, on the east by the Snake River and the State of Idaho, on the south by the State of Nevada, and on the west by Harney and Grant Counties. The Snake River generally flows south to north along approximately the northern one-half of the east boundary of Malheur County.

Topography

The County generally slopes to the northwest, with major drainages flowing west and northwest, including the Snake River, which runs parallel to the eastern boundary of the City's urban growth area (UGA) as it flows northerly to the Columbia River. Elevations gradually rise as one travels east and south, ascending more than 8,000 feet. The elevation of the City of Ontario is approximately 2,252 feet above mean sea level.

Weather Conditions

Summers in the City of Ontario area are typically dry with clear days. Winters bring rain, snow, and frozen soils. Temperatures vary from extremes of below 0° Fahrenheit (F) to just over 110°F. Extreme temperatures are not usually prolonged. A Western Regional Climate Center weather station is located near Ontario. Based on the data compiled by the National Climatic Data Center, the annual average precipitation is approximately 11 inches.

Wind

The high average annual wind velocity in the City of Ontario area is approximately 6 miles per hour (mph) in late winter to early summer. Basic design wind speeds for the City can be up to 115 mph, depending on building risk category, as described in the Oregon Structural Specialty Code.

Transportation

Interstate 84 (I-84) is the major east/west route in the area and intersects the eastern portion of Ontario. The major north/south route to Ontario is State Highway 201 and U.S. Highway 26, which connect with I-84 just north of Ontario's city limits and U.S. Highway 95 in Idaho. Considering this proximity to a major east/west interstate, the City is easily accessed by interstate traffic.

The Union Pacific Railroad (UPRR) mainline for the Pacific Northwest also passes through the eastern portion of the City of Ontario. This proximity to the UPRR mainline also provides excellent access to regional rail service.

Ontario also has a municipal airport located west of the City. The airport is classified as a core, Category 3 Regional General Aviation airport. The airport has a 5,011-foot long by 100-foot wide runway and a Life Flight base.

Location and Study Area

The City of Ontario is situated along I-84 and bordered on the east by the Snake River. Surrounding communities to the south and west include Nyssa and Vale, Oregon, as well as Fruitland and Payette, Idaho, to the east and northeast. The location of the community and layout of the City relative to surrounding physical features are shown on Figure 1-1.

The study area for this WSMP encompasses the entire area within Ontario's city limits. Expansion of the water system into the UGA is also considered. The city limits and UGA are also shown on Figure 1-1.

Soils

The City's soils are generally composed of fine sandy and silty loam. Based on a Malheur County soil survey completed in 1980, most of the soils in and around the City fall into three categories: 25A-Owyhee silt loam, 33A-Turbyfill fine sandy loam, and 34-Umapine silt loam. These soils convey runoff slowly and have a slight risk of erosion. The Owyhee and Turbyfill soil series are well drained and are not prone to flooding following precipitation. The Umapine soil series is somewhat poorly drained and rare flooding can occur during spring runoff.

Waterways and Wetlands

The Snake River is the largest perennial river in the surrounding area, flowing south to north just east of Ontario. Most of the developed areas of the City lie outside the Snake River 100-year floodplain. The Malheur River is the second largest perennial river in the surrounding area, flowing southwest to northeast just northwest of Ontario. It discharges to the Snake River north of the City.

The Ontario area has several irrigation canals and ditches that route surface water to surrounding agriculture fields. These canals and ditches are primarily served by area river systems.

The City has no notable wetlands in and around the City. Well drained soils, agriculture, and low annual precipitation, have precluded wetland widespread formation.

Existing Water System

Overview

The City of Ontario's water system generally serves the area within its city limits. The City also provides water to the Snake River Correctional Institution (SRCI). Existing water facilities include a surface water diversion from the Snake River, several shallow alluvial groundwater supply wells and associated pump stations, two water treatment facilities, four water storage reservoirs, and water distribution piping. The City also utilizes two booster pump stations within the distribution system to pressurize the system and provide adequate distribution system pressure within the City and fill the Bench Reservoir. The locations of the main water system components are shown on Figure 1-1. Figure 1-2 presents a water system schematic diagram depicting the existing water system components and process flows. The City's water system components are discussed briefly hereafter. Each system component is discussed in greater detail in subsequent chapters of this WSMP.

Water Supply

The City obtains the majority of their municipal water supply from the Snake River, which is supplemented by several shallow alluvial wells. The combined water rights for potable water from these sources allow more than 21.6 million gallons per day (15,000 gallons per minute) of water to be provided to the City. Water from the Snake River and the groundwater wells is treated in one of two water treatment facilities prior to distribution throughout the system. Additional wells supply non-potable water for irrigation of the City’s parks, cemetery, and golf course.

Water Storage

The storage facilities within the City’s water system include the two Eastside Reservoirs (1.0 million gallon [MG] and 1.76 MG), the Westside 5.0 MG concrete reservoir, and a 3.0 MG reservoir (Bench Reservoir) located northwest of the City, outside city limits.

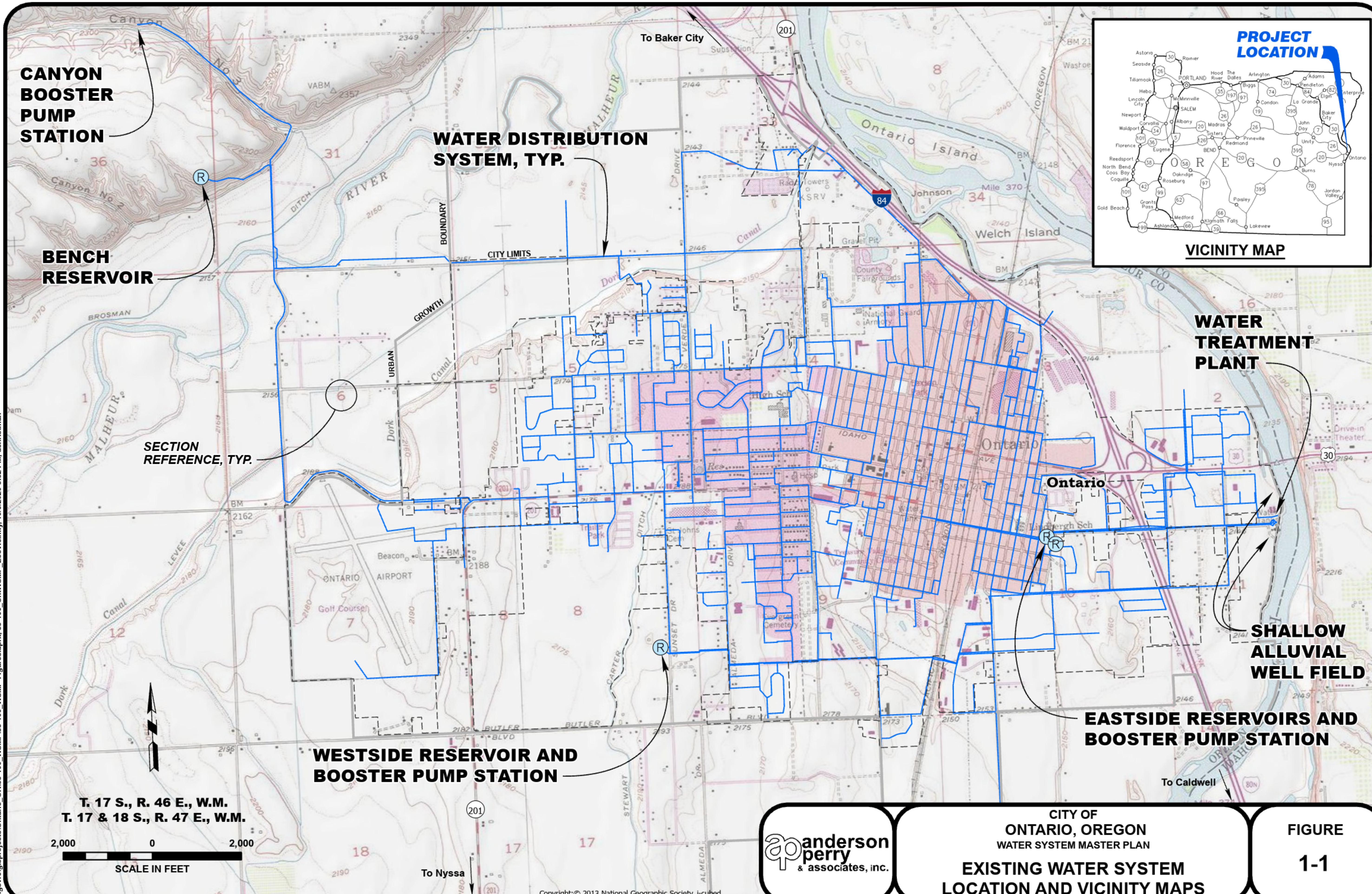
Booster Pump Stations

Three existing booster pump stations deliver water from the water storage reservoirs to pressurize the distribution system. A list of the booster pump stations with a general description of their location follows:

Booster Pump Station	General Location
Eastside	Adjacent to the Eastside Reservoirs near the intersection of S.E. 5th Street and S.E. 5th Avenue. This booster pump station provides distribution system pressure to the majority of the City and fills the Bench Reservoir.
Westside	On Sunset Drive, adjacent to the Westside Reservoir. This booster pump station provides pressure to the west side of the City and is also used to fill the Bench Reservoir.
Canyon	Canyon Two Road northwest of Foothill Drive. This booster pump station provides water to the SRCI facility northwest of the City.

Distribution System

The City has more than 480,000 feet of piping in its distribution system. The distribution system piping consists of ductile iron, asbestos cement, polyvinyl chloride, and steel piping. Piping within the distribution system generally ranges from 2- to 24-inch diameter, with the majority being 6-, 8-, and 12-inch piping.



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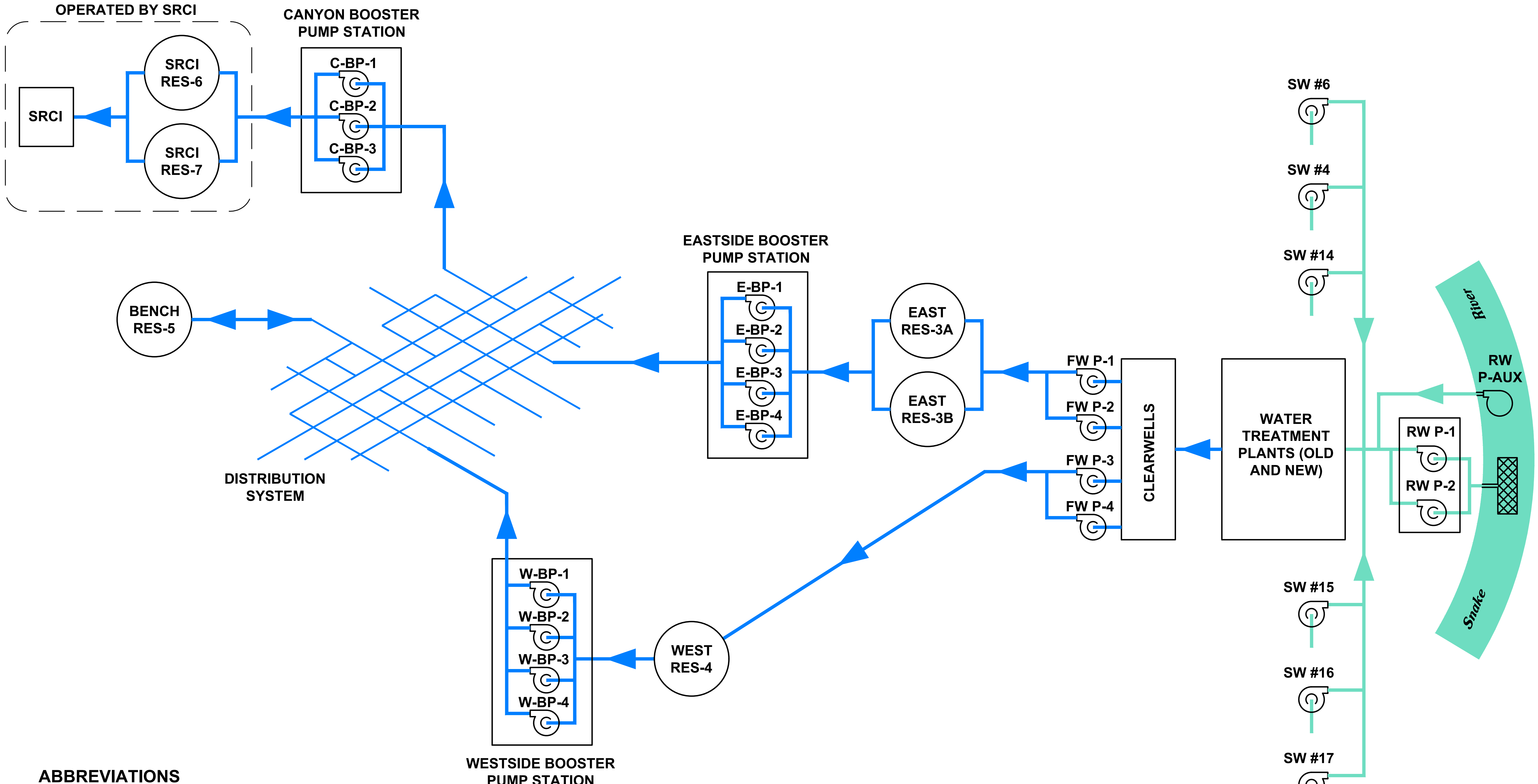
CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN

EXISTING WATER SYSTEM LOCATION AND VICINITY MAPS

FIGURE 1-1



ABBREVIATIONS

SW	SHALLOW WELL
RW	RAW WATER
FW	FINISH WATER
P	PUMP
BP	BOOSTER PUMP
AUX	AUXILIARY
RES	RESERVOIR
SRCI	SNAKE RIVER CORRECTIONAL INSTITUTION

anderson perry & associates, inc.

CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN

WATER SYSTEM OPERATIONAL OVERVIEW

FIGURE
1-2

Chapter 2 - Water System Requirements

Introduction

This chapter of the Water System Master Plan (WSMP) presents basic information from which criteria have been developed for evaluating the City's water system. These criteria are used to determine the needed size or capacity of system improvements to serve the City for the 20-year planning period. Information concerning the service area, population projections, land use, water use, and state and federal requirements is presented.

Service Area

The term "service area" refers to the area being served with water from the City's water system. The present service area primarily consists of developed lands within the city limits and the Snake River Correctional Institution. For the purposes of this WSMP, the future service area consists of the present service area, and undeveloped areas within the urban growth area (UGA) as shown on Ontario's Planning and Zoning Map located in Appendix A. The City's developed land use pattern is fairly compact with larger undeveloped areas generally in the UGA adjacent to the city limits.

The City is expecting commercial and industrial growth in undeveloped areas within the UGA, predominantly in the southwest and northwest sections of the UGA. The elevations of these areas are similar to surrounding areas already served by the water distribution system. If these areas develop, the existing water distribution system is anticipated to be extended as needed to serve them, as discussed in Chapter 5.

Service Population and Planning Period

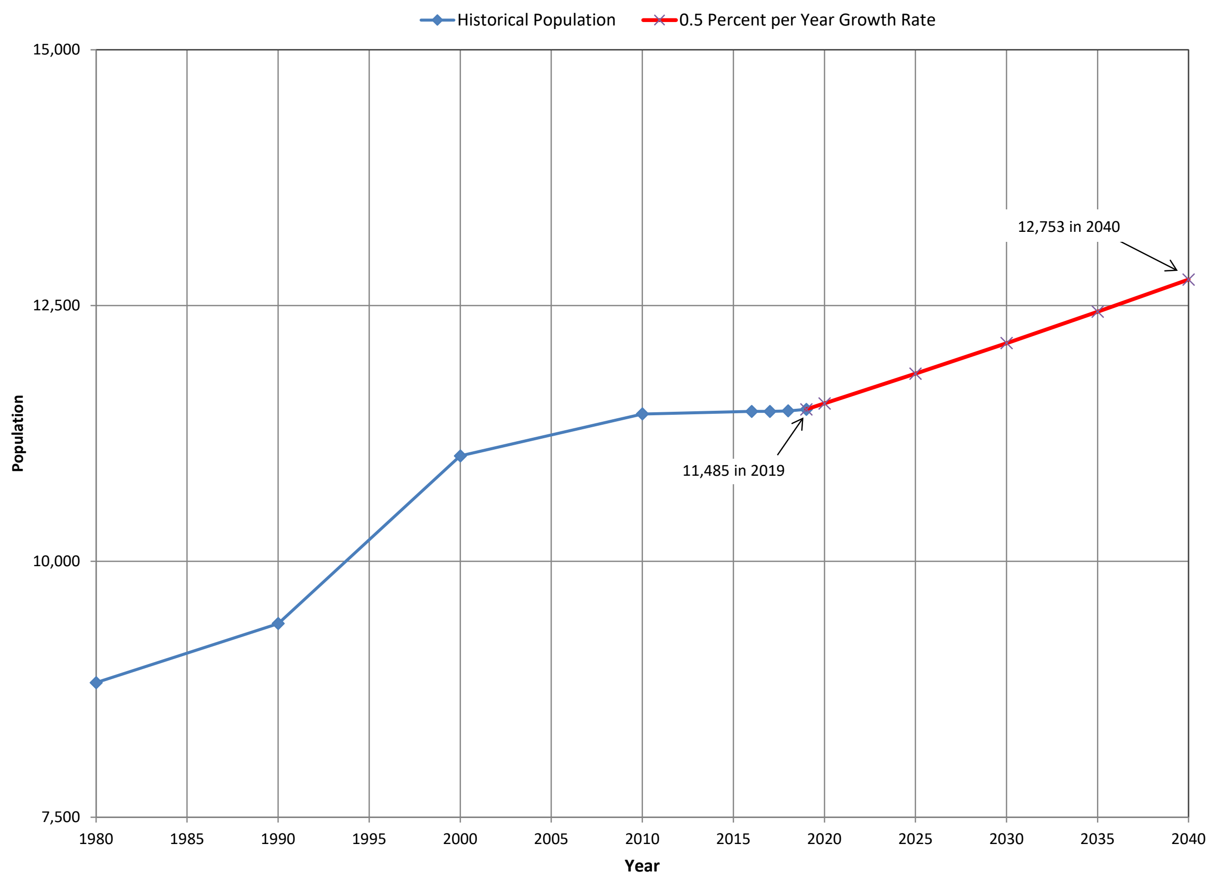
To estimate the demands that may be placed on a municipal water system, a determination of the population to be served must be made. Population estimates must be made with reference to time. Projections are usually made on the basis of an annual percentage increase estimated from past growth rates, while considering future growth expectations. The addition or deletion of a major business, industry, or recreation use in the area could significantly affect the population and overall water system needs.

The period of time over which the population is to be projected usually depends on the type of improvements being considered. Improvements requiring long-term financing should be designed for no less than the term of the financing. Facilities that are readily expanded or modified normally have a ten- to 20-year design life. Facilities that are not easily modified or expanded, such as buried pipelines and storage reservoirs, may be designed for their expected life, which is usually 40 to 50 years, or more.

The historical population data for the City of Ontario, shown on Chart 2-1, were provided by the Population Research Center (PRC) located at Portland State University (PSU). This agency is the recognized primary source of population data available in Oregon between the official Census data generated at the beginning of each decade. Past population figures from the PRC and the Census show the City's population has increased steadily from 8,814 in 1980 to 11,440 in 2010. This represents a historical growth rate between 1980 and 2010 of approximately 1.0 percent per year. Between 2010 and 2018 the growth rate was reported to decrease to 0.03 percent per year. The City's 2019

PRC-projected population of 11,485 was used as the basis for current population and water use analysis in the development of this WSMP.

CHART 2-1
HISTORICAL AND PROJECTED POPULATION



In 2013, the Oregon Legislature passed House Bill (HB) 2253, which was signed by the governor. HB 2253 removed the responsibility for developing population projections from counties and assigned coordinated population forecasting to the PRC for cities and counties in Oregon outside of the Portland metro boundary. HB 2253 was codified under Oregon Revised Statutes Chapter 195 and is further implemented under Oregon Administrative Rules (OAR) Chapter 660, Division 032. OAR 660-032-0020(1) requires local governments to use the most recent final population forecast when changing a comprehensive plan when the change is based on a population forecast. The PRC completed population projections for Malheur County and all cities within the County, including the City of Ontario, in 2016.

The PRC forecasts that Malheur County's population will increase at an annual rate of 0.1 percent between 2016 and 2035, and 0.0 percent between 2035 and 2066. During these same time periods, the City of Ontario's population is projected by the PRC to increase at an approximately 0.3 percent annual growth. The PRC projects a population in Ontario of 12,256 in the year 2040.

Population projections for the design criteria of this WSMP are based on an annual growth rate of 0.5 percent per year through the planning year 2040, resulting in a population within the city limits of

12,753 by 2040. The higher annual growth rate was determined by City Public Works staff to be a better representation of historical growth trends and anticipated growth in the community as commercial and industrial growth occurs, as discussed in the water demand section of this chapter.

Land Use

This WSMP has been prepared to consider water use requirements within Ontario's city limits and UGA. The City has established zoning within the city limits and within areas adjacent to the city limits in the UGA.

Within the city limits and UGA, the City has developed the zoning designations noted on Table 2-1.

TABLE 2-1
PLAN AND ZONING DESIGNATION
WITHIN CITY LIMITS AND URBAN GROWTH AREAS

City Zone	Urban Reserve Area Zone/ UGA Zone
Neighborhood Commercial (C-1)	Industrial URA (I-URA)
Duplex Residential (RD40)	Commercial 5 Acres URA (C[5AC]-URA)
Employment Zone 2 Acres (E2)	Industrial Rail Dependent URA (I[RD]-URA)
Single-Family Residential (RS50)	Residential URA (R-URA)
Heavy Industrial (I2)	Commercial Business Park URA (C[BP]-URA)
High Density Residential (RM10)	Residential UGA (R-UGA)
Light Industrial (I1)	Employment Zone 2 Acres (E2-UGA)
Industrial Business Park (I[BP])	Commercial UGA (C-UGA)
Mobile Home (RMH)	Commercial Business Park UGA (C[BP]-UGA
Public Facility (PF)	Employment Zone 5 Acres (E5-UGA)
Planned Development (PD)	Public Facility UGA (PF-UGA)
General Heavy Commercial (C2H)	Light Industrial UGA (I1-UGA)
Airport Development (AD)	Heavy Industrial UGA (I2-UGA)
Central Commercial (C3)	
College District (CD)	
General Commercial (C2)	

The zoning classifications in the city limits and the UGA are shown on the City's Planning and Zoning Map located in Appendix A.

Regulatory Requirements

The City of Ontario's water system comes under the jurisdiction of the Oregon Health Authority - Drinking Water Services (DWS). The DWS assumed primary (responsibility) from the U.S. Environmental Protection Agency (EPA) in February 1986 for enforcement of the federal Safe Drinking Water Act (SDWA). Therefore, the City is currently, and will principally be, working with the DWS as the regulating agency with regard to their water system.

Regulatory Background

The SDWA was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and groundwater wells. The primary regulations associated with the SDWA address requirements concerning trace minerals, compounds, and microorganisms that may affect the health of water consumers. The SDWA provides for monitoring, testing requirements, reporting, record keeping, and public notification procedures in the event of non-compliance.

The 1986 amendments to the SDWA included provisions for wellhead protection, new monitoring for certain substances, filtration for certain surface water systems, disinfection for certain groundwater systems, and restrictions on lead content in pipe solder and plumbing.

The 1996 amendments to the SDWA included provisions for consumer confidence reporting, stronger protection for microbial contaminants and disinfection byproducts, operator certification, lowering maximum contaminant levels (MCLs), and source water assessments.

Enacted in 1981, the Oregon Drinking Water Quality Act established periodically amended statutes and subsequent administrative rules to enforce, at a minimum, the federal SDWA requirements. The DWS administers and enforces drinking water quality standards for public water systems in the state of Oregon. The agency focuses resources in the areas of highest public health benefit and promotes voluntary compliance with state and federal drinking water standards. The DWS also emphasizes prevention of contamination through source water protection, provides technical assistance to water system owners, and provides water system operator training. They also work closely with public water systems to make sure public notification is made in accordance with regulatory guidelines when required. If the City is unaware of their compliance status or in need of regulatory guidance, it is recommended that the regional DWS office be contacted.

Recent Regulatory History (Past 15 Years)

Following is a list of regulations that have been enacted in the past 15 years:

1. **Reduction of Lead in Drinking Water Act.** This requires any new installation or purchase of materials used in potable locations to be "lead-free." Lead-free has been redefined as "(A) not containing more than 0.2 percent lead when used with respect to solder and flux; and (B) not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures." This law was enacted on January 4, 2014. Oregon requires drinking water components to be National Sanitation Foundation/ American National Standards Institute Standard 61 compliant to meet the intent of this law.

2. **Stage 2 Disinfectants and Disinfection Byproduct Rule (D/DBPR).** This rule focuses on public health protection by limiting exposure to disinfection byproducts. The D/DBPR specifically targets total trihalomethanes and five haloacetic acids, which can form in water through disinfectants used to control microbial pathogens. This rule applies to all community water systems (CWSs) and non-transient non-community (NTNC) water systems that add a primary or residual disinfectant other than ultraviolet light. Stage 2 of the D/DBPR was enacted in 2012 for large CWSs and NTNCs and in October 2013 for all CWSs and NTNC water systems.

3. **Unregulated Contaminant Monitoring Rule (UCMR) 3**. The EPA uses the UCMR program to collect data for contaminants suspected to be present in drinking water but that do not have health-based standards set under the SDWA. Every five years, the EPA develops a new list of UCMR contaminants, largely based on the Contaminant Candidate List. OAR 333-061-0043 requires CWSs to report detection of unregulated contaminants in their annual Consumer Confidence Report.

4. **Revised Coliform Monitoring Requirements**. This rule requires that total coliform samples be collected by public water systems at sites representative of water quality throughout the distribution system according to a written sample site identification plan. Total coliform occurrence will continue to be investigated; however, it is no longer associated with an MCL. Emphasis will not be placed on the MCL for *E. coli* because it is a reliable indicator of fecal contamination. Monitoring changes were made that include reducing the number of repeat samples to collect after a routine coliform positive from 4 to 3.

Potential Regulatory Changes

Following is a list of regulations that may be enacted in the future:

1. **Lead and Copper Rule (LCR) Long-Term Revisions**. The LCR is a treatment technique rule. This rule was proposed by the EPA in late 2019 and is proposed to be enacted in 2020. The rule requires public water systems take further actions to minimize lead and copper in drinking water. The goals for the revisions are to identify areas that are most impacted, strengthen treatment requirements, replace lead service lines, increase sampling reliability, improve risk communication, and protect children in schools.

2. **Radon in Drinking Water Rule.** This rule would attempt to reduce airborne and waterborne radon concentrations to limit exposure levels. This rule would apply to CWSs that use groundwater or mixed groundwater and surface water. The proposal is currently on hold, and the EPA has no timeline for publishing this rule.

3. **Fourth Contaminant Candidate List (CCL4) Regulatory Determinations**. The CCL4 is currently in draft form. The EPA has made a preliminary determination to regulate strontium, which is currently still pending. Two new nominated contaminates, manganese and nonylphenol, have been added for the final publication.

4. **Carcinogenic Volatile Organic Chemicals (cVOC) Rule**. The EPA is developing a proposed national primary drinking water regulation for a group of 16 known cancer-causing compounds, including eight currently regulated cVOCs and up to eight from the Third Contaminant Candidate List.

5. **Perchlorate Rule**. The EPA is developing a proposed national primary drinking water regulation for perchlorate. Perchlorate may cause adverse health effects. Scientific research indicates this contaminant can disrupt the thyroid’s ability to produce hormones needed for normal growth and development.

6. **Hexavalent Chromium**. The EPA currently regulates hexavalent chromium as part of the total chromium drinking water standard. New information on health effects has become available

since the original standard was set, and the EPA is reviewing this information to determine whether new health risks need to be addressed. The State of California has already implemented a hexavalent chromium-specific MCL.

7. **Fluoridation**. Fluoride MCLs may be lowered in the future as the health impacts of fluoride are fully realized. The current MCL of 4 parts per million could be reduced to 1 or less. This lower MCL could require systems with naturally occurring fluoride above the MCL to treat to reduce levels.

8. **Cybersecurity**. Executive Order 13636: Improving Critical Infrastructure Cybersecurity was established in February 2013. The order calls for the development of a voluntary, risk-based cybersecurity framework. The EPA will evaluate whether any additional authority and/or regulations to address cybersecurity in the water sector are needed.

Regulatory Requirements Summary

In summary, many regulations affect operation of the City of Ontario's water system. The City of Ontario has good water quality with a well-run water system meeting federal and state water quality criteria. The City's water quality testing history is documented in the DWS's Water Quality Testing Summaries presented in Appendix B. The DWS has noted on their website that the City has not had any regulatory violations in the past 5 years.

The information presented herein is intended to provide the City with a brief summary of the regulations and possible future regulations that will likely affect operation of the City's water system. These regulations continue to expand and will require careful attention to maintain compliance. It is recommended that the City of Ontario consult periodically with the DWS to ensure compliance with current regulatory requirements and to address any regulatory questions or issues.

Seismic Risk Assessment and Mitigation Plan

To better prepare the state for earthquake preparedness, the Oregon Resilience Plan (ORP) was developed in 2013 by the Oregon Seismic Safety Policy Advisory Commission. The goals of the ORP are to address critical infrastructure needed to supply water in the event of an emergency and identify projects that need to be completed in the next 50 years to ensure that water can be supplied to a community in the event of a strong earthquake. Scientists have recognized the Cascadia subduction zone as an active fault that poses a major geological hazard to Oregon. The ORP addresses vulnerabilities of pipelines, treatment plants, water storage reservoirs, supply wells, and pump stations that compose Oregon's water and wastewater systems and discusses the intervention required to increase the resilience of infrastructure in the event of a Cascadia earthquake.

To assist in the goal of preparing communities, water systems that submit a WSMP to the DWS after January 10, 2018, are required to follow seismic assessment guidelines put forth by the DWS. Community water systems with more than 300 connections must conduct a Seismic Risk Assessment and Mitigation Plan if any of their existing or proposed facilities are located in areas with moderate to very heavy damage potential as determined by the Oregon Department of Geology and Mineral Industries.

According to the ORP, eastern Oregon is located outside of the Cascadia Scenario Light, Moderate, Heavy, and Very Heavy Impact Zones. Therefore, a Seismic Risk Assessment and Mitigation Plan was not conducted as part of this WSMP.

Water System Sanitary Survey

The DWS conducts water system sanitary surveys of communities to assist in identifying potential contamination sources that may impact water quality. These surveys are generally scheduled to occur every three to five years.

The City of Ontario's latest sanitary survey was conducted on June 15, 2017. The only significant deficiency noted was the lack of a continuous chlorine analyzer with a low-level alarm at the discharge location of the booster pump station adjacent to Eastside Reservoirs 3A and 3B. The City has corrected this deficiency. A copy of the full 2017 sanitary survey is included in Appendix C.

The DWS also included comments and recommendations that noted potential deficiencies (included within the sanitary survey in Appendix C) for City staff to periodically review and address. This allows the City to take a proactive approach to address potential deficiencies.

Water Demand

Future water demands, for the purpose of identifying needed future water system improvements, can be estimated from past water use data and population projections. Water use data are usually expressed in terms of various rates of water used for various periods of time. This allows components of the water system to be sized for the maximum demands that will be placed on them. The rates of water use that are important in evaluation of a water supply system are the average daily demand (ADD), which is the total amount of water used during a one-year period divided by 365 days; the peak daily demand (PDD), which is the maximum total amount of water used during any 24-hour period; and the peak hourly or peak instantaneous demand, which is a measure of the maximum demand for water at any given time.

Water supply facilities are normally designed to provide enough capacity to meet the PDD. As a general rule, a water supply pump would be sized to supply the needed water during the PDD without continuous 24-hour operation. For example, if the water usage during high demand summer months required a water supply pump to operate 18 hours or more per day to keep up with the PDD, the situation may warrant the addition of another water supply source to provide some backup capability to avoid over-stressing the pumping equipment. Booster pumps and distribution pipelines are generally sized to deliver peak instantaneous demands (or peak hour demands) because they must be capable of meeting the highest system demand. Storage reservoirs are sized to make up the difference between water supply capacity and peak water use rates, at a minimum. Additional capacity (reserve) is usually provided in water storage reservoirs for both emergencies and fire suppression, as discussed in Chapter 4.

Per Capita Water Use

To be utilized for projecting future water demands, past water use data must be converted to a per capita (per person) rate of use. This is done by dividing the average daily, peak daily, and peak instantaneous water use rates by the number of people being served by the water system. These water demand rates are expressed as gallons per capita day (gpcd). These values multiplied by a population projected for some future year can provide estimated total demand rates for that year, assuming water use characteristics do not significantly change.

Historical Average Water Use

To determine current water demands, production records for the City's water supply system were reviewed from 2015 through 2018. Charts 2-2 through 2-8 present the total monthly production for the City's surface water source and each of the City's wells. It is important to note that the volume scale depicted on the left side of the charts has been adjusted based on the volume supplied by each well.

CHART 2-2
SNAKE RIVER MONTHLY PRODUCTION

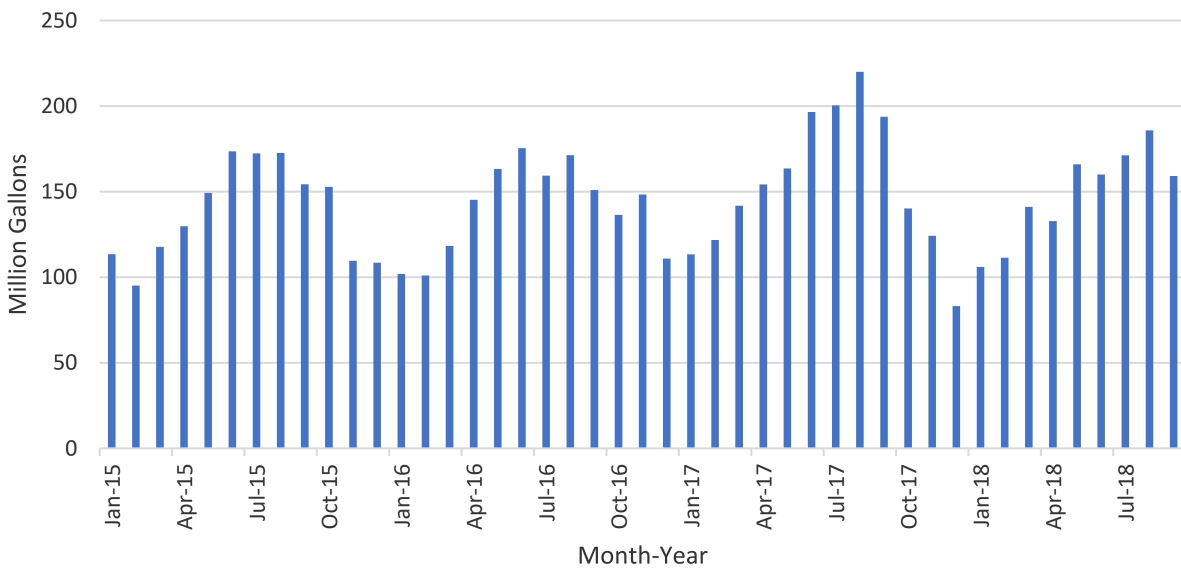


CHART 2-3
WELL NO. 4 MONTHLY PRODUCTION

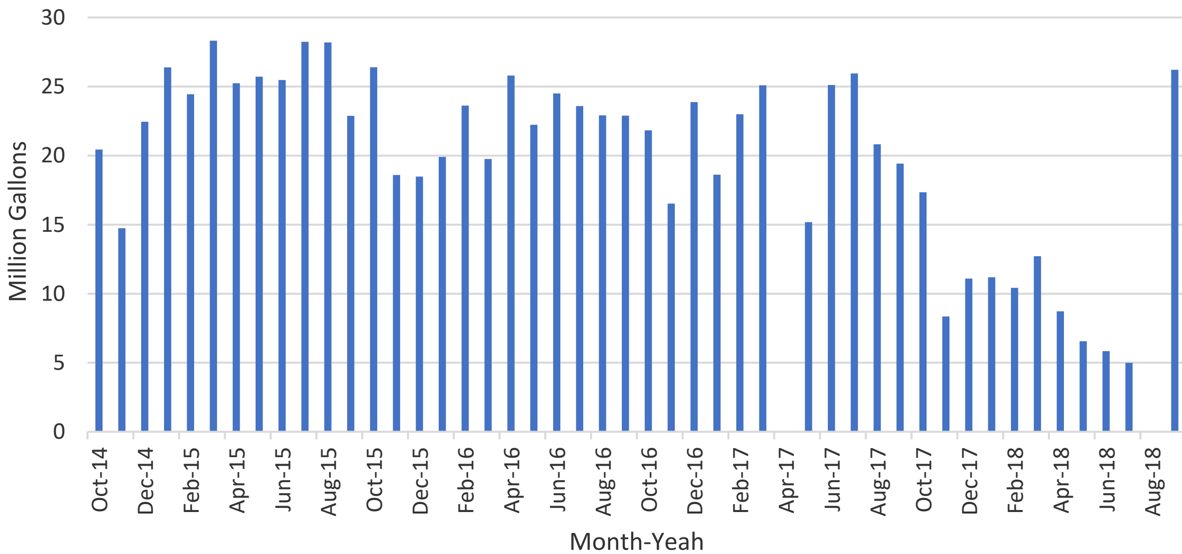


CHART 2-4
WELL NO. 6 MONTHLY PRODUCTION

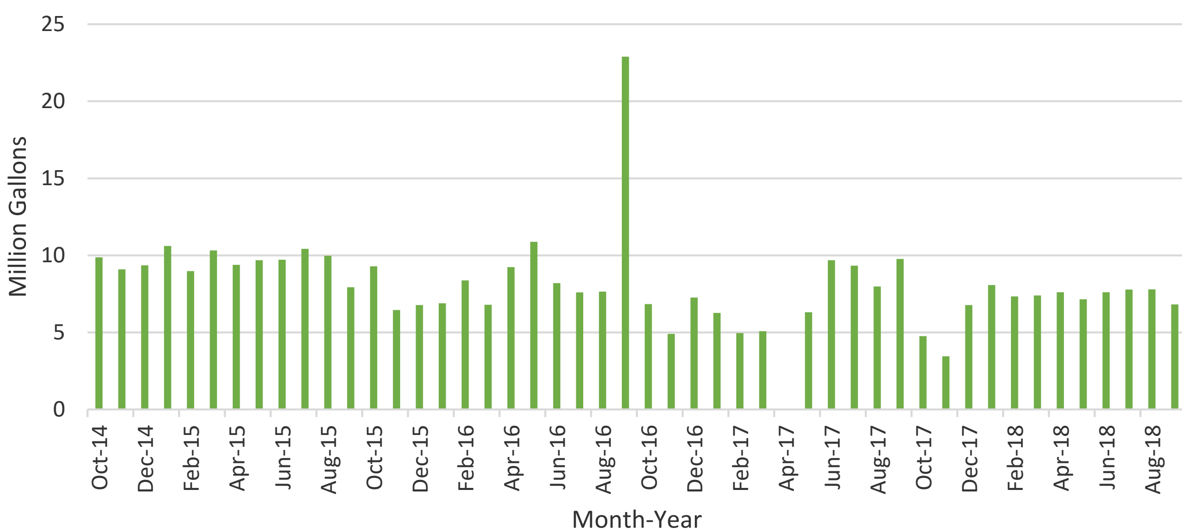


CHART 2-5
WELL NO. 14 MONTHLY PRODUCTION

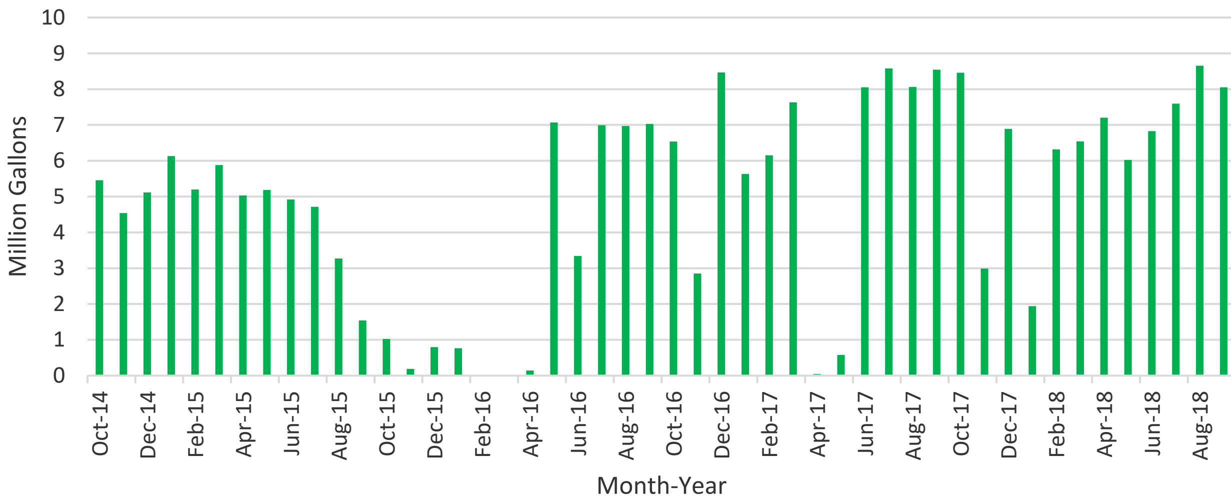


CHART 2-6
WELL NO. 15 MONTHLY PRODUCTION

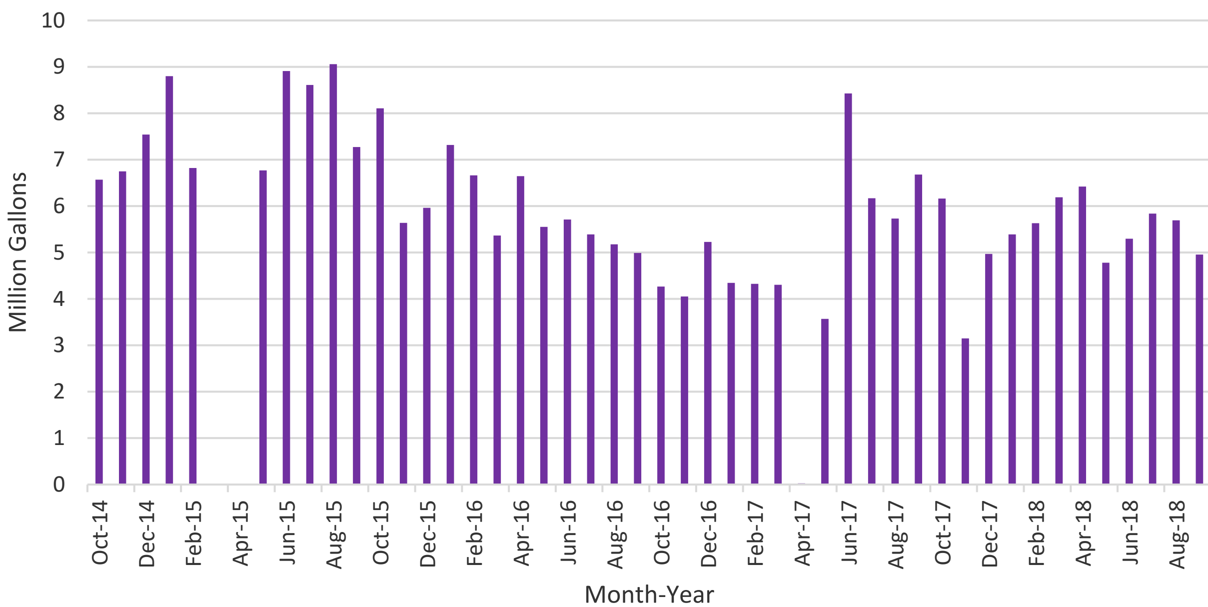


CHART 2-7
WELL NO. 16 MONTHLY PRODUCTION

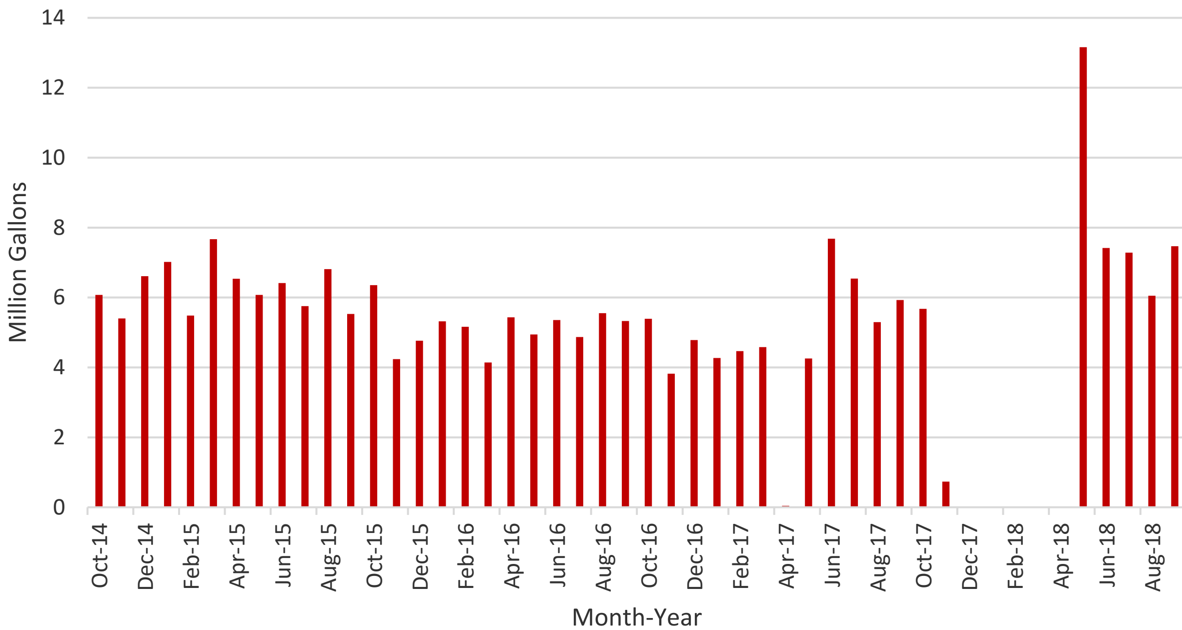
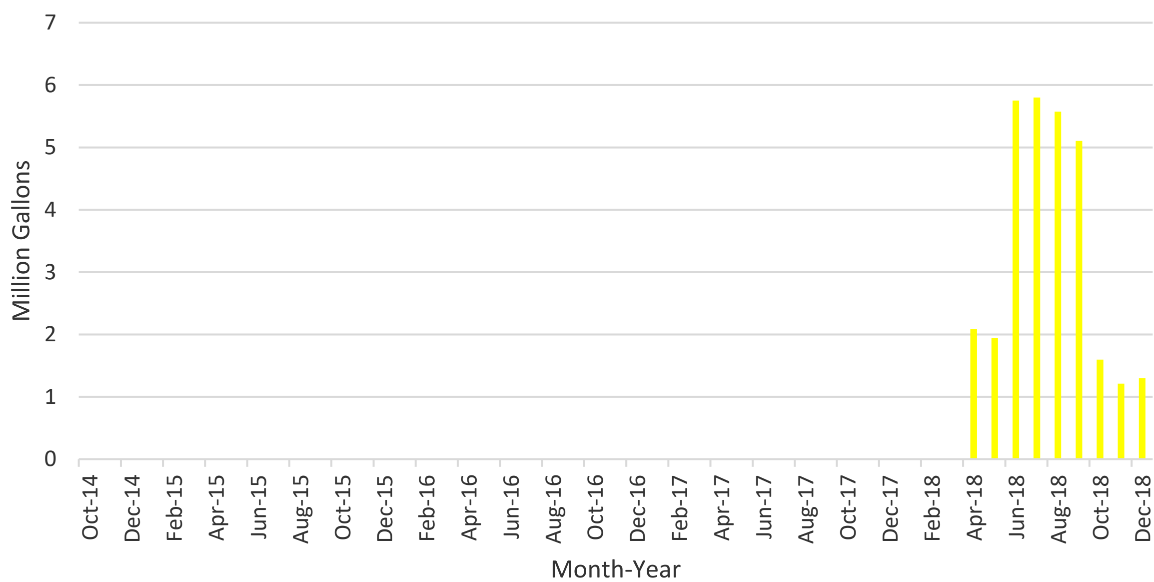


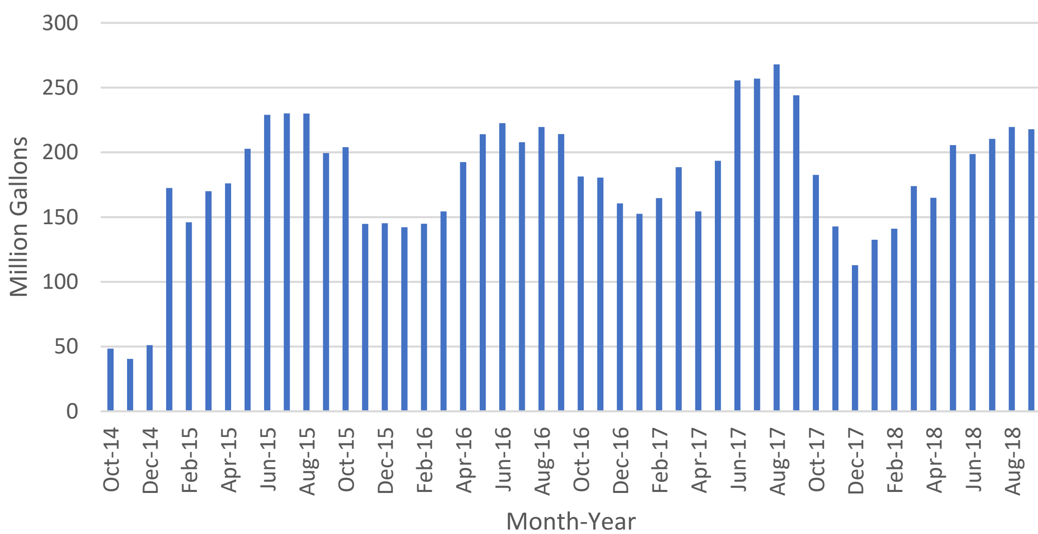
CHART 2-8
WELL NO. 17 MONTHLY PRODUCTION



As shown in the charts, a majority of the City's water supply is surface water, so the amount of well water used is less significant when compared to the amount of surface water used from the Snake River.

The combined monthly production from the City's surface water source and wells is shown on Chart 2-9.

CHART 2-9
COMBINED WELL AND SURFACE WATER SOURCES MONTHLY PRODUCTION

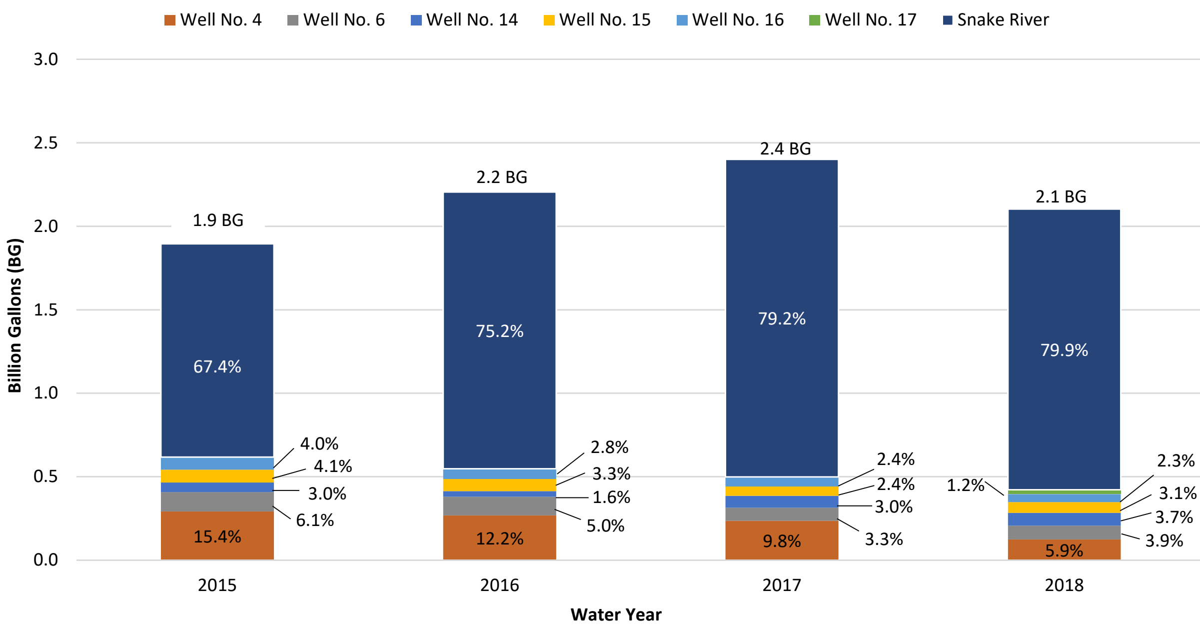


The Snake River production records show typical patterns of high summer demand and low fall, winter, and spring demand. The data depicted on Chart 2-9 show that typical summer demands are one and a half to two times higher than winter demand. This winter to summer variance is less than many eastern Oregon cities, which is likely due to the City's large commercial/industrial water use that is steady nearly year-round.

The highest water production month between October 2014 and August 2018, occurred in August 2017 with 268.0 million gallons (MG) of water produced, or an average production rate of 8.64 million gallons per day (MGD). The lowest water production month occurred in November 2014 with 40.50 MG produced, but this appears to be an anomaly. The lowest recorded monthly water production over this period of 113.0 MG occurred in December 2017. Between October 2014 and September 2018, the average monthly water production equaled 179.27 MG, or an average production rate of 5.97 MGD.

The total annual production from all City water supply sources was further broken into a percentage supplied by each source between October 2014 and September 2018, as shown on Chart 2-10.

CHART 2-10
TOTAL ANNUAL WATER PRODUCTION



As shown on Chart 2-10, total annual production for the last ten years has averaged approximately 2.15 billion gallons per year. The following annual production trends were noted:

- The majority of the City's water supply (approximately 80 percent) is from the Snake River.
- Due to higher annual precipitation and water conservation measures practiced by the City, 2018 saw a decrease in total water demand.
- Well No. 17 had no annual production until 2018, when it produced 1.2 percent of the total water. Pumping from Well No. 4 has decreased since 2015; however, the well continues to produce usable water.
- The City has gradually become less reliant on well water, decreasing total well production each year. This reduction is likely due to a drop in the well field production capacity.
- Rehabilitation of several City wells has recently been occurring, which may change this trend. Currently, wells produce approximately 20 percent of the total annual water.

Average Daily Demands

The ADD is a measure of the overall annual average rate of consumption. It is derived, in general, by dividing the total water produced during the year by the estimated population for that year. The ADD for years 2015 to 2018 is noted on Table 2-2 and stated in various units for comparison purposes.

TABLE 2-2
AVERAGE DAILY DEMAND

Year	Total Production (MG)	Population*	ADD		
			gpd	gpm	gpcd
2015	1,896	11,465	5,193,538	1,443	453
2016	2,206	11,465	6,043,625	1,679	527
2017	2,400	11,465	6,576,691	1,827	574
2018	2,103	11,470	5,761,466	1,600	502

**Annual population data from PSU PRC.*

gpd = gallons per day

gpm = gallons per minute

The ADD in gpcd for all customer water use for the years 2015 through 2018 was determined to be 515 gpcd. Of this 515 gpcd, approximately 200 gpcd has been calculated to be associated with residential water use. The remaining water demand is attributed to commercial businesses and industry. By accounting for high water demand users in the system (i.e., commercial and industrial use with 1.5-inch and larger water meters), it was determined that 200 gpcd of this ADD can be attributed to residential customers.

Peak Daily Demands

PDD values presented on Table 2-3 represent the one day of the year with the highest daily production. PDDs usually occur during a particular day from June through September, which is when water use is normally at its greatest due to warmer weather and irrigation needs. Peak daily flows can occur in other months but normally occur during the hottest period of the year. Records of peak daily flows and the associated total production from January 2016 through December 2018 were obtained from the City. The highest PDD for the time period from January 2016 through December 2018 occurred on July 24, 2017, and was 10.0 MGD, or approximately 872 gpcd.

TABLE 2-3
PEAK DAILY DEMAND

Year	Day of Peak Flow	Total Daily Production (MG)	Population	PDD (gpcd)
2016	August 23	9.5	11,465	829
2017	July 24	10.0	11,465	872
2018	June 24	9.6	11,470	837

Based on the PDD for years 2016 through 2018 shown on Table 2-3, a PDD of 840 gpcd was calculated for all water system users. Of this PDD, it was determined that 320 gpcd can be attributed to residential customers (by accounting for commercial and industrial use with 1.5-inch and larger customer water meter readings during PDD periods).

Generally, a water supply system, at a minimum, needs to be able to supply water to meet the system's PDD. In the City's case, where water supply is taken from several wells and the Snake River, it is desirable to be able to meet the PDD by operating the river pump station or any of the wells a maximum of 21 hours per day, allowing a three-hour rest period to provide the pumps adequate rest time between cycles and allow some recharge of the wells during the non-pumping period.

It is important to note the current water treatment system capacity is 10.0 MGD, as discussed in Chapter 3. The PDD data for 2016, 2017, and 2018 show that the municipal water system is at full capacity to meet peak day demands. The water treatment system will not be able to meet any significant increase in peak day demands.

Comparison of Water Demands

The City's average day water demand of 515 gpcd is relatively high when compared to other water systems in eastern Oregon. However, the 840 gpcd PDD is similar to several other communities in eastern Oregon. This can be attributed to the City's large commercial/industrial water use. Refer to Table 2-4 for a comparison of the City of Ontario's demands compared to other eastern Oregon communities. Table 2-4 is sorted by ADD in ascending order.

For a more comparable reference, the Heinz water use was also removed from the City's ADD and PDD figures, as indicated in Table 2-4. Without the Heinz water demand, the City has comparable water use to several other eastern Oregon cities.

TABLE 2-4
COMPARATIVE WATER USAGE TYPICAL FOR METERED WATER SYSTEMS IN EASTERN OREGON

City	ADD (gpcd)	PDD (gpcd)	Peak Factor (peak daily)	Population[1]
Echo, Oregon	175	525	3.0	700
Prineville, Oregon	176	405	2.3	8,889
Ice Fountain Water District, Oregon	207	621	3.0	1,921
Umatilla, Oregon	210	483	2.3	4,686
Baker City, Oregon	227	834	3.7	10,035
La Grande, Oregon	230	667	2.9	13,238
Union, Oregon	230	890	3.9	2,121
Vale, Oregon	250	625	2.5	1,890
Hermiston, Oregon	250	600	2.4	17,730
John Day, Oregon	270	865	3.2	2,010
Stanfield, Oregon	275	660	2.4	2,130
Enterprise, Oregon	284	582	2.0	1,940
Irrigon, Oregon	290	800	2.8	1,790
Ontario, Oregon[2]	**296**	**533**	**1.8**	**11,485**
Milton-Freewater, Oregon	300	750	2.5	6,550
Boardman, Oregon[3]	275	960	3.5	3,445
Hines, Oregon	350	1,600	4.6	1,700
Ontario, Oregon[4]	**515**	**840**	**1.6**	**11,485**

[1]*Population estimates reflect the time period when demands were calculated.*

[2]*Includes all users except Heinz.*

[3]*Includes only City water use (does not include Port of Morrow).*

[4]*Includes all users.*

Description of Customers Served

The City of Ontario's water service accounts as of the end of 2018 are summarized on Table 2-5. These data were obtained from City staff and includes water use data from October 2017 to September 2018.

TABLE 2-5
WATER ACCOUNT INFORMATION

Account Type[1]	Number of Accounts[2]	2018 Total Annual Use (gal)	2018 Average Annual Use Per Account (gal)	Percentage of Total Water Use
Residential Single-Family	3,098	710,671,350	229,397	34.6
Multi-Family/Commercial/Industrial	581	1,341,869,000	2,309,585	65.4
Total	**3,679**			**100**

[1] Account types were determined by meter size. Meters smaller than 1-1/2-inch were considered residential single-family.

[2] The number of accounts by account type was obtained from the City's 2018 Annual Financial Report.

gal = gallons

As shown on Table 2-5, residential water use accounts for approximately 35 percent of the total water use in the City, while commercial and industrial water use accounts for approximately 65 percent.

Additional Projected Commercial Water Demands

In recognizing the potential need to provide additional water service to future commercial and industrial service customers located in undeveloped areas of the UGA, an additional allowance for the growth of the water service population has been incorporated into this WSMP's water demand projections. The PRC population projections were discussed with the City's Public Works staff, and it was determined that an additional allowance for commercial business growth should be accounted for. The City has recently received requests from potential commercial tenants looking to site new facilities in the Ontario area. Several of the proposed facilities require a large quantity of water. City leaders have indicated a desire to accommodate these proposed facilities. Based on this, the year 2040 water demands presented on Figure 2-1 have been developed to show both an additional 2.0 MGD and 4.0 MGD of commercial demands by 2040.

It should be recognized that over the planning period of this WSMP, actual growth could exceed or fall below the projections presented on Figure 2-1 and discussed herein.

Fire Demand

Fire Protection Ratings

Flow rates for fire suppression in residential, commercial, and industrial areas within developed communities are usually determined from the size, density, and occupancy of buildings, type of construction materials, and desired fire insurance rating. Incorporated cities and some rural areas are given a fire suppression rating by Insurance Services Office, Inc. (ISO). The rating is used by insurance companies to determine the cost for providing fire insurance to home and business owners. ISO's fire suppression rating schedule is used to review those features of available public fire protection that have a significant influence on minimizing damage once a fire has begun. These features include the receiving and handling of fire alarms; the fire district's manpower, equipment and training; and the capability of the water system to provide the needed fire flows.

ISO periodically evaluates fire suppression capabilities of incorporated cities and fire departments. The numerical ratings range from Class 1 down to Class 10, with Class 1 indicating the highest fire suppression capability and Class 10 the lowest. A Class 10 rating is reserved for unprotected areas that have no fire department and no water supply system. Most protected areas outside of cities have a Class 9 rating, and cities with fire departments serving communities with populations between 10,000 and 20,000 generally have class ratings between 4 and 6. The ISO rating for Ontario, based on the 2016 evaluation, is Class 3. It is recommended the City obtain an updated ISO evaluation and report if any large water system or fire department improvements have occurred, as this could result in an improved fire suppression rating.

ISO's fire suppression rating schedule evaluates a city's fire department capabilities and the domestic water supply capacity on an approximately equal basis (50 percent and 40 percent of the rating schedule, respectively). To reduce the cost of fire insurance in a community, improvements usually must be made to the fire department, the water system, or both, depending on their present condition. It is difficult to determine possible fire insurance savings on commercial buildings because the insurance costs are determined by many other factors related to the type of occupancy and the type of building construction.

Needed Fire Flows

ISO also recommends fire flows for various conditions in both residential and commercial settings. Needed fire flows for residential areas are set forth in the 2012 ISO Fire Suppression Rating Schedule and shown on Table 2-6, below.

TABLE 2-6
ISO RECOMMENDED RESIDENTIAL FIRE FLOWS

Distance Between Buildings	Required Fire Flows
More than 30 feet	500 gpm
21 to 30 feet	750 gpm
11 to 20 feet	1,000 gpm
10 feet or less	1,500 gpm

Recommended fire flows for commercial buildings are based on many factors including building size, construction materials used, and what is housed in the building.

The Oregon Fire Code (OFC) requires a minimum flow of 1,000 gpm in residential areas and a minimum of 1,500 gpm for a minimum of two hours in all other occupancies. These requirements increase with square footage of the building and can be quite large for commercial and institutional buildings (schools). These fire flows must be maintained with a system-wide minimum of 20 pounds per square inch residual pressure.

ISO reports typically include a Hydrant Flow Data Summary that recommends needed fire flow protection rates for both residential and commercial districts to receive full credit ratings. ISO does not consider needed fire flows over 3,500 gpm in determining the public protection classification for cities. The fire flow design criterion for industrial and high-density commercial areas used for this WSMP is based on the typical maximum fire flow recommended by ISO, which is 3,500 gpm. The City fire chief recommended this fire flow be provided for a duration of three hours. This maximum fire flow is typically recommended for school areas, industrial areas, and other high-density development. The design criterion for low-density commercial areas was set at 3,000 gpm. For residential areas, a minimum fire flow design criterion of 1,000 gpm was used. This value is based on the minimum flow allowed by the OFC.

Design Criteria

In establishing design standards for a water system, primary consideration must be given to state and federal rules and regulations governing water quality and construction standards for water systems. These regulations are set by both the EPA and the DWS. In addition to public health and safety requirements, many other factors control the design parameters for municipal water systems. The City must evaluate factors such as financial feasibility, philosophy and policies of the City Council, past system performance and service, and expectations of the water users. All of these factors are important and influence the standards by which water system improvements are made.

Figure 2-1 presents a summary of the water system design criteria developed with Public Works staff input. These criteria are used to evaluate the existing water system and develop potential improvement options to satisfy present and future water system needs. Application of these criteria is discussed further in the specific chapters that address the water supply, storage, and distribution system facilities. Figure 2-1 presents design criteria based on a service population in 2019 of 11,485, when existing system demands were obtained and the corresponding calculated ADD and PDD. Design criteria are also shown for a year 2040 population of 12,753. Along with population growth, the 2040 projected design criteria include two scenarios, the first with an additional 2.0 MGD demand for commercial growth, and the second with a total additional 4.0 MGD demand for commercial growth. Storage volumes are derived from calculations discussed in detail in Chapter 4. The design criteria presented on Figure 2-1 are used as base information in later chapters for evaluating existing and future system needs and capacity.

CITY OF ONTARIO, OREGON
WATER SYTEM MASTER PLAN
SUMMARY OF DESIGN CRITERIA WITH FUTURE WATER DEMAND PROJECTIONS

Criterion	2019				2040					
					Residential Growth[1] and 2 MGD Commercial Growth				Residential Growth[1] with Heinz and 4 MGD Commercial Growth	
	Residential[2, 3]	Heinz	Commercial/ Other[4]	Total	Residential	Heinz	Commercial/ Other Plus 2 MGD	Total	Commercial/ Other Plus 4 MGD	Total
Design Population	11,485	-	-	11,485	12,753	-	-	12,753	-	12,753
Supply										
ADD (gpcd)[3]	200	-	-	515	200	-	-	640	-	800
Average Daily Flow (MGD)	2.3	2.5	1.1	5.9	2.6	2.5	3.1	8.2	5.1	10.2
Average Daily Flow (gpm)	1,580	1,740	790	4,100	1,770	1,740	2,180	5,690	3,570	7,080
PDD[6] (gpcd)	320	-	-	840	320	-	-	1,000	-	1,256
Peak Daily Flow[7] (MGD)	4.3	3.5	1.9	9.6	4.1	3.5	5.1	12.7	8.4	15.9
Peak Daily Flow (gpm)	2,970	2,430	1,280	6,680	2,830	2,430	3,550	8,810	5,810	11,070
Peak Hourly Flow[8] (gpm)	7,450	6,080	3,200	16,730	7,080	6,080	8,880	22,040	10,150	23,310
Estimated Supply Flow Available[9] (MGD)				10.0				10.0		10.0
Estimated Supply Flow Available[9] (gpm)				6,940				6,940		6,940
Estimated Supply Flow Needed[10] (MGD)				11.0				14.5		18.2
Estimated Supply Flow Needed[10] (gpm)				7,650				10,070		12,650
Potential Supply Deficit (MGD)				**1.0**				**4.5**		**8.2**
Potential Supply Deficit (gpm)				**710.0**				**3,130**		**5,710**
Distribution System										
Fire Demand										
Residential (gpm)				1,000				1,000		1,000
Low Density Commercial (gpm)				3,000				3,000		3,000
High Density Commercial (gpm)				3,500				3,500		3,500
Industrial (gpm)				3,500				3,500		3,500
Duration (hour, for commercial and industrial)				3				3		3
Minimum System Pressure Under Peak Demands (psi)				40				40		40
Minimum Residual Line Pressure Under Peak Demands Plus Fire Flow (psi)				20				20		20
Storage										
Operating Storage[11] (gal)				1,410,000				965,000		965,000
Equalization Storage[12] (gal)				1,470,000				2,270,000		3,300,000
Fire Reserve[13] (gal)				630,000				630,000		630,000
Emergency Reserve[14] (gal)				5,910,000				8,185,000		10,185,000
Total Recommended Storage (gal)				9,420,000				12,050,000		15,080,000
Total Existing Available Storage (gal)				11,000,000				11,000,000		11,000,000
Potential Storage Deficit (gal)				**0**				**1,050,000**		**4,080,000**

Abbreviations:

ADD = Average Daily Demand
PDD = Peak Daily Demand
gpcd = gallons per capita per day
gpm = gallons per minute
gal = gallons
MGD = million gallons per day
psi = pounds per square inch
Yellow highlight = Deficits

Notes:

[1] Residential population growth is assumed to be 0.5 percent per year.
[2] Residential water use was derived from total reported water use excluding Heinz and commercial/other water use.
[3] Year 2019 design population is based on Portland State University 2019 certified population estimate.
[4] Commercial water use is assumed to be 1.5-inch and larger meter use from 2015 to 2018. Meter usage data provided by the City.
[5] ADD is calculated from reported water use diverted from supply sources from Oregon Water Resources Department records from 2015 to 2018.
[6] Total PDD was determined from City production records for the year 2018.
[7] Heinz PDDs are assumed to be 1.0 MGD greater than ADDs. Commercial/Other demands are assumed to be 42 percent of total PDDs, similar to ADDs.
[8] 2.5 times peak daily flows.
[9] Combined water treatment plant capacity (wells and surface water).
[10] Total capacity required to operate supply sources a maximum of 21 hours per day and meet PDDs.
[11] Normal operating water levels for all reservoirs were based on City-provided data. 2040 projections assume Bench Reservoir operating levels fluctuate only 3 feet.
[12] Difference between peak hourly flow and available supply for a 2.5-hour period.
[13] 3,500 gpm flow for a 3-hour duration, assuming only storage is used.
[14] One-day supply at average daily demand, assuming only storage is used.

anderson perry & associates, inc.

CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
SUMMARY OF DESIGN CRITERIA
WITH FUTURE DEMAND PROJECTIONS

FIGURE
2-1

Chapter 3 - Water Supply and Treatment

This chapter includes a description of the City of Ontario's current water supply and treatment system and a discussion of its capacity to meet present and future needs. Alternatives for addressing deficiencies within the present system and for meeting future needs are outlined herein. Water rights, well water levels, and water supply quality are also discussed in this chapter. Cost estimates for potential viable water supply alternatives are discussed herein and summarized in Chapter 6.

Water Supply Sources and Treatment

Currently, the City of Ontario uses treated surface water and shallow alluvial groundwater to supply water to the community. A description of each water supply source and the treatment process used for each source is discussed herein. The *Water Supply and Treatment Plant Study* prepared by Keller and Associates, Inc., in 2001 was referenced for background water supply information.

Surface Water Supply

The City of Ontario utilizes the Snake River as its primary source of raw water. The City of Ontario's water treatment plant is located on the east side of the City, just south of where U.S. Highway 30 crosses the Snake River as shown on Figure 1-1 in Chapter 1. In 1981, the plant was upgraded and a river intake system was added, thus converting it from a shallow well source plant to a surface water treatment plant. The existing river intake system consists of an intake screen and a pipeline connected to a pump station located adjacent to the river. The existing screen has been in service since 1981 and consists of four sections of horizontal-mounted wedge wire screen attached to the pump intake pipes.

In 1981, a pump station was also constructed to the east of existing treatment plant, as part of an expansion. Two vertical turbine pumps at the surface water pump station transport raw water to the water treatment plant. The first is a 40 horsepower (Hp) pump that delivers 2,500 to 3,000 gallons per minute (gpm). The second is a 75 Hp pump that delivers 4,000 to 4,700 gpm. Their combined capacity, when operated in series, is approximately 9.4 to 11.0 million gallons per day (MGD). The capacity of the existing intake screen is reportedly limited to 11.8 MGD. The intake capacity could be increased by approximately 1.0 to 2.4 MGD by installing larger pumps at the river intake pump station. Any further increase in raw water intake capacity is anticipated to require another intake screening system.

The Snake River is located on the east side of Ontario. The river channel curves around the City. This tends to create higher flow velocities along the outside bend of the river, while flow along the inside bend has lower velocities. Slower velocities on the inside bend promote sedimentation, which over time can lead to sediment accumulation and the formation of sand bars. The City has experienced problems with sand accumulation near the intake screen, which can impact operation of the intake pump station and water treatment plant.

Pretreatment

The pretreatment of water involves the addition of chemicals (coagulants) to the raw water supply followed by mixing to turn dirt and other particles into increasingly larger and heavier elements called “floc.” These floc particles are then either removed by gravity in large settling tanks or by physical separation to complete the pretreatment process.

The City of Ontario completes this process using two separate systems. The largest system was constructed as part of the 1981 plant upgrade and is referred to as the “old plant.” The new, smaller system was constructed in 2005 and is referred to as the “new plant.” In both systems, the City uses aluminum chloralhydrate as the primary coagulant followed by a supplemental dose of polymer. In the old plant, the floc particles are removed by gravity in a large sedimentation basin. In the new plant, the floc particles are removed in an upflow adsorption clarifier (WesTech Trident System), where the floc particles adhere to a buoyant media.

Filtration (Treatment)

Like pretreatment, this step is completed using two separate systems (old plant and new plant). While the two separate systems were installed approximately 25 years apart, this step is essentially the same in both systems. The remaining small particles leaving the pretreatment process are removed (filtered) from the pretreated water using a media bed composed of garnet sand, silica sand, and/or anthracite.

Finished Water Clearwells and Disinfection

After treatment, the finished water is collected and temporarily stored in three clearwells prior to being pumped into the City’s Eastside and Westside Reservoirs. The three clearwells are available for storage of treated water and to provide chlorine contact time. The first is located under the old plant and the second is a small space immediately under the finished water pumps themselves. The oldest clearwell is part of the original plant built in the 1930s and is still used as part of the water treatment and delivery process.

Disinfection of drinking water is completed to meet regulatory water disinfection criteria (primary disinfection) and to provide a disinfection residual (secondary disinfection). Currently, the City uses chlorine for primary and secondary disinfection at its water treatment plant. Chlorine is generated on site at the new water treatment plant in the form of 0.8 percent sodium hypochlorite solution. The generating capacity of the system is 500 pounds of chlorine per day, which would allow the City to dose up to 5 milligrams per liter (mg/L) of chlorine at full capacity. Chlorine is injected into the treated water prior to entering the clearwells. Contact time is provided by the clearwells and the transmission lines, allowing the chlorine to treat the water before being discharged to the Eastside and Westside Reservoirs.

Four pumps transfer treated water from the clearwells into the Eastside and Westside Reservoirs. Two finished water pumps (Pumps No. 1 and 2) are used to pump treated water directly to the City’s Eastside Reservoir. Finished water Pumps No. 3 and 4 typically convey treated water directly to the City's Westside Reservoir. In addition, finished water Pumps No. 3 and 4 and/or the Westside Reservoir can also be used to provide backwash water to the “old plant” and “new plant” filtration systems.

Historic Surface Water Quality

Turbidity

Raw water turbidity is one of the single most important water quality parameters to consider when evaluating treatment plant performance. Lower turbidity water (less cloudy) is generally easier to treat and usually requires lower chemical doses for optimum coagulation, settling, and filtration. The turbidity of the Snake River is variable and ranges from less than 5 nephelometric turbidity units (NTU) to more than 300 NTU. Average turbidities range from 2 to 38 NTU from October through March and 4.5 to 20 NTU from April through September. The highest turbidities typically occur in the spring and are related to spring runoff.

Temperature

The temperature of the raw water varies by season. Temperature plays an important role in water treatment because it effects the rate of chemical reactions, flocculation (floc), settling, filter performance, and needed chlorine contact time. Higher water temperature typically requires lower chemical doses and offers better floc formation and settling. Therefore, higher water temperature can enhance filter performance. Wintertime temperature lows for the raw water average approximately 43°Farenheit (F) (6°Celsius [C]) and summertime temperature highs average approximately 70°F (21°C). The lowest observed temperature from 1994 to 1998 was 37°F (2.8°C) during December, January, and February. The highest observed temperature was 86°F (30°C) during June, July, August, and September.

pH and Alkalinity

The average daily pH of the surface water typically varies between 8.0 and 8.4, with occasional extremes between 7.1 to 9.0. pH is important to water treatment because of its impact on coagulation performance, the corrosive characteristics of the water supply, and needed chlorine contact time. A pH range of 6.5 to 7.0 is typically considered optimum for alum coagulation. pH values in excess of 7.0 are considered optimum for overall corrosion control.

Alkalinity is important in water treatment because of its impact on pH stability and coagulation performance and also on water's corrosivity. Based on samples taken between 2007 and 2020, alkalinity in the raw water ranges from 80 to 386 mg/L as calcium carbonate. These levels should be adequate for alum coagulation and also offer improved pH stability in the distribution system.

Organic Content

The water treatment plant staff monitor total organic carbon (TOC) on a quarterly basis. TOC is a general measure of the total dissolved and free organic matter present in the raw water. High TOC levels can lead to the formation of trihalomethane and haloacetic acid in the disinfection process. As a result, this can lead to issues with meeting Disinfectant/ Disinfection Byproduct Rule (D/DBR) requirements. TOC levels in the Snake River range from approximately 1.0 to 16.0 mg/L. The Environmental Protection Agency (EPA) generally recommends TOC levels are reduced to below 2.0 mg/L prior to chlorination to meet D/DBR requirements.

The surface water supply also has seasonal algae problems, which cause taste and odor problems if not adequately treated. Algae blooms in the river start in the spring and can last throughout the summer. The City recently experienced these issues in summer 2019.

Groundwater Supply

Currently, the City utilizes six alluvial wells located next to the Snake River to augment the City's surface water supply and provide a backup water supply source if needed. General information for each well is summarized on Table 3-1.

TABLE 3-1
WELL INFORMATION[1]

Parameter/Well	No. 4	No. 6	No. 14	No. 15	No. 16	No. 17
Date Drilled	1961	1969	1980	2010	2010	2014
Depth, feet	57	49	50	52	52	80
Static Water Level, feet BGS	13.9	14.7	17	15.1	15.2	16
Pumping Water Level, feet BGS	41.1	35.7	20.8	23.1	30.1	30
Reported Sustainable Withdrawal Rate, gpm	700	140	170	125	120	110
Specific Capacity[2], gpm/ft	26	7	45	11	8	8

[1] Well water levels and withdrawal rates are from 2018 operational records.

[2] Specific capacity is a measure of the well production per foot of water drawdown in the well while pumping.

BGS = below ground surface

ft^2 = square feet

A brief description of each well currently being used by the City is presented hereafter. This information was obtained from Oregon Water Resources Department (OWRD) well logs. More information about each of the wells obtained from the OWRD and City records can be found in Appendix D.

Well No. 4

Well No. 4 is located approximately 700 feet north of the existing water treatment plant, adjacent to the Snake River. Well No. 4 was constructed in 1961 to a depth of 57 feet. A 16-inch casing is present from the ground surface to 29 feet BGS. A 16-inch diameter well screen is present from 29 feet to 39 feet BGS. The well reportedly has produced a maximum flow of 900 gpm and a minimum flow of 100 gpm. In 2012 and 2015, rehabilitation work was completed to increase the production from Well No. 4. Hydrogen sulfide and iron bacteria were reported to be present in the well, giving off an unpleasant odor. System operators have not reported that the hydrogen sulfide and iron bacteria are causing any operational issues with the well. The original well yield was reported to be 1,000 gpm with 27 feet of water level drawdown. The current sustained well yield is reported to be approximately 700 gpm.

Well No. 6

Well No. 6 is located approximately 1,175 feet north of the existing water treatment plant on the north side of U.S. Highway 30, adjacent to the Snake River.

The well was constructed in 1969 to a depth of 49 feet. A 12-inch diameter casing is present from the ground surface to 18 feet BGS. A 10-inch diameter casing is present inside of the 12-inch casing from ground surface to 48 feet BGS. Perforations in the casing are located 18 feet to 40 feet BGS and are 3/16-inch by 3-inch. The well casing was sealed with clay from the ground surface to 18 feet BGS. The screens and column pipe were cleaned in August 2019. Corrosion is reported to be present on the well casing at the static water level.

The original well was reported to have a yield of 835 gpm with 35 feet of water level drawdown. The current sustained well yield is reported to be approximately 140 gpm.

Well No. 14

Well No. 14 is located approximately 300 feet north of the existing water treatment plant adjacent to the Snake River. The well was constructed in 1980 to a depth of 50 feet. An 18-inch casing was installed from 2 feet above ground surface to 28 feet BGS. An 18-inch diameter well screen was installed from 28 to 40 feet BGS, followed by more 18-inch diameter casing extending from 40 to 50 feet. The well casing was sealed with Portland cement grout from ground surface to 19 feet BGS. Quarter-inch minus gravel was placed outside the well screen from 19 to 50 feet BGS.

The original well yield was tested with a bailer and was reported to be 50 gpm with 2 feet of water level drawdown. The current sustained well yield is reported to be approximately 170 gpm.

Well No. 15

Well No. 15 is located south of the existing water treatment plant. The well was constructed in 2010 to a depth of 52 feet. The bore was reported to be originally 100 feet deep but was backfilled to the finished depth. A 24-inch diameter casing was installed from 2 feet above ground to 18 feet BGS. A 16-inch diameter casing was then installed inside the 24-inch casing from 2-1/2 feet above ground to 22 feet BGS. A 16-inch diameter, wire wrap screen was installed from 22 to 42 feet BGS, followed by more 16-inch diameter casing extending from 42 to 52 feet BGS. A filter pack of silica sand was placed along the outside of the entire well casing. A pump test was performed when the well was drilled and indicated an available yield of 232 gpm. The current sustained well yield is reported to be approximately 125 gpm.

Well No. 16

Well No. 16 is located south of the existing water treatment plant. The well was constructed in 2010 to a depth of 52 feet. The bore was originally 100 feet deep but was backfilled to the finished depth. A 24-inch diameter casing was installed from 2 feet above ground to 18 feet BGS. A 16-inch diameter casing was then installed inside the 24-inch casing from 2-1/2 feet above ground to 22 feet BGS. A 16-inch diameter, wire wrap screen with a 0.03 slot width was installed from 22 to 42 feet BGS, followed by more 16-inch diameter casing extending from 42 to 52 feet BGS. A filter pack of silica sand was placed along the outside of the entire well casing. A pump test was performed when the well was drilled and indicated an available yield of 278 gpm. The current sustained well yield is reported to be approximately 120 gpm.

Well No. 17

Well No. 17 is located approximately 300 feet south of the existing water treatment plant. The well was constructed in 2014 to a depth of 80.5 feet. The casing used was 16 inches in diameter and extends to the bottom of the well. A 26-inch diameter outer casing was installed from 2 feet above ground surface to 20 feet BGS. Two screens were installed from 35 to 40 feet (0.08-inch slot) and 50 to 75 feet (0.03-inch slot). A filter pack of silica sand was installed outside the screen from 15 to 41 feet.

A well pump test was originally conducted showing a yield of 400 gpm with 31 feet of water level drawdown. The current sustained well yield is reported to be approximately 110 gpm.

Water Levels in Wells

Periodic monitoring of water levels in wells provides the ability to determine if there are any trends that show decreased capability of an aquifer, or a specific well, to provide the desired water flow. The City of Ontario has periodically measured the water levels in Wells No. 4, 6, 14, 15, and 16. Since the wells operated by the City utilize shallow alluvial groundwater, abrupt, short-term water level fluctuations are possible due to rapid recharge or discharge of water into or out of the water table. The Snake River's proximity to the wells may also play a role in groundwater recharge rates. Surface water infiltration is discussed in further detail in the Well Water Quality section. A brief summary of the static water level measurements for each well is provided below.

- **Well No. 4** - Static water levels in this well generally increased from 2013 to 2018 by 6.6 feet. No static water levels were recorded immediately following the well construction. The most recent static water level data are from 2013 and 2018. Pumping rates of approximately 700 gpm with pumping water levels of 41 feet remained consistent over this period. Data spanning this duration may not accurately represent the long-term changes in static and pumping water levels that have occurred over the life of the well.

- **Well No. 6** - Data for static water levels in this well are available for years 1969, 2011 through 2013, and 2018. Static water levels dropped significantly from 1969 to 2011, with 17.5 feet of change. From 2011 to 2018, static water levels increased approximately 6 feet. Pumping water levels in Well No. 6 remained relatively constant, but the pumping rate was reduced from 300 to 140 gpm.

- **Well No. 14** - Data for static water levels in this well are available for years 1979, 2013, and 2018. Static water levels decreased by 1.8 feet from 1979 to 2013 and increased by 0.8 feet from 2013 to 2018. Overall, little change in static water levels was recorded. Pumping rates of 150 to 175 gpm with pumping water levels between 20 and 30 feet were reported.

- **Well No. 15** - Data for static water levels in this well are available for years 2010 through 2012, and 2018. Small fluctuations (approximately 2 feet) in static water levels were recorded in these years. The pumping rate from Well No. 15 was reduced from approximately 290 to 125 gpm between 2013 and 2018 with an increase in pumping water level of approximately 7 feet.

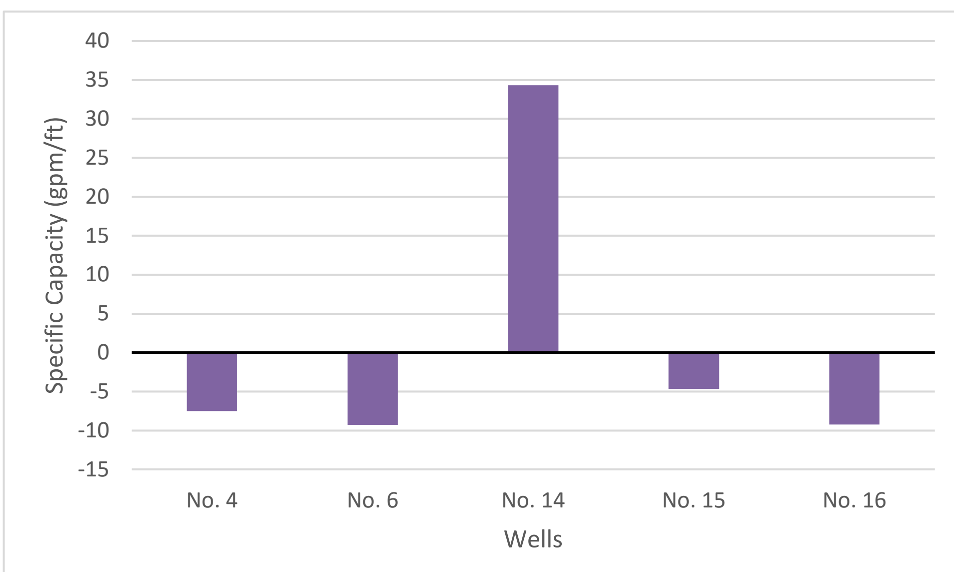
- **Well No. 16** - Data for static water levels in this well are available for years 2010 through 2012, and 2018. Small fluctuations (approximately 1 foot) in static water levels were recorded in these years. The pumping rate from Well No. 16 was reduced from approximately 245 to 120 gpm between 2013 and 2018 with no change in pumping water level.

- **Well No. 17** - Static water level for this well was reported to be 14 feet BGS and the maximum yield was reported to be 400 gpm with a well pumping water level of 42 feet BGS when the well was drilled. City staff indicate that the well can reliably produce approximately 110 gpm currently.

All City wells currently in operation have experienced some level of operational changes from 2010 to 2018. Wells No. 6, 15, and 16 experienced the most significant drops in production (ranging from 120 to 160 gpm drop) over the period. During the 2010 to 2018 period, Well No. 14 was rehabilitated and saw an increase in the pumping water level while maintaining a yield of 150 to 175 gpm.

Well No. 4 was rehabilitated in 2018/19. No performance data to analyze the impacts of this rehabilitation were available at the time this WSMP was developed. A graphical depiction of the changes in well performance from 2013 to 2018 is shown on Chart 3-1. In this chart, the change in specific capacity (how much water a well produces per foot of water level drawdown) is shown. The decreases in production capacity in Wells No. 4, 6, 15, and 16 can be seen. The beneficial impact of rehabilitating Well No. 14 can also be seen. The City plans to actively pursue well rehabilitation to maintain a consistent well water production capacity.

CHART 3-1
CITY WELL SPECIFIC CAPACITY CHANGE FROM 2013 TO 2018



gpm/ft = gallons per minute per foot

Well Water Quality

Records of the chemical water quality testing reports available through the Oregon Health Authority - Drinking Water Services website were reviewed relative to well water quality. Based on these well water quality testing records, arsenic levels slightly above the EPA's maximum containment level (MCL) of 0.01 mg/L were reported in 2003 and 2005. Since then, the well sources in which high arsenic levels were detected, have been abandoned. All other well water chemical quality test results from 2002 to 2014 have been below the MCLs.

Surface Water Infiltration

The possibility of surface water infiltration or infiltration to the shallow alluvial groundwater from the river or surface runoff into the existing shallow alluvial wells currently exists due to their relatively shallow depths and limited well seals.

Microscopic particulate analysis conducted in the late 1990s found a few bioindicators and high groundwater temperature fluctuations, suggesting that some of the well sources may have been at risk of being under the direct influence of surface water at the time of sampling. As a result, the City has been running well water through the water treatment plant to provide treatment of the well water to reduce potential risk due to surface water contamination.

Iron and Manganese

As a part of the previous *Water Supply and Treatment Plant Study* prepared by Keller and Associates, Inc., water quality tests were completed for each well constructed before 2001. These tests showed some levels of iron and manganese in Wells No. 4, 6, and 14, but the levels were below EPA secondary standards. Iron and manganese are usually present in a dissolved form in groundwater. These constituents are not of regulatory concern, but they can cause taste and odor concerns for water system customers.

Iron Bacteria

One currently active well (Well No. 4) has been found to have iron bacteria. Well No. 4 is located on the riverbank near the water treatment plant.

The presence of iron bacteria should be monitored. Wells with iron bacteria should be treated using an oxidizing agent like chlorine or hydrogen peroxide. The chlorine or hydrogen peroxide can either be added periodically at high concentrations to flush out the well casing, screen, and filter pack or added continually at small doses.

Water Rights

The City of Ontario holds several municipal and irrigation water rights issued by the State of Oregon for its groundwater sources and one municipal water right for a surface water source. The City's existing municipal water right certificates and permits are summarized on Table 3-2. Copies of the City's water right permits, certificates, and transfers are presented in Appendix E.

TABLE 3-2
WATER RIGHT INFORMATION

Point of Diversion	Application/ Permit No.	Certificate No.	Priority Date	Transfers	Allocation Flow (cfs)	Allocation Flow (gpm)
Municipal Water Rights						
3 Wells[1]	G-4761/G-4485	-	1/14/1969	T-8077 (denied) T-9577 (withdrawn)	5.0	2,250
Snake River[2]	S-57572/S-43401	-	6/26/1978	T-8077 (denied)	20.1	9,021
2 Wells (Well No. 5)	U-472/ U-428	22879[3]	3/10/1952	T-8078 (approved)	3.35	1,503
Well No. 4	G-2030/G-1867	32125[3]	5/24/1961	T-8078 (approved)	2.0	898
Well No. 6	G-1191/G-999	68622[3]	08/11/1958	T-8078 (approved)	1.11	500
Well No. 8 Well No. 9	G-6892/G-6794	60022[3]	4/14/1975	T-8078 (approved)	1.10	494
Well No. 13	G-9945/G9114	60024[3]	9/18/1980	T-8078 (approved)	0.78	350
Well No. 14	G-9944/ G-9113	60023[3]	9/18/1980	T-8078 (approved)	0.94	422
				Total Municipal Allocation	34.38	15,438
Irrigation Water Rights						
4 Wells	U-254/U-226	80759[3]	17.18904	T-8078 (approved)	0.038[4]	17
4 Wells	G-2792/G2616	72138[3]	504.4512	T-8078 (approved)	1.12[5]	503
Ditch	S-45996/ S-34355	41005	136.884	-	0.30[6]	135
Well	G-4857/G-4573	42027	6.2832	-	0.01[5]	4
Well	G-6813/G6316	45779	10.7712	-	0.02[5]	9
Well	G-10033/G-9741	55822	107.712	-	0.2[5]	90
Well	G-11589/G-10885	81015	26.65872	-	0.059[5]	26
				Total Irrigation Allocation	1.75	784
				Total Municipal and Irrigation Allocation	36.13	16,222

[1] Appropriation of water for Permit G-4485 is currently limited to no more than 1.06 cfs by the Final Order dated June 24, 2003. An application to increase the current permit limitation can be submitted to OWRD.

[2] An application for an extension of time on Permit S-43401 was submitted to OWRD in March 2019 and is pending.

[3] Cancelled by Sp. OR. Vol. 85, Pg. 338 approving T-8078.

[4] Three-eightieths of one cfs, or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 4.0 ac-ft for each acre irrigated during the irrigation season of each year.

[5] One-eightieths of one cfs, or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 3.0 ac-ft for each acre irrigated during the irrigation season of each year.

[6] One-fortieth of one cfs, or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 3.0 ac-ft for each acre irrigated during the irrigation season of each year.

ac-ft = acre feet

cfs = cubic feet per second

The existing water rights provide the City the ability to instantaneously withdraw a total of 34.38 cfs or approximately 15,438 gpm. Additional irrigation water rights provide the City with 1.75 cfs (784 gpm) of alluvial groundwater pumped from wells. The irrigation water rights are primarily related to City parks and facilities.

Surface Water Right Permit

The City's single surface water right permit for withdrawal from the Snake River is for 20.1 cfs. The City's current two raw water vertical turbine pumps are estimated to provide a pumping capacity between 15 and 18 cfs (Water Treatment Plant Audit, Exhibit E4, Murraysmith & Associates, Inc., May 2014).

If the City's auxiliary temporary surface intake pump was utilized in addition to the raw water supply pumps, an additional 3.3 cfs of flow may be available. This combined pumping capacity may allow the City to "prove up" and certify the surface water right. However, pumping and treatment system operations and capacity would need to be confirmed prior to undertaking such an effort. In 2019, the City submitted an application to extend the time allocated to put the full water right permit to beneficial use. The City has a stepped strategy to file a Claim of Beneficial Use once an application for an extension of time is granted. This would result in the City having a certificated surface water right. Certificating water rights puts the rights in a more secure position and provides additional water right flexibility related to transfers, future points of appropriation, etc.

Groundwater Water Rights

Currently, the City uses Wells No. 4, 6, 14, 15, 16, and 17 as groundwater sources. The allocations associated with the City's groundwater rights, provide the City with the ability to withdraw a total of 14.28 cfs or approximately 6,400 gpm.

Summary of Water Right Transfers

Several water right transfers have occurred over the years changing the point of diversion, place of use, or character of use authorized under an existing water right. The City of Ontario filed a transfer application to change the points of appropriation under Certificates 22879, 32125, 60022, 60023, 60024, 68622, and 80759; change the place of use; and request additional points of appropriation under Certificate 72138. This allows the City to operate its wells as a "well field" system without having specific appropriations tied to specific wells. The total water pumped from all wells covered by the water right transfer cannot exceed the combined total maximum allocation under each of the individual water rights. In 2011, the permit amendment application (T-8078) was approved by the OWRD. It should be noted that the water allocation approved with this transfer was to be put to full beneficial use by October 2024.

The City filed an application to change the point of diversion and to change the point of appropriation under Permits G-4485 and S-43401. The development deadline date under Permit S-43401 expired in October 2000, and there was no pending Extension of Time Application on file; therefore, the OWRD could not approve the permit amendment.

Greenlight Water

The OWRD has developed the Municipal Water Management and Conservation Planning program, which provides a process for municipal water suppliers to develop plans to meet future water needs. To obtain long-term permit extensions, the City of Ontario is required to prepare plans that demonstrate the communities' need for increased diversions of water under the permits as their demands grow. Restricting diversion rates until the City can prove their need for additional water is known as "greenlight water." This program affects Permit G-4485, which allocates 5.0 cfs. Currently, the City's instantaneous withdrawal using this permit cannot exceed 1.06 cfs as decided by the Final Order dated June 24, 2003. When the City has demonstrated the need for increased water supply, a request for additional greenlight water will need to be submitted to the OWRD for approval. Generally, an updated Water Management and Conservation Plan (WMCP) is needed to approve the "greenlight water" request. A WMCP progress report is due June 22, 2022, and the next plan update is due June 9, 2027.

Source Capacity Assessment

For the purposes of this WSMP, the ability of the City's existing sources in their current configuration to meet current and projected peak daily flows with existing capacity and water rights was evaluated. Demands in this section are based on historical water usage and projected future water demand as previously presented in
Chapter 2.

The assumptions noted on Table 3-3 were made to assess current source production from the City's supply sources.

TABLE 3-3
CURRENT WATER SUPPLY
OPERATIONAL CAPACITY

Water Supply Source	Pumping Capacity (gpm)
Well No. 4	700
Well No. 6	140
Well No. 14	170
Well No. 15	125
Well No. 16	120
Well No. 17	110
Snake River	5,685
Total	**7,050**

The hours of operation for each supply source currently used in the system may vary but it has been assumed that on average the sources operate 21 hours per day. The above current source production values for wells are considered to be the City's current sustainable well production flows.

Source capacity was also reviewed using the maximum capability of each source over a 24-hour period. The continued operation of all sources on a 24-hour basis is not recommended and not sustainable but can provide a measure of the ultimate source capacity in the event of an emergency.

Source capacity with respect to water rights was assessed with only certificated and permitted water rights. Evaluations of the City's source capacity and water rights compared to the current and projected water demand are shown on Table 3-4.

TABLE 3-4
SOURCE CAPACITY EVALUATION

Parameter/Year	2019	2040 with Heinz and 4.0 MGD Commercial Growth
Water Demand		
ADD, MGD	5.9	10.2
PDD, MGD	9.6	15.9
Source Capacity - Wells		
All Current Well Production Sources, gpm	1,255	1,255
Well Production Capacity*, MGD	1.8	1.8
Source Capacity - Surface Water		
Surface Water Source Production, gpm	5,685	5,685
Current Surface Water Capacity, MGD	8.2	8.2
Sustainable Total Supply Capacity* compared to PDD, MGD	***-1.0***	***-8.2***
Water Rights Permits - All Wells and Surface Water		
Well and Surface Water Right Capacity, gpm	15,430	15,430
Supply Water Right Capacity, MGD	22.2	22.2
Total Supply Water Right Permit Capacity compared to PDD, MGD	***12.6***	***6.3***
Surface Water Right Permit Capacity with Current Groundwater Production compared to PDD, MGD*	***5.2***	***-1.1***

**Assumes 21 hours per day supply source operation. Because wells in the City well field can have decreased capacity when simultaneously pumping, the total well pumping capacity has been reduced by approximately 90 percent (equivalent to the Well No. 17 yield) to account for potential decreased well production.*

***Assumes use of the full 13.0 MGD surface water right but only 1.8 MGD of well production capacity.*

ADD = average daily demand

PDD = peak daily demand

The City is primarily reliant on surface water supply to meet customer demands while the alluvial groundwater wells provide a supplementary source of water. The City's assumed groundwater source production capacity (1,255 gpm) cannot meet the current system average day demands (4,100 gpm). When the City's combined surface and groundwater source capacity is considered, the City currently has surplus supply capacity exceeding the PDD. However, the City relies heavily on the surface water treatment plant to meet the current peak daily flows in the system. With future development and expansion of the City, the existing permitted surface water rights may not be adequate to meet future peak day demands. The City would also be reliant on one point of source water (considering the surface water intake and wells are adjacent to one another) to provide approximately 16.0 MGD of water. Such high water production capacity from one point of source water may negatively impact source water production capacities.

The City's current groundwater and surface water source capacity is anticipated to be deficient by approximately 8.2 MGD when compared to the projected 2040 PDD with 4.0 MGD of commercial growth. Additional source capacity of approximately 5,700 gpm (8.2 MGD) would need to be developed in the City to meet the projected 2040 PDD with 4.0 MGD of commercial growth.

With respect to water rights, the City has adequate water rights to address both current and projected 2040 water demands. However, with having approximately 9.2 MGD of the City's total water right allowance (22.2 MGD) in groundwater rights, it is anticipated that additional surface water rights will be needed to meet projected long-term growth. The City may be able to coordinate the transfer of shallow groundwater water rights to a surface water right with the OWRD.

Water Conservation

Although it does not impact system capacity, water conservation can create water savings and reduction in water demand that can eliminate or delay the need for the development of new water sources or treatment plants. The City has implemented a number of conservation measures and considering future conservation program enhancements as outlined in the City's 2017 WMCP prepared by CH2M. Based on the values of water produced and billed in the 2017 WMCP*,* the total apparent and real water loss within the system was approximately 8 percent during the 5-year period from 2010 to 2014. This is below the American Water Works Association-recommended goal for community system unaccounted for water of 10 percent or less. Refer to Chapter 5 for further discussion on unaccounted for water.

The City has employed several basic conservation programs including annual water audits, system-wide radio read metering (including testing and maintenance of meters), a water rate structure, encouragement of conservation measures, leak detection and repair, and public education processes.

While the City is committed to the implementation of its conservation program, the success of its program is uncertain due to its dependency on its customers' willingness and ability to change their water consumption habits. The City currently has an average residential daily demand of 200 gallons per capita per day (2.3 MGD). If the City were able to achieve a 20 percent reduction in residential water use through conservation measures, this would result in approximately a 0.5 MGD decrease in overall system demands. No detailed demand analysis was performed as part of this Water System Master Plan (WSMP); therefore, the potential for water conservation to defer capital investments is not factored into the recommendations in this WSMP. The projected increasing demands cannot likely be met solely through water conservation measures.

Well Maintenance

Wells require periodic maintenance to keep them functioning properly and working efficiently. Wells sourcing their water from shallow alluvial aquifers have a tendency to lose efficiency over time. The result of lost efficiency is either decreased yield (gpm) or greater pumping drawdown. This results in higher pumping costs and loss of production.

Specific capacity (production in gpm per foot of drawdown) is a measure of the well's ability to yield water. Wells can lose efficiency and capacity for a variety of reasons, including mechanical clogging, bacterial clogging, and loss of pump efficiency. Observing changes in a well's specific capacity over time will alert a well owner of developing well efficiency problems. Chart 3-1 presented earlier in this chapter identified specific capacity trends in the City's wells.

It is recommended the City perform simple specific capacity pumping tests either annually or biannually on each well. The results should be recorded and plotted on a graph over time. A specific capacity test is easily performed by pumping the well using the existing well pump and documenting the static water levels, drawdown, and pumping rate of the well. This is best done during a period when the well to be tested and any adjacent wells have been sitting idle for a few weeks at a consistent time of year. The idle time is needed to normalize the well's static water level. Noting a reduction in specific capacity will indicate problems with the well and the need to take corrective action before the problem becomes more severe.

Rehabilitation work may include a variety of approaches depending on the nature of lost efficiency. Rehabilitation work may be accomplished using mechanical cleaning, surging, or non-mechanical methods such as shocking with percussion apparatuses, chemical addition, or chlorination. In some cases, it may be necessary to use a combination of mechanical, surging, and non-mechanical methods. Generally, the longer rehabilitation work is delayed, the greater the risk that the lost capacity cannot be fully recovered. Tracking well production over time by performing this relatively easy specific capacity test provides good information from which to project well rehabilitation needs. This will allow the City to budget for maintenance activities that may be required on a given well. If specific capacity has not decreased but pumping rates have decreased, it may indicate a problem with the pump rather than the well.

It would be wise for the City to develop a schedule to periodically check specific capacity of each City well to see if production and well efficiency have declined.

Current System Operational Issues

Bench Reservoir

The Bench Reservoir, located northwest of the City, acts as a pressure supply (via gravity flow out of the reservoir) and pressure relief (allowing any excessive pressures created by distribution system booster pumps to fill the reservoir) for the water distribution system while providing additional storage capacity. Water levels in the reservoir are controlled by pressure in the distribution system. The current water system operational configuration is not able to fully fill the Bench Reservoir without over-pressurizing the distribution system. Approximately 17 feet (36 percent) of available storage capacity in the reservoir is not currently being utilized. The City would like to improve on how the reservoir is utilized by establishing a source of direct inflow. This would decrease the City's reliance on booster pumps to constantly pressurize the distribution system.

Water Treatment Plant

Overall, the existing water treatment plant functions correctly and provides the City with clean potable water. However, the *2014 Water Treatment Plant Audit* (Audit) produced by Murraysmith & Associates, Inc., CH2M, and Aquamize noted several deficiencies in the system.

Of the deficiencies noted in the Audit, many were related to aging equipment and infrastructure that have outlived their useful life and require frequent repairs or should be replaced. Other issues result from a lack of automation in the system. For instance, most of the chemical dosage adjustments are done manually and are not as precise as an automated system. This can lead to either excessive chemical use or decreased treatment effectiveness.

The "new" plant, which follows a similar treatment process to the "old plant," utilizes the WesTech Trident system as described earlier in this chapter. Plant operators have indicated that when the surface water is treated, the filter media becomes rapidly clogged with solids, requiring frequent backwash cycles. This has significantly reduced efficiency in the system and requires constant monitoring from the plant operator.

The Audit also noted that the existing clearwell size was substandard and a high chlorine demand was observed within the clearwell.

Water Supply and Treatment Alternatives

Water Supply Considerations

The City of Ontario's existing water supply and treatment systems currently meet its residential and industrial water demands; however, the current peak daily demand of 9.6 MGD can just be met meaning the treatment system is at capacity. The 20-year water demand projections show that additional water supply capacity will be needed. Alternative water sources and associated treatment measures are discussed herein. The following criteria have been considered for each water supply alternative:

- Water quality and water quality consistency
- Source capacity
- Operation and maintenance requirements
- Impact on system reliability
- Operation with existing storage reservoirs

Supply and Treatment Capacity Development Options

With the existing "old plant" and "new plant," located at the same water treatment site, the City can supply and treat approximately 10.0 MGD of raw river water and alluvial well water. Based on projected growth for 2040, it can be expected that additional capacity will be needed for residential, commercial, and industrial growth. The design criteria presented on Figure 2-1 in Chapter 2 anticipates that an additional water supply is needed in the near future as demands increase in the system. Options for increased supply and treatment capacity are summarized below. Improvement options are listed in order of their priority.

No Action Option

Under this alternative, no changes would be made to increase the City's water supply. The existing water supply sources would remain in service and operate to their sustainable capacities.

This alternative is not considered viable since the City wells are reported to have declining water production and the City's current water supply production is not capable of satisfying the projected 20-year water demands.

Option A - 2.0 Million Gallons per Day Expansion at Existing Treatment Plant

When the "new plant" was constructed in 2005, it was designed to house three of the WesTech Trident water treatment/filtration basins. Only two basins were installed based on the City's water demand at the time. A third concrete pad fully equipped with all the necessary piping for a 2.0 MGD unit was constructed in the treatment building in anticipation of future City growth. Adding 2.0 MGD of treatment capacity would address the City's existing 1.0 MGD treatment capacity deficit and provide an additional 1.0 MGD of capacity to accommodate future demand growth.

Since the existing WesTech units have showed deficiencies in treating surface water, modifications to the system would promote longer runtimes between backwash cycles. The adsorption clarifiers, which utilize a buoyant plastic bead media, may be the source of the needed frequent backwash cycles when treating surface water. Based on recommendations from a WesTech engineer, replacing existing media with a combination of buoyant plastic beads and larger fiber balls, referred to as a mixed media adsorption clarifier configuration, would allow surface water with high concentrations of suspended solids to be effectively treated without requiring frequent backwash cycles.

Due to pre-constructed infrastructure at the existing water treatment plant, this option would be the least expensive option for the City to add 2.0 MGD of water supply capacity. The anticipated project cost to complete Option A is $1,500,000. A detailed cost estimate for Option A is presented on Figure 3-1.

Option B - 8.0 Million Gallon per Day Treatment Expansion at Existing Water Treatment Plant

The Snake River is the City's most consistent raw water source in the area. The City already sources approximately 80 percent of its raw water from the Snake River. With the development of the design criteria for this WSMP, as presented on Figure 2-1, two future water demand projection scenarios were presented. The projected 2040 growth with 4.0 MGD of additional commercial demand identified a potential 8.2 MGD supply deficit. Considering the potential unknowns with increased commercial growth, it is recommended that when the City undergoes a major water treatment capacity expansion, base infrastructure is constructed to allow for 8.0 MGD of treatment. Base infrastructure is anticipated to include piping, raceways, concrete foundations, and potentially buildings to facilitate future treatment expansion. As discussed in Option A, typical packaged water treatment units (like WesTech systems) can treat approximately 2.0 MGD of water at full capacity. Depending on when a new treatment plant is constructed, the appropriate number of treatment units can be installed providing 2.0, 4.0, 6.0, or 8.0 MGD of treatment capacity. As the City grows, additional units can be installed at a comparatively low cost.

With this option, the City's expanded treatment capacity would be consolidated at the existing water treatment plant site.

A new water treatment plant would be constructed west of the existing water treatment plant on land already owned by the City. A new intake screen and raw water pump station, similar to Option B, would supply the additional 8.0 MGD of water to the proposed plant. Since the raw water pump station would be located on site, conveying water to the water treatment plant would not require crossing any highways or roadways. Figure 3-2 shows the location of the proposed intake screen and pump station with associated piping.

With a new water treatment plant at the existing treatment plant site, raw water would be pumped from the Snake River via a new river intake system and conveyed through a dedicated new water intake pipeline, as shown on Figure 3-2, to the new treatment plant. The new intake pump system would be very similar to the existing system. The intake system would need to be designed and installed to prevent microorganisms living near the water surface and sediment from the riverbed from entering the intake.

Conveying treated water directly to the Bench Reservoir through a transmission line from the existing water treatment plant site is not feasible without over-pressurizing the distribution system. To allow the full storage volume of the Bench Reservoir to be utilized, the construction of a Malheur Drive booster pump station would be required. It could be located at the intersection of N.W. 36th Street and Malheur Drive, just south of the Malheur River. The booster pump station would be supplied by both existing 12- and 24-inch pipes. Approximately 1,700 feet of new 12-inch pipe would be needed to feed the Bench Reservoir from the new booster pump station. The layout of the proposed Malheur Drive booster pump station is presented on Figure 3-3. Refer to Chapter 5 for further discussion of the water distribution system modeling associated with the Malheur Drive booster pump station.

A list of advantages, disadvantages, and other considerations associated with treatment Option B follows:

Advantages

- Located on City property with small area of potential land use
- Lower capital cost
- Centralization of all supply and treatment operations
- New plant addition allows newer technology power and water conservation measures to be implemented
- No highway or roadway crossings of water supply pipelines

Disadvantages

- Lack of water supply location redundancy (i.e., all supply is in one location, which is a concern with past flooding events and river levels rising due to ice jams)
- Existing booster pump station capacity from the water treatment plant would not be adequate and upgrades would be needed
- Allows minimal efficiency improvements of existing system (water and power conservation)
- Requires another booster pump station to allow the Bench Reservoir storage to be fully utilized
- Development of an additional water supply intake and raw water pump station is required (downstream of existing intake screen)
- Environmental permitting of new river intake

Other Considerations

Water Rights

Potential 20-year system demands may require the City to apply for new or acquire existing water rights beyond those currently held by the City.

Water Intake Reliability

The City has expressed concern about the vulnerability of the existing intake screen system to sediment accumulation, river boat traffic, ice jams, debris accumulation during high flows, and general public exposure in the river. An option that could help alleviate these concerns is a Ranney water collection system. A Ranney collector typically consists of a large concrete caisson (roughly 20 feet in diameter) placed near a riverbank. Lateral lines are then installed in a radial fashion away from the caisson several hundred feet. Each lateral has screens to collect both water beneath the riverbed and groundwater moving toward the river and deliver it to the caisson. Pumps then convey water from the caisson to the water treatment plant. This type of water collection system is much more secure than an underwater screening system, and the water supplied to the system is naturally filtered by the riverbed, which can alleviate some treatment operation difficulties. However, hydrogeologic evaluations of both existing geology and hydrology must be made to determine if a Ranney collector system is feasible. The Ranney collector must also be permitted as a new well source with OWRD. The installation of a Ranney collector is also more expensive than a river intake screen system, but the added reliability may be worth the investment. For the purposes of this WSMP, river intake screens have been considered as the City's preferred water intake mechanism with a water treatment plant expansion, but further evaluation of a Ranney collector may be warranted.

The anticipated project cost to complete Option B (utilizing a river intake screen) is $10,950,000. A cost estimate for the existing water treatment plant expansion and Malheur Drive booster pump station is presented on Figure 3-4.

Option C - 8.0 Million Gallons per Day Treatment Expansion at North Site

This option is similar to Option B, but seeks to diversify and provide redundancy to the City's water supply source locations. A potential location for a new treatment plant has been identified approximately 2.25 miles northwest of the existing water treatment plant and in the vicinity of the City's Public Works building. Raw water would be pumped from the Snake River and conveyed through a transmission line under Interstate 84 (I-84) to the treatment plant site, as shown on Figure 3-5. The intake pump station design would be very similar to the existing river pump station. Two vertical turbine pumps would pull water through an intake system and raw water line. The location and type of intake system plays an important role in the consistency of raw water quality being pumped to the water treatment plant. The intake system should be positioned and designed to prevent microorganisms living near the surface and sediment of the riverbed from entering the intake, as both increase maintenance of the water treatment process. Though the source and method of obtaining water would be the same, the north site offers some distinct advantages over the existing treatment plant site, as noted below.

The existing river pump station has experienced issues with sediment accumulation around the intake screen due to its location on an inside bend of the Snake River. The north site would allow for the intake to be strategically positioned on an outside bend, reducing the opportunity for sediment accumulation. Historic imagery of the river at this location also reveals that the river has been very stable at this location and would likely not experience major geomorphic changes in the future. The proposed location is graphically depicted on Figure 3-5, but further analysis of river hydraulics, riverbed elevations, and hydrogeology is needed to determine the best river intake site.

Constructing a new water treatment plant at the north location would also allow for a new transmission line to discharge treated water directly to the Bench Reservoir. The Bench Reservoir could then provide the needed chlorine contact time prior to conveying water to the distribution system. This configuration would also allow the Bench Reservoir to be utilized to its full capacity. Figure 3-6 shows the proposed transmission line to the existing Bench Reservoir from the North Water Treatment Facility. Treating water at two separate water treatment plants would also increase water supply redundancy and reliability in the system, giving the City the ability to continue providing service to its customers if something were to fail at either of the treatment sites.

The water treatment system proposed to be utilized at this site would function very similar to the City's existing WesTech treatment system. The media used in the treatment process should be confirmed to be effective to treat the City's surface water via a pilot test prior to implementation. Refer to Figure 3-7 for a schematic layout of the treatment process.

A list of advantages, disadvantages, and other considerations associated with this option follows:

Advantages

- Significantly improve water system redundancy
- Can locate near existing City property (Public Works)
- Ability to meet projected 20-year demands and more
- Water can be delivered directly to the Bench Reservoir, allowing full storage capacity to be utilized
- Changes primary delivery to the distribution system by gravity flow rather than booster pump pressurization
- Reduces power consumption with elimination of existing 24-hour per day booster pump operation
- Extends life of existing booster pump stations
- New plant allows newer technology power and water conservation measures to be implemented
- Operations are still somewhat centralized near the Public Works building (increased security)
- Reduced risk of flooding or screen damage at two remote sites
- Additional utilization of 5,500 gpm of the existing Snake River water right permit
- Intake location less susceptible to sediment accumulation
- Utilize Bench Reservoir for chlorine contact time

Disadvantages

- Higher capital cost of new water treatment plant and transmission line to Bench Reservoir

- River intake location to be determined and land acquisition and/or easements would be required
- Environmental permitting of new intake and treatment site
- I-84, Ontario Drive, Yturri Beltline, and Malheur River bored pipeline crossings
- Staff operating two treatment sites
- Downstream of Heinz wastewater plant discharge
- Potential impacts on prime commercial sites

Other Considerations

Water Rights

A water right transfer to a new (additional) point of diversion and potential additional surface water right may be required to accommodate the full 8.0 MGD treatment capacity.

Water Intake Reliability

Refer to the Option B discussion on Ranney collectors.

The anticipated project cost to complete Option C (with an intake screen system) is $15,280,000. A cost estimate for the North Water Treatment Facility and transmission line is presented on Figure 3-8.

Option D - Development of Additional Wells

The City of Ontario has historically utilized shallow alluvial wells to help provide the City's water supply. Since development of the surface water treatment plant in the 1980s, the City's use of alluvial well water has decreased. As a result, a majority of the seven wells the City once had have been decommissioned due to poor water quality and decreased production capacity.

Both City production and monitoring wells cover most of the City's property near the existing treatment plant. Based on data collected from existing wells, it is evident that no additional locations are located within the City's property that would consistently provide higher quality or higher production rates for well water.

Historically, nearby wells often influence the pumping capacity of other wells in the same area. As a result, supply from wells in the immediate vicinity of the water treatment plant has likely reached maximum capacity.

Review of Area Wells

Available well logs in the vicinity of the City of Ontario were obtained for review from the OWRD website. Area well logs were reviewed to evaluate where and at what depths higher yield wells are located in the region and if an existing well could potentially be available for use by the City. Only wells with a yield of 250 gpm or greater or depths over 500 feet were considered. Well logs were reviewed for an area of up to 8 miles outside of the City. Wells that were reported to have

a high yield (compared to other wells in the area) or had a significant depth were evaluated. Data from ten higher production or deeper basalt wells were collected and summarized, as shown on
Figure 3-9. These wells are located in Township 17 South, Range 47 East, Sections 29, 32, and 33; Township 17 South, Range 46 East, Sections 21 and 22; Township 18 South, Range 46 East, Sections 3 and 13; and Township 18 South, 47 East, Sections 17 and 18. The approximate well locations are presented on Figure 3-10.

Of these ten evaluated wells, Well B had the highest tested well yield of 700 gpm and a well depth of 30 feet, and Well G had the lowest tested yield of 2 gpm at a depth of 770 feet. Well G appeared to be the deepest well in the area and never penetrated a water producing aquifer. It does not appear there are deep basalt aquifers present in the area capable of producing high yields. Other deep wells in the region are also reported to have high arsenic levels in the water. Based on this review of wells around the Ontario area, it can be concluded that development of additional wells would not provide the City with a high producing, consistent raw water source to meet the City's projected 20-year demands.

A list of advantages and disadvantages associated with this option follows:

Advantages

- Additional groundwater water rights could be utilized.

Disadvantages

- Many wells would need to be drilled to meet projected City demands.
- Region wells have low production capacity unless located near the Snake River.
- Water quality depends on location and depth of well. High arsenic levels in deeper wells in area require treatment.

Water Supply and Treatment Recommendations

To address concerns with its current water sources and to provide additional capacity to meet projected future water demand, it is recommended that the City implement the following measures to efficiently use its current water sources and develop and/or acquire additional source water capacity. These recommendations are listed in order of priority.

1. *Option A - 2.0 Million Gallon per Day Expansion at Existing Water Treatment Plant*

When the "new plant" was constructed at the water treatment facility site in 2005, it was designed to house three of the WesTech water treatment/filtration basins. Only two basins were installed based on the City's water demand at the time. A third concrete pad fully equipped with all the necessary piping for a 2.0 MGD unit was constructed in the treatment building in anticipation of future City growth. Due to pre-constructed infrastructure at the existing water treatment plant, this option would be the least expensive option for the City to add 2.0 MGD of water supply capacity.

The 2.0 MGD of additional treatment capacity is anticipated to provide 1.0 MGD to meet the current supply deficiency and an additional 1.0 MGD for future growth.

2. *Secure City Water Right Permits*

The existing water right permits provide the City the ability to instantaneously withdraw a total of 34.38 cfs or approximately 15,430 gpm for use in the municipal water system.

The City's single surface water right permit allows for 20.1 cfs to be withdrawn from the Snake River. The City's existing system is estimated to have a pumping capacity between 15.0 and 18.0 cfs. It is recommended that the City "prove up" on the portion of this water right currently being used. This would allow the City to have a certificated water right for up to 90 percent of the water right permit allowance. The City has a stepped strategy to file a Claim of Beneficial Use (COBU) once an application for an extension of time is granted. This would result in the City having a certificated surface water right. A certificated water right has the benefit of potentially being transferred to another location or having an additional point of appropriation added to the right.

Currently, the City uses several wells as groundwater supply sources. The allocations associated with the City's groundwater rights provide the City with the ability to withdraw a total of 14.28 cfs (6,400 gpm) of groundwater. In the past, the City filed an application to change the point of diversion and point of appropriation under Permit G-4485 (through transfer T-8077). That transfer request was denied. Permit G-4485 is currently not being utilized by the City, and it is recommended that potential application of this water right permit to other City water sources be pursued.

In 2011, the City of Ontario filed a transfer application (T-8078) to change the points of appropriation and place of use under several groundwater right certificates.

- Water right transfer T-8078 (which provided multiple diversion points for most of the City's groundwater rights) requires a COBU be filed by October 1, 2025 (one year after the water must be beneficially used.) It is recommended that the City submit either a COBU to certify the water right for the current pumping capacity of all of the City's wells or a permit amendment to add groundwater right points of diversion.
- Once the extension of time on the City's surface water right has been granted and both surface water and groundwater rights COBUs filed, a transfer application including the certificated portion of the surface water right and groundwater Permit G-4485 can be submitted to allow multiple shallow alluvial well and surface water diversion points. Additionally, water right permit amendments may need to be filed on the "non-certified" portions of the water right permits to add additional points of appropriation to the permitted water rights. Up-front coordination of the City's intended path forward related to water right transfers and permit amendments with OWRD staff is recommended prior to submitting COBUs or permit amendments.

Currently, the City's instantaneous withdrawal using Permit G-4485, which allocates 5.0 cfs, cannot exceed 1.06 cfs as determined by an OWRD Final Order dated June 24, 2003. When the City has demonstrated the need for increased water supply, a request for additional greenlight water will need to be submitted to the OWRD for approval.

3. Treatment System Expansion

Currently, the City can supply approximately 10.0 MGD of treated water to water system customers. Based on projected growth for 2040, it can be expected that additional water treatment capacity will be needed to accommodate residential, commercial, and industrial growth. The design criteria presented on Figure 2-1 in Chapter 2 anticipates an additional 8.2 MGD of water supply may be needed by 2040 (if 4 MGD of additional commercial demand occurs).

It appears that surface water will need to be utilized to meet these needs. In this Chapter, two options for potential surface water treatment plant siting have been considered. It is recommended that the City begin evaluating water treatment plant options including land availability, operational impacts, identifying the most effective available treatment media to treat Snake River water, potential implementation timing, and other aspects of such a large water supply system improvement. It will be important for the City to convey these system needs to system users as water system rates will likely be impacted by such a significant water supply improvement.

4. Existing Treatment Plant Operation and Maintenance Needs

The *2014 Water Treatment Plant Audit* (Audit) noted several deficiencies in the system.

Of the deficiencies noted in the Audit, many were related to aging equipment and infrastructure that have outlived their useful life and require frequent repairs or should be replaced. Other issues result from a lack of automation in the system. The Audit also noted that the existing clearwell size was substandard and a high chlorine demand was observed within the clearwell.

The "new" plant, which follows a similar treatment process to the "old plant," utilizes the WesTech Trident system as described earlier in this chapter. Plant operators have indicated that when the surface water is treated, the filter media becomes rapidly clogged with solids, requiring frequent backwash cycles.

The Audit included recommendations to address these deficiencies. Refer to the Capital Improvements Plan presented on Figure 6-1 for a listing of Audit recommendations and associated costs under the column "Source" and "2014 Water Audit" listed projects/tasks.

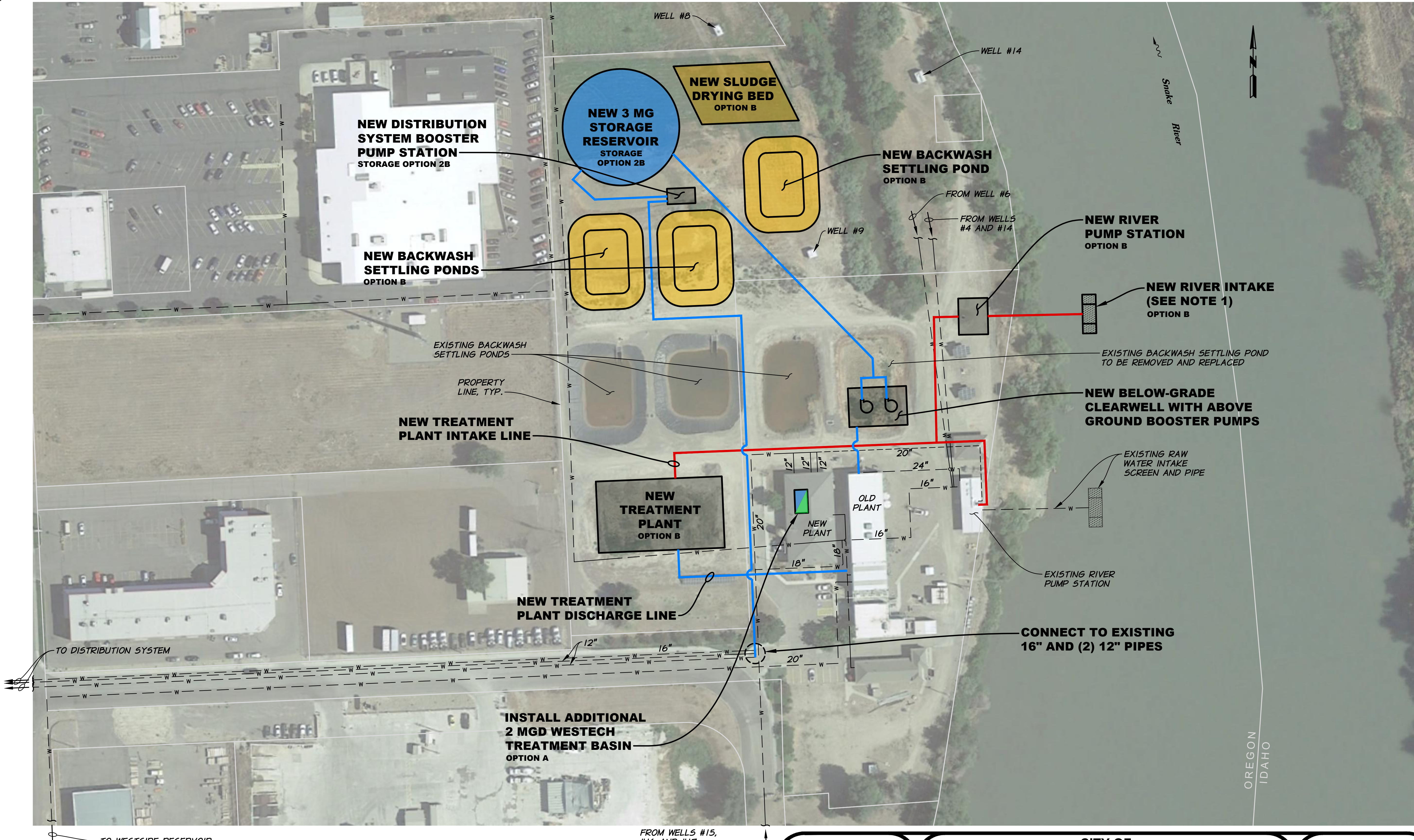
CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
WATER TREATMENT OPTION A - 2.0 MGD EXPANSION
PRELIMINARY COST ESTIMATE

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
1	Mobilization/Demobilization (5%)	LS	$ 51,000	All Req'd	$ 51,000
2	Project Safety	LS	10,000	All Req'd	10,000
3	Treatment System Expansion (2 MGD)	LS	600,000	All Req'd	600,000
4	Treatment System Piping	LS	75,000	All Req'd	75,000
5	Electrical and Control System	LS	125,000	All Req'd	125,000
6	Miscellaneous Metal Work	EA	21,000	1	21,000
7	Expansion of Existing Chlorination	LS	140,000	All Req'd	140,000
8	Pumping System Modifications	LS	50,000	All Req'd	50,000
				Subtotal Estimated Construction Cost	**$ 1,072,000**
				Legal, Engineering, Administration & Contingency (40%)	429,000
				TOTAL ESTIMATED PROJECT COST (2020 DOLLARS)	**$ 1,500,000**

Note:

Assumes existing structure, slab, and underslab piping and conduits will accommodate a new packaged treatment cartridge.

MGD = million gallons per day



NOTE

1. INTAKE TYPE AND LOCATION TO BE DETERMINED BASED ON DETAILED SURVEY OF RIVER CHANNEL, HYDRAULIC ANALYSIS, AND RELIABILITY CONSIDERATIONS.

LEGEND

(red line)	NEW INTAKE PIPING
(blue line)	NEW DISCHARGE PIPING
— — W —	EXISTING PIPING
(grey box)	NEW STRUCTURE

60 0 60 120 180
SCALE IN FEET

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
WATER SUPPLY OPTIONS A AND B
EXISTING TREATMENT FACILITY IMPROVEMENTS - PRELIMINARY LAYOUT

FIGURE
3-2

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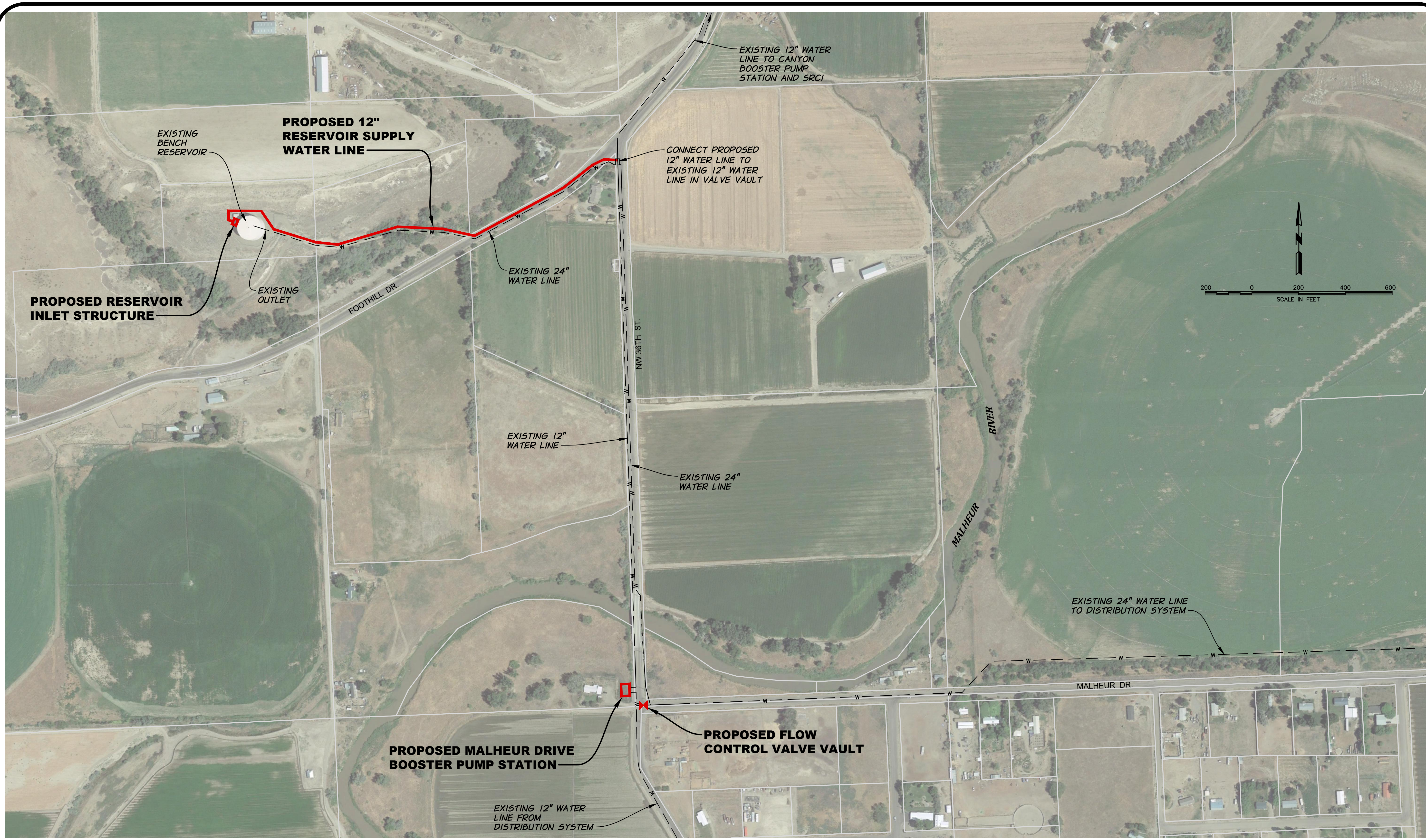

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
WATER SUPPLY OPTION B
PROPOSED MALHEUR DRIVE BOOSTER PUMP STATION LAYOUT

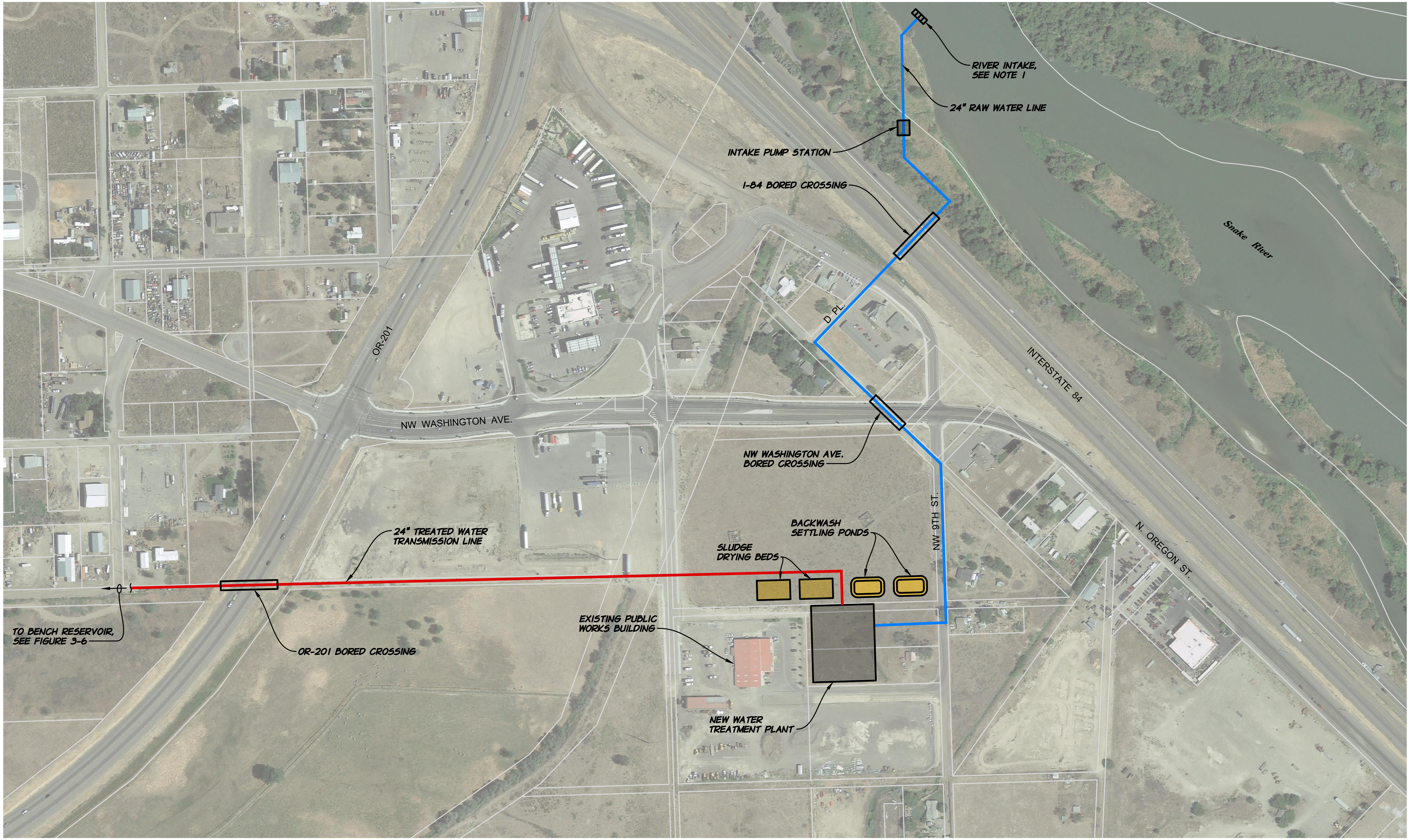
FIGURE 3-3

CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
WATER SUPPLY OPTION B - 8.0 MGD TREATMENT EXPANSION
PRELIMINARY COST ESTIMATE

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
1	Mobilization/Demobilization (5%)	LS	$ 368,000	All Req'd	$ 368,000
2	Temporary Protection and Direction of Traffic/Project Safety	LS	20,000	All Req'd	20,000
Intake Screen and Raw Water Transmission Piping					
3	Intake Screen and Structure	LS	$ 200,000	All Req'd	$ 200,000
4	CMU Pump Station Building	LS	180,000	All Req'd	180,000
5	Building Piping, Valves, Fittings, and Flowmeters	LS	70,000	All Req'd	70,000
6	Intake Pumps	EA	60,000	2	120,000
7	Control and Instrumentation	LS	100,000	All Req'd	100,000
8	Building Electrical	LS	50,000	All Req'd	50,000
9	Dewatering	LS	75,000	All Req'd	75,000
10	New 24-inch Raw Water Line	LF	100	700	70,000
11	Air Release Valve and Assembly	EA	10,000	1	10,000
12	24-inch Butterfly Valves	EA	14,000	2	28,000
13	Connect to Existing Treatment System Piping	EA	10,000	1	10,000
14	Gravel Surface Restoration	SY	10	350	3,500
15	Utilities Relocation	LS	15,000	All Req'd	15,000
	Subtotal Intake and Raw Transmission Piping Estimated Construction Cost				**$ 931,500**
Treatment System					
16	Site Work	LS	$ 60,000	All Req'd	$ 60,000
17	Site Piping	LS	60,000	All Req'd	60,000
18	Concrete Foundation	LS	420,000	All Req'd	420,000
19	10,500 sq. ft Steel Building (Frame, Wall, Roof, etc.)	LS	915,000	All Req'd	915,000
20	Facility Piping, Valves, Fittings, and Flowmeters	LS	80,000	All Req'd	80,000
21	Booster Pumps	EA	15,000	4	60,000
22	Packaged Treatment System	LS	2,400,000	All Req'd	2,400,000
23	Heating, Ventilating, and Air Conditioning	LS	100,000	All Req'd	100,000
24	Building Plumbing	LS	30,000	All Req'd	30,000
25	Electrical Work	LS	200,000	All Req'd	200,000
26	Controls and Instrumentation Work	LS	350,000	All Req'd	350,000
27	On-Site Hypochlorination Generating	LS	375,000	All Req'd	375,000
28	Standby Power Generator System	LS	125,000	All Req'd	125,000
29	Building Metal Work and Interior Structures	LS	100,000	All Req'd	100,000
30	Building Furnishings	LS	30,000	All Req'd	30,000
31	Painting	LS	90,000	All Req'd	90,000
32	Chain Link Fence and Gates	LS	25,000	All Req'd	25,000
33	Backwash Pond with Liner	EA	55,000	2	110,000
	Subtotal Treatment System Estimated Construction Cost				**$ 5,530,000**

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
Malheur Drive Booster Pump Station to Bench Reservoir					
34	Site Work	LS	$ 50,000	All Req'd	$ 50,000
35	Site Piping	LS	50,000	All Req'd	50,000
36	Booster Pump Station Building Structure	LS	100,000	All Req'd	100,000
37	Facility Piping, Valves, Fittings, and Flowmeters	LS	90,000	All Req'd	90,000
38	Booster Pumps	EA	20,000	2	40,000
39	Control and Instrumentation	LS	125,000	All Req'd	125,000
40	Building Electrical	LS	60,000	All Req'd	60,000
41	Generator and Automatic Transfer Switch	LS	50,000	All Req'd	50,000
42	Connection to Existing Water Line	EA	10,000	2	20,000
43	Heating and Ventilation	LS	15,000	All Req'd	15,000
44	Painting	LS	20,000	All Req'd	20,000
45	Fencing	LF	15	300	4,500
46	Flow Control Valve and Vault	LS	20,000	All Req'd	20,000
				Subtotal Booster Pump Station Estimated Construction Cost	**$ 644,500**
Bench Reservoir Transmission Line Extension					
47	20-inch Water Line	LF	$ 90	1,800	$ 162,000
48	20-inch Butterfly Valves	LS	12,000	All Req'd	12,000
49	Reservoir Inlet Structure	LS	15,000	All Req'd	15,000
50	Connect to Existing Water Line	EA	5,000	2	10,000
51	Asphalt Surface Restoration	SY	80	250	20,000
52	Natural/Gravel Surface Restoration	SY	10	300	3,000
53	Existing Valve Vault Modifications	LS	15,000	All Req'd	15,000
				Subtotal Transmission Water Line Estimated Construction Cost	**$ 237,000**
				Total Estimated Construction Cost	**$ 7,731,000**
				Legal, Engineering, Administration, and Contingency (40%)	3,092,000
				New Electrical Service	75,000
				Project Permitting	50,000
				TOTAL ESTIMATED PROJECT COST (2020 DOLLARS)	**$ 10,950,000**

MGD = million gallons per day
CMU = concrete masonry unit
sq. ft. = square foot



NOTE

1. INTAKE TYPE AND LOCATION TO BE DETERMINED BASED ON DETAILED SURVEY OF RIVER CHANNEL, HYDRAULIC ANALYSIS, AND RELIABILITY CONSIDERATIONS.

LEGEND

TREATED WATER PIPING

RAW WATER PIPING

150 0 150 300 450

SCALE IN FEET

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
WATER SUPPLY OPTION C
NORTH TREATMENT FACILITY
PRELIMINARY LAYOUT

FIGURE
3-5

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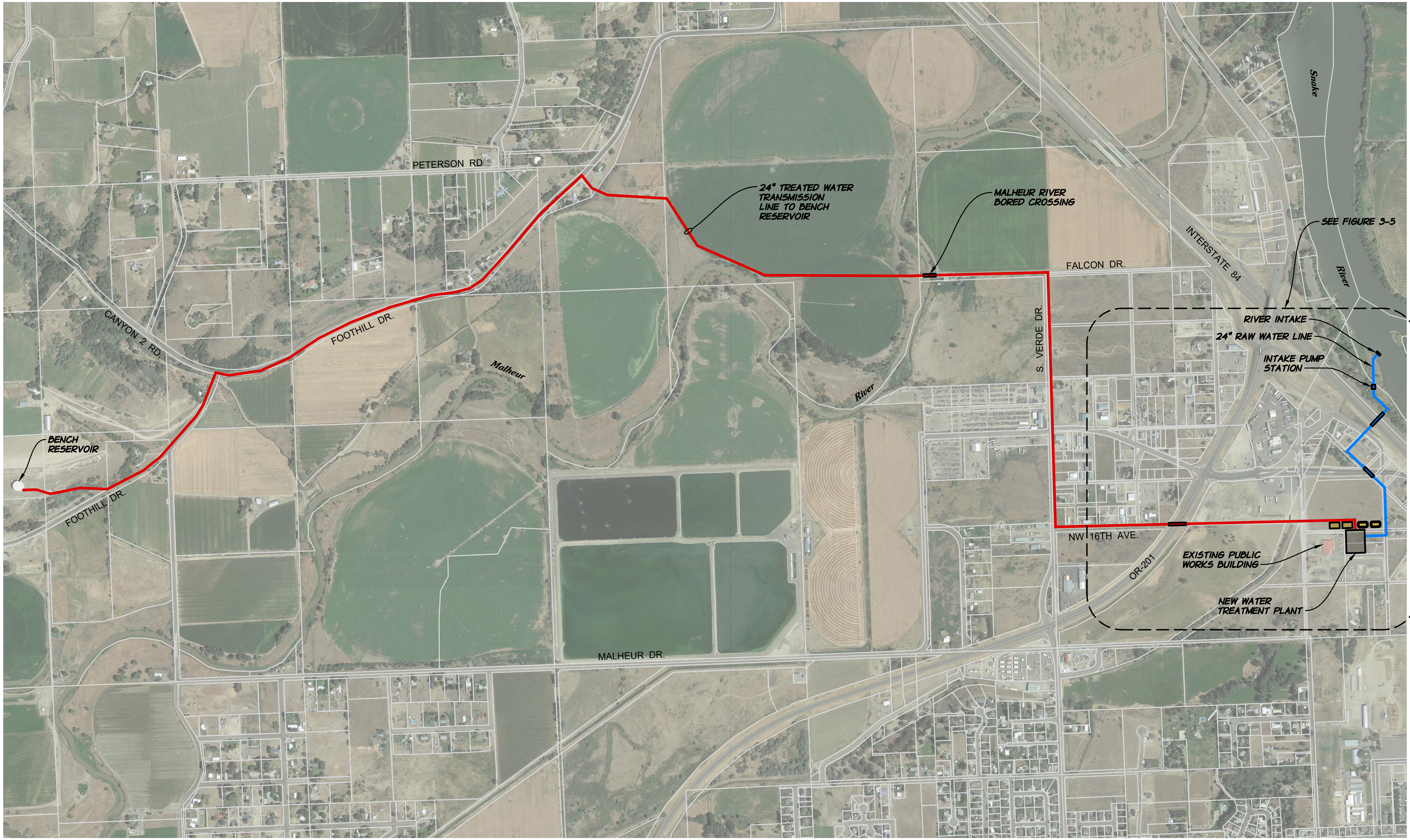

LEGEND

TREATED WATER PIPING

RAW WATER PIPING

500 0 500 1000 1500
SCALE IN FEET

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
WATER SUPPLY OPTION C
NORTH TREATMENT FACILITY PIPING PLAN

FIGURE 3-6

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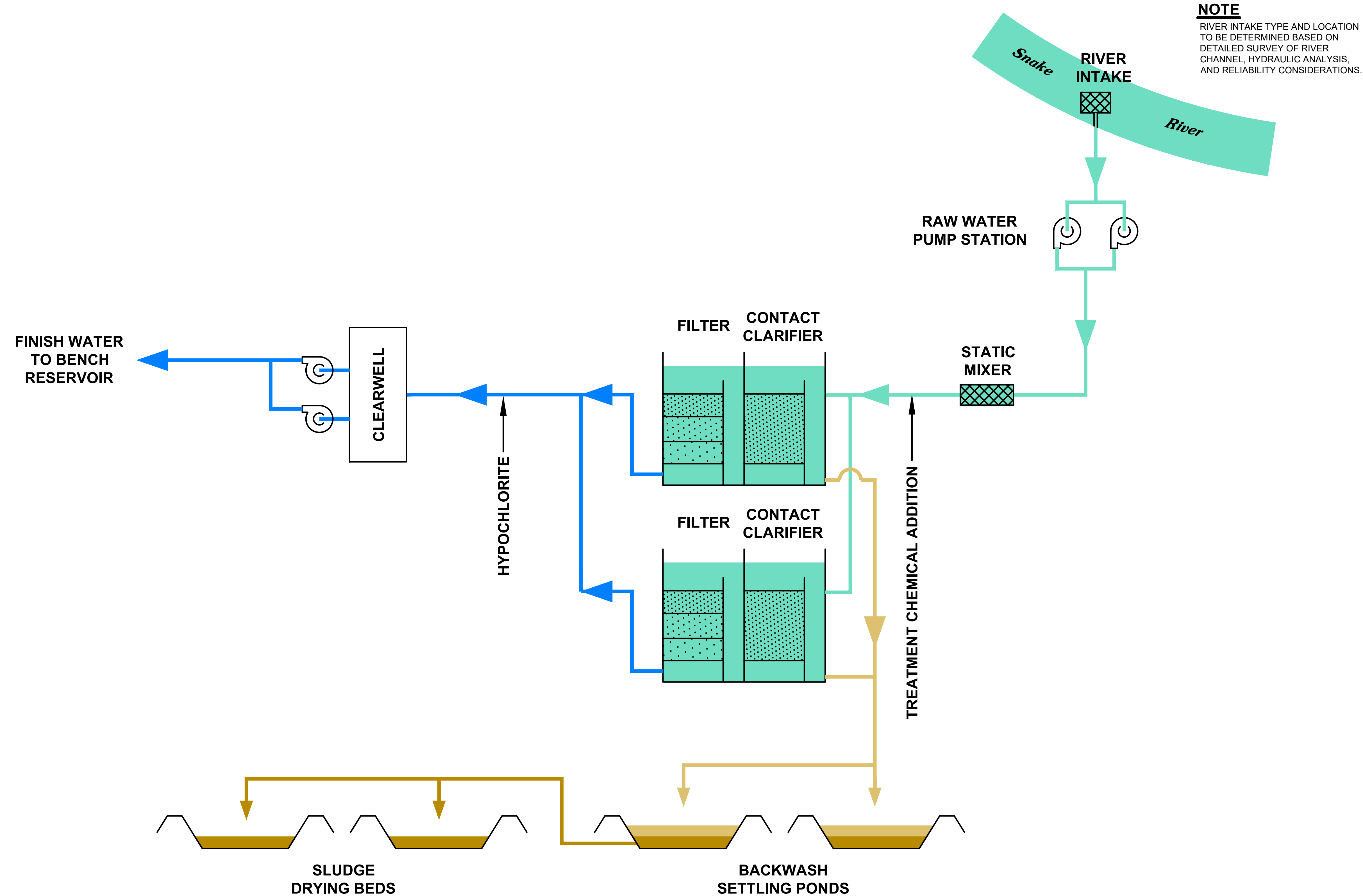

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
WATER SUPPLY OPTION C
NORTH TREATMENT FACILITY PROCESS FLOW DIAGRAM

FIGURE
3-7

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CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
WATER SUPPLY OPTION C - NORTH TREATMENT FACILITY
PRELIMINARY COST ESTIMATE

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
1	Mobilization/Demobilization (5%)	LS	$ 507,000	All Req'd	$ 507,000
2	Temporary Protection and Direction of Traffic/Project Safety	LS	40,000	All Req'd	40,000
Intake Screen and Raw Water Transmission Piping					
3	Intake Screen and Structure	LS	$ 200,000	All Req'd	$ 200,000
4	CMU Pump Station Building	LS	180,000	All Req'd	180,000
5	Building Piping, Valves, Fittings, and Flowmeters	LS	70,000	All Req'd	70,000
6	Intake Pumps	EA	60,000	2	120,000
7	Control and Instrumentation	LS	100,000	All Req'd	100,000
8	Building Electrical	LS	50,000	All Req'd	50,000
9	Dewatering	LS	75,000	All Req'd	75,000
10	New 24-inch Raw Water Line	LF	100	3,000	300,000
11	Air Release Valve and Assembly	EA	10,000	1	10,000
12	24-inch Butterfly Valves	EA	14,000	3	42,000
13	Interstate 84 Bored Crossing	LS	200,000	All Req'd	200,000
14	N. Oregon Street Bored Crossing	LS	125,000	All Req'd	125,000
15	Connect to Treatment System Piping	EA	10,000	1	10,000
16	City Street Asphalt Surface Restoration	SY	80	700	56,000
17	Gravel Surface Restoration	SY	10	600	6,000
18	Utilities Relocation	LS	15,000	All Req'd	15,000
	Subtotal Intake and Raw Transmission Piping Estimated Construction Cost				**$ 1,559,000**
Treatment System					
19	Site Work	LS	$ 75,000	All Req'd	$ 75,000
20	Site Piping	LS	60,000	All Req'd	60,000
21	Concrete Foundation	LS	420,000	All Req'd	420,000
22	10,500 sq. ft. Steel Building (Frame, Wall, Roof, etc.)	LS	915,000	All Req'd	915,000
23	Facility Piping, Valves, Fittings, and Flowmeters	LS	80,000	All Req'd	80,000
24	Booster Pumps	EA	15,000	4	60,000
25	Packaged Treatment System	LS	2,400,000	All Req'd	2,400,000
26	Clearwell	LS	200,000	All Req'd	200,000
27	Heating, Ventilating, and Air Conditioning	LS	100,000	All Req'd	100,000
28	Building Plumbing	LS	30,000	All Req'd	30,000
29	Electrical Work	LS	200,000	All Req'd	200,000
30	Controls and Instrumentation Work	LS	350,000	All Req'd	350,000
31	Standby Power Generator System	LS	125,000	All Req'd	125,000
32	On-Site Hypochlorination Generating System	LS	375,000	All Req'd	375,000
33	Building Metal Work and Interior Structures	LS	100,000	All Req'd	100,000
34	Building Furnishings	LS	30,000	All Req'd	30,000
35	Painting	LS	90,000	All Req'd	90,000
36	Chain Link Fence and Gates	LS	25,000	All Req'd	25,000
37	Backwash Pond with Liner	EA	55,000	2	110,000
	Subtotal Treatment System Estimated Construction Cost				**$ 5,745,000**

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
WATER SUPPLY OPTION C - NORTH TREATMENT FACILITY PRELIMINARY COST ESTIMATE

FIGURE 3-8

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
Bench Reservoir Transmission Water Line					
38	New 24-inch Treated Water Transmission Line	LF	$ 100	17,000	$ 1,700,000
39	Air Release Valve and Assembly	EA	5,000	4	20,000
39	24-inch Butterfly Valves	EA	14,000	9	126,000
40	Highway 201 Bored Crossing	EA	150,000	1	150,000
41	Malheur River Directional Drilled Crossing	LS	150,000	All Req'd	150,000
42	Reservoir Inlet Structure	LS	15,000	All Req'd	15,000
43	Connect to Existing Piping	EA	5,000	1	5,000
44	Asphalt Surface Restoration	SY	80	6,700	536,000
45	Natural/Gravel Surface Restoration	SY	10	7,500	75,000
46	Utilities Relocation	LS	20,000	All Req'd	20,000
	Subtotal Transmission Water Line Estimated Construction Cost				**$ 2,797,000**
	Total Estimated Construction Cost				**$ 10,648,000**
	Legal, Engineering, Administration, and Contingency (40%)				4,259,000
	Land Acquisition				125,000
	New Electrical Service				100,000
	Project Permitting				150,000
	TOTAL ESTIMATED PROJECT COST (2020 DOLLARS)				**$ 15,280,000**

MGD = million gallons per day
CMU = concrete masonry unit
sq. ft. = square foot

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
WATER SUPPLY OPTION C -
NORTH TREATMENT FACILITY
PRELIMINARY COST ESTIMATE

FIGURE
3-8
CONT'D

CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
AREA WELL DATA

Well[1]	Well Log Number	Well Owner	Date Drilled	Depth Drilled (feet)	Geological Formation	Static Water Depth (feet)	Tested Well Yield (gpm)
A	MALH 350	Koch, Jack	4/30/1947	16	Alluvial	-	300
SRCI	MALH 54019	SRCI	4/11/2013	103	Alluvial	60	300
B	MALH 1205	Hunt, Bruce	12/4/1958	30	Alluvial	12	700
C	MALH 1694	-	3/27/1968	65	Alluvial	7	550
D	MALH 54128	Lida, Steve	4/29/2014	76	Alluvial	20	500
E	MALH 670	Baker, Ray	6/20/1959	25	Alluvial	11	360
F	MALH 672	Alderete, Jessie	6/1/1959	20	Alluvial	6	300
G	MALH 438	-	10/10/1966	770	Alluvial	500	2
H	MALH 1223	Wood, Donald	6/8/1961	450	Alluvial	11	465
I	MALH 598	Kamo, Hiro	10/11/1985	710	Alluvial	45	3

Notes:
[1] See Figure 3-10 for approximate locations of wells.
gpm = gallons per minute
SRCI = Snake River Correctional Institution

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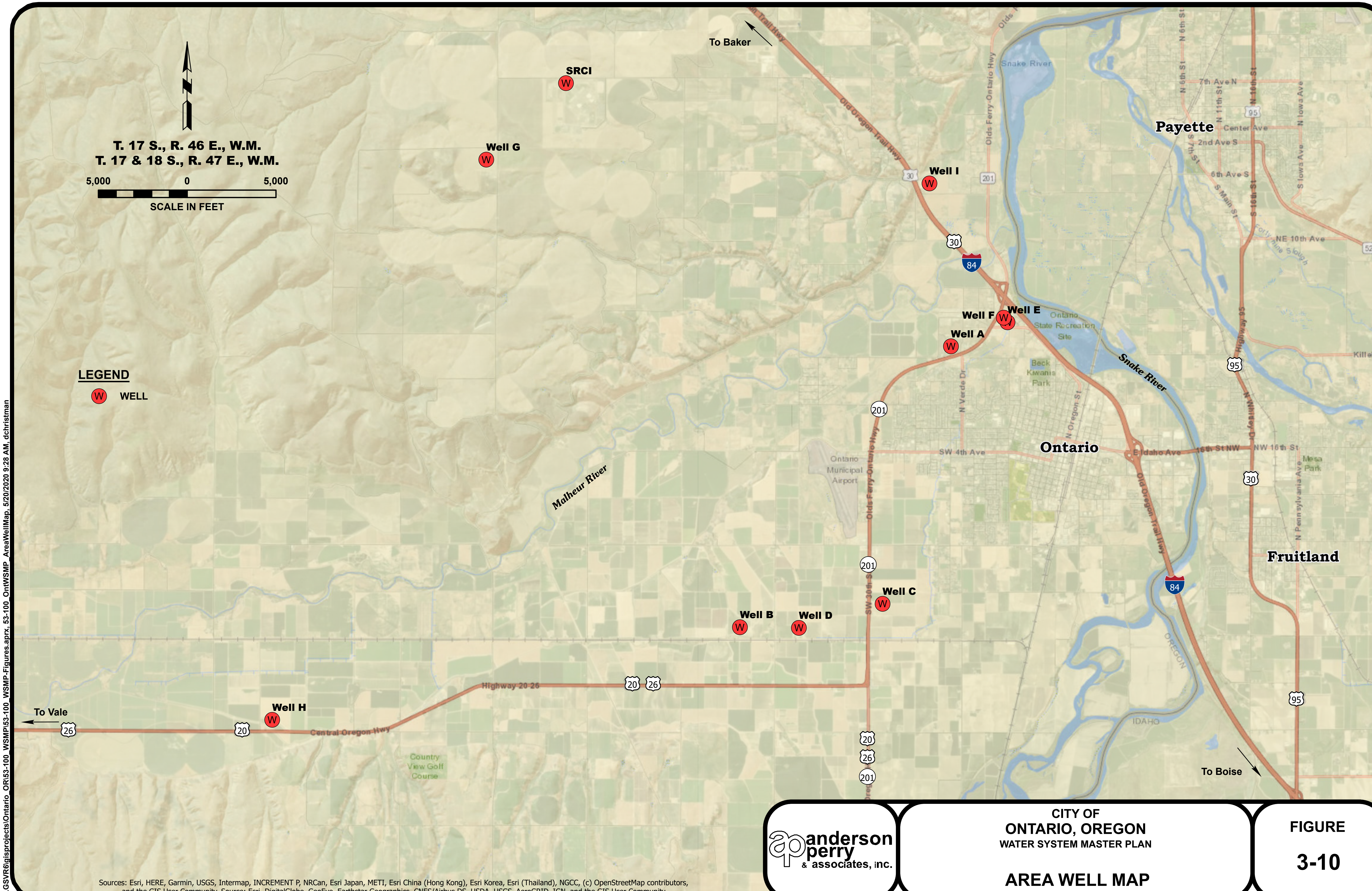
CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN

AREA WELL DATA

FIGURE
3-9



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN

AREA WELL MAP

FIGURE
3-10

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Chapter 4 - Water Storage

Introduction

This chapter presents information on the City of Ontario's water storage facilities. The purpose for storage in municipal water systems is discussed. The condition and needs of the City's existing storage reservoirs are outlined, and recommended storage improvements to meet current and projected year 2040 design criteria are presented. Different types and locations for storage facility improvements are outlined.

General

Water storage facilities are constructed to meet several purposes. First, storage reservoirs are often used to provide control for well or booster pump station operation. When a reservoir drops a few feet or more from the full level, the water level can be used as a control for water supply pump activation. The amount of storage required for this type of control is called "operating storage." Second, stored water must be available to supply water during periods in which the demand for water exceeds the available water supply. This reserve is called "equalization storage." An example of this would be where system demands exceed the capacity of the water supply to the reservoir. Third, reserve storage is usually provided to supply unusually high, short-duration demands, such as fire flows. This is referred to as "fire reserve." Finally, reserve storage is often provided for emergencies that may arise and interfere with production from water supply sources. Such emergencies could be created by power outages, mechanical equipment failure, or sudden water contamination. The amount of storage to be provided for an emergency depends on the likelihood and the impact of such an occurrence. The amount of emergency storage provided usually becomes a balance between need and affordability. This storage allowance is called "emergency reserve."

Storage facilities can be located at approximately the same elevation as the entrance to the water distribution system. Storage facilities of this type require continuous operation of a booster pump station to maintain distribution system pressure. The City of Ontario's Eastside and Westside Reservoirs are operated in this manner. Storage facilities can also be elevated, in which case, the water is stored at an elevation considerably above the distribution system to generate adequate system pressure. For example, a water elevation of 120 feet above a distribution system would generate a static pressure of approximately 50 pounds per square inch. Reservoirs may be elevated by locating them on natural ground elevated above the service area or by construction on top of a structural support system. The City's Bench Reservoir is located on an elevated bench south of the City to provide system pressure.

Storage reservoirs are generally constructed of either steel, reinforced concrete, or prestressed concrete. The choice is usually based on an economic analysis made for the particular installation. The City has both steel and prestressed concrete aboveground reservoirs. Reservoirs may be constructed either aboveground or buried, with the choice based on cost, location, and appearance.

The remainder of this chapter reviews the City's existing storage facilities, presents a discussion of future storage needs, and provides options for satisfying those needs.

Existing Facilities

The City's water storage system consists of four storage reservoirs, all of which are actively used, with a total available storage volume of 10.76 million gallons (MG). The City's reservoir locations are shown on Figure 1-1 in Chapter 1. The Snake River Correctional Institution (SRCI) also has 2.0 MG of storage held in a reservoir north of the City that is not considered part of the City's water system. The following section summarizes operational characteristics of each of the existing City storage reservoirs.

Eastside Reservoirs

The Eastside Reservoirs are composed of two ground-level concrete storage reservoirs with 1.0 MG (referred to as Reservoir A) and 1.76 MG (referred to as Reservoir B) capacities. The 1.0 MG reservoir constructed in 1962 is 31 feet tall and 75 feet in diameter. The 1.76 MG reservoir constructed in 1969 is 32.5 feet tall and 100 feet in diameter. The reservoirs are located adjacent to one another on lots owned by the City, near S.E. 5th Avenue and S.E. 5th Street. The Eastside Reservoirs convey water to the majority of the City Center and the east side commercial and industrial districts. Booster pumps adjacent to the reservoirs are utilized to pressurize the distribution system.

Westside Reservoir

The Westside Reservoir is a 5.0 MG ground-level concrete storage reservoir that was constructed in 1981. This reservoir is located in southwest Ontario on Sunset Drive, north of S.W. 18th Avenue. The Westside Reservoir is surrounded by residential neighborhoods and agriculture. The Westside Reservoir is 33 feet high and 160 feet in diameter. The Westside Reservoir site also utilizes an adjacent booster pump station to supply appropriate pressures to the distribution system.

Bench Reservoir

The Bench Reservoir is a 3.0 MG ground-level welded steel storage reservoir that was constructed in 1999. This reservoir is located approximately 2 miles northwest of the City on the hillside above Foothill Drive and west of N.W. 36th Street. The Bench Reservoir is 48 feet high and 104 feet in diameter. The reservoir directly conveys water to the distribution system and provides system pressure by gravity flow.

A summary of operational parameters provided by City water system operators for each reservoir is shown on Table 4-1.

TABLE 4-1
EXISTING STORAGE FACILITIES

Reservoir Location	Reservoir Capacity (MG)	Construction Material	Reservoir Diameter (feet)	Reservoir Height (feet)	High Operating Level (feet)	Low Operating Level (feet)	Year of Construction
Eastside A	1.0	Concrete	75	31	29	25	1962
Eastside B	1.76	Concrete	100	32.5	29	25	1969
Westside	5	Concrete	160	33	30	27	1981
Bench	3	Welded Steel	104	48	30	20	1999

**This table does not include storage capacities for clearwells located at the water treatment plant.*

Storage Requirements

Water storage is usually provided for several purposes. Various methods are used to calculate the volumes of each type of storage component required. Most involve a rational approach to estimating the volume of each storage component consisting of operation, equalization, fire reserve, and emergency. The decision can then be made as to which component controls and what storage volumes will actually be necessary. For example, the decision may be made to provide storage for operation, equalization, and fire reserve only, assuming any emergency storage would be available from the fire reserve. If this option were selected, there may not be adequate fire storage available if there is a sustained power outage or if a well pump is out of service. For this reason, it is recommended that all four of the storage components listed below be considered when evaluating the City's potential storage needs. Figure 4-1 shows each of the existing reservoir's storage components.

Operating Storage

Operating storage is generally provided to facilitate operation of water supply pumps in a water system. For example, when water system demands result in the water level lowering in a reservoir, the water level will reach a certain point that can be used to trigger activation of the water treatment plant distribution pumps to refill the reservoir. The storage needed to activate water supply sources is typically referred to as operating storage. This zone of operation can be set as desired but is often set to help ensure circulation occurs during each pump run cycle, allowing water to cycle through the reservoir to help maintain water quality while keeping the reservoir as full as possible.

The City's ground-level reservoirs are operationally set to lower 3 to 4 feet from the full level before water supply pumps are called to operate and fill the reservoir. The Bench Reservoir is allowed to drop 10 feet before booster pumps are called to operate and fill the reservoir. This corresponds to a combined operational storage volume for all four existing reservoirs of approximately 1,410,000 gallons. Operating levels for each reservoir are shown on Table 4-1.

Equalization Storage

Equalization storage must be provided to balance the difference between peak hourly demand and water supply capacity during a peak demand period. An empirical method for estimating the required equalization storage uses the difference between the peak hourly flow and the water supply availability for a specific number of peak hours per day. Based on providing the current estimated peak hourly flow of 16,730 gallons per minute (gpm) for 2-1/2 hours and using the estimated current maximum supply capacity of 6,940 gpm, approximately 9,790 gpm must come from the reservoirs. This results in a current equalization storage of approximately 1,470,000 gallons. Based on the year 2040 estimated peak hourly flow (residential growth with 4.0 million gallons per day [MGD] of commercial growth) of approximately 23,310 gpm for 2-1/2 hours, the City's year 2040 equalization storage is recommended to be approximately 3,300,000 gallons. In the future, it is likely the water supply capacity to the system will also be increased, which would result in the needed equalization storage to be decreased.

Fire Reserve

Reserve storage for fire suppression is usually determined from either Insurance Services Office, Inc. (ISO) -recommended fire flow or the fire flows recommended by the City's fire chief. Based on the typical maximum fire flow recommended by ISO and in coordination with the City's fire chief, a 3,500 gpm fire flow with a three-hour duration has been set as the maximum design fire flow for the City (refer to Chapter 2 for further discussion on fire flows). A total of 630,000 gallons of fire reserve storage is needed to sustain a fire flow of 3,500 gpm for a three-hour duration.

Emergency Storage

Emergency storage reserve is usually provided for a minimum of one to three days' supply in the event of a power outage, mechanical problems, or other problems that would interrupt the reliable supply of water. In most cases, this would be the minimum amount of time to repair or replace a well pump, water supply source pump, or other equipment. Due to the number of water supply sources available in Ontario, Public Works staff felt than an emergency reserve based on one day of supply would be appropriate. To serve the City for one day at the average daily demand, approximately 5,910,000 gallons of storage are needed for existing emergency reserve and approximately 10,185,000 gallons would be needed for the year 2040 design criteria with residential growth and 4.0 MGD of commercial growth.

Figure 4-1 shows the 2019 storage volumes within the City's existing water storage reservoirs.

Storage Requirements Summary

Totaling the four storage components described herein indicates that a total of approximately 9,420,000 gallons of storage is needed to meet current demands, and 15,080,000 gallons of storage is needed to meet the year 2040 design criteria with residential growth and 4.0 MGD of commercial growth. The City's current available storage total is approximately 11,000,000 MG. The City currently has 1,580,000 gallons above the recommended storage volume or approximately 17 percent more than the current recommended storage volume. To meet the total recommended storage requirements for the year 2040 design criteria with residential growth and 4.0 MGD of commercial growth, an estimated 4,080,000 gallons of additional storage may be needed. If future commercial growth is limited to 2.0 MGD, as noted in Chapter 2, it is estimated that only 1,050,000 gallons of additional storage may be needed. This volume may be decreased if the water supply capacity of the system is increased (refer to equalization storage section).

Existing Reservoir Condition

To evaluate potential existing reservoir deficiencies or operational issues that could also affect the City's storage needs, the most recent storage reservoir inspection reports provided by the City were reviewed. A summary of the inspection reports and any related existing reservoir improvements are also discussed. Figure 4-2 summarizes the inspection report findings.

Summary of Inspection Reports

A detailed inspection of the City's reservoirs was completed in September 2019 by Midco Diving and Marine Services, Inc. Previous reservoir inspection reports were prepared by H_2O Solutions, LLC., in April 2012. Where applicable, comparisons between the two reports were made. Copies of the 2019 inspection reports for the Eastside, Westside, and Bench Reservoirs are included in Appendix F. For reference, the inspection reports note that reservoir components in poor condition typically require immediate repairs of structural related problems, reservoir components in fair condition have minor problems that require non-immediate maintenance, and reservoir components in good condition have cosmetic problems and typically do not require immediate maintenance.

Eastside A Reservoir (1.0 MG)

The reservoir inspection for the 1.0 MG concrete Eastside A Reservoir indicated the following:

Items that are Acceptable

- Coating on exterior walls, roof, and ladder are in good condition.
- Foundation has no structural deficiencies.
- Roof vents function correctly and do not require maintenance.
- Telemetry equipment and telemetry sensor function properly.
- Interior ceiling and support column are in good condition.

Items Needing Repair or Replacement

- Access hatch hinges and lock have deteriorated and will need to be replaced.
- Interior coating failures and corrosion were observed on the overflow pipe, inlet, outlet, and drain; each component should be monitored and repaired as needed.
- Ladder coating has failed, causing corrosion and deterioration of the rungs.
- Interior spalling and seam sealant deterioration were observed, which should be monitored and repaired when possible.
- Sediment was noted to have accumulated on the reservoir bottom, reaching depths up to 21 inches. No significant sediment accumulation was noted in the 2012 reports. The sediment accumulation is likely media from the water treatment plant and the cause of the media being flushed out of the treatment system should be identified.

Based on the report findings, several items potentially need repaired or replaced on the Eastside A Reservoir. Since this reservoir is approaching 60 years of service, the City may want to consider looking at reservoir replacement or providing additional storage at an alternate site, rather than continuing to invest in the Eastside A Reservoir repairs.

Eastside B Reservoir (1.76 MG)

The reservoir inspection for the 1.76 MG concrete Eastside B Reservoir indicated the following:

Items that are Acceptable

- Exterior walls have minor staining but are in good condition.
- Exterior roof has coating failures in several locations but is in overall good condition.
- Exterior ladder is in good condition.
- Roof vents function correctly and do not require maintenance.
- Telemetry equipment and telemetry sensor function properly.
- Access hatch and lock are in good condition.
- Interior walls have no cracks.

Items Needing Repair or Replacement

- Coating failure and corrosion has occurred on the interior ladder and should be monitored.
- Coating failure has occurred on the interior floor along with sediment accumulation up to 20 inches deep. During the inspection, larger debris was seen within the accumulated sediment.
- Cracks with efflorescence were observed on the interior ceiling and should be monitored and repaired when possible.
- The interior overflow pipe is in good condition; however, coating failure and corrosion has occurred on the interior inlet and outlet and should be monitored.
- The inlet filter should be investigated for a rupture and replaced if needed (i.e., it is suspected that filter media was flushed into the reservoir).

Based on the report findings, several items potentially need repaired or replaced on the Eastside B Reservoir. Since this reservoir has been in service for just over 50 years, the City may want to consider looking at reservoir replacement or providing additional storage at an alternate site, rather than continuing to invest in the Eastside B Reservoir repairs.

Westside Reservoir

The reservoir inspection report for the 5.0 MG concrete Westside Reservoir indicated the following:

Items that are Acceptable

- Exterior is in good condition with potential areas of coating failure that should be monitored.
- All other areas of the exterior, including the walls, foundation, ladder, telemetry, and access hatch are in good condition.
- Interior ladder has minor corrosion that should be monitored periodically.
- The telemetry sensor, float, and guide wires function correctly.

Items Needing Repair or Replacement

- Cracks were observed on the roof and should be monitored.
- Previous action had been taken to repair settling cracks along the interior floor. Despite these repairs, cracking was still observed and should be monitored
- Cracks were also observed along the interior walls.
- Interior overflow pipe, interior inlet, and interior outlet have corrosion and should be monitored.
- Sediment up to 3 inches deep has accumulated on the reservoir floor.

The report also indicated that:

- Roof vent should be adjusted to provide 8 inches of clearance above the roof surface to prevent runoff from entering the reservoir.
- Daylighting from the secondary access hatch was observed that should be repaired to prevent contamination. It was confirmed with Oregon Health Authority - Drinking Water Services that no adjustments to the roof vent height are required. City Public Works staff will address the daylighting from the secondary access hatch.

The City should continue to monitor settling cracks along the reservoir roof, walls, and floor, and conduct repairs if necessary. The coating failures should also be monitored and repaired, if necessary. Steps should be taken to prevent or repair further corrosion of the internal plumbing.

Bench Reservoir

The reservoir inspection report for the 3.0 MG welded steel Bench Reservoir indicated the following:

Items that are Acceptable

- Exterior foundation, ladder, and vents are in good condition.
- Corrosion was noted on the exterior telemetry hardware but has not affected equipment performance.
- Access hatch was in good condition but requires weather stripping to create an effective seal.
- Center support column is in good condition.
- The interior inlet, outlet, and drain have minor staining but are in good condition.

Items Needing to be Addressed

- Exterior coating has minor corrosion and some “chalking” (showing coating ultraviolet deterioration).

- The interior floor, walls, ceilings, main entries, and overflow pipe have minor areas of coating failure and corrosion.
- Small amount of sediment was noted to have accumulated on the reservoir floor.

It is recommended an interior ladder be installed for future maintenance and repairs. It is also recommended the City consider a complete recoating of the reservoir interior within five years and the potential recoating of the reservoir exterior within ten years. It may be more cost-effective to recoat the entire reservoir at one time.

Water Quality-Related Improvements

The City's 2020 Water System Capital Improvements Plan (CIP) prepared by Jacobs Engineering Group, Inc., noted an additional reservoir improvement related to maintaining water quality in the reservoirs. The Bench and Westside Reservoirs currently do not have an effective means of circulating water, which can lead to stratification. Stratification of water can depress chlorine residuals in the reservoirs, which can give treated water unpleasant odors or tastes and may even pose health risks to customers. Sufficient chlorine residuals are also important for maintaining good water quality within the distribution system and preventing organic buildup in pipes.

The City is planning to install SolarBee mixers in the Bench and Westside Reservoirs to prevent stratification and maintain sufficient chlorine residuals.

Recommended Reservoir Operation and Maintenance Improvements

Operation and maintenance improvements should be completed regularly to extend the useful life of storage reservoirs and reduce repair costs. The City's planned CIP includes several maintenance-related projects for each of the existing reservoirs and are presented below. Maintenance tasks for the Eastside Reservoirs are not included below, as it is recommended that they are replaced as discussed in the Potential Reservoir Capacity Improvement Options section in this chapter.

Westside Reservoir

- Spot repairs to exterior/interior where coating failures have occurred.
- Restore concrete on roof overhangs.
- Replace vent screen.
- Repair secondary hatch.

Bench Reservoir

- Recoat interior and exterior.
- Install interior ladder.
- Reconfigure piping to create a dedicated inlet and outlet to help improve circulation.

The total estimated maintenance/repair cost for the Westside Reservoir is $50,000, and the total estimated maintenance/repair cost for the Bench Reservoir is $500,000.

Preserving Reservoir Water Quality

To preserve water quality in storage reservoirs, water needs to adequately circulate in and out of the reservoir. This is often done by providing separate inlet and outlet pipes to and from reservoirs and, when possible, connecting a water supply source directly to the reservoir. When the water level in the reservoir drops, the water supply source can be called to fill the reservoir, providing a continuous fresh supply of water from the reservoir into the water distribution system.

If the City develops a storage reservoir at a location remote from a water supply source, the operational situation can limit circulation. When the reservoir has a common transmission pipe allowing water in and out of the reservoir, water flows out of the reservoir to the system, resulting in a declining water level in the reservoir. Eventually, a water supply pump is called to operate to fill the reservoir, which reverses the flow in the transmission main to fill the reservoir back up. Unless a significant volume of water is taken from the reservoir in each cycle, the water does not get fully exchanged in the transmission line. This could lead to water stagnation and water quality issues. Fresh supply water could simply be moved back and forth in the transmission line and not actually be delivered to the reservoir. The Bench Reservoir is currently operating in this manner. This concept is visually presented on Figure 4-3. Stagnant water that is not properly exchanged in the reservoir will show a drop in chlorine levels, potentially allowing bacteria and other organisms to develop in the water. Currently, the City has to utilize a remote chlorination system installed at the Bench Reservoir site to maintain appropriate chlorine residual levels in the reservoir. Ideally, the Bench Reservoir would be supplied with water from a dedicated supply source and the reservoir inlet pipe could be installed on the opposite side of the reservoir from the outlet pipe with an inlet nozzle to encourage water circulation. With such an improvement, the City may be able to discontinue use of the remote chlorination system. Regardless of any improvements made, it is important to maintain the quality of water stored in a reservoir and set water supply pump operations to allow adequate circulation of fresh water into the reservoir with each pump cycle.

Potential Reservoir Capacity Improvement Options

This section discusses potential reservoir improvement options for consideration to serve the long-term water storage needs of the City of Ontario.

Reservoir Types

As previously discussed, storage reservoirs may be constructed of either steel, reinforced concrete, or prestressed concrete and have different configurations. Examples of typical storage reservoir types are shown on Figure 4-4. The choice is usually based on an economic analysis of both capital and operational costs and aesthetics associated with the particular installation. Further discussion of reservoir types follows.

For ground-level type reservoirs of 1.0 MG or less, steel reservoirs are usually less expensive to construct when compared to concrete reservoirs. There are two primary types of steel reservoirs: glass-fused bolted steel reservoirs and painted welded steel reservoirs. Glass-fused bolted steel reservoirs are comparable in cost to painted welded steel reservoirs and can result in less maintenance costs over the life of the reservoir because sandblasting and recoating are normally not needed. However, the appearance of glass-fused bolted steel reservoirs cannot be changed after installation. The long-term life cycle of glass-fused bolted steel reservoirs is also not known as they were introduced to the municipal water supply market in the late 1970s and early 1980s.

It is often desirable for reservoirs to serve the distribution system by gravity flow. Two options to achieve this include: constructing a ground-level storage reservoir at a higher elevation than the service area or constructing an elevated reservoir in the vicinity of the service area. Elevated reservoirs are more expensive than ground-level reservoirs when providing similar storage volumes. However, transmission main lengths can often be reduced and the cost of additional transmission main lengths should be considered when comparing reservoir construction costs.

Elevated reservoir types include:

- Standpipe style reservoirs in which the height significantly exceeds the diameter and water is stored throughout the entire height of the tank.
- Spherical style reservoirs with a water storage sphere placed atop a single structural pedestal.
- Pillar style reservoirs, which are similar to spherical tanks, but have a larger diameter center pillar that can be utilized to house equipment, storage, or offices.

Refer to Figure 4-4 for pictures of each reservoir type.

Standpipe reservoirs can be constructed of bolted steel or coated, welded steel. Storage from the lower portion of a standpipe type reservoir is not always available to fully pressurize the system by gravity flow and sometimes requires booster pumps to maintain distribution system pressure when reservoir levels are low. Depending on site soil and seismic characterizations, standpipe style reservoirs are generally limited to a maximum height of 120 feet. This results in a maximum system pressure in the immediate vicinity of the standpipe reservoir of approximately 50 pounds per square inch (psi).

Both spherical and pillar style reservoirs have the benefit (over standpipe style) of storing more volume at a higher elevation near the top of the structure. Spherical reservoirs are generally welded steel that is epoxy or polyurethane coated. The pillar style reservoirs can either have a concrete pillar and steel storage area (composite tank) or consist of all steel construction. Spherical and pillar style elevated storage reservoirs normally have higher capital costs than standpipe reservoirs.

Water Storage Reservoir Type Life Cycle Cost Analysis

Consideration should be taken by the City when selecting the type of water storage reservoir to best meet the City's short- and long-term needs. Storage reservoir types include welded steel, glass-fused bolted steel, and prestressed concrete. Each type of storage reservoir has distinct advantages that can be demonstrated through determining present worth costs over a specific future time period. This life cycle cost analysis considered all costs associated with the construction and maintenance of each reservoir type over a lifespan of 75 years. For the purpose of this analysis, the proposed reservoir was assumed to have the same dimensions as the City's 3.0 MG Bench Reservoir. It should be noted the design life of welded steel and prestressed concrete reservoirs was estimated to be 75 years, while the glass-fused bolted steel reservoir's design life was estimated to be 50 years. The bolted steel reservoir may last longer than 50 years. The construction cost inflation percentage was set to exceed the interest rate percentage associated with the value of improvement (present worth rate) to accurately reflect increased costs over time. Figure 4-5 presents a summary table of the life cycle cost analysis. Descriptions of each water storage reservoir type is given below.

A 3.0 MG welded steel reservoir is estimated to cost approximately $2,000,000 to construct based on previous water storage reservoir projects completed by Anderson Perry & Associates, Inc., and input from storage reservoir manufacturers. The cost of constructing a welded steel storage reservoir falls between the other two reservoir types; however, significant maintenance costs are required to maintain storage performance and water quality. Maintenance costs include cleaning the reservoir every five years, maintaining the cathodic protection system, replacing sacrificial anodes every 25 years, and repairing potential damage to the reservoir walls. The most expensive maintenance cost would be to recoat the interior and exterior walls, which would cost more than $500,000 approximately every 20 years. A welded steel reservoir provides the highest 75-year present worth cost.

Of the storage reservoir types presented, a glass-fused bolted steel reservoir would have the lowest construction cost of approximately $1,600,000. This reservoir would follow the same maintenance procedures as a welded steel reservoir excluding wall recoating. The roof of this reservoir is supported by a metal (usually aluminum) web truss. Depending on the ambient conditions inside the reservoir, the web truss will eventually exceed its service life and require replacement. For this analysis, the web truss life cycle was estimated at 25 years. A glass-fused bolted steel reservoir provides a 75-year present worth cost that is approximately $100,000 less than the welded steel reservoir based on this analysis.

A 3.0 MG prestressed concrete reservoir is estimated to cost approximately $2,700,000 to construct, making it the most expensive storage reservoir option; however, maintenance costs over the service life of the reservoir would be minimal in comparison to the reservoir types previously discussed. Required maintenance would include cleaning the reservoir every five years, repairing damage that may occur to the tank exterior (cracking), and recoating the exterior as required. The lifespan of the exterior coat will depend on the conditions and climate the reservoir is exposed to but was estimated at 40 years for this analysis. Potential repairs are associated with concrete reservoirs that routine maintenance would not account for. An additional $100,000 was added for miscellaneous repairs that may be needed approximately halfway through the reservoir's 75-year design life. A prestressed concrete reservoir provides the lowest 75-year present worth cost.

Based on the storage reservoir type life cycle cost analysis performed, glass-fused bolted steel and welded steel reservoirs should be considered if low initial construction costs are desired. However, projecting over a 75-year operational period, these tanks will require significant investments toward maintenance. A prestressed concrete reservoir would have a larger initial construction cost but would be significantly less expensive over the 75-year design life due to less required maintenance.

Reservoir Options

It is projected that the City will need approximately 1,050,000 gallons of additional storage to meet the year 2040 residential growth with 2.0 MGD of commercial growth. It is estimated that if 4.0 MGD of commercial demand increases are seen by 2040, approximately 4,080,000 gallons of additional storage will be needed. Several site options were identified for construction of the needed storage reservoir, as presented hereafter.

Option 1 - Existing Bench Reservoir Storage Optimization

Water levels in the Bench Reservoir are controlled by the Eastside and Westside booster pump stations. When the booster pump stations turn on, the pressure in the distribution system increases and the Bench Reservoir begins to fill. The Bench Reservoir is located approximately 150 feet above the City's booster pump stations; therefore, the booster pumps are required to produce a substantial amount of head (pressure) to convey water up to this elevation. The current operational configuration is only capable of utilizing approximately two-thirds of the Bench Reservoir's total capacity, meaning 1.0 MG of existing available storage capacity is not utilized. However, to utilize the entire reservoir capacity, the booster pump stations would need to generate greater pressures that would over-pressurize the distribution system in certain areas. System pressures at the booster pump station sites would likely need to be increased from approximately 80 psi to approximately 100 psi to fill the Bench Reservoir. Such high pressures are above plumbing code recommended maximum pressures delivered to residential dwellings of 80 psi. Higher system pressures could result in excessive water main leaks and individual service leaks and plumbing issues.

To be able to fill the Bench Reservoir without over pressurizing the distribution system, modifications to system piping are needed to provide a direct source of flow to the reservoir. Two primary water supply options have been identified to be available.

Option 1A

The first option, Option 1A, would be to construct a booster pump station near the Malheur River and N.W. 36th Street and Malheur Drive (Malheur Drive booster pump station) that would supply water to the reservoir by pumping water from the distribution system fed by the existing Eastside and Westside booster pump stations. Existing water lines and valves would primarily be utilized and modified to supply the reservoir.

The new Malheur Drive booster pump station would draw water from both existing 12-inch and 16-inch water lines, as shown on Figure 3-3 in Chapter 3. The booster pump station would then pressurize an existing 12-inch water line between Malheur Drive and Foothill Drive. A new section of 12-inch water main would need to be extended from the intersection of N.W. 36th Street and Foothill Drive to the Bench Reservoir, as shown on Figure 3-7 in Chapter 3. The new Malheur Drive booster pump station is anticipated to be capable of providing flows ranging between 500 and 1,000 gpm to the Bench Reservoir, depending on system demands. A new reservoir inlet piping system would also need to be constructed on the existing Bench Reservoir, allowing for concurrent reservoir inflow and outflow. It is assumed the new inlet structure would be constructed at the northwest side of the reservoir. Piping would be routed externally to the reservoir and installed with a new inlet through the reservoir wall. A heated structure would be constructed over the new inlet piping to prevent any freezing issues. Modifications to the existing flow control valves at N.W. 36th Street and Foothill Drive to allow flows to be delivered to both the Bench Reservoir and to the SRCI booster pump station are anticipated to be needed.

A disadvantage of this option is utilizing water, leaving the Bench Reservoir to provide the Bench Reservoir with supply water (i.e., pumping Bench Reservoir water in a circle) to supply flows to the reservoir exceeding approximately 600 gpm. Refer to Chapter 5 for a discussion of modeling results associated with this option.

Option 1B

The second option, Option 1B, would be utilized as part of a new North Water Treatment Facility near the Snake River, north of the existing water treatment plant. A new transmission line would convey treated water from the new water treatment plant directly to the Bench Reservoir, providing the means to completely fill the reservoir. The proposed layout of the transmission line from the proposed North Water Treatment Facility is presented on Figure 3-3 as discussed in Chapter 3.

This option would have the advantages of providing reliable, gravity-fed water pressure to the entire City, providing adequate pressure to high level elevation users, potentially reducing energy consumption to pressurize the system (i.e., less dependence on booster pump operation to provide system pressures), and serving additional areas within the current city limits and into the urban growth area (UGA). With the direct water supply to the Bench Reservoir site, additional storage capacity to meet long-term storage needs could be achieved, including improved reservoir circulation. Further discussion of this option is included in Chapter 3 with the new North Water Treatment Facility alternative.

Option 2 - Eastside Reservoir Replacement

The Eastside Reservoirs have been in service since the 1960s and are approaching the end of their useful life. The City has recently made repairs to try to keep the reservoirs operational. However, recent video inspections and coordination with City Public Works staff indicates that repairs have had limited success. The storage that the Eastside Reservoirs provide for the system and the reliable system pressures provided by the Eastside booster pump station are important to system operations. However, the City should consider options to replace the Eastside Reservoirs before their declining condition causes operational issues.

Option 2A

Option 2A includes demolishing the existing Eastside Reservoirs and replacing them with one 3.0 MG reservoir near the existing reservoir site. Keeping the reservoir storage in the same location would decrease the capital costs required to construct a new booster pump station and modify system operations. The existing Eastside booster pump station would continue to serve the distribution system, sourcing water from the new 3.0 MG reservoir, and the existing pumps and transmission piping from the existing water treatment plant would convey treated water to the reservoir from the water treatment plant. The reservoir could be constructed on City property in the vicinity of the existing reservoirs to allow appropriate transition of operation to the new 3.0 MG reservoir prior to existing reservoir demolition. However, the existing aging Eastside booster pump station would still be utilized to provide system pressure, as discussed in Chapter 5.

Option 2B

With this option, the existing Eastside Reservoirs and Eastside booster pump station would be decommissioned. The 2.75 MG of storage provided by the Eastside Reservoirs would be relocated to the existing water treatment plant in the form of a new 3.0 MG storage reservoir to be constructed adjacent to a new clearwell, as discussed in Chapter 3. Moving storage provided by the Eastside Reservoirs to the existing water treatment plant site has several benefits as noted below:

- Improve the aesthetics of the surrounding neighborhood by allowing development of additional park space or residential housing.
- Allow treated water to be stored at the existing water treatment plant site, then pumped directly into the distribution system (removing the reliance on a transmission main and remote booster pump station).
- Improve system operational efficiency associated with maintaining outdated equipment and consolidating resources to a primary base of operations.
- Satisfy current storage needs while also allowing efficiency of construction and operations associated with the clearwell improvements discussed in Chapter 3. The proposed location of the reservoir and clearwells are shown on Figure 3-6 in Chapter 3.

Option 3 - Long-term Storage Improvement

The City primarily relies on booster pump stations to provide pressure to the distribution system. The City of Ontario is relatively flat and does not offer any high ground within city limits to construct a reservoir. Constructing an elevated reservoir in Ontario would not be practical due to the large volume of storage needed. Based on these criteria, the existing Bench Reservoir site offers the best solution to meet long-term storage needs.

Currently, the Bench Reservoir is the City's only storage reservoir located at an elevation that provides gravity flow at adequate pressures to the distribution system. Reducing the City's reliance on booster pumps will help improve system reliability, reduce pump operating costs, and allow continued gravity fed pressure in an extended power outage.

With this option, a new 3.0 MG ground-level reservoir and a pipeline connecting the reservoir to the existing transmission lines would be developed adjacent to the Bench Reservoir. A 3.0 MG reservoir would allow the projected storage needs of 2040 demands with 4.0 MGD of additional commercial demand to be met. The proposed location for the reservoir and transmission line is shown on Figure 3-7 in Chapter 3. A base elevation of approximately 2,312 feet and a reservoir height of approximately 50 feet would be utilized to produce adequate pressures within the distribution system. Like Option 1, the new reservoir would be supplied by the new Malheur Drive booster pump station or a new water treatment plant to the north of the existing water treatment plant. If storage improvement Options 1 and 3 were implemented together, appropriate sizing of the transmission line would be important so both reservoirs could fill at the same time. The existing 12-inch pipeline in N.W. 36th Street is not anticipated to be appropriately sized to meet this need.

This option would have the following advantages:

- Providing reliable, gravity-fed water pressure to the entire City
- Providing adequate pressure to higher elevation users
- Eliminating potential high-pressure areas around existing booster pump stations
- Potentially reducing energy consumption to pressurize the system (i.e., less dependence on booster pump operation to provide system pressures)
- Serving additional areas within the current city limits and into the UGA

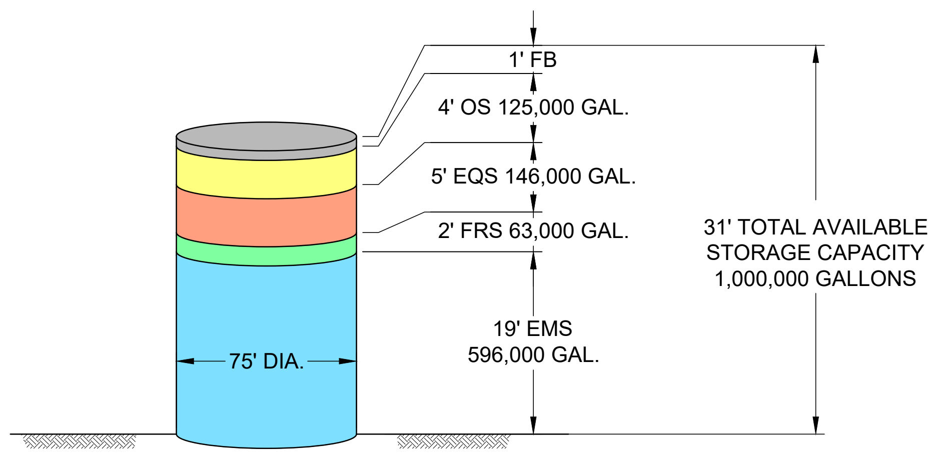
Recommended Storage Improvements and Cost

Based on discussions with City staff relative to existing development proposals, development patterns, and system operations, it was determined that improving the function of the existing Bench Reservoir and addressing the worsening condition of the Eastside Reservoirs were high priority improvements for the City to consider implementing. The highest priority need will be to utilize the full Bench Reservoir storage capacity (Option 1). Two options to increase the Bench Reservoir storage capacity are presented herein. With Option 1A, a new Malheur Drive booster pump station would fill the Bench Reservoir. With Option 1B, a new North Water Treatment Facility would fill the Bench Reservoir directly. Costs associated with these improvements are included with water supply Options B and C in Chapter 3 (refer to Figures 3-4 and 3-8 in Chapter 3).

Cost estimates for Option 2A (replacing existing Eastside Reservoirs with a new reservoir at the same site) and Option 2B (replacing existing Eastside Reservoirs and booster pump station with a new reservoir and booster pump station at the existing water treatment plant) are included on Figure 4-6.

To meet the City's long-term storage needs, it is recommended the City consider constructing a new ground-level reservoir adjacent to the existing Bench Reservoir. The size of this reservoir is anticipated to vary between 3.0 and 5.0 MG depending on what future growth and demands dictate. If supply to the existing Bench Reservoir has been addressed with Option 1, it is estimated that the development, design, and construction of a 3.0 to 5.0 MG welded steel reservoir adjacent to the existing reservoir would cost between $3,000,000 and $5,000,000 in year 2020 dollars.

During the planning period covered by this Water System Master Plan (WSMP), the City will need to continue to maintain existing water storage reservoirs. These maintenance activities are discussed earlier in this chapter and included in the CIP (refer to Chapter 6). In general, these maintenance projects include recoating the interior and exterior of reservoirs, reconfiguring piping for improved circulation, and other small repairs or additions. The City is encouraged to continue evaluating and maintaining the existing storage reservoirs throughout the planning period of this WSMP.



1.0 MG EASTSIDE A RESERVOIR OPERATING RANGES
(CONSTRUCTED IN 1962)

LEGEND

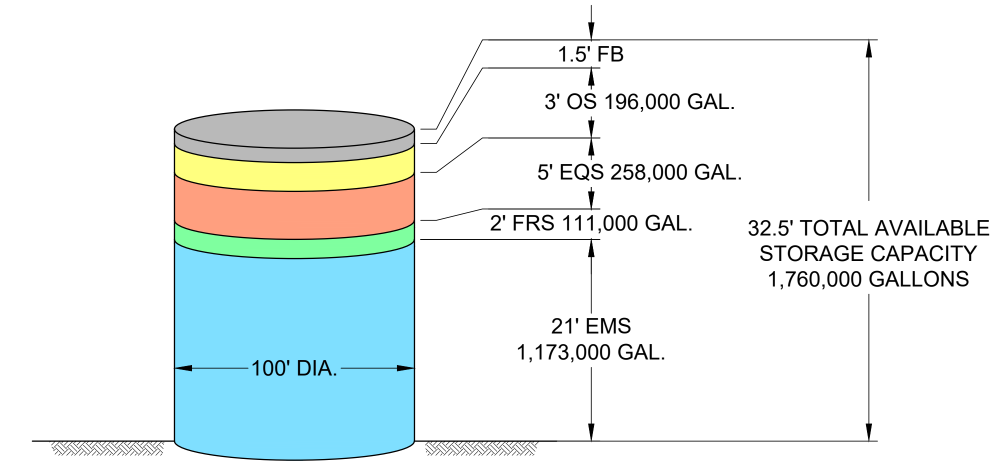
- FREEBOARD (FB)
- OPERATING STORAGE (OS)
- EQUALIZING STORAGE (EQS)
- FIRE RESERVE STORAGE (FRS)
- EMERGENCY STORAGE (EMS)

NOTES

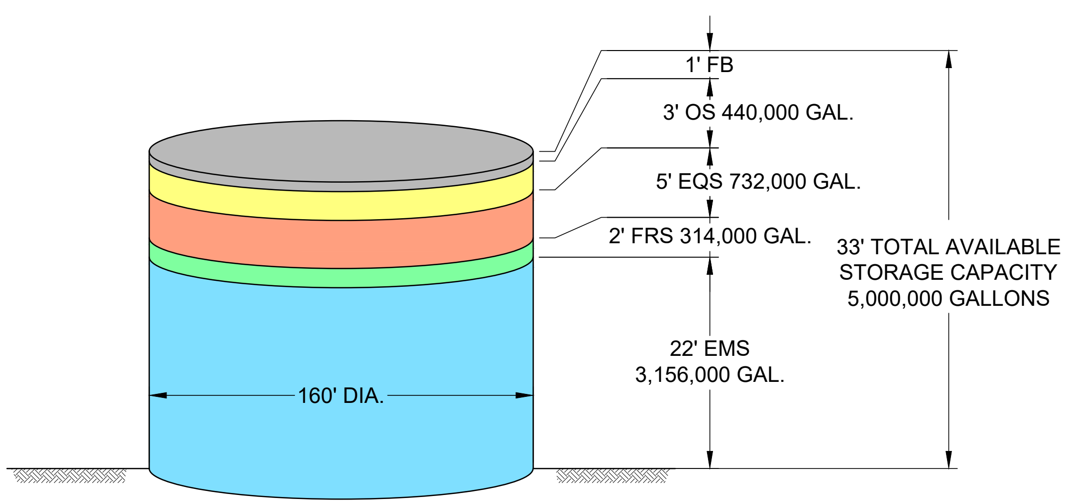
1. OPERATING RANGES ARE FOR PRESENTATION PURPOSES AND ARE APPROXIMATE.
2. STORAGE VOLUMES ARE BASED ON BOTH DESIGN CRITERIA AND TOTAL SYSTEM AVAILABLE STORAGE. VOLUMES SHOWN MAY NOT REFLECT ACTUAL RESERVOIR OPERATION.

ABBREVIATIONS

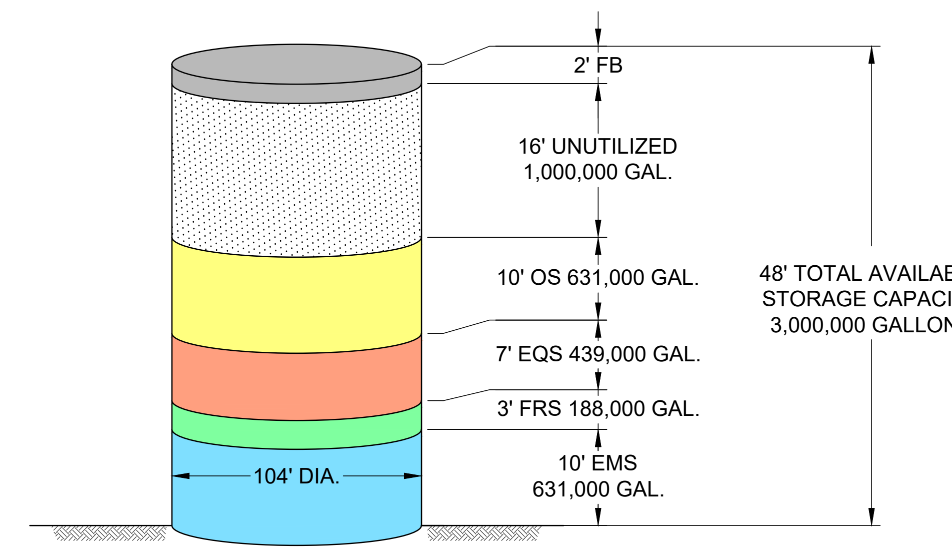
FB - FREEBOARD
OS - OPERATING STORAGE
EQS - EQUALIZING STORAGE
FRS - FIRE RESERVE STORAGE
EMS - EMERGENCY STORAGE
MG - MILLION GALLON



1.76 MG EASTSIDE B RESERVOIR OPERATING RANGES
(CONSTRUCTED IN 1969)



5.0 MG WESTSIDE RESERVOIR OPERATING RANGES
(CONSTRUCTED IN 1981)



3.0 MG BENCH RESERVOIR OPERATING RANGES
(CONSTRUCTED IN 1999)

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN

EXISTING RESERVOIR STORAGE VOLUME SCHEMATIC

FIGURE
4-1

CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
RESERVOIR INSPECTION REPORT SUMMARY

Storage System	Construction Date	Capacity (MG)	Diameter (FT)	Height (FT)	Floor Square Footage	Material	Date of Inspection	Last Cleaned	Date of Last Rehabilitation	Overall Condition	Location	Deficiency[1] Description	Reservoir Inspector Recommendations[2]	Nature of Repair[3]
Reservoirs														
Bench	1994	3.00	103.5	48	8,409	Welded Steel	September 24, 2019	2013	2001	Good	Exterior Interior	Areas of coating failure with corrosion noted No interior ladder installed	1) Install weather stripping on hatch to keep out insects and debris 2) Repair exterior corrosion with epoxy 3) Consider installing interior ladder for future maintenance and repair	Maintenance
Eastside A	1963	1.00	75	31	4,415	Concrete	September 24, 2019	2013	2012	Good	Exterior Interior	Deteriorated access hatch hinges Deteriorated lock on hatch Light skiff of sediment Approximately 21 inches of sediment (possible supply filter issue) Coating failure with corrosion noted on interior plumbing Ladder rung deterioration Seam sealant deterioration Areas of spalling	1) Install weather stripping on hatch to keep out insects and debris 2) Install new lock on hatch 3) Monitor/repair areas of concrete spalling and seam sealant deterioration 4) Continue to monitor previous repairs 5) Investigate, identify, and improve source of sediment 6) Monitor ladder rung deterioration	Deterioration/Safety
Eastside B	1969	1.75	100	32.5	7,850	Concrete	September 24, 2019	2017	2012	Good	Exterior Interior	Areas of coating failure Light skiff of sediment Approximately 20-inches of sediment (possible supply filter issue) Areas of coating failure with corrosion Settling cracks with efflorescence	1) Continue to monitor coating failure 2) Investigate, identify, and improve source of sediment 3) Continue to monitor coating failure with corrosion on interior ladder 4) Monitor/repair noted settling cracks with efflorescence	Coating Failure/Cracking
Westside No. 4	1981	5.00	177	30	24,600	Concrete	September 10, 2019	2013	2013	Good	Exterior Interior	Areas of coating failure Settling cracks Roof vent screen does not sit 8 inches above the roof surface Approximately 3 inches of sediment Settling cracks Settling cracks with previous repairs Areas of previous repair failures Daylight noted from secondary hatch Corrosion on interior plumbing	1) Continue to monitor coating failure 2) Correct roof vent screen to sit 8 inches above the roof surface 3) Continue to monitor/repair noted settling cracks 4) Repair secondary access hatch daylighting issue 5) Continue to monitor corrosion on interior plumbing	Coating Failure/ Cracking/Water Quality
Water Treatment Plant Operational Facilities														
Clearwell No.1	1970s	0.05	41 by 20	9	820	Concrete	September 25, 2019	2013	N/A	Good	Exterior Interior	No weather stripping on access hatch Light skiff of sediment 3 inches of sediment (possible supply filter issue) Corrosion on interior plumbing Settling cracks with efflorescence	1) Continue to monitor coating failure 2) Investigate, identify, and improve source of sediment 3) Monitor/repair noted settling cracks with efflorescence 4) Install weather stripping	Coating Failure/Cracking
Clearwell No.2	1934	0.03	28 by 18	8	420	Concrete	September 25, 2019	2013	N/A	Good	Exterior Interior	No weather stripping or lock on access hatch Access hatch does not sit 24 inches above reservoir surface Light skiff of sediment with corrosion debris Up to 5 inches of sediment (possible supply filter issue) Settling cracks with efflorescence and spalling Evidence of previous repairs Corrosion noted on interior plumbing	1) Install weather stripping and lock on access hatch 2) Correct the access hatch to sit 24 inches above roof surface 3) Repair noted settling cracks with efflorescence and spalling 4) Continue to monitor previous repairs	Maintenance/Cracking
Sump Pump Tank	1969	0.02	14 by 41	5	574	Concrete	September 25, 2019	2013	N/A	Good	Exterior Interior	No weather stripping on access hatch Coating failure with corrosion noted on interior plumbing No screens noted on interior pumps	1) Install weather stripping on access hatch 2) Monitor coating failure with corrosion noted on interior plumbing 3) Install screens on interior pumps	Maintenance

Notes:
1. Reservoir inspection reports provided by Midco Diving & Marine Services, Inc., were used as the basis of information presented herein.
2. All storage systems were recommended to have regular cleaning and inspection every three to five years to reduce sediment buildup.
3. Color coding system is as follows: pink = high priority; orange = medium priority; yellow = maintenance items.

FT = feet
MG = million gallons

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CITY OF
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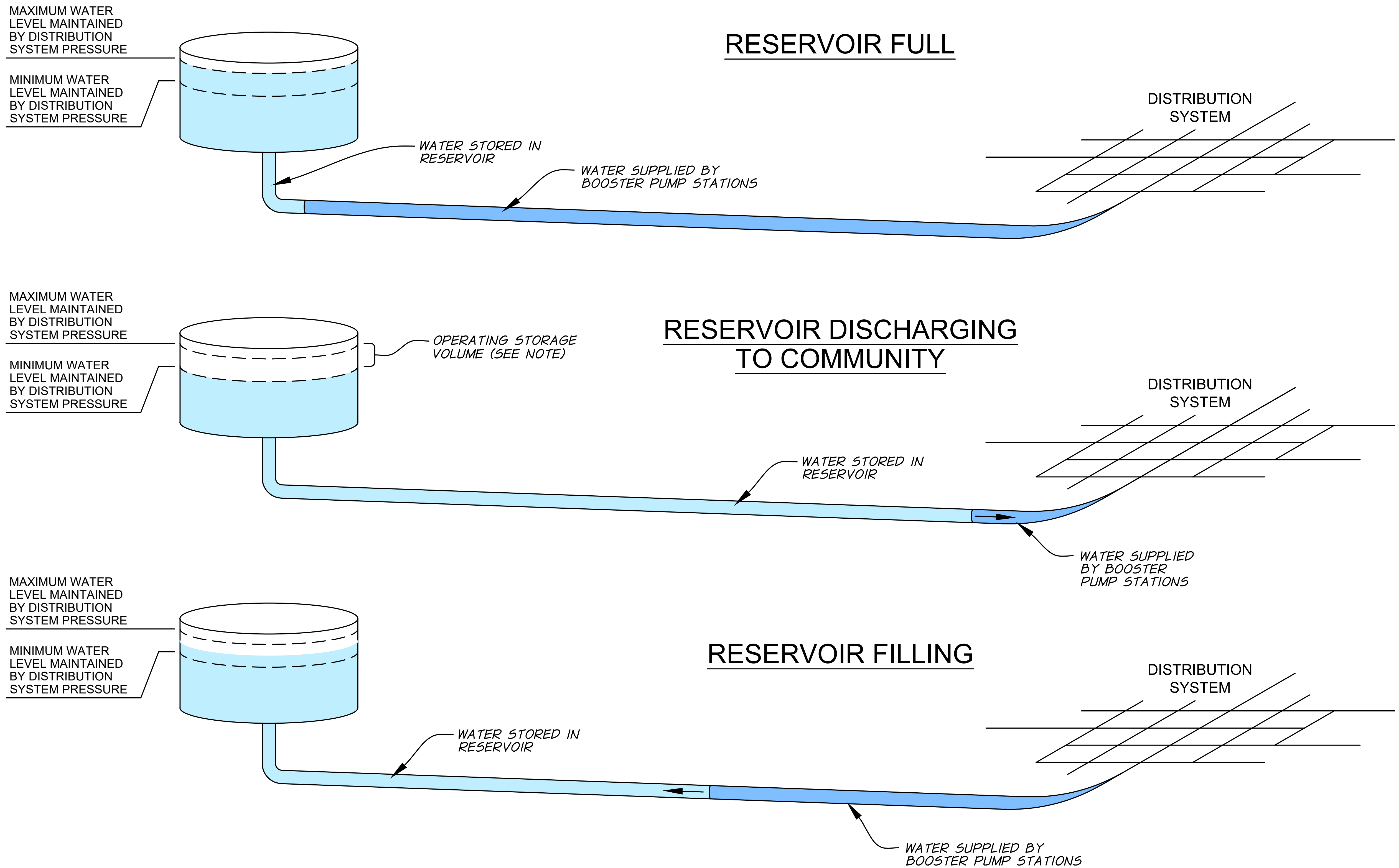
WATER SYSTEM MASTER PLAN
RESERVOIR INSPECTION
REPORT SUMMARY

FIGURE
4-2



NOTE

IF OPERATING STORAGE VOLUME IS NOT LARGE ENOUGH, THE WATER STORED IN THE RESERVOIR MAY NOT BE EXCHANGED WITH FRESH WATER SUPPLIED BY THE BOOSTER PUMP STATIONS THROUGH THE DISTRIBUTION SYSTEM.

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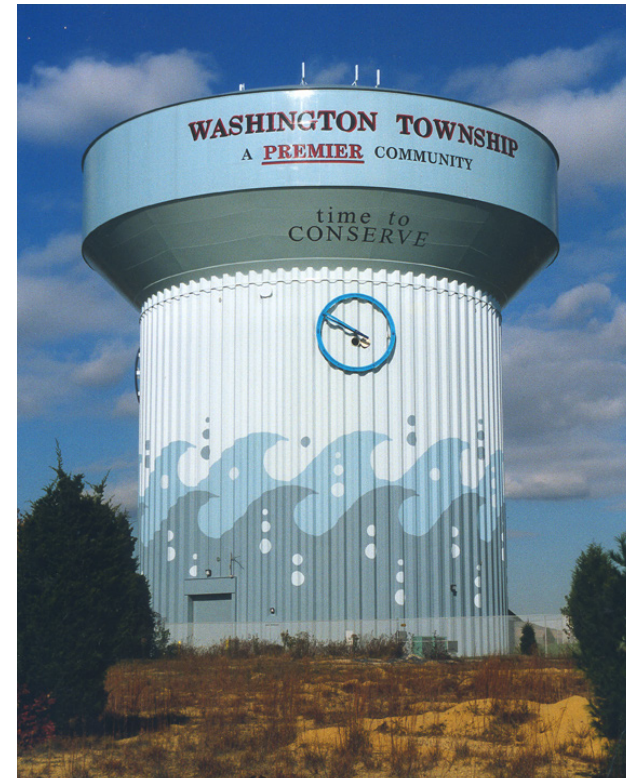
CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN

BENCH RESERVOIR WATER EXCHANGE SCHEMATIC

FIGURE **4-3**

Pillar Style Elevated Composite (Concrete/Steel) Reservoir - Plano, Texas (Courtesy of CB&I)



Pillar Style Elevated Steel Reservoir Washington Township, Pennsylvania (Courtesy of CB&I)

Spherical Elevated Steel Reservoir Clanton, Alabama (Courtesy of CB&I)

Standpipe Style Welded Steel Reservoir Moses Lake, Washington (courtesy of Rocamia Design)

Prestressed Concrete Reservoir Cypress College in Cypress, CA (courtesy of DN Tanks)

Ground Level Bolted Steel Reservoir - Cove, Oregon

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN

RESERVOIR TYPES

FIGURE
4-4

CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
STORAGE RESERVOIR TYPE LIFE CYCLE COST ANALYSIS

Tank Characteristics	Diameter, ft	104
	Height, ft	48
	Capacity, MG	3.0
Time Value	Annual Inflation Rate	3.0%
	Present Worth Rate	2.0%

Maintenance Type	Data Description	Type of Tank		
		Welded Steel	Glass Fused Bolted Steel	Prestressed Concrete
Design Life		75	50	75
1	Estimated Cost for Constructing New Tank	$ 2,000,000	$ 1,600,000	$ 2,700,000
2	Repainting Cycle, years	25	N/A	40
	Interior Surface Area, SF	35,000	N/A	N/A
	Exterior Surface Area, SF	26,000	N/A	26,000
	Interior Repainting Cost, $/SF	$ 8	N/A	N/A
	Exterior Repainting Cost, $/SF	$ 8	N/A	8
3	Reservoir Cleaning Cycle, years	5	5	5
	Cost for Cleaning Reservoir with Divers	$ 7,500	$ 7,500	$ 7,500
4	Check and Clean Cathodic Protection System, years	5	5	N/A
	Cost to Check and Clean Cathodic Protection System	$ 1,000	$ 1,000	N/A
5	Replace Sacrificial Anode, years	20	20	N/A
	Cost for Replacing Sacrificial Anode	$ 20,000	$ 10,000	N/A
6	Repair Tank Wall, years	10	10	10
	Cost for Repairing Tank Wall	$ 1,200	$ 1,000	$ 800
7	Replace Web Truss on Bolted Steel Tank, years	N/A	20	N/A
	Cost for Replacing Web Truss	N/A	$ 30,000	N/A
8	Miscellaneous Repairs, years	N/A	N/A	40
	Cost for Miscellaneous Repairs	N/A	N/A	$ 100,000

Expidenture Costs						
Years in the Future	Welded Steel Maintenance Type	Welded Steel Expense	Glass Fused Bolted Steel Maintenance Type	Glass Fused Bolted Steel Expense	Reinforced Concrete Maintenance Type	Prestressed Concrete Expense
0	1	$ 2,000,000	1	$ 1,600,000	1	$ 2,700,000
5	3,4	$ 8,925	3,4	$ 8,925	3	$ 7,875
10	3,4,6	$ 10,694	3,4,6	$ 10,474	3,6	$ 9,151
15	3,4	$ 9,840	3,4	$ 9,840	3	$ 8,682
20	3,4,5,6	$ 36,099	3,4,5,6,7	$ 60,165	3,6	$ 10,088
25	2,3,4	$ 633,644	3,4	$ 10,848	3	$ 9,572
30	3,4,6	$ 12,998	3,4,6	$ 12,730	3,6	$ 11,122
35	3,4	$ 11,960	3,4	$ 11,960	3	$ 10,553
40	3,4,5,6	$ 43,877	3,4,5,6,7	$ 73,129	3,6	$ 467,284
45	3,4	$ 13,185	3,4	$ 13,185	3	$ 11,634
50	2,3,4,6	$ 810,626	3,4,6	$ 2,605,989	3,6	$ 13,519
55	3,4	$ 14,536	3,4	$ 14,536	3	$ 12,826
60	3,4,5,6	$ 53,331	3,4,5,6,7	$ 70,928	3,6	$ 14,904
65	3,4	$ 16,026	3,4	$ 72,589	3	$ 14,141
70	3,4,6	$ 19,203	3,4,6	$ 38,604	3,6	$ 16,431
75	2,3,4	$ 1,032,044	3,4	$ 17,668	3	$ 15,590
	Present Worth Cost:	$ 4,727,000		$ 4,632,000		$ 3,334,000

ft = feet
MG = million gallons
SF = square feet
$/SF = Cost per square foot

CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
STORAGE RESERVOIR TYPE LIFE CYCLE COST ANALYSIS

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FIGURE
4-5

CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
STORAGE OPTION 2 - EASTSIDE RESERVOIRS REPLACEMENT OPTIONS
PRELIMINARY COST ESTIMATE

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
Option 1A - New 3.0 MG Reservoir at Existing Site*					
1	Mobilization/Demobilization (5%)	LS	$ 171,000	All Req'd	$ 171,000
2	Temporary Protection and Direction of Traffic/Project Safety	LS	20,000	All Req'd	20,000
3	Site Work	LS	150,000	All Req'd	150,000
4	Reservoir Foundation	LS	130,000	All Req'd	130,000
5	3 MG Concrete Reservoir	LS	2,700,000	1	2,700,000
6	Reservoir Painting	LS	200,000	All Req'd	200,000
7	Site Piping, Valves, Fittings, Etc.	LS	100,000	All Req'd	100,000
8	Demolition of Existing Eastside Reservoir	LS	100,000	All Req'd	100,000
9	Fencing	LF	15	700	10,500
				Total Estimated Construction Cost	**$ 3,582,000**
				Legal, Engineering, Administration, and Contingency (40%)	1,433,000
				TOTAL ESTIMATED PROJECT COST (2020 DOLLARS)	**$ 5,020,000**
Option 1B - New 3.0 MG Reservoir and Booster Pump Station at Existing Water Treatment Plant					
1	Mobilization/Demobilization (5%)	LS	$ 170,000	All Req'd	$ 170,000
2	Temporary Protection and Direction of Traffic/Project Safety	LS	20,000	All Req'd	20,000
3	Site Work	LS	125,000	All Req'd	125,000
3.0 MG Reservoir					
4	Reservoir Foundation	LS	130,000	All Req'd	130,000
5	3 MG Concrete Reservoir	LS	2,700,000	All Req'd	2,700,000
6	Reservoir Painting	LS	200,000	All Req'd	200,000
7	Site Piping, Valves, Fittings, Etc.	LS	125,000	All Req'd	125,000
8	Demolition of Existing Eastside Reservoir	LS	100,000	All Req'd	100,000
9	Reconfigure Piping at Existing Reservoir Site	LS	25,000	All Req'd	25,000
				Subtotal Reservoir Estimated Construction Cost	**$ 3,280,000**

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
Booster Pump Station					
10	Booster Pump Station Building Structure	LS	$ 120,000	All Req'd	$ 120,000
11	Facility Piping, Valves, Fittings, and Flowmeters	LS	100,000	All Req'd	100,000
12	Booster Pumps	EA	30,000	4	120,000
13	Control and Instrumentation	LS	200,000	All Req'd	200,000
14	Building Electrical	LS	75,000	All Req'd	75,000
15	Generator and Automatic Transfer Switch	EA	75,000	1	75,000
16	Heating and Ventilation	LS	20,000	All Req'd	20,000
17	Painting	LS	20,000	All Req'd	20,000
18	Fencing	LF	15	700	10,500
19	Connection to Existing Water Line	EA	5,000	1	5,000
	Subtotal Booster Pump Station Estimated Construction Cost				**$ 745,500**
	Total Estimated Construction Cost				**$ 4,341,000**
	Legal, Engineering, Administration, and Contingency (40%)				1,736,000
	TOTAL ESTIMATED PROJECT COST (2020 DOLLARS)				**$ 6,080,000**

* Option 1A does not include any improvements to the existing Eastside booster pump station.

MG = million gallons

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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
STORAGE OPTION 2 - EASTSIDE RESERVOIRS REPLACEMENT OPTIONS PRELIMINARY COST ESTIMATE

FIGURE 4-6 CONT'D

Chapter 5 - Distribution System

Introduction

This chapter discusses the City of Ontario's existing water distribution system, which delivers water to residential, commercial, and industrial users. Components of the distribution system include booster pump stations, pipelines, valves, water meters, water service lines, and fire hydrants. The distribution system has been evaluated for both present and future City needs. Recommended distribution system improvements have been developed to address existing identified deficiencies and provide future service to help meet both Oregon Health Authority - Drinking Water Services (DWS) requirements and Oregon Fire Code (OFC) fire flow requirements.

Existing Distribution System

Historical information for the City's water distribution system was obtained from previous water system master plans (WSMP), water system improvements record drawings, and from water system maps and models provided by the City.

Over time, the system has expanded as the City has grown and provided water to more users. The system consists of a piping network along with three booster pump stations that provide water to users throughout the City's distribution system as well as to the Snake River Correctional Institution (SRCI).

Piping

The City has more than 480,000 feet of piping in its distribution system. The distribution system piping consists of asbestos cement (AC), ductile iron (DI), polyvinyl chloride (PVC), and steel piping. Piping within the distribution system generally ranges from 2- to 24-inch diameter, with the majority being 6-, 8-, and 12-inch piping. A summary of pipe sizes and their approximate associated lengths are listed on Table 5-1.

TABLE 5-1
WATER DISTRIBUTION SYSTEM PIPING

Size	Length (feet)	Percentage
4-inch	10,515	2
6-inch	221,025	46
8-inch	77,980	16
10-inch	16,290	3
12-inch	72,000	15
14-inch	1,200	1
16-inch	47,420	10
20-inch	21,660	5
24-inch	13,560	2
Total	**481,650**	**100**

Booster Pump Stations

The City of Ontario has three booster pump stations and four pumps that pump water from storage reservoirs into the distribution system. The following discussion provides a general description and the capacity of each booster pump station. Figure 5-1 presents a summary of the pumps housed in each booster pump station and service pumps at the water treatment plant.

Eastside Booster Pump Station

The Eastside booster pump station (installed in 1962) is located adjacent to the Eastside Reservoirs near the intersection of S.E. 5th Street and S.E. 5th Avenue. Water is supplied to the Eastside Reservoirs from the existing water treatment plant. The Eastside Reservoirs feed the booster pump station's three booster pumps, which primarily pressurize the east side of the City's distribution system. Flow can be diverted through a bypass pipe from the water treatment plant, directly to the booster pump station to facilitate reservoir maintenance. However, frequently utilizing this feature could negatively impact both the water treatment plant pumps and booster pumps lifespan and performance. Within the Eastside booster pump station, Pumps 1 and 2 have 125 horsepower (Hp) motors with maximum flow rates of 1,900 to 2,400 gallons per minute (gpm). Pump 3 has a 200 Hp motor with a maximum flow rate of 3,000 gpm. A 164 Hp engine-driven standby pump is also located on site if there is a power outage, the primary pumps fail, or electric-driven pumps require maintenance.

The Eastside booster pump station was configured to be a lead-lag system. This type of system utilizes a lead pump that runs until the demand is too great for the pump to meet, at which point the lag pump turns on to satisfy the system demands. Pump 1 typically runs in lead, while Pump 3 runs in lag. Pump 2 is not often operated unless system demands require it. The lead pump is responsible for maintaining system pressure and water levels in the Bench Reservoir. Once operation of the lag pump is initiated, it should also effectively maintain system pressure.

Westside Booster Pump Station

The Westside booster pump station (installed in 1981) is located adjacent to the Westside Reservoir on Sunset Drive. The water supply for the booster pump station comes from the adjacent 5.0-million gallon Westside Reservoir that is fed directly from the treatment plant through a 20-inch transmission line. The Westside booster pump station Pumps 1, 2, and 3 have 200 Hp motors, each with maximum flow rate of 3,000 gpm. Pump 4 is a diesel-driven standby pump with a maximum flow rate of 4,500 gpm.

Much like the Eastside booster pump station, the Westside booster pump station is configured with lead-lag system. However, Pumps 1 and 2 alternate between lead and lag to reduce start/stop cycles for each pump. The Westside booster pump station is a secondary controller of water levels in the Bench reservoir, with the Eastside booster pump station being the primary controller. Pump 3 is not typically run unless it is needed for high demand situations. Pump 4 is only operated in the case of a power outage or if the primary pumps require maintenance and cannot serve the system for a short duration.

Canyon Booster Pump Station

The Canyon booster pump station is less than 1 mile northwest of Foothill Drive on Canyon Road. It conveys water from the City's distribution system approximately 3 miles northwest to SRCI. SRCI sits approximately 200 feet higher in elevation than the booster pump station. The Canyon booster pump station has three 40 Hp pumps, each with a maximum flow rate of 600 gpm. The pumps are arranged in a lead-lag configuration, similar to the other booster pump stations. All three pumps rotate between lead and lag roles, significantly reducing pump start/stop cycles for each pump. This system is responsible for maintaining water levels in the SRCI reservoirs.

Water Meters

The City of Ontario's system has approximately 3,700 water service connections. All service connections are metered. From 2002 to 2010, the City conducted an improvements project to update its existing meters with a Neptune radio read system. This project included replacing any dated or worn out meters (meter, register, and endpoint) within the system (residential and industrial) or fitting meters in good conditions with retrofitted meter registers. Operators can now take meter readings remotely from a laptop computer in a service truck, decreasing meter read times from 12 days to less than one day.

The City will continue to monitor and replace water meters in the system as they fail. Replacing approximately 200 meters per year would keep all meters in the system less than 20 years old. It is important to replace old water meters so the City continues to obtain accurate water usage readings and associated customer billings.

Water Loss

The City's distribution system piping is in good condition overall. The City has been conducting annual water audits to help identify any areas of the distribution system that may be developing excessive leakage. Determining total water loss involves assessing the total unaccounted for water, which can come from authorized, unmetered usage such as fire flow, or leaks in the system. Water losses have varied from year to year. Between 2015 and 2018, the City's unaccounted for water in the system averaged approximately 11 percent. Regulatory agencies prefer unaccounted for water be at 10 percent or less. There have been annual variations in the unaccounted for water and the City is seeking to install additional meters on booster pump stations and treatment plant backwash piping to better account for water use in the system. The City has managed its water loss by proactively using the best management practices available to them to identify water losses and continue to work toward a low volume of unaccounted for water in the system. Measuring water losses is as equally important as performing leak repairs, and the City is continuing to collect more accurate data to better understand water loss in the system.

Distribution System Pressure Overview

The City of Ontario is relatively uniform in elevation and, therefore, does not have the need for separate pressure zones. The distribution system usually operates with system pressures between 55 and 80 pounds per square inch (psi). Generally, the Eastside and Westside booster pump stations act as the primary source of system pressure. The distribution system pressure at any given point in the system is determined by the operational status of the Eastside and Westside booster pump stations, the water level in the Bench Reservoir, the demands occurring on the system, and the elevation of the location in the distribution system.

Refer to the Water System Modeling section of this chapter for further discussion.

Distribution System Water Quality

Coliform Bacteria

The City routinely obtains 15 samples each month from the distribution system for analysis of total coliform and *E. coli.* Routine sample results are on file with the DWS from 1997 through May 2020. Summaries of available test results are included in Appendix B. In the City's distribution system, one positive coliform sample was obtained in the last two years. The City has experienced four positive test results for *E. coli* in the past 12 years. Following the positive test results, the City conducted repeat samples at the location of the initial positive test location. Total coliforms and *E. coli* were absent in all repeat samples.

Lead and Copper

The City has also obtained samples from the distribution system to satisfy chemical analysis requirements for total lead and copper. Several tests have been conducted starting in March 1993 and were most recently conducted in January 2018. The DWS database lists the highest lead concentrations detected with these sampling events as ranging from 0.000 to 0.018 milligrams per liter (mg/L). One test sample taken in 1996 measured lead concentrations of 0.018 mg/L, which exceeded the maximum allowable limit. All other tests have been below the U.S. Environmental Protection Agency (EPA) action limit for total lead in municipal water systems of 0.015 mg/L. Copper was also detected in the samples at maximum concentrations ranging from 0.110 to 0.340 mg/L. The copper concentrations have also been below the EPA action level of 1.3 mg/L. A copy of the lead and copper analytical results summary sheet from the DWS database is included in Appendix B.

Disinfection By-Products

The City takes routine samples for disinfection by-products that include total haloacetic acids (HAA5) and total trihalomethanes (TTHM). Records for both HAA5 and TTHM date back to September 2002. No sampling events for HAA5 exceeded the maximum contaminant level (MCL) of 0.060 mg/L. Ten sample events for TTHM exceeded the MCL, with the most recent in October 2019. The most recent TTHM samples exceeding the MCL were taken at the SRCI site. All other TTHM samples were below the MCL of 0.0800 mg/L. A copy of the HAA5 and TTHM analytical results obtained from the DWS database is included in Appendix B.

Fire Protection

General

The City of Ontario's Fire Department is responsible for maintaining fire hydrants and providing fire protection within city limits. The City's water distribution system supplies pressure and flow capacity in support of fire protection throughout the City. DWS regulations and the 2014 OFC require the entire water system remain above 20 psi residual pressure at all times (i.e., high demand periods, fire flow events, etc.). As discussed in Chapter 2, the design fire flow is 3,500 gpm in high density commercial and industrial areas, 3,000 gpm in low density commercial areas, and 1,000 gpm in residential areas.

Generally, the City's water system provides adequate fire flows to the majority of the City. However, a few areas require improvements to provide the recommended fire flows. The discussion presented herein is intended to provide caution concerning the actual available fire flows from the City's distribution system and fire hydrants. A discussion on the hydraulic modelled available fire flows, along with recommended improvements to address the deficiencies in fire flows, is discussed in more detail later in this chapter.

Fire Hydrant Flow Tests

In October 2019, City and Anderson Perry & Associates, Inc. staff conducted fire hydrant flow tests on 11 fire hydrants in the distribution system in accordance with American Water Works Association Manual M17. A technical memorandum detailing the hydrant flow test results is included in Appendix G for reference. Based on the hydrant flow test results, the City's water system is able to deliver fire flows ranging from approximately 1,500 to 4,000 gpm, with residual pressures ranging from 45 to 85 psi.

Fire Hydrant Limitations

Field system pressures may differ from the reported pressures in the fire hydrant flow tests due to varying system operating conditions such as demand, storage tank levels, booster pump settings, and the elevation and piping configuration supplying a specific fire hydrant.

Generally, the fire flow tests are conducted by opening one fire hydrant at a time. If large enough main lines and system pressures are present, individual fire hydrants can typically provide flows in the range of 800 to 1,200 gpm from a small port and nearly 2,000 gpm from both small ports and the larger "pumper" port, assuming the hydrant has a large port. The system residual pressures, main line sizes, and looping likely dictate what fire flows are available as opposed to the physical limitations of the fire hydrants. To achieve the maximum flow available in an area during a fire, more than one fire hydrant would need to be used to approach the maximum expected main capacity shown by the water system computer model.

Generally, the City's water system is capable of providing adequate fire flows to residential and commercial/industrial areas. Potential improvements to enhance system capacity are discussed later in this chapter.

Fire Hydrant Coverage

The OFC outlines maximum recommended fire hydrant spacing depending on several factors, such as fire flow requirements of the area, the number of fire hydrants in the area, if the area is on a dead-end street or has limited access, etc. As required by the 2014 OFC, the maximum spacing between any two hydrants for a fire flow requirement of 1,750 gpm or less is 500 feet and as little as 350 feet for a fire flow requirement of 3,500 to 4,000 gpm. The maximum required distance from any point of a street or road frontage to a hydrant is 250 feet for 1,750 gpm or less and 210 feet for 3,500 to 4,000 gpm.

The City of Ontario's Fire Department takes responsibility for fire hydrant coverage and informs the City's Public Works Department of any areas that need additional fire hydrants. No areas have been identified by the Fire Department as needing additional fire hydrants at this time. Fire hydrant spacing was not checked as part of this WSMP effort.

Theoretical Fire Flows

In some cases, the available flow from a fire hydrant is calculated using a theoretical formula. The formula assumes the water supply "feeding" the tested area is generally not limited and the 20 psi residual pressure resulting from the fire flow occurs where the hydrants are being tested. In reality, there are likely other connections in the distribution system, such as users in the City on small diameter main lines or at higher elevation areas that would fall below 20 psi sooner than the formula predicts. Considering this, the theoretical formula can overestimate available fire flows at 20 psi. The hydraulic computer modeling completed as part of this WSMP, as discussed later in this chapter, is believed to present more accurate available fire flows than theoretical formulas would.

Water System Modeling

General

A computer hydraulic model evaluates distribution system pressure and flows during a simulated water use demand scenario. As part of this WSMP, a detailed computer hydraulic water model of the City's water system was utilized to analyze system pressures, hydraulic capacity, and available fire flows from the City's fire hydrants. A general description and the results of each computer run performed for both the existing and improved water systems are described herein. More detailed information for the water model, including supporting data tables for each computer run, has been summarized in a separate bound document titled *City of Ontario, Oregon - Water Distribution System Computer Model Summary - 2020*. It is recommended the reader refer to that document for additional computer model information.

Available fire flows from hydrants are determined under peak daily demands (PDD) conditions for the fire flow required in a respective zone. Typical water system demands used for the computer model include the average daily demand (ADD), the PDD, and fire flow demands previously discussed herein and in Chapter 2.

The computer model also utilizes detailed information about the distribution system pipes. Each individual pipe was assigned a roughness coefficient based on the pipe material, such as PVC, DI, AC, steel, etc. This allows the water model program to calculate water main line pressure losses under any demand condition desired, including fire flow analyses. Junctions were identified in the water model that allowed the model to compute where and at what elevation pipe intersections occur. Water demands can then be placed on the distribution system at each junction to simulate ADD or PDD use demands.

Model History and Updates

The water model from the April 2010 City of Ontario Water Distribution Master Plan Update was used as the starting point for the model presented in this WSMP. The 2010 version of the model had not been updated since its release. The model updates included converting the previous version of the water model from Bentley WaterCAD water modeling software to Innovyze InfoWater version 12.4 modeling software, updating pipe alignments and diameters to reflect the City's existing system with aid from the City's geographic information system, and City staff input. The model was also updated to reflect current system demands.

The model was calibrated by adjusting pipe roughness coefficients and booster pump settings to simulate available flows and system pressures similar to those reported in the October 2019 fire hydrant flow test (refer to Appendix G). The calibrated model simulates field-observed conditions within 10 percent of field-tested fire flow data.

Model Water Demands

System water demands for years 2019 and 2040 were derived from the design criteria presented in Chapter 2. The demands on the system within the model were updated to include high-consumption, commercial, and residential users. The top seven high-consumption water users were identified by the City. The high-consumption water user demands provided by the City were then applied to water model junctions at the location of the high-consumption user. The remaining commercial and residential demands were then distributed evenly throughout the junctions in the system.

Three demand scenarios were modeled: 1) existing (year 2019) water system demands, 2) projected year 2040 water system demands with 2.0 million gallons per day (MGD) commercial water demand growth, and 3) projected year 2040 water system demands with 4.0 MGD commercial water demand growth. The demand conditions used in modeling the system are described on Table 5-2 hereafter.

TABLE 5-2
WATER MODEL SYSTEM DEMAND SCENARIOS

Demand Scenario	Total Demand (gpm)	High Consumption Users*	Residential Demand (gpm)	Residential Demand Junctions	Demand Per Residential Junction (gpm)	Commercial/ Other Demand (gpm)	Commercial/ Other Demand Junctions	Demand per Commercial/ Other Junction (gpm)
2019 ADD	4,111	2,038	1,581	465	3.40	492	293	1.68
2019 PDD	6,681	2,919	2,971	465	6.39	791	293	2.70
2040 PDD with 2.0 MGD Commercial Growth	8,810	4,308	2,830	465	6.09	1,672	293	5.71
2040 PDD with 4.0 MGD Commercial Growth	11,072	5,697	2,832	465	6.09	2,543	293	8.68

**High consumption users are defined as users with greater than 10 gpm of water demand during a peak daily demand scenario.*

Model Scenarios

2019 Demands with Existing System

The ADD, PDD, and available fire flow with PDD scenarios were analyzed for 2019 demands on the existing storage and distribution systems. The ADD scenario assumes one booster pump is operational at the Eastside booster pump station, the PDD scenario assumes one booster pump is operational at both the Eastside and Westside booster pump stations, and the Bench Reservoir maintains a water level of 25 feet. The available fire flow with PDD scenario assumes all booster pumps except the largest pump for the Westside and Eastside booster pump stations are operational, and the Bench Reservoir is at a level of 25 feet.

2019 Peak Daily Demand with Relocated Eastside Reservoir and Booster Pump Station

As discussed in Chapter 4, an option to consider relocating the Eastside Reservoirs to the existing water treatment plant site has been presented. Therefore, PDD, and available fire flow at PDD scenarios were analyzed for 2019 demands with the Eastside Reservoirs relocated to the water treatment plant site. This scenario assumed the Eastside booster pump station will be relocated to the water treatment plant as well. The PDD scenario assumes one booster pump is operational at the relocated Eastside booster pump station (i.e., at the existing water treatment plant site), and the Bench Reservoir maintains a water level of 25 feet. The Bench Reservoir provides a substantial flow of water to meet PDD under this scenario. The available fire flow at PDD scenario assumes all booster pumps except the largest pump for the Westside and Eastside booster pump stations are operational, and the Bench Reservoir maintains a water level of 25 feet.

2040 Peak Daily Demands with 2.0 Million Gallons per Day Commercial Growth

The year 2040 scenarios assume the Eastside Reservoir and booster pump station are relocated to the water treatment plant site.

The PDD and available fire flow at PDD scenarios were analyzed for 2040 demands under 2.0 MGD of increased commercial growth. Under this scenario, the 2.0 MGD growth is modelled in industrial zones bounded by Malheur Drive to the north, S.W. 4th Avenue to the south, and adjacent to State Highway 201. The PDD scenarios assume one booster pump is operational at both the Eastside and Westside booster pump station sites, and the Bench Reservoir is operating at a water level of 36.5 feet. The higher Bench Reservoir water level is anticipated to be associated with system improvements discussed in Chapters 3 and 4. The Bench Reservoir provides a substantial flow of water to meet PDD under this scenario. Piping improvements near the Treasure Valley Community College (TVCC) and a looped piping improvement in the area of S.W. 18th Avenue and S.W. 30th Street is also included in this scenario, as discussed later in this chapter. The available fire flow at PDD scenario assumes all booster pumps except the largest pump for the Westside and Eastside booster pump stations are operational, and the Bench Reservoir is operating at a water level of 36.5 feet.

2040 Peak Daily Demands with 4 Million Gallons per Day Commercial Growth

The PDD and available fire flow at PDD scenarios were analyzed for 2040 demands with 4.0 MGD of increased commercial growth. Under this scenario, 2.0 MGD of commercial growth is modelled in industrial zones bounded by Malheur Drive to the north, S.W. 4th Avenue to the south, and adjacent to State Highway 201. Another 2.0 MGD of commercial growth is modelling in industrial zones located along S.W. 18th Avenue and State Highway 201. The PDD scenarios assume one booster pump is operational at the Eastside booster pump station, and the Bench Reservoir is operating at a water level of 36.5 feet. The Bench Reservoir provides a substantial flow of water to meet PDD under this scenario. The TVCC piping and looped piping improvement on S.W. 18th Avenue and S.W. 30th Street noted above as well as an additional piping improvement near S.W. 30th Street and N.W. 4th Avenue is also included in this scenario, as discussed later in this chapter. The available fire flow at PDD scenario assumes all booster pumps except the largest pump for the Westside and Eastside booster pump stations are operational, and the Bench Reservoir is operating at a water level of 36.5 feet.

Model Results

System Pressure

The following paragraphs address system pressures under various demand and improvement scenarios.

2019 Average Daily Demand Scenario

The system pressures under the 2019 ADD demand scenario are presented on Figure 5-2. As shown on Figure 5-2, the system provides pressures ranging from approximately 60 to 85 psi. The City has adequate pressure to meet DWS regulations, and improvements are not required to provide additional pressure to the system.

2019 Peak Daily Demand Scenario

The system pressures under the 2019 PDD demand scenario are presented on Figure 5-3. As shown on Figure 5-3, the system provides pressures ranging from approximately 55 to 80 psi. The City has adequate pressure to meet DWS regulations, and improvements are not required to provide additional pressure to the system.

2019 Peak Daily Demand Scenario with Relocated Eastside Reservoirs and Booster Pump Station

The system pressures under the 2019 PDD demand with relocated Eastside Reservoir and booster pump station scenario are presented on Figure 5-4. As shown on Figure 5-4, the system provides pressures ranging from approximately 60 to 85 psi. The City would have adequate pressure to meet DWS regulations should these improvements be pursued.

2040 Peak Daily Demand plus 2.0 Million Gallons per Day Commercial Growth Scenario

The existing system pressures under the 2040 PDD plus 2.0 MGD commercial growth scenario are presented on Figure 5-5. As shown on Figure 5-5, the system provides pressures ranging from approximately 60 to 85 psi. The City has adequate pressure to meet DWS regulations, and improvements are not required to provide additional pressure to the system.

2040 Peak Daily Demand plus 4.0 MGD Commercial Growth Scenario

The existing system pressures under the 2040 PDD plus 4.0 MGD commercial growth scenario are presented on Figure 5-6. As shown on Figure 5-6, the system provides pressures ranging from approximately 55 to 80 psi. The City has adequate pressure to meet DWS regulations, and improvements are not required to provide additional pressure to the system.

Fire Flows

Many existing hydrants are in commercial or industrial areas that have recommended fire flows of 3,000 gpm to 3,500 gpm. As discussed previously in this chapter, typically a single fire hydrant cannot provide these flows and multiple hydrants are required to operate to provide these flows. Thus, if a fire hydrant was able to provide 80 percent of the recommended fire flow, it was considered to have adequate fire flow capacity (assuming multiple hydrants would be used to satisfy the 3,000 to 3,500 gpm fire flow requirement). The available fire flows for each PDD scenario are described below.

Available Fire Flow during 2019 Peak Daily Demand Scenario

Figure 5-7 highlights existing fire hydrants that are unable to satisfy the required fire flow while maintaining 20 psi system pressure under the 2019 PDD scenario. As shown on Figure 5-7, approximately 7 of the 658 existing fire hydrants throughout the City do not meet the recommended fire flows (with the 80 percent fire flow criteria and excluding dead-end 6-inch lines described above). Most of these fire hydrants are located on dead-end lines, are served by undersized pipes, and/or located in an industrial or commercial zone. It is not feasible for the City to address all fire hydrants not meeting the recommended fire flows. However, some deficient areas of note are located near the intersection of S.W. 5th Avenue and S.W. 6th Street, and the intersection of S.E. 1st Street and S.E. 18th Avenue. Both of these locations are in a commercial zone with an undersized water main.

Available Fire Flow during 2019 Peak Daily Demand with Relocated Eastside Reservoirs and Booster Pump Station Scenario

Figure 5-8 highlights existing fire hydrants that are unable to satisfy the required fire flow while maintaining 20 psi system pressure under the 2019 PDD with relocated Eastside Reservoirs and booster pump station scenario. As shown on Figure 5-8, approximately 7 of the 658 existing fire hydrants throughout the City also do not meet the recommended fire flows, at similar locations to those previously noted under the 2019 PDD scenario (with the 80 percent fire flow criteria and excluding dead-end 6-inch lines described above).

Available Fire Flow during 2040 Peak Daily Demand plus 2.0 MGD Commercial Growth Scenario

Figure 5-9 highlights existing fire hydrants that are unable to satisfy the required fire flow while maintaining 20 psi system pressure under the 2019 PDD scenario. As shown on Figure 5-9, approximately 10 of the 658 existing fire hydrants throughout the City do not meet the recommended fire flows (with the 80 percent fire flow criteria and excluding dead-end 6-inch lines described above). Most of these fire hydrants are located on dead-end lines, are served by undersized pipes, and/or located in an industrial or commercial zone.

Deficient areas of note are located near the intersection of N.E. 2nd Avenue and N.E. 4th Street, and the intersection of S.E. 1st Street and S.E. 18th Avenue. Both of these locations are in a commercial zone with an undersized water main.

Available Fire Flow during 2040 Peak Daily Demand plus 4.0 Million Gallons per Day Commercial Growth Scenario

Figure 5-10 highlights existing fire hydrants that are unable to satisfy the required fire flow while maintaining 20 psi system pressure under the 2019 PDD scenario. As shown on Figure 5-10, approximately 17 of the 658 existing fire hydrants throughout the City do not meet the recommended fire flows. Most of these fire hydrants are located on dead-end lines, served by undersized pipes, and/or located in an industrial or commercial zone.

Deficient areas of note are located near the intersection of N.E. 2nd Avenue and N.E. 4th Street, and the intersection of S.E. 1st Street and S.E. 18th Avenue. Both of these locations are in a commercial zone with undersized water main. A few other isolated deficient areas are shown on Figure 5-10. However, the majority of the system performs well under this demand condition.

Proposed System Improvement Model Results

The following provides a summary of model results observed for various components of the proposed system improvements presented in Chapters 3, 4, and 5. It is important that proposed water supply, storage, and distribution system improvements are modeled together. This helps to verify future system operation and avoids potential over-sizing of some system components without accounting for improvements in other areas of the system. The discussion below is intended to focus on system performance measures associated with specific water supply, storage, or distribution system improvements.

Water Supply Option B - Addition of Malheur Drive Booster Pump Station

With Water Supply Option B identified in Chapter 3 and Option 1B discussed in Chapter 4, it was proposed to add a booster pump station at the intersection of Malheur Drive and N.W. 36th Street (Malheur Drive booster pump station) to provide a direct water supply source for the Bench Reservoir so it could be fully utilized. It is proposed that 1,000 gpm of flow be provided to fill the Bench Reservoir. The installation of a flow control valve is recommended between the existing 24-inch pipe and the existing 12-inch pipe on N.W. 36th Street to sustain pressure in the western side of the system. If the 12-inch pipe alone was used to feed the Malheur Drive booster pump station, excessive pressure loss would occur on the west side of the distribution system and larger pumps would be needed in the Malheur Drive booster pump station. The flow control valve between the 24- and 12-inch pipes was set to limit the flow to 500 gpm from the 24-inch pipe to the 12-inch pipe feeding the proposed booster pump station.

If the 24- and 12-inch pipes were not connected, the headloss in the 12-inch pipe (if solely supplying the proposed booster pump station) would become excessive, requiring larger booster pumps to be installed and potentially creating pressure decreases on the west side of the distribution system. However, by connecting the 12- and 24-inch pipes, the effective capacity of the 24-inch pipe delivery capacity to the City is reduced by the 500 gpm allowed to flow from the 24-inch pipe back to the booster pump station supply. This effectively creates a circular flow of water from the booster pump station discharge pipe to the Bench Reservoir and then back to the booster pump station supply. This is not an efficient way to operate a booster pump station and is not recommended.

Storage Option 2B - Eastside Reservoir and Booster Pump Station Relocation to the Existing Water Treatment Plant Site

As discussed in Chapter 4, this proposed improvement seeks to decommission the existing Eastside Reservoirs and booster pump station at their current location and construct a replacement storage reservoir and booster pump station near the existing water treatment plant. With this option, improvements to water flow capacity out of the water treatment plant site would be made by connecting the existing 12- and 16-inch transmission lines and 12-inch distribution line to the discharge piping from the booster pump station. This improvement results in a pressure increase of approximately 5 psi throughout the system. The pressure increase is caused by reversing the flow direction in the existing 12-inch distribution line (i.e., changing the 12-inch line from a distribution line to a supply line) to provide additional deliver capacity to the distribution system.

Piping Improvements with Projected 2040 Demands

To address fire flow deficiencies near TVCC, it is recommended that an 8-inch main replace the existing 4-inch piping in the area.

To support development of industrial zoned lands located along S.W. 18th Avenue and S.W. 30th Street, a 16-inch distribution pipe loop is proposed along Sunset Drive, S.W. 18th Avenue, and S.W. 30th Street (State Highway 201). This distribution system loop is anticipated to provide adequate pressure and fire flow in support of the potential addition of 2.0 MGD of water demand in this area. System pressures on the west side of town also increase approximately 5 psi under 2040 PDD as a result of this improved system looping.

To support development of the industrial zoned lands located near S.W. 30th Street and N.W. 4th Avenue, and the heavy industrial area located between Malheur Drive and State Highway 201, a 16-inch distribution pipe connection is proposed from Malheur Drive to N.W. 4th Avenue. This piping extension would provide adequate pressure and fire flow in support of the potential addition of 2.0 MGD demand (total of 4.0 MGD of commercial demand) in these industrial areas.

These distribution system improvements are shown on the Existing System Map. All of these piping improvements are reflected in the year 2040 PDD with 4.0 MGD commercial demand modeling scenario.

Limitations of Distribution Water Model Results

Reported fire flows from the water model analysis indicate theoretical distribution system piping capacity. Actual field conditions and headloss in fire hydrants may reduce fire flows beyond what is indicated.

It is recommended that fire flow tests be conducted in the field to confirm flow capacity prior to making system improvements in areas modeled with potential deficient fire flow capacities.

Replacement of Aging Water Lines

The City of Ontario's distribution system has been well maintained. Very few pipe sections have exceeded their useful life and need replacement. Some of the older piping in the system consists of AC and steel. Currently, 20- and 16-inch AC pipes convey water to the Eastside and Westside Reservoirs from the water treatment plant and have had a long service life. These AC lines are in good working order and do not require immediate replacement. Steel pipes in the system should be identified and monitored for corrosion and leaks by the City as this can lead to water quality issues.

Undersized Main Lines

Undersized main lines with diameters of 6 inches or less in a distribution system can cause problems with system capacity, pressures, and water quality. Undersized mains can become a particular problem in industrial and commercial areas where higher fire flows are required. A minimum water line size of 8-inch diameter is recommended for new water main installations in residential areas. Large residential, commercial, or industrial developments may require larger pipe sizes depending on the specific development needs.

For the purposes of this WSMP, undersized main lines have been identified as those that do not allow the recommended fire flow capacity at existing fire hydrants and the minimum pressure criteria as shown on Figure 2-1 in Chapter 2.

Dead-End Main Lines

Similar to undersized main lines, dead-end main lines in a distribution system can cause problems with fire flow capacity, pressures, and water quality. The City's distribution system is fairly well looped; however, a few dead-end main lines exist. It is difficult to eliminate all dead-end main lines from a system. Physical limitations, such as stream crossings, undeveloped land, or other limitations, such as no customers in the area, can result in dead-end lines. It is recommended that these lines are eventually looped as expansion occurs or physical constraints allow.

Recommended Distribution System Improvements

General

In general, the City's distribution system is well looped and has few dead-end lines. Recommended distribution system improvements have been separated into four categories: high priority improvements, medium priority improvements, and long-term/future development Improvements. The following provides a general description of the improvements included in each category shown on the Recommended System Improvements Map.

High Priority Improvements: Improve system looping near Treasure Valley Community College for improved water circulation and fire flow capacity. Approximately 1,500 feet of 8-inch diameter water line is recommended to be installed. The Ontario Public Works department began work on this improvement in fiscal year 2020-21. With this improvement underway, no cost estimate has been provided for these improvements.

Medium Priority Improvements: Provide distribution system piping to connect two dead-end lines in the southwest corner of the City and tie the 24-inch diameter transmission line in Malheur Drive to the 12-inch piping in S.W. 4th Avenue. These improvements are anticipated to improve system looping, increase available flow capacity from the Bench Reservoir, and allow industrial and commercial growth in this area. Approximately 10,000 feet of 16-inch diameter piping is anticipated to be extended from the Westside booster pump station along S.E. 18th Avenue and Highway 201 to the existing piping near Airport Way. Approximately 5,300 feet of 16-inch diameter piping is anticipated to be extended from Malheur Drive to S.W. 4th Avenue. The estimated project cost (in 2020 dollars including a 35 percent allowance for administration, engineering, and contingency) for the southwest piping improvement is $1,300,000. The estimated project cost for the northwest piping improvement is $600,000.

Long-Term/Future Development Improvements: Increase available flow capacity from the Bench Reservoir. Provide minimum 12-inch distribution system piping to improve system looping and fire flow in the east side of the City near S.W. 5th and Lincoln Avenues as development occurs. The need for long-term piping improvements will be dependent on future growth patterns, and piping improvements may be associated with site development. Therefore, no cost estimates have been developed for these improvements.

Refer to the Recommended System Improvements Map for a graphical depiction of the location of these recommended improvements.

Modifications to Existing Booster Pump Stations

It is recommended that as part of the City's ongoing Capital Improvements Plan (CIP) operational improvements be made at the existing booster pump stations. These operational improvements are as follows:

- Installation of new discharge flowmeter at the Eastside booster pump station. If Option 2B in Chapter 4 is chosen, and the Eastside booster pump station is replaced with a new pump station at the existing water treatment plant, it is assumed that the new booster pump station would incorporate a flowmeter in the design.

- At the Westside booster pump station the following improvements are recommended:
  - Upgrade an existing booster pump starter to a variable frequency drive, upgrading the programmable logic controllers, and upgrading pump controls so pumps can be cycled.
  - Improve cooling ability in the pump station with upgraded louvers, fans, and air conditioning unit on the system control panel.

These improvements are included in the CIP shown on Figure 6-1 in Chapter 6.

Backup Power

Booster pump stations should be able to maintain service to the distribution system in the event of a power outage. This is especially important for the City of Ontario where system pressure is primarily provided through the Eastside and Westside booster pump stations. Currently, the City has diesel-driven standby pumps from the 1980s at each pump station. In the event of a power outage, each pump station would rely on the diesel-driven pumps to provide distribution system pressure. However, the diesel-driven pumps must be manually operated during a power outage. Providing a standby generator and automatic transfer switch at each pump station would allow automated system controls to continue operating and allow operation of any electric motor driven pump. These improvements are included in the CIP shown on Figure 6-1 in Chapter 6.

Maintenance Records

One of the important operational functions regarding the City's distribution system is to keep accurate records of various system components. The City currently has an asset management system (Computer Maintenance Management System) in place to assist with recordkeeping and maintenance task scheduling. These records become valuable as time passes in terms of planning future improvements and replacing old or deteriorated components. It is recommended the City continue to keep and improve upon record keeping. For example, accurate records should be kept on all water meters installed so, in the future, these meters can be periodically pulled, checked for accuracy, and replaced as needed. The City should also keep records of all hydrants, valves, and other distribution system components. The distribution system evaluation in this WSMP did not include determining existing fire hydrant, valve, and water meter condition. Hydrants should be checked, at least annually, for proper operation, and all water valves should be exercised, at least annually, with records kept on the operating condition, location, etc.

Summary

In general, the City's distribution system is in good condition and areas within the system have been identified for expansion and improvement as industrial and commercial growth occurs. Few areas were identified to have undersized and dead-end water lines. The City's existing system also relies heavily on 24-hour operating booster pump stations to provide system pressures and supply customers with water. Improvements presented in this WSMP would help the City reduce the reliance on the booster pump stations and provide a more reliable and energy efficient system.

CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
EXISTING BOOSTER PUMP OPERATIONAL STATUS SUMMARY

Location	Service	Pump Number	Flow (psi)	TDH	Pump Age (Years)	Date of Latest Pump Upgrade	Motor Hp	Speed	Date of Control Upgrade	Setpoint	Lead-Lag	MFG	Operator Comments
Water Treatment Plant	Finished Flow to Eastside Reservoir	1	3,700 Observed	103	2	12/13/2017	150	VS				Layne	Backwash source for WestTech Plant, flow from plant SCADA
Water Treatment Plant	Finished Flow to Eastside Reservoir	2	3,700 Observed	103	2	3/15/2018	150	CS				Layne	Not used much
Water Treatment Plant	Finished Flow to Eastside Reservoir	3	4,200	60	12	1/8/2008	100	CS				Layne	
Water Treatment Plant	Finished Flow to Eastside Reservoir	4	3,735 Observed	150	6	3/24/2014	240	VS				Goulds	Backwash source for old plant, flow from plant SCADA
Eastside Booster	Eastside Zone	1	1,900 - 2,400		40	1980	125	VS		30 to 38 feet	Yes	Fairbanks	Maintains system pressure and level in Bench Reservoir
Eastside Booster	Eastside Zone	2	1,900 - 2,400		8	6/27/2012	125	CS			Yes	Fairbanks	Observed at 86 psi at booster station but typically off
Eastside Booster	Eastside Zone	3	3,000	190	8	6/12/2012	200	VS		80 to 85 psi	Yes	FloWay	Lead-lag rotates between Pumps No. 1 and 3
Eastside Booster	Eastside Zone	4			40	1980	164					Pacific	Engine-driven standby pump
Westside Booster	Westside Zone	1	3,000	190	1	5/21/2019	200	VS		78 to 86 psi	Yes	Aurora	Maintains system pressure; booster pump station also has a local flowmeter (SeaMetrics)
Westside Booster	Westside Zone	2	3,000	190	<1	10/5/2020	200	VS		32 to 25 feet	Yes	Aurora	Lead-lag rotates between Pumps No. 1 and 2. Bench Reservoir level is secondary control.
Westside Booster	Westside Zone	3	3,000	190	9	6/13/2011	200	CS			Yes	Aurora	Typically off
Westside Booster	Westside Zone	4	4,500	190	40	1980	Diesel Drive	VS				Aurora	Typically off, engine-driven standby pump
Canyon Booster	SRCI	1	600	195	1	2/26/2019	40	CS		25 to 29 feet	Yes	Peerless	Maintain SRCI Tank Level, Lead Pump
Canyon Booster	SRCI	2	600	195	21	9/17/1999	40	CS		25 to 29 feet	Yes	Peerless	Lead-lag rotates between all three pumps
Canyon Booster	SRCI	3	600	195	1	5/3/2019	40	CS		25 to 29 feet	Yes	Peerless	Lead-lag rotates between all three pumps

Notes:
Pump age and date of latest pump upgrade were derived from available Operation and Maintenance Manuals and/or contractor submittals.
TDH = total dynamic head
Hp = horsepower
psi = pounds per square inch
MFG = manufacturer
SCADA = supervisory control and data acquisition
SRCI = Snake River Correctional Institution

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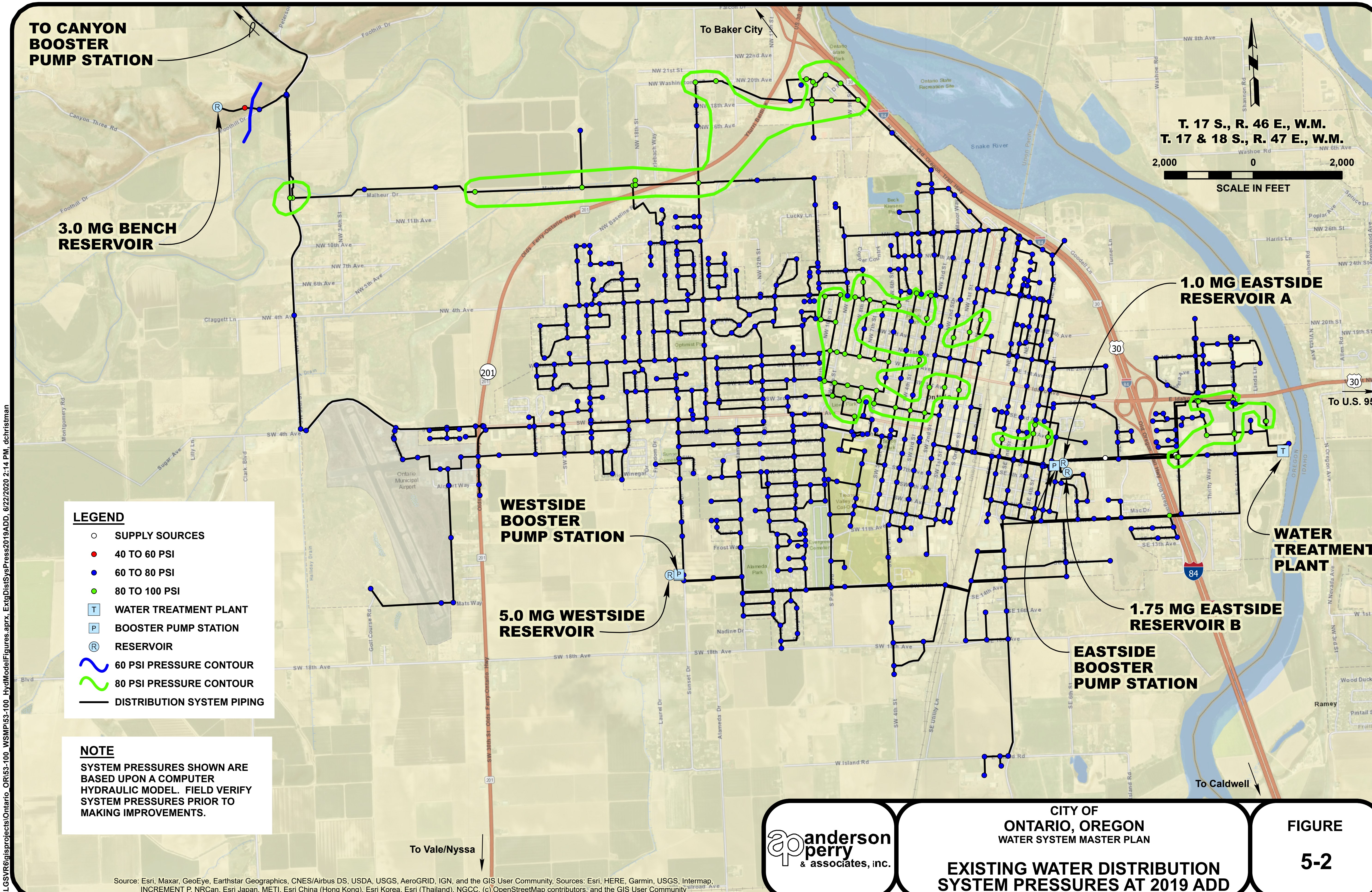
CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
EXISTING BOOSTER PUMP
OPERATIONAL STATUS SUMMARY

FIGURE
5-1



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CITY OF
ONTARIO, OREGON
WATER SYSTEM MASTER PLAN

EXISTING WATER DISTRIBUTION SYSTEM PRESSURES AT 2019 ADD

FIGURE 5-2

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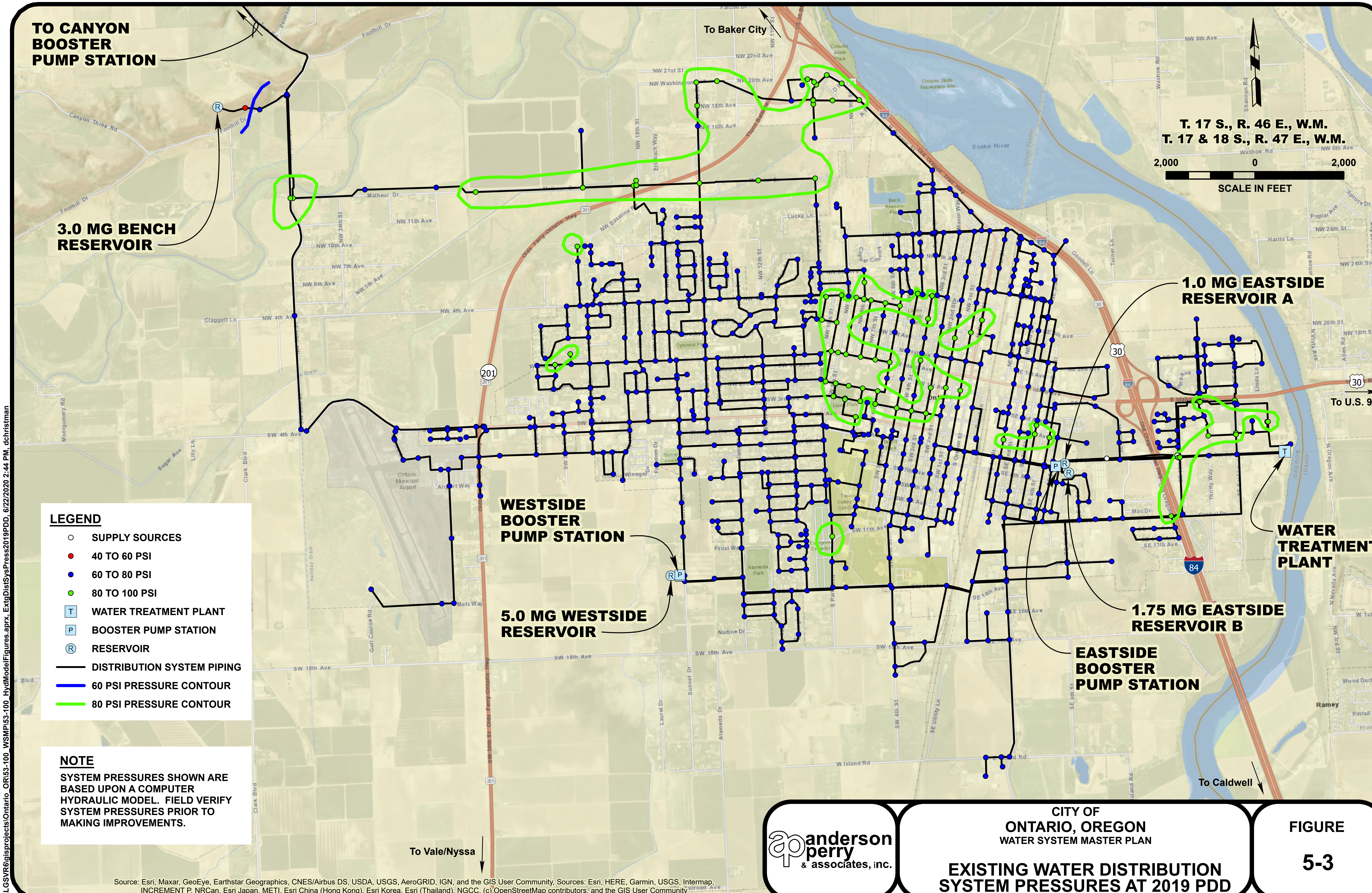

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CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN

EXISTING WATER DISTRIBUTION SYSTEM PRESSURES AT 2019 PDD

FIGURE 5-3

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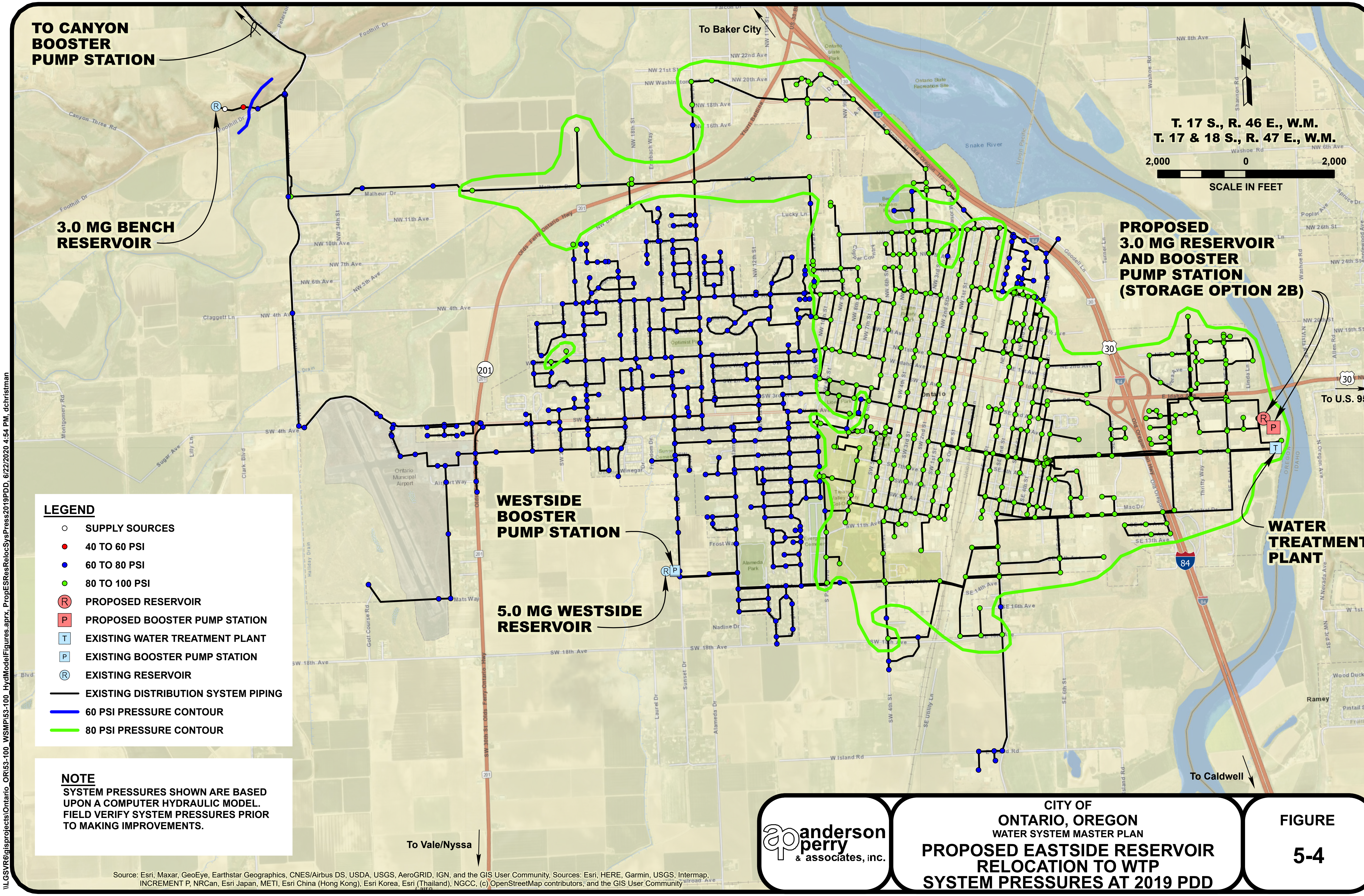

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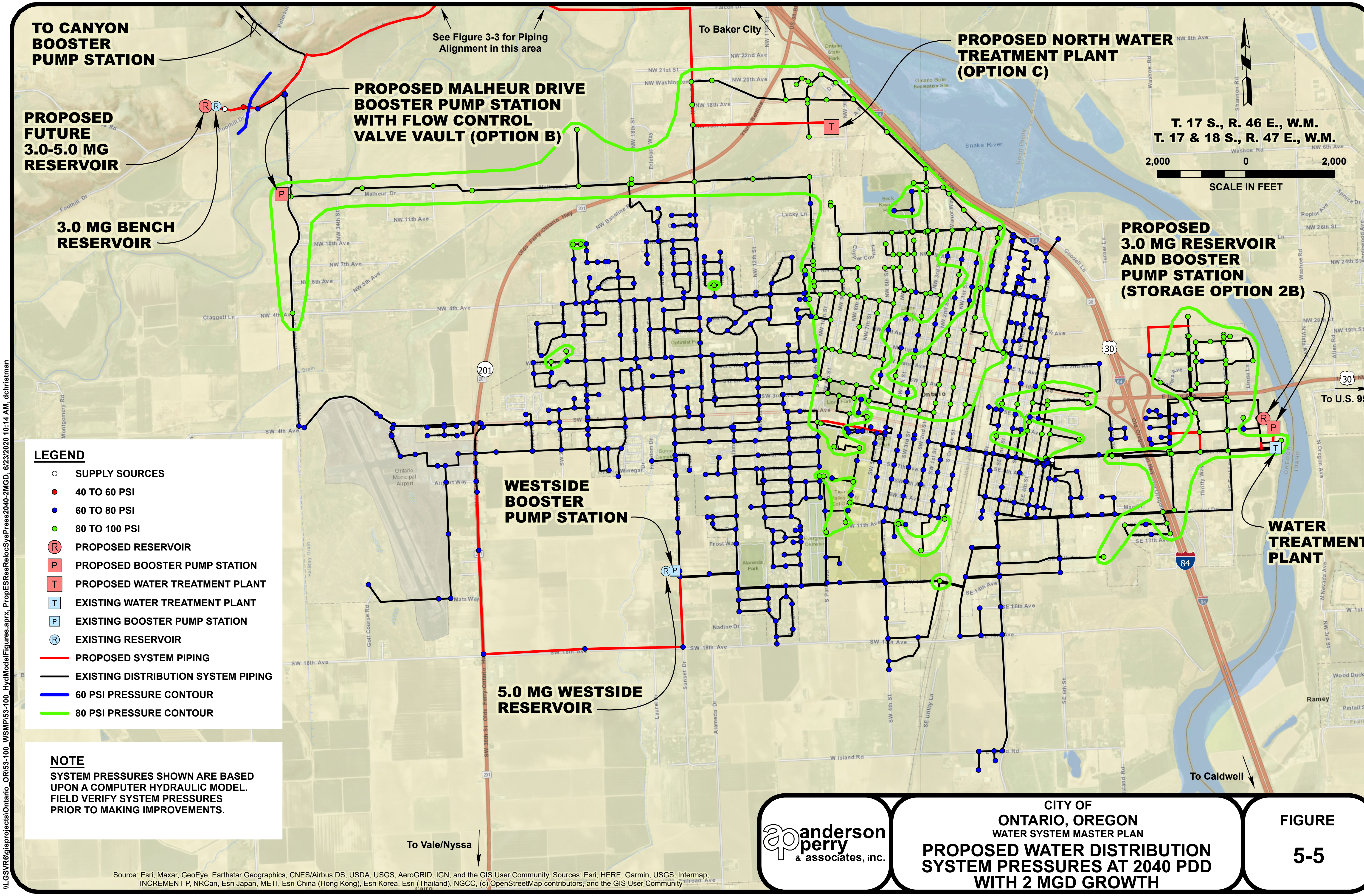

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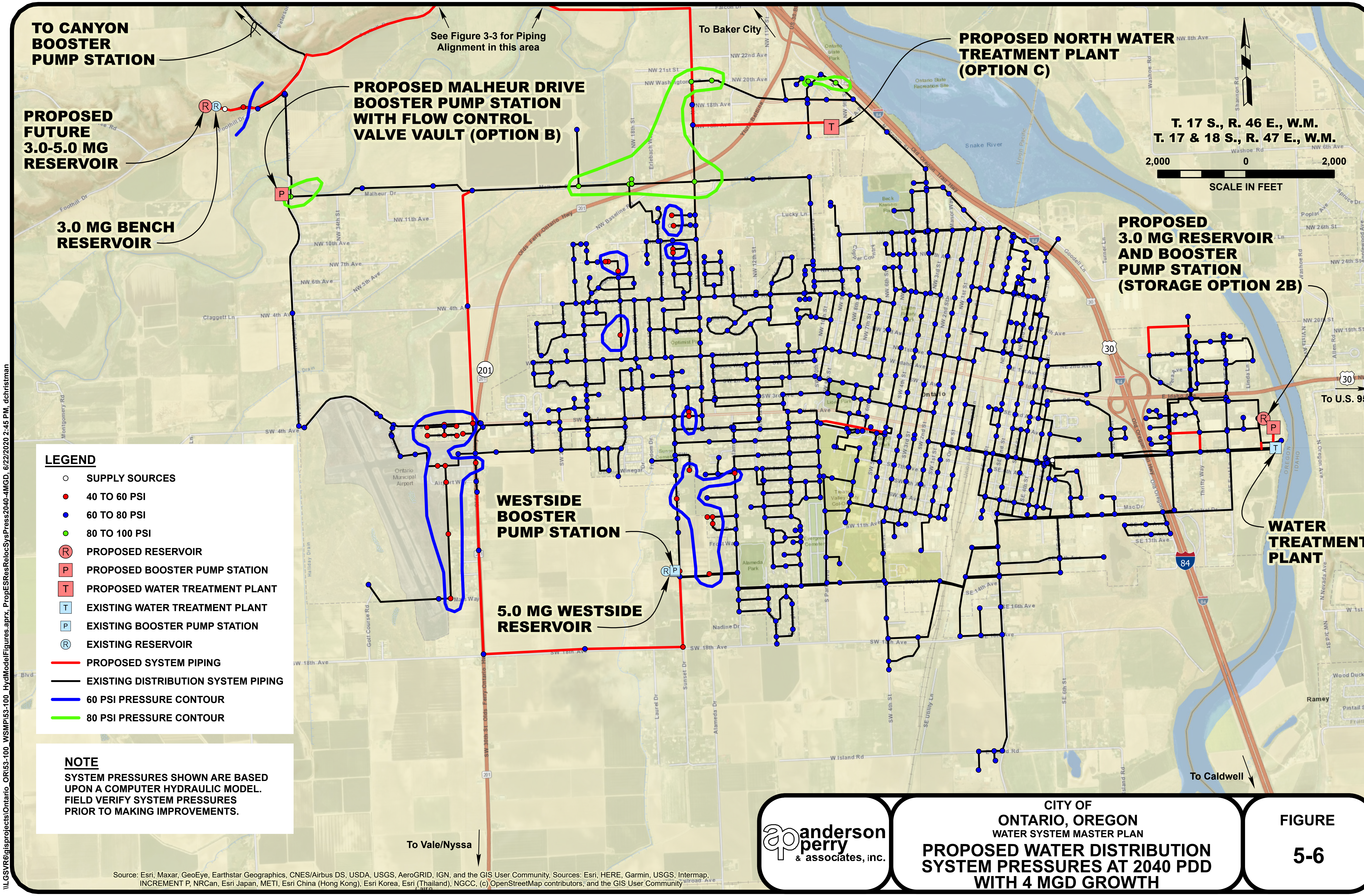

LEGEND

- SUPPLY SOURCES
- 40 TO 60 PSI
- 60 TO 80 PSI
- 80 TO 100 PSI
- PROPOSED RESERVOIR
- PROPOSED BOOSTER PUMP STATION
- PROPOSED WATER TREATMENT PLANT
- EXISTING WATER TREATMENT PLANT
- EXISTING BOOSTER PUMP STATION
- EXISTING RESERVOIR
- PROPOSED SYSTEM PIPING
- EXISTING DISTRIBUTION SYSTEM PIPING
- 60 PSI PRESSURE CONTOUR
- 80 PSI PRESSURE CONTOUR

NOTE

SYSTEM PRESSURES SHOWN ARE BASED UPON A COMPUTER HYDRAULIC MODEL. FIELD VERIFY SYSTEM PRESSURES PRIOR TO MAKING IMPROVEMENTS.

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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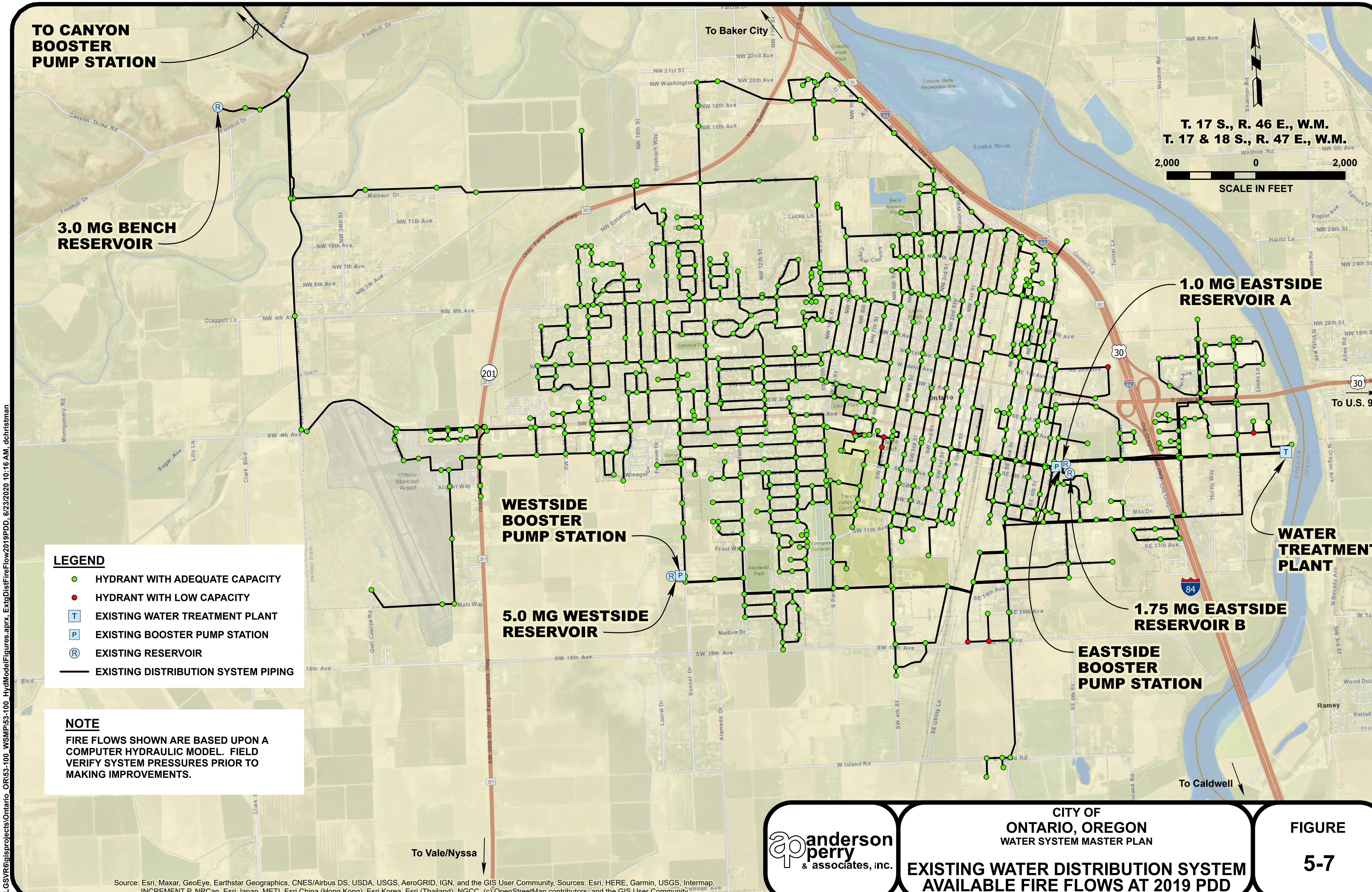
CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN

PROPOSED WATER DISTRIBUTION SYSTEM PRESSURES AT 2040 PDD WITH 4 MGD GROWTH

FIGURE 5-6



LEGEND

- HYDRANT WITH ADEQUATE CAPACITY
- HYDRANT WITH LOW CAPACITY
- T EXISTING WATER TREATMENT PLANT
- P EXISTING BOOSTER PUMP STATION
- R EXISTING RESERVOIR
- EXISTING DISTRIBUTION SYSTEM PIPING

NOTE

FIRE FLOWS SHOWN ARE BASED UPON A COMPUTER HYDRAULIC MODEL. FIELD VERIFY SYSTEM PRESSURES PRIOR TO MAKING IMPROVEMENTS.

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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EXISTING WATER DISTRIBUTION SYSTEM
AVAILABLE FIRE FLOWS AT 2019 PDD

FIGURE
5-7

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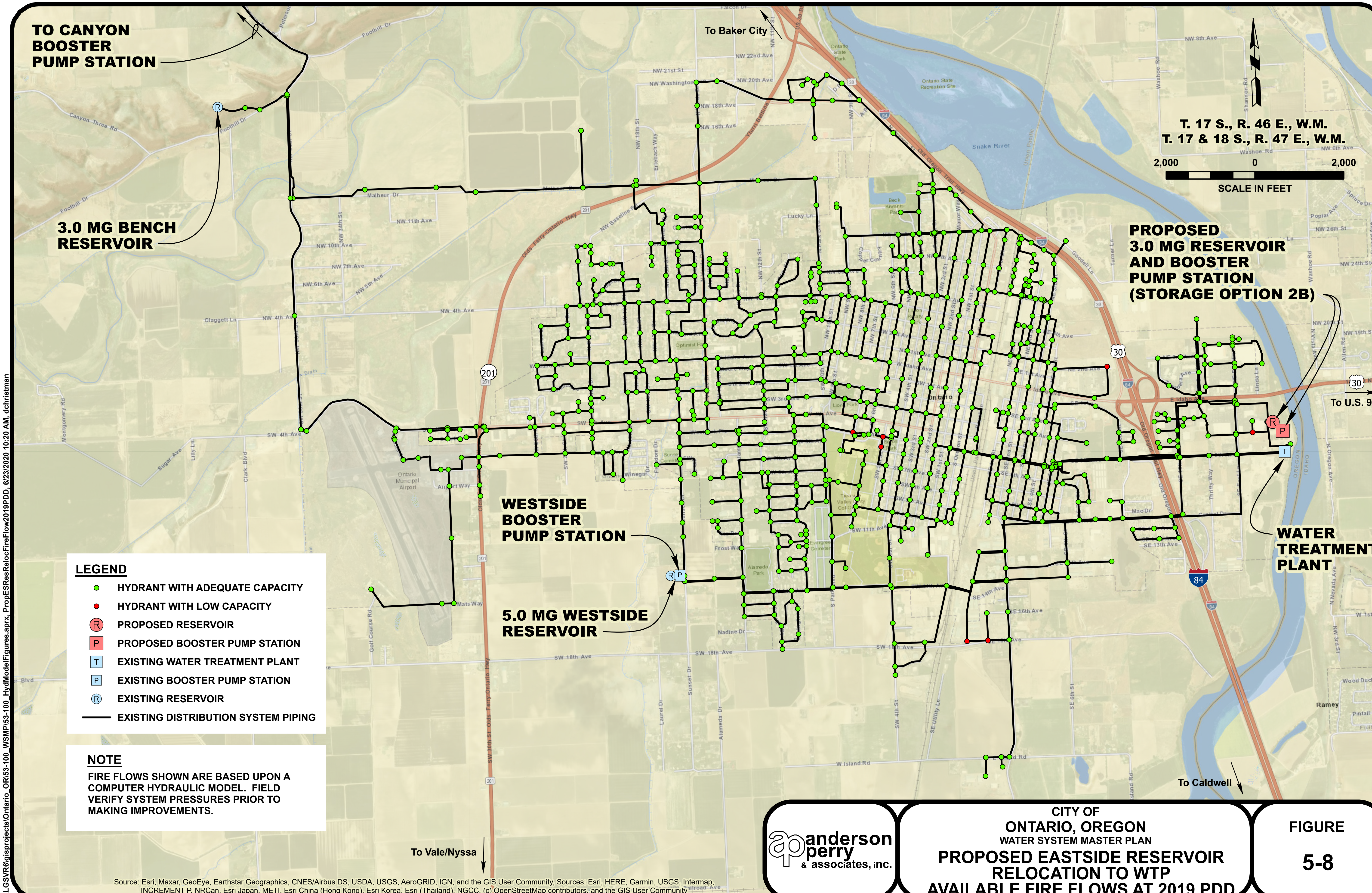

LEGEND

- HYDRANT WITH ADEQUATE CAPACITY
- HYDRANT WITH LOW CAPACITY
- R PROPOSED RESERVOIR
- P PROPOSED BOOSTER PUMP STATION
- T EXISTING WATER TREATMENT PLANT
- P EXISTING BOOSTER PUMP STATION
- R EXISTING RESERVOIR
- EXISTING DISTRIBUTION SYSTEM PIPING

NOTE

FIRE FLOWS SHOWN ARE BASED UPON A COMPUTER HYDRAULIC MODEL. FIELD VERIFY SYSTEM PRESSURES PRIOR TO MAKING IMPROVEMENTS.

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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PROPOSED EASTSIDE RESERVOIR RELOCATION TO WTP
AVAILABLE FIRE FLOWS AT 2019 PDD

FIGURE
5-8

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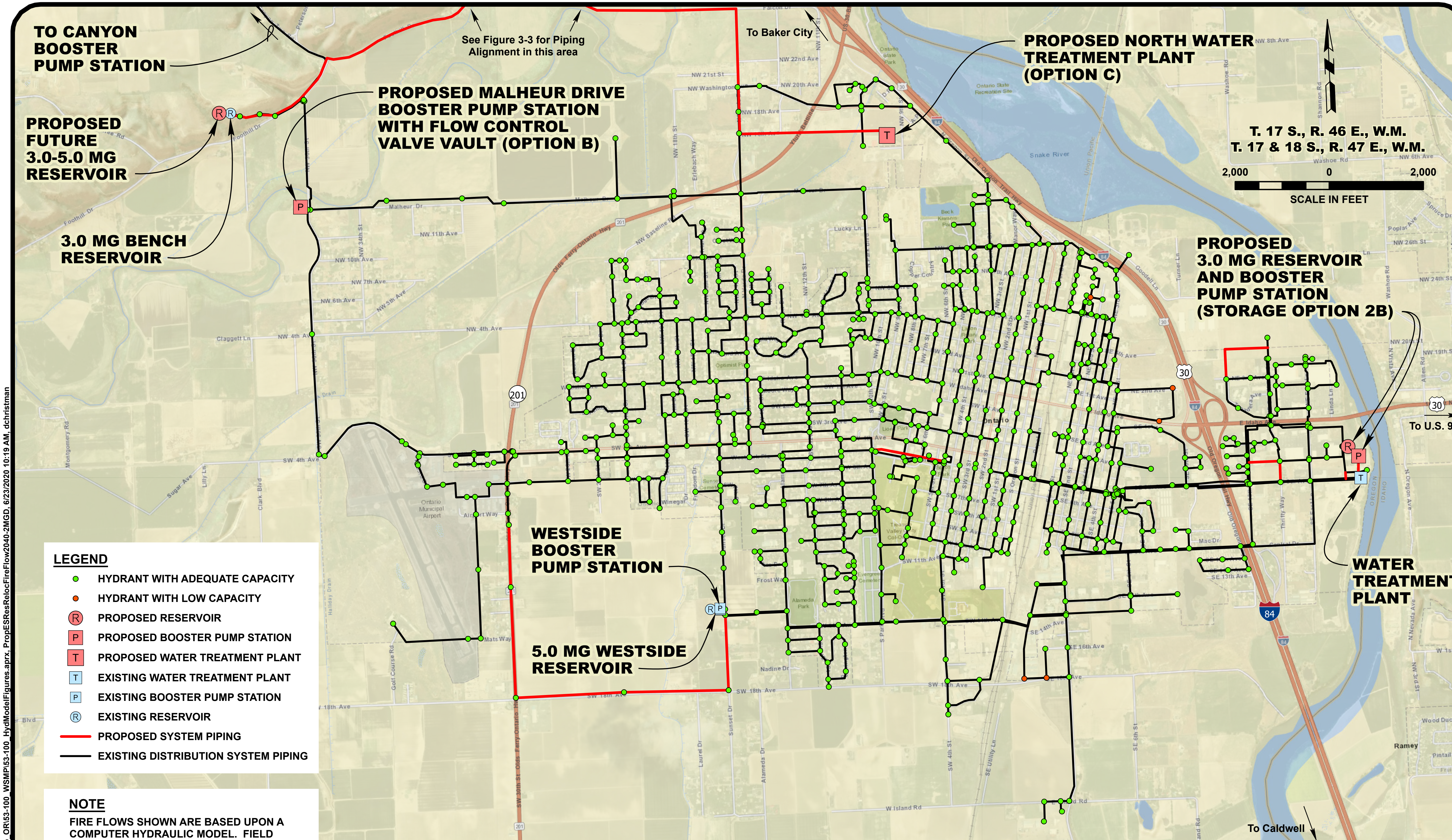

LEGEND

- HYDRANT WITH ADEQUATE CAPACITY
- HYDRANT WITH LOW CAPACITY
- PROPOSED RESERVOIR
- PROPOSED BOOSTER PUMP STATION
- PROPOSED WATER TREATMENT PLANT
- EXISTING WATER TREATMENT PLANT
- EXISTING BOOSTER PUMP STATION
- EXISTING RESERVOIR
- PROPOSED SYSTEM PIPING
- EXISTING DISTRIBUTION SYSTEM PIPING

NOTE

FIRE FLOWS SHOWN ARE BASED UPON A COMPUTER HYDRAULIC MODEL. FIELD VERIFY SYSTEM PRESSURES PRIOR TO MAKING IMPROVEMENTS.

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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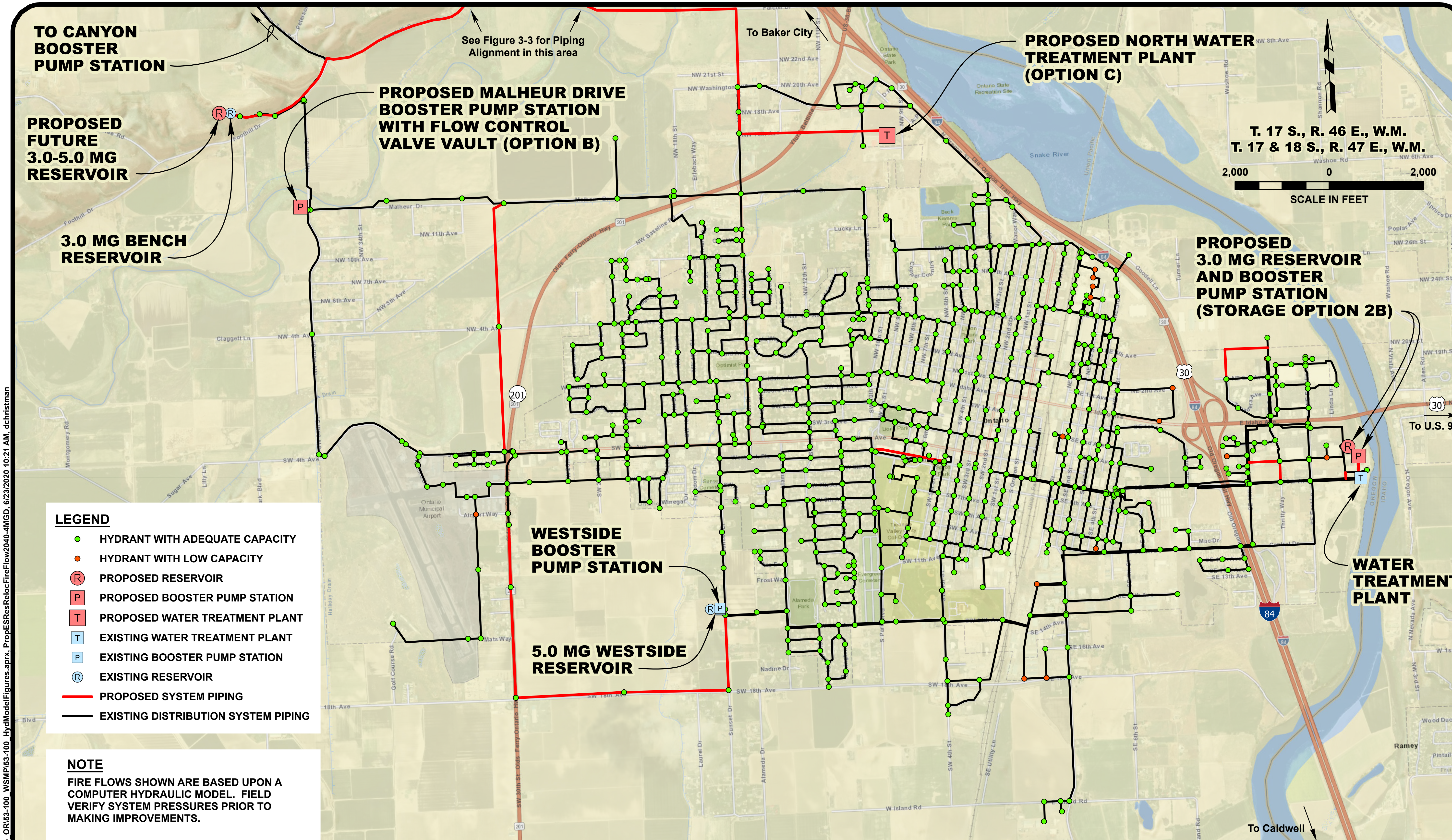
PROPOSED WATER DISTRIBUTION SYSTEM AVAILABLE FIRE FLOWS AT 2040 PDD WITH 2 MGD GROWTH

FIGURE

5-9



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CITY OF
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WATER SYSTEM MASTER PLAN
PROPOSED WATER DISTRIBUTION SYSTEM
AVAILABLE FIRE FLOWS AT 2040 PDD
WITH 4 MGD GROWTH

FIGURE
5-10

Chapter 6 - Recommended System Improvements and Improvements Prioritization

Introduction

This chapter summarizes the proposed improvements to the water system identified in this Water System Master Plan (WSMP) to address deficiencies and support anticipated growth and increased demands.

Summary of Improvements

Presented hereafter is a summary of the recommended improvements that have been identified based on the evaluation and computer water modeling efforts completed as part of this WSMP. For a more comprehensive discussion with respect to the different elements (supply, storage, and distribution) of the water system and detailed evaluation, the reader is encouraged to reference other chapters in this WSMP.

Water Supply and Treatment

To address concerns with the City of Ontario's current water supply sources, treatment capacity, and provide additional capacity to meet projected future water demands, it is recommended the City implement the following measures to develop additional treatment and source water capacity. These recommendations, with notes related to the implementation, are listed in order of priority.

4. 2.0 Million Gallons per Day (MGD) Expansion at Existing Water Treatment Plant

- An extension of time to beneficially use the City's surface water right has been filed. Once the extension is granted, a Claim of Beneficial Use (COBU) to "prove up" on the City's surface water withdrawal or a water right permit amendment to add surface water right points of diversion is recommended to be submitted to the Oregon Water Resources Department (OWRD).
- Water right transfer T-8078 (which provided multiple diversion points for most of the City's groundwater rights) requires a COBU be filed by October 1, 2025 (one year after the water must be beneficially used.) It is recommended that the City submit either a COBU to certify the water right for the current pumping capacity of all the City's wells or a permit amendment to add groundwater right points of diversion.
- Once the extension of time on the City's surface water right has been granted and both surface water and groundwater right COBUs filed, a transfer application, including the certificated portion of the surface water right and groundwater Permit G-4485, can be submitted to allow multiple shallow alluvial well and surface water diversion points. Additionally, water right permit amendments may need to be filed on the "non-

certified" portions of the water right permits to add additional points of appropriation to the permitted water rights.

- Coordination with OWRD staff on the City's intended path to water right transfers and permit amendments is recommended prior to submitting COBUs or permit amendments.

5. Secure City Water Right Permits

- "Prove up" to obtain certificated water rights for the portion of the City's surface water rights currently being used (up to 90 percent of the water right permit allowance).
- "Prove up" to obtain certificated water rights for the transferred groundwater rights currently being used (original groundwater right certificates were canceled on approval of transfer T-8078).
- Pursue the application of water right permit G-4485 to City water sources.

6. 8.0 MGD Treatment Expansion

- Expand water treatment capacity at either the existing treatment plant site or the proposed north site to meet projected residential, commercial, and industrial growth.
- Increase the City's surface water source capacity to accommodate treatment expansion by increasing the Snake River raw water withdrawal capacity.
- Consider system reliability, redundancy, and operations with the selection of a new treatment plant site.

Water Storage

The City's water storage system consists of four storage reservoirs, all of which are actively used, with a total available storage volume of 10.76 million gallons (MG). The storage needed for the projected year 2040 planning period is anticipated to exceed the City's existing storage capacity by approximately 4,080,000 gallons. Additional storage capacity development as well as maintenance and rehabilitation improvements are recommended for the water storage systems.

Based on discussions with City staff relative to existing development proposals, development patterns, and system operations, it was determined that improving function of the existing Bench Reservoir and addressing the worsening condition of the Eastside Reservoirs were priority storage improvements for the City to consider implementing in the next five years or less. The highest priority need will be to utilize the full Bench Reservoir storage capacity. The next priority would be to replace the deteriorating Eastside Reservoirs. When replaced, they could be reconstructed at the existing Eastside Reservoir site or relocated to the existing treatment plant site. Relocating the Eastside storage reservoir capacity to the existing water treatment plant has the benefits of consolidating resources to a primary base of operations, increased construction efficiency with regard to clearwell improvements, and increasing the amount of water that can be delivered from the existing water treatment plant site to the distribution system.

To meet the City's long-term storage needs, it is recommended the City consider constructing a new ground-level reservoir adjacent to the existing Bench Reservoir. The size of this reservoir is anticipated to be between 3.0 and 5.0 MG, depending on what future growth and demands dictate.

During the 20-year planning period covered by this WSMP, the City will need to continue to maintain existing water supply sources and treatment facilities. The maintenance projects are included in the City's Capital Improvements Plan (CIP) and are summarized in Chapter 3. In general, these maintenance projects include installing flow measurement equipment to help track water usage throughout the system, replacing old equipment/infrastructure that has exceeded its useful life, maintaining pumps and clearwells, and other small repairs or additions. The City is encouraged to continue evaluating and maintaining the existing water supply and treatment infrastructure throughout the planning period.

Water Distribution

In general, the City's distribution system is well looped and has few dead-end lines. Recommended distribution system improvements have been separated into three categories: high priority improvements, medium priority improvements, and long-term/future development improvements. The following provides a general description of the improvements included in each category.

High Priority Improvements

Improve system looping near the Treasure Valley Community College for improved water circulation and fire flow capacity.

Medium Priority Improvements

Provide distribution system piping to connect two dead-end lines in southwest corner of the City, improving system looping and allowing industrial and commercial growth in this area.

Long-Term/Future Development Improvements

Provide distribution system piping to improve system looping in the northwest corner of the City and increase available flow paths from the Bench Reservoir. Provide a minimum of 12-inch distribution system piping to improve system looping and fire flow in the east side of the City near S.E. East Lane and S.E. 5th Avenue as development occurs.

Modifications to Existing Booster Pump Stations

As part of the City's ongoing CIP, operation improvements are recommended to be made at the existing booster pump stations. These improvements are outlined as follows.

- Installation of new discharge flowmeter at the Eastside booster pump station. If Option 2B in Chapter 4 is chosen, the Eastside booster pump station would be replaced with a new pump station at the existing water treatment plant. It is assumed that the new booster pump station would incorporate a flowmeter in the design.
- At the Westside booster pump station, the following improvements are recommended:

- Upgrade an existing booster pump starter to a variable frequency drive, upgrading the programable logic controllers, and upgrading pump controls so pumps can be cycled.

- Upgrade the cooling ability in the pump station with upgraded louvers, fans, and air conditioning unit on the system control panel.

Backup Power

In the event of a power outage, the City would utilize two engine-driven diesel pumps located at the Eastside and Westside booster pump stations to maintain pressure in the distribution system. These pumps were installed in the 1980s and, thus, have exceeded their service life, compromising the reliability of the system's standby capability. It is recommended the City install a standby generator at the Westside booster pump station to replace the existing engine-driven pump. The generator would be appropriately sized to power the booster pump station amenities (lights, heating, etc.), system controls, and all necessary booster pumps. If Option 2A in Chapter 4 is chosen by the City, similar standby power improvements would be made at the Eastside booster pump station. However, if Option 2B is chosen, it is assumed that a standby generator would be included in the new booster pump station design.

Capital Improvements Plan

Introduction

A CIP provides a framework to prioritize and implement the City's facility and infrastructure asset improvement process over a specified time period. A CIP is a financing and construction plan for projects that require significant capital investment and are essential to safeguarding the financial health of the City, while providing continued delivery of utility and other services to citizens and businesses.

As part of this WSMP, the City developed a CIP based on identified deficiencies and improvements required to address the water system needs of the City for the next 20 years. The CIP will need to be reviewed and updated periodically (at least every five years) to accommodate changing community needs, additional improvements that may be identified through time, and changes in financial resources. The CIP will list the City's capital improvements projects, place the projects in a priority order (subject to periodic review), and schedule the projects for funding and construction.

The CIP is a tool to be used in the development of responsible and progressive financial planning. The CIP forms the basis for making annual capital budget decisions and support the City's continued commitment to sound, long-term financial planning and direction.

The CIP identifies and prioritizes short-, medium-, and long-term capital projects of all types based on the water system master planning process. Capital water system improvements projects will be coordinated with the annual budget process to maintain full utilization of available resources. For each capital improvements project, the CIP provides a variety of information including a project description and the service need to be addressed, a proposed timetable, and proposed funding levels. Capital water system improvements projects will be prioritized with the most urgent projects, first. Ongoing operation costs are not included in the CIP estimated project costs.

Identified Improvements Estimated Costs and Implementation Time Frames

The year 2020 estimated costs for the recommended water system improvements are summarized on Table 6-1. Detailed cost estimates for each component of the system (water supply, storage, and distribution) are included in figures referenced Chapters 3, 4, and 5. It is recommended the estimated costs be increased by an annual inflation rate to account for potential increases in project costs to the year the improvements are actually completed. Recently, construction costs have been inflating at a rate of up to 5 percent per year.

TABLE 6-1
RECOMMENDED WATER SYSTEM IMPROVEMENT PROJECTS

Implementation Priority	Chapter	Improvement Type	Recommended Improvement	Estimated Cost within Implementation Time Frame		
				2020 to 2025**	**2025 to 2030**	**2030 to 2040**
1	3, 4, 5	Capital Improvements/ Maintenance	High priority: existing booster pump station, treatment plant, and storage improvement/ maintenance projects	$2,300,000		
2	3	Treatment	2.0 MGD expansion at the existing water treatment plant	$1,615,000		
3	3	Supply, Treatment	Decommission old clearwell and add new 600,000-gallon clearwell/finished water pump station	$2,150,000 to $3,200,000		
4	5	Distribution	High/medium priority distribution system improvements in commercial and industrial growth areas	$2,046,000		
5	4	Storage, Distribution	Replace Eastside Reservoirs and booster pump station		$5,600,000 to $7,500,000	
6	3	Supply, Treatment	8.0 MGD treatment expansion*		$11,200,000 to $16,200,000	
6	4	Storage	Utilization of the full Bench Reservoir storage volume (assumed to occur with treatment expansion)			
7	3, 4, 5	Capital Improvements/ Maintenance	Medium priority: existing booster pump station, treatment plant, and storage		$682,000	

			improvement/ maintenance projects			
8	4	Storage	Additional storage capacity for long-term growth			$7,500,000
			TOTALS	$8,111,000 to $9,161,000	$17,500,000 to $24,400,000	$7,500,000
TOTAL RECOMMENDED IMPROVEMENT COST YEARS 2020 THROUGH 2040						**$33,150,000 to $41,000,000**

**Assumed to include certification of existing City water rights.*

***Includes 3 percent annual inflation to anticipated year of implementation.*

A proposed implementation schedule for the recommended water system improvements is summarized on Figure 6-1. This implementation schedule is intended to provide the City potential time frames for improvements so the City can incorporate these improvements into the City's CIP in a time frame that will meet both system needs and the City's budgetary constraints.

Action Items

The following action items and implementation steps will need to be made by the City of Ontario to implement the desired water system improvements projects. The steps outlined are general in nature and include the major steps that need to be undertaken. It should be noted that these implementation steps, as presented hereafter, may be different if the City elects to delay projects and pursue improvements in the future.

Implementation Steps

- The City will need to submit and obtain approval of this WSMP from the Oregon Health Authority - Drinking Water Services.
- The City will need to finalize and adopt this WSMP and the recommended improvements once agencies review and approve the draft WSMP.
- The City will need to hold public information meetings to inform citizens of the need for and scope of the improvements projects, answer questions, and explain the need for increases in user fees.
- The City will need to develop a funding plan for the desired improvements at the time frames indicated in the CIP.
- The City will need to develop the required permitting (e.g., new surface water withdrawal, boring under highways, river crossings, etc.)
- The City will need to begin discussions with property owners to identify available lands for potential land acquisition associated with recommended improvements.
- The City will need to obtain certificated water rights for their existing permits to better secure supply sources.

The City will need to prepare funding applications, as applicable, for the associated water system improvements projects and submit them to the appropriate funding agencies.

CITY OF ONTARIO, OREGON
WATER SYSTEM MASTER PLAN
CAPITAL IMPROVEMENTS PLAN

Item No.	Source	Functional Area	Capital Project/Task (Identified Improvement Area)	Description (Solution)	Notes	Estimated 2020 Project Cost	Anticipated Project Cost In Implementation Period* 2020-2025	2025-2030	2030-2040
1	2019 CIP	Storage	Tank Submersible Mixers	Add to Bench Reservoir with potential future addition to Westside Reservoir once proven effective.	This will help circulate water to reduce stratification in the tank and reduce disinfection byproducts. Estimate for one solar bee. Price for unit is approximately $10,000, and add-ons are another $10,000 as needed.	$20,000	$22,000		
2	2019 CIP	Finished Water Supply	Chlorine Generation System	Updating existing system (totally new).	Dollars are placeholder, depending on type of system desired. Need to research to select best system.	$500,000	$538,000		
3	2019 CIP	Booster Pump Stations	Transfer Switch Replacement	Install automatic transfer switches for booster stations. Coordinate with electrical service update.		$100,000	$108,000		
4	2019 CIP	Booster Pump Stations	Booster Pump Stations	Auto transfer switch.	Eastside and Westside Reservoirs; this is an estimated cost. This will be part of the electrical review by T. Palin.	$100,000	$108,000		
5	2019 CIP	Raw Water Supply	Well 18 - NEW	Replace lost groundwater capacity with new well.	Includes drilling, engineering, testing, commissioning, and pump for a shallow well.	$155,000	$167,000		
6	2019 CIP/WSMP Recommendation	Growth	Phase 2 WTP Audit - Increase WTP Capacity	New WesTech water treatment module to provide increased capacity. This would increase capacity by 1 to 2 MGD. This is the third module; system currently has two modules.		$1,500,000	$1,615,000		
7	2019 CIP/WSMP Recommendation	Finished Water Supply	Chemical Storage Room	Will require 20-foot by 20-foot room (can be separate from existing building). Needs to meet isolation/ containment requirements. Will require heat.	Cost increased to $150 per square foot, May 2020.	$60,000	$65,000		
8	2014 WTP Audit	Pretreatment	Item No. 14 - Floc Drive Mechanism Condition (Old WTP)	Replace remaining old parts with new.	Some (67 percent assumed) replaced recently.	$170,000	$183,000		
9	2014 WTP Audit	Pretreatment	Item No. 15 - Streaming Current Meter State (Old WTP)	Replace with new streaming current meter.	Aids optimization of chemical use and plant performance.	$30,000	$32,000		
10	2014 WTP Audit	Pretreatment	Item No. 16 - Sludge Collection Equipment Condition (Old WTP)	Replace remaining old parts with new.	Some (15 percent assumed) replaced recently.	$295,000	$318,000		
11	2014 WTP Audit	Filtration	Item No. 18 - Poor Backwash Performance (Old WTP)	Add flowmeter and automated control valve.		$120,000	$129,000		
12	2014 WTP Audit	Filtration	Item No. 24 - Erratic Backwash/Settled Media (New WTP)	Investigate further and repair.	Cause unknown. Cost shown is a placeholder allowance.	$50,000	$54,000		
13	2014 WTP Audit/WSMP Recommendation	Finished Water Supply	Item No. 27 - Substandard Clearwell Size	Decommission old clearwells and add new 600,000-gallon minimum clearwell/new finished water pump station.[1]	Cost updated with 2020 WSMP.	$2,000,000 - $3,000,000	$2,150,000 - $3,200,000		
14	2014 WTP Audit/WSMP Recommendation	Finished Water Supply	Item No. 28 - High Chlorine Demand in Clearwell						
15	2014 WTP Audit	Filtration	Item No. 19 - Poor Waste Pipe Condition (Old WTP)	Replace with new waste pipe				$270,000	

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CITY OF
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WATER SYSTEM MASTER PLAN

CAPITAL IMPROVEMENTS PLAN

FIGURE
6-1

Item No.	Source	Functional Area	Capital Project/Task (Identified Improvement Area)	Description (Solution)	Notes	Estimated 2020 Project Cost	Anticipated Project Cost In Implementation Period* 2020-2025	2025-2030	2030-2040
16	2014 WTP Audit	Filtration	Item No. 21 - Insufficient Filter to Waste Flow (Old WTP)	Upsize and replace piping/valving and add flowmeter.	Pipe gallery space restrictions and underground discharge piping may make this improvement unfeasible.	$310,000		$387,000	
17	2014 WTP Audit	Filtration	Item No. 22 - Filter Waste Valve Condition (Old WTP)						
18	WSMP Recommendation	Water Supply	Install Water Meters Downstream of Treatment Booster Pumps	Assist with water use auditing. Assumes two magnetic flowmeters are installed.	Assumes two magnetic flowmeters are installed on existing piping with remote readout and tie to SCADA system.	$30,000	$32,000		
19	WSMP Recommendation	Storage	Bench Reservoir Maintenance	External coating, interior ladder, and inlet/outlet piping reconfiguration.	Preserve reservoir integrity, provide safer internal access, provide improved water quality. Assumes full reservoir exterior recoating since reservoir is now approximately 20 years old (may be eliminated if Eastside Reservoirs are relocated; see Item No. 24).	$425,000	$458,000		
20	WSMP Recommendation	Booster Pump Stations	Westside Booster Pump Station Control Upgrades	Upgrade one existing booster pump starter to variable frequency drive, upgrade programmable logic controllers, and upgrade controls to cycle pumps.	Replace old pump starters and motor starter and reprogram controls to allow more efficient pumping operation. Pumps may also be cycled between lead and lag status. Costs coordinated with Advanced Control Systems.	$40,000	$43,000		
21	WSMP Recommendation	Booster Pump Stations	Westside Booster Pump Station HVAC Upgrades	Install new floor level louver and gable fan to remove hot air from pump station. Install new control air conditioning unit.	Install improved pump room ventilation and control panel cooling to maintain appropriate temperatures for operation and control equipment. Costs include minor structural work, electrical, and fan/louver installation.	$40,000	$43,000		
22	WSMP Recommendation	Distribution System	Medium Priority Piping Improvements	Improve capacity to serve existing low flow areas and future commercial growth near airport.	Improve water circulation with looped or larger diameter pipelines.	$1,900,000	$2,046,000		
23	WSMP Recommendation	Booster Pump Stations	Eastside Booster Pump Station Flowmeter Installation[2]	Install new insertion style flowmeter on existing pump station piping.	Assumes flowmeter requires a service tap on existing pipe, flowmeter installation with remote readout, and SCADA integration for remote flow monitoring (may be eliminated if Eastside Reservoirs are relocated; see Item No. 24).	$20,000		$25,000	
24	WSMP Recommendation	Storage	New Eastside Reservoir	Demolish and construct a new Eastside Reservoir at the existing reservoir site or at the water treatment plant.	Cost may vary based on new reservoir location.	$4,500,000 - $6,000,000		$5,600,000 - $7,500,000	
25	WSMP Recommendation	Water Supply	Develop Additional Treatment Capacity	Develop new surface WTP.	Potential expansion at existing site or new north location.	$9,000,000 - $13,000,000		$11,200,000 - $16,200,000	
26	WSMP Recommendation	Storage	Additional Storage Capacity for Long-term Growth	Install 3.0 MGD reservoir at existing Bench Reservoir site.	Provide storage capacity for potential 4.0 MGD commercial growth.	$4,800,000			$7,500,000
					TOTAL	**$26,165,000 - $32,665,000**	**$8,111,000 - $9,161,000**	**$17,500,000 - $24,400,000**	**$7,500,000**
								TOTAL ESTIMATED PROJECT COST OVER 20-YEAR IMPLEMENTATION PERIOD	**$33,150,000 - $41,000,000**

* All project costs include design, construction, administration, and an annual inflation allowance of 3 percent from 2020 to an assumed implementation date in the middle of the indicated time period.

[1] Clearwells will need replaced for all treatment and storage expansion options proposed in the WSMP.

[2] Dependent on if the Eastside booster pump station is moved to the treatment plant as discussed in Chapter 4 of the WSMP.

CIP = Capital Improvements Plan
HVAC = heating, ventilation, and air conditioning
MGD = million gallons per day
SCADA = supervisory control and data acquisition
WSMP = Water System Master Plan
WTP = water treatment plant

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CITY OF
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WATER SYSTEM MASTER PLAN

CAPITAL IMPROVEMENTS PLAN

FIGURE 6-1 CONT'D

Chapter 7 - Current Financial Status and Project Financing

Introduction

This chapter summarizes the financial status of the City of Ontario's water department and identifies alternatives for financing water system improvements. A summary of state and federal funding programs is presented, including a review of funding options potentially available to the City for water system improvements. To construct some or all the recommended improvements, it is important for the City of Ontario to develop a project financing and implementation plan (or Capital Improvements Plan as identified in Chapter 6). For this master planning effort, the scope of the financial review of the water department was limited because a review of the water department financial status was recently completed in the 2017 Water and Sewer Rate Study completed by CH2M.

Current Water Use Rates and Revenues

Operation and maintenance (O&M) of the existing water system is financed through the City's annual budget. Revenue is obtained from monthly water user fees, account setup fees, and service connection fees.

Water Use Rates

A summary of the existing water rate structure is shown on Table 7-1.

TABLE 7-1
EXISTING WATER RATE STRUCTURE[1]

Meter Size	Monthly Base Rate	Outside City Limits	Consumption Rate per 1,000 Gallons	Consumption Rate Outside City Limits per 1,000 Gallons
5/8-to 1-inch	$12.06	$21.12	$1.63	$2.84
1-1/2-inch	$30.17	$52.81	$1.63	$2.84
2-inch	$48.28	$84.49	$1.63	$2.84
3-inch	$120.70	$211.22	$1.63	$2.84
4-inch	$193.11	$337.95	$1.63	$2.84
6-inch	$483.01	$844.75	$1.63	$2.84
8-inch	$772.45	$1,351.81	$1.63	$2.84
10-inch	$2,510.49	$4,393.35	$1.63	$2.84

[1] *Based on rates in place on June 6, 2019.*

The City's current rate structure is based on a uniform base rate (no volume) and additional charge for consumption. This means that the customer is charged a base rate once, plus a flat rate for every 1,000 gallons used. Currently, the City's monthly base rate for all customers within city limits varies from $12.06 to $2,510.49, depending on meter size. Base rates for customers outside city limits varies from $21.12 to $4,393.35 and also depends on meter size. For every 1,000 gallons used, customers within city limits pay $1.63, and customers outside city limits pay $2.84.

Current Financial Status

In March 2017, CH2M prepared a Water and Sewer Rate Study for the City of Ontario. Based on this study, the City was generating approximately $2.8 million in operating revenue per year versus system O&M expenses of approximately $2.0 million. The City's projected growth is expected to be minimal in the coming years; therefore, revenue from existing rates is not expected to increase. City expenses are expected to increase as water system additions and repairs are implemented. As these projects are implemented, the City may need to consider increasing customer water rates to increase revenue.

Capital Improvements Plan

During development of this Water System Master Plan (WSMP), the City elected to take a Capital Improvements Plan (CIP) approach for the less expensive maintenance and existing system replacement-related work with the potential to pursue outside funding for the more expensive water system improvement projects. The CIP approach requires City funds to be allocated each year within the water department to complete necessary repairs and upgrades to the water system. If the City seeks outside funding, customer water rates would likely need to be raised to allow loans to be paid back over time. Projects that may require outside funding include the construction of new water supply sources, water treatment facilities, storage reservoirs, and booster pump stations, as discussed in previous chapters of this WSMP. Water system improvements outlined in Chapter 6 have been prioritized so the most critical projects, related to the quality and reliability of the existing water system, are recommended to be completed first.

Water System Improvements Funding

To pursue the potential larger recommended water system improvements projects presented in Chapter 6, the City may choose to obtain outside funding assistance. Outside funding assistance would enable a needed water system improvement project to be implemented sooner than a CIP approach would normally allow. For informational purposes, a summary of state and federal grant and loan programs that can provide assistance on municipal improvement projects is included herein. These programs offer various levels of funding aimed at different types of projects. These include programs administered by the U.S. Economic Development Administration (EDA), Business Oregon, and others.

These agencies can provide low interest loan funding and, possibly, grant funding for assisting communities on public works projects. Some of the funding programs provide funding only if the improvements address documented water quality compliance issues. A summary of potential funding programs follows.

Summary of Potential Funding Programs

The following section briefly summarizes the primary funding programs available to assist the City with a water system improvements project. Most of these agencies require an evaluation of water rates needed to support a loan for water system improvements both as a condition of receiving monies and prior to being considered for grant funds. The monthly user rates discussed in this section can represent a combination of monthly usage fees and/or taxes.

State Grant and Loan Programs

Business Oregon

Special Public Works Fund

The Special Public Works Fund (SPWF) program was established by the Oregon Legislature in 1985 to primarily provide loan funding for municipally owned infrastructure and other facilities that support economic and community development in Oregon. Loans and grants are available to municipalities for planning, designing, purchasing, improving, and constructing municipally owned facilities, replacing owned essential community facilities, and emergency projects as a result of a disaster.

For design and construction projects, loans are primarily available; however, grants are available for and limited to projects that will create and/or retain traded-sector jobs. A traded-sector industry sells its goods or services into nationally or internationally competitive markets. The maximum grant award is $500,000 or 85 percent of the project cost, whichever is less. The grant amount per project is based on up to $5,000 per eligible job created or retained. Loans range in size from less than $100,000 to $10 million. The SPWF is able to offer very attractive interest rates that reflect tax-exempt market rates for creditors. Loan terms can be up to 25 years or the useful life of the project, whichever is less. If the City of Ontario can tie the needed improvements to job creation, the SPWF may be an available funding source for water system improvements.

Community Development Block Grant Program

The primary objective of the Community Development Block Grant (CDBG) program is development of viable (livable) urban communities by expanding economic opportunities and providing decent housing and a suitable living environment principally for persons of low and moderate incomes.

This is a federally funded grant program. The state receives an annual allocation from Housing and Urban Development for the CDBG program. Grant funding is subject to applicant need, availability of funds, and any other restrictions in the state's Method of Distribution (i.e., program guidelines). It is not possible to determine how much, if any, grant funds may be awarded prior to an analysis of the application and financial information.

Eligibility for the CDBG program requires that greater than 51 percent of persons within the community fall into the low to moderate income (LMI) category. According to the City and Malheur County demographics utilized by Business Oregon, which was based on 2019 data available from Business Oregon, the City of Ontario had approximately 57.88 percent of the population within the LMI category. The CDBG program would also require residential water rates for 7,500 gallons of water to equal or exceed $32.48 per month as of 2019, (see Business Oregon Rate Requirements discussion below). Additionally, an applicant is not eligible for grant funds if the applicant does not have a documented compliance issue that is in need of correction. At this time, the City does not appear to have any compliance issues. Due to the lack of compliance issues, funding from the CDBG program may not be a viable option for the City. However, the City does qualify for the CDBG program based on the City's LMI.

Safe Drinking Water Revolving Loan Fund

The Safe Drinking Water Revolving Loan Fund (SDWRLF) is primarily a loan program for the construction and/or improvement of public and private water systems to address regulatory compliance issues. This is accomplished through two separate programs: the SDWRLF for collection, treatment, distribution, and related infrastructure, and the Drinking Water Source Protection Fund for protection of sources of drinking water prior to system intake. The SDWRLF program can lend a significant portion to projects, depending on the City's financial capability. Loan amounts greater than $3 million or with more than $750,000 principal forgiveness require approval through the Business Oregon's Infrastructure Finance Authority Board. The standard SDWRLF loan term is 20 years or the useful life of project assets, whichever is less. Loan terms up to 30 years may be available for "disadvantaged communities." This program offers subsidized interest rates for all successful projects. Interest rates for a standard loan start at 80 percent of the state/local bond rate. Interest rates for loans to disadvantaged communities are based on a sliding scale between the interest rate for a standard loan and 1 percent. Communities may be eligible for some of the principal on their SDWRLF loan to be "forgiven." This forgivable loan feature is similar to a grant and is offered to disadvantaged communities. Special consideration, including partial principal forgiveness, is provided to projects qualifying or having Green Project Reserve components. The SDWRLF program appears to be a potential funding source available to the City, provided a potential regulatory requirement can be addressed with the improvements.

Water/Wastewater Financing Program

This is a loan and grant program that provides for the design and construction of public infrastructure when needed to ensure compliance with the Safe Drinking Water Act (SDWA) or the Clean Water Act (CWA). To be eligible, a system must have received, or is likely to soon receive, a notice of non-compliance by the appropriate regulatory agency associated with the SDWA or CWA.

While primarily a loan program, grants are available for municipalities that meet eligibility criteria. The loan/grant amounts are determined by financial analysis of the applicant's ability to afford a loan (debt capacity, repayment sources, current and projected utility rates, and other factors). The maximum loan term is 25 years or the useful life of the infrastructure financed, whichever is less. The maximum loan amount is $10 million per project and is determined by financial review and may be offered through a combination of direct and/or bond-funded loans. Loans are generally repaid with utility revenues or voter-approved bond issues. A limited tax general obligation pledge may also be required. Creditworthy applicants may be funded through the sale of state revenue bonds. The maximum grant is $750,000 per project based on a financial analysis. An applicant is not eligible for grant funds if the applicant's annual median household income (MHI) is equal to or greater than 100 percent of the state average MHI for the same year. In addition, an applicant is not eligible for grant funds if the applicant does not have a documented compliance issue that is in need of correction. At this time, the City meets the MHI requirement but does not appear to have any compliance issues. Therefore, funding from the Water/Wastewater Financing Program may not be the best available to the City.

Business Oregon - Regional Development Officer

Since program eligibility and funds availability may change from year to year, potential applicants are encouraged to contact their respective Regional Development Officer to obtain the most accurate and up-to-date information for each program.

Federal Grant and Loan Programs

U.S. Economic Development Administration

The EDA has grant and loan funds similar to those available through Business Oregon's SPWF program. Monies are available to public agencies to fund projects that stimulate the economy of an area, and the overall goal of the program is to create or retain jobs. The EDA has invested a great deal of money in Oregon to fund public works improvement projects in areas where new industries were locating or planned to locate in the future. In addition, the agency has a program known as the Public Works Impact Program to fund projects in areas with extremely high rates of unemployment. This program also received an increased federal funding allocation through the CARES Act in 2020. This program is targeted toward creating additional jobs and reducing the unemployment rate in the area. If the City's water system improvements can be linked directly to industrial expansion or job retention/expansion, the City could be in a competitive position to receive funding under EDA programs.

Business Oregon Rate Requirements for Low Interest Loans and Grants

Business Oregon is currently using 1.25 percent of a community's five-year MHI as the basis for residential monthly water user cost requirements to be eligible for lower interest loans and/or grant funding. In the City's case, the five-year MHI, as of 2019 data available from Business Oregon, is $31,182. This MHI results in a required monthly residential water user cost of $32.48 for 7,500 gallons of use to qualify for low interest loan or grant funding. The City's current charge for a typical 5/8- to 1-inch residential service for 7,500 gallons of water use in a month is $24.29. The City does not currently meet the 1.25 percent MHI threshold to obtain low interest loans and/or grant funds through Business Oregon. However, it appears that with a 25 percent water rate increase the City could meet the eligibility criteria. These criteria can change on an annual basis.

Pursuing Potential Outside Project Funding Assistance

Based on the estimated costs provided herein, the City may elect to pursue loan funding for large capital improvement projects. If a water system improvements project is pursued, it is recommended the City thoroughly investigate potential available funding sources to verify the best funding package is obtained for the project. The following sections provide information on pursuing funding through Business Oregon or other local financing sources. This assumes the City is looking for outside funding assistance to fund large capital improvement projects as discussed in this WSMP.

One Stop Meeting and Project Notification and Intake Form

To evaluate all potential project funding options, a One Stop meeting is generally requested of Business Oregon and other funding agencies who then meet with the City staff to discuss the project and funding needs and identify the funding program best suited for the project. To avoid requiring city representatives to travel to Salem, Business Oregon has recently been holding these meetings locally or through video or telephone conferencing. Business Oregon utilizes a Project Notification and Intake Form (PNIF) to outline a city's project, including the needs, project requirements, affected area, estimated project cost, time frame, schedule, etc. Business Oregon evaluates the project based on information presented on the PNIF and the results of the One Stop meeting to determine the best funding program suited to the project. The city is usually invited to submit a funding application to the best funding program(s) identified in the One Stop meeting.

Local Financing Options

Regardless of the ultimate project scope and agency from which funds are obtained, the City of Ontario may need to develop authorization to incur debt (i.e., bonding) for the recommended improvements. The need to develop authorization to incur debt depends on funding agency requirements and provisions in the City Charter. The need for bonding by the City has been eliminated by most state funding programs. However, if a bond election is required, there are generally two options the City may use for its bonding authority: general obligation bonds and revenue bonds. General obligation bonds require a vote of the people to give the City the authority to repay the debt service through tax assessments, water revenues, or a combination of both. The City's taxing authority provides the guarantee for the debt. Revenue bonds are financed through revenues of the water system. Authority to issue revenue bonds can come in two forms. One would be through a local bond election similar to that needed to sell a general obligation bond, and the second would be through Council action authorizing the sale of revenue bonds, if the City Charter allows. If more than 5 percent of the registered voters do not object to the bonding authority resolution during a 60-day remonstrance period, the City would have authority to sell these revenue bonds.

Oregon law currently requires a 50 percent voter turnout to pass a bonded debt tax measure unless the election is held in May or November. May and November elections require only a majority of those who voted to pass a bonded debt tax measure. Due to current tax measure limitations in Oregon, careful consultation with experienced, licensed bonding attorneys should occur if the City begins to obtain bonding authority for the recommended water system improvements.

Recommended Improvements Summary

The key to implementing the recommended improvements outlined in this WSMP is the ability of the City to secure monies to fund these improvements, while working closely with its citizens to inform them of the water system needs and the necessity for increased water user rates.

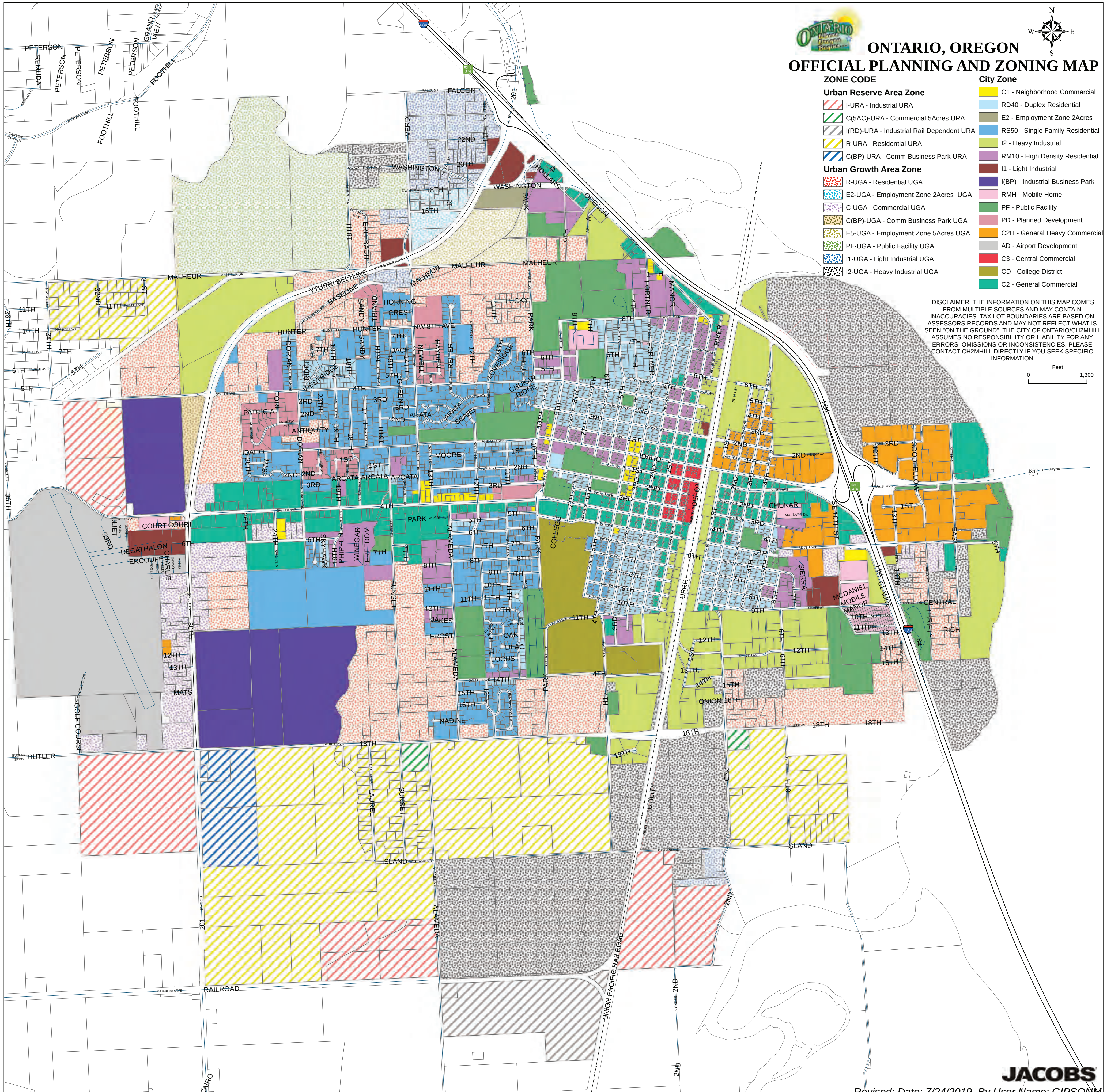
Water system improvements as outlined in this WSMP are intended to provide the City with a reliable, quality water system that will meet the needs of the City for the planning period and beyond. As development occurs, water system improvements will help the City to meet these needs. With the CIP approach, the City may reduce the need to borrow additional funds while completing the CIP-identified improvements projects. However, this approach can limit the speed at which more expensive improvements are implemented. If the City requires the immediate implementation of water system improvements due to rapid growth or aging infrastructure, funding from the programs summarized herein may be sought. Both options may require water rates to be raised to adequately fund the recommended system improvements over the 20-year planning period.

Placeholder for Existing System Map

Placeholder for Recommended System Improvements Map

Appendices Table of Contents

APPENDIX A
Planning and Zoning Map


ONTARIO, OREGON
OFFICIAL PLANNING AND ZONING MAP
ZONE CODE
Urban Reserve Area Zone
I-URA - Industrial URA
C(5AC)-URA - Commercial 5Acres URA
I(RD)-URA - Industrial Rail Dependent URA
R-URA - Residential URA
C(BP)-URA - Comm Business Park URA
Urban Growth Area Zone
R-UGA - Residential UGA
E2-UGA - Employment Zone 2Acres UGA
C-UGA - Commercial UGA
C(BP)-UGA - Comm Business Park UGA
E5-UGA - Employment Zone 5Acres UGA
PF-UGA - Public Facility UGA
I1-UGA - Light Industrial UGA
I2-UGA - Heavy Industrial UGA
City Zone
C1 - Neighborhood Commercial
RD40 - Duplex Residential
E2 - Employment Zone 2Acres
RS50 - Single Family Residential
I2 - Heavy Industrial
RM10 - High Density Residential
I1 - Light Industrial
I(BP) - Industrial Business Park
RMH - Mobile Home
PF - Public Facility
PD - Planned Development
C2H - General Heavy Commercial
AD - Airport Development
C3 - Central Commercial
CD - College District
C2 - General Commercial
DISCLAIMER: THE INFORMATION ON THIS MAP COMES FROM MULTIPLE SOURCES AND MAY CONTAIN INACCURACIES. TAX LOT BOUNDARIES ARE BASED ON ASSESSORS RECORDS AND MAY NOT REFLECT WHAT IS SEEN "ON THE GROUND". THE CITY OF ONTARIO/CH2MHILL ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS, OMISSIONS OR INCONSISTENCIES. PLEASE CONTACT CH2MHILL DIRECTLY IF YOU SEEK SPECIFIC INFORMATION.
Feet
0
1,300
N
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JACOBS
Revised: Date: 7/24/2019 By User Name: GIPSONM

APPENDIX B
Oregon Health Authority - Drinking Water Services Water Quality Testing Summaries

Water System Information

Oregon Public Health
Drinking Water Data Online

OR41 00587 **ONTARIO, CITY OF** **Classification**: COMMUNITY

Contact: KIM LORD
1900 SE 5TH AVE
ONTARIO, OR 97914
Population: 14,465
Operating Period: January 1 to December 31
Certified Operator(s)
Required: Y
Distribution class: 2
Treatment class: 3
Filtration Endorsement Required: No

Phone: 541-889-8011
County: MALHEUR
Activity Status: ACTIVE -- History
Number of Connections: 3,900
Regulating Agency: REGION 1
Owner Type: LOCAL GOVERNMENT
Licensed By: N/A
Approved Drinking Water Protection Plan: No
Source Water Assessment: Yes
Last Survey Date: Jun 15, 2017

Sources

Facility ID	Facility Name - Well Logs	Activity Status	Availability	Source Type
EP-A	**EP FOR RIVER, WELLS**	**A**		**SW**
SRC-AA	SNAKE RIVER	A	Permanent	**SW**
SRC-AB	WELL 4 - MALH1649	A	Permanent	**GU**
SRC-AE	WELL 6 - MALH1284	A	Permanent	**GU**
SRC-AF	WELL 14 - MALH1629	A	Permanent	**GU**
SRC-AG	WELL 15 - L88892	A	Permanent	**GU**
SRC-AH	WELL 16 - L88891	A	Permanent	**GU**
SRC-AI	WELL 17 - L106327	A	Permanent	**GU**

Show Disconnected and Abandoned Sources

Find Purchasers/Sellers

Treatment

State ID	Facility Name	Treatment Process	Treatment Objective	Filter Type
WTP-A1	TP FOR OLD PLANT	FILTRATION, RAPID SAND	PARTICULATE REMOVAL	CF
WTP-A1	TP FOR OLD PLANT	RAPID MIX	PARTICULATE REMOVAL	CF
WTP-A1	TP FOR OLD PLANT	COAGULATION	PARTICULATE REMOVAL	CF
WTP-A1	TP FOR OLD PLANT	FLOCCULATION	PARTICULATE REMOVAL	CF
WTP-A1	TP FOR OLD PLANT	SEDIMENTATION	PARTICULATE REMOVAL	CF
WTP-A1	TP FOR OLD PLANT	HYPOCHLORINATION, POST	DISINFECTION	CF
WTP-A1	TP FOR OLD PLANT	HYPOCHLORINATION, PRE	DISINFECTION	CF
WTP-A1	TP FOR OLD PLANT	PERMANGANATE	IRON REMOVAL	CF
WTP-A1	TP FOR OLD PLANT	PH/ALKA ADJ-CAUSTIC SODA	CORROSION CONTROL	CF
WTP-A2	TP FOR WESTECH PLANT	COAGULATION	PARTICULATE REMOVAL	CF
WTP-A2	TP FOR WESTECH PLANT	RAPID MIX	PARTICULATE REMOVAL	CF
WTP-A2	TP FOR WESTECH PLANT	FLOCCULATION	PARTICULATE REMOVAL	CF
WTP-A2	TP FOR WESTECH PLANT	SEDIMENTATION	PARTICULATE REMOVAL	CF
WTP-A2	TP FOR WESTECH PLANT	FILTRATION, RAPID SAND	PARTICULATE REMOVAL	CF
WTP-A2	TP FOR WESTECH PLANT	HYPOCHLORINATION, PRE	DISINFECTION	CF
WTP-A2	TP FOR WESTECH PLANT	HYPOCHLORINATION, POST	DISINFECTION	CF
WTP-A2	TP FOR WESTECH PLANT	PERMANGANATE	IRON REMOVAL	CF
WTP-A2	TP FOR WESTECH PLANT	PH/ALKA ADJ-CAUSTIC SODA	CORROSION CONTROL	CF

Consumer Confidence Reports (Last 5 Years)

For Year	Date Received	Date Certified
2019	*Due 7/1/2020*	
2018	Jun 28, 2019	Jun 28, 2019
2017	Jun 05, 2018	Jun 05, 2018
2016	Jun 05, 2017	Jun 05, 2017
2015	*Not received*	Jun 03, 2016

Cross Connection/Backflow Prevention Information (Last 3 Records)

Enabling Authority Received	Annual Summary Report Received	Fee Invoice Paid
Yes (PDF)	2019 (PDF)	2020
	2018 (PDF)	2019
	2017	2017

Latest Chemical Results

Oregon Public Health
Drinking Water Data Online

Introduction :: Data Search Options :: WS Name Look Up :: WS ID Look Up :: DWS Home :: DWS Rules :: Quick Data Links

ND = Not Detected at the Minimum Reporting Level
Spreadsheet

Latest Chemical Results - PWS ID: 00587 ---- ONTARIO, CITY OF

Sample ID	Sample Date	Receive Date	Chemical	Source ID	Results	Current MCL	UOM
2004350001-T	04/08/2020	04/17/2020	ALKALINITY, TOTAL	CH-A1	170.00000		
2004350001-T	04/08/2020	04/17/2020	TOTAL ORGANIC CARBON	CH-A1	1.8600000		
2004350002-T	04/08/2020	04/17/2020	TOTAL ORGANIC CARBON	CH-A2	1.6200000		
2004350003-T	04/08/2020	04/17/2020	ALKALINITY, TOTAL	CH-A2	230.00000		
2004350005-T	04/08/2020	04/17/2020	TOTAL ORGANIC CARBON	WTP-A1	1.4800000		
2004350004-T	04/08/2020	04/17/2020	TOTAL ORGANIC CARBON	WTP-A2	1.6200000		
200409501-D	04/01/2020	04/15/2020	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0147000	0.0600000	MG/L
200409501-D	04/01/2020	04/15/2020	TTHM	DIST-A	0.0311000	0.0800000	MG/L
200409502-D	04/01/2020	04/15/2020	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0105000	0.0600000	MG/L
200409502-D	04/01/2020	04/15/2020	TTHM	DIST-A	0.0258000	0.0800000	MG/L
200409503-D	04/01/2020	04/15/2020	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0086300	0.0600000	MG/L
200409503-D	04/01/2020	04/15/2020	TTHM	DIST-A	0.0211000	0.0800000	MG/L
200409504-D	04/01/2020	04/15/2020	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0161000	0.0600000	MG/L
200409504-D	04/01/2020	04/15/2020	TTHM	DIST-A	0.0321000	0.0800000	MG/L
2001324001-T	01/08/2020	01/17/2020	ALKALINITY, TOTAL	CH-A1	190.00000		
2001324001-T	01/08/2020	01/17/2020	TOTAL ORGANIC CARBON	CH-A1	2.0100000		
2001324002-T	01/08/2020	01/17/2020	ALKALINITY, TOTAL	CH-A2	230.00000		
2001324002-T	01/08/2020	01/17/2020	TOTAL ORGANIC CARBON	CH-A2	1.7700000		
2001324004-T	01/08/2020	01/17/2020	TOTAL ORGANIC CARBON	WTP-A1	1.5600000		
2001324003-T	01/08/2020	01/17/2020	TOTAL ORGANIC CARBON	WTP-A2	1.6800000		
2001021701A-D	01/02/2020	01/20/2020	TTHM	DIST-A	0.0257000	0.0800000	MG/L
2001021701B-D	01/02/2020	01/20/2020	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0108000	0.0600000	MG/L
2001021702A-D	01/02/2020	01/20/2020	TTHM	DIST-A	0.0250000	0.0800000	MG/L
2001021702B-D	01/02/2020	01/20/2020	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0105000	0.0600000	MG/L
2001021703A-D	01/02/2020	01/20/2020	TTHM	DIST-A	0.0192000	0.0800000	MG/L
2001021703B-D	01/02/2020	01/20/2020	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0031300	0.0600000	MG/L
2001021704A-D	01/02/2020	01/20/2020	TTHM	DIST-A	0.0313000	0.0800000	MG/L
2001021704B-D	01/02/2020	01/20/2020	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0142000	0.0600000	MG/L
1910488-S	10/09/2019	11/04/2019	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
1910488-S	10/09/2019	11/04/2019	2,4,5-TP	EP-A	ND	0.0500000	MG/L
1910488-S	10/09/2019	11/04/2019	2,4-D	EP-A	ND	0.0700000	MG/L
1910488-S	10/09/2019	11/04/2019	ATRAZINE	EP-A	ND	0.0030000	MG/L
1910488-S	10/09/2019	11/04/2019	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
1910488-S	10/09/2019	11/04/2019	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
1910488-S	10/09/2019	11/04/2019	CARBOFURAN	EP-A	ND	0.0400000	MG/L
1910488-S	10/09/2019	11/04/2019	CHLORDANE	EP-A	ND	0.0020000	MG/L
1910488-S	10/09/2019	11/04/2019	DALAPON	EP-A	ND	0.2000000	MG/L
1910488-S	10/09/2019	11/04/2019	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
1910488-S	10/09/2019	11/04/2019	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L

1910488-S	10/09/2019	11/04/2019	DINOSEB	EP-A	ND	0.0070000	MG/L
1910488-S	10/09/2019	11/04/2019	DIQUAT	EP-A	ND	0.0200000	MG/L
1910488-S	10/09/2019	11/04/2019	ENDOTHALL	EP-A	ND	0.1000000	MG/L
1910488-S	10/09/2019	11/04/2019	ENDRIN	EP-A	ND	0.0020000	MG/L
1910488-S	10/09/2019	11/04/2019	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
1910488-S	10/09/2019	11/04/2019	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
1910488-S	10/09/2019	11/04/2019	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
1910488-S	10/09/2019	11/04/2019	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
1910488-S	10/09/2019	11/04/2019	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
1910488-S	10/09/2019	11/04/2019	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
1910488-S	10/09/2019	11/04/2019	LASSO	EP-A	ND	0.0020000	MG/L
1910488-S	10/09/2019	11/04/2019	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
1910488-S	10/09/2019	11/04/2019	OXAMYL	EP-A	ND	0.2000000	MG/L
1910488-S	10/09/2019	11/04/2019	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
1910488-S	10/09/2019	11/04/2019	PICLORAM	EP-A	ND	0.5000000	MG/L
1910488-S	10/09/2019	11/04/2019	SIMAZINE	EP-A	ND	0.0040000	MG/L
1910488-S	10/09/2019	11/04/2019	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
1910488-S	10/09/2019	11/04/2019	TOXAPHENE	EP-A	ND	0.0030000	MG/L
1910194001-T	10/02/2019	10/18/2019	ALKALINITY, TOTAL	CH-A1	170.00000		
1910194001-T	10/02/2019	10/18/2019	TOTAL ORGANIC CARBON	CH-A1	2.4300000		
1910194002-T	10/02/2019	10/18/2019	ALKALINITY, TOTAL	CH-A2	220.00000		
1910194002-T	10/02/2019	10/18/2019	TOTAL ORGANIC CARBON	CH-A2	1.9800000		
1910027004A-D	10/02/2019	10/15/2019	TTHM	DIST-A	**0.0814000**	0.0800000	MG/L
191019101-D	10/02/2019	10/23/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0235000	0.0600000	MG/L
191019101-D	10/02/2019	10/23/2019	TTHM	DIST-A	0.0545000	0.0800000	MG/L
191019102-D	10/02/2019	10/23/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0179000	0.0600000	MG/L
191019102-D	10/02/2019	10/23/2019	TTHM	DIST-A	0.0458000	0.0800000	MG/L
191019103-D	10/02/2019	10/23/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0158000	0.0600000	MG/L
191019103-D	10/02/2019	10/23/2019	TTHM	DIST-A	0.0409000	0.0800000	MG/L
191019104-D	10/02/2019	10/23/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0242000	0.0600000	MG/L
1910194004-T	10/02/2019	10/18/2019	TOTAL ORGANIC CARBON	WTP-A1	2.2500000		
1910194003-T	10/02/2019	10/18/2019	TOTAL ORGANIC CARBON	WTP-A2	1.9800000		
1908015001-D	07/31/2019	08/19/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0421000	0.0600000	MG/L
1907984001-T	07/22/2019	07/30/2019	ALKALINITY, TOTAL	CH-A1	150.00000		
1907984002-T	07/22/2019	07/30/2019	ALKALINITY, TOTAL	CH-A2	150.00000		
1907985001-S	07/22/2019	08/16/2019	ENDOTHALL	EP-A	ND	0.1000000	MG/L
1907762001	07/16/2019	08/16/2019	ANTIMONY, TOTAL	EP-A	ND	0.0060000	MG/L
1907762001	07/16/2019	08/16/2019	BERYLLIUM, TOTAL	EP-A	ND	0.0040000	MG/L
1907762001	07/16/2019	08/16/2019	SELENIUM	EP-A	ND	0.0500000	MG/L
1907762001	07/16/2019	08/16/2019	THALLIUM, TOTAL	EP-A	ND	0.0020000	MG/L
1907762001-I	07/16/2019	08/16/2019	ARSENIC	EP-A	ND	0.0100000	MG/L
1907762001-I	07/16/2019	08/16/2019	BARIUM	EP-A	0.0461000	2.0000000	MG/L
1907762001-I	07/16/2019	08/16/2019	CADMIUM	EP-A	ND	0.0050000	MG/L
1907762001-I	07/16/2019	08/16/2019	CHROMIUM	EP-A	0.0012900	0.1000000	MG/L
1907762001-I	07/16/2019	08/16/2019	CYANIDE	EP-A	ND	0.2000000	MG/L
1907762001-I	07/16/2019	08/16/2019	FLUORIDE	EP-A	0.5910000	4.0000000	MG/L

1907762001-I	07/16/2019	08/16/2019	MERCURY	EP-A	ND	0.0020000	MG/L
1907762001-I	07/16/2019	08/16/2019	NICKEL	EP-A	ND	0.1000000	MG/L
1907762001-I	07/16/2019	08/16/2019	NITRATE	EP-A	1.1500000	10.000000	MG/L
1907762001-I	07/16/2019	08/16/2019	NITRATE-NITRITE	EP-A	1.1500000	10.000000	MG/L
1907762001-I	07/16/2019		NITRITE	EP-A	ND	1.0000000	MG/L
1907762001-I	07/16/2019	08/16/2019	SODIUM	EP-A	44.500000		MG/L
1907762002-S	07/16/2019	08/16/2019	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
1907762002-S	07/16/2019	08/16/2019	2,4,5-TP	EP-A	ND	0.0500000	MG/L
1907762002-S	07/16/2019	08/16/2019	2,4-D	EP-A	ND	0.0700000	MG/L
1907762002-S	07/16/2019	08/16/2019	ATRAZINE	EP-A	ND	0.0030000	MG/L
1907762002-S	07/16/2019	08/16/2019	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
1907762002-S	07/16/2019	08/16/2019	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
1907762002-S	07/16/2019	08/16/2019	CARBOFURAN	EP-A	ND	0.0400000	MG/L
1907762002-S	07/16/2019	08/16/2019	CHLORDANE	EP-A	ND	0.0020000	MG/L
1907762002-S	07/16/2019	08/16/2019	DALAPON	EP-A	ND	0.2000000	MG/L
1907762002-S	07/16/2019	08/16/2019	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
1907762002-S	07/16/2019	08/16/2019	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
1907762002-S	07/16/2019	08/16/2019	DINOSEB	EP-A	ND	0.0070000	MG/L
1907762002-S	07/16/2019	08/16/2019	DIQUAT	EP-A	ND	0.0200000	MG/L
1907762002-S	07/16/2019	08/16/2019	ENDRIN	EP-A	ND	0.0020000	MG/L
1907762002-S	07/16/2019	08/16/2019	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
1907762002-S	07/16/2019	08/16/2019	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
1907762002-S	07/16/2019	08/16/2019	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
1907762002-S	07/16/2019	08/16/2019	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
1907762002-S	07/16/2019	08/16/2019	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
1907762002-S	07/16/2019	08/16/2019	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
1907762002-S	07/16/2019	08/16/2019	LASSO	EP-A	ND	0.0020000	MG/L
1907762002-S	07/16/2019	08/16/2019	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
1907762002-S	07/16/2019	08/16/2019	OXAMYL	EP-A	ND	0.2000000	MG/L
1907762002-S	07/16/2019	08/16/2019	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
1907762002-S	07/16/2019	08/16/2019	PICLORAM	EP-A	ND	0.5000000	MG/L
1907762002-S	07/16/2019	08/16/2019	SIMAZINE	EP-A	ND	0.0040000	MG/L
1907762002-S	07/16/2019	08/16/2019	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
1907762002-S	07/16/2019	08/16/2019	TOXAPHENE	EP-A	ND	0.0030000	MG/L
1907762003-V	07/16/2019	08/16/2019	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
1907762003-V	07/16/2019	08/16/2019	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1907762003-V	07/16/2019	08/16/2019	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
1907762003-V	07/16/2019	08/16/2019	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
1907762003-V	07/16/2019	08/16/2019	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1907762003-V	07/16/2019	08/16/2019	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
1907762003-V	07/16/2019	08/16/2019	BENZENE	EP-A	ND	0.0050000	MG/L
1907762003-V	07/16/2019	08/16/2019	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
1907762003-V	07/16/2019	08/16/2019	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
1907762003-V	07/16/2019	08/16/2019	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
1907762003-V	07/16/2019	08/16/2019	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
1907762003-V	07/16/2019	08/16/2019	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L

1907762003-V	07/16/2019	08/16/2019	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
1907762003-V	07/16/2019	08/16/2019	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
1907762003-V	07/16/2019	08/16/2019	STYRENE	EP-A	ND	0.1000000	MG/L
1907762003-V	07/16/2019	08/16/2019	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1907762003-V	07/16/2019	08/16/2019	TOLUENE	EP-A	ND	1.0000000	MG/L
1907762003-V	07/16/2019	08/16/2019	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
1907762003-V	07/16/2019	08/16/2019	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1907762003-V	07/16/2019	08/16/2019	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
1907762003-V	07/16/2019	08/16/2019	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
1907767001-R	07/16/2019	09/03/2019	COMBINED URANIUM	EP-A	0.0026000	0.0300000	MG/L
1907767001-R	07/16/2019	09/03/2019	GROSS ALPHA, EXCL. RADON & U	EP-A	ND	15.000000	PCI/L
1907059001-T	07/01/2019	07/19/2019	TOTAL ORGANIC CARBON	CH-A1	2.3200000		
1907059002-T	07/01/2019	07/19/2019	TOTAL ORGANIC CARBON	CH-A2	1.6700000		
1907072001-D	07/01/2019	08/01/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0351000	0.0600000	MG/L
1907072001-D	07/01/2019	08/01/2019	TTHM	DIST-A	0.0781000	0.0800000	MG/L
1907072002-D	07/01/2019	08/01/2019	TTHM	DIST-A	0.0730000	0.0800000	MG/L
1907072003-D	07/01/2019	08/01/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0257000	0.0600000	MG/L
1907072003-D	07/01/2019	08/01/2019	TTHM	DIST-A	0.0592000	0.0800000	MG/L
1907072004-D	07/01/2019	08/01/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0325000	0.0600000	MG/L
1907072004-D	07/01/2019	08/01/2019	TTHM	DIST-A	0.0748000	0.0800000	MG/L
1907059004-T	07/01/2019	07/19/2019	TOTAL ORGANIC CARBON	WTP-A1	1.9400000		
1907059003-T	07/01/2019	07/19/2019	TOTAL ORGANIC CARBON	WTP-A2	1.6600000		
1904258001-T	04/03/2019	04/18/2019	ALKALINITY, TOTAL	CH-A1	150.00000		
1904258001-T	04/03/2019	04/18/2019	TOTAL ORGANIC CARBON	CH-A1	1.9700000		
1904258002-T	04/03/2019	04/18/2019	ALKALINITY, TOTAL	CH-A2	230.00000		
1904258005-T	04/03/2019	04/18/2019	TOTAL ORGANIC CARBON	CH-A2	1.6100000		
1904259001-D	04/03/2019	05/07/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0112000	0.0600000	MG/L
1904259001-D	04/03/2019	05/07/2019	TTHM	DIST-A	0.0420000	0.0800000	MG/L
1904259002-D	04/03/2019	05/07/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0091200	0.0600000	MG/L
1904259002-D	04/03/2019	05/07/2019	TTHM	DIST-A	0.0331000	0.0800000	MG/L
1904259003-D	04/03/2019	05/07/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0080000	0.0600000	MG/L
1904259003-D	04/03/2019	05/07/2019	TTHM	DIST-A	0.0288000	0.0800000	MG/L
1904259004-D	04/03/2019	05/07/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0122000	0.0600000	MG/L
1904259004-D	04/03/2019	05/07/2019	TTHM	DIST-A	0.0446000	0.0800000	MG/L
1904258004-T	04/03/2019	04/18/2019	TOTAL ORGANIC CARBON	WTP-A1	1.6000000		
1904258003-T	04/03/2019	04/18/2019	TOTAL ORGANIC CARBON	WTP-A2	1.3900000		
1901269001-T	01/07/2019	01/15/2019	ALKALINITY, TOTAL	CH-A1	190.00000		
1901269001-T	01/07/2019	01/15/2019	TOTAL ORGANIC CARBON	CH-A1	1.6800000		
1901269002-T	01/07/2019	01/15/2019	ALKALINITY, TOTAL	CH-A2	260.00000		
1901269004-T	01/07/2019	01/15/2019	TOTAL ORGANIC CARBON	CH-A2	2.5800000		
1901269003-T	01/07/2019	01/15/2019	TOTAL ORGANIC CARBON	WTP-A1	1.7700000		
1901269005-T	01/07/2019	01/15/2019	TOTAL ORGANIC CARBON	WTP-A2	1.9100000		
1901073001-D	01/02/2019	01/16/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0119000	0.0600000	MG/L
1901073001-D	01/02/2019	01/16/2019	TTHM	DIST-A	0.0257000	0.0800000	MG/L
1901073002-D	01/02/2019	01/16/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0110000	0.0600000	MG/L
1901073002-D	01/02/2019	01/16/2019	TTHM	DIST-A	0.0239000	0.0800000	MG/L

1901073003-D	01/02/2019	01/16/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0193000	0.0600000	MG/L
1901073003-D	01/02/2019	01/16/2019	TTHM	DIST-A	0.0195000	0.0800000	MG/L
1901073004-D	01/02/2019	01/16/2019	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0141000	0.0600000	MG/L
1901073004-D	01/02/2019	01/16/2019	TTHM	DIST-A	0.0354000	0.0800000	MG/L
1810266-01	10/22/2018	10/26/2018	CYLINDROSPERMOPSIN	SRC-AA	ND	0.7000000	UG/L
1810266-01	10/22/2018	10/26/2018	TOTAL MICROCYSTINS	SRC-AA	ND	0.3000000	UG/L
1810638001-S	10/15/2018	11/09/2018	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
1810638001-S	10/15/2018	11/09/2018	2,4,5-TP	EP-A	ND	0.0500000	MG/L
1810638001-S	10/15/2018	11/09/2018	2,4-D	EP-A	ND	0.0700000	MG/L
1810638001-S	10/15/2018	11/09/2018	ATRAZINE	EP-A	ND	0.0030000	MG/L
1810638001-S	10/15/2018	11/09/2018	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
1810638001-S	10/15/2018	11/09/2018	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
1810638001-S	10/15/2018	11/09/2018	CARBOFURAN	EP-A	ND	0.0400000	MG/L
1810638001-S	10/15/2018	11/09/2018	CHLORDANE	EP-A	ND	0.0020000	MG/L
1810638001-S	10/15/2018	11/09/2018	DALAPON	EP-A	ND	0.2000000	MG/L
1810638001-S	10/15/2018	11/09/2018	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
1810638001-S	10/15/2018	11/09/2018	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
1810638001-S	10/15/2018	11/09/2018	DINOSEB	EP-A	ND	0.0070000	MG/L
1810638001-S	10/15/2018	11/09/2018	DIQUAT	EP-A	ND	0.0200000	MG/L
1810638001-S	10/15/2018	11/09/2018	ENDOTHALL	EP-A	ND	0.1000000	MG/L
1810638001-S	10/15/2018	11/09/2018	ENDRIN	EP-A	ND	0.0020000	MG/L
1810638001-S	10/15/2018	11/09/2018	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
1810638001-S	10/15/2018	11/09/2018	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
1810638001-S	10/15/2018	11/09/2018	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
1810638001-S	10/15/2018	11/09/2018	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
1810638001-S	10/15/2018	11/09/2018	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
1810638001-S	10/15/2018	11/09/2018	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
1810638001-S	10/15/2018	11/09/2018	LASSO	EP-A	ND	0.0020000	MG/L
1810638001-S	10/15/2018	11/09/2018	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
1810638001-S	10/15/2018	11/09/2018	OXAMYL	EP-A	ND	0.2000000	MG/L
1810638001-S	10/15/2018	11/09/2018	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
1810638001-S	10/15/2018	11/09/2018	PICLORAM	EP-A	ND	0.5000000	MG/L
1810638001-S	10/15/2018	11/09/2018	SIMAZINE	EP-A	ND	0.0040000	MG/L
1810638001-S	10/15/2018	11/09/2018	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
1810638001-S	10/15/2018	11/09/2018	TOXAPHENE	EP-A	ND	0.0030000	MG/L
1810099-01	10/08/2018	10/12/2018	CYLINDROSPERMOPSIN	SRC-AA	ND	0.7000000	UG/L
1810099-01	10/08/2018	10/12/2018	TOTAL MICROCYSTINS	SRC-AA	ND	0.3000000	UG/L
1810224001-T	10/03/2018	10/08/2018	ALKALINITY, TOTAL	CH-A1	200.00000		
1810224001-T	10/03/2018	10/08/2018	TOTAL ORGANIC CARBON	CH-A1	1.7200000		
1810223001-D	10/03/2018	10/16/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0261000	0.0600000	MG/L
1810223001-D	10/03/2018	10/16/2018	TTHM	DIST-A	0.0464000	0.0800000	MG/L
1810223002-D	10/03/2018	10/16/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0170000	0.0600000	MG/L
1810223002-D	10/03/2018	10/16/2018	TTHM	DIST-A	0.0326000	0.0800000	MG/L
1810223003-D	10/03/2018	10/16/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0147000	0.0600000	MG/L
1810223003-D	10/03/2018	10/16/2018	TTHM	DIST-A	0.0265000	0.0800000	MG/L
1810223004-D	10/03/2018	10/16/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0232000	0.0600000	MG/L

1810223004-D	10/03/2018	10/16/2018	TTHM	DIST-A	0.0645000	0.0800000	MG/L
1810224003-T	10/03/2018	10/08/2018	TOTAL ORGANIC CARBON	WTP-A1	1.4300000		
1810224002-T	10/03/2018	10/08/2018	TOTAL ORGANIC CARBON	WTP-A2	1.3200000		
1810224004-T	10/03/2018	10/08/2018	TOTAL ORGANIC CARBON	WTP-A2	1.4300000		
1809247-01	09/24/2018	09/28/2018	CYLINDROSPERMOPSIN	SRC-AA	ND	0.7000000	UG/L
1809247-01	09/24/2018	09/28/2018	TOTAL MICROCYSTINS	SRC-AA	ND	0.3000000	UG/L
1809081-01	09/10/2018	09/18/2018	CYLINDROSPERMOPSIN	SRC-AA	ND	0.7000000	UG/L
1809081-01	09/10/2018	09/18/2018	TOTAL MICROCYSTINS	SRC-AA	ND	0.3000000	UG/L
1808271-01	08/27/2018	08/31/2018	CYLINDROSPERMOPSIN	SRC-AA	ND	0.7000000	UG/L
1808271-01	08/27/2018	08/31/2018	TOTAL MICROCYSTINS	SRC-AA	ND	0.3000000	UG/L
1808118-01	08/13/2018	08/24/2018	CYLINDROSPERMOPSIN	SRC-AA	ND	0.7000000	UG/L
1808118-01	08/13/2018	08/24/2018	TOTAL MICROCYSTINS	SRC-AA	ND	0.3000000	UG/L
1807233-01	07/30/2018	08/24/2018	CYLINDROSPERMOPSIN	SRC-AA	ND	0.7000000	UG/L
1807233-01	07/30/2018	08/24/2018	TOTAL MICROCYSTINS	SRC-AA	ND	0.3000000	UG/L
1807835001-D	07/17/2018	08/03/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0258000	0.0600000	MG/L
1807835001-D	07/17/2018	08/03/2018	TTHM	DIST-A	0.0681000	0.0800000	MG/L
1807835002-D	07/17/2018	08/03/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0200000	0.0600000	MG/L
1807835002-D	07/17/2018	08/03/2018	TTHM	DIST-A	0.0463000	0.0800000	MG/L
1807835003-D	07/17/2018	08/03/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0169000	0.0600000	MG/L
1807835003-D	07/17/2018	08/03/2018	TTHM	DIST-A	0.0403000	0.0800000	MG/L
1807835004-D	07/17/2018	08/03/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0260000	0.0600000	MG/L
1807835004-D	07/17/2018	08/03/2018	TTHM	DIST-A	0.0712000	0.0800000	MG/L
1807067-01	07/16/2018	08/24/2018	CYLINDROSPERMOPSIN	SRC-AA	ND	0.7000000	UG/L
1807067-01	07/16/2018	08/24/2018	TOTAL MICROCYSTINS	SRC-AA	ND	0.3000000	UG/L
1807590001-T	07/11/2018	07/25/2018	TOTAL ORGANIC CARBON	CH-A1	2.2600000		
1807590003-T	07/11/2018	07/25/2018	ALKALINITY, TOTAL	CH-A1	140.00000		
1807590002-T	07/11/2018	07/25/2018	TOTAL ORGANIC CARBON	CH-A2	1.5800000		
1807590004-T	07/11/2018	07/25/2018	ALKALINITY, TOTAL	CH-A2	190.00000		
1807588001-R	07/11/2018	08/09/2018	COMBINED RADIUM (-226 & -228)	EP-A	ND	5.0000000	PCI/L
1807588001-R	07/11/2018	08/09/2018	COMBINED URANIUM	EP-A	0.0029000	0.0300000	MG/L
1807588001-R	07/11/2018	08/09/2018	GROSS ALPHA, EXCL. RADON & U	EP-A	ND	15.000000	PCI/L
1807589001	07/11/2018	08/01/2018	ANTIMONY, TOTAL	EP-A	ND	0.0060000	MG/L
1807589001	07/11/2018	08/01/2018	SELENIUM	EP-A	0.0008050	0.0500000	MG/L
1807589001	07/11/2018	08/01/2018	THALLIUM, TOTAL	EP-A	ND	0.0020000	MG/L
1807589001-I	07/11/2018	08/01/2018	ARSENIC	EP-A	ND	0.0100000	MG/L
1807589001-I	07/11/2018	08/01/2018	BARIUM	EP-A	0.0564000	2.0000000	MG/L
1807589001-I	07/11/2018	08/01/2018	BERYLLIUM, TOTAL	EP-A	ND	0.0040000	MG/L
1807589001-I	07/11/2018	08/01/2018	CADMIUM	EP-A	ND	0.0050000	MG/L
1807589001-I	07/11/2018	08/01/2018	CHROMIUM	EP-A	ND	0.1000000	MG/L
1807589001-I	07/11/2018	08/01/2018	CYANIDE	EP-A	ND	0.2000000	MG/L
1807589001-I	07/11/2018	08/01/2018	FLUORIDE	EP-A	0.5620000	4.0000000	MG/L
1807589001-I	07/11/2018	08/01/2018	MERCURY	EP-A	ND	0.0020000	MG/L
1807589001-I	07/11/2018	08/01/2018	NICKEL	EP-A	ND	0.1000000	MG/L
1807589001-I	07/11/2018	08/01/2018	NITRATE	EP-A	1.0900000	10.000000	MG/L
1807589001-I	07/11/2018	08/01/2018	NITRATE-NITRITE	EP-A	1.0900000	10.000000	MG/L
1807589001-I	07/11/2018		NITRITE	EP-A	ND	1.0000000	MG/L
1807589001-I	07/11/2018	08/01/2018	SODIUM	EP-A	47.400000		MG/L

1807589002-S	07/11/2018	08/01/2018	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
1807589002-S	07/11/2018	08/01/2018	2,4,5-TP	EP-A	ND	0.0500000	MG/L
1807589002-S	07/11/2018	08/01/2018	2,4-D	EP-A	ND	0.0700000	MG/L
1807589002-S	07/11/2018	08/01/2018	ATRAZINE	EP-A	ND	0.0030000	MG/L
1807589002-S	07/11/2018	08/01/2018	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
1807589002-S	07/11/2018	08/01/2018	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
1807589002-S	07/11/2018	08/01/2018	CARBOFURAN	EP-A	ND	0.0400000	MG/L
1807589002-S	07/11/2018	08/01/2018	CHLORDANE	EP-A	ND	0.0020000	MG/L
1807589002-S	07/11/2018	08/01/2018	DALAPON	EP-A	ND	0.2000000	MG/L
1807589002-S	07/11/2018	08/01/2018	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
1807589002-S	07/11/2018	08/01/2018	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
1807589002-S	07/11/2018	08/01/2018	DINOSEB	EP-A	ND	0.0070000	MG/L
1807589002-S	07/11/2018	08/01/2018	DIQUAT	EP-A	ND	0.0200000	MG/L
1807589002-S	07/11/2018	08/01/2018	ENDOTHALL	EP-A	ND	0.1000000	MG/L
1807589002-S	07/11/2018	08/01/2018	ENDRIN	EP-A	ND	0.0020000	MG/L
1807589002-S	07/11/2018	08/01/2018	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
1807589002-S	07/11/2018	08/01/2018	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
1807589002-S	07/11/2018	08/01/2018	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
1807589002-S	07/11/2018	08/01/2018	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
1807589002-S	07/11/2018	08/01/2018	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
1807589002-S	07/11/2018	08/01/2018	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
1807589002-S	07/11/2018	08/01/2018	LASSO	EP-A	ND	0.0020000	MG/L
1807589002-S	07/11/2018	08/01/2018	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
1807589002-S	07/11/2018	08/01/2018	OXAMYL	EP-A	ND	0.2000000	MG/L
1807589002-S	07/11/2018	08/01/2018	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
1807589002-S	07/11/2018	08/01/2018	PICLORAM	EP-A	ND	0.5000000	MG/L
1807589002-S	07/11/2018	08/01/2018	SIMAZINE	EP-A	ND	0.0040000	MG/L
1807589002-S	07/11/2018	08/01/2018	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
1807589002-S	07/11/2018	08/01/2018	TOXAPHENE	EP-A	ND	0.0030000	MG/L
1807589003-V	07/11/2018	08/01/2018	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
1807589003-V	07/11/2018	08/01/2018	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1807589003-V	07/11/2018	08/01/2018	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
1807589003-V	07/11/2018	08/01/2018	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
1807589003-V	07/11/2018	08/01/2018	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1807589003-V	07/11/2018	08/01/2018	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
1807589003-V	07/11/2018	08/01/2018	BENZENE	EP-A	ND	0.0050000	MG/L
1807589003-V	07/11/2018	08/01/2018	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
1807589003-V	07/11/2018	08/01/2018	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
1807589003-V	07/11/2018	08/01/2018	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
1807589003-V	07/11/2018	08/01/2018	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
1807589003-V	07/11/2018	08/01/2018	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
1807589003-V	07/11/2018	08/01/2018	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
1807589003-V	07/11/2018	08/01/2018	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
1807589003-V	07/11/2018	08/01/2018	STYRENE	EP-A	ND	0.1000000	MG/L
1807589003-V	07/11/2018	08/01/2018	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1807589003-V	07/11/2018	08/01/2018	TOLUENE	EP-A	ND	1.0000000	MG/L

1807589003-V	07/11/2018	08/01/2018	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
1807589003-V	07/11/2018	08/01/2018	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1807589003-V	07/11/2018	08/01/2018	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
1807589003-V	07/11/2018	08/01/2018	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
1807590006-T	07/11/2018	07/25/2018	TOTAL ORGANIC CARBON	WTP-A1	2.3400000		
1807590005-T	07/11/2018	07/25/2018	TOTAL ORGANIC CARBON	WTP-A2	1.6000000		
1804853002-V	04/19/2018	05/01/2018	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
1804853002-V	04/19/2018	05/01/2018	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1804853002-V	04/19/2018	05/01/2018	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
1804853002-V	04/19/2018	05/01/2018	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
1804853002-V	04/19/2018	05/01/2018	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1804853002-V	04/19/2018	05/01/2018	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
1804853002-V	04/19/2018	05/01/2018	BENZENE	EP-A	ND	0.0050000	MG/L
1804853002-V	04/19/2018	05/01/2018	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
1804853002-V	04/19/2018	05/01/2018	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
1804853002-V	04/19/2018	05/01/2018	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
1804853002-V	04/19/2018	05/01/2018	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
1804853002-V	04/19/2018	05/01/2018	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
1804853002-V	04/19/2018	05/01/2018	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
1804853002-V	04/19/2018	05/01/2018	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
1804853002-V	04/19/2018	05/01/2018	STYRENE	EP-A	ND	0.1000000	MG/L
1804853002-V	04/19/2018	05/01/2018	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1804853002-V	04/19/2018	05/01/2018	TOLUENE	EP-A	ND	1.0000000	MG/L
1804853002-V	04/19/2018	05/01/2018	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
1804853002-V	04/19/2018	05/01/2018	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1804853002-V	04/19/2018	05/01/2018	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
1804853002-V	04/19/2018	05/01/2018	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
1804853001-I	04/18/2018	05/01/2018	ARSENIC	EP-A	ND	0.0100000	MG/L
1804853001-I	04/18/2018	05/01/2018	NITRATE	EP-A	0.7150000	10.000000	MG/L
1804451001-T	04/10/2018	04/13/2018	ALKALINITY, TOTAL	CH-A1	150.00000		
1804451001-T	04/10/2018	04/13/2018	TOTAL ORGANIC CARBON	CH-A1	2.1700000		
1804451002-T	04/10/2018	04/13/2018	TOTAL ORGANIC CARBON	CH-A1	1.5800000		
1804451003-T	04/10/2018	04/13/2018	TOTAL ORGANIC CARBON	WTP-A1	1.7200000		
1804451004-T	04/10/2018	04/13/2018	TOTAL ORGANIC CARBON	WTP-A1	1.6300000		
1804047001-D	04/02/2018	04/18/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0228000	0.0600000	MG/L
1804047001-D	04/02/2018	04/18/2018	TTHM	DIST-A	0.0333000	0.0800000	MG/L
1804047002-D	04/02/2018	04/18/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0192000	0.0600000	MG/L
1804047002-D	04/02/2018	04/18/2018	TTHM	DIST-A	0.0284000	0.0800000	MG/L
1804047003-D	04/02/2018	04/18/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0168000	0.0600000	MG/L
1804047003-D	04/02/2018	04/18/2018	TTHM	DIST-A	0.0258000	0.0800000	MG/L
1804047004-D	04/02/2018	04/18/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0197000	0.0600000	MG/L
1804047004-D	04/02/2018	04/18/2018	TTHM	DIST-A	0.0374000	0.0800000	MG/L
1801770001-T	01/17/2018	01/30/2018	ALKALINITY, TOTAL	CH-A1	180.00000		
1801770001-T	01/17/2018	01/30/2018	TOTAL ORGANIC CARBON	CH-A1	1.7000000		
1801770002-T	01/17/2018	01/30/2018	TOTAL ORGANIC CARBON	WTP-A1	1.2900000		
1801634013	01/12/2018	01/26/2018	COPPER	DIST-A	0.2280000	1.3000000	MG/L

1801634013	01/12/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634015	01/12/2018	01/26/2018	COPPER	DIST-A	0.1200000	1.3000000	MG/L
1801634015	01/12/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634016	01/12/2018	01/26/2018	COPPER	DIST-A	0.1280000	1.3000000	MG/L
1801634016	01/12/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634025	01/12/2018	01/26/2018	COPPER	DIST-A	0.1440000	1.3000000	MG/L
1801634025	01/12/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634001	01/11/2018	01/26/2018	COPPER	DIST-A	0.1520000	1.3000000	MG/L
1801634001	01/11/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634002	01/11/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801634002	01/11/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634003	01/11/2018	01/26/2018	COPPER	DIST-A	0.1510000	1.3000000	MG/L
1801634003	01/11/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634004	01/11/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801634004	01/11/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634009	01/11/2018	01/26/2018	COPPER	DIST-A	0.2850000	1.3000000	MG/L
1801634009	01/11/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634010	01/11/2018	01/26/2018	COPPER	DIST-A	0.1210000	1.3000000	MG/L
1801634010	01/11/2018	01/26/2018	LEAD	DIST-A	0.0053500	0.0150000	MG/L
1801634011	01/11/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801634011	01/11/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634012	01/11/2018	01/26/2018	COPPER	DIST-A	0.1390000	1.3000000	MG/L
1801634012	01/11/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634014	01/11/2018	01/26/2018	COPPER	DIST-A	0.1860000	1.3000000	MG/L
1801634014	01/11/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634019	01/11/2018	01/26/2018	COPPER	DIST-A	0.2490000	1.3000000	MG/L
1801634019	01/11/2018	01/26/2018	LEAD	DIST-A	0.0030900	0.0150000	MG/L
1801634023	01/11/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801634023	01/11/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634024	01/11/2018	01/26/2018	COPPER	DIST-A	0.2010000	1.3000000	MG/L
1801634024	01/11/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598001	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598001	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598002	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598002	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598003	01/10/2018	01/26/2018	COPPER	DIST-A	0.1540000	1.3000000	MG/L
1801598003	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598004	01/10/2018	01/26/2018	COPPER	DIST-A	0.1420000	1.3000000	MG/L
1801598004	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598006	01/10/2018	01/26/2018	COPPER	DIST-A	0.1540000	1.3000000	MG/L
1801598006	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598007	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598007	01/10/2018	01/26/2018	LEAD	DIST-A	0.0022200	0.0150000	MG/L
1801598009	01/10/2018	01/26/2018	COPPER	DIST-A	0.1770000	1.3000000	MG/L
1801598009	01/10/2018	01/26/2018	LEAD	DIST-A	0.0029300	0.0150000	MG/L
1801598010	01/10/2018	01/26/2018	COPPER	DIST-A	0.2800000	1.3000000	MG/L
1801598010	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L

1801598011	01/10/2018	01/26/2018	COPPER	DIST-A	0.1890000	1.3000000	MG/L
1801598011	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598012	01/10/2018	01/26/2018	COPPER	DIST-A	0.3150000	1.3000000	MG/L
1801598012	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598013	01/10/2018	01/26/2018	COPPER	DIST-A	0.1220000	1.3000000	MG/L
1801598013	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598014	01/10/2018	01/26/2018	COPPER	DIST-A	0.1610000	1.3000000	MG/L
1801598014	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598015	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598015	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598016	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598016	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598017	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598017	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598018	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598018	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598019	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598019	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598020	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598020	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598023	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598023	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598025	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598025	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598026	01/10/2018	01/26/2018	COPPER	DIST-A	0.1180000	1.3000000	MG/L
1801598026	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598027	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598027	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598028	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598028	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598030	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598030	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598031	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598031	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598032	01/10/2018	01/26/2018	COPPER	DIST-A	0.1220000	1.3000000	MG/L
1801598032	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598034	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598034	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598035	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598035	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598036	01/10/2018	01/26/2018	COPPER	DIST-A	0.1340000	1.3000000	MG/L
1801598036	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598037	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598037	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634005	01/10/2018	01/26/2018	COPPER	DIST-A	0.1580000	1.3000000	MG/L
1801634005	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L

1801634006	01/10/2018	01/26/2018	COPPER	DIST-A	0.1300000	1.3000000	MG/L
1801634006	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634007	01/10/2018	01/26/2018	COPPER	DIST-A	0.3130000	1.3000000	MG/L
1801634007	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634008	01/10/2018	01/26/2018	COPPER	DIST-A	0.1800000	1.3000000	MG/L
1801634008	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634018	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801634018	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634020	01/10/2018	01/26/2018	COPPER	DIST-A	0.1100000	1.3000000	MG/L
1801634020	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634021	01/10/2018	01/26/2018	COPPER	DIST-A	0.1230000	1.3000000	MG/L
1801634021	01/10/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634022	01/10/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801634022	01/10/2018	01/26/2018	LEAD	DIST-A	0.0053300	0.0150000	MG/L
1801598005	01/09/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598005	01/09/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598021	01/09/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598021	01/09/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598024	01/09/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598024	01/09/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598029	01/09/2018	01/26/2018	COPPER	DIST-A	0.3670000	1.3000000	MG/L
1801598029	01/09/2018	01/26/2018	LEAD	DIST-A	0.0068300	0.0150000	MG/L
1801598033	01/09/2018	01/26/2018	COPPER	DIST-A	ND	1.3000000	MG/L
1801598033	01/09/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801634017	01/09/2018	01/26/2018	COPPER	DIST-A	0.2780000	1.3000000	MG/L
1801634017	01/09/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598008	01/08/2018	01/26/2018	COPPER	DIST-A	0.3530000	1.3000000	MG/L
1801598008	01/08/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801598022	01/08/2018	01/26/2018	COPPER	DIST-A	0.1260000	1.3000000	MG/L
1801598022	01/08/2018	01/26/2018	LEAD	DIST-A	ND	0.0150000	MG/L
1801150001-D	01/04/2018	01/17/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0178000	0.0600000	MG/L
1801150001-D	01/04/2018	01/17/2018	TTHM	DIST-A	0.0323000	0.0800000	MG/L
1801150002-D	01/03/2018	01/17/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0143000	0.0600000	MG/L
1801150002-D	01/03/2018	01/17/2018	TTHM	DIST-A	0.0253000	0.0800000	MG/L
1801150003-D	01/03/2018	01/17/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0091800	0.0600000	MG/L
1801150003-D	01/03/2018	01/17/2018	TTHM	DIST-A	0.0208000	0.0800000	MG/L
1801150004-D	01/03/2018	01/17/2018	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0164000	0.0600000	MG/L
1801150004-D	01/03/2018	01/17/2018	TTHM	DIST-A	0.0309000	0.0800000	MG/L
1710254001-T	10/04/2017	10/12/2017	ALKALINITY, TOTAL	CH-A1	170.00000		
1710254001-T	10/04/2017	10/12/2017	TOTAL ORGANIC CARBON	CH-A1	2.3800000		
1710253001-D	10/04/2017	10/19/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0227000	0.0600000	MG/L
1710253001-D	10/04/2017	10/19/2017	TTHM	DIST-A	0.0481000	0.0800000	MG/L
1710253002-D	10/04/2017	10/19/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0168000	0.0600000	MG/L
1710253002-D	10/04/2017	10/19/2017	TTHM	DIST-A	0.0361000	0.0800000	MG/L
1710253003-D	10/04/2017	10/19/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0175000	0.0600000	MG/L
1710253003-D	10/04/2017	10/19/2017	TTHM	DIST-A	0.0331000	0.0800000	MG/L
1710253004-D	10/04/2017	10/19/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0236000	0.0600000	MG/L

1710253004-D	10/04/2017	10/19/2017	TTHM	DIST-A	0.0599000	0.0800000	MG/L
1710254002-T	10/04/2017	10/12/2017	TOTAL ORGANIC CARBON	WTP-A1	1.8200000		
1708190001-S	08/02/2017	08/22/2017	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
1708190001-S	08/02/2017	08/22/2017	2,4,5-TP	EP-A	ND	0.0500000	MG/L
1708190001-S	08/02/2017	08/22/2017	2,4-D	EP-A	ND	0.0700000	MG/L
1708190001-S	08/02/2017	08/22/2017	ATRAZINE	EP-A	ND	0.0030000	MG/L
1708190001-S	08/02/2017	08/22/2017	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
1708190001-S	08/02/2017	08/22/2017	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
1708190001-S	08/02/2017	08/22/2017	CARBOFURAN	EP-A	ND	0.0400000	MG/L
1708190001-S	08/02/2017	08/22/2017	CHLORDANE	EP-A	ND	0.0020000	MG/L
1708190001-S	08/02/2017	08/22/2017	DALAPON	EP-A	ND	0.2000000	MG/L
1708190001-S	08/02/2017	08/22/2017	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
1708190001-S	08/02/2017	08/22/2017	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
1708190001-S	08/02/2017	08/22/2017	DINOSEB	EP-A	ND	0.0070000	MG/L
1708190001-S	08/02/2017	08/22/2017	DIQUAT	EP-A	ND	0.0200000	MG/L
1708190001-S	08/02/2017	08/22/2017	ENDOTHALL	EP-A	ND	0.1000000	MG/L
1708190001-S	08/02/2017	08/22/2017	ENDRIN	EP-A	ND	0.0020000	MG/L
1708190001-S	08/02/2017	08/22/2017	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
1708190001-S	08/02/2017	08/22/2017	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
1708190001-S	08/02/2017	08/22/2017	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
1708190001-S	08/02/2017	08/22/2017	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
1708190001-S	08/02/2017	08/22/2017	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
1708190001-S	08/02/2017	08/22/2017	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
1708190001-S	08/02/2017	08/22/2017	LASSO	EP-A	ND	0.0020000	MG/L
1708190001-S	08/02/2017	08/22/2017	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
1708190001-S	08/02/2017	08/22/2017	OXAMYL	EP-A	ND	0.2000000	MG/L
1708190001-S	08/02/2017	08/22/2017	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
1708190001-S	08/02/2017	08/22/2017	PICLORAM	EP-A	ND	0.5000000	MG/L
1708190001-S	08/02/2017	08/22/2017	SIMAZINE	EP-A	ND	0.0040000	MG/L
1708190001-S	08/02/2017	08/22/2017	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
1708190001-S	08/02/2017	08/22/2017	TOXAPHENE	EP-A	ND	0.0030000	MG/L
1708007003	07/31/2017	08/15/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1708007003	07/31/2017	08/15/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1708007004	07/31/2017	08/15/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1708007004	07/31/2017	08/15/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1708007005	07/31/2017	08/15/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1708007005	07/31/2017	08/15/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1708007008	07/31/2017	08/15/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1708007008	07/31/2017	08/15/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1708007006	07/30/2017	08/15/2017	COPPER	DIST-A	0.2880000	1.3000000	MG/L
1708007006	07/30/2017	08/15/2017	LEAD	DIST-A	0.0029100	0.0150000	MG/L
1708007010	07/30/2017	08/15/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1708007010	07/30/2017	08/15/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1708007002	07/29/2017	08/15/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1708007002	07/29/2017	08/15/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1708007007	07/29/2017	08/15/2017	COPPER	DIST-A	ND	1.3000000	MG/L

1708007007	07/29/2017	08/15/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1708007009	07/27/2017	08/15/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1708007009	07/27/2017	08/15/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1708007001	07/25/2017	08/15/2017	COPPER	DIST-A	0.1770000	1.3000000	MG/L
1708007001	07/25/2017	08/15/2017	LEAD	DIST-A	0.0048200	0.0150000	MG/L
1707A25003	07/20/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25003	07/20/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25009	07/20/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25009	07/20/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25016	07/20/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25016	07/20/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25017	07/20/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25017	07/20/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25001	07/19/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25001	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25002	07/19/2017	08/08/2017	COPPER	DIST-A	0.1800000	1.3000000	MG/L
1707A25002	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25004	07/19/2017	08/08/2017	COPPER	DIST-A	0.1020000	1.3000000	MG/L
1707A25004	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25006	07/19/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25006	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25008	07/19/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25008	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25011	07/19/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25011	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25012	07/19/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25012	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25013	07/19/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25013	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25014	07/19/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25014	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25015	07/19/2017	08/08/2017	COPPER	DIST-A	0.1180000	1.3000000	MG/L
1707A25015	07/19/2017	08/08/2017	LEAD	DIST-A	0.0028800	0.0150000	MG/L
1707A25018	07/19/2017	08/08/2017	COPPER	DIST-A	0.1460000	1.3000000	MG/L
1707A25018	07/19/2017	08/08/2017	LEAD	DIST-A	0.0021500	0.0150000	MG/L
1707A25019	07/19/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25019	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25020	07/19/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25020	07/19/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25005	07/18/2017	08/08/2017	COPPER	DIST-A	0.3040000	1.3000000	MG/L
1707A25005	07/18/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707A25007	07/18/2017	08/08/2017	COPPER	DIST-A	0.1090000	1.3000000	MG/L
1707A25007	07/18/2017	08/08/2017	LEAD	DIST-A	0.0055800	0.0150000	MG/L
1707A25010	07/16/2017	08/08/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707A25010	07/16/2017	08/08/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683002	07/13/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L

1707683002	07/13/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683004	07/13/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683004	07/13/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683006	07/13/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683006	07/13/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683001	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683001	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683005	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683005	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683009	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683009	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683010	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683010	07/12/2017	08/03/2017	LEAD	DIST-A	0.0022400	0.0150000	MG/L
1707683012	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683012	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683013	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683013	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683016	07/12/2017	08/03/2017	COPPER	DIST-A	0.1040000	1.3000000	MG/L
1707683016	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683018	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683018	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683020	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683020	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683021	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683021	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683022	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683022	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683024	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683024	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683025	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683025	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683026	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683026	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683029	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683029	07/12/2017	08/03/2017	LEAD	DIST-A	0.0025900	0.0150000	MG/L
1707683030	07/12/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683030	07/12/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683003	07/11/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683003	07/11/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683008	07/11/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683008	07/11/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683011	07/11/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683011	07/11/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683014	07/11/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683014	07/11/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683015	07/11/2017	08/03/2017	COPPER	DIST-A	0.2610000	1.3000000	MG/L
1707683015	07/11/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L

1707683017	07/11/2017	08/03/2017	COPPER	DIST-A	0.1610000	1.3000000	MG/L
1707683017	07/11/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683019	07/11/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683019	07/11/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683027	07/11/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683027	07/11/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683028	07/11/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683028	07/11/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683007	07/10/2017	08/03/2017	COPPER	DIST-A	0.1030000	1.3000000	MG/L
1707683007	07/10/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707683023	07/10/2017	08/03/2017	COPPER	DIST-A	ND	1.3000000	MG/L
1707683023	07/10/2017	08/03/2017	LEAD	DIST-A	ND	0.0150000	MG/L
1707197001-D	07/06/2017	07/21/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0440000	0.0600000	MG/L
1707197001-D	07/06/2017	07/21/2017	TTHM	DIST-A	0.0778000	0.0800000	MG/L
1707197002-D	07/06/2017	07/21/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0443000	0.0600000	MG/L
1707197002-D	07/06/2017	07/21/2017	TTHM	DIST-A	0.0754000	0.0800000	MG/L
1707197003-D	07/06/2017	07/21/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0421000	0.0600000	MG/L
1707197003-D	07/06/2017	07/21/2017	TTHM	DIST-A	0.0752000	0.0800000	MG/L
1707197004-D	07/06/2017	07/21/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0473000	0.0600000	MG/L
1707197004-D	07/06/2017	07/21/2017	TTHM	DIST-A	**0.0827000**	0.0800000	MG/L
1707141001-T	07/05/2017	07/24/2017	ALKALINITY, TOTAL	CH-A1	130.00000		
1707141001-T	07/05/2017	07/24/2017	TOTAL ORGANIC CARBON	CH-A1	2.6600000		
1707141002-T	07/05/2017	07/24/2017	TOTAL ORGANIC CARBON	WTP-A1	2.1000000		
1705411001-R	05/09/2017	06/19/2017	COMBINED RADIUM (-226 & -228)	EP-A	ND	5.0000000	PCI/L
1705411001-R	05/09/2017	06/19/2017	GROSS ALPHA, EXCL. RADON & U	EP-A	ND	15.000000	PCI/L
1705209001-S	05/03/2017	05/22/2017	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
1705209001-S	05/03/2017	05/22/2017	2,4,5-TP	EP-A	ND	0.0500000	MG/L
1705209001-S	05/03/2017	05/22/2017	2,4-D	EP-A	ND	0.0700000	MG/L
1705209001-S	05/03/2017	05/22/2017	ATRAZINE	EP-A	ND	0.0030000	MG/L
1705209001-S	05/03/2017	05/22/2017	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
1705209001-S	05/03/2017	05/22/2017	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
1705209001-S	05/03/2017	05/22/2017	CARBOFURAN	EP-A	ND	0.0400000	MG/L
1705209001-S	05/03/2017	05/22/2017	CHLORDANE	EP-A	ND	0.0020000	MG/L
1705209001-S	05/03/2017	05/22/2017	DALAPON	EP-A	ND	0.2000000	MG/L
1705209001-S	05/03/2017	05/22/2017	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
1705209001-S	05/03/2017	05/22/2017	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
1705209001-S	05/03/2017	05/22/2017	DINOSEB	EP-A	ND	0.0070000	MG/L
1705209001-S	05/03/2017	05/22/2017	DIQUAT	EP-A	ND	0.0200000	MG/L
1705209001-S	05/03/2017	05/22/2017	ENDOTHALL	EP-A	ND	0.1000000	MG/L
1705209001-S	05/03/2017	05/22/2017	ENDRIN	EP-A	ND	0.0020000	MG/L
1705209001-S	05/03/2017	05/22/2017	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
1705209001-S	05/03/2017	05/22/2017	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
1705209001-S	05/03/2017	05/22/2017	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
1705209001-S	05/03/2017	05/22/2017	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
1705209001-S	05/03/2017	05/22/2017	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
1705209001-S	05/03/2017	05/22/2017	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L

1705209001-S	05/03/2017	05/22/2017	LASSO	EP-A	ND	0.0020000	MG/L
1705209001-S	05/03/2017	05/22/2017	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
1705209001-S	05/03/2017	05/22/2017	OXAMYL	EP-A	ND	0.2000000	MG/L
1705209001-S	05/03/2017	05/22/2017	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
1705209001-S	05/03/2017	05/22/2017	PICLORAM	EP-A	ND	0.5000000	MG/L
1705209001-S	05/03/2017	05/22/2017	SIMAZINE	EP-A	ND	0.0040000	MG/L
1705209001-S	05/03/2017	05/22/2017	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
1705209001-S	05/03/2017	05/22/2017	TOXAPHENE	EP-A	ND	0.0030000	MG/L
1704759001-I	04/19/2017	05/01/2017	ARSENIC	EP-A	ND	0.0100000	MG/L
1704759001-I	04/19/2017	05/01/2017	NITRATE	EP-A	0.6310000	10.000000	MG/L
1704759002-V	04/19/2017	05/01/2017	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
1704759002-V	04/19/2017	05/01/2017	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1704759002-V	04/19/2017	05/01/2017	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
1704759002-V	04/19/2017	05/01/2017	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
1704759002-V	04/19/2017	05/01/2017	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1704759002-V	04/19/2017	05/01/2017	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
1704759002-V	04/19/2017	05/01/2017	BENZENE	EP-A	ND	0.0050000	MG/L
1704759002-V	04/19/2017	05/01/2017	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
1704759002-V	04/19/2017	05/01/2017	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
1704759002-V	04/19/2017	05/01/2017	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
1704759002-V	04/19/2017	05/01/2017	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
1704759002-V	04/19/2017	05/01/2017	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
1704759002-V	04/19/2017	05/01/2017	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
1704759002-V	04/19/2017	05/01/2017	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
1704759002-V	04/19/2017	05/01/2017	STYRENE	EP-A	ND	0.1000000	MG/L
1704759002-V	04/19/2017	05/01/2017	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1704759002-V	04/19/2017	05/01/2017	TOLUENE	EP-A	ND	1.0000000	MG/L
1704759002-V	04/19/2017	05/01/2017	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
1704759002-V	04/19/2017	05/01/2017	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1704759002-V	04/19/2017	05/01/2017	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
1704759002-V	04/19/2017	05/01/2017	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
1704248001	04/06/2017	04/24/2017	ALKALINITY, TOTAL	CH-A1	120.00000		
1704248001-T	04/06/2017	04/24/2017	TOTAL ORGANIC CARBON	CH-A1	2.5700000		
1704248002-T	04/06/2017	04/24/2017	TOTAL ORGANIC CARBON	WTP-A1	1.5200000		
1704177001A-D	04/05/2017	04/19/2017	TTHM	DIST-A	0.0447000	0.0800000	MG/L
1704177001B-D	04/05/2017	04/19/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0296000	0.0600000	MG/L
1704177002A-D	04/05/2017	04/19/2017	TTHM	DIST-A	0.0314000	0.0800000	MG/L
1704177002B-D	04/05/2017	04/19/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0194000	0.0600000	MG/L
1704177003A-D	04/05/2017	04/19/2017	TTHM	DIST-A	0.0350000	0.0800000	MG/L
1704177003B-D	04/05/2017	04/19/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0233000	0.0600000	MG/L
1704177004A-D	04/05/2017	04/19/2017	TTHM	DIST-A	0.0418000	0.0800000	MG/L
1704177004B-D	04/05/2017	04/19/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0285000	0.0600000	MG/L
1701119001	01/05/2017	01/20/2017	ALKALINITY, TOTAL	CH-A1	190.00000		
1701119001-T	01/05/2017	01/20/2017	TOTAL ORGANIC CARBON	CH-A1	1.5800000		
1701120001A-D	01/05/2017	01/20/2017	TTHM	DIST-A	0.0293000	0.0800000	MG/L
1701120001B-D	01/05/2017	01/20/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0143000	0.0600000	MG/L

1701120002A-D	01/05/2017	01/20/2017	TTHM	DIST-A	0.0269000	0.0800000	MG/L
1701120002B-D	01/05/2017	01/20/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0137000	0.0600000	MG/L
1701120003A-D	01/05/2017	01/20/2017	TTHM	DIST-A	0.0241000	0.0800000	MG/L
1701120003B-D	01/05/2017	01/20/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0134000	0.0600000	MG/L
1701120004A-D	01/05/2017	01/20/2017	TTHM	DIST-A	0.0356000	0.0800000	MG/L
1701120004B-D	01/05/2017	01/20/2017	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0163000	0.0600000	MG/L
1701119002-T	01/05/2017	01/20/2017	TOTAL ORGANIC CARBON	WTP-A1	1.0100000		
1610212001	10/05/2016	10/21/2016	ALKALINITY, TOTAL	CH-A1	190.00000		
1610212001-T	10/05/2016	10/21/2016	TOTAL ORGANIC CARBON	CH-A1	2.0800000		
1610211001A-D	10/05/2016	10/20/2016	TTHM	DIST-A	0.0717000	0.0800000	MG/L
1610211001B-D	10/05/2016	10/20/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0323000	0.0600000	MG/L
1610211002A-D	10/05/2016	10/20/2016	TTHM	DIST-A	0.0418000	0.0800000	MG/L
1610211002B-D	10/05/2016	10/20/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0193000	0.0600000	MG/L
1610211003A-D	10/05/2016	10/20/2016	TTHM	DIST-A	0.0385000	0.0800000	MG/L
1610211003B-D	10/05/2016	10/20/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0175000	0.0600000	MG/L
1610211004A-D	10/05/2016	10/20/2016	TTHM	DIST-A	0.0712000	0.0800000	MG/L
1610211004B-D	10/05/2016	10/20/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0243000	0.0600000	MG/L
1610212002-T	10/05/2016	10/21/2016	TOTAL ORGANIC CARBON	WTP-A1	1.4300000		
1607228001	07/06/2016	07/19/2016	ALKALINITY, TOTAL	CH-A1	170.00000		
1607228001-T	07/06/2016	07/19/2016	TOTAL ORGANIC CARBON	CH-A1	2.3400000		
1607226001A-D	07/06/2016	07/26/2016	TTHM	DIST-A	0.0655000	0.0800000	MG/L
1607226001B-D	07/06/2016	07/28/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0406000	0.0600000	MG/L
1607226002A-D	07/06/2016	07/26/2016	TTHM	DIST-A	0.0563000	0.0800000	MG/L
1607226002B-D	07/06/2016	07/28/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0383000	0.0600000	MG/L
1607226003A-D	07/06/2016	07/26/2016	TTHM	DIST-A	0.0526000	0.0800000	MG/L
1607226003B-D	07/06/2016	07/28/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0326000	0.0600000	MG/L
1607226004A-D	07/06/2016	07/26/2016	TTHM	DIST-A	**0.0813000**	0.0800000	MG/L
1607226004B-D	07/06/2016	07/28/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0294000	0.0600000	MG/L
1607228002-T	07/06/2016	07/19/2016	TOTAL ORGANIC CARBON	WTP-A1	1.7300000		
1604902001-I	04/20/2016	04/29/2016	ARSENIC	EP-A	ND	0.0100000	MG/L
1604902001-I	04/20/2016	04/29/2016	NITRATE	EP-A	0.8280000	10.000000	MG/L
1604902002-V	04/20/2016	04/29/2016	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
1604902002-V	04/20/2016	04/29/2016	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1604902002-V	04/20/2016	04/29/2016	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
1604902002-V	04/20/2016	04/29/2016	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
1604902002-V	04/20/2016	04/29/2016	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1604902002-V	04/20/2016	04/29/2016	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
1604902002-V	04/20/2016	04/29/2016	BENZENE	EP-A	ND	0.0050000	MG/L
1604902002-V	04/20/2016	04/29/2016	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
1604902002-V	04/20/2016	04/29/2016	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
1604902002-V	04/20/2016	04/29/2016	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
1604902002-V	04/20/2016	04/29/2016	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
1604902002-V	04/20/2016	04/29/2016	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
1604902002-V	04/20/2016	04/29/2016	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
1604902002-V	04/20/2016	04/29/2016	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
1604902002-V	04/20/2016	04/29/2016	STYRENE	EP-A	ND	0.1000000	MG/L
1604902002-V	04/20/2016	04/29/2016	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L

1604902002-V	04/20/2016	04/29/2016	TOLUENE	EP-A	ND	1.0000000	MG/L
1604902002-V	04/20/2016	04/29/2016	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
1604902002-V	04/20/2016	04/29/2016	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1604902002-V	04/20/2016	04/29/2016	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
1604902002-V	04/20/2016	04/29/2016	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
1604359001	04/07/2016	04/22/2016	ALKALINITY, TOTAL	CH-A1	140.00000		
1604359001-T	04/07/2016	04/22/2016	TOTAL ORGANIC CARBON	CH-A1	2.4200000		
1604360001A-D	04/07/2016	04/26/2016	TTHM	DIST-A	0.0497000	0.0800000	MG/L
1604360001B-D	04/07/2016	04/26/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0223000	0.0600000	MG/L
1604360002A-D	04/07/2016	04/26/2016	TTHM	DIST-A	0.0320000	0.0800000	MG/L
1604360002B-D	04/07/2016	04/26/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0145000	0.0600000	MG/L
1604360003A-D	04/07/2016	04/26/2016	TTHM	DIST-A	0.0271000	0.0800000	MG/L
1604360003B-D	04/07/2016	04/26/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0143000	0.0600000	MG/L
1604360004A-D	04/07/2016	04/26/2016	TTHM	DIST-A	0.0497000	0.0800000	MG/L
1604360004B-D	04/07/2016	04/26/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0206000	0.0600000	MG/L
1604359002-T	04/07/2016	04/22/2016	TOTAL ORGANIC CARBON	WTP-A1	1.2600000		
140110031004-V	01/09/2016	02/10/2016	1,1,1-TRICHLOROETHANE	SRC-AI	ND	0.2000000	MG/L
140110031004-V	01/09/2016	02/10/2016	1,1,2-TRICHLOROETHANE	SRC-AI	ND	0.0050000	MG/L
140110031004-V	01/09/2016	02/10/2016	1,1-DICHLOROETHYLENE	SRC-AI	ND	0.0070000	MG/L
140110031004-V	01/09/2016	02/10/2016	1,2,4-TRICHLOROBENZENE	SRC-AI	ND	0.0700000	MG/L
140110031004-V	01/09/2016	02/10/2016	1,2-DICHLOROETHANE	SRC-AI	ND	0.0050000	MG/L
140110031004-V	01/09/2016	02/10/2016	1,2-DICHLOROPROPANE	SRC-AI	ND	0.0050000	MG/L
140110031004-V	01/09/2016	02/10/2016	BENZENE	SRC-AI	ND	0.0050000	MG/L
140110031004-V	01/09/2016	02/10/2016	CARBON TETRACHLORIDE	SRC-AI	ND	0.0050000	MG/L
140110031004-V	01/09/2016	02/10/2016	CHLOROBENZENE	SRC-AI	ND	0.1000000	MG/L
140110031004-V	01/09/2016	02/10/2016	CIS-1,2-DICHLOROETHYLENE	SRC-AI	ND	0.0700000	MG/L
140110031004-V	01/09/2016	02/10/2016	DICHLOROMETHANE	SRC-AI	ND	0.0050000	MG/L
140110031004-V	01/09/2016	02/10/2016	ETHYLBENZENE	SRC-AI	ND	0.7000000	MG/L
140110031004-V	01/09/2016	02/10/2016	O-DICHLOROBENZENE	SRC-AI	ND	0.6000000	MG/L
140110031004-V	01/09/2016	02/10/2016	P-DICHLOROBENZENE	SRC-AI	ND	0.0750000	MG/L
140110031004-V	01/09/2016	02/10/2016	STYRENE	SRC-AI	ND	0.1000000	MG/L
140110031004-V	01/09/2016	02/10/2016	TETRACHLOROETHYLENE	SRC-AI	ND	0.0050000	MG/L
140110031004-V	01/09/2016	02/10/2016	TOLUENE	SRC-AI	ND	1.0000000	MG/L
140110031004-V	01/09/2016	02/10/2016	TRANS-1,2-DICHLOROETHYLENE	SRC-AI	ND	0.1000000	MG/L
140110031004-V	01/09/2016	02/10/2016	TRICHLOROETHYLENE	SRC-AI	ND	0.0050000	MG/L
140110031004-V	01/09/2016	02/10/2016	VINYL CHLORIDE	SRC-AI	ND	0.0020000	MG/L
140110031004-V	01/09/2016	02/10/2016	XYLENES, TOTAL	SRC-AI	ND	10.000000	MG/L
1601227001	01/07/2016	01/26/2016	ALKALINITY, TOTAL	CH-A1	210.00000		
1601227001-T	01/07/2016	01/26/2016	TOTAL ORGANIC CARBON	CH-A1	1.9300000		
1601227002-T	01/07/2016	01/26/2016	TOTAL ORGANIC CARBON	WTP-A1	1.1100000		
1601170001A-D	01/06/2016	01/22/2016	TTHM	DIST-A	0.0270000	0.0800000	MG/L
1601170001B-D	01/06/2016	01/22/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0072900	0.0600000	MG/L
1601170002A-D	01/06/2016	01/22/2016	TTHM	DIST-A	0.0273000	0.0800000	MG/L
1601170002B-D	01/06/2016	01/22/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0077300	0.0600000	MG/L
1601170003A-D	01/06/2016	01/22/2016	TTHM	DIST-A	0.0225000	0.0800000	MG/L
1601170003B-D	01/06/2016	01/22/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0066500	0.0600000	MG/L

1601170004A-D	01/06/2016	01/22/2016	TTHM	DIST-A	0.0389000	0.0800000	MG/L
1601170004B-D	01/06/2016	01/22/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0141000	0.0600000	MG/L
1510294001A-D	10/07/2015	10/16/2015	TTHM	DIST-A	0.0525000	0.0800000	MG/L
1510294001B-D	10/07/2015	10/16/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0166000	0.0600000	MG/L
1510294002A-D	10/07/2015	10/16/2015	TTHM	DIST-A	0.0354000	0.0800000	MG/L
1510294002B-D	10/07/2015	10/16/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0103000	0.0600000	MG/L
1510294003A-D	10/07/2015	10/16/2015	TTHM	DIST-A	0.0317000	0.0800000	MG/L
1510294003B-D	10/07/2015	10/16/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0087000	0.0600000	MG/L
1510294004A-D	10/07/2015	10/16/2015	TTHM	DIST-A	0.0588000	0.0800000	MG/L
1510294004B-D	10/07/2015	10/16/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0143000	0.0600000	MG/L
1510221001	10/06/2015	10/30/2015	ALKALINITY, TOTAL	CH-A1	200.00000		
1510221001-T	10/06/2015	10/30/2015	TOTAL ORGANIC CARBON	CH-A1	2.1000000		
1510221002-T	10/06/2015	10/30/2015	TOTAL ORGANIC CARBON	WTP-A1	1.4700000		
1508A67001	08/26/2015	09/09/2015	ALKALINITY, TOTAL	CH-A1	200.00000		
1508A67001-T	08/26/2015	09/09/2015	TOTAL ORGANIC CARBON	CH-A1	2.4000000		
1508A67002-T	08/26/2015	09/09/2015	TOTAL ORGANIC CARBON	WTP-A1	1.6700000		
1504987001	04/22/2015	05/05/2015	NITRATE	EP-A	1.6500000	10.000000	MG/L
1504987001-I	04/22/2015	05/05/2015	ARSENIC	EP-A	ND	0.0100000	MG/L
1504987002-V	04/22/2015	05/05/2015	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
1504987002-V	04/22/2015	05/05/2015	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1504987002-V	04/22/2015	05/05/2015	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
1504987002-V	04/22/2015	05/05/2015	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
1504987002-V	04/22/2015	05/05/2015	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
1504987002-V	04/22/2015	05/05/2015	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
1504987002-V	04/22/2015	05/05/2015	BENZENE	EP-A	ND	0.0050000	MG/L
1504987002-V	04/22/2015	05/05/2015	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
1504987002-V	04/22/2015	05/05/2015	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
1504987002-V	04/22/2015	05/05/2015	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
1504987002-V	04/22/2015	05/05/2015	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
1504987002-V	04/22/2015	05/05/2015	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
1504987002-V	04/22/2015	05/05/2015	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
1504987002-V	04/22/2015	05/05/2015	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
1504987002-V	04/22/2015	05/05/2015	STYRENE	EP-A	ND	0.1000000	MG/L
1504987002-V	04/22/2015	05/05/2015	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1504987002-V	04/22/2015	05/05/2015	TOLUENE	EP-A	ND	1.0000000	MG/L
1504987002-V	04/22/2015	05/05/2015	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
1504987002-V	04/22/2015	05/05/2015	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
1504987002-V	04/22/2015	05/05/2015	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
1504987002-V	04/22/2015	05/05/2015	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
1504692001	04/15/2015	04/28/2015	ALKALINITY, TOTAL	CH-A1	190.00000		
1504692001-T	04/15/2015	04/28/2015	TOTAL ORGANIC CARBON	CH-A1	2.1000000		
1504693001A-D	04/15/2015	05/05/2015	TTHM	DIST-A	0.0474000	0.0800000	MG/L
1504693001B-D	04/15/2015	05/05/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0204000	0.0600000	MG/L
1504693002A-D	04/15/2015	05/05/2015	TTHM	DIST-A	0.0352000	0.0800000	MG/L
1504693002B-D	04/15/2015	05/05/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0164000	0.0600000	MG/L
1504693003A-D	04/15/2015	05/05/2015	TTHM	DIST-A	0.0359000	0.0800000	MG/L
1504693003B-D	04/15/2015	05/05/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0170000	0.0600000	MG/L

1504693004A-D	04/15/2015	05/05/2015	TTHM	DIST-A	0.0458000	0.0800000	MG/L
1504693004B-D	04/15/2015	05/05/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0201000	0.0600000	MG/L
1504692002-T	04/15/2015	04/28/2015	TOTAL ORGANIC CARBON	WTP-A1	1.4200000		
1502997001	02/25/2015	03/10/2015	ALKALINITY, TOTAL	CH-A1	200.00000		
1502997001-T	02/25/2015	03/10/2015	TOTAL ORGANIC CARBON	CH-A1	1.6500000		
1502997002-T	02/25/2015	03/10/2015	TOTAL ORGANIC CARBON	WTP-A1	1.0200000		
1501679001A-D	01/21/2015	02/06/2015	TTHM	DIST-A	0.0256000	0.0800000	MG/L
1501679001B-D	01/21/2015	02/06/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0038300	0.0600000	MG/L
1501679002A-D	01/21/2015	02/06/2015	TTHM	DIST-A	0.0211000	0.0800000	MG/L
1501679002B-D	01/21/2015	02/06/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	ND	0.0600000	MG/L
1501679003A-D	01/21/2015	02/09/2015	TTHM	DIST-A	0.0236000	0.0800000	MG/L
1501679003B-D	01/21/2015	02/06/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	ND	0.0600000	MG/L
1501679004A-D	01/21/2015	02/06/2015	TTHM	DIST-A	0.0313000	0.0800000	MG/L
1501679004B-D	01/21/2015	02/06/2015	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0037700	0.0600000	MG/L
1411748001-T	11/17/2014	11/25/2014	ALKALINITY, TOTAL	CH-A1	204.00000		
1411749001-T	11/17/2014	12/09/2014	TOTAL ORGANIC CARBON	CH-A1	1.6300000		
1411749002-T	11/17/2014	12/09/2014	TOTAL ORGANIC CARBON	WTP-A1	1.0600000		
1410B51001A-D	10/28/2014	11/12/2014	TTHM	DIST-A	0.0548000	0.0800000	MG/L
1410B51001B-D	10/28/2014	11/12/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0262000	0.0600000	MG/L
1410B51002A-D	10/28/2014	11/12/2014	TTHM	DIST-A	0.0294000	0.0800000	MG/L
1410B51002B-D	10/28/2014	11/12/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0088600	0.0600000	MG/L
1410B51003A-D	10/28/2014	11/12/2014	TTHM	DIST-A	0.0261000	0.0800000	MG/L
1410B51003B-D	10/28/2014	11/12/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0082100	0.0600000	MG/L
1410B51004A-D	10/28/2014	11/12/2014	TTHM	DIST-A	0.0496000	0.0800000	MG/L
1410B51004B-D	10/28/2014	11/12/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0267000	0.0600000	MG/L
140821048003	08/20/2014	09/12/2014	COPPER	DIST-A	0.0495000	1.3000000	MG/L
140821048003	08/20/2014	09/12/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821048002	08/19/2014	09/12/2014	COPPER	DIST-A	0.1030000	1.3000000	MG/L
140821048002	08/19/2014	09/12/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005013	08/18/2014	09/09/2014	COPPER	DIST-A	0.0492000	1.3000000	MG/L
140821005013	08/18/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005018	08/18/2014	09/09/2014	COPPER	DIST-A	0.0470000	1.3000000	MG/L
140821005018	08/18/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005024	08/18/2014	09/09/2014	COPPER	DIST-A	0.0540000	1.3000000	MG/L
140821005024	08/18/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005025	08/18/2014	09/09/2014	COPPER	DIST-A	0.0197000	1.3000000	MG/L
140821005025	08/18/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005001	08/17/2014	09/09/2014	COPPER	DIST-A	0.1030000	1.3000000	MG/L
140821005001	08/17/2014	09/09/2014	LEAD	DIST-A	0.0011600	0.0150000	MG/L
140821005004	08/17/2014	09/09/2014	COPPER	DIST-A	0.1590000	1.3000000	MG/L
140821005004	08/17/2014	09/09/2014	LEAD	DIST-A	0.0015500	0.0150000	MG/L
140821005006	08/17/2014	09/09/2014	COPPER	DIST-A	0.1150000	1.3000000	MG/L
140821005006	08/17/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005007	08/17/2014	09/09/2014	COPPER	DIST-A	0.0378000	1.3000000	MG/L
140821005007	08/17/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005008	08/17/2014	09/09/2014	COPPER	DIST-A	0.0369000	1.3000000	MG/L

140821005008	08/17/2014	09/09/2014	LEAD	DIST-A	0.0018600	0.0150000	MG/L
140821005011	08/17/2014	09/09/2014	COPPER	DIST-A	0.2300000	1.3000000	MG/L
140821005011	08/17/2014	09/09/2014	LEAD	DIST-A	0.0074100	0.0150000	MG/L
140821005012	08/17/2014	09/09/2014	COPPER	DIST-A	0.0369000	1.3000000	MG/L
140821005012	08/17/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005016	08/17/2014	09/09/2014	COPPER	DIST-A	0.0104000	1.3000000	MG/L
140821005016	08/17/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005017	08/17/2014	09/09/2014	COPPER	DIST-A	0.2340000	1.3000000	MG/L
140821005017	08/17/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005020	08/17/2014	09/09/2014	COPPER	DIST-A	0.0135000	1.3000000	MG/L
140821005020	08/17/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005021	08/17/2014	09/09/2014	COPPER	DIST-A	0.0383000	1.3000000	MG/L
140821005021	08/17/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005022	08/17/2014	09/09/2014	COPPER	DIST-A	0.2910000	1.3000000	MG/L
140821005022	08/17/2014	09/09/2014	LEAD	DIST-A	0.0010200	0.0150000	MG/L
140821005026	08/17/2014	09/09/2014	COPPER	DIST-A	0.0094900	1.3000000	MG/L
140821005026	08/17/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005002	08/16/2014	09/09/2014	COPPER	DIST-A	0.1640000	1.3000000	MG/L
140821005002	08/16/2014	09/09/2014	LEAD	DIST-A	0.0010900	0.0150000	MG/L
140821005015	08/16/2014	09/09/2014	COPPER	DIST-A	0.0495000	1.3000000	MG/L
140821005015	08/16/2014	09/09/2014	LEAD	DIST-A	0.0019400	0.0150000	MG/L
140821005019	08/16/2014	09/09/2014	COPPER	DIST-A	0.1710000	1.3000000	MG/L
140821005019	08/16/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821048001	08/16/2014	09/12/2014	COPPER	DIST-A	0.1860000	1.3000000	MG/L
140821048001	08/16/2014	09/12/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005005	08/15/2014	09/09/2014	COPPER	DIST-A	0.0690000	1.3000000	MG/L
140821005005	08/15/2014	09/09/2014	LEAD	DIST-A	0.0012600	0.0150000	MG/L
140821005010	08/15/2014	09/09/2014	COPPER	DIST-A	0.1570000	1.3000000	MG/L
140821005010	08/15/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005014	08/15/2014	09/09/2014	COPPER	DIST-A	0.1840000	1.3000000	MG/L
140821005014	08/15/2014	09/09/2014	LEAD	DIST-A	0.0010600	0.0150000	MG/L
140821005023	08/15/2014	09/09/2014	COPPER	DIST-A	0.1460000	1.3000000	MG/L
140821005023	08/15/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005003	08/14/2014	09/09/2014	COPPER	DIST-A	0.0125000	1.3000000	MG/L
140821005003	08/14/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005009	08/14/2014	09/09/2014	COPPER	DIST-A	0.0227000	1.3000000	MG/L
140821005009	08/14/2014	09/09/2014	LEAD	DIST-A	ND	0.0150000	MG/L
140821005027	08/14/2014	09/09/2014	COPPER	DIST-A	0.2130000	1.3000000	MG/L
140821005027	08/14/2014	09/09/2014	LEAD	DIST-A	0.0012200	0.0150000	MG/L
1408276001-S	08/06/2014	09/10/2014	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
1408276001-S	08/06/2014	09/10/2014	2,4,5-TP	EP-A	ND	0.0500000	MG/L
1408276001-S	08/06/2014	09/10/2014	2,4-D	EP-A	ND	0.0700000	MG/L
1408276001-S	08/06/2014	09/10/2014	ATRAZINE	EP-A	ND	0.0030000	MG/L
1408276001-S	08/06/2014	09/10/2014	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
1408276001-S	08/06/2014	09/10/2014	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
1408276001-S	08/06/2014	09/10/2014	CARBOFURAN	EP-A	ND	0.0400000	MG/L
1408276001-S	08/06/2014	09/10/2014	CHLORDANE	EP-A	ND	0.0020000	MG/L

1408276001-S	08/06/2014	09/10/2014	DALAPON	EP-A	ND	0.2000000	MG/L
1408276001-S	08/06/2014	09/10/2014	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
1408276001-S	08/06/2014	09/10/2014	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
1408276001-S	08/06/2014	09/10/2014	DINOSEB	EP-A	ND	0.0070000	MG/L
1408276001-S	08/06/2014	09/10/2014	DIQUAT	EP-A	ND	0.0200000	MG/L
1408276001-S	08/06/2014	09/10/2014	ENDOTHALL	EP-A	ND	0.1000000	MG/L
1408276001-S	08/06/2014	09/10/2014	ENDRIN	EP-A	ND	0.0020000	MG/L
1408276001-S	08/06/2014	09/10/2014	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
1408276001-S	08/06/2014	09/10/2014	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
1408276001-S	08/06/2014	09/10/2014	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
1408276001-S	08/06/2014	09/10/2014	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
1408276001-S	08/06/2014	09/10/2014	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
1408276001-S	08/06/2014	09/10/2014	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
1408276001-S	08/06/2014	09/10/2014	LASSO	EP-A	ND	0.0020000	MG/L
1408276001-S	08/06/2014	09/10/2014	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
1408276001-S	08/06/2014	09/10/2014	OXAMYL	EP-A	ND	0.2000000	MG/L
1408276001-S	08/06/2014	09/10/2014	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
1408276001-S	08/06/2014	09/10/2014	PICLORAM	EP-A	ND	0.5000000	MG/L
1408276001-S	08/06/2014	09/10/2014	SIMAZINE	EP-A	ND	0.0040000	MG/L
1408276001-S	08/06/2014	09/10/2014	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
1408276001-S	08/06/2014	09/10/2014	TOXAPHENE	EP-A	ND	0.0030000	MG/L
140774901	07/24/2014	08/13/2014	ALKALINITY, TOTAL	CH-A1	164.00000		
140774901-T	07/24/2014	08/13/2014	TOTAL ORGANIC CARBON	CH-A1	2.6400000		
140774801-D	07/24/2014	08/13/2014	TTHM	DIST-A	0.0791000	0.0800000	MG/L
140774802-D	07/24/2014	08/13/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0382000	0.0600000	MG/L
140774803-D	07/24/2014	08/13/2014	TTHM	DIST-A	0.0699000	0.0800000	MG/L
140774804-D	07/24/2014	08/13/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0371000	0.0600000	MG/L
140774805-D	07/24/2014	08/13/2014	TTHM	DIST-A	0.0690000	0.0800000	MG/L
140774806-D	07/24/2014	08/13/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0287000	0.0600000	MG/L
140774807-D	07/24/2014	08/13/2014	TTHM	DIST-A	0.0780000	0.0800000	MG/L
140774808-D	07/24/2014	08/13/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0337000	0.0600000	MG/L
140774902-T	07/24/2014	08/13/2014	TOTAL ORGANIC CARBON	WTP-A1	1.5300000		
140625078001-S	06/24/2014	07/18/2014	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
140625078001-S	06/24/2014	07/18/2014	2,4,5-TP	EP-A	ND	0.0500000	MG/L
140625078001-S	06/24/2014	07/18/2014	2,4-D	EP-A	ND	0.0700000	MG/L
140625078001-S	06/24/2014	07/18/2014	ATRAZINE	EP-A	ND	0.0030000	MG/L
140625078001-S	06/24/2014	07/18/2014	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
140625078001-S	06/24/2014	07/18/2014	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
140625078001-S	06/24/2014	07/18/2014	CARBOFURAN	EP-A	ND	0.0400000	MG/L
140625078001-S	06/24/2014	07/18/2014	CHLORDANE	EP-A	ND	0.0020000	MG/L
140625078001-S	06/24/2014	07/18/2014	DALAPON	EP-A	ND	0.2000000	MG/L
140625078001-S	06/24/2014	07/18/2014	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
140625078001-S	06/24/2014	07/18/2014	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
140625078001-S	06/24/2014	07/18/2014	DINOSEB	EP-A	ND	0.0070000	MG/L
140625078001-S	06/24/2014	07/18/2014	DIQUAT	EP-A	ND	0.0200000	MG/L
140625078001-S	06/24/2014	07/18/2014	ENDOTHALL	EP-A	ND	0.1000000	MG/L

140625078001-S	06/24/2014	07/18/2014	ENDRIN	EP-A	ND	0.0020000	MG/L
140625078001-S	06/24/2014	07/18/2014	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
140625078001-S	06/24/2014	07/18/2014	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
140625078001-S	06/24/2014	07/18/2014	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
140625078001-S	06/24/2014	07/18/2014	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
140625078001-S	06/24/2014	07/18/2014	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
140625078001-S	06/24/2014	07/18/2014	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
140625078001-S	06/24/2014	07/18/2014	LASSO	EP-A	ND	0.0020000	MG/L
140625078001-S	06/24/2014	07/18/2014	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
140625078001-S	06/24/2014	07/18/2014	OXAMYL	EP-A	ND	0.2000000	MG/L
140625078001-S	06/24/2014	07/18/2014	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
140625078001-S	06/24/2014	07/18/2014	PICLORAM	EP-A	ND	0.5000000	MG/L
140625078001-S	06/24/2014	07/18/2014	SIMAZINE	EP-A	ND	0.0040000	MG/L
140625078001-S	06/24/2014	07/18/2014	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
140625078001-S	06/24/2014	07/18/2014	TOXAPHENE	EP-A	ND	0.0030000	MG/L
1407451	06/04/2014	06/23/2014	ALKALINITY, TOTAL	CH-A1	141.00000		
1407451-T	06/04/2014	06/23/2014	TOTAL ORGANIC CARBON	CH-A1	2.4600000		
1407461-T	06/04/2014	06/23/2014	TOTAL ORGANIC CARBON	WTP-A1	1.8400000		
140604003001-D	06/02/2014	06/25/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0460000	0.0600000	MG/L
140604003001-D	06/02/2014	06/25/2014	TTHM	DIST-A	0.0666000	0.0800000	MG/L
140604003002-D	06/02/2014	06/25/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0324000	0.0600000	MG/L
140604003002-D	06/02/2014	06/25/2014	TTHM	DIST-A	0.0494000	0.0800000	MG/L
140604003003-D	06/02/2014	06/25/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0348000	0.0600000	MG/L
140604003003-D	06/02/2014	06/25/2014	TTHM	DIST-A	0.0514000	0.0800000	MG/L
140604003004-D	06/02/2014	06/25/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0432000	0.0600000	MG/L
140604003004-D	06/02/2014	06/25/2014	TTHM	DIST-A	0.0708000	0.0800000	MG/L
140603046001-I	06/02/2014	06/25/2014	ARSENIC	EP-A	0.0029500	0.0100000	MG/L
140603046001-I	06/02/2014	06/25/2014	NITRATE	EP-A	1.2500000	10.000000	MG/L
140603046002-I	06/02/2014	06/25/2014	ARSENIC	EP-A	0.0035200	0.0100000	MG/L
140603046003-V	06/02/2014	06/25/2014	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
140603046003-V	06/02/2014	06/25/2014	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
140603046003-V	06/02/2014	06/25/2014	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
140603046003-V	06/02/2014	06/25/2014	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
140603046003-V	06/02/2014	06/25/2014	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
140603046003-V	06/02/2014	06/25/2014	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
140603046003-V	06/02/2014	06/25/2014	BENZENE	EP-A	ND	0.0050000	MG/L
140603046003-V	06/02/2014	06/25/2014	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
140603046003-V	06/02/2014	06/25/2014	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
140603046003-V	06/02/2014	06/25/2014	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
140603046003-V	06/02/2014	06/25/2014	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
140603046003-V	06/02/2014	06/25/2014	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
140603046003-V	06/02/2014	06/25/2014	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
140603046003-V	06/02/2014	06/25/2014	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
140603046003-V	06/02/2014	06/25/2014	STYRENE	EP-A	ND	0.1000000	MG/L
140603046003-V	06/02/2014	06/25/2014	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
140603046003-V	06/02/2014	06/25/2014	TOLUENE	EP-A	ND	1.0000000	MG/L

140603046003-V	06/02/2014	06/25/2014	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
140603046003-V	06/02/2014	06/25/2014	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
140603046003-V	06/02/2014	06/25/2014	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
140603046003-V	06/02/2014	06/25/2014	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
1397821-T	05/07/2014	06/06/2014	ALKALINITY, TOTAL	CH-A1	190.00000		
1397821-T	05/07/2014	06/06/2014	TOTAL ORGANIC CARBON	CH-A1	2.0000000		
1397831-T	05/07/2014	06/06/2014	TOTAL ORGANIC CARBON	WTP-A1	1.5700000		
1388191	04/02/2014	04/21/2014	ALKALINITY, TOTAL	CH-A1	189.00000		
1388191-T	04/02/2014	04/21/2014	TOTAL ORGANIC CARBON	CH-A1	1.9100000		
1388201-T	04/02/2014	04/21/2014	TOTAL ORGANIC CARBON	WTP-A1	1.2700000		
1381411	03/04/2014	03/24/2014	TOTAL ORGANIC CARBON	CH-A1	1.4800000		
1381411-T	03/04/2014	03/24/2014	ALKALINITY, TOTAL	CH-A1	275.00000		
1381421-T	03/04/2014	03/24/2014	TOTAL ORGANIC CARBON	WTP-A1	1.4500000		
1374621	02/05/2014	02/24/2014	ALKALINITY, TOTAL	CH-A1	191.00000		
1374621-T	02/05/2014	02/24/2014	TOTAL ORGANIC CARBON	CH-A1	1.4900000		
1374931-T	02/05/2014	02/24/2014	TOTAL ORGANIC CARBON	WTP-A1	1.1800000		
140123027001-D	01/22/2014	02/18/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0126000	0.0600000	MG/L
140123027001-D	01/22/2014	02/18/2014	TTHM	DIST-A	0.0258000	0.0800000	MG/L
140123027002-D	01/22/2014	02/18/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0161000	0.0600000	MG/L
140123027002-D	01/22/2014	02/18/2014	TTHM	DIST-A	0.0332000	0.0800000	MG/L
140123027003-D	01/22/2014	02/18/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0171000	0.0600000	MG/L
140123027003-D	01/22/2014	02/18/2014	TTHM	DIST-A	0.0370000	0.0800000	MG/L
140123027004-D	01/22/2014	02/18/2014	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0106000	0.0600000	MG/L
140123027004-D	01/22/2014	02/18/2014	TTHM	DIST-A	0.0198000	0.0800000	MG/L
140110031001-S	01/09/2014	02/10/2014	1,2-DIBROMO-3-CHLOROPROPANE	SRC-AI	ND	0.0002000	MG/L
140110031001-S	01/09/2014	02/10/2014	2,4,5-TP	SRC-AI	ND	0.0500000	MG/L
140110031001-S	01/09/2014	02/10/2014	2,4-D	SRC-AI	ND	0.0700000	MG/L
140110031001-S	01/09/2014	02/10/2014	ATRAZINE	SRC-AI	ND	0.0030000	MG/L
140110031001-S	01/09/2014	02/10/2014	BENZO(A)PYRENE	SRC-AI	ND	0.0002000	MG/L
140110031001-S	01/09/2014	02/10/2014	BHC-GAMMA	SRC-AI	ND	0.0002000	MG/L
140110031001-S	01/09/2014	02/10/2014	CARBOFURAN	SRC-AI	ND	0.0400000	MG/L
140110031001-S	01/09/2014	02/10/2014	CHLORDANE	SRC-AI	ND	0.0020000	MG/L
140110031001-S	01/09/2014	02/10/2014	DALAPON	SRC-AI	ND	0.2000000	MG/L
140110031001-S	01/09/2014	02/10/2014	DI(2-ETHYLHEXYL) ADIPATE	SRC-AI	ND	0.4000000	MG/L
140110031001-S	01/09/2014	02/10/2014	DI(2-ETHYLHEXYL) PHTHALATE	SRC-AI	ND	0.0060000	MG/L
140110031001-S	01/09/2014	02/10/2014	DINOSEB	SRC-AI	ND	0.0070000	MG/L
140110031001-S	01/09/2014	02/10/2014	DIQUAT	SRC-AI	ND	0.0200000	MG/L
140110031001-S	01/09/2014	02/10/2014	ENDOTHALL	SRC-AI	ND	0.1000000	MG/L
140110031001-S	01/09/2014	02/10/2014	ENDRIN	SRC-AI	ND	0.0020000	MG/L
140110031001-S	01/09/2014	02/10/2014	ETHYLENE DIBROMIDE	SRC-AI	ND	0.0000500	MG/L
140110031001-S	01/09/2014	02/10/2014	GLYPHOSATE	SRC-AI	ND	0.7000000	MG/L
140110031001-S	01/09/2014	02/10/2014	HEPTACHLOR	SRC-AI	ND	0.0004000	MG/L
140110031001-S	01/09/2014	02/10/2014	HEPTACHLOR EPOXIDE	SRC-AI	ND	0.0002000	MG/L
140110031001-S	01/09/2014	02/10/2014	HEXACHLOROBENZENE	SRC-AI	ND	0.0010000	MG/L
140110031001-S	01/09/2014	02/10/2014	HEXACHLOROCYCLOPENTADIENE	SRC-AI	ND	0.0500000	MG/L
140110031001-S	01/09/2014	02/10/2014	LASSO	SRC-AI	ND	0.0020000	MG/L

140110031001-S	01/09/2014	02/10/2014	METHOXYCHLOR	SRC-AI	ND	0.0400000	MG/L
140110031001-S	01/09/2014	02/10/2014	OXAMYL	SRC-AI	ND	0.2000000	MG/L
140110031001-S	01/09/2014	02/10/2014	PENTACHLOROPHENOL	SRC-AI	ND	0.0010000	MG/L
140110031001-S	01/09/2014	02/10/2014	PICLORAM	SRC-AI	ND	0.5000000	MG/L
140110031001-S	01/09/2014	02/10/2014	SIMAZINE	SRC-AI	ND	0.0040000	MG/L
140110031001-S	01/09/2014	02/10/2014	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	SRC-AI	ND	0.0005000	MG/L
140110031001-S	01/09/2014	02/10/2014	TOXAPHENE	SRC-AI	ND	0.0030000	MG/L
140110031002-I	01/09/2014	02/10/2014	ANTIMONY, TOTAL	SRC-AI	ND	0.0060000	MG/L
140110031002-I	01/09/2014	02/10/2014	ARSENIC	SRC-AI	0.0051400	0.0100000	MG/L
140110031002-I	01/09/2014	02/10/2014	BARIUM	SRC-AI	0.0611000	2.0000000	MG/L
140110031002-I	01/09/2014	02/10/2014	BERYLLIUM, TOTAL	SRC-AI	ND	0.0040000	MG/L
140110031002-I	01/09/2014	02/10/2014	CADMIUM	SRC-AI	ND	0.0050000	MG/L
140110031002-I	01/09/2014	02/10/2014	CHROMIUM	SRC-AI	0.0011900	0.1000000	MG/L
140110031002-I	01/09/2014	02/10/2014	CYANIDE	SRC-AI	ND	0.2000000	MG/L
140110031002-I	01/09/2014	02/10/2014	FLUORIDE	SRC-AI	0.7180000	4.0000000	MG/L
140110031002-I	01/09/2014	02/10/2014	MERCURY	SRC-AI	ND	0.0020000	MG/L
140110031002-I	01/09/2014	02/10/2014	NICKEL	SRC-AI	ND	0.1000000	MG/L
140110031002-I	01/09/2014	02/10/2014	NITRATE	SRC-AI	ND	10.000000	MG/L
140110031002-I	01/09/2014	02/10/2014	NITRATE-NITRITE	SRC-AI	ND	10.000000	MG/L
140110031002-I	01/09/2014		NITRITE	SRC-AI	ND	1.0000000	MG/L
140110031002-I	01/09/2014	02/10/2014	SELENIUM	SRC-AI	ND	0.0500000	MG/L
140110031002-I	01/09/2014	02/10/2014	SODIUM	SRC-AI	46.500000		MG/L
140110031002-I	01/09/2014	02/10/2014	THALLIUM, TOTAL	SRC-AI	ND	0.0020000	MG/L
140110031003	01/09/2014	02/10/2014	COMBINED URANIUM	SRC-AI	0.0026500	0.0300000	MG/L
140110031003-R	01/09/2014	02/10/2014	COMBINED RADIUM (-226 & -228)	SRC-AI	ND	5.0000000	PCI/L
140110031003-R	01/09/2014	02/10/2014	GROSS ALPHA, EXCL. RADON & U	SRC-AI	3.1300000	15.000000	PCI/L
140110031003-R	01/09/2014	02/10/2014	GROSS BETA PARTICLE ACTIVITY	SRC-AI	5.0600000	50.000000	PCI/L
1369021	01/08/2014	01/30/2014	ALKALINITY, TOTAL	CH-A1	168.00000		
1369021-T	01/08/2014	01/30/2014	TOTAL ORGANIC CARBON	CH-A1	1.3800000		
401082401-A	01/08/2014	02/14/2014	ASBESTOS	DIST-A	ND	7.0000000	MFL
1369031-T	01/08/2014	01/30/2014	TOTAL ORGANIC CARBON	WTP-A1	1.0600000		
1360421	12/04/2013	12/30/2013	TOTAL ORGANIC CARBON	CH-A1	1.4900000		
1360421-T	12/04/2013	12/30/2013	ALKALINITY, TOTAL	CH-A1	136.00000		
1360431-T	12/04/2013	12/30/2013	TOTAL ORGANIC CARBON	WTP-A1	1.1700000		
1353211	11/06/2013	12/05/2013	TOTAL ORGANIC CARBON	CH-A1	1.5600000		
1353211-T	11/06/2013	12/05/2013	ALKALINITY, TOTAL	CH-A1	196.00000		
1353221-T	11/06/2013	12/05/2013	TOTAL ORGANIC CARBON	WTP-A1	1.2300000		
131023022001-D	10/22/2013	11/18/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0249000	0.0600000	MG/L
131023022001-D	10/22/2013	11/18/2013	TTHM	DIST-A	0.0549000	0.0800000	MG/L
131023022002-D	10/22/2013	11/18/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0156000	0.0600000	MG/L
131023022002-D	10/22/2013	11/18/2013	TTHM	DIST-A	0.0667000	0.0800000	MG/L
131023022003-D	10/22/2013	11/18/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0168000	0.0600000	MG/L
131023022003-D	10/22/2013	11/18/2013	TTHM	DIST-A	0.0319000	0.0800000	MG/L
131023022004-D	10/22/2013	11/18/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0243000	0.0600000	MG/L
131023022004-D	10/22/2013	11/18/2013	TTHM	DIST-A	0.0585000	0.0800000	MG/L
1345341	10/09/2013	11/07/2013	ALKALINITY, TOTAL	CH-A1	206.00000		

1345341-T	10/09/2013	11/07/2013	TOTAL ORGANIC CARBON	CH-A1	1.7000000		
1345351-T	10/09/2013	11/07/2013	TOTAL ORGANIC CARBON	WTP-A1	1.3800000		
1337191-T	09/11/2013	10/07/2013	ALKALINITY, TOTAL	CH-A1	180.00000		
1337191-T	09/11/2013	10/07/2013	TOTAL ORGANIC CARBON	CH-A1	1.9900000		
1337201-T	09/11/2013	10/07/2013	TOTAL ORGANIC CARBON	WTP-A1	1.6600000		
130830016001-D	08/28/2013	09/23/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0251000	0.0600000	MG/L
130830016001-D	08/28/2013	09/23/2013	TTHM	DIST-A	0.0506000	0.0800000	MG/L
130830016002-D	08/28/2013	09/23/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0265000	0.0600000	MG/L
130830016002-D	08/28/2013	09/23/2013	TTHM	DIST-A	0.0531000	0.0800000	MG/L
130830016003-D	08/28/2013	09/23/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0287000	0.0600000	MG/L
130830016003-D	08/28/2013	09/23/2013	TTHM	DIST-A	0.0601000	0.0800000	MG/L
130830016004-D	08/28/2013	09/23/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0362000	0.0600000	MG/L
130830016004-D	08/28/2013	09/23/2013	TTHM	DIST-A	0.0796000	0.0800000	MG/L
1327281-T	08/02/2013	08/26/2013	ALKALINITY, TOTAL	CH-A1	176.00000		
1327281-T	08/02/2013	08/26/2013	TOTAL ORGANIC CARBON	CH-A1	2.0000000		
1327291-T	08/02/2013	08/26/2013	TOTAL ORGANIC CARBON	WTP-A1	1.5600000		
1316851	07/02/2013	07/18/2013	ALKALINITY, TOTAL	CH-A1	179.00000		
1316851-T	07/02/2013	07/18/2013	TOTAL ORGANIC CARBON	CH-A1	1.9600000		
1316861-T	07/02/2013	07/18/2013	TOTAL ORGANIC CARBON	WTP-A1	1.4600000		
1309851	06/05/2013	06/28/2013	ALKALINITY, TOTAL	CH-A1	165.00000		
1309851-T	06/05/2013	06/28/2013	TOTAL ORGANIC CARBON	CH-A1	1.9500000		
1309861-T	06/05/2013	06/28/2013	TOTAL ORGANIC CARBON	WTP-A1	1.4900000		
130509031001-R	05/08/2013	05/28/2013	COMBINED URANIUM	EP-A	0.0010700	0.0300000	MG/L
1300301	05/01/2013	05/10/2013	TOTAL ORGANIC CARBON	CH-A1	1.9100000		
1300301-T	05/01/2013	05/10/2013	ALKALINITY, TOTAL	CH-A1	176.00000		
1300311-T	05/01/2013	05/10/2013	TOTAL ORGANIC CARBON	WTP-A1	1.5100000		
130425029001-D	04/24/2013	05/17/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0233000	0.0600000	MG/L
130425029001-D	04/24/2013	05/17/2013	TTHM	DIST-A	0.0509000	0.0800000	MG/L
130425029002-D	04/24/2013	05/17/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0162000	0.0600000	MG/L
130425029002-D	04/24/2013	05/17/2013	TTHM	DIST-A	0.0327000	0.0800000	MG/L
130425029003-D	04/24/2013	05/17/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0155000	0.0600000	MG/L
130425029003-D	04/24/2013	05/17/2013	TTHM	DIST-A	0.0313000	0.0800000	MG/L
130425029004-D	04/24/2013	05/17/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0177000	0.0600000	MG/L
130425029004-D	04/24/2013	05/17/2013	TTHM	DIST-A	0.0359000	0.0800000	MG/L
130411039001-I	04/10/2013	05/01/2013	ARSENIC	EP-A	0.0023500	0.0100000	MG/L
130411039001-I	04/10/2013	05/01/2013	NITRATE	EP-A	1.9200000	10.000000	MG/L
130411039002-V	04/10/2013	05/01/2013	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
130411039002-V	04/10/2013	05/01/2013	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
130411039002-V	04/10/2013	05/01/2013	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
130411039002-V	04/10/2013	05/01/2013	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
130411039002-V	04/10/2013	05/01/2013	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
130411039002-V	04/10/2013	05/01/2013	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
130411039002-V	04/10/2013	05/01/2013	BENZENE	EP-A	ND	0.0050000	MG/L
130411039002-V	04/10/2013	05/01/2013	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
130411039002-V	04/10/2013	05/01/2013	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
130411039002-V	04/10/2013	05/01/2013	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
130411039002-V	04/10/2013	05/01/2013	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L

130411039002-V	04/10/2013	05/01/2013	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
130411039002-V	04/10/2013	05/01/2013	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
130411039002-V	04/10/2013	05/01/2013	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
130411039002-V	04/10/2013	05/01/2013	STYRENE	EP-A	ND	0.1000000	MG/L
130411039002-V	04/10/2013	05/01/2013	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
130411039002-V	04/10/2013	05/01/2013	TOLUENE	EP-A	ND	1.0000000	MG/L
130411039002-V	04/10/2013	05/01/2013	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
130411039002-V	04/10/2013	05/01/2013	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
130411039002-V	04/10/2013	05/01/2013	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
130411039002-V	04/10/2013	05/01/2013	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
1293311	04/03/2013	05/10/2013	TOTAL ORGANIC CARBON	CH-A1	2.8600000		
1293311-T	04/03/2013	05/10/2013	ALKALINITY, TOTAL	CH-A1	218.00000		
1293301-T	04/03/2013	05/10/2013	TOTAL ORGANIC CARBON	WTP-A1	1.6000000		
1285601-T	03/06/2013	04/22/2013	ALKALINITY, TOTAL	CH-A1	182.00000		
1285602-T	03/06/2013	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	2.0800000		
130307022001-D	03/06/2013	04/08/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0095700	0.0600000	MG/L
130307022001-D	03/06/2013	04/08/2013	TTHM	DIST-A	0.0220000	0.0800000	MG/L
130307022002-D	03/06/2013	04/08/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0097400	0.0600000	MG/L
130307022002-D	03/06/2013	04/08/2013	TTHM	DIST-A	0.0220000	0.0800000	MG/L
130307022003-D	03/06/2013	04/08/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0099600	0.0600000	MG/L
130307022003-D	03/06/2013	04/08/2013	TTHM	DIST-A	0.0258000	0.0800000	MG/L
130307022004-D	03/06/2013	04/08/2013	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0132000	0.0600000	MG/L
130307022004-D	03/06/2013	04/08/2013	TTHM	DIST-A	0.0383000	0.0800000	MG/L
1285612-T	03/06/2013	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.5500000		
1281631-T	02/20/2013	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	1.5500000		
1281632-T	02/20/2013	04/22/2013	ALKALINITY, TOTAL	CH-A1	186.00000		
1281641-T	02/20/2013	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.1000000		
1278112-T	02/06/2013	04/22/2013	ALKALINITY, TOTAL	CH-A1	187.00000		
1271151-T	01/02/2013	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	3.1200000		
1271152-T	01/02/2013	04/22/2013	ALKALINITY, TOTAL	CH-A1	224.00000		
1271161-T	01/02/2013	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.1000000		
1264761-T	12/05/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	1.6300000		
1264762-T	12/05/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	190.00000		
1264771-T	12/05/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.2000000		
1258031-T	11/07/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	1.5100000		
1258032-T	11/07/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	177.00000		
1258041-T	11/07/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.2200000		
121107024001-I	11/06/2012	11/26/2012	ARSENIC	EP-A	0.0046700	0.0100000	MG/L
121107024001-I	11/06/2012	11/26/2012	NITRATE	EP-A	2.0200000	10.000000	MG/L
121107024001-V	11/06/2012	11/26/2012	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
121107024001-V	11/06/2012	11/26/2012	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
121107024001-V	11/06/2012	11/26/2012	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
121107024001-V	11/06/2012	11/26/2012	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
121107024001-V	11/06/2012	11/26/2012	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
121107024001-V	11/06/2012	11/26/2012	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
121107024001-V	11/06/2012	11/26/2012	BENZENE	EP-A	ND	0.0050000	MG/L

121107024001-V	11/06/2012	11/26/2012	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
121107024001-V	11/06/2012	11/26/2012	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
121107024001-V	11/06/2012	11/26/2012	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
121107024001-V	11/06/2012	11/26/2012	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
121107024001-V	11/06/2012	11/26/2012	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
121107024001-V	11/06/2012	11/26/2012	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
121107024001-V	11/06/2012	11/26/2012	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
121107024001-V	11/06/2012	11/26/2012	STYRENE	EP-A	ND	0.1000000	MG/L
121107024001-V	11/06/2012	11/26/2012	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
121107024001-V	11/06/2012	11/26/2012	TOLUENE	EP-A	ND	1.0000000	MG/L
121107024001-V	11/06/2012	11/26/2012	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
121107024001-V	11/06/2012	11/26/2012	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
121107024001-V	11/06/2012	11/26/2012	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
121107024001-V	11/06/2012	11/26/2012	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
121011017001-D	10/10/2012	11/07/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0133000	0.0600000	MG/L
121011017001-D	10/10/2012	11/07/2012	TTHM	DIST-A	0.0357000	0.0800000	MG/L
121011017002-D	10/10/2012	11/07/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0164000	0.0600000	MG/L
121011017002-D	10/10/2012	11/07/2012	TTHM	DIST-A	0.0653000	0.0800000	MG/L
121011017003-D	10/10/2012	11/07/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0136000	0.0600000	MG/L
121011017003-D	10/10/2012	11/07/2012	TTHM	DIST-A	0.0376000	0.0800000	MG/L
121011017004-D	10/10/2012	11/07/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0133000	0.0600000	MG/L
121011017004-D	10/10/2012	11/07/2012	TTHM	DIST-A	0.0341000	0.0800000	MG/L
1248211-T	10/03/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	2.2000000		
1248212-T	10/03/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	241.00000		
1248221-T	10/03/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.8000000		
1239801-T	09/05/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	2.5900000		
1239802-T	09/05/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	185.00000		
1239812-T	09/05/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.9100000		
1230531-T	08/01/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	2.3900000		
1230532-T	08/01/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	188.00000		
1230541-T	08/01/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.9400000		
120719018001-D	07/18/2012	08/01/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0216000	0.0600000	MG/L
120719018001-D	07/18/2012	08/01/2012	TTHM	DIST-A	0.0544000	0.0800000	MG/L
120719018002-D	07/18/2012	08/01/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0295000	0.0600000	MG/L
120719018002-D	07/18/2012	08/01/2012	TTHM	DIST-A	**0.0834000**	0.0800000	MG/L
120719018003-D	07/18/2012	08/01/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0226000	0.0600000	MG/L
120719018003-D	07/18/2012	08/01/2012	TTHM	DIST-A	0.0549000	0.0800000	MG/L
120719018004-D	07/18/2012	08/01/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0214000	0.0600000	MG/L
120719018004-D	07/18/2012	08/01/2012	TTHM	DIST-A	0.0531000	0.0800000	MG/L
1222101-T	07/03/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	165.00000		
1222102-T	07/03/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	2.1600000		
1222112-T	07/03/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.6100000		
1215311-T	06/06/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	177.00000		
1215312-T	06/06/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	2.2500000		
1215322-T	06/06/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.7500000		
120516027001-D	05/15/2012	06/11/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0236000	0.0600000	MG/L
120516027001-D	05/15/2012	06/11/2012	TTHM	DIST-A	0.0384000	0.0800000	MG/L

120516027002-D	05/15/2012	06/11/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0312000	0.0600000	MG/L
120516027002-D	05/15/2012	06/11/2012	TTHM	DIST-A	0.0598000	0.0800000	MG/L
120516027003-D	05/15/2012	06/11/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0213000	0.0600000	MG/L
120516027003-D	05/15/2012	06/11/2012	TTHM	DIST-A	0.0377000	0.0800000	MG/L
120516027004-D	05/15/2012	06/11/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0235000	0.0600000	MG/L
120516027004-D	05/15/2012	06/11/2012	TTHM	DIST-A	0.0388000	0.0800000	MG/L
1206391-T	05/02/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	132.00000		
1206392-T	05/02/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	2.1300000		
1206401-T	05/02/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.5600000		
1199031-T	04/04/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	174.00000		
1199032-T	04/04/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	1.7600000		
1199042-T	04/04/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.4500000		
1192871-T	03/07/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	182.00000		
1192872-T	03/07/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	1.7000000		
1192881-T	03/07/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.2200000		
1183711-T	02/01/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	163.00000		
1183712-T	02/01/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	2.3500000		
120202016001-D	02/01/2012	02/21/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0133000	0.0600000	MG/L
120202016001-D	02/01/2012	02/21/2012	TTHM	DIST-A	0.0375000	0.0800000	MG/L
120202016002-D	02/01/2012	02/21/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0136000	0.0600000	MG/L
120202016002-D	02/01/2012	02/21/2012	TTHM	DIST-A	0.0304000	0.0800000	MG/L
120202016003-D	02/01/2012	02/21/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0156000	0.0600000	MG/L
120202016003-D	02/01/2012	02/21/2012	TTHM	DIST-A	0.0301000	0.0800000	MG/L
120202016004-D	02/01/2012	02/21/2012	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0155000	0.0600000	MG/L
120202016004-D	02/01/2012	02/21/2012	TTHM	DIST-A	0.0313000	0.0800000	MG/L
1183721-T	02/01/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.8600000		
1177211-T	01/04/2012	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	1.5900000		
1177212-T	01/04/2012	04/22/2013	ALKALINITY, TOTAL	CH-A1	180.00000		
1177221-T	01/04/2012	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.1400000		
1172791-T	12/14/2011	04/22/2013	ALKALINITY, TOTAL	CH-A1	186.00000		
1172792-T	12/14/2011	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	1.6800000		
1172801-T	12/14/2011	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.3100000		
1169701-T	11/30/2011	04/22/2013	ALKALINITY, TOTAL	CH-A1	120.00000		
1169702-T	11/30/2011	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	1.9900000		
1169711-T	11/30/2011	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.2300000		
111103035001-D	11/02/2011	11/18/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0146000	0.0600000	MG/L
111103035001-D	11/02/2011	11/18/2011	TTHM	DIST-A	0.0323000	0.0800000	MG/L
111103035002-D	11/02/2011	11/18/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0167000	0.0600000	MG/L
111103035002-D	11/02/2011	11/18/2011	TTHM	DIST-A	0.0409000	0.0800000	MG/L
111103035003-D	11/02/2011	11/18/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0146000	0.0600000	MG/L
111103035003-D	11/02/2011	11/18/2011	TTHM	DIST-A	0.0330000	0.0800000	MG/L
111103035004-D	11/02/2011	11/18/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0244000	0.0600000	MG/L
111103035004-D	11/02/2011	11/18/2011	TTHM	DIST-A	0.0656000	0.0800000	MG/L
1161221-T	10/26/2011	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	1.9800000		
1161222-T	10/26/2011	04/22/2013	ALKALINITY, TOTAL	CH-A1	194.00000		
1161231-T	10/26/2011	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.6000000		

1149781-T	09/14/2011	04/22/2013	ALKALINITY, TOTAL	CH-A1	160.00000		
1149782-T	09/14/2011	04/22/2013	TOTAL ORGANIC CARBON	CH-A1	2.4400000		
1149791-T	09/14/2011	04/22/2013	TOTAL ORGANIC CARBON	WTP-A1	1.8500000		
1141341-T	08/17/2011	10/06/2011	TOTAL ORGANIC CARBON	CH-A1	2.2100000		
1141342-T	08/17/2011	10/06/2011	ALKALINITY, TOTAL	CH-A1	162.00000		
1141351-T	08/17/2011	10/06/2011	TOTAL ORGANIC CARBON	WTP-A1	1.8800000		
110720027001-D	07/19/2011	08/15/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0250000	0.0600000	MG/L
110720027001-D	07/19/2011	08/15/2011	TTHM	DIST-A	0.0516000	0.0800000	MG/L
110720027002-D	07/19/2011	08/15/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0247000	0.0600000	MG/L
110720027002-D	07/19/2011	08/15/2011	TTHM	DIST-A	0.0497000	0.0800000	MG/L
110720027003-D	07/19/2011	08/15/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0250000	0.0600000	MG/L
110720027003-D	07/19/2011	08/15/2011	TTHM	DIST-A	0.0534000	0.0800000	MG/L
110720027004-D	07/19/2011	08/15/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0411000	0.0600000	MG/L
110720027004-D	07/19/2011	08/15/2011	TTHM	DIST-A	0.0773000	0.0800000	MG/L
1122791-T	06/08/2011	08/04/2011	ALKALINITY, TOTAL	CH-A1	132.00000		
1122792-T	06/08/2011	08/04/2011	TOTAL ORGANIC CARBON	CH-A1	2.1900000		
1122801-T	06/08/2011	08/04/2011	TOTAL ORGANIC CARBON	WTP-A1	1.5800000		
1118321-T	05/18/2011	08/04/2011	ALKALINITY, TOTAL	CH-A1	104.00000		
1118322-T	05/18/2011	08/04/2011	TOTAL ORGANIC CARBON	CH-A1	2.2000000		
1118331-T	05/18/2011	08/04/2011	TOTAL ORGANIC CARBON	WTP-A1	1.6400000		
110518028001-S	05/17/2011	05/31/2011	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
1110821-T	04/20/2011	07/06/2011	TOTAL ORGANIC CARBON	CH-A1	2.2700000		
1110822-T	04/20/2011	07/06/2011	ALKALINITY, TOTAL	CH-A1	115.00000		
1110831-T	04/20/2011	07/06/2011	TOTAL ORGANIC CARBON	WTP-A1	1.5900000		
110413015001-D	04/12/2011	05/02/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0165000	0.0600000	MG/L
110413015001-D	04/12/2011	05/02/2011	TTHM	DIST-A	0.0318000	0.0800000	MG/L
110413015002-D	04/12/2011	05/02/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0176000	0.0600000	MG/L
110413015002-D	04/12/2011	05/02/2011	TTHM	DIST-A	0.0370000	0.0800000	MG/L
110413015003-D	04/12/2011	05/02/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0203000	0.0600000	MG/L
110413015003-D	04/12/2011	05/02/2011	TTHM	DIST-A	0.0492000	0.0800000	MG/L
110413015004-D	04/12/2011	05/02/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0171000	0.0600000	MG/L
110413015004-D	04/12/2011	05/02/2011	TTHM	DIST-A	0.0336000	0.0800000	MG/L
110406022001-S	04/05/2011	05/02/2011	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
110406022001-S	04/05/2011	05/02/2011	2,4,5-TP	EP-A	ND	0.0500000	MG/L
110406022001-S	04/05/2011	05/02/2011	2,4-D	EP-A	ND	0.0700000	MG/L
110406022001-S	04/05/2011	05/02/2011	ATRAZINE	EP-A	ND	0.0030000	MG/L
110406022001-S	04/05/2011	05/02/2011	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
110406022001-S	04/05/2011	05/02/2011	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
110406022001-S	04/05/2011	05/02/2011	CARBOFURAN	EP-A	ND	0.0400000	MG/L
110406022001-S	04/05/2011	05/02/2011	CHLORDANE	EP-A	ND	0.0020000	MG/L
110406022001-S	04/05/2011	05/02/2011	DALAPON	EP-A	ND	0.2000000	MG/L
110406022001-S	04/05/2011	05/02/2011	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
110406022001-S	04/05/2011	05/02/2011	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	0.0009200	0.0060000	MG/L
110406022001-S	04/05/2011	05/02/2011	DINOSEB	EP-A	ND	0.0070000	MG/L
110406022001-S	04/05/2011	05/02/2011	DIQUAT	EP-A	ND	0.0200000	MG/L
110406022001-S	04/05/2011	05/02/2011	ENDOTHALL	EP-A	ND	0.1000000	MG/L
110406022001-S	04/05/2011	05/02/2011	ENDRIN	EP-A	ND	0.0020000	MG/L

110406022001-S	04/05/2011	05/02/2011	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
110406022001-S	04/05/2011	05/02/2011	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
110406022001-S	04/05/2011	05/02/2011	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
110406022001-S	04/05/2011	05/02/2011	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
110406022001-S	04/05/2011	05/02/2011	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
110406022001-S	04/05/2011	05/02/2011	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
110406022001-S	04/05/2011	05/02/2011	LASSO	EP-A	ND	0.0020000	MG/L
110406022001-S	04/05/2011	05/02/2011	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
110406022001-S	04/05/2011	05/02/2011	OXAMYL	EP-A	ND	0.2000000	MG/L
110406022001-S	04/05/2011	05/02/2011	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
110406022001-S	04/05/2011	05/02/2011	PICLORAM	EP-A	ND	0.5000000	MG/L
110406022001-S	04/05/2011	05/02/2011	SIMAZINE	EP-A	ND	0.0040000	MG/L
110406022001-S	04/05/2011	05/02/2011	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
110406022001-S	04/05/2011	05/02/2011	TOXAPHENE	EP-A	ND	0.0030000	MG/L
1099611-T	03/09/2011	05/05/2011	TOTAL ORGANIC CARBON	CH-A1	1.4900000		
1099612-T	03/09/2011	05/05/2011	ALKALINITY, TOTAL	CH-A1	220.00000		
110310041001-I	03/09/2011	03/31/2011	ANTIMONY, TOTAL	EP-A	ND	0.0060000	MG/L
110310041001-I	03/09/2011	03/31/2011	ARSENIC	EP-A	0.0044600	0.0100000	MG/L
110310041001-I	03/09/2011	03/31/2011	BARIUM	EP-A	0.0478000	2.0000000	MG/L
110310041001-I	03/09/2011	03/31/2011	BERYLLIUM, TOTAL	EP-A	ND	0.0040000	MG/L
110310041001-I	03/09/2011	03/31/2011	CADMIUM	EP-A	ND	0.0050000	MG/L
110310041001-I	03/09/2011	03/31/2011	CHROMIUM	EP-A	0.0019700	0.1000000	MG/L
110310041001-I	03/09/2011	03/31/2011	CYANIDE	EP-A	ND	0.2000000	MG/L
110310041001-I	03/09/2011	03/31/2011	FLUORIDE	EP-A	0.5960000	4.0000000	MG/L
110310041001-I	03/09/2011	03/31/2011	MERCURY	EP-A	ND	0.0020000	MG/L
110310041001-I	03/09/2011	03/31/2011	NICKEL	EP-A	ND	0.1000000	MG/L
110310041001-I	03/09/2011	03/31/2011	NITRATE	EP-A	1.6100000	10.000000	MG/L
110310041001-I	03/09/2011	03/31/2011	NITRATE-NITRITE	EP-A	1.6100000	10.000000	MG/L
110310041001-I	03/09/2011		NITRITE	EP-A	ND	1.0000000	MG/L
110310041001-I	03/09/2011	03/31/2011	SELENIUM	EP-A	0.0016800	0.0500000	MG/L
110310041001-I	03/09/2011	03/31/2011	SODIUM	EP-A	34.100000		MG/L
110310041001-I	03/09/2011	03/31/2011	THALLIUM, TOTAL	EP-A	ND	0.0020000	MG/L
110310041001-V	03/09/2011	03/31/2011	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
110310041001-V	03/09/2011	03/31/2011	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
110310041001-V	03/09/2011	03/31/2011	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
110310041001-V	03/09/2011	03/31/2011	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
110310041001-V	03/09/2011	03/31/2011	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
110310041001-V	03/09/2011	03/31/2011	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
110310041001-V	03/09/2011	03/31/2011	BENZENE	EP-A	ND	0.0050000	MG/L
110310041001-V	03/09/2011	03/31/2011	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
110310041001-V	03/09/2011	03/31/2011	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
110310041001-V	03/09/2011	03/31/2011	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
110310041001-V	03/09/2011	03/31/2011	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
110310041001-V	03/09/2011	03/31/2011	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
110310041001-V	03/09/2011	03/31/2011	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
110310041001-V	03/09/2011	03/31/2011	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L

110310041001-V	03/09/2011	03/31/2011	STYRENE	EP-A	ND	0.1000000	MG/L
110310041001-V	03/09/2011	03/31/2011	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
110310041001-V	03/09/2011	03/31/2011	TOLUENE	EP-A	ND	1.0000000	MG/L
110310041001-V	03/09/2011	03/31/2011	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
110310041001-V	03/09/2011	03/31/2011	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
110310041001-V	03/09/2011	03/31/2011	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
110310041001-V	03/09/2011	03/31/2011	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
1099621-T	03/09/2011	05/05/2011	TOTAL ORGANIC CARBON	WTP-A1	1.0800000		
1093641-T	02/09/2011	03/08/2011	TOTAL ORGANIC CARBON	CH-A1	1.5400000		
1093642-T	02/09/2011	03/08/2011	ALKALINITY, TOTAL	CH-A1	177.00000		
1093651-T	02/09/2011	03/08/2011	TOTAL ORGANIC CARBON	WTP-A1	1.1100000		
1090781-T	01/26/2011	03/08/2011	ALKALINITY, TOTAL	CH-A1	185.00000		
1090782-T	01/26/2011	03/08/2011	TOTAL ORGANIC CARBON	CH-A1	1.8000000		
1090791-T	01/26/2011	03/08/2011	TOTAL ORGANIC CARBON	WTP-A1	1.4800000		
110120018001-S	01/19/2011	02/09/2011	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
110120018001-S	01/19/2011	02/09/2011	2,4,5-TP	EP-A	ND	0.0500000	MG/L
110120018001-S	01/19/2011	02/09/2011	2,4-D	EP-A	ND	0.0700000	MG/L
110120018001-S	01/19/2011	02/09/2011	ATRAZINE	EP-A	ND	0.0030000	MG/L
110120018001-S	01/19/2011	02/09/2011	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
110120018001-S	01/19/2011	02/09/2011	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
110120018001-S	01/19/2011	02/09/2011	CARBOFURAN	EP-A	ND	0.0400000	MG/L
110120018001-S	01/19/2011	02/09/2011	CHLORDANE	EP-A	ND	0.0020000	MG/L
110120018001-S	01/19/2011	02/09/2011	DALAPON	EP-A	ND	0.2000000	MG/L
110120018001-S	01/19/2011	02/09/2011	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
110120018001-S	01/19/2011	02/09/2011	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
110120018001-S	01/19/2011	02/09/2011	DINOSEB	EP-A	ND	0.0070000	MG/L
110120018001-S	01/19/2011	02/09/2011	DIQUAT	EP-A	ND	0.0200000	MG/L
110120018001-S	01/19/2011	02/09/2011	ENDOTHALL	EP-A	ND	0.1000000	MG/L
110120018001-S	01/19/2011	02/09/2011	ENDRIN	EP-A	ND	0.0020000	MG/L
110120018001-S	01/19/2011	02/09/2011	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
110120018001-S	01/19/2011	02/09/2011	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
110120018001-S	01/19/2011	02/09/2011	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
110120018001-S	01/19/2011	02/09/2011	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
110120018001-S	01/19/2011	02/09/2011	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
110120018001-S	01/19/2011	02/09/2011	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
110120018001-S	01/19/2011	02/09/2011	LASSO	EP-A	ND	0.0020000	MG/L
110120018001-S	01/19/2011	02/09/2011	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
110120018001-S	01/19/2011	02/09/2011	OXAMYL	EP-A	ND	0.2000000	MG/L
110120018001-S	01/19/2011	02/09/2011	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
110120018001-S	01/19/2011	02/09/2011	PICLORAM	EP-A	ND	0.5000000	MG/L
110120018001-S	01/19/2011	02/09/2011	SIMAZINE	EP-A	ND	0.0040000	MG/L
110120018001-S	01/19/2011	02/09/2011	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
110120018001-S	01/19/2011	02/09/2011	TOXAPHENE	EP-A	ND	0.0030000	MG/L
1081241-T	12/15/2010	02/04/2011	ALKALINITY, TOTAL	CH-A1	180.00000		
1081242-T	12/15/2010	02/04/2011	TOTAL ORGANIC CARBON	CH-A1	1.7100000		
1081251-T	12/15/2010	02/04/2011	TOTAL ORGANIC CARBON	WTP-A1	1.1400000		

101217041001-D	12/14/2010	01/07/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0076000	0.0600000	MG/L
101217041001-D	12/14/2010	01/07/2011	TTHM	DIST-A	0.0260000	0.0800000	MG/L
101217041002-D	12/14/2010	01/07/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0078600	0.0600000	MG/L
101217041002-D	12/14/2010	01/07/2011	TTHM	DIST-A	0.0278000	0.0800000	MG/L
101217041003-D	12/14/2010	01/07/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0075500	0.0600000	MG/L
101217041003-D	12/14/2010	01/07/2011	TTHM	DIST-A	0.0264000	0.0800000	MG/L
101217041004-D	12/14/2010	01/07/2011	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0115000	0.0600000	MG/L
101217041004-D	12/14/2010	01/07/2011	TTHM	DIST-A	0.0416000	0.0800000	MG/L
1073841-T	11/10/2010	02/04/2011	TOTAL ORGANIC CARBON	CH-A1	1.5700000		
1073842-T	11/10/2010	02/04/2011	ALKALINITY, TOTAL	CH-A1	178.00000		
1073851-T	11/10/2010	02/04/2011	TOTAL ORGANIC CARBON	WTP-A1	1.2000000		
1065592-T	10/13/2010	11/08/2010	ALKALINITY, TOTAL	CH-A1	210.00000		
1059131-T	09/22/2010	11/08/2010	TOTAL ORGANIC CARBON	CH-A1	2.1500000		
1059132-T	09/22/2010	11/08/2010	ALKALINITY, TOTAL	CH-A1	210.00000		
1059141-T	09/22/2010	11/08/2010	TOTAL ORGANIC CARBON	WTP-A1	1.8100000		
100916018001-D	09/14/2010	10/05/2010	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0208000	0.0600000	MG/L
100916018001-D	09/14/2010	10/05/2010	TTHM	DIST-A	0.0448000	0.0800000	MG/L
100916018002-D	09/14/2010	10/05/2010	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0268000	0.0600000	MG/L
100916018002-D	09/14/2010	10/05/2010	TTHM	DIST-A	**0.0825000**	0.0800000	MG/L
100916018003-D	09/14/2010	10/05/2010	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0205000	0.0600000	MG/L
100916018003-D	09/14/2010	10/05/2010	TTHM	DIST-A	0.0450000	0.0800000	MG/L
100916018004-D	09/14/2010	10/05/2010	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0228000	0.0600000	MG/L
100916018004-D	09/14/2010	10/05/2010	TTHM	DIST-A	0.0495000	0.0800000	MG/L
1049771-T	08/25/2010	11/08/2010	TOTAL ORGANIC CARBON	CH-A1	2.8100000		
1049772-T	08/25/2010	11/08/2010	ALKALINITY, TOTAL	CH-A1	166.00000		
1049781-T	08/25/2010	11/08/2010	TOTAL ORGANIC CARBON	WTP-A1	2.1700000		
1036391-T	07/21/2010	09/08/2010	TOTAL ORGANIC CARBON	CH-A1	2.0500000		
1036392-T	07/21/2010	09/08/2010	ALKALINITY, TOTAL	CH-A1	80.000000		
1036401-T	07/21/2010	09/08/2010	TOTAL ORGANIC CARBON	WTP-A1	5.3800000		
1028281-T	06/23/2010	09/08/2010	TOTAL ORGANIC CARBON	CH-A1	2.5000000		
1028282-T	06/23/2010	09/08/2010	ALKALINITY, TOTAL	CH-A1	107.00000		
1028291-T	06/23/2010	09/08/2010	TOTAL ORGANIC CARBON	WTP-A1	1.9200000		
1019771-T	05/19/2010	07/02/2010	TOTAL ORGANIC CARBON	CH-A1	2.5400000		
1019772-T	05/19/2010	07/02/2010	ALKALINITY, TOTAL	CH-A1	170.00000		
1019781-T	05/19/2010	07/02/2010	TOTAL ORGANIC CARBON	WTP-A1	1.7200000		
100513023001-D	05/12/2010	06/09/2010	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0173000	0.0600000	MG/L
100513023001-D	05/12/2010	06/09/2010	TTHM	DIST-A	0.0380000	0.0800000	MG/L
100513023002-D	05/12/2010	06/09/2010	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0155000	0.0600000	MG/L
100513023002-D	05/12/2010	06/09/2010	TTHM	DIST-A	0.0311000	0.0800000	MG/L
100513023003-D	05/12/2010	06/09/2010	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0161000	0.0600000	MG/L
100513023003-D	05/12/2010	06/09/2010	TTHM	DIST-A	0.0325000	0.0800000	MG/L
100513023004-D	05/12/2010	06/09/2010	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0229000	0.0600000	MG/L
100513023004-D	05/12/2010	06/09/2010	TTHM	DIST-A	0.0552000	0.0800000	MG/L
100513027001-V	05/12/2010	06/09/2010	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
100513027001-V	05/12/2010	06/09/2010	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
100513027001-V	05/12/2010	06/09/2010	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L

100513027001-V	05/12/2010	06/09/2010	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
100513027001-V	05/12/2010	06/09/2010	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
100513027001-V	05/12/2010	06/09/2010	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
100513027001-V	05/12/2010	06/09/2010	BENZENE	EP-A	ND	0.0050000	MG/L
100513027001-V	05/12/2010	06/09/2010	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
100513027001-V	05/12/2010	06/09/2010	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
100513027001-V	05/12/2010	06/09/2010	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
100513027001-V	05/12/2010	06/09/2010	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
100513027001-V	05/12/2010	06/09/2010	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
100513027001-V	05/12/2010	06/09/2010	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
100513027001-V	05/12/2010	06/09/2010	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
100513027001-V	05/12/2010	06/09/2010	STYRENE	EP-A	ND	0.1000000	MG/L
100513027001-V	05/12/2010	06/09/2010	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
100513027001-V	05/12/2010	06/09/2010	TOLUENE	EP-A	ND	1.0000000	MG/L
100513027001-V	05/12/2010	06/09/2010	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
100513027001-V	05/12/2010	06/09/2010	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
100513027001-V	05/12/2010	06/09/2010	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
100513027001-V	05/12/2010	06/09/2010	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
100422023001	04/21/2010	11/30/2011	COMBINED RADIUM (-226 & -228)	EP-A	ND	5.0000000	PCI/L
100422023001	04/21/2010	11/30/2011	GROSS ALPHA, EXCL. RADON & U	EP-A	ND	15.000000	PCI/L
100422023001-I	04/21/2010	05/27/2010	ANTIMONY, TOTAL	EP-A	ND	0.0060000	MG/L
100422023001-I	04/21/2010	05/27/2010	ARSENIC	EP-A	0.0052200	0.0100000	MG/L
100422023001-I	04/21/2010	05/27/2010	BARIUM	EP-A	0.0380000	2.0000000	MG/L
100422023001-I	04/21/2010	05/27/2010	BERYLLIUM, TOTAL	EP-A	ND	0.0040000	MG/L
100422023001-I	04/21/2010	05/27/2010	CADMIUM	EP-A	ND	0.0050000	MG/L
100422023001-I	04/21/2010	05/27/2010	CHROMIUM	EP-A	0.0019400	0.1000000	MG/L
100422023001-I	04/21/2010	05/27/2010	CYANIDE	EP-A	ND	0.2000000	MG/L
100422023001-I	04/21/2010	05/27/2010	FLUORIDE	EP-A	0.6090000	4.0000000	MG/L
100422023001-I	04/21/2010	05/27/2010	MERCURY	EP-A	ND	0.0020000	MG/L
100422023001-I	04/21/2010	05/27/2010	NICKEL	EP-A	ND	0.1000000	MG/L
100422023001-I	04/21/2010	05/27/2010	NITRATE	EP-A	1.1600000	10.000000	MG/L
100422023001-I	04/21/2010	05/27/2010	NITRATE-NITRITE	EP-A	1.1600000	10.000000	MG/L
100422023001-I	04/21/2010		NITRITE	EP-A	ND	1.0000000	MG/L
100422023001-I	04/21/2010	05/27/2010	SELENIUM	EP-A	ND	0.0500000	MG/L
100422023001-I	04/21/2010	05/27/2010	SODIUM	EP-A	30.700000		MG/L
100422023001-I	04/21/2010	05/27/2010	THALLIUM, TOTAL	EP-A	ND	0.0020000	MG/L
1010571-T	04/14/2010	07/02/2010	TOTAL ORGANIC CARBON	CH-A1	2.2500000		
1010572-T	04/14/2010	07/02/2010	ALKALINITY, TOTAL	CH-A1	180.00000		
1010561-T	04/14/2010	07/02/2010	TOTAL ORGANIC CARBON	WTP-A1	1.6300000		
994511	02/17/2010	05/06/2010	TOTAL ORGANIC CARBON	CH-A1	1.8500000		
994512	02/17/2010	05/06/2010	ALKALINITY, TOTAL	CH-A1	168.00000		
994521	02/17/2010	05/06/2010	TOTAL ORGANIC CARBON	WTP-A1	1.2700000		
985871	01/13/2010	03/08/2010	TOTAL ORGANIC CARBON	CH-A1	2.3300000		
985872	01/13/2010	03/08/2010	ALKALINITY, TOTAL	CH-A1	211.00000		
985881	01/13/2010	03/08/2010	TOTAL ORGANIC CARBON	WTP-A1	1.6000000		
972361	11/10/2009	03/08/2010	TOTAL ORGANIC CARBON	CH-A1	2.4400000		

972362	11/10/2009	03/08/2010	ALKALINITY, TOTAL	CH-A1	186.00000		
972371	11/10/2009	03/08/2010	TOTAL ORGANIC CARBON	WTP-A1	1.9800000		
091028028001	10/27/2009	11/19/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0164000	0.0600000	MG/L
091028028001	10/27/2009	11/19/2009	TTHM	DIST-A	0.0431000	0.0800000	MG/L
091028028002	10/27/2009	11/19/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0180000	0.0600000	MG/L
091028028002	10/27/2009	11/19/2009	TTHM	DIST-A	0.0481000	0.0800000	MG/L
091028028003	10/27/2009	11/19/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0244000	0.0600000	MG/L
091028028003	10/27/2009	11/19/2009	TTHM	DIST-A	0.0680000	0.0800000	MG/L
091028028004	10/27/2009	11/19/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0191000	0.0600000	MG/L
091028028004	10/27/2009	11/19/2009	TTHM	DIST-A	0.0525000	0.0800000	MG/L
962741	10/07/2009	11/05/2009	TOTAL ORGANIC CARBON	CH-A1	2.4700000		
962742	10/07/2009	11/05/2009	ALKALINITY, TOTAL	CH-A1	184.00000		
962751	10/07/2009	11/05/2009	TOTAL ORGANIC CARBON	WTP-A1	0.9840000		
956281	09/16/2009	11/05/2009	TOTAL ORGANIC CARBON	CH-A1	2.8700000		
956282	09/16/2009	11/05/2009	ALKALINITY, TOTAL	CH-A1	110.00000		
956291	09/16/2009	11/05/2009	TOTAL ORGANIC CARBON	WTP-A1	2.0500000		
950581	08/25/2009	11/05/2009	TOTAL ORGANIC CARBON	CH-A1	3.0200000		
950582	08/25/2009	11/05/2009	ALKALINITY, TOTAL	CH-A1	144.00000		
950591	08/25/2009	11/05/2009	TOTAL ORGANIC CARBON	WTP-A1	2.2600000		
090805028001	08/03/2009	08/21/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0207000	0.0600000	MG/L
090805028001	08/03/2009	08/21/2009	TTHM	DIST-A	0.0596000	0.0800000	MG/L
090805028002	08/03/2009	08/21/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0218000	0.0600000	MG/L
090805028002	08/03/2009	08/21/2009	TTHM	DIST-A	0.0647000	0.0800000	MG/L
090805028003	08/03/2009	08/21/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0216000	0.0600000	MG/L
090805028003	08/03/2009	08/21/2009	TTHM	DIST-A	0.0607000	0.0800000	MG/L
090805028004	08/03/2009	08/21/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0340000	0.0600000	MG/L
090805028004	08/03/2009	08/21/2009	TTHM	DIST-A	**0.1060000**	0.0800000	MG/L
936051	07/08/2009	09/08/2009	ALKALINITY, TOTAL	CH-A1	80.000000		
936051	07/08/2009	09/08/2009	TOTAL ORGANIC CARBON	CH-A1	2.6400000		
936061	07/08/2009	09/08/2009	TOTAL ORGANIC CARBON	WTP-A1	1.9800000		
927721	06/03/2009	09/08/2009	ALKALINITY, TOTAL	CH-A1	140.00000		
927721	06/03/2009	09/08/2009	TOTAL ORGANIC CARBON	CH-A1	2.5800000		
927711	06/03/2009	09/08/2009	TOTAL ORGANIC CARBON	WTP-A1	1.7000000		
921731	05/13/2009	07/01/2009	ALKALINITY, TOTAL	CH-A1	110.00000		
921732	05/13/2009	07/01/2009	TOTAL ORGANIC CARBON	CH-A1	2.3400000		
921741	05/13/2009	07/01/2009	TOTAL ORGANIC CARBON	WTP-A1	1.6100000		
090505028001	04/30/2009	06/03/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0119000	0.0600000	MG/L
090505028001	04/30/2009	06/03/2009	TTHM	DIST-A	0.0236000	0.0800000	MG/L
090505028002	04/30/2009	06/03/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0124000	0.0600000	MG/L
090505028002	04/30/2009	06/03/2009	TTHM	DIST-A	0.0267000	0.0800000	MG/L
090505028004	04/30/2009	06/03/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0159000	0.0600000	MG/L
090505028004	04/30/2009	06/03/2009	TTHM	DIST-A	0.0404000	0.0800000	MG/L
09050502803	04/30/2009	06/03/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0114000	0.0600000	MG/L
09050502803	04/30/2009	06/03/2009	TTHM	DIST-A	0.0247000	0.0800000	MG/L
912051	04/08/2009	05/04/2009	ALKALINITY, TOTAL	CH-A1	174.00000		
912052	04/08/2009	05/04/2009	TOTAL ORGANIC CARBON	CH-A1	2.3200000		
912061	04/08/2009	05/04/2009	TOTAL ORGANIC CARBON	WTP-A1	1.5300000		

904181	03/11/2009	05/04/2009	ALKALINITY, TOTAL	CH-A1	180.00000		
904182	03/11/2009	05/04/2009	TOTAL ORGANIC CARBON	CH-A1	2.0000000		
904171	03/11/2009	05/04/2009	TOTAL ORGANIC CARBON	WTP-A1	1.5000000		
900811	02/24/2009	05/04/2009	ALKALINITY, TOTAL	CH-A1	175.00000		
900812	02/24/2009	05/04/2009	TOTAL ORGANIC CARBON	CH-A1	2.0900000		
900821	02/24/2009	05/04/2009	TOTAL ORGANIC CARBON	WTP-A1	1.3900000		
090219025001-V	02/18/2009	03/06/2009	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
090219025001-V	02/18/2009	03/06/2009	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
090219025001-V	02/18/2009	03/06/2009	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
090219025001-V	02/18/2009	03/06/2009	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
090219025001-V	02/18/2009	03/06/2009	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
090219025001-V	02/18/2009	03/06/2009	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
090219025001-V	02/18/2009	03/06/2009	BENZENE	EP-A	ND	0.0050000	MG/L
090219025001-V	02/18/2009	03/06/2009	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
090219025001-V	02/18/2009	03/06/2009	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
090219025001-V	02/18/2009	03/06/2009	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
090219025001-V	02/18/2009	03/06/2009	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
090219025001-V	02/18/2009	03/06/2009	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
090219025001-V	02/18/2009	03/06/2009	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
090219025001-V	02/18/2009	03/06/2009	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
090219025001-V	02/18/2009	03/06/2009	STYRENE	EP-A	ND	0.1000000	MG/L
090219025001-V	02/18/2009	03/06/2009	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
090219025001-V	02/18/2009	03/06/2009	TOLUENE	EP-A	ND	1.0000000	MG/L
090219025001-V	02/18/2009	03/06/2009	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
090219025001-V	02/18/2009	03/06/2009	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
090219025001-V	02/18/2009	03/06/2009	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
090219025001-V	02/18/2009	03/06/2009	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
090219025002-V	02/18/2009	03/06/2009	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
090219025002-V	02/18/2009	03/06/2009	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
090219025002-V	02/18/2009	03/06/2009	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
090219025002-V	02/18/2009	03/06/2009	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
090219025002-V	02/18/2009	03/06/2009	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
090219025002-V	02/18/2009	03/06/2009	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
090219025002-V	02/18/2009	03/06/2009	BENZENE	EP-A	ND	0.0050000	MG/L
090219025002-V	02/18/2009	03/06/2009	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
090219025002-V	02/18/2009	03/06/2009	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
090219025002-V	02/18/2009	03/06/2009	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
090219025002-V	02/18/2009	03/06/2009	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
090219025002-V	02/18/2009	03/06/2009	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
090219025002-V	02/18/2009	03/06/2009	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
090219025002-V	02/18/2009	03/06/2009	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
090219025002-V	02/18/2009	03/06/2009	STYRENE	EP-A	ND	0.1000000	MG/L
090219025002-V	02/18/2009	03/06/2009	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
090219025002-V	02/18/2009	03/06/2009	TOLUENE	EP-A	ND	1.0000000	MG/L
090219025002-V	02/18/2009	03/06/2009	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
090219025002-V	02/18/2009	03/06/2009	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L

090219025002-V	02/18/2009	03/06/2009	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
090219025002-V	02/18/2009	03/06/2009	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
090122017001	01/21/2009	02/05/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0081100	0.0600000	MG/L
090122017001	01/21/2009	02/05/2009	TTHM	DIST-A	0.0272000	0.0800000	MG/L
090122017002	01/21/2009	02/05/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0061800	0.0600000	MG/L
090122017002	01/21/2009	02/05/2009	TTHM	DIST-A	0.0175000	0.0800000	MG/L
090122017003	01/21/2009	02/05/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0056500	0.0600000	MG/L
090122017003	01/21/2009	02/05/2009	TTHM	DIST-A	0.0154000	0.0800000	MG/L
090122017004	01/21/2009	02/05/2009	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0087300	0.0600000	MG/L
090122017004	01/21/2009	02/05/2009	TTHM	DIST-A	0.0287000	0.0800000	MG/L
892231	01/14/2009	03/04/2009	ALKALINITY, TOTAL	CH-A1	386.00000		
892232	01/14/2009	03/04/2009	TOTAL ORGANIC CARBON	CH-A1	2.4200000		
892221	01/14/2009	03/04/2009	TOTAL ORGANIC CARBON	WTP-A1	1.3400000		
888151	12/23/2008	03/10/2009	TOTAL ORGANIC CARBON	CH-A1	1.7900000		
888152	12/23/2008	03/10/2009	ALKALINITY, TOTAL	CH-A1	294.00000		
888141	12/23/2008	03/10/2009	TOTAL ORGANIC CARBON	WTP-A1	1.2800000		
877071	11/05/2008	03/10/2009	TOTAL ORGANIC CARBON	CH-A1	2.5200000		
877072	11/05/2008	03/10/2009	ALKALINITY, TOTAL	CH-A1	204.00000		
877061	11/05/2008	03/10/2009	TOTAL ORGANIC CARBON	WTP-A1	1.7000000		
081022037001	10/21/2008	11/14/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0119000	0.0600000	MG/L
081022037001	10/21/2008	11/14/2008	TTHM	DIST-A	0.0311000	0.0800000	MG/L
081022037002	10/21/2008	11/14/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0132000	0.0600000	MG/L
081022037002	10/21/2008	11/14/2008	TTHM	DIST-A	0.0318000	0.0800000	MG/L
081022037003	10/21/2008	11/14/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0134000	0.0600000	MG/L
081022037003	10/21/2008	11/14/2008	TTHM	DIST-A	0.0332000	0.0800000	MG/L
081022037004	10/21/2008	11/14/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0239000	0.0600000	MG/L
081022037004	10/21/2008	11/14/2008	TTHM	DIST-A	0.0556000	0.0800000	MG/L
872021	10/15/2008	03/10/2009	TOTAL ORGANIC CARBON	CH-A1	2.0800000		
872022	10/15/2008	03/10/2009	ALKALINITY, TOTAL	CH-A1	200.00000		
872011	10/15/2008	03/10/2009	TOTAL ORGANIC CARBON	WTP-A1	1.6900000		
865931	09/24/2008	03/10/2009	TOTAL ORGANIC CARBON	CH-A1	2.0700000		
865932	09/24/2008	03/10/2009	ALKALINITY, TOTAL	CH-A1	206.00000		
865921	09/24/2008	03/10/2009	TOTAL ORGANIC CARBON	WTP-A1	2.0100000		
080813044001	08/12/2008	09/02/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0388000	0.0600000	MG/L
080813044001	08/12/2008	09/02/2008	TTHM	DIST-A	0.0779000	0.0800000	MG/L
080813044002	08/12/2008	09/02/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0279000	0.0600000	MG/L
080813044002	08/12/2008	09/02/2008	TTHM	DIST-A	0.0508000	0.0800000	MG/L
080813044003	08/12/2008	09/02/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0229000	0.0600000	MG/L
080813044003	08/12/2008	09/02/2008	TTHM	DIST-A	0.0397000	0.0800000	MG/L
080813044004	08/12/2008	09/02/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0218000	0.0600000	MG/L
080813044004	08/12/2008	09/02/2008	TTHM	DIST-A	0.0402000	0.0800000	MG/L
843591	07/09/2008	03/10/2009	TOTAL ORGANIC CARBON	CH-A1	3.1000000		
843592	07/09/2008	03/10/2009	ALKALINITY, TOTAL	CH-A1	106.00000		
843581	07/09/2008	03/10/2009	TOTAL ORGANIC CARBON	WTP-A1	2.2200000		
838161	06/18/2008	09/09/2008	TOTAL ORGANIC CARBON	CH-A1	3.3300000		
838151	06/18/2008	09/09/2008	TOTAL ORGANIC CARBON	WTP-A1	2.3600000		

838152	06/18/2008	09/09/2008	ALKALINITY, TOTAL	WTP-A1	151.00000		
838153	06/18/2008	09/09/2008	FLUORIDE	WTP-A1	ND	4.0000000	MG/L
830471	05/21/2008	09/09/2008	TOTAL ORGANIC CARBON	CH-A1	3.0700000		
830472	05/21/2008	09/09/2008	ALKALINITY, TOTAL	CH-A1	107.00000		
830461	05/21/2008	09/09/2008	TOTAL ORGANIC CARBON	WTP-A1	2.1400000		
080430004001	04/29/2008	06/05/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0117000	0.0600000	MG/L
080430004001	04/29/2008	06/05/2008	TTHM	DIST-A	0.0371000	0.0800000	MG/L
080430004002	04/29/2008	06/05/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0116000	0.0600000	MG/L
080430004002	04/29/2008	06/05/2008	TTHM	DIST-A	0.0373000	0.0800000	MG/L
080430004003	04/29/2008	06/05/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0120000	0.0600000	MG/L
080430004003	04/29/2008	06/05/2008	TTHM	DIST-A	0.0373000	0.0800000	MG/L
080430004004	04/29/2008	06/05/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0147000	0.0600000	MG/L
080430004004	04/29/2008	06/05/2008	TTHM	DIST-A	0.0508000	0.0800000	MG/L
820991	04/16/2008	06/09/2008	ALKALINITY, TOTAL	CH-A1	188.00000		
820991	04/16/2008	06/09/2008	TOTAL ORGANIC CARBON	CH-A1	2.5000000		
820981	04/16/2008	06/09/2008	TOTAL ORGANIC CARBON	WTP-A1	1.7300000		
811531	03/19/2008	03/10/2009	TOTAL ORGANIC CARBON	CH-A1	2.3200000		
811532	03/19/2008	03/10/2009	ALKALINITY, TOTAL	CH-A1	192.00000		
811521	03/19/2008	03/10/2009	TOTAL ORGANIC CARBON	WTP-A1	1.6400000		
080306031001-D	03/05/2008	04/03/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0103000	0.0600000	MG/L
080306031001-D	03/05/2008	04/03/2008	TTHM	DIST-A	0.0361000	0.0800000	MG/L
080306031002-D	03/05/2008	04/03/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0066700	0.0600000	MG/L
080306031002-D	03/05/2008	04/03/2008	TTHM	DIST-A	0.0247000	0.0800000	MG/L
080306031003-D	03/05/2008	04/03/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0065700	0.0600000	MG/L
080306031003-D	03/05/2008	04/03/2008	TTHM	DIST-A	0.0203000	0.0800000	MG/L
080306031004-D	03/05/2008	04/03/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0067000	0.0600000	MG/L
080306031004-D	03/05/2008	04/03/2008	TTHM	DIST-A	0.0217000	0.0800000	MG/L
802631	02/13/2008	04/07/2008	TOTAL ORGANIC CARBON	CH-A1	1.4300000		
802632	02/13/2008	04/07/2008	ALKALINITY, TOTAL	CH-A1	214.00000		
802621	02/13/2008	04/07/2008	TOTAL ORGANIC CARBON	WTP-A1	1.2700000		
794361	01/09/2008	04/07/2008	TOTAL ORGANIC CARBON	CH-A1	1.8100000		
794351	01/09/2008	04/07/2008	ALKALINITY, TOTAL	WTP-A1	179.00000		
794352	01/09/2008	04/07/2008	TOTAL ORGANIC CARBON	WTP-A1	1.2900000		
071218015001	12/17/2007	01/10/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0117000	0.0600000	MG/L
071218015001	12/17/2007	01/10/2008	TTHM	DIST-A	0.0328000	0.0800000	MG/L
071218015002	12/17/2007	01/10/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0056700	0.0600000	MG/L
071218015002	12/17/2007	01/10/2008	TTHM	DIST-A	0.0160000	0.0800000	MG/L
071218015003	12/17/2007	01/10/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0078400	0.0600000	MG/L
071218015003	12/17/2007	01/10/2008	TTHM	DIST-A	0.0196000	0.0800000	MG/L
071218015004	12/17/2007	01/10/2008	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0059000	0.0600000	MG/L
071218015004	12/17/2007	01/10/2008	TTHM	DIST-A	0.0158000	0.0800000	MG/L
768171	10/03/2007	12/12/2007	ALKALINITY, TOTAL	CH-A1	195.00000		
768171	10/03/2007	12/12/2007	TOTAL ORGANIC CARBON	CH-A1	1.9800000		
768172	10/03/2007	12/12/2007	ALKALINITY, TOTAL	CH-A1	195.00000		
768161	10/03/2007	12/12/2007	TOTAL ORGANIC CARBON	WTP-A1	1.6700000		
070918033003	09/12/2007	10/24/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0249000	0.0600000	MG/L
070918033003	09/12/2007	10/24/2007	TTHM	DIST-A	0.0626000	0.0800000	MG/L

070918033004	09/12/2007	10/24/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0147000	0.0600000	MG/L
070918033004	09/12/2007	10/24/2007	TTHM	DIST-A	0.0331000	0.0800000	MG/L
070918033005	09/12/2007	10/24/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0139000	0.0600000	MG/L
070918033005	09/12/2007	10/24/2007	TTHM	DIST-A	0.0296000	0.0800000	MG/L
070918033006	09/12/2007	10/24/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0166000	0.0600000	MG/L
070918033006	09/12/2007	10/24/2007	TTHM	DIST-A	0.0372000	0.0800000	MG/L
070918033001	09/12/2007	10/24/2007	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
070918033001	09/12/2007	10/24/2007	2,4,5-TP	EP-A	ND	0.0500000	MG/L
070918033001	09/12/2007	10/24/2007	2,4-D	EP-A	ND	0.0700000	MG/L
070918033001	09/12/2007	10/24/2007	ATRAZINE	EP-A	ND	0.0030000	MG/L
070918033001	09/12/2007	10/24/2007	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
070918033001	09/12/2007	10/24/2007	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
070918033001	09/12/2007	10/24/2007	CARBOFURAN	EP-A	ND	0.0400000	MG/L
070918033001	09/12/2007	10/24/2007	CHLORDANE	EP-A	ND	0.0020000	MG/L
070918033001	09/12/2007	10/24/2007	DALAPON	EP-A	ND	0.2000000	MG/L
070918033001	09/12/2007	10/24/2007	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
070918033001	09/12/2007	10/24/2007	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
070918033001	09/12/2007	10/24/2007	DINOSEB	EP-A	ND	0.0070000	MG/L
070918033001	09/12/2007	10/24/2007	DIQUAT	EP-A	ND	0.0200000	MG/L
070918033001	09/12/2007	10/24/2007	ENDOTHALL	EP-A	ND	0.1000000	MG/L
070918033001	09/12/2007	10/24/2007	ENDRIN	EP-A	ND	0.0020000	MG/L
070918033001	09/12/2007	10/24/2007	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
070918033001	09/12/2007	10/24/2007	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
070918033001	09/12/2007	10/24/2007	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
070918033001	09/12/2007	10/24/2007	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
070918033001	09/12/2007	10/24/2007	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
070918033001	09/12/2007	10/24/2007	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
070918033001	09/12/2007	10/24/2007	LASSO	EP-A	ND	0.0020000	MG/L
070918033001	09/12/2007	10/24/2007	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
070918033001	09/12/2007	10/24/2007	OXAMYL	EP-A	ND	0.2000000	MG/L
070918033001	09/12/2007	10/24/2007	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
070918033001	09/12/2007	10/24/2007	PICLORAM	EP-A	ND	0.5000000	MG/L
070918033001	09/12/2007	10/24/2007	SIMAZINE	EP-A	ND	0.0040000	MG/L
070918033001	09/12/2007	10/24/2007	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
070918033001	09/12/2007	10/24/2007	TOXAPHENE	EP-A	ND	0.0030000	MG/L
070918033002	09/11/2007	10/25/2007	ARSENIC	SRC-AE	0.0072200	0.0100000	MG/L
760141	09/05/2007	10/15/2007	TOTAL ORGANIC CARBON	CH-A1	2.4300000		
760142	09/05/2007	10/15/2007	ALKALINITY, TOTAL	CH-A1	166.00000		
760131	09/05/2007	10/15/2007	TOTAL ORGANIC CARBON	WTP-A1	2.0100000		
750601	08/08/2007	10/15/2007	TOTAL ORGANIC CARBON	CH-A1	1.9000000		
750602	08/08/2007	10/15/2007	ALKALINITY, TOTAL	CH-A1	177.00000		
750591	08/08/2007	10/15/2007	TOTAL ORGANIC CARBON	WTP-A1	1.8100000		
737741	07/03/2007	08/27/2007	TOTAL ORGANIC CARBON	CH-A1	2.1400000		
737751	07/03/2007	08/27/2007	TOTAL ORGANIC CARBON	WTP-A1	2.1300000		
737752	07/03/2007	08/27/2007	ALKALINITY, TOTAL	WTP-A1	240.00000		
729441	06/06/2007	07/30/2007	TOTAL ORGANIC CARBON	CH-A1	2.0400000		

729461	06/06/2007	07/30/2007	ALKALINITY, TOTAL	CH-A1	180.00000		
729451	06/06/2007	07/30/2007	TOTAL ORGANIC CARBON	WTP-A1	1.7700000		
719061	05/02/2007	06/21/2007	ALKALINITY, TOTAL	CH-A1	192.00000		
719071	05/02/2007	06/21/2007	TOTAL ORGANIC CARBON	CH-A1	2.3900000		
719081	05/02/2007	06/21/2007	TOTAL ORGANIC CARBON	WTP-A1	1.5100000		
070427004001	04/25/2007	05/18/2007	ARSENIC	EP-A	0.0038700	0.0100000	MG/L
070427004001	04/25/2007	05/18/2007	NITRATE	EP-A	1.0000000	10.000000	MG/L
070427016001	04/25/2007	06/04/2007	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
070427016001	04/25/2007	06/04/2007	2,4,5-TP	EP-A	ND	0.0500000	MG/L
070427016001	04/25/2007	06/04/2007	2,4-D	EP-A	ND	0.0700000	MG/L
070427016001	04/25/2007	06/04/2007	ATRAZINE	EP-A	ND	0.0030000	MG/L
070427016001	04/25/2007	06/04/2007	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
070427016001	04/25/2007	06/04/2007	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
070427016001	04/25/2007	06/04/2007	CARBOFURAN	EP-A	ND	0.0400000	MG/L
070427016001	04/25/2007	06/04/2007	CHLORDANE	EP-A	ND	0.0020000	MG/L
070427016001	04/25/2007	06/04/2007	DALAPON	EP-A	ND	0.2000000	MG/L
070427016001	04/25/2007	06/04/2007	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
070427016001	04/25/2007	06/04/2007	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
070427016001	04/25/2007	06/04/2007	DINOSEB	EP-A	ND	0.0070000	MG/L
070427016001	04/25/2007	06/04/2007	DIQUAT	EP-A	ND	0.0200000	MG/L
070427016001	04/25/2007	06/04/2007	ENDOTHALL	EP-A	ND	0.1000000	MG/L
070427016001	04/25/2007	06/04/2007	ENDRIN	EP-A	ND	0.0020000	MG/L
070427016001	04/25/2007	06/04/2007	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
070427016001	04/25/2007	06/04/2007	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
070427016001	04/25/2007	06/04/2007	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
070427016001	04/25/2007	06/04/2007	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
070427016001	04/25/2007	06/04/2007	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
070427016001	04/25/2007	06/04/2007	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
070427016001	04/25/2007	06/04/2007	LASSO	EP-A	ND	0.0020000	MG/L
070427016001	04/25/2007	06/04/2007	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
070427016001	04/25/2007	06/04/2007	OXAMYL	EP-A	ND	0.2000000	MG/L
070427016001	04/25/2007	06/04/2007	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
070427016001	04/25/2007	06/04/2007	PICLORAM	EP-A	ND	0.5000000	MG/L
070427016001	04/25/2007	06/04/2007	SIMAZINE	EP-A	ND	0.0040000	MG/L
070427016001	04/25/2007	06/04/2007	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
070427016001	04/25/2007	06/04/2007	TOXAPHENE	EP-A	ND	0.0030000	MG/L
070427016001-V	04/25/2007	06/04/2007	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
070427016001-V	04/25/2007	06/04/2007	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
070427016001-V	04/25/2007	06/04/2007	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
070427016001-V	04/25/2007	06/04/2007	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
070427016001-V	04/25/2007	06/04/2007	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
070427016001-V	04/25/2007	06/04/2007	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
070427016001-V	04/25/2007	06/04/2007	BENZENE	EP-A	ND	0.0050000	MG/L
070427016001-V	04/25/2007	06/04/2007	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
070427016001-V	04/25/2007	06/04/2007	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
070427016001-V	04/25/2007	06/04/2007	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L

070427016001-V	04/25/2007	06/04/2007	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
070427016001-V	04/25/2007	06/04/2007	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
070427016001-V	04/25/2007	06/04/2007	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
070427016001-V	04/25/2007	06/04/2007	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
070427016001-V	04/25/2007	06/04/2007	STYRENE	EP-A	ND	0.1000000	MG/L
070427016001-V	04/25/2007	06/04/2007	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
070427016001-V	04/25/2007	06/04/2007	TOLUENE	EP-A	ND	1.0000000	MG/L
070427016001-V	04/25/2007	06/04/2007	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
070427016001-V	04/25/2007	06/04/2007	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
070427016001-V	04/25/2007	06/04/2007	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
070427016001-V	04/25/2007	06/04/2007	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
070427004002	04/25/2007	05/18/2007	ARSENIC	SRC-AA	0.0056800	0.0100000	MG/L
070427004002	04/25/2007	05/18/2007	NITRATE	SRC-AA	0.8440000	10.000000	MG/L
070427004004	04/25/2007	05/18/2007	ARSENIC	SRC-AB	0.0062100	0.0100000	MG/L
070427004004	04/25/2007	05/18/2007	NITRATE	SRC-AB	2.2400000	10.000000	MG/L
070427004003	04/25/2007	05/18/2007	ARSENIC	SRC-AD	0.0058500	0.0100000	MG/L
070427004003	04/25/2007	05/18/2007	NITRATE	SRC-AD	0.2180000	10.000000	MG/L
070427004005	04/25/2007	05/18/2007	ARSENIC	SRC-AF	0.0052000	0.0100000	MG/L
070427004005	04/25/2007	05/18/2007	NITRATE	SRC-AF	1.2700000	10.000000	MG/L
712231	04/11/2007	05/14/2007	TOTAL ORGANIC CARBON	CH-A1	4.7000000		
712232	04/11/2007	05/14/2007	ALKALINITY, TOTAL	CH-A1	194.00000		
070416024001	04/11/2007	05/02/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0080000	0.0600000	MG/L
070416024001	04/11/2007	05/02/2007	TTHM	DIST-A	0.0369000	0.0800000	MG/L
070416024002	04/11/2007	05/02/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0110000	0.0600000	MG/L
070416024002	04/11/2007	05/02/2007	TTHM	DIST-A	0.0574000	0.0800000	MG/L
070416024003	04/11/2007	05/02/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0090000	0.0600000	MG/L
070416024003	04/11/2007	05/02/2007	TTHM	DIST-A	0.0400000	0.0800000	MG/L
070416024004	04/11/2007	05/02/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0090000	0.0600000	MG/L
070416024004	04/11/2007	05/02/2007	TTHM	DIST-A	0.0422000	0.0800000	MG/L
712241	04/11/2007	05/14/2007	TOTAL ORGANIC CARBON	WTP-A1	2.9000000		
700661	03/07/2007	04/09/2007	TOTAL ORGANIC CARBON	CH-A1	5.0000000		
700681	03/07/2007	04/09/2007	ALKALINITY, TOTAL	CH-A1	185.00000		
700671	03/07/2007	04/09/2007	TOTAL ORGANIC CARBON	WTP-A1	2.8000000		
070223010001	02/21/2007	03/12/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0090000	0.0600000	MG/L
070223010001	02/21/2007	03/12/2007	TTHM	DIST-A	0.0322000	0.0800000	MG/L
070223010002	02/21/2007	03/12/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0060000	0.0600000	MG/L
070223010002	02/21/2007	03/12/2007	TTHM	DIST-A	0.0218000	0.0800000	MG/L
070223010003	02/21/2007	03/12/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0080000	0.0600000	MG/L
070223010003	02/21/2007	03/12/2007	TTHM	DIST-A	0.0339000	0.0800000	MG/L
070223010004	02/21/2007	03/12/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0070000	0.0600000	MG/L
070223010004	02/21/2007	03/12/2007	TTHM	DIST-A	0.0243000	0.0800000	MG/L
693681	02/07/2007	03/14/2007	TOTAL ORGANIC CARBON	CH-A1	6.2000000		
693682	02/07/2007	03/14/2007	ALKALINITY, TOTAL	CH-A1	232.00000		
693671	02/07/2007	03/14/2007	TOTAL ORGANIC CARBON	WTP-A1	4.2000000		
693672	02/07/2007	03/14/2007	ALKALINITY, TOTAL	WTP-A1	169.00000		
685001	01/03/2007	02/05/2007	ALKALINITY, TOTAL	CH-A1	196.00000		

685002	01/03/2007	02/05/2007	TOTAL ORGANIC CARBON	CH-A1	3.2000000		
684991	01/03/2007	02/05/2007	TOTAL ORGANIC CARBON	WTP-A1	2.1000000		
06D2580-01	12/13/2006	01/29/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0050000	0.0600000	MG/L
06D2580-01	12/13/2006	01/29/2007	TTHM	DIST-A	0.0174000	0.0800000	MG/L
06D2580-02	12/13/2006	01/29/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0050000	0.0600000	MG/L
06D2580-02	12/13/2006	01/29/2007	TTHM	DIST-A	0.0217000	0.0800000	MG/L
06D2580-03	12/13/2006	01/29/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0070000	0.0600000	MG/L
06D2580-03	12/13/2006	01/29/2007	TTHM	DIST-A	0.0358000	0.0800000	MG/L
06D2580-04	12/13/2006	01/29/2007	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0050000	0.0600000	MG/L
06D2580-04	12/13/2006	01/29/2007	TTHM	DIST-A	0.0170000	0.0800000	MG/L
678271	12/06/2006	02/05/2007	TOTAL ORGANIC CARBON	CH-A1	16.000000		
678272	12/06/2006	02/05/2007	ALKALINITY, TOTAL	CH-A1	242.00000		
678281	12/06/2006	02/05/2007	TOTAL ORGANIC CARBON	WTP-A1	1.7000000		
671271	11/08/2006	02/05/2007	ALKALINITY, TOTAL	CH-A1	214.00000		
671272	11/08/2006	02/05/2007	TOTAL ORGANIC CARBON	CH-A1	9.9000000		
671281	11/08/2006	02/05/2007	TOTAL ORGANIC CARBON	WTP-A1	2.6000000		
659761	10/04/2006	02/12/2007	ALKALINITY, TOTAL	CH-A1	201.00000		
659762	10/04/2006	02/12/2007	TOTAL ORGANIC CARBON	CH-A1	2.7000000		
659771	10/04/2006	02/12/2007	TOTAL ORGANIC CARBON	WTP-A1	2.0000000		
06D1905-01	09/20/2006	10/26/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0070000	0.0600000	MG/L
06D1905-01	09/20/2006	10/26/2006	TTHM	DIST-A	0.0777000	0.0800000	MG/L
06D1905-02	09/20/2006	10/26/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0140000	0.0600000	MG/L
06D1905-02	09/20/2006	10/26/2006	TTHM	DIST-A	0.0459000	0.0800000	MG/L
06D1905-03	09/20/2006	10/26/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0140000	0.0600000	MG/L
06D1905-03	09/20/2006	10/26/2006	TTHM	DIST-A	0.0393000	0.0800000	MG/L
06D1905-04	09/20/2006	10/26/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0160000	0.0600000	MG/L
06D1905-04	09/20/2006	10/26/2006	TTHM	DIST-A	0.0434000	0.0800000	MG/L
651911	09/13/2006	02/12/2007	TOTAL ORGANIC CARBON	CH-A1	2.7000000		
651912	09/13/2006	02/12/2007	ALKALINITY, TOTAL	CH-A1	198.00000		
651921	09/13/2006	02/12/2007	TOTAL ORGANIC CARBON	WTP-A1	2.1000000		
641901	08/09/2006	02/12/2007	ALKALINITY, TOTAL	CH-A1	187.00000		
641902	08/09/2006	02/12/2007	TOTAL ORGANIC CARBON	CH-A1	2.3000000		
641911	08/09/2006	02/12/2007	TOTAL ORGANIC CARBON	WTP-A1	1.7000000		
631021	07/05/2006	02/12/2007	TOTAL ORGANIC CARBON	CH-A1	2.7000000		
631022	07/05/2006	02/12/2007	ALKALINITY, TOTAL	CH-A1	136.00000		
631031	07/05/2006	02/12/2007	TOTAL ORGANIC CARBON	WTP-A1	2.0000000		
621561	06/07/2006	02/12/2007	ALKALINITY, TOTAL	CH-A1	135.00000		
621562	06/07/2006	02/12/2007	TOTAL ORGANIC CARBON	CH-A1	2.9000000		
621571	06/07/2006	02/12/2007	TOTAL ORGANIC CARBON	WTP-A1	2.2000000		
06D0666-01	05/10/2006	06/12/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0190000	0.0600000	MG/L
06D0666-01	05/10/2006	06/12/2006	TTHM	DIST-A	0.0425000	0.0800000	MG/L
06D0666-02	05/10/2006	06/12/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0240000	0.0600000	MG/L
06D0666-02	05/10/2006	06/12/2006	TTHM	DIST-A	0.0472000	0.0800000	MG/L
06D0666-03	05/10/2006	06/12/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0210000	0.0600000	MG/L
06D0666-03	05/10/2006	06/12/2006	TTHM	DIST-A	0.0447000	0.0800000	MG/L
06D0666-04	05/10/2006	06/12/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0380000	0.0600000	MG/L
06D0666-04	05/10/2006	06/12/2006	TTHM	DIST-A	0.0701000	0.0800000	MG/L

612341	05/03/2006	02/12/2007	ALKALINITY, TOTAL	CH-A1	135.00000		
612342	05/03/2006	02/12/2007	TOTAL ORGANIC CARBON	CH-A1	2.9000000		
612331	05/03/2006	02/12/2007	TOTAL ORGANIC CARBON	WTP-A1	2.0000000		
606431	04/12/2006	02/12/2007	TOTAL ORGANIC CARBON	CH-A1	2.7000000		
606432	04/12/2006	02/12/2007	ALKALINITY, TOTAL	CH-A1	131.00000		
606441	04/12/2006	02/12/2007	TOTAL ORGANIC CARBON	WTP-A1	2.0000000		
06D0307-01	03/08/2006	03/29/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0130000	0.0600000	MG/L
06D0307-01	03/08/2006	03/29/2006	TTHM	DIST-A	0.0322000	0.0800000	MG/L
593101	03/01/2006	02/12/2007	TOTAL ORGANIC CARBON	CH-A1	1.7000000		
593102	03/01/2006	02/12/2007	ALKALINITY, TOTAL	CH-A1	182.00000		
593091	03/01/2006	02/05/2007	TOTAL ORGANIC CARBON	WTP-A1	1.5000000		
06D0261-01	02/27/2006	03/16/2006	NITRATE	EP-A	2.6000000	10.000000	MG/L
06D0261-02	02/27/2006	03/16/2006	NITRATE	EP-A	ND	10.000000	MG/L
06D0261-03	02/27/2006	03/16/2006	NITRATE	EP-A	1.2000000	10.000000	MG/L
06D0235-01	02/15/2006	03/16/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0170000	0.0600000	MG/L
06D0235-01	02/15/2006	03/16/2006	TTHM	DIST-A	0.0502000	0.0800000	MG/L
06D0235-02	02/15/2006	03/16/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0080000	0.0600000	MG/L
06D0235-02	02/15/2006	03/16/2006	TTHM	DIST-A	0.0186000	0.0800000	MG/L
06D0235-03	02/15/2006	03/16/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0140000	0.0600000	MG/L
06D0235-03	02/15/2006	03/16/2006	TTHM	DIST-A	0.0384000	0.0800000	MG/L
06D0235-04	02/15/2006	03/16/2006	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0120000	0.0600000	MG/L
06D0235-04	02/15/2006	03/16/2006	TTHM	DIST-A	0.0365000	0.0800000	MG/L
06D0234-01	02/15/2006	03/16/2006	ARSENIC	EP-A	0.0050000	0.0100000	MG/L
06D0234-01V	02/15/2006	03/16/2006	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
06D0234-01V	02/15/2006	03/16/2006	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
06D0234-01V	02/15/2006	03/16/2006	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
06D0234-01V	02/15/2006	03/16/2006	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
06D0234-01V	02/15/2006	03/16/2006	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
06D0234-01V	02/15/2006	03/16/2006	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
06D0234-01V	02/15/2006	03/16/2006	BENZENE	EP-A	ND	0.0050000	MG/L
06D0234-01V	02/15/2006	03/16/2006	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
06D0234-01V	02/15/2006	03/16/2006	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
06D0234-01V	02/15/2006	03/16/2006	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
06D0234-01V	02/15/2006	03/16/2006	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
06D0234-01V	02/15/2006	03/16/2006	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
06D0234-01V	02/15/2006	03/16/2006	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
06D0234-01V	02/15/2006	03/16/2006	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
06D0234-01V	02/15/2006	03/16/2006	STYRENE	EP-A	ND	0.1000000	MG/L
06D0234-01V	02/15/2006	03/16/2006	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
06D0234-01V	02/15/2006	03/16/2006	TOLUENE	EP-A	0.0008000	1.0000000	MG/L
06D0234-01V	02/15/2006	03/16/2006	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
06D0234-01V	02/15/2006	03/16/2006	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
06D0234-01V	02/15/2006	03/16/2006	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
06D0234-01V	02/15/2006	03/16/2006	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
06D0234-02V	02/15/2006	03/16/2006	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
06D0234-02V	02/15/2006	03/16/2006	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L

06D0234-02V	02/15/2006	03/16/2006	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
06D0234-02V	02/15/2006	03/16/2006	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
06D0234-02V	02/15/2006	03/16/2006	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
06D0234-02V	02/15/2006	03/16/2006	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
06D0234-02V	02/15/2006	03/16/2006	BENZENE	EP-A	ND	0.0050000	MG/L
06D0234-02V	02/15/2006	03/16/2006	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
06D0234-02V	02/15/2006	03/16/2006	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
06D0234-02V	02/15/2006	03/16/2006	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
06D0234-02V	02/15/2006	03/16/2006	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
06D0234-02V	02/15/2006	03/16/2006	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
06D0234-02V	02/15/2006	03/16/2006	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
06D0234-02V	02/15/2006	03/16/2006	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
06D0234-02V	02/15/2006	03/16/2006	STYRENE	EP-A	ND	0.1000000	MG/L
06D0234-02V	02/15/2006	03/16/2006	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
06D0234-02V	02/15/2006	03/16/2006	TOLUENE	EP-A	ND	1.0000000	MG/L
06D0234-02V	02/15/2006	03/16/2006	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
06D0234-02V	02/15/2006	03/16/2006	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
06D0234-02V	02/15/2006	03/16/2006	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
06D0234-02V	02/15/2006	03/16/2006	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
06D0234-03	02/15/2006	03/16/2006	ARSENIC	EP-A	0.0050000	0.0100000	MG/L
06D0234-03V	02/15/2006	03/16/2006	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
06D0234-03V	02/15/2006	03/16/2006	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
06D0234-03V	02/15/2006	03/16/2006	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
06D0234-03V	02/15/2006	03/16/2006	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
06D0234-03V	02/15/2006	03/16/2006	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
06D0234-03V	02/15/2006	03/16/2006	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
06D0234-03V	02/15/2006	03/16/2006	BENZENE	EP-A	ND	0.0050000	MG/L
06D0234-03V	02/15/2006	03/16/2006	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
06D0234-03V	02/15/2006	03/16/2006	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
06D0234-03V	02/15/2006	03/16/2006	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
06D0234-03V	02/15/2006	03/16/2006	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
06D0234-03V	02/15/2006	03/16/2006	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
06D0234-03V	02/15/2006	03/16/2006	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
06D0234-03V	02/15/2006	03/16/2006	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
06D0234-03V	02/15/2006	03/16/2006	STYRENE	EP-A	ND	0.1000000	MG/L
06D0234-03V	02/15/2006	03/16/2006	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
06D0234-03V	02/15/2006	03/16/2006	TOLUENE	EP-A	ND	1.0000000	MG/L
06D0234-03V	02/15/2006	03/16/2006	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
06D0234-03V	02/15/2006	03/16/2006	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
06D0234-03V	02/15/2006	03/16/2006	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
06D0234-03V	02/15/2006	03/16/2006	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
587051	02/01/2006	02/12/2007	ALKALINITY, TOTAL	CH-A1	119.00000		
587052	02/01/2006	02/12/2007	TOTAL ORGANIC CARBON	CH-A1	2.4000000		
587061	02/01/2006	02/12/2007	TOTAL ORGANIC CARBON	WTP-A1	1.7000000		
1601170002B-D	01/06/2006	01/22/2016	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0077300	0.0600000	MG/L
580561	01/04/2006	02/12/2007	TOTAL ORGANIC CARBON	CH-A1	1.9000000		
580562	01/04/2006	02/12/2007	ALKALINITY, TOTAL	CH-A1	158.00000		

580551	01/04/2006	02/12/2007	TOTAL ORGANIC CARBON	WTP-A1	1.5000000		
05D2082-01	11/09/2005	12/05/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0130000	0.0600000	MG/L
05D2082-01	11/09/2005	12/05/2005	TTHM	DIST-A	0.0316000	0.0800000	MG/L
05D2082-02	11/09/2005	12/05/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0140000	0.0600000	MG/L
05D2082-02	11/09/2005	12/05/2005	TTHM	DIST-A	0.0660000	0.0800000	MG/L
05D2082-03	11/09/2005	12/05/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0150000	0.0600000	MG/L
05D2082-03	11/09/2005	12/05/2005	TTHM	DIST-A	**0.0831000**	0.0800000	MG/L
05D2082-04	11/09/2005	12/05/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0130000	0.0600000	MG/L
05D2082-04	11/09/2005	12/05/2005	TTHM	DIST-A	0.0585000	0.0800000	MG/L
05D2083-01	11/09/2005	12/05/2005	ARSENIC	EP-A	0.0070000	0.0100000	MG/L
05D2083-02	11/09/2005	12/05/2005	ARSENIC	EP-A	0.0060000	0.0100000	MG/L
05D2083-03	11/09/2005	12/05/2005	ARSENIC	EP-A	0.0060000	0.0100000	MG/L
05D1234-01	07/27/2005	08/26/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0270000	0.0600000	MG/L
05D1234-01	07/27/2005	08/26/2005	TTHM	DIST-A	0.0335000	0.0800000	MG/L
05D1234-02	07/27/2005	08/26/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0250000	0.0600000	MG/L
05D1234-02	07/27/2005	08/26/2005	TTHM	DIST-A	0.0546000	0.0800000	MG/L
05D1234-03	07/27/2005	08/26/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0250000	0.0600000	MG/L
05D1234-03	07/27/2005	08/26/2005	TTHM	DIST-A	0.0633000	0.0800000	MG/L
05D1234-04	07/27/2005	08/26/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0320000	0.0600000	MG/L
05D1234-04	07/27/2005	08/26/2005	TTHM	DIST-A	**0.1090000**	0.0800000	MG/L
05D1233-01	07/27/2005	08/22/2005	ARSENIC	EP-A	0.0080000	0.0100000	MG/L
05D1233-01S	07/27/2005	08/22/2005	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
05D1233-01S	07/27/2005	08/22/2005	2,4,5-TP	EP-A	ND	0.0500000	MG/L
05D1233-01S	07/27/2005	08/22/2005	2,4-D	EP-A	ND	0.0700000	MG/L
05D1233-01S	07/27/2005	08/22/2005	ATRAZINE	EP-A	ND	0.0030000	MG/L
05D1233-01S	07/27/2005	08/22/2005	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
05D1233-01S	07/27/2005	08/22/2005	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
05D1233-01S	07/27/2005	08/22/2005	CARBOFURAN	EP-A	ND	0.0400000	MG/L
05D1233-01S	07/27/2005	08/22/2005	CHLORDANE	EP-A	ND	0.0020000	MG/L
05D1233-01S	07/27/2005	08/22/2005	DALAPON	EP-A	ND	0.2000000	MG/L
05D1233-01S	07/27/2005	08/22/2005	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
05D1233-01S	07/27/2005	08/22/2005	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
05D1233-01S	07/27/2005	08/22/2005	DINOSEB	EP-A	ND	0.0070000	MG/L
05D1233-01S	07/27/2005	08/22/2005	DIQUAT	EP-A	ND	0.0200000	MG/L
05D1233-01S	07/27/2005	08/22/2005	ENDOTHALL	EP-A	ND	0.1000000	MG/L
05D1233-01S	07/27/2005	08/22/2005	ENDRIN	EP-A	ND	0.0020000	MG/L
05D1233-01S	07/27/2005	08/22/2005	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
05D1233-01S	07/27/2005	08/22/2005	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
05D1233-01S	07/27/2005	08/22/2005	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
05D1233-01S	07/27/2005	08/22/2005	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
05D1233-01S	07/27/2005	08/22/2005	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
05D1233-01S	07/27/2005	08/22/2005	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
05D1233-01S	07/27/2005	08/22/2005	LASSO	EP-A	ND	0.0020000	MG/L
05D1233-01S	07/27/2005	08/22/2005	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
05D1233-01S	07/27/2005	08/22/2005	OXAMYL	EP-A	ND	0.2000000	MG/L
05D1233-01S	07/27/2005	08/22/2005	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L

05D1233-01S	07/27/2005	08/22/2005	PICLORAM	EP-A	ND	0.5000000	MG/L
05D1233-01S	07/27/2005	08/22/2005	SIMAZINE	EP-A	ND	0.0040000	MG/L
05D1233-01S	07/27/2005	08/22/2005	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
05D1233-01S	07/27/2005	08/22/2005	TOXAPHENE	EP-A	ND	0.0030000	MG/L
05D0459-01	04/11/2005	04/28/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0140000	0.0600000	MG/L
05D0459-01	04/11/2005	04/28/2005	TTHM	DIST-A	0.0359000	0.0800000	MG/L
05D0459-02	04/11/2005	04/28/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0150000	0.0600000	MG/L
05D0459-02	04/11/2005	04/28/2005	TTHM	DIST-A	0.0394000	0.0800000	MG/L
05D0459-03	04/11/2005	04/28/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0150000	0.0600000	MG/L
05D0459-03	04/11/2005	04/28/2005	TTHM	DIST-A	0.0434000	0.0800000	MG/L
05D0459-04	04/11/2005	04/28/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0150000	0.0600000	MG/L
05D0459-04	04/11/2005	04/28/2005	TTHM	DIST-A	0.0388000	0.0800000	MG/L
05D0456-01S	04/11/2005	05/06/2005	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
05D0456-01S	04/11/2005	05/06/2005	2,4,5-TP	EP-A	ND	0.0500000	MG/L
05D0456-01S	04/11/2005	05/06/2005	2,4-D	EP-A	ND	0.0700000	MG/L
05D0456-01S	04/11/2005	05/06/2005	ATRAZINE	EP-A	ND	0.0030000	MG/L
05D0456-01S	04/11/2005	05/06/2005	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
05D0456-01S	04/11/2005	05/06/2005	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
05D0456-01S	04/11/2005	05/06/2005	CARBOFURAN	EP-A	ND	0.0400000	MG/L
05D0456-01S	04/11/2005	05/06/2005	CHLORDANE	EP-A	ND	0.0020000	MG/L
05D0456-01S	04/11/2005	05/06/2005	DALAPON	EP-A	ND	0.2000000	MG/L
05D0456-01S	04/11/2005	05/06/2005	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
05D0456-01S	04/11/2005	05/06/2005	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
05D0456-01S	04/11/2005	05/06/2005	DINOSEB	EP-A	ND	0.0070000	MG/L
05D0456-01S	04/11/2005	05/06/2005	DIQUAT	EP-A	ND	0.0200000	MG/L
05D0456-01S	04/11/2005	05/06/2005	ENDOTHALL	EP-A	ND	0.1000000	MG/L
05D0456-01S	04/11/2005	05/06/2005	ENDRIN	EP-A	ND	0.0020000	MG/L
05D0456-01S	04/11/2005	05/06/2005	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
05D0456-01S	04/11/2005	05/06/2005	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
05D0456-01S	04/11/2005	05/06/2005	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
05D0456-01S	04/11/2005	05/06/2005	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
05D0456-01S	04/11/2005	05/06/2005	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
05D0456-01S	04/11/2005	05/06/2005	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
05D0456-01S	04/11/2005	05/06/2005	LASSO	EP-A	ND	0.0020000	MG/L
05D0456-01S	04/11/2005	05/06/2005	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
05D0456-01S	04/11/2005	05/06/2005	OXAMYL	EP-A	ND	0.2000000	MG/L
05D0456-01S	04/11/2005	05/06/2005	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
05D0456-01S	04/11/2005	05/06/2005	PICLORAM	EP-A	ND	0.5000000	MG/L
05D0456-01S	04/11/2005	05/06/2005	SIMAZINE	EP-A	ND	0.0040000	MG/L
05D0456-01S	04/11/2005	05/06/2005	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
05D0456-01S	04/11/2005	05/06/2005	TOXAPHENE	EP-A	ND	0.0030000	MG/L
05D0197-01	02/15/2005	03/14/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0100000	0.0600000	MG/L
05D0197-01	02/15/2005	03/14/2005	TTHM	DIST-A	0.0231000	0.0800000	MG/L
05D0197-02	02/15/2005	03/14/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0100000	0.0600000	MG/L
05D0197-02	02/15/2005	03/14/2005	TTHM	DIST-A	0.0211000	0.0800000	MG/L

05D0197-03	02/15/2005	03/14/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0130000	0.0600000	MG/L
05D0197-03	02/15/2005	03/14/2005	TTHM	DIST-A	0.0333000	0.0800000	MG/L
05D0197-04	02/15/2005	03/14/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0090000	0.0600000	MG/L
05D0197-04	02/15/2005	03/14/2005	TTHM	DIST-A	0.0222000	0.0800000	MG/L
05D0197-06V	02/15/2005	03/14/2005	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
05D0197-06V	02/15/2005	03/14/2005	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
05D0197-06V	02/15/2005	03/14/2005	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
05D0197-06V	02/15/2005	03/14/2005	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
05D0197-06V	02/15/2005	03/14/2005	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
05D0197-06V	02/15/2005	03/14/2005	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
05D0197-06V	02/15/2005	03/14/2005	BENZENE	EP-A	ND	0.0050000	MG/L
05D0197-06V	02/15/2005	03/14/2005	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
05D0197-06V	02/15/2005	03/14/2005	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
05D0197-06V	02/15/2005	03/14/2005	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
05D0197-06V	02/15/2005	03/14/2005	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
05D0197-06V	02/15/2005	03/14/2005	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
05D0197-06V	02/15/2005	03/14/2005	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
05D0197-06V	02/15/2005	03/14/2005	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
05D0197-06V	02/15/2005	03/14/2005	STYRENE	EP-A	ND	0.1000000	MG/L
05D0197-06V	02/15/2005	03/14/2005	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
05D0197-06V	02/15/2005	03/14/2005	TOLUENE	EP-A	ND	1.0000000	MG/L
05D0197-06V	02/15/2005	03/14/2005	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
05D0197-06V	02/15/2005	03/14/2005	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
05D0197-06V	02/15/2005	03/14/2005	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
05D0197-06V	02/15/2005	03/14/2005	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
05D0197-07V	02/15/2005	03/14/2005	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
05D0197-07V	02/15/2005	03/14/2005	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
05D0197-07V	02/15/2005	03/14/2005	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
05D0197-07V	02/15/2005	03/14/2005	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
05D0197-07V	02/15/2005	03/14/2005	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
05D0197-07V	02/15/2005	03/14/2005	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
05D0197-07V	02/15/2005	03/14/2005	BENZENE	EP-A	ND	0.0050000	MG/L
05D0197-07V	02/15/2005	03/14/2005	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
05D0197-07V	02/15/2005	03/14/2005	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
05D0197-07V	02/15/2005	03/14/2005	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
05D0197-07V	02/15/2005	03/14/2005	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
05D0197-07V	02/15/2005	03/14/2005	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
05D0197-07V	02/15/2005	03/14/2005	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
05D0197-07V	02/15/2005	03/14/2005	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
05D0197-07V	02/15/2005	03/14/2005	STYRENE	EP-A	ND	0.1000000	MG/L
05D0197-07V	02/15/2005	03/14/2005	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
05D0197-07V	02/15/2005	03/14/2005	TOLUENE	EP-A	ND	1.0000000	MG/L
05D0197-07V	02/15/2005	03/14/2005	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
05D0197-07V	02/15/2005	03/14/2005	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
05D0197-07V	02/15/2005	03/14/2005	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
05D0197-07V	02/15/2005	03/14/2005	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
05D0197-08I	02/15/2005	04/26/2005	ARSENIC	EP-A	0.0080000	0.0100000	MG/L

05D0197-08I	02/15/2005	04/26/2005	NITRATE	EP-A	1.6000000	10.000000	MG/L
05D0197-09	02/15/2005	03/14/2005	ARSENIC	EP-A	0.0090000	0.0100000	MG/L
05D0197-09	02/15/2005	03/14/2005	NITRATE	EP-A	1.7000000	10.000000	MG/L
05D0197-10	02/15/2005	03/14/2005	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
05D0197-10	02/15/2005	03/14/2005	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
05D0197-10	02/15/2005	03/14/2005	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
05D0197-10	02/15/2005	03/14/2005	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
05D0197-10	02/15/2005	03/14/2005	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
05D0197-10	02/15/2005	03/14/2005	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
05D0197-10	02/15/2005	03/14/2005	BENZENE	EP-A	ND	0.0050000	MG/L
05D0197-10	02/15/2005	03/14/2005	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
05D0197-10	02/15/2005	03/14/2005	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
05D0197-10	02/15/2005	03/14/2005	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
05D0197-10	02/15/2005	03/14/2005	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
05D0197-10	02/15/2005	03/14/2005	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
05D0197-10	02/15/2005	03/14/2005	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
05D0197-10	02/15/2005	03/14/2005	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
05D0197-10	02/15/2005	03/14/2005	STYRENE	EP-A	ND	0.1000000	MG/L
05D0197-10	02/15/2005	03/14/2005	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
05D0197-10	02/15/2005	03/14/2005	TOLUENE	EP-A	ND	1.0000000	MG/L
05D0197-10	02/15/2005	03/14/2005	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
05D0197-10	02/15/2005	03/14/2005	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
05D0197-10	02/15/2005	03/14/2005	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
05D0197-10	02/15/2005	03/14/2005	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
05D0197-10V	02/15/2005	03/14/2005	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
05D0197-10V	02/15/2005	03/14/2005	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
05D0197-10V	02/15/2005	03/14/2005	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
05D0197-10V	02/15/2005	03/14/2005	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
05D0197-10V	02/15/2005	03/14/2005	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
05D0197-10V	02/15/2005	03/14/2005	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
05D0197-10V	02/15/2005	03/14/2005	BENZENE	EP-A	ND	0.0050000	MG/L
05D0197-10V	02/15/2005	03/14/2005	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
05D0197-10V	02/15/2005	03/14/2005	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
05D0197-10V	02/15/2005	03/14/2005	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
05D0197-10V	02/15/2005	03/14/2005	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
05D0197-10V	02/15/2005	03/14/2005	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
05D0197-10V	02/15/2005	03/14/2005	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
05D0197-10V	02/15/2005	03/14/2005	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
05D0197-10V	02/15/2005	03/14/2005	STYRENE	EP-A	ND	0.1000000	MG/L
05D0197-10V	02/15/2005	03/14/2005	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
05D0197-10V	02/15/2005	03/14/2005	TOLUENE	EP-A	ND	1.0000000	MG/L
05D0197-10V	02/15/2005	03/14/2005	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
05D0197-10V	02/15/2005	03/14/2005	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
05D0197-10V	02/15/2005	03/14/2005	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
05D0197-10V	02/15/2005	03/14/2005	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
05D0197-05	02/15/2005	03/14/2005	ARSENIC	SRC-AC	**0.0120000**	0.0100000	MG/L

05D0197-05	02/15/2005	03/14/2005	NITRITE	SRC-AC	ND	1.0000000	MG/L
04D2285-03	12/06/2004	12/22/2004	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0090000	0.0600000	MG/L
04D2285-03	12/06/2004	12/22/2004	TTHM	DIST-A	0.0224000	0.0800000	MG/L
04D2285-04	12/06/2004	12/22/2004	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0110000	0.0600000	MG/L
04D2285-04	12/06/2004	12/22/2004	TTHM	DIST-A	0.0221000	0.0800000	MG/L
04D1363-01	08/16/2004	09/17/2004	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0380000	0.0600000	MG/L
04D1363-01	08/16/2004	09/17/2004	TTHM	DIST-A	**0.0913000**	0.0800000	MG/L
04D1362	08/16/2004	09/07/2004	NITRATE	EP-A	ND	10.000000	MG/L
04D1144-01	07/27/2004	08/08/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0220000	0.0600000	MG/L
04D1144-01	07/27/2004	08/08/2005	TTHM	DIST-A	0.0657000	0.0800000	MG/L
04D1144-02	07/27/2004	08/08/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0470000	0.0600000	MG/L
04D1144-02	07/27/2004	08/08/2005	TTHM	DIST-A	**0.0912000**	0.0800000	MG/L
04D1144-03	07/27/2004	08/08/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0370000	0.0600000	MG/L
04D1144-03	07/27/2004	08/08/2005	TTHM	DIST-A	0.0604000	0.0800000	MG/L
04D1144-04	07/27/2004	08/08/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0390000	0.0600000	MG/L
04D1144-04	07/27/2004	08/08/2005	TTHM	DIST-A	0.0693000	0.0800000	MG/L
04D0517-01	04/27/2004	08/08/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0210000	0.0600000	MG/L
04D0517-01	04/27/2004	08/08/2005	TTHM	DIST-A	0.0622000	0.0800000	MG/L
04D0517-02	04/27/2004	08/08/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0210000	0.0600000	MG/L
04D0517-02	04/27/2004	08/08/2005	TTHM	DIST-A	0.0616000	0.0800000	MG/L
04D0517-03	04/27/2004	08/08/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0230000	0.0600000	MG/L
04D0517-03	04/27/2004	08/08/2005	TTHM	DIST-A	0.0744000	0.0800000	MG/L
04D0517-04	04/27/2004	08/08/2005	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0180000	0.0600000	MG/L
04D0517-04	04/27/2004	08/08/2005	TTHM	DIST-A	0.0579000	0.0800000	MG/L
04D0433-01V	04/16/2004	06/14/2004	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
04D0433-01V	04/16/2004	06/14/2004	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/16/2004	06/14/2004	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
04D0433-01V	04/16/2004	06/14/2004	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
04D0433-01V	04/16/2004	06/14/2004	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/16/2004	06/14/2004	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/16/2004	06/14/2004	BENZENE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/16/2004	06/14/2004	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/16/2004	06/14/2004	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
04D0433-01V	04/16/2004	06/14/2004	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
04D0433-01V	04/16/2004	06/14/2004	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/16/2004	06/14/2004	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
04D0433-01V	04/16/2004	06/14/2004	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
04D0433-01V	04/16/2004	06/14/2004	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
04D0433-01V	04/16/2004	06/14/2004	STYRENE	EP-A	ND	0.1000000	MG/L
04D0433-01V	04/16/2004	06/14/2004	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/16/2004	06/14/2004	TOLUENE	EP-A	ND	1.0000000	MG/L
04D0433-01V	04/16/2004	06/14/2004	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
04D0433-01V	04/16/2004	06/14/2004	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/16/2004	06/14/2004	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
04D0433-01V	04/16/2004	06/14/2004	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
04D0433-01V	04/15/2004	06/14/2004	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
04D0433-01V	04/15/2004	05/10/2004	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L

04D0433-01V	04/15/2004	05/10/2004	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
04D0433-01V	04/15/2004	05/10/2004	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
04D0433-01V	04/15/2004	05/10/2004	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/15/2004	05/10/2004	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/15/2004	05/10/2004	BENZENE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/15/2004	05/10/2004	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/15/2004	05/10/2004	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
04D0433-01V	04/15/2004	05/10/2004	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
04D0433-01V	04/15/2004	05/10/2004	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/15/2004	05/10/2004	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
04D0433-01V	04/15/2004	05/10/2004	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
04D0433-01V	04/15/2004	05/10/2004	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
04D0433-01V	04/15/2004	05/10/2004	STYRENE	EP-A	ND	0.1000000	MG/L
04D0433-01V	04/15/2004	05/10/2004	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/15/2004	05/10/2004	TOLUENE	EP-A	ND	1.0000000	MG/L
04D0433-01V	04/15/2004	05/10/2004	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
04D0433-01V	04/15/2004	05/10/2004	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
04D0433-01V	04/15/2004	05/10/2004	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
04D0433-01V	04/15/2004	05/10/2004	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
04D0434-01	04/15/2004	05/03/2004	NITRATE	EP-A	2.8000000	10.000000	MG/L
04D0446-01I	04/15/2004	06/14/2004	ANTIMONY, TOTAL	EP-A	ND	0.0060000	MG/L
04D0446-01I	04/15/2004	06/14/2004	ARSENIC	EP-A	0.0060000	0.0100000	MG/L
04D0446-01I	04/15/2004	06/14/2004	BARIUM	EP-A	0.0400000	2.0000000	MG/L
04D0446-01I	04/15/2004	06/14/2004	BERYLLIUM, TOTAL	EP-A	ND	0.0040000	MG/L
04D0446-01I	04/15/2004	06/14/2004	CADMIUM	EP-A	ND	0.0050000	MG/L
04D0446-01I	04/15/2004	06/14/2004	CHROMIUM	EP-A	ND	0.1000000	MG/L
04D0446-01I	04/15/2004	06/14/2004	CYANIDE	EP-A	ND	0.2000000	MG/L
04D0446-01I	04/15/2004	06/14/2004	FLUORIDE	EP-A	0.6000000	4.0000000	MG/L
04D0446-01I	04/15/2004	06/14/2004	LEAD	EP-A	0.0010000	0.0150000	MG/L
04D0446-01I	04/15/2004	06/14/2004	MERCURY	EP-A	ND	0.0020000	MG/L
04D0446-01I	04/15/2004	06/14/2004	NICKEL	EP-A	ND	0.1000000	MG/L
04D0446-01I	04/15/2004	06/14/2004	NITRATE	EP-A	ND	10.000000	MG/L
04D0446-01I	04/15/2004	06/14/2004	NITRATE-NITRITE	EP-A	ND	10.000000	MG/L
04D0446-01I	04/15/2004		NITRITE	EP-A	ND	1.0000000	MG/L
04D0446-01I	04/15/2004	06/14/2004	SELENIUM	EP-A	ND	0.0500000	MG/L
04D0446-01I	04/15/2004	06/14/2004	SODIUM	EP-A	36.000000		MG/L
04D0446-01I	04/15/2004	06/14/2004	THALLIUM, TOTAL	EP-A	ND	0.0020000	MG/L
04D0446-01S	04/15/2004	06/14/2004	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
04D0446-01S	04/15/2004	06/14/2004	2,4,5-TP	EP-A	ND	0.0500000	MG/L
04D0446-01S	04/15/2004	06/14/2004	2,4-D	EP-A	ND	0.0700000	MG/L
04D0446-01S	04/15/2004	06/14/2004	ATRAZINE	EP-A	ND	0.0030000	MG/L
04D0446-01S	04/15/2004	06/14/2004	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
04D0446-01S	04/15/2004	06/14/2004	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
04D0446-01S	04/15/2004	06/14/2004	CARBOFURAN	EP-A	ND	0.0400000	MG/L
04D0446-01S	04/15/2004	06/14/2004	CHLORDANE	EP-A	ND	0.0020000	MG/L
04D0446-01S	04/15/2004	06/14/2004	DALAPON	EP-A	ND	0.2000000	MG/L

04D0446-01S	04/15/2004	06/14/2004	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
04D0446-01S	04/15/2004	06/14/2004	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
04D0446-01S	04/15/2004	06/14/2004	DINOSEB	EP-A	ND	0.0070000	MG/L
04D0446-01S	04/15/2004	06/14/2004	DIQUAT	EP-A	ND	0.0200000	MG/L
04D0446-01S	04/15/2004	06/14/2004	ENDOTHALL	EP-A	ND	0.1000000	MG/L
04D0446-01S	04/15/2004	06/14/2004	ENDRIN	EP-A	ND	0.0020000	MG/L
04D0446-01S	04/15/2004	06/14/2004	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
04D0446-01S	04/15/2004	06/14/2004	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
04D0446-01S	04/15/2004	06/14/2004	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
04D0446-01S	04/15/2004	06/14/2004	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
04D0446-01S	04/15/2004	06/14/2004	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
04D0446-01S	04/15/2004	06/14/2004	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
04D0446-01S	04/15/2004	06/14/2004	LASSO	EP-A	ND	0.0020000	MG/L
04D0446-01S	04/15/2004	06/14/2004	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
04D0446-01S	04/15/2004	06/14/2004	OXAMYL	EP-A	ND	0.2000000	MG/L
04D0446-01S	04/15/2004	06/14/2004	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
04D0446-01S	04/15/2004	06/14/2004	PICLORAM	EP-A	ND	0.5000000	MG/L
04D0446-01S	04/15/2004	06/14/2004	SIMAZINE	EP-A	ND	0.0040000	MG/L
04D0446-01S	04/15/2004	06/14/2004	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
04D0446-01S	04/15/2004	06/14/2004	TOXAPHENE	EP-A	ND	0.0030000	MG/L
119-95767	04/12/2004	04/30/2004	ASBESTOS	EP-A	ND	7.0000000	MFL
C244601	11/12/2003	12/04/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0123000	0.0600000	MG/L
C244601	11/12/2003	12/04/2003	TTHM	DIST-A	0.0280000	0.0800000	MG/L
C244602	11/12/2003	12/04/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0138000	0.0600000	MG/L
C244602	11/12/2003	12/04/2003	TTHM	DIST-A	0.0288000	0.0800000	MG/L
C244603	11/12/2003	12/04/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0120000	0.0600000	MG/L
C244603	11/12/2003	12/04/2003	TTHM	DIST-A	0.0265000	0.0800000	MG/L
C244604	11/12/2003	12/04/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0169000	0.0600000	MG/L
C244604	11/12/2003	12/04/2003	TTHM	DIST-A	0.0450000	0.0800000	MG/L
30819-8I	08/18/2003	11/24/2003	ANTIMONY, TOTAL	SRC-AC	ND	0.0060000	MG/L
30819-8I	08/18/2003	11/24/2003	ARSENIC	SRC-AC	**0.0130000**	0.0100000	MG/L
30819-8I	08/18/2003	11/24/2003	BARIUM	SRC-AC	ND	2.0000000	MG/L
30819-8I	08/18/2003	11/24/2003	BERYLLIUM, TOTAL	SRC-AC	ND	0.0040000	MG/L
30819-8I	08/18/2003	11/24/2003	CADMIUM	SRC-AC	ND	0.0050000	MG/L
30819-8I	08/18/2003	11/24/2003	CHROMIUM	SRC-AC	ND	0.1000000	MG/L
30819-8I	08/18/2003	11/24/2003	CYANIDE	SRC-AC	ND	0.2000000	MG/L
30819-8I	08/18/2003	11/24/2003	FLUORIDE	SRC-AC	0.9500000	4.0000000	MG/L
30819-8I	08/18/2003	11/24/2003	LEAD	SRC-AC	ND	0.0150000	MG/L
30819-8I	08/18/2003	11/24/2003	MERCURY	SRC-AC	ND	0.0020000	MG/L
30819-8I	08/18/2003	11/24/2003	NICKEL	SRC-AC	ND	0.1000000	MG/L
30819-8I	08/18/2003	11/24/2003	NITRATE	SRC-AC	ND	10.000000	MG/L
30819-8I	08/18/2003	11/24/2003	NITRATE-NITRITE	SRC-AC	ND	10.000000	MG/L
30819-8I	08/18/2003	11/24/2003	NITRITE	SRC-AC	ND	1.0000000	MG/L
30819-8I	08/18/2003	11/24/2003	SELENIUM	SRC-AC	ND	0.0500000	MG/L
30819-8I	08/18/2003	11/24/2003	SODIUM	SRC-AC	60.700000		MG/L
30819-8I	08/18/2003	11/24/2003	SULFATE	SRC-AC	74.500000		MG/L

30819-8I	08/18/2003		THALLIUM, TOTAL	SRC-AC	ND	0.0020000	MG/L
30819-8R	08/18/2003	03/18/2004	COMBINED RADIUM (-226 & -228)	SRC-AC	2.3200000	5.0000000	PCI/L
30819-8R	08/18/2003	03/18/2004	COMBINED URANIUM	SRC-AC	0.0057212	0.0300000	MG/L
30819-8R	08/18/2003	03/18/2004	GROSS ALPHA, EXCL. RADON & U	SRC-AC	8.1000000	15.000000	PCI/L
30819-8R	08/18/2003	03/18/2004	GROSS BETA PARTICLE ACTIVITY	SRC-AC	ND	50.000000	PCI/L
30819-8S	08/18/2003	11/24/2003	1,2-DIBROMO-3-CHLOROPROPANE	SRC-AC	ND	0.0002000	MG/L
30819-8S	08/18/2003	11/24/2003	2,4,5-TP	SRC-AC	ND	0.0500000	MG/L
30819-8S	08/18/2003	11/24/2003	2,4-D	SRC-AC	ND	0.0700000	MG/L
30819-8S	08/18/2003	11/24/2003	ATRAZINE	SRC-AC	ND	0.0030000	MG/L
30819-8S	08/18/2003	11/24/2003	BENZO(A)PYRENE	SRC-AC	ND	0.0002000	MG/L
30819-8S	08/18/2003	11/24/2003	BHC-GAMMA	SRC-AC	ND	0.0002000	MG/L
30819-8S	08/18/2003	11/24/2003	CARBOFURAN	SRC-AC	ND	0.0400000	MG/L
30819-8S	08/18/2003	11/24/2003	CHLORDANE	SRC-AC	ND	0.0020000	MG/L
30819-8S	08/18/2003	11/24/2003	DALAPON	SRC-AC	ND	0.2000000	MG/L
30819-8S	08/18/2003	11/24/2003	DI(2-ETHYLHEXYL) ADIPATE	SRC-AC	ND	0.4000000	MG/L
30819-8S	08/18/2003	11/24/2003	DI(2-ETHYLHEXYL) PHTHALATE	SRC-AC	ND	0.0060000	MG/L
30819-8S	08/18/2003	11/24/2003	DINOSEB	SRC-AC	ND	0.0070000	MG/L
30819-8S	08/18/2003	11/24/2003	ENDOTHALL	SRC-AC	ND	0.1000000	MG/L
30819-8S	08/18/2003	11/24/2003	ENDRIN	SRC-AC	ND	0.0020000	MG/L
30819-8S	08/18/2003	11/24/2003	ETHYLENE DIBROMIDE	SRC-AC	ND	0.0000500	MG/L
30819-8S	08/18/2003	11/24/2003	GLYPHOSATE	SRC-AC	ND	0.7000000	MG/L
30819-8S	08/18/2003	11/24/2003	HEPTACHLOR	SRC-AC	ND	0.0004000	MG/L
30819-8S	08/18/2003	11/24/2003	HEPTACHLOR EPOXIDE	SRC-AC	ND	0.0002000	MG/L
30819-8S	08/18/2003	11/24/2003	HEXACHLOROBENZENE	SRC-AC	ND	0.0010000	MG/L
30819-8S	08/18/2003	11/24/2003	HEXACHLOROCYCLOPENTADIENE	SRC-AC	ND	0.0500000	MG/L
30819-8S	08/18/2003	11/24/2003	LASSO	SRC-AC	ND	0.0020000	MG/L
30819-8S	08/18/2003	11/24/2003	METHOXYCHLOR	SRC-AC	ND	0.0400000	MG/L
30819-8S	08/18/2003	11/24/2003	OXAMYL	SRC-AC	ND	0.2000000	MG/L
30819-8S	08/18/2003	11/24/2003	PENTACHLOROPHENOL	SRC-AC	ND	0.0010000	MG/L
30819-8S	08/18/2003	11/24/2003	PICLORAM	SRC-AC	ND	0.5000000	MG/L
30819-8S	08/18/2003	11/24/2003	SIMAZINE	SRC-AC	ND	0.0040000	MG/L
30819-8S	08/18/2003	11/24/2003	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	SRC-AC	ND	0.0005000	MG/L
30819-8S	08/18/2003	11/24/2003	TOXAPHENE	SRC-AC	ND	0.0030000	MG/L
30819-8V	08/18/2003	11/24/2003	1,1,1-TRICHLOROETHANE	SRC-AC	ND	0.2000000	MG/L
30819-8V	08/18/2003	11/24/2003	1,1,2-TRICHLOROETHANE	SRC-AC	ND	0.0050000	MG/L
30819-8V	08/18/2003	11/24/2003	1,1-DICHLOROETHYLENE	SRC-AC	ND	0.0070000	MG/L
30819-8V	08/18/2003	11/24/2003	1,2,4-TRICHLOROBENZENE	SRC-AC	ND	0.0700000	MG/L
30819-8V	08/18/2003	11/24/2003	1,2-DICHLOROETHANE	SRC-AC	ND	0.0050000	MG/L
30819-8V	08/18/2003	11/24/2003	1,2-DICHLOROPROPANE	SRC-AC	ND	0.0050000	MG/L
30819-8V	08/18/2003	11/24/2003	BENZENE	SRC-AC	ND	0.0050000	MG/L
30819-8V	08/18/2003	11/24/2003	CARBON TETRACHLORIDE	SRC-AC	ND	0.0050000	MG/L
30819-8V	08/18/2003	11/24/2003	CHLOROBENZENE	SRC-AC	ND	0.1000000	MG/L
30819-8V	08/18/2003	11/24/2003	CIS-1,2-DICHLOROETHYLENE	SRC-AC	ND	0.0700000	MG/L
30819-8V	08/18/2003	11/24/2003	DICHLOROMETHANE	SRC-AC	ND	0.0050000	MG/L
30819-8V	08/18/2003	11/24/2003	ETHYLBENZENE	SRC-AC	ND	0.7000000	MG/L
30819-8V	08/18/2003	11/24/2003	O-DICHLOROBENZENE	SRC-AC	ND	0.6000000	MG/L

30819-8V	08/18/2003	11/24/2003	P-DICHLOROBENZENE	SRC-AC	ND	0.0750000	MG/L
30819-8V	08/18/2003	11/24/2003	STYRENE	SRC-AC	ND	0.1000000	MG/L
30819-8V	08/18/2003	11/24/2003	TETRACHLOROETHYLENE	SRC-AC	ND	0.0050000	MG/L
30819-8V	08/18/2003	11/24/2003	TOLUENE	SRC-AC	ND	1.0000000	MG/L
30819-8V	08/18/2003	11/24/2003	TRANS-1,2-DICHLOROETHYLENE	SRC-AC	ND	0.1000000	MG/L
30819-8V	08/18/2003	11/24/2003	TRICHLOROETHYLENE	SRC-AC	ND	0.0050000	MG/L
30819-8V	08/18/2003	11/24/2003	VINYL CHLORIDE	SRC-AC	ND	0.0020000	MG/L
30819-8V	08/18/2003	11/24/2003	XYLENES, TOTAL	SRC-AC	ND	10.000000	MG/L
30820-9	08/18/2003	11/24/2003	DIQUAT	SRC-AC	ND	0.0200000	MG/L
30819-9I	08/18/2003	11/24/2003	ANTIMONY, TOTAL	SRC-AD	ND	0.0060000	MG/L
30819-9I	08/18/2003	11/24/2003	ARSENIC	SRC-AD	**0.0140000**	0.0100000	MG/L
30819-9I	08/18/2003	11/24/2003	BARIUM	SRC-AD	ND	2.0000000	MG/L
30819-9I	08/18/2003	11/24/2003	BERYLLIUM, TOTAL	SRC-AD	ND	0.0040000	MG/L
30819-9I	08/18/2003	11/24/2003	CADMIUM	SRC-AD	ND	0.0050000	MG/L
30819-9I	08/18/2003	11/24/2003	CHROMIUM	SRC-AD	ND	0.1000000	MG/L
30819-9I	08/18/2003	11/24/2003	CYANIDE	SRC-AD	ND	0.2000000	MG/L
30819-9I	08/18/2003	11/24/2003	FLUORIDE	SRC-AD	0.8800000	4.0000000	MG/L
30819-9I	08/18/2003	11/24/2003	LEAD	SRC-AD	ND	0.0150000	MG/L
30819-9I	08/18/2003	11/24/2003	MERCURY	SRC-AD	ND	0.0020000	MG/L
30819-9I	08/18/2003	11/24/2003	NICKEL	SRC-AD	ND	0.1000000	MG/L
30819-9I	08/18/2003	11/24/2003	NITRATE	SRC-AD	ND	10.000000	MG/L
30819-9I	08/18/2003	11/24/2003	NITRATE-NITRITE	SRC-AD	ND	10.000000	MG/L
30819-9I	08/18/2003	11/24/2003	NITRITE	SRC-AD	ND	1.0000000	MG/L
30819-9I	08/18/2003	11/24/2003	SELENIUM	SRC-AD	ND	0.0500000	MG/L
30819-9I	08/18/2003	11/24/2003	SODIUM	SRC-AD	56.000000		MG/L
30819-9I	08/18/2003	11/24/2003	SULFATE	SRC-AD	86.900000		MG/L
30819-9I	08/18/2003	11/24/2003	THALLIUM, TOTAL	SRC-AD	ND	0.0020000	MG/L
30819-9R	08/18/2003	03/18/2004	COMBINED RADIUM (-226 & -228)	SRC-AD	1.5700000	5.0000000	PCI/L
30819-9R	08/18/2003	03/18/2004	COMBINED URANIUM	SRC-AD	0.0080451	0.0300000	MG/L
30819-9R	08/18/2003	03/18/2004	GROSS ALPHA, EXCL. RADON & U	SRC-AD	2.0000000	15.000000	PCI/L
30819-9R	08/18/2003	03/18/2004	GROSS BETA PARTICLE ACTIVITY	SRC-AD	3.2000000	50.000000	PCI/L
30819-9S	08/18/2003	11/24/2003	1,2-DIBROMO-3-CHLOROPROPANE	SRC-AD	ND	0.0002000	MG/L
30819-9S	08/18/2003	11/24/2003	2,4,5-TP	SRC-AD	ND	0.0500000	MG/L
30819-9S	08/18/2003	11/24/2003	2,4-D	SRC-AD	ND	0.0700000	MG/L
30819-9S	08/18/2003	11/24/2003	ATRAZINE	SRC-AD	ND	0.0030000	MG/L
30819-9S	08/18/2003	11/24/2003	BENZO(A)PYRENE	SRC-AD	ND	0.0002000	MG/L
30819-9S	08/18/2003	11/24/2003	BHC-GAMMA	SRC-AD	ND	0.0002000	MG/L
30819-9S	08/18/2003	11/24/2003	CARBOFURAN	SRC-AD	ND	0.0400000	MG/L
30819-9S	08/18/2003	11/24/2003	CHLORDANE	SRC-AD	ND	0.0020000	MG/L
30819-9S	08/18/2003	11/24/2003	DALAPON	SRC-AD	ND	0.2000000	MG/L
30819-9S	08/18/2003	11/24/2003	DI(2-ETHYLHEXYL) ADIPATE	SRC-AD	ND	0.4000000	MG/L
30819-9S	08/18/2003	11/24/2003	DI(2-ETHYLHEXYL) PHTHALATE	SRC-AD	ND	0.0060000	MG/L
30819-9S	08/18/2003	11/24/2003	DINOSEB	SRC-AD	ND	0.0070000	MG/L
30819-9S	08/18/2003	11/24/2003	DIQUAT	SRC-AD	ND	0.0200000	MG/L
30819-9S	08/18/2003	11/24/2003	ENDOTHALL	SRC-AD	ND	0.1000000	MG/L
30819-9S	08/18/2003	11/24/2003	ENDRIN	SRC-AD	ND	0.0020000	MG/L
30819-9S	08/18/2003	11/24/2003	ETHYLENE DIBROMIDE	SRC-AD	ND	0.0000500	MG/L

30819-9S	08/18/2003	11/24/2003	GLYPHOSATE	SRC-AD	ND	0.7000000	MG/L
30819-9S	08/18/2003	11/24/2003	HEPTACHLOR	SRC-AD	ND	0.0004000	MG/L
30819-9S	08/18/2003	11/24/2003	HEPTACHLOR EPOXIDE	SRC-AD	ND	0.0002000	MG/L
30819-9S	08/18/2003	11/24/2003	HEXACHLOROBENZENE	SRC-AD	ND	0.0010000	MG/L
30819-9S	08/18/2003	11/24/2003	HEXACHLOROCYCLOPENTADIENE	SRC-AD	ND	0.0500000	MG/L
30819-9S	08/18/2003	11/24/2003	LASSO	SRC-AD	ND	0.0020000	MG/L
30819-9S	08/18/2003	11/24/2003	METHOXYCHLOR	SRC-AD	ND	0.0400000	MG/L
30819-9S	08/18/2003	11/24/2003	OXAMYL	SRC-AD	ND	0.2000000	MG/L
30819-9S	08/18/2003	11/24/2003	PENTACHLOROPHENOL	SRC-AD	ND	0.0010000	MG/L
30819-9S	08/18/2003	11/24/2003	PICLORAM	SRC-AD	ND	0.5000000	MG/L
30819-9S	08/18/2003	11/24/2003	SIMAZINE	SRC-AD	ND	0.0040000	MG/L
30819-9S	08/18/2003	11/24/2003	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	SRC-AD	ND	0.0005000	MG/L
30819-9S	08/18/2003	11/24/2003	TOXAPHENE	SRC-AD	ND	0.0030000	MG/L
30819-9V	08/18/2003	11/24/2003	1,1,1-TRICHLOROETHANE	SRC-AD	ND	0.2000000	MG/L
30819-9V	08/18/2003	11/24/2003	1,1,2-TRICHLOROETHANE	SRC-AD	ND	0.0050000	MG/L
30819-9V	08/18/2003	11/24/2003	1,1-DICHLOROETHYLENE	SRC-AD	ND	0.0070000	MG/L
30819-9V	08/18/2003	11/24/2003	1,2,4-TRICHLOROBENZENE	SRC-AD	ND	0.0700000	MG/L
30819-9V	08/18/2003	11/24/2003	1,2-DICHLOROETHANE	SRC-AD	ND	0.0050000	MG/L
30819-9V	08/18/2003	11/24/2003	1,2-DICHLOROPROPANE	SRC-AD	ND	0.0050000	MG/L
30819-9V	08/18/2003	11/24/2003	BENZENE	SRC-AD	ND	0.0050000	MG/L
30819-9V	08/18/2003	11/24/2003	CARBON TETRACHLORIDE	SRC-AD	ND	0.0050000	MG/L
30819-9V	08/18/2003	11/24/2003	CHLOROBENZENE	SRC-AD	ND	0.1000000	MG/L
30819-9V	08/18/2003	11/24/2003	CIS-1,2-DICHLOROETHYLENE	SRC-AD	ND	0.0700000	MG/L
30819-9V	08/18/2003	11/24/2003	DICHLOROMETHANE	SRC-AD	ND	0.0050000	MG/L
30819-9V	08/18/2003	11/24/2003	ETHYLBENZENE	SRC-AD	ND	0.7000000	MG/L
30819-9V	08/18/2003	11/24/2003	O-DICHLOROBENZENE	SRC-AD	ND	0.6000000	MG/L
30819-9V	08/18/2003	11/24/2003	P-DICHLOROBENZENE	SRC-AD	ND	0.0750000	MG/L
30819-9V	08/18/2003	11/24/2003	STYRENE	SRC-AD	ND	0.1000000	MG/L
30819-9V	08/18/2003	11/24/2003	TETRACHLOROETHYLENE	SRC-AD	ND	0.0050000	MG/L
30819-9V	08/18/2003	11/24/2003	TOLUENE	SRC-AD	ND	1.0000000	MG/L
30819-9V	08/18/2003	11/24/2003	TRANS-1,2-DICHLOROETHYLENE	SRC-AD	ND	0.1000000	MG/L
30819-9V	08/18/2003	11/24/2003	TRICHLOROETHYLENE	SRC-AD	ND	0.0050000	MG/L
30819-9V	08/18/2003	11/24/2003	VINYL CHLORIDE	SRC-AD	ND	0.0020000	MG/L
30819-9V	08/18/2003	11/24/2003	XYLENES, TOTAL	SRC-AD	ND	10.000000	MG/L
C169201	07/21/2003	09/17/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0338000	0.0600000	MG/L
C169201	07/21/2003	09/17/2003	TTHM	DIST-A	0.0528000	0.0800000	MG/L
C169202	07/21/2003	09/17/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0404000	0.0600000	MG/L
C169202	07/21/2003	09/17/2003	TTHM	DIST-A	0.0658000	0.0800000	MG/L
C169203	07/21/2003	09/17/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0323000	0.0600000	MG/L
C169203	07/21/2003	09/17/2003	TTHM	DIST-A	0.0598000	0.0800000	MG/L
C198101	07/21/2003	09/17/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0395000	0.0600000	MG/L
C198101	07/21/2003	09/17/2003	TTHM	DIST-A	0.0628000	0.0800000	MG/L
30515-19S	05/13/2003	06/04/2003	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
30515-19S	05/13/2003	06/04/2003	2,4,5-TP	EP-A	ND	0.0500000	MG/L
30515-19S	05/13/2003	06/04/2003	2,4-D	EP-A	ND	0.0700000	MG/L

30515-19S	05/13/2003	06/04/2003	ATRAZINE	EP-A	ND	0.0030000	MG/L
30515-19S	05/13/2003	06/04/2003	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
30515-19S	05/13/2003	06/04/2003	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
30515-19S	05/13/2003	06/04/2003	CARBOFURAN	EP-A	ND	0.0400000	MG/L
30515-19S	05/13/2003	06/04/2003	CHLORDANE	EP-A	ND	0.0020000	MG/L
30515-19S	05/13/2003	06/04/2003	DALAPON	EP-A	ND	0.2000000	MG/L
30515-19S	05/13/2003	06/04/2003	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
30515-19S	05/13/2003	06/04/2003	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
30515-19S	05/13/2003	06/04/2003	DINOSEB	EP-A	ND	0.0070000	MG/L
30515-19S	05/13/2003	06/04/2003	DIQUAT	EP-A	ND	0.0200000	MG/L
30515-19S	05/13/2003	06/04/2003	ENDOTHALL	EP-A	ND	0.1000000	MG/L
30515-19S	05/13/2003	06/04/2003	ENDRIN	EP-A	ND	0.0020000	MG/L
30515-19S	05/13/2003	06/04/2003	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
30515-19S	05/13/2003	06/04/2003	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
30515-19S	05/13/2003	06/04/2003	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
30515-19S	05/13/2003	06/04/2003	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
30515-19S	05/13/2003	06/04/2003	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
30515-19S	05/13/2003	06/04/2003	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
30515-19S	05/13/2003	06/04/2003	LASSO	EP-A	ND	0.0020000	MG/L
30515-19S	05/13/2003	06/04/2003	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
30515-19S	05/13/2003	06/04/2003	OXAMYL	EP-A	ND	0.2000000	MG/L
30515-19S	05/13/2003	06/04/2003	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
30515-19S	05/13/2003	06/04/2003	PICLORAM	EP-A	ND	0.5000000	MG/L
30515-19S	05/13/2003	06/04/2003	SIMAZINE	EP-A	ND	0.0040000	MG/L
30515-19S	05/13/2003	06/04/2003	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
30515-19S	05/13/2003	06/04/2003	TOXAPHENE	EP-A	ND	0.0030000	MG/L
C111109	04/15/2003	05/14/2003	CHROMIUM	EP-A	ND	0.1000000	MG/L
30303-28	02/10/2003	03/17/2003	ASBESTOS	DIST-A	ND	7.0000000	MFL
884102I	02/04/2003	03/05/2003	ANTIMONY, TOTAL	EP-A	ND	0.0060000	MG/L
884102I	02/04/2003	03/05/2003	ARSENIC	EP-A	0.0040000	0.0100000	MG/L
884102I	02/04/2003	03/05/2003	BARIUM	EP-A	0.0460000	2.0000000	MG/L
884102I	02/04/2003	03/05/2003	BERYLLIUM, TOTAL	EP-A	ND	0.0040000	MG/L
884102I	02/04/2003	03/05/2003	CADMIUM	EP-A	ND	0.0050000	MG/L
884102I	02/04/2003	03/05/2003	CHROMIUM	EP-A	ND	0.1000000	MG/L
884102I	02/04/2003	03/05/2003	CYANIDE	EP-A	ND	0.2000000	MG/L
884102I	02/04/2003	03/05/2003	FLUORIDE	EP-A	0.5200000	4.0000000	MG/L
884102I	02/04/2003	03/05/2003	MERCURY	EP-A	ND	0.0020000	MG/L
884102I	02/04/2003	03/05/2003	NICKEL	EP-A	ND	0.1000000	MG/L
884102I	02/04/2003	03/05/2003	NITRATE	EP-A	1.8800000	10.000000	MG/L
884102I	02/04/2003	03/05/2003	NITRATE-NITRITE	EP-A	1.8800000	10.000000	MG/L
884102I	02/04/2003	03/05/2003	NITRITE	EP-A	ND	1.0000000	MG/L
884102I	02/04/2003	03/05/2003	SELENIUM	EP-A	ND	0.0500000	MG/L
884102I	02/04/2003	03/05/2003	SODIUM	EP-A	37.700000		MG/L
884102I	02/04/2003	03/05/2003	SULFATE	EP-A	56.200000		MG/L
884102I	02/04/2003	03/05/2003	THALLIUM, TOTAL	EP-A	ND	0.0020000	MG/L
884102V	02/04/2003	03/05/2003	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L

884102V	02/04/2003	03/05/2003	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
884102V	02/04/2003	03/05/2003	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
884102V	02/04/2003	03/05/2003	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
884102V	02/04/2003	03/05/2003	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
884102V	02/04/2003	03/05/2003	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
884102V	02/04/2003	03/05/2003	BENZENE	EP-A	ND	0.0050000	MG/L
884102V	02/04/2003	03/05/2003	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
884102V	02/04/2003	03/05/2003	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
884102V	02/04/2003	03/05/2003	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
884102V	02/04/2003	03/05/2003	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
884102V	02/04/2003	03/05/2003	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
884102V	02/04/2003	03/05/2003	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
884102V	02/04/2003	03/05/2003	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
884102V	02/04/2003	03/05/2003	STYRENE	EP-A	ND	0.1000000	MG/L
884102V	02/04/2003	03/05/2003	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
884102V	02/04/2003	03/05/2003	TOLUENE	EP-A	ND	1.0000000	MG/L
884102V	02/04/2003	03/05/2003	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
884102V	02/04/2003	03/05/2003	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
884102V	02/04/2003	03/05/2003	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
884102V	02/04/2003	03/05/2003	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
30204-19R	02/03/2003	03/25/2003	GROSS ALPHA, EXCL. RADON & U	EP-A	ND	15.000000	PCI/L
30204-19R	02/03/2003	03/25/2003	GROSS BETA PARTICLE ACTIVITY	EP-A	7.8600000	50.000000	PCI/L
30204-19S	02/03/2003	03/26/2003	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
30204-19S	02/03/2003	03/26/2003	2,4,5-TP	EP-A	ND	0.0500000	MG/L
30204-19S	02/03/2003	03/26/2003	2,4-D	EP-A	ND	0.0700000	MG/L
30204-19S	02/03/2003	03/26/2003	ATRAZINE	EP-A	ND	0.0030000	MG/L
30204-19S	02/03/2003	03/26/2003	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
30204-19S	02/03/2003	03/26/2003	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
30204-19S	02/03/2003	03/26/2003	CARBOFURAN	EP-A	ND	0.0400000	MG/L
30204-19S	02/03/2003	03/26/2003	CHLORDANE	EP-A	ND	0.0020000	MG/L
30204-19S	02/03/2003	03/26/2003	DALAPON	EP-A	ND	0.2000000	MG/L
30204-19S	02/03/2003	03/26/2003	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
30204-19S	02/03/2003	03/26/2003	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
30204-19S	02/03/2003	03/26/2003	DINOSEB	EP-A	ND	0.0070000	MG/L
30204-19S	02/03/2003	03/26/2003	DIQUAT	EP-A	ND	0.0200000	MG/L
30204-19S	02/03/2003	03/26/2003	ENDOTHALL	EP-A	ND	0.1000000	MG/L
30204-19S	02/03/2003	03/26/2003	ENDRIN	EP-A	ND	0.0020000	MG/L
30204-19S	02/03/2003	03/26/2003	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
30204-19S	02/03/2003	03/26/2003	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
30204-19S	02/03/2003	03/26/2003	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
30204-19S	02/03/2003	03/26/2003	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
30204-19S	02/03/2003	03/26/2003	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
30204-19S	02/03/2003	03/26/2003	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
30204-19S	02/03/2003	03/26/2003	LASSO	EP-A	ND	0.0020000	MG/L
30204-19S	02/03/2003	03/26/2003	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
30204-19S	02/03/2003	03/26/2003	OXAMYL	EP-A	ND	0.2000000	MG/L
30204-19S	02/03/2003	03/26/2003	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L

30204-19S	02/03/2003	03/26/2003	PICLORAM	EP-A	ND	0.5000000	MG/L
30204-19S	02/03/2003	03/26/2003	SIMAZINE	EP-A	ND	0.0040000	MG/L
30204-19S	02/03/2003	03/26/2003	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
30204-19S	02/03/2003	03/26/2003	TOXAPHENE	EP-A	ND	0.0030000	MG/L
875101	01/13/2003	02/21/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0082000	0.0600000	MG/L
875101	01/13/2003	02/21/2003	TTHM	DIST-A	0.0197000	0.0800000	MG/L
875102	01/13/2003	02/21/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0087000	0.0600000	MG/L
875102	01/13/2003	02/21/2003	TTHM	DIST-A	0.0200000	0.0800000	MG/L
875103	01/13/2003	02/21/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0082000	0.0600000	MG/L
875103	01/13/2003	02/21/2003	TTHM	DIST-A	0.0193000	0.0800000	MG/L
875104	01/13/2003	02/21/2003	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0118000	0.0600000	MG/L
875104	01/13/2003	02/21/2003	TTHM	DIST-A	0.0311000	0.0800000	MG/L
875109	01/13/2003	02/18/2003	NITRATE	EP-A	1.6700000	10.000000	MG/L
875110	01/13/2003	02/18/2003	NITRATE	SRC-AB	0.8600000	10.000000	MG/L
21106-32S	11/05/2002	12/13/2002	1,2-DIBROMO-3-CHLOROPROPANE	EP-A	ND	0.0002000	MG/L
21106-32S	11/05/2002	12/13/2002	2,4,5-TP	EP-A	ND	0.0500000	MG/L
21106-32S	11/05/2002	12/13/2002	2,4-D	EP-A	ND	0.0700000	MG/L
21106-32S	11/05/2002	12/13/2002	ATRAZINE	EP-A	ND	0.0030000	MG/L
21106-32S	11/05/2002	12/13/2002	BENZO(A)PYRENE	EP-A	ND	0.0002000	MG/L
21106-32S	11/05/2002	12/13/2002	BHC-GAMMA	EP-A	ND	0.0002000	MG/L
21106-32S	11/05/2002	12/13/2002	CARBOFURAN	EP-A	ND	0.0400000	MG/L
21106-32S	11/05/2002	12/13/2002	CHLORDANE	EP-A	ND	0.0020000	MG/L
21106-32S	11/05/2002	12/13/2002	DALAPON	EP-A	ND	0.2000000	MG/L
21106-32S	11/05/2002	12/13/2002	DI(2-ETHYLHEXYL) ADIPATE	EP-A	ND	0.4000000	MG/L
21106-32S	11/05/2002	12/13/2002	DI(2-ETHYLHEXYL) PHTHALATE	EP-A	ND	0.0060000	MG/L
21106-32S	11/05/2002	12/13/2002	DINOSEB	EP-A	ND	0.0070000	MG/L
21106-32S	11/05/2002	12/13/2002	DIQUAT	EP-A	ND	0.0200000	MG/L
21106-32S	11/05/2002	12/13/2002	ENDOTHALL	EP-A	ND	0.1000000	MG/L
21106-32S	11/05/2002	12/13/2002	ENDRIN	EP-A	ND	0.0020000	MG/L
21106-32S	11/05/2002	12/13/2002	ETHYLENE DIBROMIDE	EP-A	ND	0.0000500	MG/L
21106-32S	11/05/2002	12/13/2002	GLYPHOSATE	EP-A	ND	0.7000000	MG/L
21106-32S	11/05/2002	12/13/2002	HEPTACHLOR	EP-A	ND	0.0004000	MG/L
21106-32S	11/05/2002	12/13/2002	HEPTACHLOR EPOXIDE	EP-A	ND	0.0002000	MG/L
21106-32S	11/05/2002	12/13/2002	HEXACHLOROBENZENE	EP-A	ND	0.0010000	MG/L
21106-32S	11/05/2002	12/13/2002	HEXACHLOROCYCLOPENTADIENE	EP-A	ND	0.0500000	MG/L
21106-32S	11/05/2002	12/13/2002	LASSO	EP-A	ND	0.0020000	MG/L
21106-32S	11/05/2002	12/13/2002	METHOXYCHLOR	EP-A	ND	0.0400000	MG/L
21106-32S	11/05/2002	12/13/2002	OXAMYL	EP-A	ND	0.2000000	MG/L
21106-32S	11/05/2002	12/13/2002	PENTACHLOROPHENOL	EP-A	ND	0.0010000	MG/L
21106-32S	11/05/2002	12/13/2002	PICLORAM	EP-A	ND	0.5000000	MG/L
21106-32S	11/05/2002	12/13/2002	SIMAZINE	EP-A	ND	0.0040000	MG/L
21106-32S	11/05/2002	12/13/2002	TOTAL POLYCHLORINATED BIPHENYLS (PCB)	EP-A	ND	0.0005000	MG/L
21106-32S	11/05/2002	12/13/2002	TOXAPHENE	EP-A	ND	0.0030000	MG/L
294671	10/29/2002	10/23/2008	COMBINED RADIUM (-226 & -228)	SRC-AA	ND	5.0000000	PCI/L
294671	10/29/2002	10/23/2008	COMBINED URANIUM	SRC-AA	0.0048000	0.0300000	MG/L

294671	10/29/2002	10/23/2008	GROSS ALPHA, EXCL. RADON & U	SRC-AA	ND	15.000000	PCI/L
294681	10/29/2002	10/08/2003	COMBINED RADIUM (-226 & -228)	SRC-AB	ND	5.0000000	PCI/L
294681	10/29/2002	10/08/2003	COMBINED URANIUM	SRC-AB	0.0030000	0.0300000	MG/L
294681	10/29/2002	10/08/2003	GROSS ALPHA, EXCL. RADON & U	SRC-AB	ND	15.000000	PCI/L
294661	10/29/2002	10/08/2003	COMBINED RADIUM (-226 & -228)	SRC-AD	ND	5.0000000	PCI/L
294661	10/29/2002	10/08/2003	COMBINED URANIUM	SRC-AD	0.0051000	0.0300000	MG/L
294661	10/29/2002	10/08/2003	GROSS ALPHA, EXCL. RADON & U	SRC-AD	ND	15.000000	PCI/L
291621	10/21/2002	10/08/2003	COMBINED RADIUM (-226 & -228)	EP-A	ND	5.0000000	PCI/L
291621	10/21/2002	10/08/2003	COMBINED URANIUM	EP-A	0.0060000	0.0300000	MG/L
291621	10/21/2002	10/08/2003	GROSS ALPHA, EXCL. RADON & U	EP-A	ND	15.000000	PCI/L
834701	10/16/2002	11/06/2002	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0117000	0.0600000	MG/L
834701	10/16/2002	11/06/2002	TTHM	DIST-A	0.0507000	0.0800000	MG/L
834702	10/16/2002	11/06/2002	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0146000	0.0600000	MG/L
834702	10/16/2002	11/06/2002	TTHM	DIST-A	0.0300000	0.0800000	MG/L
834703	10/16/2002	11/06/2002	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0154000	0.0600000	MG/L
834703	10/16/2002	11/06/2002	TTHM	DIST-A	0.0258000	0.0800000	MG/L
834704	10/16/2002	11/06/2002	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0154000	0.0600000	MG/L
834704	10/16/2002	11/06/2002	TTHM	DIST-A	0.0219000	0.0800000	MG/L
793601	08/05/2002	09/16/2002	TTHM	DIST-A	0.0692000	0.0800000	MG/L
775701	07/09/2002	09/16/2002	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0150000	0.0600000	MG/L
775701	07/09/2002	09/16/2002	TTHM	DIST-A	0.0608000	0.0800000	MG/L
775702	07/09/2002	09/16/2002	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0356000	0.0600000	MG/L
775702	07/09/2002	09/16/2002	TTHM	DIST-A	0.0606000	0.0800000	MG/L
775703	07/09/2002	09/16/2002	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0217000	0.0600000	MG/L
775704	07/09/2002	09/16/2002	TOTAL HALOACETIC ACIDS (HAA5)	DIST-A	0.0205000	0.0600000	MG/L
775704	07/09/2002	09/16/2002	TTHM	DIST-A	0.0608000	0.0800000	MG/L
746701I	05/20/2002	06/20/2002	ANTIMONY, TOTAL	SRC-AA	ND	0.0060000	MG/L
746701I	05/20/2002	06/20/2002	ARSENIC	SRC-AA	0.0050000	0.0100000	MG/L
746701I	05/20/2002	06/20/2002	BARIUM	SRC-AA	0.0410000	2.0000000	MG/L
746701I	05/20/2002	06/20/2002	BERYLLIUM, TOTAL	SRC-AA	ND	0.0040000	MG/L
746701I	05/20/2002	06/20/2002	CADMIUM	SRC-AA	ND	0.0050000	MG/L
746701I	05/20/2002	06/20/2002	CYANIDE	SRC-AA	ND	0.2000000	MG/L
746701I	05/20/2002	06/20/2002	FLUORIDE	SRC-AA	0.9000000	4.0000000	MG/L
746701I	05/20/2002	06/20/2002	MERCURY	SRC-AA	ND	0.0020000	MG/L
746701I	05/20/2002	06/20/2002	NICKEL	SRC-AA	ND	0.1000000	MG/L
746701I	05/20/2002	06/20/2002	NITRATE	SRC-AA	1.3700000	10.000000	MG/L
746701I	05/20/2002	06/20/2002	NITRATE-NITRITE	SRC-AA	1.3700000	10.000000	MG/L
746701I	05/20/2002		NITRITE	SRC-AA	ND	1.0000000	MG/L
746701I	05/20/2002	06/20/2002	SELENIUM	SRC-AA	ND	0.0500000	MG/L
746701I	05/20/2002	06/20/2002	SODIUM	SRC-AA	31.800000		MG/L
746701I	05/20/2002	06/20/2002	THALLIUM, TOTAL	SRC-AA	ND	0.0020000	MG/L
746702I	05/20/2002	06/20/2002	ANTIMONY, TOTAL	SRC-AB	ND	0.0060000	MG/L
746702I	05/20/2002	06/20/2002	ARSENIC	SRC-AB	0.0060000	0.0100000	MG/L
746702I	05/20/2002	06/20/2002	BARIUM	SRC-AB	0.0530000	2.0000000	MG/L
746702I	05/20/2002	06/20/2002	BERYLLIUM, TOTAL	SRC-AB	ND	0.0040000	MG/L
746702I	05/20/2002	06/20/2002	CADMIUM	SRC-AB	ND	0.0050000	MG/L
746702I	05/20/2002	06/20/2002	CYANIDE	SRC-AB	ND	0.2000000	MG/L

746702I	05/20/2002	06/20/2002	FLUORIDE	SRC-AB	0.9200000	4.0000000	MG/L
746702I	05/20/2002	06/20/2002	MERCURY	SRC-AB	ND	0.0020000	MG/L
746702I	05/20/2002	06/20/2002	NICKEL	SRC-AB	ND	0.1000000	MG/L
746702I	05/20/2002	06/20/2002	NITRATE	SRC-AB	2.6100000	10.000000	MG/L
746702I	05/20/2002	06/20/2002	NITRATE-NITRITE	SRC-AB	2.6100000	10.000000	MG/L
746702I	05/20/2002		NITRITE	SRC-AB	ND	1.0000000	MG/L
746702I	05/20/2002	06/20/2002	SELENIUM	SRC-AB	ND	0.0500000	MG/L
746702I	05/20/2002	06/20/2002	SODIUM	SRC-AB	73.400000		MG/L
746702I	05/20/2002	06/20/2002	THALLIUM, TOTAL	SRC-AB	ND	0.0020000	MG/L
742001V	05/13/2002	06/10/2002	1,1,1-TRICHLOROETHANE	EP-A	ND	0.2000000	MG/L
742001V	05/13/2002	06/10/2002	1,1,2-TRICHLOROETHANE	EP-A	ND	0.0050000	MG/L
742001V	05/13/2002	06/10/2002	1,1-DICHLOROETHYLENE	EP-A	ND	0.0070000	MG/L
742001V	05/13/2002	06/10/2002	1,2,4-TRICHLOROBENZENE	EP-A	ND	0.0700000	MG/L
742001V	05/13/2002	06/10/2002	1,2-DICHLOROETHANE	EP-A	ND	0.0050000	MG/L
742001V	05/13/2002	06/10/2002	1,2-DICHLOROPROPANE	EP-A	ND	0.0050000	MG/L
742001V	05/13/2002	06/10/2002	BENZENE	EP-A	ND	0.0050000	MG/L
742001V	05/13/2002	06/10/2002	CARBON TETRACHLORIDE	EP-A	ND	0.0050000	MG/L
742001V	05/13/2002	06/10/2002	CHLOROBENZENE	EP-A	ND	0.1000000	MG/L
742001V	05/13/2002	06/10/2002	CIS-1,2-DICHLOROETHYLENE	EP-A	ND	0.0700000	MG/L
742001V	05/13/2002	06/10/2002	DICHLOROMETHANE	EP-A	ND	0.0050000	MG/L
742001V	05/13/2002	06/10/2002	ETHYLBENZENE	EP-A	ND	0.7000000	MG/L
742001V	05/13/2002	06/10/2002	O-DICHLOROBENZENE	EP-A	ND	0.6000000	MG/L
742001V	05/13/2002	06/10/2002	P-DICHLOROBENZENE	EP-A	ND	0.0750000	MG/L
742001V	05/13/2002	06/10/2002	STYRENE	EP-A	ND	0.1000000	MG/L
742001V	05/13/2002	06/10/2002	TETRACHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
742001V	05/13/2002	06/10/2002	TOLUENE	EP-A	ND	1.0000000	MG/L
742001V	05/13/2002	06/10/2002	TRANS-1,2-DICHLOROETHYLENE	EP-A	ND	0.1000000	MG/L
742001V	05/13/2002	06/10/2002	TRICHLOROETHYLENE	EP-A	ND	0.0050000	MG/L
742001V	05/13/2002	06/10/2002	VINYL CHLORIDE	EP-A	ND	0.0020000	MG/L
742001V	05/13/2002	06/10/2002	XYLENES, TOTAL	EP-A	ND	10.000000	MG/L
720302	04/10/2002	09/05/2002	NITRITE	EP-A	ND	1.0000000	MG/L
720303	04/10/2002	09/05/2002	ARSENIC	EP-A	0.0040000	0.0100000	MG/L
720303	04/10/2002	09/05/2002	COPPER	EP-A	0.0100000	1.3000000	MG/L
720303	04/10/2002	09/05/2002	LEAD	EP-A	0.0030000	0.0150000	MG/L
720301	04/10/2002	05/02/2002	NITRITE	SRC-AA	0.1000000	1.0000000	MG/L
691501	02/11/2002	03/04/2002	FLUORIDE	EP-A	0.7500000	4.0000000	MG/L
691501	02/11/2002	03/04/2002	NITRATE	EP-A	3.0200000	10.000000	MG/L
688001I	02/05/2002	05/16/2002	ANTIMONY, TOTAL	EP-A	ND	0.0060000	MG/L
688001I	02/05/2002	05/16/2002	BARIUM	EP-A	0.0400000	2.0000000	MG/L
688001I	02/05/2002	05/16/2002	BERYLLIUM, TOTAL	EP-A	ND	0.0040000	MG/L
688001I	02/05/2002	05/16/2002	CADMIUM	EP-A	ND	0.0050000	MG/L
688001I	02/05/2002	05/16/2002	CHROMIUM	EP-A	ND	0.1000000	MG/L
688001I	02/05/2002	05/16/2002	CYANIDE	EP-A	ND	0.2000000	MG/L
688001I	02/05/2002	05/16/2002	MERCURY	EP-A	ND	0.0020000	MG/L
688001I	02/05/2002	05/16/2002	NICKEL	EP-A	ND	0.1000000	MG/L
688001I	02/05/2002	05/16/2002	SELENIUM	EP-A	ND	0.0500000	MG/L

688001I	02/05/2002	05/16/2002	SODIUM	EP-A	46.200000		MG/L
688001I	02/05/2002	05/16/2002	THALLIUM, TOTAL	EP-A	ND	0.0020000	MG/L
688003	02/05/2002	08/15/2002	NITRATE	EP-A	1.9000000	10.000000	MG/L
688002	02/05/2002	09/05/2002	NITRATE	SRC-AB	3.9600000	10.000000	MG/L

Archived Results

Sample Date	Receive Date	Chemical	Source ID	Results	MCL
07/30/2001	10/18/2001	1,1,1-Trichloroethane	AA	ND	0.2000000
07/30/2001	10/18/2001	1,1,2-Trichloroethane	AA	ND	0.0050000
07/30/2001	10/18/2001	1,1-Dichloroethylene	AA	ND	0.0070000
07/30/2001	10/18/2001	1,2,4-Trichlorobenzene	AA	ND	0.0700000
07/30/2001	10/18/2001	1,2-Dichloroethane	AA	ND	0.0050000
07/30/2001	10/18/2001	1,2-Dichloropropane	AA	ND	0.0050000
07/30/2001	10/18/2001	Benzene	AA	ND	0.0050000
07/30/2001	10/18/2001	Carbon Tetrachloride	AA	ND	0.0050000
07/30/2001	10/18/2001	Cis-1,2-Dichloroethylene	AA	ND	0.0700000
07/30/2001	10/18/2001	Dichloromethane (Methylene Chloride)	AA	ND	0.0050000
07/30/2001	10/18/2001	Ethylbenzene	AA	ND	0.7000000
07/30/2001	10/18/2001	Monochlorobenzene (Chlorobenzene)	AA	ND	0.1000000
07/30/2001	10/18/2001	O-Dichlorobenzene	AA	ND	0.6000000
07/30/2001	10/18/2001	P-Dichlorobenzene	AA	ND	0.0750000
07/30/2001	10/18/2001	Styrene	AA	ND	0.1000000
07/30/2001	10/18/2001	Tetrachloroethylene	AA	ND	0.0050000
07/30/2001	10/18/2001	Toluene	AA	ND	1.0000000
07/30/2001	10/18/2001	Total Xylenes	AA	ND	10.000000
07/30/2001	10/18/2001	Trans-1,2-Dichloroethylene	AA	ND	0.1000000
07/30/2001	10/18/2001	Trichloroethylene	AA	ND	0.0050000
07/24/2001	10/07/2002	Antimony Total	A	ND	0.0060000
07/24/2001	10/07/2002	Arsenic	A	0.0080000	0.0500000
07/24/2001	10/07/2002	Barium	A	0.0510000	2.0000000
07/24/2001	10/07/2002	Beryllium Total	A	ND	0.0040000
07/24/2001	10/07/2002	Cadmium	A	ND	0.0050000
07/24/2001	10/07/2002	Chromium	A	ND	0.1000000
07/24/2001	10/07/2002	Copper	A	ND	1.3000000
07/24/2001	10/07/2002	Cyanide	A	ND	0.2000000
07/24/2001	10/07/2002	Fluoride	A	0.8000000	4.0000000
07/24/2001	10/07/2002	Lead	A	ND	0.0150000
07/24/2001	10/07/2002	Mercury	A	ND	0.0020000
07/24/2001	10/07/2002	Nickel	A	ND	0.1000000
07/24/2001	10/07/2002	Nitrate	A	0.0100000	10.000000
07/24/2001	10/07/2002	Nitrate-Nitrite	A	0.0100000	10.000000
07/24/2001	10/07/2002	Nitrite	A	ND	1.0000000
07/24/2001	10/07/2002	Selenium	A	ND	0.0500000
07/24/2001	10/07/2002	Sodium	A	77.400000	
07/24/2001	10/07/2002	Sulfate	A	101.00000	
07/24/2001	10/07/2002	Thallium Total	A	ND	0.0020000
03/05/2001	03/19/2001	Nitrate	A	1.4000000	10.000000

03/05/2001	03/19/2001	Nitrate	A	3.5000000	10.000000
02/08/2000	03/16/2000	1,1,1,2-Tetrachloroethane	A	ND	
02/08/2000	03/16/2000	1,1,1-Trichloroethane	A	ND	0.2000000
02/08/2000	03/16/2000	1,1,2,2,-Tetrachloroethane	A	ND	
02/08/2000	03/16/2000	1,1,2-Trichloroethane	A	ND	0.0050000
02/08/2000	03/16/2000	1,1-Dichloroethane	A	ND	
02/08/2000	03/16/2000	1,1-Dichloroethylene	A	ND	0.0070000
02/08/2000	03/16/2000	1,1-Dichloropropene	A	ND	
02/08/2000	03/16/2000	1,2,3-Trichloropropane	A	ND	
02/08/2000	03/16/2000	1,2,4-Trichlorobenzene	A	ND	0.0700000
02/08/2000	03/16/2000	1,2-Dichloroethane	A	ND	0.0050000
02/08/2000	03/16/2000	1,2-Dichloropropane	A	ND	0.0050000
02/08/2000	03/16/2000	1,3-Dichloropropane	A	ND	
02/08/2000	03/16/2000	1,3-Dichloropropene	A	ND	
02/08/2000	03/16/2000	2,2-Dichloropropane	A	ND	
02/08/2000	03/16/2000	Benzene	A	ND	0.0050000
02/08/2000	03/16/2000	Bromobenzene	A	ND	
02/08/2000	03/16/2000	Bromodichloromethane	A	0.0026000	
02/08/2000	03/16/2000	Bromoform	A	0.0013000	
02/08/2000	03/16/2000	Bromomethane	A	ND	
02/08/2000	03/16/2000	Carbon Tetrachloride	A	ND	0.0050000
02/08/2000	03/16/2000	Chloroethane	A	ND	
02/08/2000	03/16/2000	Chloroform	A	0.0025000	
02/08/2000	03/16/2000	Chloromethane	A	ND	
02/08/2000	03/16/2000	Cis-1,2-Dichloroethylene	A	ND	0.0700000
02/08/2000	03/16/2000	Dibromochloromethane	A	0.0031000	
02/08/2000	03/16/2000	Dibromomethane	A	ND	
02/08/2000	03/16/2000	Dichloromethane (Methylene Chloride)	A	ND	0.0050000
02/08/2000	03/16/2000	Ethylbenzene	A	ND	0.7000000
02/08/2000	03/16/2000	M-Dichlorobenzene	A	ND	
02/08/2000	03/16/2000	Monochlorobenzene (Chlorobenzene)	A	ND	0.1000000
02/08/2000	04/12/2000	Nitrate	A	2.2600000	10.000000
02/08/2000	03/16/2000	O-Chlorotoluene	A	ND	
02/08/2000	03/16/2000	O-Dichlorobenzene	A	ND	0.6000000
02/08/2000	03/16/2000	P-Chlorotoluene	A	ND	
02/08/2000	03/16/2000	P-Dichlorobenzene	A	ND	0.0750000
02/08/2000	03/16/2000	Styrene	A	ND	0.1000000
02/08/2000	03/16/2000	Tetrachloroethylene	A	ND	0.0050000
02/08/2000	03/16/2000	Toluene	A	ND	1.0000000
02/08/2000	03/16/2000	Total Xylenes	A	ND	10.000000
02/08/2000	03/16/2000	Trans-1,2-Dichloroethylene	A	ND	0.1000000
02/08/2000	03/16/2000	Trichloroethylene	A	ND	0.0050000
02/08/2000	03/16/2000	Vinyl Chloride	A	ND	0.0020000
09/29/1999	12/02/1999	1,1,1,2-Tetrachloroethane	A	ND	
09/29/1999	12/02/1999	1,1,1,2-Tetrachloroethane	A	ND	
09/29/1999	12/02/1999	1,1,1-Trichloroethane	A	ND	0.2000000

09/29/1999	12/02/1999	1,1,1-Trichloroethane	A	ND	0.2000000
09/29/1999	12/02/1999	1,1,2,2,-Tetrachloroethane	A	ND	
09/29/1999	12/02/1999	1,1,2,2,-Tetrachloroethane	A	ND	
09/29/1999	12/02/1999	1,1,2-Trichloroethane	A	ND	0.0050000
09/29/1999	12/02/1999	1,1,2-Trichloroethane	A	ND	0.0050000
09/29/1999	12/02/1999	1,1-Dichloroethane	A	ND	
09/29/1999	12/02/1999	1,1-Dichloroethane	A	ND	
09/29/1999	12/02/1999	1,1-Dichloroethylene	A	ND	0.0070000
09/29/1999	12/02/1999	1,1-Dichloroethylene	A	ND	0.0070000
09/29/1999	12/02/1999	1,1-Dichloropropene	A	ND	
09/29/1999	12/02/1999	1,1-Dichloropropene	A	ND	
09/29/1999	12/02/1999	1,2,3-Trichloropropane	A	ND	
09/29/1999	12/02/1999	1,2,3-Trichloropropane	A	ND	
09/29/1999	12/02/1999	1,2,4-Trichlorobenzene	A	ND	0.0700000
09/29/1999	12/02/1999	1,2,4-Trichlorobenzene	A	ND	0.0700000
09/29/1999	12/02/1999	1,2-Dichloroethane	A	ND	0.0050000
09/29/1999	12/02/1999	1,2-Dichloroethane	A	ND	0.0050000
09/29/1999	12/02/1999	1,2-Dichloropropane	A	ND	0.0050000
09/29/1999	12/02/1999	1,2-Dichloropropane	A	ND	0.0050000
09/29/1999	12/15/1999	1,3-Dichloropropane	A	ND	
09/29/1999	12/02/1999	1,3-Dichloropropane	A	ND	
09/29/1999	12/02/1999	1,3-Dichloropropene	A	ND	
09/29/1999	12/15/1999	1,3-Dichloropropene	A	ND	
09/29/1999	12/02/1999	2,2-Dichloropropane	A	ND	
09/29/1999	12/02/1999	2,2-Dichloropropane	A	ND	
09/29/1999	12/02/1999	Benzene	A	ND	0.0050000
09/29/1999	12/02/1999	Benzene	A	ND	0.0050000
09/29/1999	12/02/1999	Bromobenzene	A	ND	
09/29/1999	12/02/1999	Bromobenzene	A	ND	
09/29/1999	12/02/1999	Bromodichloromethane	A	0.0047000	
09/29/1999	12/02/1999	Bromodichloromethane	A	0.0047000	
09/29/1999	12/02/1999	Bromoform	A	0.0007000	
09/29/1999	12/02/1999	Bromoform	A	0.0007000	
09/29/1999	12/02/1999	Bromomethane	A	ND	
09/29/1999	12/02/1999	Bromomethane	A	ND	
09/29/1999	12/02/1999	Carbon Tetrachloride	A	ND	0.0050000
09/29/1999	12/02/1999	Carbon Tetrachloride	A	ND	0.0050000
09/29/1999	12/02/1999	Chloroethane	A	ND	
09/29/1999	12/02/1999	Chloroethane	A	ND	
09/29/1999	12/02/1999	Chloroform	A	0.0032000	
09/29/1999	12/02/1999	Chloroform	A	0.0032000	
09/29/1999	12/02/1999	Chloromethane	A	ND	
09/29/1999	12/02/1999	Chloromethane	A	ND	
09/29/1999	12/02/1999	Cis-1,2-Dichloroethylene	A	ND	0.0700000
09/29/1999	12/02/1999	Cis-1,2-Dichloroethylene	A	ND	0.0700000
09/29/1999	12/02/1999	Dibromochloromethane	A	0.0051000	
09/29/1999	12/02/1999	Dibromochloromethane	A	0.0051000	

09/29/1999	12/02/1999	Dibromomethane	A	ND	
09/29/1999	12/02/1999	Dibromomethane	A	ND	
09/29/1999	12/02/1999	Dichloromethane (Methylene Chloride)	A	ND	0.0050000
09/29/1999	12/02/1999	Dichloromethane (Methylene Chloride)	A	ND	0.0050000
09/29/1999	12/02/1999	Ethylbenzene	A	ND	0.7000000
09/29/1999	12/02/1999	Ethylbenzene	A	ND	0.7000000
09/29/1999	12/02/1999	M-Dichlorobenzene	A	ND	
09/29/1999	12/02/1999	M-Dichlorobenzene	A	ND	
09/29/1999	12/02/1999	Monochlorobenzene (Chlorobenzene)	A	ND	0.1000000
09/29/1999	12/02/1999	Monochlorobenzene (Chlorobenzene)	A	ND	0.1000000
09/29/1999	12/02/1999	O-Chlorotoluene	A	ND	
09/29/1999	12/02/1999	O-Chlorotoluene	A	ND	
09/29/1999	12/02/1999	O-Dichlorobenzene	A	ND	0.6000000
09/29/1999	12/02/1999	O-Dichlorobenzene	A	ND	0.6000000
09/29/1999	12/02/1999	P-Chlorotoluene	A	ND	
09/29/1999	12/02/1999	P-Chlorotoluene	A	ND	
09/29/1999	12/02/1999	P-Dichlorobenzene	A	ND	0.0750000
09/29/1999	12/02/1999	P-Dichlorobenzene	A	ND	0.0750000
09/29/1999	12/02/1999	Styrene	A	ND	0.1000000
09/29/1999	12/02/1999	Styrene	A	ND	0.1000000
09/29/1999	12/02/1999	Tetrachloroethylene	A	ND	0.0050000
09/29/1999	12/02/1999	Tetrachloroethylene	A	ND	0.0050000
09/29/1999	12/02/1999	Toluene	A	ND	1.0000000
09/29/1999	12/02/1999	Toluene	A	ND	1.0000000
09/29/1999	12/02/1999	Total Xylenes	A	ND	10.000000
09/29/1999	12/02/1999	Total Xylenes	A	ND	10.000000
09/29/1999	12/02/1999	Trans-1,2-Dichloroethylene	A	ND	0.1000000
09/29/1999	12/02/1999	Trans-1,2-Dichloroethylene	A	ND	0.1000000
09/29/1999	12/02/1999	Trichloroethylene	A	ND	0.0050000
09/29/1999	12/02/1999	Trichloroethylene	A	ND	0.0050000
09/29/1999	12/02/1999	Vinyl Chloride	A	ND	0.0020000
09/29/1999	12/02/1999	Vinyl Chloride	A	ND	0.0020000
08/30/1999	09/27/1999	1,2-Dibromo-3-Chloropropane (DBCP)	A	ND	0.0002000
08/30/1999	09/27/1999	2,4,5-TP Silvex	A	ND	0.0500000
08/30/1999	09/27/1999	2,4-D	A	ND	0.0700000
08/30/1999	09/27/1999	3-Hydroxycarbofuran	A	ND	
08/30/1999	09/27/1999	Adipates (Di(2-Ethylhexyl))	A	ND	0.4000000
08/30/1999	09/27/1999	Alachlor (Lasso)	A	ND	0.0020000
08/30/1999	09/27/1999	Aldicarb	A	ND	
08/30/1999	09/27/1999	Aldicarb Sulfone	A	ND	
08/30/1999	09/27/1999	Aldicarb Sulfoxide	A	ND	
08/30/1999	09/27/1999	Aldrin	A	ND	
08/30/1999	09/27/1999	Atrazine	A	ND	0.0030000
08/30/1999	09/27/1999	Benzo (A) Pyrene	A	ND	0.0002000
08/30/1999	09/27/1999	BHC-gamma (Lindane)	A	ND	0.0002000
08/30/1999	09/27/1999	Bis (2-Ethylhexyl) Phthalate	A	ND	

08/30/1999	09/27/1999	Butachlor	A	ND	
08/30/1999	09/27/1999	Carbaryl	A	ND	
08/30/1999	09/27/1999	Carbofuran	A	ND	0.0400000
08/30/1999	09/27/1999	Chlordane	A	ND	0.0020000
08/30/1999	09/27/1999	Dalapon	A	ND	0.2000000
08/30/1999	09/27/1999	Dicamba	A	ND	
08/30/1999	09/27/1999	Dieldrin	A	ND	
08/30/1999	09/27/1999	Dinoseb	A	ND	0.0070000
08/30/1999	09/27/1999	Diquat	A	ND	0.0200000
08/30/1999	09/27/1999	Endothall	A	ND	0.1000000
08/30/1999	09/27/1999	Endrin	A	ND	0.0020000
08/30/1999	09/27/1999	Ethylene Dibromide (EDB)	A	ND	0.0000500
08/30/1999	09/27/1999	Glyphosate	A	ND	0.7000000
08/30/1999	09/27/1999	Heptachlor	A	ND	0.0004000
08/30/1999	09/27/1999	Heptachlor Epoxide	A	ND	0.0002000
08/30/1999	09/27/1999	Hexachlorobenzene (HCB)	A	ND	0.0010000
08/30/1999	09/27/1999	Hexachlorocyclopentadiene	A	ND	0.0500000
08/30/1999	09/27/1999	Methomyl	A	ND	
08/30/1999	09/27/1999	Methoxychlor	A	ND	0.0400000
08/30/1999	09/27/1999	Metolachlor	A	ND	
08/30/1999	09/27/1999	Metribuzin	A	ND	
08/30/1999	09/27/1999	Pentachlorophenol	A	ND	0.0010000
08/30/1999	09/27/1999	Picloram	A	ND	0.5000000
08/30/1999	09/27/1999	Propachlor	A	ND	
08/30/1999	09/27/1999	Simazine	A	ND	0.0040000
08/30/1999	09/27/1999	Total Polychlorinated Biphenyls (PCB)	A	ND	0.0005000
08/30/1999	09/27/1999	Toxaphene	A	ND	0.0030000
08/30/1999	09/27/1999	Vydate (Oxamyl)	A	ND	0.2000000
06/14/1999	07/22/1999	Nitrate	A	0.5600000	10.000000
06/14/1999	07/21/1999	Nitrate	AA	0.5800000	10.000000
06/29/1998	08/14/1998	Gross Alpha, Excl. Radon & U	A	2.1000000	15.000000
03/25/1998	04/27/1998	Gross Alpha, Excl. Radon & U	A	2.0000000	15.000000
03/25/1998	04/27/1998	Gross Beta Particle Activity	A	2.9000000	50.000000
03/25/1998	04/27/1998	Nitrate	AA	0.7600000	10.000000
03/25/1998	04/27/1998	Nitrate	AB	2.3900000	10.000000
12/08/1997	01/23/1998	Gross Alpha, Excl. Radon & U	A	2.7000000	15.000000
12/08/1997	01/23/1998	Gross Beta Particle Activity	A	4.7000000	50.000000
09/08/1997	05/22/1998	Gross Alpha, Excl. Radon & U	A	3.7000000	15.000000
09/08/1997	05/22/1998	Gross Beta Particle Activity	A	5.2000000	50.000000
09/08/1997	11/04/1997	Nitrate	AA	0.8300000	10.000000
09/08/1997	11/04/1997	Nitrate	AB	2.1100000	10.000000
02/03/1997	03/06/1997	Total Polychlorinated Biphenyls (PCB)	A	ND	0.0005000
02/03/1997	03/06/1997	Total Polychlorinated Biphenyls (PCB)	AB	ND	0.0005000
12/26/1996	02/12/1997	1,1,1,2-Tetrachloroethane	A	ND	
12/26/1996	02/12/1997	1,1,1-Trichloroethane	A	ND	0.2000000
12/26/1996	02/12/1997	1,1,2,2,-Tetrachloroethane	A	ND	
12/26/1996	02/12/1997	1,1,2-Trichloroethane	A	ND	0.0050000

12/26/1996	02/12/1997	1,1-Dichloroethane	A	ND	
12/26/1996	02/12/1997	1,1-Dichloroethylene	A	ND	0.0070000
12/26/1996	02/12/1997	1,1-Dichloropropene	A	ND	
12/26/1996	02/12/1997	1,2,3-Trichloropropane	A	ND	
12/26/1996	02/12/1997	1,2,4-Trichlorobenzene	A	ND	0.0700000
12/26/1996	02/12/1997	1,2-Dibromo-3-Chloropropane (DBCP)	A	ND	0.0002000
12/26/1996	02/12/1997	1,2-Dichloroethane	A	ND	0.0050000
12/26/1996	02/12/1997	1,2-Dichloropropane	A	ND	0.0050000
12/26/1996	02/12/1997	1,3-Dichloropropane	A	ND	
12/26/1996	02/12/1997	1,3-Dichloropropene	A	ND	
12/26/1996	02/12/1997	2,2-Dichloropropane	A	ND	
12/26/1996	02/12/1997	2,4,5-TP Silvex	A	ND	0.0500000
12/26/1996	02/12/1997	2,4-D	A	ND	0.0700000
12/26/1996	02/12/1997	2,4-Dimethylphenol	A	ND	
12/26/1996	02/12/1997	3-Hydroxycarbofuran	A	ND	
12/26/1996	02/12/1997	Adipates (Di(2-Ethylhexyl))	A	ND	0.4000000
12/26/1996	02/12/1997	Alachlor (Lasso)	A	ND	0.0020000
12/26/1996	02/12/1997	Aldicarb	A	ND	
12/26/1996	02/12/1997	Aldicarb Sulfone	A	ND	
12/26/1996	02/12/1997	Aldicarb Sulfoxide	A	ND	
12/26/1996	02/12/1997	Aldrin	A	ND	
12/26/1996	02/12/1997	Atrazine	A	ND	0.0030000
12/26/1996	02/12/1997	Benzene	A	ND	0.0050000
12/26/1996	02/12/1997	Benzo (A) Pyrene	A	ND	0.0002000
12/26/1996	02/12/1997	BHC-gamma (Lindane)	A	ND	0.0002000
12/26/1996	02/12/1997	Bromobenzene	A	ND	
12/26/1996	02/12/1997	Bromodichloromethane	A	ND	
12/26/1996	02/12/1997	Bromoform	A	ND	
12/26/1996	02/12/1997	Bromomethane	A	ND	
12/26/1996	02/12/1997	Butachlor	A	ND	
12/26/1996	02/12/1997	Carbaryl	A	ND	
12/26/1996	02/12/1997	Carbofuran	A	ND	0.0400000
12/26/1996	02/12/1997	Carbon Tetrachloride	A	ND	0.0050000
12/26/1996	02/12/1997	Chlordane	A	ND	0.0020000
12/26/1996	02/12/1997	Chloroethane	A	ND	
12/26/1996	02/12/1997	Chloroform	A	ND	
12/26/1996	02/12/1997	Chloromethane	A	ND	
12/26/1996	02/12/1997	Cis-1,2-Dichloroethylene	A	ND	0.0700000
12/26/1996	02/12/1997	Dalapon	A	ND	0.2000000
12/26/1996	02/12/1997	Dibromochloromethane	A	ND	
12/26/1996	02/12/1997	Dibromomethane	A	ND	
12/26/1996	02/12/1997	Dicamba	A	ND	
12/26/1996	02/12/1997	Dichloromethane (Methylene Chloride)	A	ND	0.0050000
12/26/1996	02/12/1997	Dieldrin	A	ND	
12/26/1996	02/12/1997	Dinoseb	A	ND	0.0070000
12/26/1996	02/12/1997	Diquat	A	ND	0.0200000

12/26/1996	02/12/1997	Endothall	A	ND	0.1000000
12/26/1996	02/12/1997	Endrin	A	ND	0.0020000
12/26/1996	02/12/1997	Ethylbenzene	A	ND	0.7000000
12/26/1996	02/12/1997	Ethylene Dibromide (EDB)	A	ND	0.0000500
12/26/1996	02/12/1997	Glyphosate	A	ND	0.7000000
12/26/1996	02/12/1997	Heptachlor	A	ND	0.0004000
12/26/1996	02/12/1997	Heptachlor Epoxide	A	ND	0.0002000
12/26/1996	02/12/1997	Hexachlorobenzene (HCB)	A	ND	0.0010000
12/26/1996	02/12/1997	Hexachlorocyclopentadiene	A	ND	0.0500000
12/26/1996	02/12/1997	M-Dichlorobenzene	A	ND	
12/26/1996	02/12/1997	Methomyl	A	ND	
12/26/1996	02/12/1997	Methoxychlor	A	ND	0.0400000
12/26/1996	02/12/1997	Metolachlor	A	ND	
12/26/1996	02/12/1997	Metribuzin	A	ND	
12/26/1996	02/12/1997	Monochlorobenzene (Chlorobenzene)	A	ND	0.1000000
12/26/1996	02/12/1997	O-Chlorotoluene	A	ND	
12/26/1996	02/12/1997	O-Dichlorobenzene	A	ND	0.6000000
12/26/1996	02/12/1997	P-Chlorotoluene	A	ND	
12/26/1996	02/12/1997	P-Dichlorobenzene	A	ND	0.0750000
12/26/1996	02/12/1997	Phthalates (Di(2-Ethylhexyl))	A	ND	0.0060000
12/26/1996	02/12/1997	Picloram	A	ND	0.5000000
12/26/1996	02/12/1997	Propachlor	A	ND	
12/26/1996	02/12/1997	Simazine	A	ND	0.0040000
12/26/1996	02/12/1997	Styrene	A	ND	0.1000000
12/26/1996	02/12/1997	Tetrachloroethylene	A	ND	0.0050000
12/26/1996	02/12/1997	Toluene	A	ND	1.0000000
12/26/1996	02/12/1997	Total Xylenes	A	ND	10.000000
12/26/1996	02/12/1997	Toxaphene	A	ND	0.0030000
12/26/1996	02/12/1997	Trans-1,2-Dichloroethylene	A	ND	0.1000000
12/26/1996	02/12/1997	Trichloroethylene	A	ND	0.0050000
12/26/1996	02/12/1997	Vinyl Chloride	A	ND	0.0020000
12/26/1996	02/12/1997	Vydate (Oxamyl)	A	ND	0.2000000
12/26/1996	02/12/1997	1,1,1,2-Tetrachloroethane	AA	ND	
12/26/1996	02/12/1997	1,1,1-Trichloroethane	AA	ND	0.2000000
12/26/1996	02/12/1997	1,1,2,2,-Tetrachloroethane	AA	ND	
12/26/1996	02/12/1997	1,1,2-Trichloroethane	AA	ND	0.0050000
12/26/1996	02/12/1997	1,1-Dichloroethane	AA	ND	
12/26/1996	02/12/1997	1,1-Dichloroethylene	AA	ND	0.0070000
12/26/1996	02/12/1997	1,1-Dichloropropene	AA	ND	
12/26/1996	02/12/1997	1,2,3-Trichloropropane	AA	ND	
12/26/1996	02/12/1997	1,2,4-Trichlorobenzene	AA	ND	0.0700000
12/26/1996	02/12/1997	1,2-Dibromo-3-Chloropropane (DBCP)	AA	ND	0.0002000
12/26/1996	02/12/1997	1,2-Dichloroethane	AA	ND	0.0050000
12/26/1996	02/12/1997	1,2-Dichloropropane	AA	ND	0.0050000
12/26/1996	02/12/1997	1,3-Dichloropropane	AA	ND	
12/26/1996	02/12/1997	1,3-Dichloropropene	AA	ND	
12/26/1996	02/12/1997	2,2-Dichloropropane	AA	ND	

12/26/1996	02/12/1997	2,4,5-TP Silvex	AA	ND	0.0500000
12/26/1996	02/12/1997	2,4-D	AA	ND	0.0700000
12/26/1996	02/12/1997	3-Hydroxycarbofuran	AA	ND	
12/26/1996	02/12/1997	Adipates (Di(2-Ethylhexyl))	AA	ND	0.4000000
12/26/1996	02/12/1997	Alachlor (Lasso)	AA	ND	0.0020000
12/26/1996	02/12/1997	Aldicarb	AA	ND	
12/26/1996	02/12/1997	Aldicarb Sulfone	AA	ND	
12/26/1996	02/12/1997	Aldicarb Sulfoxide	AA	ND	
12/26/1996	02/12/1997	Aldrin	AA	ND	
12/26/1996	02/12/1997	Benzene	AA	ND	0.0050000
12/26/1996	02/12/1997	Benzo (A) Pyrene	AA	ND	0.0002000
12/26/1996	02/12/1997	BHC-gamma (Lindane)	AA	ND	0.0002000
12/26/1996	02/12/1997	Bromobenzene	AA	ND	
12/26/1996	02/12/1997	Bromodichloromethane	AA	ND	
12/26/1996	02/12/1997	Bromoform	AA	ND	
12/26/1996	02/12/1997	Bromomethane	AA	ND	
12/26/1996	02/12/1997	Butachlor	AA	ND	
12/26/1996	02/12/1997	Carbaryl	AA	ND	
12/26/1996	02/12/1997	Carbofuran	AA	ND	0.0400000
12/26/1996	02/12/1997	Carbon Tetrachloride	AA	ND	0.0050000
12/26/1996	02/12/1997	Chlordane	AA	ND	0.0020000
12/26/1996	02/12/1997	Chloroethane	AA	ND	
12/26/1996	02/12/1997	Chloroform	AA	ND	
12/26/1996	02/12/1997	Chloromethane	AA	ND	
12/26/1996	02/12/1997	Cis-1,2-Dichloroethylene	AA	ND	0.0700000
12/26/1996	02/12/1997	Cyanogen Choloride	AA	ND	
12/26/1996	02/12/1997	Dalapon	AA	ND	0.2000000
12/26/1996	02/12/1997	Dibromochloromethane	AA	ND	
12/26/1996	02/12/1997	Dibromomethane	AA	ND	
12/26/1996	02/12/1997	Dicamba	AA	ND	
12/26/1996	02/12/1997	Dichloromethane (Methylene Chloride)	AA	ND	0.0050000
12/26/1996	02/12/1997	Dieldrin	AA	ND	
12/26/1996	02/12/1997	Dinoseb	AA	ND	0.0070000
12/26/1996	02/12/1997	Diquat	AA	ND	0.0200000
12/26/1996	02/12/1997	Endothall	AA	ND	0.1000000
12/26/1996	02/12/1997	Endrin	AA	ND	0.0020000
12/26/1996	02/12/1997	Ethylbenzene	AA	ND	0.7000000
12/26/1996	02/12/1997	Glyphosate	AA	ND	0.7000000
12/26/1996	02/12/1997	Heptachlor	AA	ND	0.0004000
12/26/1996	02/12/1997	Heptachlor Epoxide	AA	ND	0.0002000
12/26/1996	02/12/1997	Hexachlorobenzene (HCB)	AA	ND	0.0010000
12/26/1996	02/12/1997	Hexachlorocyclopentadiene	AA	ND	0.0500000
12/26/1996	02/12/1997	M-Dichlorobenzene	AA	ND	
12/26/1996	02/12/1997	Methomyl	AA	ND	
12/26/1996	02/12/1997	Methoxychlor	AA	ND	0.0400000
12/26/1996	02/12/1997	Metribuzin	AA	ND	

12/26/1996	02/12/1997	Monochlorobenzene (Chlorobenzene)	AA	ND	0.1000000
12/26/1996	02/12/1997	O-Dichlorobenzene	AA	ND	0.6000000
12/26/1996	02/12/1997	P-Chlorotoluene	AA	ND	
12/26/1996	02/12/1997	P-Dichlorobenzene	AA	ND	0.0750000
12/26/1996	02/12/1997	Pentachlorophenol	AA	ND	0.0010000
12/26/1996	02/12/1997	Phthalates (Di(2-Ethylhexyl))	AA	ND	0.0060000
12/26/1996	02/12/1997	Picloram	AA	ND	0.5000000
12/26/1996	02/12/1997	Propachlor	AA	ND	
12/26/1996	02/12/1997	Simazine	AA	ND	0.0040000
12/26/1996	02/12/1997	Styrene	AA	ND	0.1000000
12/26/1996	02/12/1997	Tetrachloroethylene	AA	ND	0.0050000
12/26/1996	02/12/1997	Toluene	AA	ND	1.0000000
12/26/1996	02/12/1997	Total Xylenes	AA	ND	10.000000
12/26/1996	02/12/1997	Toxaphene	AA	ND	0.0030000
12/26/1996	02/12/1997	Trans-1,2-Dichloroethylene	AA	ND	0.1000000
12/26/1996	02/12/1997	Trichloroethylene	AA	ND	0.0050000
12/26/1996	02/12/1997	Vinyl Chloride	AA	ND	0.0020000
12/26/1996	02/12/1997	Vydate (Oxamyl)	AA	ND	0.2000000
12/09/1996	02/09/1998	Gross Alpha, Excl. Radon & U	A	5.1000000	15.000000
12/09/1996	02/09/1998	Gross Beta Particle Activity	A	7.8000000	50.000000
12/09/1996	01/09/1997	Nitrate	A	2.1500000	10.000000
12/09/1996	02/12/1997	Antimony Total	AB	ND	0.0060000
12/09/1996	02/12/1997	Arsenic	AB	0.0210000	0.0500000
12/09/1996	02/12/1997	Barium	AB	0.0500000	2.0000000
12/09/1996	02/12/1997	Beryllium Total	AB	ND	0.0040000
12/09/1996	02/12/1997	Cadmium	AB	ND	0.0050000
12/09/1996	02/12/1997	Chromium	AB	ND	0.1000000
12/09/1996	02/12/1997	Cyanide	AB	0.0060000	0.2000000
12/09/1996	02/12/1997	Fluoride	AB	0.7000000	4.0000000
12/09/1996	02/12/1997	Mercury	AB	ND	0.0020000
12/09/1996	02/12/1997	Nickel	AB	ND	0.1000000
12/09/1996	01/09/1997	Nitrate	AB	3.5200000	10.000000
12/09/1996	02/12/1997	Nitrite	AB	0.0100000	1.0000000
12/09/1996	02/12/1997	Selenium	AB	ND	0.0500000
12/09/1996	02/12/1997	Sodium	AB	60.200000	
12/09/1996	02/12/1997	Thallium Total	AB	ND	0.0020000
08/05/1996	12/16/1996	Nitrate	A	0.9400000	10.000000
04/23/1996	06/11/1996	Nitrate	A	1.0800000	10.000000
04/22/1996	12/16/1996	Nitrate	A	1.0800000	10.000000
01/19/1996	09/18/1996	Antimony Total	A	ND	0.0060000
01/19/1996	09/18/1996	Arsenic	A	0.0090000	0.0500000
01/19/1996	09/18/1996	Barium	A	0.0500000	2.0000000
01/19/1996	09/18/1996	Beryllium Total	A	ND	0.0040000
01/19/1996	09/18/1996	Cadmium	A	ND	0.0050000
01/19/1996	09/18/1996	Chromium	A	ND	0.1000000
01/19/1996	09/18/1996	Cyanide	A	ND	0.2000000
01/19/1996	09/18/1996	Fluoride	A	0.6500000	4.0000000

01/19/1996	09/18/1996	Mercury	A	ND	0.0020000
01/19/1996	09/18/1996	Nickel	A	ND	0.1000000
01/19/1996	09/18/1996	Selenium	A	ND	0.0500000
01/19/1996	09/18/1996	Sodium	A	45.700000	
01/19/1996	09/18/1996	Thallium Total	A	ND	0.0020000
10/10/1995	06/11/1996	Nitrate	A	1.4500000	10.000000
07/05/1995	06/11/1996	Nitrate	A	0.6000000	10.000000
04/04/1995	06/11/1996	Nitrate	A	2.0100000	10.000000
01/17/1995	06/11/1996	Nitrate	A	2.7700000	10.000000
07/18/1994	08/21/1997	Antimony Total	A	ND	0.0060000
07/18/1994	12/23/1996	Antimony Total	A	ND	0.0060000
07/18/1994	09/18/1996	Antimony Total	A	ND	0.0060000
07/18/1994	08/21/1997	Arsenic	A	ND	0.0500000
07/18/1994	09/18/1996	Arsenic	A	ND	0.0500000
07/18/1994	12/23/1996	Arsenic	A	ND	0.0500000
07/18/1994	12/23/1996	Barium	A	0.0500000	2.0000000
07/18/1994	09/18/1996	Barium	A	0.0500000	2.0000000
07/18/1994	08/21/1997	Barium	A	0.0500000	2.0000000
07/18/1994	09/25/1996	Beryllium Total	A	ND	0.0040000
07/18/1994	08/21/1997	Beryllium Total	A	ND	0.0040000
07/18/1994	12/23/1996	Beryllium Total	A	ND	0.0040000
07/18/1994	08/21/1997	Cadmium	A	ND	0.0050000
07/18/1994	12/23/1996	Cadmium	A	ND	0.0050000
07/18/1994	09/25/1996	Cadmium	A	ND	0.0050000
07/18/1994	09/25/1996	Chromium	A	ND	0.1000000
07/18/1994	08/21/1997	Chromium	A	ND	0.1000000
07/18/1994	12/23/1996	Chromium	A	ND	0.1000000
07/18/1994	09/25/1996	Cyanide	A	ND	0.2000000
07/18/1994	08/21/1997	Cyanide	A	ND	0.2000000
07/18/1994	12/23/1996	Cyanide	A	ND	0.2000000
07/18/1994	12/23/1996	Fluoride	A	0.7500000	4.0000000
07/18/1994	08/21/1997	Fluoride	A	0.7500000	4.0000000
07/18/1994	09/25/1996	Fluoride	A	0.7500000	4.0000000
07/18/1994	08/21/1997	Gross Alpha, Excl. Radon & U	A	5.1000000	15.000000
07/18/1994	08/21/1997	Gross Beta Particle Activity	A	7.8000000	50.000000
07/18/1994	09/25/1996	Lead	A	ND	0.0150000
07/18/1994	08/21/1997	Lead	A	ND	0.0150000
07/18/1994	12/23/1996	Lead	A	ND	0.0150000
07/18/1994	09/25/1996	Nickel	A	ND	0.1000000
07/18/1994	12/23/1996	Nickel	A	ND	0.1000000
07/18/1994	08/21/1997	Nickel	A	ND	0.1000000
07/18/1994	08/21/1997	Nitrate	A	1.0800000	10.000000
07/18/1994	09/25/1996	Nitrate	A	1.0800000	10.000000
07/18/1994	12/23/1996	Nitrate	A	1.0800000	10.000000
07/18/1994	12/23/1996	Nitrite	A	ND	1.0000000
07/18/1994	09/25/1996	Nitrite	A	ND	1.0000000

07/18/1994	08/21/1997	Nitrite	A	ND	1.0000000
07/18/1994	12/23/1996	Selenium	A	ND	0.0500000
07/18/1994	08/21/1997	Selenium	A	ND	0.0500000
07/18/1994	09/25/1996	Selenium	A	ND	0.0500000
07/18/1994	08/21/1997	Sodium	A	67.900000	
07/18/1994	12/23/1996	Sodium	A	67.900000	
07/18/1994	09/25/1996	Sodium	A	67.900000	
07/18/1994	12/23/1996	Sulfate	A	79.000000	
07/18/1994	08/21/1997	Sulfate	A	79.000000	
07/18/1994	09/25/1996	Sulfate	A	79.000000	
07/18/1994	09/25/1996	Thallium Total	A	ND	0.0020000
07/18/1994	12/23/1996	Thallium Total	A	ND	0.0020000
07/18/1994	08/21/1997	Thallium Total	A	ND	0.0020000
07/12/1994	09/30/1994	3-Hydroxycarbofuran	A	ND	
07/12/1994	09/30/1994	3-Hydroxycarbofuran	A	ND	
07/12/1994	09/30/1994	Aldicarb	A	ND	
07/12/1994	09/30/1994	Aldicarb	A	ND	
07/12/1994	09/30/1994	Aldicarb Sulfone	A	ND	
07/12/1994	09/30/1994	Aldicarb Sulfone	A	ND	
07/12/1994	09/30/1994	Aldicarb Sulfoxide	A	ND	
07/12/1994	09/30/1994	Aldicarb Sulfoxide	A	ND	
07/12/1994	09/30/1994	Benzo (A) Pyrene	A	ND	0.0002000
07/12/1994	09/30/1994	Carbaryl	A	ND	
07/12/1994	09/30/1994	Carbaryl	A	ND	
07/12/1994	09/30/1994	Carbofuran	A	ND	0.0400000
07/12/1994	09/30/1994	Carbofuran	A	ND	0.0400000
07/12/1994	09/30/1994	Diquat	A	ND	0.0200000
07/12/1994	09/30/1994	Diquat	A	ND	0.0200000
07/12/1994	09/30/1994	Glyphosate	A	ND	0.7000000
07/12/1994	09/30/1994	Glyphosate	A	ND	0.7000000
07/12/1994	09/30/1994	Methomyl	A	ND	
07/12/1994	09/30/1994	Methomyl	A	ND	
07/12/1994	09/30/1994	Vydate (Oxamyl)	A	ND	0.2000000
07/12/1994	09/30/1994	Vydate (Oxamyl)	A	ND	0.2000000
02/16/1994	02/16/1994	Antimony Total	A	ND	0.0060000
02/16/1994	03/22/1994	Antimony Total	A	ND	0.0060000
02/16/1994	03/22/1994	Antimony Total	A	ND	0.0060000
02/16/1994	03/22/1994	Antimony Total	AA	ND	0.0060000
02/16/1994	03/22/1994	Antimony Total	AB	ND	0.0060000
12/20/1993	09/30/1994	1,1,1,2-Tetrachloroethane	A	ND	
12/20/1993	09/30/1994	1,1,1-Trichloroethane	A	ND	0.2000000
12/20/1993	09/30/1994	1,1,2,2,-Tetrachloroethane	A	ND	
12/20/1993	09/30/1994	1,1,2-Trichloroethane	A	ND	0.0050000
12/20/1993	09/30/1994	1,1-Dichloroethane	A	ND	
12/20/1993	09/30/1994	1,1-Dichloroethylene	A	ND	0.0070000
12/20/1993	09/30/1994	1,1-Dichloropropene	A	ND	
12/20/1993	09/30/1994	1,2,3-Trichloropropane	A	ND	

12/20/1993	09/30/1994	1,2,4-Trichlorobenzene	A	ND	0.0700000
12/20/1993	09/30/1994	1,2-Dibromo-3-Chloropropane (DBCP)	A	ND	0.0002000
12/20/1993	09/30/1994	1,2-Dichloroethane	A	ND	0.0050000
12/20/1993	09/30/1994	1,2-Dichloropropane	A	ND	0.0050000
12/20/1993	09/30/1994	1,3-Dichloropropane	A	ND	
12/20/1993	09/30/1994	1,3-Dichloropropene	A	ND	
12/20/1993	09/30/1994	2,2-Dichloropropane	A	ND	
12/20/1993	09/30/1994	2,4,5-TP Silvex	A	ND	0.0500000
12/20/1993	09/30/1994	2,4,5-TP Silvex	A	ND	0.0500000
12/20/1993	09/30/1994	2,4-D	A	ND	0.0700000
12/20/1993	09/30/1994	2,4-D	A	ND	0.0700000
12/20/1993	09/30/1994	3-Hydroxycarbofuran	A	ND	
12/20/1993	09/30/1994	3-Hydroxycarbofuran	A	ND	
12/20/1993	09/30/1994	Alachlor (Lasso)	A	ND	0.0020000
12/20/1993	09/30/1994	Aldicarb	A	ND	
12/20/1993	09/30/1994	Aldicarb	A	ND	
12/20/1993	09/30/1994	Aldicarb Sulfone	A	ND	
12/20/1993	09/30/1994	Aldicarb Sulfone	A	ND	
12/20/1993	09/30/1994	Aldicarb Sulfoxide	A	ND	
12/20/1993	09/30/1994	Aldicarb Sulfoxide	A	ND	
12/20/1993	09/30/1994	Aldrin	A	ND	
12/20/1993	09/30/1994	Atrazine	A	ND	0.0030000
12/20/1993	09/30/1994	Benzene	A	ND	0.0050000
12/20/1993	09/30/1994	BHC-gamma (Lindane)	A	ND	0.0002000
12/20/1993	09/30/1994	Bromobenzene	A	ND	
12/20/1993	12/15/1994	Bromodichloromethane	A	0.0097000	
12/20/1993	12/15/1994	Bromoform	A	0.0025000	
12/20/1993	09/30/1994	Bromomethane	A	ND	
12/20/1993	09/30/1994	Carbaryl	A	ND	
12/20/1993	09/30/1994	Carbaryl	A	ND	
12/20/1993	09/30/1994	Carbofuran	A	ND	0.0400000
12/20/1993	09/30/1994	Carbofuran	A	ND	0.0400000
12/20/1993	09/30/1994	Carbon Tetrachloride	A	ND	0.0050000
12/20/1993	09/30/1994	Chlordane	A	ND	0.0020000
12/20/1993	09/30/1994	Chloroethane	A	ND	
12/20/1993	12/15/1994	Chloroform	A	0.0062000	
12/20/1993	09/30/1994	Chloromethane	A	ND	
12/20/1993	09/30/1994	Cis-1,2-Dichloroethylene	A	ND	0.0700000
12/20/1993	09/30/1994	Dalapon	A	ND	0.2000000
12/20/1993	09/30/1994	Dalapon	A	ND	0.2000000
12/20/1993	12/15/1994	Dibromochloromethane	A	0.0099000	
12/20/1993	09/30/1994	Dibromomethane	A	ND	
12/20/1993	09/30/1994	Dicamba	A	ND	
12/20/1993	09/30/1994	Dicamba	A	ND	
12/20/1993	09/30/1994	Dichloromethane (Methylene Chloride)	A	ND	0.0050000
12/20/1993	09/30/1994	Dinoseb	A	ND	0.0070000

12/20/1993	09/30/1994	Dinoseb	A	ND	0.0070000
12/20/1993	09/30/1994	Diquat	A	ND	0.0200000
12/20/1993	09/30/1994	Diquat	A	ND	0.0200000
12/20/1993	09/30/1994	Endothall	A	ND	0.1000000
12/20/1993	09/30/1994	Ethylbenzene	A	ND	0.7000000
12/20/1993	09/30/1994	Ethylene Dibromide (EDB)	A	ND	0.0000500
12/20/1993	09/30/1994	Glyphosate	A	ND	0.7000000
12/20/1993	09/30/1994	Glyphosate	A	ND	0.7000000
12/20/1993	09/30/1994	Heptachlor	A	ND	0.0004000
12/20/1993	09/30/1994	Heptachlor Epoxide	A	ND	0.0002000
12/20/1993	09/30/1994	M-Dichlorobenzene	A	ND	
12/20/1993	09/30/1994	Methomyl	A	ND	
12/20/1993	09/30/1994	Methomyl	A	ND	
12/20/1993	09/30/1994	Methoxychlor	A	ND	0.0400000
12/20/1993	09/30/1994	Metolachlor	A	ND	
12/20/1993	09/30/1994	Metribuzin	A	ND	
12/20/1993	09/30/1994	Monochlorobenzene (Chlorobenzene)	A	ND	0.1000000
12/20/1993	09/30/1994	O-Chlorotoluene	A	ND	
12/20/1993	09/30/1994	O-Dichlorobenzene	A	ND	0.6000000
12/20/1993	09/30/1994	P-Chlorotoluene	A	ND	
12/20/1993	09/30/1994	P-Dichlorobenzene	A	ND	0.0750000
12/20/1993	09/30/1994	Pentachlorophenol	A	ND	0.0010000
12/20/1993	09/30/1994	Pentachlorophenol	A	ND	0.0010000
12/20/1993	09/30/1994	Picloram	A	ND	0.5000000
12/20/1993	09/30/1994	Picloram	A	ND	0.5000000
12/20/1993	09/30/1994	Propachlor	A	ND	
12/20/1993	09/30/1994	Simazine	A	ND	0.0040000
12/20/1993	09/30/1994	Styrene	A	ND	0.1000000
12/20/1993	09/30/1994	Tetrachloroethylene	A	ND	0.0050000
12/20/1993	09/30/1994	Toluene	A	ND	1.0000000
12/20/1993	09/30/1994	Total Polychlorinated Biphenyls (PCB)	A	ND	0.0005000
12/20/1993	09/30/1994	Total Xylenes	A	ND	10.000000
12/20/1993	09/30/1994	Trans-1,2-Dichloroethylene	A	ND	0.1000000
12/20/1993	09/30/1994	Trichloroethylene	A	ND	0.0050000
12/20/1993	09/30/1994	Vinyl Chloride	A	ND	0.0020000
12/20/1993	09/30/1994	Vydate (Oxamyl)	A	ND	0.2000000
12/20/1993	09/30/1994	Vydate (Oxamyl)	A	ND	0.2000000
09/30/1993	09/30/1994	1,1,1,2-Tetrachloroethane	A	ND	
09/30/1993	09/30/1994	1,1,1-Trichloroethane	A	ND	0.2000000
09/30/1993	09/30/1994	1,1,2,2,-Tetrachloroethane	A	ND	
09/30/1993	09/30/1994	1,1,2-Trichloroethane	A	ND	0.0050000
09/30/1993	09/30/1994	1,1-Dichloroethane	A	ND	
09/30/1993	09/30/1994	1,1-Dichloroethylene	A	ND	0.0070000
09/30/1993	09/30/1994	1,1-Dichloropropene	A	ND	
09/30/1993	09/30/1994	1,2,3-Trichloropropane	A	ND	
09/30/1993	09/30/1994	1,2,4-Trichlorobenzene	A	ND	0.0700000
09/30/1993	09/30/1994	1,2-Dibromo-3-Chloropropane (DBCP)	A	ND	0.0002000

09/30/1993	09/30/1994	1,2-Dichloroethane	A	ND	0.0050000
09/30/1993	09/30/1994	1,2-Dichloropropane	A	ND	0.0050000
09/30/1993	09/30/1994	1,3-Dichloropropane	A	ND	
09/30/1993	09/30/1994	1,3-Dichloropropene	A	ND	
09/30/1993	09/30/1994	2,2-Dichloropropane	A	ND	
09/30/1993	09/30/1994	Adipates (Di(2-Ethylhexyl))	A	ND	0.4000000
09/30/1993	09/30/1994	Alachlor (Lasso)	A	ND	0.0020000
09/30/1993	09/30/1994	Aldrin	A	ND	
09/30/1993	09/30/1994	Atrazine	A	ND	0.0030000
09/30/1993	09/30/1994	Benzene	A	ND	0.0050000
09/30/1993	09/30/1994	Benzo (A) Pyrene	A	ND	0.0002000
09/30/1993	09/30/1994	BHC-gamma (Lindane)	A	ND	0.0002000
09/30/1993	09/30/1994	Bromobenzene	A	ND	
09/30/1993	09/30/1994	Bromodichloromethane	A	0.0051000	
09/30/1993	09/30/1994	Bromoform	A	0.0015000	
09/30/1993	09/30/1994	Bromomethane	A	ND	
09/30/1993	09/30/1994	Butachlor	A	ND	
09/30/1993	09/30/1994	Carbon Tetrachloride	A	ND	0.0050000
09/30/1993	09/30/1994	Chlordane	A	ND	0.0020000
09/30/1993	09/30/1994	Chloroethane	A	ND	
09/30/1993	09/30/1994	Chloroform	A	0.0058000	
09/30/1993	09/30/1994	Chloromethane	A	ND	
09/30/1993	09/30/1994	Cis-1,2-Dichloroethylene	A	ND	0.0700000
09/30/1993	09/30/1994	Dibromochloromethane	A	0.0047000	
09/30/1993	09/30/1994	Dibromomethane	A	ND	
09/30/1993	09/30/1994	Dichloromethane (Methylene Chloride)	A	ND	0.0050000
09/30/1993	09/30/1994	Dieldrin	A	ND	
09/30/1993	09/30/1994	Endothall	A	ND	0.1000000
09/30/1993	09/30/1994	Endrin	A	ND	0.0020000
09/30/1993	09/30/1994	Ethylbenzene	A	ND	0.7000000
09/30/1993	09/30/1994	Ethylene Dibromide (EDB)	A	ND	0.0000500
09/30/1993	09/30/1994	Heptachlor	A	ND	0.0004000
09/30/1993	09/30/1994	Heptachlor Epoxide	A	ND	0.0002000
09/30/1993	09/30/1994	Hexachlorobenzene (HCB)	A	ND	0.0010000
09/30/1993	09/30/1994	Hexachlorocyclopentadiene	A	ND	0.0500000
09/30/1993	09/30/1994	M-Dichlorobenzene	A	ND	
09/30/1993	09/30/1994	Methoxychlor	A	ND	0.0400000
09/30/1993	09/30/1994	Metolachlor	A	ND	
09/30/1993	09/30/1994	Metribuzin	A	ND	
09/30/1993	09/30/1994	Monochlorobenzene (Chlorobenzene)	A	ND	0.1000000
09/30/1993	09/30/1994	O-Chlorotoluene	A	ND	
09/30/1993	09/30/1994	O-Dichlorobenzene	A	ND	0.6000000
09/30/1993	09/30/1994	P-Chlorotoluene	A	ND	
09/30/1993	09/30/1994	P-Dichlorobenzene	A	ND	0.0750000
09/30/1993	09/30/1994	Phthalates (Di(2-Ethylhexyl))	A	ND	0.0060000
09/30/1993	09/30/1994	Propachlor	A	ND	

09/30/1993	09/30/1994	Simazine	A	ND	0.0040000
09/30/1993	09/30/1994	Styrene	A	ND	0.1000000
09/30/1993	09/30/1994	Tetrachloroethylene	A	ND	0.0050000
09/30/1993	09/30/1994	Toluene	A	ND	1.0000000
09/30/1993	09/30/1994	Total Polychlorinated Biphenyls (PCB)	A	ND	0.0005000
09/30/1993	09/30/1994	Total Xylenes	A	ND	10.000000
09/30/1993	09/30/1994	Toxaphene	A	ND	0.0030000
09/30/1993	09/30/1994	Trans-1,2-Dichloroethylene	A	ND	0.1000000
09/30/1993	09/30/1994	Trichloroethylene	A	ND	0.0050000
09/30/1993	09/30/1994	Vinyl Chloride	A	ND	0.0020000
06/22/1993	01/28/1994	1,1,1,2-Tetrachloroethane	A	ND	
06/22/1993	01/28/1994	1,1,1-Trichloroethane	A	ND	0.2000000
06/22/1993	01/28/1994	1,1,2,2,-Tetrachloroethane	A	ND	
06/22/1993	01/28/1994	1,1,2-Trichloroethane	A	ND	0.0050000
06/22/1993	01/28/1994	1,1-Dichloroethane	A	ND	
06/22/1993	01/28/1994	1,1-Dichloroethylene	A	ND	0.0070000
06/22/1993	01/28/1994	1,1-Dichloropropene	A	ND	
06/22/1993	01/28/1994	1,2,3-Trichloropropane	A	ND	
06/22/1993	01/28/1994	1,2,4-Trichlorobenzene	A	ND	0.0700000
06/22/1993	01/28/1994	1,2-Dibromo-3-Chloropropane (DBCP)	A	ND	0.0002000
06/22/1993	01/28/1994	1,2-Dichloroethane	A	ND	0.0050000
06/22/1993	01/28/1994	1,2-Dichloropropane	A	ND	0.0050000
06/22/1993	01/28/1994	1,3-Dichloropropane	A	ND	
06/22/1993	01/28/1994	1,3-Dichloropropene	A	ND	
06/22/1993	01/28/1994	2,2-Dichloropropane	A	ND	
06/22/1993	01/28/1994	2,4,5-TP Silvex	A	ND	0.0500000
06/22/1993	01/28/1994	2,4-D	A	ND	0.0700000
06/22/1993	01/28/1994	3-Hydroxycarbofuran	A	ND	
06/22/1993	01/28/1994	Adipates (Di(2-Ethylhexyl))	A	ND	0.4000000
06/22/1993	01/28/1994	Alachlor (Lasso)	A	ND	0.0020000
06/22/1993	01/28/1994	Aldicarb	A	ND	
06/22/1993	01/28/1994	Aldicarb Sulfone	A	ND	
06/22/1993	01/28/1994	Aldicarb Sulfoxide	A	ND	
06/22/1993	01/28/1994	Aldrin	A	ND	
06/22/1993	01/28/1994	Antimony Total	A	**0.0100000**	0.0060000
06/22/1993	01/28/1994	Atrazine	A	ND	0.0030000
06/22/1993	01/28/1994	Benzene	A	ND	0.0050000
06/22/1993	01/28/1994	BHC-gamma (Lindane)	A	ND	0.0002000
06/22/1993	01/28/1994	Bromobenzene	A	ND	
06/22/1993	01/28/1994	Bromodichloromethane	A	0.0082000	
06/22/1993	01/28/1994	Bromoform	A	0.0018000	
06/22/1993	01/28/1994	Bromomethane	A	ND	
06/22/1993	01/28/1994	Butachlor	A	ND	
06/22/1993	01/28/1994	Carbaryl	A	ND	
06/22/1993	01/28/1994	Carbofuran	A	ND	0.0400000
06/22/1993	01/28/1994	Carbon Tetrachloride	A	ND	0.0050000
06/22/1993	01/28/1994	Chlordane	A	ND	0.0020000

06/22/1993	01/28/1994	Chloroethane	A	ND	
06/22/1993	01/28/1994	Chloroform	A	0.0158000	
06/22/1993	01/28/1994	Chloromethane	A	ND	
06/22/1993	01/28/1994	Cis-1,2-Dichloroethylene	A	ND	0.0700000
06/22/1993	01/28/1994	Dalapon	A	ND	0.2000000
06/22/1993	01/28/1994	Dibromochloromethane	A	0.0044000	
06/22/1993	01/28/1994	Dibromomethane	A	ND	
06/22/1993	01/28/1994	Dicamba	A	ND	
06/22/1993	01/28/1994	Dichloromethane (Methylene Chloride)	A	ND	0.0050000
06/22/1993	01/28/1994	Dinoseb	A	ND	0.0070000
06/22/1993	01/28/1994	Diquat	A	ND	0.0200000
06/22/1993	01/28/1994	Endothall	A	ND	0.1000000
06/22/1993	01/28/1994	Endrin	A	ND	0.0020000
06/22/1993	01/28/1994	Ethylbenzene	A	ND	0.7000000
06/22/1993	01/28/1994	Ethylene Dibromide (EDB)	A	ND	0.0000500
06/22/1993	01/28/1994	Glyphosate	A	ND	0.7000000
06/22/1993	01/28/1994	Heptachlor	A	ND	0.0004000
06/22/1993	01/28/1994	Heptachlor Epoxide	A	ND	0.0002000
06/22/1993	01/28/1994	Hexachlorobenzene (HCB)	A	ND	0.0010000
06/22/1993	01/28/1994	Hexachlorocyclopentadiene	A	ND	0.0500000
06/22/1993	01/28/1994	M-Dichlorobenzene	A	ND	
06/22/1993	01/28/1994	Methomyl	A	ND	
06/22/1993	01/28/1994	Methoxychlor	A	ND	0.0400000
06/22/1993	01/28/1994	Metolachlor	A	ND	
06/22/1993	01/28/1994	Metribuzin	A	ND	
06/22/1993	01/28/1994	Monochlorobenzene (Chlorobenzene)	A	ND	0.1000000
06/22/1993	01/28/1994	Nitrate	A	0.9000000	10.000000
06/22/1993	01/28/1994	O-Chlorotoluene	A	ND	
06/22/1993	01/28/1994	O-Dichlorobenzene	A	ND	0.6000000
06/22/1993	01/28/1994	P-Chlorotoluene	A	ND	
06/22/1993	01/28/1994	P-Dichlorobenzene	A	ND	0.0750000
06/22/1993	01/28/1994	Pentachlorophenol	A	ND	0.0010000
06/22/1993	01/28/1994	Phthalates (Di(2-Ethylhexyl))	A	ND	0.0060000
06/22/1993	01/28/1994	Picloram	A	ND	0.5000000
06/22/1993	01/28/1994	Propachlor	A	ND	
06/22/1993	01/28/1994	Simazine	A	ND	0.0040000
06/22/1993	01/28/1994	Styrene	A	ND	0.1000000
06/22/1993	01/28/1994	Tetrachloroethylene	A	ND	0.0050000
06/22/1993	01/28/1994	Toluene	A	ND	1.0000000
06/22/1993	01/28/1994	Total Polychlorinated Biphenyls (PCB)	A	ND	0.0005000
06/22/1993	01/28/1994	Total Xylenes	A	ND	10.000000
06/22/1993	01/28/1994	Toxaphene	A	ND	0.0030000
06/22/1993	01/28/1994	Trans-1,2-Dichloroethylene	A	ND	0.1000000
06/22/1993	01/28/1994	Trichloroethylene	A	ND	0.0050000
06/22/1993	01/28/1994	Vinyl Chloride	A	ND	0.0020000
06/22/1993	01/28/1994	Vydate (Oxamyl)	A	ND	0.2000000

03/15/1993	11/12/1993	1,1,1,2-Tetrachloroethane	A	ND	
03/15/1993	11/12/1993	1,1,1-Trichloroethane	A	ND	0.2000000
03/15/1993	11/12/1993	1,1,2,2,-Tetrachloroethane	A	ND	
03/15/1993	11/12/1993	1,1,2-Trichloroethane	A	ND	0.0050000
03/15/1993	11/12/1993	1,1-Dichloroethane	A	ND	
03/15/1993	11/12/1993	1,1-Dichloroethylene	A	ND	0.0070000
03/15/1993	11/12/1993	1,1-Dichloropropene	A	ND	
03/15/1993	11/12/1993	1,2,3-Trichloropropane	A	ND	
03/15/1993	11/12/1993	1,2,4-Trichlorobenzene	A	ND	0.0700000
03/15/1993	11/12/1993	1,2-Dibromo-3-Chloropropane (DBCP)	A	ND	0.0002000
03/15/1993	11/12/1993	1,2-Dichloroethane	A	ND	0.0050000
03/15/1993	11/12/1993	1,2-Dichloropropane	A	ND	0.0050000
03/15/1993	11/12/1993	1,3-Dichloropropane	A	ND	
03/15/1993	11/12/1993	1,3-Dichloropropene	A	ND	
03/15/1993	11/12/1993	2,2-Dichloropropane	A	ND	
03/15/1993	11/12/1993	2,4,5-TP Silvex	A	ND	0.0500000
03/15/1993	11/12/1993	2,4-D	A	ND	0.0700000
03/15/1993	11/12/1993	3-Hydroxycarbofuran	A	ND	
03/15/1993	11/12/1993	Adipates (Di(2-Ethylhexyl))	A	ND	0.4000000
03/15/1993	11/12/1993	Alachlor (Lasso)	A	ND	0.0020000
03/15/1993	11/12/1993	Aldicarb	A	ND	
03/15/1993	11/12/1993	Aldicarb Sulfone	A	ND	
03/15/1993	11/12/1993	Aldicarb Sulfoxide	A	ND	
03/15/1993	11/12/1993	Antimony Total	A	**0.0080000**	0.0060000
03/15/1993	11/12/1993	Arsenic	A	0.0080000	0.0500000
03/15/1993	11/12/1993	Asbestos	A	ND	7.0000000
03/15/1993	11/12/1993	Atrazine	A	ND	0.0030000
03/15/1993	11/12/1993	Barium	A	ND	2.0000000
03/15/1993	11/12/1993	Benzene	A	ND	0.0050000
03/15/1993	11/12/1993	Benzo (A) Pyrene	A	ND	0.0002000
03/15/1993	11/12/1993	Beryllium Total	A	ND	0.0040000
03/15/1993	11/12/1993	BHC-gamma (Lindane)	A	ND	0.0002000
03/15/1993	11/12/1993	Bromobenzene	A	ND	
03/15/1993	11/12/1993	Bromodichloromethane	A	0.0050000	
03/15/1993	11/12/1993	Bromoform	A	0.0015000	
03/15/1993	11/12/1993	Bromomethane	A	ND	
03/15/1993	11/12/1993	Butachlor	A	ND	
03/15/1993	11/12/1993	Cadmium	A	ND	0.0050000
03/15/1993	11/17/1993	Carbaryl	A	ND	
03/15/1993	11/12/1993	Carbofuran	A	ND	0.0400000
03/15/1993	11/12/1993	Carbon Tetrachloride	A	ND	0.0050000
03/15/1993	11/12/1993	Chlordane	A	ND	0.0020000
03/15/1993	11/12/1993	Chloroethane	A	ND	
03/15/1993	11/12/1993	Chloroform	A	0.0041000	
03/15/1993	11/12/1993	Chloromethane	A	ND	
03/15/1993	11/12/1993	Chromium	A	ND	0.1000000
03/15/1993	11/12/1993	Cis-1,2-Dichloroethylene	A	ND	0.0700000

03/15/1993	11/12/1993	Cyanide	A	ND	0.2000000
03/15/1993	11/12/1993	Dalapon	A	ND	0.2000000
03/15/1993	11/12/1993	Dibromochloromethane	A	0.0049000	
03/15/1993	11/12/1993	Dibromomethane	A	ND	
03/15/1993	11/12/1993	Dicamba	A	ND	
03/15/1993	11/12/1993	Dichloromethane (Methylene Chloride)	A	ND	0.0050000
03/15/1993	11/12/1993	Dieldrin	A	ND	
03/15/1993	11/12/1993	Dinoseb	A	ND	0.0070000
03/15/1993	11/12/1993	Diquat	A	ND	0.0200000
03/15/1993	11/12/1993	Endothall	A	ND	0.1000000
03/15/1993	11/12/1993	Endrin	A	ND	0.0020000
03/15/1993	11/12/1993	Ethylbenzene	A	ND	0.7000000
03/15/1993	11/12/1993	Ethylene Dibromide (EDB)	A	ND	0.0000500
03/15/1993	11/12/1993	Fluoride	A	0.6700000	4.0000000
03/15/1993	11/12/1993	Glyphosate	A	ND	0.7000000
03/15/1993	11/12/1993	Heptachlor	A	ND	0.0004000
03/15/1993	11/12/1993	Heptachlor Epoxide	A	ND	0.0002000
03/15/1993	11/12/1993	Hexachlorobenzene (HCB)	A	ND	0.0010000
03/15/1993	11/12/1993	Hexachlorocyclopentadiene	A	ND	0.0500000
03/15/1993	11/12/1993	Lead	A	ND	0.0150000
03/15/1993	11/12/1993	M-Dichlorobenzene	A	ND	
03/15/1993	11/12/1993	Mercury	A	ND	0.0020000
03/15/1993	11/12/1993	Methomyl	A	ND	
03/15/1993	11/12/1993	Methoxychlor	A	ND	0.0400000
03/15/1993	11/12/1993	Metolachlor	A	ND	
03/15/1993	11/12/1993	Metribuzin	A	ND	
03/15/1993	11/12/1993	Monochlorobenzene (Chlorobenzene)	A	ND	0.1000000
03/15/1993	11/12/1993	Nickel	A	ND	0.1000000
03/15/1993	11/12/1993	Nitrate	A	1.4100000	10.000000
03/15/1993	11/12/1993	Nitrite	A	ND	1.0000000
03/15/1993	11/12/1993	O-Chlorotoluene	A	ND	
03/15/1993	11/12/1993	O-Dichlorobenzene	A	ND	0.6000000
03/15/1993	11/12/1993	P-Chlorotoluene	A	ND	
03/15/1993	11/12/1993	P-Dichlorobenzene	A	ND	0.0750000
03/15/1993	11/12/1993	Pentachlorophenol	A	ND	0.0010000
03/15/1993	11/12/1993	Phthalates (Di(2-Ethylhexyl))	A	ND	0.0060000
03/15/1993	11/12/1993	Picloram	A	ND	0.5000000
03/15/1993	11/12/1993	Propachlor	A	ND	
03/15/1993	11/12/1993	Selenium	A	ND	0.0500000
03/15/1993	11/12/1993	Simazine	A	ND	0.0040000
03/15/1993	11/12/1993	Sodium	A	53.100000	
03/15/1993	11/12/1993	Styrene	A	ND	0.1000000
03/15/1993	11/12/1993	Sulfate	A	63.000000	
03/15/1993	11/12/1993	Tetrachloroethylene	A	ND	0.0050000
03/15/1993	11/12/1993	Thallium Total	A	ND	0.0020000
03/15/1993	11/12/1993	Toluene	A	ND	1.0000000

03/15/1993	11/12/1993	Total Polychlorinated Biphenyls (PCB)	A	ND	0.0005000
03/15/1993	11/12/1993	Total Xylenes	A	ND	10.000000
03/15/1993	11/12/1993	Toxaphene	A	ND	0.0030000
03/15/1993	11/12/1993	Trans-1,2-Dichloroethylene	A	ND	0.1000000
03/15/1993	11/12/1993	Trichloroethylene	A	ND	0.0050000
03/15/1993	11/12/1993	Vinyl Chloride	A	ND	0.0020000
03/15/1993	11/12/1993	Vydate (Oxamyl)	A	ND	0.2000000
11/02/1992	01/15/1993	Gross Alpha, Excl. Radon & U	A	ND	15.000000
11/02/1992	01/15/1993	Gross Beta Particle Activity	A	18.000000	50.000000
03/20/1992	05/27/1992	1,1,1-Trichloroethane	A	ND	0.2000000
03/20/1992	05/27/1992	1,1-Dichloroethylene	A	ND	0.0070000
03/20/1992	05/27/1992	1,2-Dichloroethane	A	ND	0.0050000
03/20/1992	05/27/1992	Benzene	A	ND	0.0050000
03/20/1992	05/27/1992	Carbon Tetrachloride	A	ND	0.0050000
03/20/1992	05/27/1992	P-Dichlorobenzene	A	ND	0.0750000
03/20/1992	05/27/1992	Trichloroethylene	A	ND	0.0050000
03/20/1992	05/27/1992	TThm	A	0.0478000	0.1000000
03/20/1992	05/27/1992	Vinyl Chloride	A	ND	0.0020000
03/20/1992	05/27/1992	1,1,1-Trichloroethane	AB	ND	0.2000000
03/20/1992	05/27/1992	1,1-Dichloroethylene	AB	ND	0.0070000
03/20/1992	05/27/1992	1,2-Dichloroethane	AB	ND	0.0050000
03/20/1992	05/27/1992	Benzene	AB	ND	0.0050000
03/20/1992	05/27/1992	Carbon Tetrachloride	AB	ND	0.0050000
03/20/1992	05/27/1992	P-Dichlorobenzene	AB	ND	0.0750000
03/20/1992	05/27/1992	Trichloroethylene	AB	ND	0.0050000
03/20/1992	05/27/1992	TThm	AB	ND	0.1000000
03/20/1992	05/27/1992	Vinyl Chloride	AB	ND	0.0020000
08/29/1991	02/25/1992	Arsenic	A	ND	0.0500000
08/29/1991	02/25/1992	Barium	A	ND	2.0000000
08/29/1991	02/25/1992	Cadmium	A	ND	0.0050000
08/29/1991	02/25/1992	Chromium	A	ND	0.1000000
08/29/1991	02/25/1992	Fluoride	A	0.7100000	4.0000000
08/29/1991	02/25/1992	Lead	A	0.0060000	0.0150000
08/29/1991	02/25/1992	Mercury	A	0.0001000	0.0020000
08/29/1991	02/25/1992	Nitrate	A	0.8200000	10.000000
08/29/1991	02/25/1992	Selenium	A	ND	0.0500000
08/29/1991	02/25/1992	Silver	A	ND	0.1000000
08/29/1991	12/29/1992	Arsenic	AB	0.0103000	0.0500000
08/29/1991	12/29/1992	Barium	AB	ND	2.0000000
08/29/1991	12/29/1992	Cadmium	AB	ND	0.0050000
08/29/1991	12/29/1992	Chromium	AB	ND	0.1000000
08/29/1991	12/29/1992	Fluoride	AB	0.7100000	4.0000000
08/29/1991	02/25/1992	Gross Alpha, Excl. Radon & U	AB	5.8000000	15.000000
08/29/1991	12/29/1992	Lead	AB	0.0060000	0.0150000
08/29/1991	12/29/1992	Mercury	AB	0.0001000	0.0020000
08/29/1991	12/29/1992	Nitrate	AB	0.8200000	10.000000
08/29/1991	12/29/1992	Selenium	AB	ND	0.0500000

08/29/1991	12/29/1992	Silver	AB	ND	0.1000000
03/01/1991	04/01/1991	1,1,1-Trichloroethane	A	ND	0.2000000
03/01/1991	04/01/1991	1,1-Dichloroethylene	A	ND	0.0070000
03/01/1991	04/01/1991	1,2-Dichloroethane	A	ND	0.0050000
03/01/1991	04/01/1991	Benzene	A	ND	0.0050000
03/01/1991	04/01/1991	Carbon Tetrachloride	A	ND	0.0050000
03/01/1991	04/01/1991	P-Dichlorobenzene	A	ND	0.0750000
03/01/1991	04/01/1991	Trichloroethylene	A	ND	0.0050000
03/01/1991	04/01/1991	TThm	A	0.0051000	0.1000000
03/01/1991	04/01/1991	Vinyl Chloride	A	ND	0.0020000
03/01/1991	04/01/1991	1,1,1-Trichloroethane	AB	ND	0.2000000
03/01/1991	04/01/1991	1,1-Dichloroethylene	AB	ND	0.0070000
03/01/1991	04/01/1991	1,2-Dichloroethane	AB	ND	0.0050000
03/01/1991	04/01/1991	Benzene	AB	ND	0.0050000
03/01/1991	04/01/1991	Carbon Tetrachloride	AB	ND	0.0050000
03/01/1991	04/01/1991	P-Dichlorobenzene	AB	ND	0.0750000
03/01/1991	04/01/1991	Trichloroethylene	AB	ND	0.0050000
03/01/1991	04/01/1991	Vinyl Chloride	AB	ND	0.0020000
07/31/1990	10/30/1990	Arsenic	A	ND	0.0500000
07/31/1990	10/30/1990	Barium	A	ND	2.0000000
07/31/1990	10/30/1990	Cadmium	A	ND	0.0050000
07/31/1990	10/30/1990	Chromium	A	ND	0.1000000
07/31/1990	10/30/1990	Fluoride	A	ND	4.0000000
07/31/1990	02/15/1991	Iron	A	ND	
07/31/1990	10/30/1990	Lead	A	ND	0.0150000
07/31/1990	02/15/1991	Manganese	A	ND	
07/31/1990	10/30/1990	Mercury	A	ND	0.0020000
07/31/1990	10/30/1990	Nitrate	A	ND	10.000000
07/31/1990	10/30/1990	Selenium	A	0.0080000	0.0500000
07/31/1990	10/30/1990	Silver	A	ND	0.1000000
07/31/1990	10/30/1990	Sodium	A	48.000000	
07/30/1990	02/15/1991	2,4,5-TP Silvex	A	ND	0.0500000
07/30/1990	02/15/1991	2,4-D	A	ND	0.0700000
07/30/1990	02/15/1991	BHC-gamma (Lindane)	A	ND	0.0002000
07/30/1990	02/15/1991	Endrin	A	ND	0.0020000
07/30/1990	02/15/1991	Methoxychlor	A	ND	0.0400000
07/30/1990	02/15/1991	Toxaphene	A	ND	0.0030000
08/11/1989	09/29/1989	1,1,1-Trichloroethane	A	ND	0.2000000
08/11/1989	09/29/1989	1,1-Dichloroethylene	A	ND	0.0070000
08/11/1989	09/29/1989	1,2-Dichloroethane	A	ND	0.0050000
08/11/1989	09/29/1989	Benzene	A	ND	0.0050000
08/11/1989	09/29/1989	Carbon Tetrachloride	A	ND	0.0050000
08/11/1989	09/29/1989	P-Dichlorobenzene	A	ND	0.0750000
08/11/1989	09/29/1989	Trichloroethylene	A	ND	0.0050000
08/11/1989	09/29/1989	Vinyl Chloride	A	ND	0.0020000
08/11/1989	09/28/1989	1,1,1-Trichloroethane	AB	ND	0.2000000

08/11/1989	09/28/1989	1,1-Dichloroethylene	AB	ND	0.0070000
08/11/1989	09/28/1989	1,2-Dichloroethane	AB	ND	0.0050000
08/11/1989	09/28/1989	Benzene	AB	ND	0.0050000
08/11/1989	09/28/1989	Carbon Tetrachloride	AB	ND	0.0050000
08/11/1989	09/28/1989	P-Dichlorobenzene	AB	ND	0.0750000
08/11/1989	09/28/1989	Trichloroethylene	AB	ND	0.0050000
08/11/1989	09/28/1989	Vinyl Chloride	AB	ND	0.0020000
08/04/1989	12/12/1989	Arsenic	A	0.0070000	0.0500000
08/04/1989	12/12/1989	Barium	A	ND	2.0000000
08/04/1989	12/12/1989	Cadmium	A	ND	0.0050000
08/04/1989	12/12/1989	Chromium	A	0.0030000	0.1000000
08/04/1989	12/12/1989	Fluoride	A	0.6600000	4.0000000
08/04/1989	12/12/1989	Lead	A	ND	0.0150000
08/04/1989	12/12/1989	Mercury	A	ND	0.0020000
08/04/1989	12/12/1989	Nitrate	A	0.6900000	10.000000
08/04/1989	12/12/1989	Selenium	A	ND	0.0500000
08/04/1989	12/12/1989	Silver	A	ND	0.1000000
08/04/1989	12/12/1989	Sodium	A	49.000000	
05/02/1989	09/28/1989	1,1,1-Trichloroethane	AB	ND	0.2000000
05/02/1989	09/28/1989	1,1-Dichloroethylene	AB	ND	0.0070000
05/02/1989	09/28/1989	1,2-Dichloroethane	AB	ND	0.0050000
05/02/1989	09/28/1989	Benzene	AB	ND	0.0050000
05/02/1989	09/28/1989	Carbon Tetrachloride	AB	ND	0.0050000
05/02/1989	09/28/1989	P-Dichlorobenzene	AB	ND	0.0750000
05/02/1989	09/28/1989	Trichloroethylene	AB	ND	0.0050000
05/02/1989	09/28/1989	Vinyl Chloride	AB	ND	0.0020000
02/25/1989	03/24/1989	1,1,1-Trichloroethane	AB	ND	0.2000000
02/25/1989	03/24/1989	1,1-Dichloroethylene	AB	ND	0.0070000
02/25/1989	03/24/1989	1,2-Dichloroethane	AB	ND	0.0050000
02/25/1989	03/24/1989	Benzene	AB	ND	0.0050000
02/25/1989	03/24/1989	Carbon Tetrachloride	AB	ND	0.0050000
02/25/1989	03/24/1989	P-Dichlorobenzene	AB	ND	0.0750000
02/25/1989	03/24/1989	Trichloroethylene	AB	ND	0.0050000
02/25/1989	03/24/1989	TThm	AB	0.0190000	0.1000000
02/25/1989	03/24/1989	Vinyl Chloride	AB	ND	0.0020000
02/24/1989	03/24/1989	1,1,1-Trichloroethane	A	ND	0.2000000
02/24/1989	03/24/1989	1,1-Dichloroethylene	A	ND	0.0070000
02/24/1989	03/24/1989	1,2-Dichloroethane	A	ND	0.0050000
02/24/1989	03/24/1989	Benzene	A	ND	0.0050000
02/24/1989	03/24/1989	Carbon Tetrachloride	A	ND	0.0050000
02/24/1989	03/24/1989	P-Dichlorobenzene	A	ND	0.0750000
02/24/1989	03/24/1989	Trichloroethylene	A	ND	0.0050000
02/24/1989	03/24/1989	TThm	A	0.0190000	0.1000000
02/24/1989	03/24/1989	Vinyl Chloride	A	ND	0.0020000
08/15/1988	09/30/1988	Arsenic	A	0.0060000	0.0500000
08/15/1988	09/30/1988	Barium	A	ND	2.0000000
08/15/1988	09/30/1988	Cadmium	A	ND	0.0050000

08/15/1988	09/30/1988	Chromium	A	0.0050000	0.1000000
08/15/1988	09/30/1988	Fluoride	A	0.6400000	4.0000000
08/15/1988	09/30/1988	Lead	A	0.0050000	0.0150000
08/15/1988	09/30/1988	Mercury	A	0.0012000	0.0020000
08/15/1988	09/30/1988	Nitrate	A	0.6000000	10.000000
08/15/1988	09/30/1988	Selenium	A	0.0050000	0.0500000
08/15/1988	09/30/1988	Silver	A	0.0050000	0.1000000
08/31/1987	01/20/1988	2,4,5-TP Silvex	A	ND	0.0500000
08/31/1987	01/20/1988	2,4-D	A	ND	0.0700000
08/31/1987	01/08/1988	Arsenic	A	0.0050000	0.0500000
08/31/1987	01/08/1988	Barium	A	ND	2.0000000
08/31/1987	01/20/1988	BHC-gamma (Lindane)	A	ND	0.0002000
08/31/1987	01/08/1988	Cadmium	A	ND	0.0050000
08/31/1987	01/08/1988	Chromium	A	0.0080000	0.1000000
08/31/1987	01/20/1988	Endrin	A	0.0000100	0.0020000
08/31/1987	01/08/1988	Fluoride	A	0.6900000	4.0000000
08/31/1987	03/30/1988	Gross Alpha, Excl. Radon & U	A	2.0000000	15.000000
08/31/1987	01/08/1988	Lead	A	0.0050000	0.0150000
08/31/1987	01/08/1988	Mercury	A	0.0005000	0.0020000
08/31/1987	01/20/1988	Methoxychlor	A	ND	0.0400000
08/31/1987	01/08/1988	Nitrate	A	0.9500000	10.000000
08/31/1987	01/08/1988	Selenium	A	0.0050000	0.0500000
08/31/1987	01/08/1988	Silver	A	0.0050000	0.1000000
08/31/1987	01/20/1988	Toxaphene	A	ND	0.0030000
08/25/1986	04/13/1987	Arsenic	A	0.0080000	0.0500000
08/25/1986	04/13/1987	Barium	A	ND	2.0000000
08/25/1986	04/13/1987	Cadmium	A	**0.0050000**	0.0050000
08/25/1986	04/13/1987	Chromium	A	0.0050000	0.1000000
08/25/1986	04/13/1987	Fluoride	A	0.6500000	4.0000000
08/25/1986	04/13/1987	Lead	A	0.0060000	0.0150000
08/25/1986	04/13/1987	Mercury	A	0.0005000	0.0020000
08/25/1986	04/13/1987	Nitrate	A	1.3000000	10.000000
08/25/1986	04/13/1987	Selenium	A	0.0110000	0.0500000
08/25/1986	04/13/1987	Silver	A	0.0050000	0.1000000
08/25/1986	08/25/1986	Sodium	A	59.000000	
08/06/1985	08/06/1985	Chloride	A	ND	
01/31/1984	08/03/1987	Gross Alpha, Excl. Radon & U	A	0.2000000	15.000000
11/15/1978	11/15/1978	2,4,5-TP Silvex	A	ND	0.0500000
11/15/1978	11/15/1978	2,4-D	A	ND	0.0700000
11/15/1978	11/15/1978	BHC-gamma (Lindane)	A	ND	0.0002000
11/15/1978	11/15/1978	Endrin	A	ND	0.0020000
11/15/1978	11/15/1978	Methoxychlor	A	ND	0.0400000
11/15/1978	11/15/1978	Toxaphene	A	ND	0.0030000

A blank or a 0 in the MCL column indicates that a MCL has not been set for that chemical

*This list represents the latest test results for **all** sources and entry points the system has. For systems with multiple sources the list will probably be a mix of results from all sources. But these are the latest results.*

Coliform Results

Oregon Public Health
Drinking Water Data Online

Sample Types: AS=Assessment, CO=Confirmation, MU=Make-up, RP=Repeat, RT=Routine, SP=Special, TG=Triggered. Show special samples

Recent Coliform Test Results - PWS ID: 00587 ---- ONTARIO, CITY OF

Sample Date	# Samples	Sample Type	Coliform Type	Results ID	Repeat of Sample ID	Sample Site	Facility	CI Residual	Receive Date
May 12, 2020	1	RT	Total	Absent--2005419_005A		1188 SE 9TH AVE S8	DIST-A	1.18	May 18, 2020
May 12, 2020	1	RT	Total	Absent--2005419_004A		993 S OREGON ST S5	DIST-A	1.12	May 18, 2020
May 12, 2020	1	RT	Total	Absent--2005419_003A		650 COLLEGE BLVD S4	DIST-A	0.89	May 18, 2020
May 12, 2020	1	RT	Total	Absent--2005419_002A		311 NW 4TH ST S16	DIST-A	1.11	May 18, 2020
May 12, 2020	1	RT	Total	Absent--2005419_001A		777 STANTON BLVD S19	DIST-A	0.60	May 18, 2020
May 04, 2020	1	RT	Total	Absent--2005065_005A		777 STANTON BLVD S19	DIST-A	0.66	May 07, 2020
May 04, 2020	1	RT	Total	Absent--2005065_004A		389 NW 11TH AVE S14	DIST-A	0.84	May 07, 2020
May 04, 2020	1	RT	Total	Absent--2005065_003A		1435 ALAMEDA DR S3	DIST-A	1.07	May 07, 2020
May 04, 2020	1	RT	Total	Absent--2005065_002A		2546 SW 4TH AVE S2	DIST-A	0.98	May 07, 2020
May 04, 2020	1	RT	Total	Absent--2005065_001A		1283 SW 4TH AVE S1	DIST-A	1.03	May 07, 2020
Apr 20, 2020	1	RT	Total	Absent--2004665_005A		777 STANTON BLVD S19	DIST-A	0.85	Apr 23, 2020
Apr 20, 2020	1	RT	Total	Absent--2004665_004A		311 NW 4TH ST S16	DIST-A	1.22	Apr 23, 2020
Apr 20, 2020	1	RT	Total	Absent--2004665_003A		175 NE 6TH AVE S11	DIST-A	1.04	Apr 23, 2020
Apr 20, 2020	1	RT	Total	Absent--2004665_002A		275 NE 12TH ST S10	DIST-A	0.96	Apr 23, 2020
Apr 20, 2020	1	RT	Total	Absent--2004665_001A		1690 E IDAHO S9	DIST-A	0.96	Apr 23, 2020
Apr 13, 2020	1	RT	Total	Absent--2004454_005A		3500 BLOCK SW 4TH S20	DIST-A	1.03	Apr 15, 2020
Apr 13, 2020	1	RT	Total	Absent--2004454_004A		777 STANTON BLVD S19	DIST-A	0.69	Apr 15, 2020
Apr 13, 2020	1	RT	Total	Absent--2004454_003A		1188 SE 9TH AVE S8	DIST-A	0.96	Apr 15, 2020
Apr 13, 2020	1	RT	Total	Absent--2004454_002A		993 S OREGON ST S5	DIST-A	1.13	Apr 15, 2020
Apr 13, 2020	1	RT	Total	Absent--2004454_001A		650 COLLEGE BLVD S4	DIST-A	0.91	Apr 15, 2020
Sample Date	**# Samples**	**Sample Type**	**Coliform Type**	**Results--ID**	**Repeat of Sample ID**	**Sample Site**	**Facility**	**CI Residual**	**Receive Date**
Apr 06, 2020	1	RT	Total	Absent--2004228_005A		777 STANTON BLVD S19	DIST-A	0.78	Apr 09, 2020
Apr 06, 2020	1	RT	Total	Absent--2004228_004A		389 NW 11TH AVE S14	DIST-A	1.02	Apr 09, 2020
Apr 06, 2020	1	RT	Total	Absent--2004228_003A		1435 ALAMEDA DR S3	DIST-A	1.14	Apr 09, 2020
Apr 06, 2020	1	RT	Total	Absent--2004228_002A		2546 SW 4TH AVE S2	DIST-A	1.01	Apr 09, 2020
Apr 06, 2020	1	RT	Total	Absent--2004228_001A		1283 SW 4TH AVE S1	DIST-A	1.19	Apr 09, 2020
Mar 17, 2020	1	RT	Total	Absent--2003705_005A		777 STANTON BLVD S19	DIST-A	0.81	Mar 20, 2020
Mar 17, 2020	1	RT	Total	Absent--2003705_004A		311 NW 4TH ST S16	DIST-A	1.10	Mar 20, 2020
Mar 17, 2020	1	RT	Total	Absent--2003705_003A		175 NE 6TH AVE S11	DIST-A	1.18	Mar 20, 2020
Mar 17, 2020	1	RT	Total	Absent--2003705_002A		275 NE 12TH ST S10	DIST-A	1.14	Mar 20, 2020
Mar 17, 2020	1	RT	Total	Absent--2003705_001A		1690 E IDAHO S9	DIST-A	1.05	Mar 20, 2020
Mar 09, 2020	1	RT	Total	Absent--2003369_005A		777 STANTON BLVD S19	DIST-A	0.72	Mar 13, 2020
Mar 09, 2020	1	RT	Total	Absent--2003369_004A		1188 SE 9TH AVE S8	DIST-A	1.12	Mar 13, 2020
Mar 09, 2020	1	RT	Total	Absent--2003369_003A		207 S OREGON ST S6	DIST-A	1.14	Mar 13, 2020
Mar 09, 2020	1	RT	Total	Absent--2003369_002A		993 S OREGON ST S5	DIST-A	1.07	Mar 13, 2020
Mar 09, 2020	1	RT	Total	Absent--2003369_001A		650 COLLEGE BLVD S4	DIST-A	0.94	Mar 13, 2020
Mar 02, 2020	1	RT	Total	Absent--2003051_005A		777 STANTON BLVD S19	DIST-A	0.71	Mar 05, 2020
Mar 02, 2020	1	RT	Total	Absent--2003051_004A		NW 11TH AVE S14	DIST-A	0.80	Mar 05, 2020
Mar 02, 2020	1	RT	Total	Absent--2003051_003A		1435 ALAMEDA DR S3	DIST-A	0.91	Mar 05, 2020
Mar 02, 2020	1	RT	Total	Absent--2003051_002A		2546 SW 4TH AVE S2	DIST-A	0.88	Mar 05, 2020
Mar 02, 2020	1	RT	Total	Absent--2003051_001A		1293 SW 4TH AVE S1	DIST-A	0.93	Mar 05, 2020

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Feb 18, 2020	1	RT	Total	Absent--2002673_005A		3500 BLOCK SW 4TH S20	DIST-A	1.21	Feb 24, 2020
Feb 18, 2020	1	RT	Total	Absent--2002673_004A		777 STANTON BLVD S19	DIST-A	0.89	Feb 24, 2020
Feb 18, 2020	1	RT	Total	Absent--2002673_003A		175 NE 6TH AVE S11	DIST-A	1.27	Feb 24, 2020
Feb 18, 2020	1	RT	Total	Absent--2002673_002A		275 NE 12TH ST S10	DIST-A	1.21	Feb 24, 2020
Feb 18, 2020	1	RT	Total	Absent--2002673_001A		1690 E IDAHO S9	DIST-A	1.20	Feb 24, 2020
Feb 10, 2020	1	RT	Total	Absent--2002375_005A		777 STANTON BLVD S19	DIST-A	0.84	Feb 13, 2020
Feb 10, 2020	1	RT	Total	Absent--2002375_004A		1188 SE 9TH AVE S8	DIST-A	1.10	Feb 13, 2020
Feb 10, 2020	1	RT	Total	Absent--2002375_003A		207 S OREGON ST S6	DIST-A	1.11	Feb 13, 2020
Feb 10, 2020	1	RT	Total	Absent--2002375_002A		993 S OREGON ST S5	DIST-A	1.08	Feb 13, 2020
Feb 10, 2020	1	RT	Total	Absent--2002375_001A		650 COLLEGE BLVD S4	DIST-A	1.12	Feb 13, 2020
Feb 03, 2020	1	RT	Total	Absent--2002053_005A		777 STANTON BLVD S19	DIST-A	0.84	Feb 06, 2020
Feb 03, 2020	1	RT	Total	Absent--2002053_004A		389 NW 11TH AVE S14	DIST-A	0.98	Feb 06, 2020
Feb 03, 2020	1	RT	Total	Absent--2002053_003A		1435 ALAMEDA DR S3	DIST-A	1.15	Feb 06, 2020
Feb 03, 2020	1	RT	Total	Absent--2002053_002A		2546 SW 4TH AVE S2	DIST-A	1.05	Feb 06, 2020
Feb 03, 2020	1	RT	Total	Absent--2002053_001A		1283 SW 4TH AVE S1	DIST-A	1.06	Feb 06, 2020
Jan 21, 2020	1	RT	Total	Absent--2001783_005A		777 STANTON BLVD S19	DIST-A	1.02	Jan 24, 2020
Jan 21, 2020	1	RT	Total	Absent--2001783_004A		311 NW 4TH ST S16	DIST-A	1.30	Jan 24, 2020
Jan 21, 2020	1	RT	Total	Absent--2001783_003A		175 NE 6TH AVE S11	DIST-A	1.30	Jan 24, 2020
Jan 21, 2020	1	RT	Total	Absent--2001783_002A		275 NE 12TH ST S10	DIST-A	1.24	Jan 24, 2020
Jan 21, 2020	1	RT	Total	Absent--2001783_001A		1690 E IDAHO S9	DIST-A	1.16	Jan 24, 2020
Jan 14, 2020	1	RT	Total	Absent--2001540_005A		777 STANTON BLVD S19	DIST-A	0.91	Jan 17, 2020
Jan 14, 2020	1	RT	Total	Absent--2001540_004A		1188 SE 9TH AVE S8	DIST-A	1.04	Jan 17, 2020
Jan 14, 2020	1	RT	Total	Absent--2001540_003A		207 S OREGON ST S6	DIST-A	1.25	Jan 17, 2020
Jan 14, 2020	1	RT	Total	Absent--2001540_002A		993 S OREGON ST S5	DIST-A	1.14	Jan 17, 2020
Jan 14, 2020	1	RT	Total	Absent--2001540_001A		650 COLLEGE RD S4	DIST-A	1.14	Jan 17, 2020
Jan 06, 2020	1	RT	Total	Absent--2001164_005A		777 STANTON BLVD S19	DIST-A	0.76	Jan 09, 2020
Jan 06, 2020	1	RT	Total	Absent--2001164_004A		389 NW 11TH AVE S14	DIST-A	0.95	Jan 09, 2020
Jan 06, 2020	1	RT	Total	Absent--2001164_003A		1435 ALAMEDA DR S3	DIST-A	0.97	Jan 09, 2020
Jan 06, 2020	1	RT	Total	Absent--2001164_002A		2546 SW 4TH AVE S2	DIST-A	0.96	Jan 09, 2020
Jan 06, 2020	1	RT	Total	Absent--2001164_001A		1283 SW 4TH AVE S1	DIST-A	0.98	Jan 09, 2020
Dec 16, 2019	1	RT	Total	Absent--1912729_005A		3500 BLOCK SW 4TH S20	DIST-A	1.21	Dec 19, 2019
Dec 16, 2019	1	RT	Total	Absent--1912729_004A		777 STANTON BLVD S19	DIST-A	0.93	Dec 19, 2019
Dec 16, 2019	1	RT	Total	Absent--1912729_003A		175 NE 6TH AVE S11	DIST-A	1.23	Dec 19, 2019
Dec 16, 2019	1	RT	Total	Absent--1912729_002A		275 NE 12TH ST S10	DIST-A	1.14	Dec 19, 2019
Dec 16, 2019	1	RT	Total	Absent--1912729_001A		1690 E IDAHO S9	DIST-A	1.11	Dec 19, 2019
Dec 09, 2019	1	RT	Total	Absent--1912419_005A		777 STANTON BLVD S19	DIST-A	0.97	Dec 13, 2019
Dec 09, 2019	1	RT	Total	Absent--1912419_004A		1188 SE 9TH AVE S8	DIST-A	1.03	Dec 13, 2019
Dec 09, 2019	1	RT	Total	Absent--1912419_003A		207 S OREGON ST S6	DIST-A	1.10	Dec 13, 2019
Dec 09, 2019	1	RT	Total	Absent--1912419_002A		993 S OREGON ST S5	DIST-A	1.35	Dec 13, 2019
Dec 09, 2019	1	RT	Total	Absent--1912419_001A		650 COLLEGE BLVD S4	DIST-A	1.31	Dec 13, 2019
Dec 02, 2019	1	RT	Total	Absent--1912058_005A		777 STANTON BLVD S19	DIST-A	0.83	Dec 05, 2019
Dec 02, 2019	1	RT	Total	Absent--1912058_004A		389 NW 11TH AVE S14	DIST-A	0.99	Dec 05, 2019
Dec 02, 2019	1	RT	Total	Absent--1912058_003A		1435 ALAMEDA DR S3	DIST-A	1.28	Dec 05, 2019
Dec 02, 2019	1	RT	Total	Absent--1912058_002A		2546 SW 4TH AVE S2	DIST-A	1.27	Dec 05, 2019
Dec 02, 2019	1	RT	Total	Absent--1912058_001A		1293 SW 4TH AVE S1	DIST-A	1.24	Dec 05, 2019

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Nov 19, 2019	1	RT	Total	Absent--1911743_005A		777 STANTON BLVD S19	DIST-A	0.71	Nov 22, 2019
Nov 19, 2019	1	RT	Total	Absent--1911743_004A		311 NW 4TH ST S16	DIST-A	1.00	Nov 22, 2019
Nov 19, 2019	1	RT	Total	Absent--1911743_003A		175 NE 6TH AVE S11	DIST-A	1.01	Nov 22, 2019
Nov 19, 2019	1	RT	Total	Absent--1911743_002A		275 NE 12TH ST S10	DIST-A	0.95	Nov 22, 2019
Nov 19, 2019	1	RT	Total	Absent--1911743_001A		1690 E IDAHO S9	DIST-A	0.93	Nov 22, 2019
Nov 12, 2019	1	RT	Total	Absent--1911432_005A		777 STANTON BLVD S19	DIST-A	0.77	Nov 15, 2019
Nov 12, 2019	1	RT	Total	Absent--1911432_004A		1188 SE 9TH AVE S8	DIST-A	1.17	Nov 15, 2019
Nov 12, 2019	1	RT	Total	Absent--1911432_003A		207 S OREGON ST S6	DIST-A	1.07	Nov 15, 2019
Nov 12, 2019	1	RT	Total	Absent--1911432_002A		993 S OREGON ST S5	DIST-A	1.13	Nov 15, 2019
Nov 12, 2019	1	RT	Total	Absent--1911432_001A		650 COLLEGE BLVD S4	DIST-A	1.17	Nov 15, 2019
Nov 04, 2019	1	RT	Total	Absent--1911096_005A		777 STANTON BLVD S19	DIST-A	0.91	Nov 07, 2019
Nov 04, 2019	1	RT	Total	Absent--1911096_004A		389 NW 11TH AVE S14	DIST-A	1.14	Nov 07, 2019
Nov 04, 2019	1	RT	Total	Absent--1911096_003A		1435 ALAMEDA DR S3	DIST-A	1.33	Nov 07, 2019
Nov 04, 2019	1	RT	Total	Absent--1911096_002A		2546 SW 4TH AVE S2	DIST-A	1.20	Nov 07, 2019
Nov 04, 2019	1	RT	Total	Absent--1911096_001A		1283 SW 4TH AVE S1	DIST-A	1.29	Nov 07, 2019

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Oct 21, 2019	1	RT	Total	Absent--1910892_005A		777 STANTON BLVD S19	DIST-A	0.61	Oct 25, 2019
Oct 21, 2019	1	RT	Total	Absent--1910892_004A		195 NE 4TH ST S13	DIST-A	0.45	Oct 25, 2019
Oct 21, 2019	1	RT	Total	Absent--1910892_003A		175 NE 6TH AVE S11	DIST-A	1.24	Oct 25, 2019
Oct 21, 2019	1	RT	Total	Absent--1910892_002A		275 NE 12TH ST S10	DIST-A	1.02	Oct 25, 2019
Oct 21, 2019	1	RT	Total	Absent--1910892_001A		1690 E IDAHO S9	DIST-A	1.02	Oct 25, 2019
Oct 14, 2019	1	RT	Total	Absent--1910637_005A		777 STANTON BLVD S19	DIST-A	0.58	Oct 18, 2019
Oct 14, 2019	1	RT	Total	Absent--1910637_004A		1188 SE 9TH AVE S8	DIST-A	1.18	Oct 18, 2019
Oct 14, 2019	1	RT	Total	Absent--1910637_003A		207 S OREGON ST S6	DIST-A	0.81	Oct 18, 2019
Oct 14, 2019	1	RT	Total	Absent--1910637_002A		993 S OREGON ST S5	DIST-A	1.30	Oct 18, 2019
Oct 14, 2019	1	RT	Total	Absent--1910637_001A		650 COLLEGE BLVD S4	DIST-A	0.51	Oct 18, 2019
Oct 07, 2019	1	RT	Total	Absent--1910328_005A		777 STANTON BLVD S19	DIST-A	0.44	Oct 09, 2019
Oct 07, 2019	1	RT	Total	Absent--1910328_004A		389 NW 11TH AVE S14	DIST-A	0.76	Oct 09, 2019
Oct 07, 2019	1	RT	Total	Absent--1910328_003A		1435 ALAMEDA DR S3	DIST-A	1.06	Oct 09, 2019
Oct 07, 2019	1	RT	Total	Absent--1910328_002A		2546 SW 4TH AVE S2	DIST-A	0.96	Oct 09, 2019
Oct 07, 2019	1	RT	Total	Absent--1910328_001A		1283 SW 4TH AVE S1	DIST-A	1.05	Oct 09, 2019
Sep 16, 2019	1	RT	Total	Absent--1909655_005A		ANNEX 3500 BLOCK SW 4TH S20	DIST-A	0.97	Sep 19, 2019
Sep 16, 2019	1	RT	Total	Absent--1909655_004A		777 STANTON BLVD S19	DIST-A	0.51	Sep 19, 2019
Sep 16, 2019	1	RT	Total	Absent--1909655_003A		NE 3RD AVE SP #11	DIST-A	1.54	Sep 19, 2019
Sep 16, 2019	1	RT	Total	Absent--1909655_002A		275 NE 12TH ST S10	DIST-A	1.41	Sep 19, 2019
Sep 16, 2019	1	RT	Total	Absent--1909655_001A		1690 E IDAHO S9	DIST-A	1.38	Sep 19, 2019

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Sep 09, 2019	1	RT	Total	Absent--1909344_005A		1188 SE 9TH AVE S8	DIST-A	1.31	Sep 12, 2019
Sep 09, 2019	1	RT	Total	Absent--1909344_004A		207 S OREGON ST S6	DIST-A	0.84	Sep 12, 2019
Sep 09, 2019	1	RT	Total	Absent--1909344_003A		777 STANTON BLVD S19	DIST-A	0.45	Sep 12, 2019
Sep 09, 2019	1	RT	Total	Absent--1909344_002A		993 S OREGON ST S5	DIST-A	1.13	Sep 12, 2019
Sep 09, 2019	1	RT	Total	Absent--1909344_001A		650 COLLEGE BLVD S4	DIST-A	1.14	Sep 12, 2019
Sep 03, 2019	1	RT	Total	Absent--1909083_005A		777 STANTON BLVD S19	DIST-A	0.64	Sep 06, 2019
Sep 03, 2019	1	RT	Total	Absent--1909083_004A		389 NW 11TH AVE S14	DIST-A	0.77	Sep 06, 2019
Sep 03, 2019	1	RT	Total	Absent--1909083_003A		1435 ALAMEDA DR S3	DIST-A	1.20	Sep 06, 2019
Sep 03, 2019	1	RT	Total	Absent--1909083_002A		2546 SW 4TH AVE S2	DIST-A	1.10	Sep 06, 2019
Sep 03, 2019	1	RT	Total	Absent--1909083_001A		1283 SW 4TH AVE S1	DIST-A	1.17	Sep 06, 2019
Aug 19, 2019	1	RT	Total	Absent--1908843_005A		777 STANTON BLVD S19	DIST-A	0.55	Aug 23, 2019
Aug 19, 2019	1	RT	Total	Absent--1908843_004A		311 NW 4TH ST S16	DIST-A	0.90	Aug 23, 2019

Aug 19, 2019	1	RT	Total	Absent--1908843_003A		175 NE 6TH AVE S11	DIST-A	0.98	Aug 23, 2019
Aug 19, 2019	1	RT	Total	Absent--1908843_002A		275 NE 12TH ST S10	DIST-A	0.95	Aug 23, 2019
Aug 19, 2019	1	RT	Total	Absent--1908843_001A		1690 E IDAHO S9	DIST-A	0.84	Aug 23, 2019
Aug 12, 2019	1	RT	Total	Absent--1908551_005A		777 STANTON BLVD S19	DIST-A	0.49	Aug 16, 2019
Aug 12, 2019	1	RT	Total	Absent--1908551_004A		1188 SE 9TH AVE S8	DIST-A	0.97	Aug 16, 2019
Aug 12, 2019	1	RT	Total	Absent--1908551_003A		207 S OREGON ST S6	DIST-A	0.80	Aug 16, 2019
Aug 12, 2019	1	RT	Total	Absent--1908551_002A		993 S OREGON ST S5	DIST-A	0.96	Aug 16, 2019
Aug 12, 2019	1	RT	Total	Absent--1908551_001A		650 COLLEGE BLVD S4	DIST-A	0.88	Aug 16, 2019

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Aug 06, 2019	1	RT	Total	Absent--1908291_001A		1435 ALAMEDA DR S3	DIST-A	0.98	Aug 09, 2019
Aug 05, 2019	1	RT	Total	Absent--1908191_004A		777 STANTON BLVD S19	DIST-A	0.52	Aug 08, 2019
Aug 05, 2019	1	RT	Total	Absent--1908191_003A		389 NW 11TH AVE S14	DIST-A	0.88	Aug 08, 2019
Aug 05, 2019	1	RT	Total	Absent--1908191_002A		2546 SW 4TH AVE S2	DIST-A	0.85	Aug 08, 2019
Aug 05, 2019	1	RT	Total	Absent--1908191_001A		1283 SW 4TH AVE S1	DIST-A	0.92	Aug 08, 2019
Jul 15, 2019	1	RT	Total	Absent--1907687_005A		777 STANTON BLVD S19	DIST-A	0.49	Jul 19, 2019
Jul 15, 2019	1	RT	Total	Absent--1907687_004A		311 NW 4TH ST S16	DIST-A	0.96	Jul 19, 2019
Jul 15, 2019	1	RT	Total	Absent--1907687_003A		175 NE 6TH AVE S11	DIST-A	1.09	Jul 19, 2019
Jul 15, 2019	1	RT	Total	Absent--1907687_002A		275 NE 12TH ST S10	DIST-A	0.94	Jul 19, 2019
Jul 15, 2019	1	RT	Total	Absent--1907687_001A		1690 E IDAHO S9	DIST-A	1.01	Jul 19, 2019
Jul 08, 2019	1	RT	Total	Absent--1907347_005A		3500 BLOCK SW 4TH S20	DIST-A	1.08	Jul 11, 2019
Jul 08, 2019	1	RT	Total	Absent--1907347_004A		777 STANTON BLVD S19	DIST-A	0.71	Jul 11, 2019
Jul 08, 2019	1	RT	Total	Absent--1907347_003A		1188 SE 9TH AVE S8	DIST-A	1.19	Jul 11, 2019
Jul 08, 2019	1	RT	Total	Absent--1907347_002A		993 S OREGON ST S5	DIST-A	1.25	Jul 11, 2019
Jul 08, 2019	1	RT	Total	Absent--1907347_001A		650 COLLEGE BLVD S4	DIST-A	1.21	Jul 11, 2019
Jul 01, 2019	1	RT	Total	Absent--1907061_005A		777 STANTON BLVD S19	DIST-A	0.53	Jul 05, 2019
Jul 01, 2019	1	RT	Total	Absent--1907061_004A		389 NW 11TH AVE S14	DIST-A	0.66	Jul 05, 2019
Jul 01, 2019	1	RT	Total	Absent--1907061_003A		1435 ALAMEDA DR S3	DIST-A	1.09	Jul 05, 2019
Jul 01, 2019	1	RT	Total	Absent--1907061_002A		2546 SW 4TH AVE S2	DIST-A	0.94	Jul 05, 2019
Jul 01, 2019	1	RT	Total	Absent--1907061_001A		1283 SW 4TH AVE S1	DIST-A	1.05	Jul 05, 2019

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Jun 17, 2019	1	RT	Total	Absent--1906766_005A		777 STANTON BLVD S19	DIST-A	0.69	Jun 20, 2019
Jun 17, 2019	1	RT	Total	Absent--1906766_004A		311 NW 4TH ST S16	DIST-A	1.12	Jun 20, 2019
Jun 17, 2019	1	RT	Total	Absent--1906766_003A		175 NE 6TH AVE S11	DIST-A	1.18	Jun 20, 2019
Jun 17, 2019	1	RT	Total	Absent--1906766_002A		275 NE 12TH ST S10	DIST-A	0.95	Jun 20, 2019
Jun 17, 2019	1	RT	Total	Absent--1906766_001A		1690 E IDAHO S9	DIST-A	0.96	Jun 20, 2019
Jun 10, 2019	1	RT	Total	Absent--1906447_005A		777 STANTON BLVD S19	DIST-A	0.71	Jun 13, 2019
Jun 10, 2019	1	RT	Total	Absent--1906447_004A		1188 SE 9TH AVE S8	DIST-A	0.91	Jun 13, 2019
Jun 10, 2019	1	RT	Total	Absent--1906447_003A		207 S OREGON ST S6	DIST-A	1.21	Jun 13, 2019
Jun 10, 2019	1	RT	Total	Absent--1906447_002A		933 S OREGON ST S5	DIST-A	1.08	Jun 13, 2019
Jun 10, 2019	1	RT	Total	Absent--1906447_001A		650 COLLEGE BLVD S4	DIST-A	1.11	Jun 13, 2019
Jun 03, 2019	1	RT	Total	Absent--1906041_005A		777 STANTON BLVD S19	DIST-A	0.75	Jun 06, 2019
Jun 03, 2019	1	RT	Total	Absent--1906041_004A		389 NW 11TH AVE S14	DIST-A	1.20	Jun 06, 2019
Jun 03, 2019	1	RT	Total	Absent--1906041_003A		1435 ALAMEDA DR S3	DIST-A	1.19	Jun 06, 2019
Jun 03, 2019	1	RT	Total	Absent--1906041_002A		2546 SW 4TH AVE S2	DIST-A	1.12	Jun 06, 2019
Jun 03, 2019	1	RT	Total	Absent--1906041_001A		1293 SW 4TH AVE S1	DIST-A	1.07	Jun 06, 2019
May 20, 2019	1	RT	Total	Absent--1905928_005A		3500 BLOCK SW 4TH S20	DIST-A	1.33	May 23, 2019
May 20, 2019	1	RT	Total	Absent--1905928_004A		777 STANTON BLVD S19	DIST-A	0.71	May 23, 2019
May 20, 2019	1	RT	Total	Absent--1905928_003A		175 NE 6TH AVE S11	DIST-A	1.33	May 23, 2019
May 20, 2019	1	RT	Total	Absent--1905928_002A		275 NE 12TH ST S10	DIST-A	1.26	May 23, 2019

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
May 20, 2019	1	RT	Total	Absent--1905928_001A		1690 E IDAHO S9	DIST-A	1.27	May 23, 2019
May 13, 2019	1	RT	Total	Absent--1905625_005A		777 STANTON BLVD S19	DIST-A	0.86	May 16, 2019
May 13, 2019	1	RT	Total	Absent--1905625_004A		1188 SE 9TH AVE S8	DIST-A	1.19	May 16, 2019
May 13, 2019	1	RT	Total	Absent--1905625_003A		207 S OREGON ST S6	DIST-A	1.27	May 16, 2019
May 13, 2019	1	RT	Total	Absent--1905625_002A		993 S OREGON ST S5	DIST-A	1.32	May 16, 2019
May 13, 2019	1	RT	Total	Absent--1905625_001A		605 COLLEGE BLVD S4	DIST-A	1.36	May 16, 2019
May 06, 2019	1	RT	Total	Absent--1905295_005A		777 STANTON BLVD S19	DIST-A	0.68	May 09, 2019
May 06, 2019	1	RT	Total	Absent--1905295_004A		389 NW 11TH AVE S14	DIST-A	0.65	May 09, 2019
May 06, 2019	1	RT	Total	Absent--1905295_003A		1435 ALAMEDA DR S3	DIST-A	1.24	May 09, 2019
May 06, 2019	1	RT	Total	Absent--1905295_002A		2546 SW 4TH AVE S2	DIST-A	1.11	May 09, 2019
May 06, 2019	1	RT	Total	Absent--1905295_001A		1283 SW 4TH AVE S1	DIST-A	1.21	May 09, 2019
Apr 15, 2019	1	RT	Total	Absent--1904740_005A		777 STANTON BLVD S19	DIST-A	0.78	Apr 19, 2019
Apr 15, 2019	1	RT	Total	Absent--1904740_004A		311 NW 4TH ST S16	DIST-A	0.84	Apr 19, 2019
Apr 15, 2019	1	RT	Total	Absent--1904740_003A		175 NE 3RD AVE HEINZ S11	DIST-A	1.14	Apr 19, 2019
Apr 15, 2019	1	RT	Total	Absent--1904740_002A		275 NE 12TH ST S10	DIST-A	1.05	Apr 19, 2019
Apr 15, 2019	1	RT	Total	Absent--1904740_001A		1690 EAST S9	DIST-A	1.02	Apr 19, 2019
Apr 08, 2019	1	RT	Total	Absent--1904424_005A		777 STANTON BLVD S19	DIST-A	0.87	Apr 11, 2019
Apr 08, 2019	1	RT	Total	Absent--1904424_004A		1188 SE 9TH AVE S8	DIST-A	1.46	Apr 11, 2019
Apr 08, 2019	1	RT	Total	Absent--1904424_003A		207 S OREGON ST S6	DIST-A	1.33	Apr 11, 2019
Apr 08, 2019	1	RT	Total	Absent--1904424_002A		993 S OREGON ST S5	DIST-A	1.30	Apr 11, 2019
Apr 08, 2019	1	RT	Total	Absent--1904424_001A		650 COLLEGE BLVD S4	DIST-A	1.26	Apr 11, 2019
Apr 01, 2019	1	RT	Total	Absent--1904057_005A		1283 SW 4TH AVE S1	DIST-A	1.09	Apr 04, 2019
Apr 01, 2019	1	RT	Total	Absent--1904057_004A		2546 SW 4TH AVE S2	DIST-A	0.92	Apr 04, 2019
Apr 01, 2019	1	RT	Total	Absent--1904057_003A		777 STANTON BLVD S19	DIST-A	0.68	Apr 04, 2019
Apr 01, 2019	1	RT	Total	Absent--1904057_002A		389 NW 11TH AVE S14	DIST-A	0.92	Apr 04, 2019
Apr 01, 2019	1	RT	Total	Absent--1904057_001A		1435 ALAMEDA DR S3	DIST-A	1.05	Apr 04, 2019
Mar 18, 2019	1	RT	Total	Absent--1903642_005A		777 STANTON BLVD S19	DIST-A	0.81	Mar 21, 2019
Mar 18, 2019	1	RT	Total	Absent--1903642_004A		195 NE 4TH ST S13	DIST-A	0.76	Mar 21, 2019
Mar 18, 2019	1	RT	Total	Absent--1903642_003A		175 NE 6TH AVE S11	DIST-A	1.08	Mar 21, 2019
Mar 18, 2019	1	RT	Total	Absent--1903642_002A		275 NE 12TH ST S10	DIST-A	1.05	Mar 21, 2019
Mar 18, 2019	1	RT	Total	Absent--1903642_001A		1690 E IDAHO S9	DIST-A	1.05	Mar 21, 2019
Mar 11, 2019	1	RT	Total	Absent--1903387_005A		777 STANTON BLVD S19	DIST-A	0.87	Mar 14, 2019
Mar 11, 2019	1	RT	Total	Absent--1903387_004A		1188 SE 9TH AVE S8	DIST-A	0.90	Mar 14, 2019
Mar 11, 2019	1	RT	Total	Absent--1903387_003A		207 S OREGON ST S6	DIST-A	1.09	Mar 14, 2019
Mar 11, 2019	1	RT	Total	Absent--1903387_002A		993 S OREGON ST S5	DIST-A	1.12	Mar 14, 2019
Mar 11, 2019	1	RT	Total	Absent--1903387_001A		650 COLLEGE BLVD S4	DIST-A	1.26	Mar 14, 2019
Mar 04, 2019	1	RT	Total	Absent--1903087_005A		777 STANTON BLVD S19	DIST-A	0.79	Mar 07, 2019
Mar 04, 2019	1	RT	Total	Absent--1903087_004A		1435 ALAMEDA DR S3	DIST-A	1.14	Mar 07, 2019
Mar 04, 2019	1	RT	Total	Absent--1903087_003A		1283 SW 4TH AVE S1	DIST-A	1.11	Mar 07, 2019
Mar 04, 2019	1	RT	Total	Absent--1903087_002A		3500 BLOCK SW 4TH S20	DIST-A	1.10	Mar 07, 2019
Mar 04, 2019	1	RT	Total	Absent--1903087_001A		2546 SW 4TH AVE S2	DIST-A	1.08	Mar 07, 2019
Feb 19, 2019	1	RT	Total	Absent--1902712_005A		777 STANTON BLVD S19	DIST-A	0.78	Feb 26, 2019
Feb 19, 2019	1	RT	Total	Absent--1902712_004A		195 NE 4TH ST S13	DIST-A	0.78	Feb 26, 2019
Feb 19, 2019	1	RT	Total	Absent--1902712_003A		175 NE 6TH AVE S11	DIST-A	1.16	Feb 26, 2019
Feb 19, 2019	1	RT	Total	Absent--1902712_002A		275 NE 12TH ST S10	DIST-A	1.05	Feb 26, 2019

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Feb 19, 2019	1	RT	Total	Absent--1902712_001A		1690 E IDAHO S9	DIST-A	1.09	Feb 26, 2019
Feb 11, 2019	1	RT	Total	Absent--1902390_005A		777 STANTON BLVD S19	DIST-A	0.76	Feb 14, 2019
Feb 11, 2019	1	RT	Total	Absent--1902390_004A		389 NW 11TH AVE S14	DIST-A	0.91	Feb 14, 2019
Feb 11, 2019	1	RT	Total	Absent--1902390_003A		1435 ALAMEDA DR S3	DIST-A	1.12	Feb 14, 2019
Feb 11, 2019	1	RT	Total	Absent--1902390_002A		2546 SW 4TH AVE S2	DIST-A	1.07	Feb 14, 2019
Feb 11, 2019	1	RT	Total	Absent--1902390_001A		1283 SW 4TH AVE S1	DIST-A	1.12	Feb 14, 2019
Feb 04, 2019	1	RT	Total	Absent--1902100_005A		777 STANTON BLVD S19	DIST-A	0.78	Feb 07, 2019
Feb 04, 2019	1	RT	Total	Absent--1902100_004A		1188 SE 9TH AVE S8	DIST-A	0.91	Feb 07, 2019
Feb 04, 2019	1	RT	Total	Absent--1902100_003A		207 S OREGON ST S6	DIST-A	0.87	Feb 07, 2019
Feb 04, 2019	1	RT	Total	Absent--1902100_002A		993 S OREGON ST S5	DIST-A	1.01	Feb 07, 2019
Feb 04, 2019	1	RT	Total	Absent--1902100_001A		650 COLLEGE BLVD S4	DIST-A	0.98	Feb 07, 2019
Jan 22, 2019	1	RT	Total	Absent--1901857_005A		777 STANTON BLVD S19	DIST-A	0.78	Jan 25, 2019
Jan 22, 2019	1	RT	Total	Absent--1901857_004A		311 NW 4TH ST S16	DIST-A	0.99	Jan 25, 2019
Jan 22, 2019	1	RT	Total	Absent--1901857_003A		NE 3RD AVE S11	DIST-A	1.10	Jan 25, 2019
Jan 22, 2019	1	RT	Total	Absent--1901857_002A		275 NE 12TH ST S10	DIST-A	1.00	Jan 25, 2019
Jan 22, 2019	1	RT	Total	Absent--1901857_001A		1690 E LANE S9	DIST-A	1.07	Jan 25, 2019

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Jan 14, 2019	1	RT	Total	Absent--1901538_005A		777 STANTON BLVD S19	DIST-A	0.88	Jan 17, 2019
Jan 14, 2019	1	RT	Total	Absent--1901538_004A		1188 SE 9TH AVE S8	DIST-A	1.11	Jan 17, 2019
Jan 14, 2019	1	RT	Total	Absent--1901538_003A		207 S OREGON ST S6	DIST-A	1.16	Jan 17, 2019
Jan 14, 2019	1	RT	Total	Absent--1901538_002A		993 S OREGON ST S5	DIST-A	1.16	Jan 17, 2019
Jan 14, 2019	1	RT	Total	Absent--1901538_001A		650 COLLEGE BLVD S4	DIST-A	1.08	Jan 17, 2019
Jan 07, 2019	1	RT	Total	Absent--1901271_005A		2546 SW 4TH AVE S2	DIST-A	0.87	Jan 10, 2019
Jan 07, 2019	1	RT	Total	Absent--1901271_004A		777 STANTON BLVD S19	DIST-A	0.73	Jan 10, 2019
Jan 07, 2019	1	RT	Total	Absent--1901271_003A		389 NW 11TH AVE S14	DIST-A	0.93	Jan 10, 2019
Jan 07, 2019	1	RT	Total	Absent--1901271_002A		1435 ALAMEDA DR S3	DIST-A	0.96	Jan 10, 2019
Jan 07, 2019	1	RT	Total	Absent--1901271_001A		1293 SW 4TH AVE S1	DIST-A	0.95	Jan 10, 2019
Dec 17, 2018	1	RT	Total	Absent--1812730_005A		ANNEX 3500 BLOCK SW 4TH S20	DIST-A	1.24	Dec 20, 2018
Dec 17, 2018	1	RT	Total	Absent--1812730_004A		777 STANTON BLVD S19	DIST-A	0.90	Dec 20, 2018
Dec 17, 2018	1	RT	Total	Absent--1812730_003A		175 NE 6TH AVE S11	DIST-A	1.45	Dec 20, 2018
Dec 17, 2018	1	RT	Total	Absent--1812730_002A		275 NE 12TH ST S10	DIST-A	1.20	Dec 20, 2018
Dec 17, 2018	1	RT	Total	Absent--1812730_001A		1690 E IDAHO S9	DIST-A	1.19	Dec 20, 2018
Dec 10, 2018	1	RT	Total	Absent--1812416_005A		777 STANTON BLVD S19	DIST-A	0.84	Dec 13, 2018
Dec 10, 2018	1	RT	Total	Absent--1812416_004A		1188 SE 9TH AVE S8	DIST-A	1.51	Dec 13, 2018
Dec 10, 2018	1	RT	Total	Absent--1812416_003A		207 S OREGON ST S6	DIST-A	1.49	Dec 13, 2018
Dec 10, 2018	1	RT	Total	Absent--1812416_002A		993 S OREGON ST S5	DIST-A	1.43	Dec 13, 2018
Dec 10, 2018	1	RT	Total	Absent--1812416_001A		650 COLLEGE BLVD S4	DIST-A	1.45	Dec 13, 2018

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Dec 03, 2018	1	RT	Total	Absent--1812080_005A		777 STANTON BLVD S19	DIST-A	0.76	Dec 06, 2018
Dec 03, 2018	1	RT	Total	Absent--1812080_004A		389 NW 11TH AVE S14	DIST-A	0.92	Dec 06, 2018
Dec 03, 2018	1	RT	Total	Absent--1812080_003A		1435 ALAMEDA DR S3	DIST-A	1.06	Dec 06, 2018
Dec 03, 2018	1	RT	Total	Absent--1812080_002A		2546 SW 4TH AVE S2	DIST-A	0.97	Dec 06, 2018
Dec 03, 2018	1	RT	Total	Absent--1812080_001A		1293 SW 4TH AVE S1	DIST-A	1.04	Dec 06, 2018
Nov 19, 2018	1	RT	Total	Absent--1811767_005A		777 STANTON BLVD S19	DIST-A	0.75	Nov 26, 2018
Nov 19, 2018	1	RT	Total	Absent--1811767_004A		195 NE 4TH ST S13	DIST-A	0.68	Nov 26, 2018
Nov 19, 2018	1	RT	Total	Absent--1811767_003A		175 NE 6TH AVE S11	DIST-A	1.30	Nov 26, 2018
Nov 19, 2018	1	RT	Total	Absent--1811767_002A		275 NE 12TH S10	DIST-A	1.14	Nov 26, 2018
Nov 19, 2018	1	RT	Total	Absent--1811767_001A		1690 E IDAHO S9	DIST-A	1.03	Nov 26, 2018
Nov 14, 2018	1	RT	Total	Absent--1811629_005A		1188 SE 9TH AVE S8	DIST-A	1.21	Nov 19, 2018

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Nov 14, 2018	1	RT	Total	Absent--1811629_004A		BLDG 650 COLLEGE BLVD S4	DIST-A	1.20	Nov 19, 2018
Nov 14, 2018	1	RT	Total	Absent--1811629_003A		207 S OREGON ST S6	DIST-A	1.13	Nov 19, 2018
Nov 14, 2018	1	RT	Total	Absent--1811629_002A		777 STANTON BLVD S19	DIST-A	0.88	Nov 19, 2018
Nov 14, 2018	1	RT	Total	Absent--1811629_001A		VAULT 993 S OREGON ST S5	DIST-A	1.16	Nov 19, 2018
Nov 05, 2018	1	RT	Total	Absent--1811180_005A		777 STANTON BLVD S19	DIST-A	0.77	Nov 09, 2018
Nov 05, 2018	1	RT	Total	Absent--1811180_004A		389 NW 11TH AVE S14	DIST-A	1.11	Nov 09, 2018
Nov 05, 2018	1	RT	Total	Absent--1811180_003A		1435 ALAMEDA DR S3	DIST-A	0.95	Nov 09, 2018
Nov 05, 2018	1	RT	Total	Absent--1811180_002A		2546 SW 4TH AVE S2	DIST-A	1.19	Nov 09, 2018
Nov 05, 2018	1	RT	Total	Absent--1811180_001A		1293 SW 4TH AVE S1	DIST-A	1.29	Nov 09, 2018
Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Oct 15, 2018	1	RT	Total	Absent--1810641_005A		3500 BLOCK SW 4TH S20	DIST-A	1.08	Oct 18, 2018
Oct 15, 2018	1	RT	Total	Absent--1810641_004A		777 STANTON BLVD S19	DIST-A	0.74	Oct 18, 2018
Oct 15, 2018	1	RT	Total	Absent--1810641_003A		175 NE 6TH AVE S11	DIST-A	1.21	Oct 18, 2018
Oct 15, 2018	1	RT	Total	Absent--1810641_002A		275 NE 12TH S10	DIST-A	1.07	Oct 18, 2018
Oct 15, 2018	1	RT	Total	Absent--1810641_001A		1690 E IDAHO S9	DIST-A	0.91	Oct 18, 2018
Oct 12, 2018	1	RP	Total	Absent--1810599_003A	1810437002	993 SOUTH OREGON ST S5 VAULT	DIST-A	1.43	Oct 15, 2018
Oct 12, 2018	1	RP	Total	Absent--1810599_002A	1810437002	959 SOUTH OREGON ST	DIST-A	1.34	Oct 15, 2018
Oct 12, 2018	1	RP	Total	Absent--1810599_001A	1810437002	70 SW 10TH AVE	DIST-A	1.40	Oct 15, 2018
Oct 09, 2018	1	RT	Total	Absent--1810437005			DIST-A	0.52	Oct 11, 2018
Oct 09, 2018	1	RT	Total	Absent--1810437004			DIST-A	1.16	Oct 11, 2018
Oct 09, 2018	1	RT	Total	Absent--1810437003			DIST-A	1.01	Oct 11, 2018
Oct 09, 2018	1	RT	Total	POSITIVE--1810437002		993 S OREGON ST #5	DIST-A	1.14	Oct 11, 2018
		RT	E.coli	Absent--1810437002		993 S OREGON ST #5	DIST-A	1.14	
Oct 09, 2018	1	RT	Total	Absent--1810437001			DIST-A	1.06	Oct 11, 2018
Oct 02, 2018	1	RT	Total	Absent--1810127_005A		777 STANTON BLVD S19	DIST-A	0.43	Oct 05, 2018
Oct 02, 2018	1	RT	Total	Absent--1810127_004A		389 NW 11TH AVE S14	DIST-A	1.01	Oct 05, 2018
Oct 02, 2018	1	RT	Total	Absent--1810127_003A		1435 ALAMEDA DR S3	DIST-A	1.18	Oct 05, 2018
Oct 02, 2018	1	RT	Total	Absent--1810127_002A		2546 SW 4TH AVE S2	DIST-A	1.14	Oct 05, 2018
Oct 02, 2018	1	RT	Total	Absent--1810127_001A		1263 SW 4TH AVE S1	DIST-A	1.16	Oct 05, 2018
Sep 18, 2018	1	RT	Total	Absent--1809864_005A		777 STANTON BLVD S19	DIST-A	0.49	Sep 21, 2018
Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Sep 18, 2018	1	RT	Total	Absent--1809864_004A		195 NE 4TH ST S13	DIST-A	0.75	Sep 21, 2018
Sep 18, 2018	1	RT	Total	Absent--1809864_003A		175 NE 6TH AVE S11	DIST-A	1.20	Sep 21, 2018
Sep 18, 2018	1	RT	Total	Absent--1809864_002A		275 NE 12TH S10	DIST-A	1.14	Sep 21, 2018
Sep 18, 2018	1	RT	Total	Absent--1809864_001A		1690 E IDAHO S9	DIST-A	0.99	Sep 21, 2018
Sep 11, 2018	1	RT	Total	Absent--1809505_005A		777 STANTON BLVD S19	DIST-A	0.49	Sep 14, 2018
Sep 11, 2018	1	RT	Total	Absent--1809505_004A		311 NW 4TH ST S16	DIST-A	0.43	Sep 14, 2018
Sep 11, 2018	1	RT	Total	Absent--1809505_003A		1188 SE 9TH AVE S8	DIST-A	1.35	Sep 14, 2018
Sep 11, 2018	1	RT	Total	Absent--1809505_002A		993 S OREGON ST S5	DIST-A	1.05	Sep 14, 2018
Sep 11, 2018	1	RT	Total	Absent--1809505_001A		605 COLLEGE BLVD S4	DIST-A	0.75	Sep 14, 2018
Sep 04, 2018	1	RT	Total	Absent--1809101_005A		777 STANTON BLVD S19	DIST-A	0.41	Sep 07, 2018
Sep 04, 2018	1	RT	Total	Absent--1809101_004A		389 NW 11TH AVE S14	DIST-A	1.02	Sep 07, 2018
Sep 04, 2018	1	RT	Total	Absent--1809101_003A		1435 ALAMEDA DR S3	DIST-A	0.85	Sep 07, 2018
Sep 04, 2018	1	RT	Total	Absent--1809101_002A		2546 SW 4TH AVE S2	DIST-A	0.77	Sep 07, 2018
Sep 04, 2018	1	RT	Total	Absent--1809101_001A		1283 SW 4TH AVE S1	DIST-A	0.63	Sep 07, 2018
Aug 27, 2018	1	RT	Total	Absent--1808D27_001A		1690 E IDAHO S9	DIST-A	1.12	Sep 04, 2018
Aug 21, 2018	1	RT	Total	Absent--1808B22_005A		777 STANTON BLVD S19	DIST-A	0.47	Aug 24, 2018
Aug 21, 2018	1	RT	Total	Absent--1808B22_004A		195 NE 4TH ST S13	DIST-A	0.84	Aug 24, 2018
Aug 21, 2018	1	RT	Total	Absent--1808B22_003A		175 NE 6TH AVE S11	DIST-A	1.26	Aug 24, 2018

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Aug 21, 2018	1	RT	Total	Absent--1808B22_002A		275 NE 12TH S10	DIST-A	1.19	Aug 24, 2018
Aug 14, 2018	1	RT	Total	Absent--1808730_005A		777 STANTON BLVD S19	DIST-A	0.50	Aug 17, 2018
Aug 14, 2018	1	RT	Total	Absent--1808730_004A		311 NW 4TH ST S16	DIST-A	0.97	Aug 17, 2018
Aug 14, 2018	1	RT	Total	Absent--1808730_003A		1188 SE 9TH AVE S8	DIST-A	0.99	Aug 17, 2018
Aug 14, 2018	1	RT	Total	Absent--1808730_002A		993 S OREGON ST S5	DIST-A	0.96	Aug 17, 2018
Aug 14, 2018	1	RT	Total	Absent--1808730_001A		605 COLLEGE BLVD S4	DIST-A	0.78	Aug 17, 2018
Aug 07, 2018	1	RT	Total	Absent--1808372_005A		777 STANTON BLVD S19	DIST-A	0.47	Aug 10, 2018
Aug 07, 2018	1	RT	Total	Absent--1808372_004A		389 NW 11TH AVE S14	DIST-A	0.70	Aug 10, 2018
Aug 07, 2018	1	RT	Total	Absent--1808372_003A		1435 ALAMEDA DR S3	DIST-A	1.03	Aug 10, 2018
Aug 07, 2018	1	RT	Total	Absent--1808372_002A		2546 SW 4TH AVE S2	DIST-A	0.84	Aug 10, 2018
Aug 07, 2018	1	RT	Total	Absent--1808372_001A		1293 SW 4TH AVE S1	DIST-A	0.96	Aug 10, 2018
Jul 17, 2018	1	RT	Total	Absent--1807834_005A		777 STANTON BLVD S19	DIST-A	0.50	Jul 20, 2018
Jul 17, 2018	1	RT	Total	Absent--1807834_004A		NE 3RD AVE S11	DIST-A	1.15	Jul 20, 2018
Jul 17, 2018	1	RT	Total	Absent--1807834_003A		195 NE 4TH ST S13	DIST-A	0.91	Jul 20, 2018
Jul 17, 2018	1	RT	Total	Absent--1807834_002A		275 NE 12TH S10	DIST-A	0.97	Jul 20, 2018
Jul 17, 2018	1	RT	Total	Absent--1807834_001A		1690 EAST LN S9	DIST-A	0.77	Jul 20, 2018
Jul 10, 2018	1	RT	Total	Absent--1807450_005A		3500 BLOCK SW 4TH S20	DIST-A	0.87	Jul 12, 2018
Jul 10, 2018	1	RT	Total	Absent--1807450_004A		777 STANTON BLVD S19	DIST-A	0.51	Jul 12, 2018
Jul 10, 2018	1	RT	Total	Absent--1807450_003A		1188 SE 9TH AVE S8	DIST-A	1.26	Jul 12, 2018
Jul 10, 2018	1	RT	Total	Absent--1807450_002A		993 S OREGON ST S5	DIST-A	0.93	Jul 12, 2018
Jul 10, 2018	1	RT	Total	Absent--1807450_001A		605 COLLEGE BLVD S4	DIST-A	1.03	Jul 12, 2018
Jul 02, 2018	1	RT	Total	Absent--1807048_005A		777 STANTON BLVD S19	DIST-A	0.41	Jul 05, 2018
Jul 02, 2018	1	RT	Total	Absent--1807048_004A		389 NW 11TH AVE S14	DIST-A	0.59	Jul 05, 2018
Jul 02, 2018	1	RT	Total	Absent--1807048_003A		1435 ALAMEDA DR S3	DIST-A	0.72	Jul 05, 2018
Jul 02, 2018	1	RT	Total	Absent--1807048_002A		2546 SW 4TH AVE S2	DIST-A	0.68	Jul 05, 2018
Jul 02, 2018	1	RT	Total	Absent--1807048_001A		1293 SW 4TH AVE S1	DIST-A	0.74	Jul 05, 2018
Jun 19, 2018	1	RT	Total	Absent--1806975_005A		3500 BLOCK SW 4TH S20	DIST-A	1.10	Jun 22, 2018
Jun 19, 2018	1	RT	Total	Absent--1806975_004A		777 STANTON BLVD S19	DIST-A	0.54	Jun 22, 2018
Jun 19, 2018	1	RT	Total	Absent--1806975_003A		195 NE 4TH ST S13	DIST-A	1.10	Jun 22, 2018
Jun 19, 2018	1	RT	Total	Absent--1806975_002A		175 NE 6TH AVE S11	DIST-A	1.31	Jun 22, 2018
Jun 19, 2018	1	RT	Total	Absent--1806975_001A		275 NE 12TH S10	DIST-A	1.09	Jun 22, 2018
Jun 12, 2018	1	RT	Total	Absent--1806612_005A		777 STANTON BLVD S19	DIST-A	0.78	Jun 15, 2018
Jun 12, 2018	1	RT	Total	Absent--1806612_004A		1690 E IDAHO S9	DIST-A	0.99	Jun 15, 2018
Jun 12, 2018	1	RT	Total	Absent--1806612_003A		1188 SE 9TH AVE S8	DIST-A	0.21	Jun 15, 2018
Jun 12, 2018	1	RT	Total	Absent--1806612_002A		993 S OREGON ST S5	DIST-A	1.14	Jun 15, 2018
Jun 12, 2018	1	RT	Total	Absent--1806612_001A		650 COLLEGE BLVD S4	DIST-A	1.22	Jun 15, 2018
Jun 05, 2018	1	RT	Total	Absent--1806232_005A		389 NW 11TH AVE S14	DIST-A	1.09	Jun 08, 2018
Jun 05, 2018	1	RT	Total	Absent--1806232_004A		1435 ALAMEDA DR S3	DIST-A	1.05	Jun 08, 2018
Jun 05, 2018	1	RT	Total	Absent--1806232_003A		1293 SW 4TH AVE S1	DIST-A	0.92	Jun 08, 2018
Jun 05, 2018	1	RT	Total	Absent--1806232_002A		2546 SW 4TH AVE S2	DIST-A	0.91	Jun 08, 2018
Jun 05, 2018	1	RT	Total	Absent--1806232_001A		777 STANTON BLVD S19	DIST-A	0.64	Jun 08, 2018
May 15, 2018	1	RT	Total	Absent--1805761_005A		3500 BLOCK SW 4TH S20	DIST-A	0.89	May 18, 2018
May 15, 2018	1	RT	Total	Absent--1805761_004A		777 STANTON BLVD S19	DIST-A	0.47	May 18, 2018
May 15, 2018	1	RT	Total	Absent--1805761_003A		175 NE 6TH AVE S11	DIST-A	0.97	May 18, 2018
May 15, 2018	1	RT	Total	Absent--1805761_002A		275 NE 12TH ST	DIST-A	0.87	May 18, 2018

May 15, 2018	1	RT	Total	Absent--1805761_001A		1690 E IDAHO S9	DIST-A	0.86	May 18, 2018
May 08, 2018	1	RT	Total	Absent--1805431_005A		207 S OREGON ST S6	DIST-A	1.17	May 11, 2018
May 08, 2018	1	RT	Total	Absent--1805431_004A		993 S OREGON ST S5	DIST-A	1.04	May 11, 2018
May 08, 2018	1	RT	Total	Absent--1805431_003A		605 COLLEGE BLVD S4	DIST-A	0.94	May 11, 2018
May 08, 2018	1	RT	Total	Absent--1805431_002A		777 STANTON BLVD S19	DIST-A	0.62	May 11, 2018
May 08, 2018	1	RT	Total	Absent--1805431_001A		1188 SE 9TH AVE S8	DIST-A	1.10	May 11, 2018
May 01, 2018	1	RT	Total	Absent--1805088_005A		777 STANTON BLVD S19	DIST-A	0.82	May 04, 2018
May 01, 2018	1	RT	Total	Absent--1805088_004A		389 NW 11TH AVE S14	DIST-A	1.14	May 04, 2018
May 01, 2018	1	RT	Total	Absent--1805088_003A		1435 ALAMEDA DR S3	DIST-A	1.23	May 04, 2018
May 01, 2018	1	RT	Total	Absent--1805088_002A		2546 SW 4TH AVE S2	DIST-A	1.29	May 04, 2018
May 01, 2018	1	RT	Total	Absent--1805088_001A		1293 SW 4TH AVE S1	DIST-A	1.19	May 04, 2018
Apr 17, 2018	1	RT	Total	Absent--1804777_007A		777 STANTON S19	DIST-A	0.84	Apr 20, 2018
Apr 17, 2018	1	RT	Total	Absent--1804777_006A		389 NW 11TH AVE S14	DIST-A	1.20	Apr 20, 2018
Apr 17, 2018	1	RT	Total	Absent--1804777_005A		195 NE 4TH ST S13	DIST-A	0.90	Apr 20, 2018
Apr 17, 2018	1	RT	Total	Absent--1804777_004A		275 NE 12TH ST S10	DIST-A	1.17	Apr 20, 2018
Apr 17, 2018	1	RT	Total	Absent--1804777_003A		207 S OREGON ST S6	DIST-A	1.30	Apr 20, 2018
Apr 17, 2018	1	RT	Total	Absent--1804777_002A		993 S OREGON ST S5	DIST-A	1.30	Apr 20, 2018

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Apr 17, 2018	1	RT	Total	Absent--1804777_001A		650 COLLEGE BLVD S4	DIST-A	1.30	Apr 20, 2018
Apr 11, 2018	1	AS	Total	Absent--1804531_002A		WELL 17 (B)	SRC-AI		Apr 16, 2018
Apr 11, 2018	1	AS	Total	Absent--1804531_001A		WELL 17 (A)	SRC-AI		Apr 16, 2018
Apr 10, 2018	1	RT	Total	Absent--1804444_008A		3500 BLOCK SW 4TH S20	DIST-A	1.38	Apr 13, 2018
Apr 10, 2018	1	RT	Total	Absent--1804444_007A		777 STANTON BLVD S19	DIST-A	0.82	Apr 13, 2018
Apr 10, 2018	1	RT	Total	Absent--1804444_006A		175 NE 6TH AVE S11	DIST-A	1.21	Apr 13, 2018
Apr 10, 2018	1	RT	Total	Absent--1804444_005A		1690 E IDAHO S9	DIST-A	1.12	Apr 13, 2018
Apr 10, 2018	1	RT	Total	Absent--1804444_004A		1188 SE 9TH AVE S8	DIST-A	1.27	Apr 13, 2018
Apr 10, 2018	1	RT	Total	Absent--1804444_003A		1435 ALAMEDA DR S3	DIST-A	1.47	Apr 13, 2018
Apr 10, 2018	1	RT	Total	Absent--1804444_002A		2546 SW 4TH AVE S2	DIST-A	1.38	Apr 13, 2018
Apr 10, 2018	1	RT	Total	Absent--1804444_001A		1283 SW 4TH AVE S1	DIST-A	1.46	Apr 13, 2018
Mar 20, 2018	1	RT	Total	Absent--1803829_005A		3500 SW 4TH AVE S20	DIST-A	1.17	Mar 23, 2018
Mar 20, 2018	1	RT	Total	Absent--1803829_004A		777 STANTON BLVD S19	DIST-A	0.79	Mar 23, 2018
Mar 20, 2018	1	RT	Total	Absent--1803829_003A		175 NE 6TH AVE S11	DIST-A	1.02	Mar 23, 2018
Mar 20, 2018	1	RT	Total	Absent--1803829_002A		275 NE 12TH S10	DIST-A	0.84	Mar 23, 2018
Mar 20, 2018	1	RT	Total	Absent--1803829_001A		1690 E IDAHO S9	DIST-A	0.84	Mar 23, 2018
Mar 13, 2018	1	RT	Total	Absent--1803565_005A		207 S OREGON ST SP 6	DIST-A	1.15	Mar 16, 2018
Mar 13, 2018	1	RT	Total	Absent--1803565_004A		1188 SE 9TH AVE SP 8	DIST-A	1.11	Mar 16, 2018
Mar 13, 2018	1	RT	Total	Absent--1803565_003A		993 S OREGON ST SP 5	DIST-A	1.08	Mar 16, 2018
Mar 13, 2018	1	RT	Total	Absent--1803565_002A		650 COLLEGE BLVD SP 4	DIST-A	1.07	Mar 16, 2018

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Mar 13, 2018	1	RT	Total	Absent--1803565_001A		777 STANTON BLVD SP 19	DIST-A	0.85	Mar 16, 2018
Mar 06, 2018	1	RT	Total	Absent--1803233_005A		2456 SW 4TH AVE SP 2	DIST-A	1.44	Mar 09, 2018
Mar 06, 2018	1	RT	Total	Absent--1803233_004A		SAMPLE POINT 14	DIST-A	1.41	Mar 09, 2018
Mar 06, 2018	1	RT	Total	Absent--1803233_003A		777 STANTON BLVD SP 19	DIST-A	0.89	Mar 09, 2018
Mar 06, 2018	1	RT	Total	Absent--1803233_002A		1435 ALAMEDA DR SP 3	DIST-A	1.41	Mar 09, 2018
Mar 06, 2018	1	RT	Total	Absent--1803233_001A		1283 SW 4TH AVE SP 1	DIST-A	1.41	Mar 09, 2018
Feb 20, 2018	1	RT	Total	Absent--1802804_005A		3500 BLOCK SW 4TH S20	DIST-A	0.93	Feb 26, 2018
Feb 20, 2018	1	RT	Total	Absent--1802804_004A		777 STANTON BLVD S19	DIST-A	0.75	Feb 26, 2018
Feb 20, 2018	1	RT	Total	Absent--1802804_003A		175 NE 2ND AVE S11	DIST-A	1.01	Feb 26, 2018
Feb 20, 2018	1	RT	Total	Absent--1802804_002A		275 NE 12TH S10	DIST-A	0.93	Feb 26, 2018

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Feb 20, 2018	1	RT	Total	Absent--1802804_001A		1690 E IDAHO S9	DIST-A	0.86	Feb 26, 2018
Feb 14, 2018	1	AS	Total	Absent--1802626_002A		WELL 17 (B)	SRC-AI		Feb 18, 2018
Feb 14, 2018	1	AS	Total	Absent--1802626_001A		WELL 17 (A)	SRC-AI		Feb 18, 2018
Feb 13, 2018	1	RT	Total	Absent--1802546_005A		777 STANTON BLVD S19	DIST-A	0.81	Feb 16, 2018
Feb 13, 2018	1	RT	Total	Absent--1802546_004A		1188 SE 9TH AVE S8	DIST-A	1.06	Feb 16, 2018
Feb 13, 2018	1	RT	Total	Absent--1802546_003A		207 S OREGON ST S6	DIST-A	0.97	Feb 16, 2018
Feb 13, 2018	1	RT	Total	Absent--1802546_002A		993 S OREGON ST S5	DIST-A	1.11	Feb 16, 2018
Feb 13, 2018	1	RT	Total	Absent--1802546_001A		605 COLLEGE BLVD S4	DIST-A	1.56	Feb 16, 2018
Feb 06, 2018	1	RT	Total	Absent--1802230_005A		777 STANTON BLVD S19	DIST-A	0.76	Feb 09, 2018
Feb 06, 2018	1	RT	Total	Absent--1802230_004A		389 NW 11TH AVE S14	DIST-A	0.99	Feb 09, 2018
Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Feb 06, 2018	1	RT	Total	Absent--1802230_003A		1435 ALAMEDA DR S3	DIST-A	1.12	Feb 09, 2018
Feb 06, 2018	1	RT	Total	Absent--1802230_002A		2546 SW 4TH AVE S2	DIST-A	1.10	Feb 09, 2018
Feb 06, 2018	1	RT	Total	Absent--1802230_001A		1283 SW 4TH AVE S1	DIST-A	1.17	Feb 09, 2018
Jan 16, 2018	1	RT	Total	Absent--1801698_005A		777 STANTON BLVD S19	DIST-A	0.68	Jan 18, 2018
Jan 16, 2018	1	RT	Total	Absent--1801698_004A		195 NE 4TH ST S13	DIST-A	1.12	Jan 18, 2018
Jan 16, 2018	1	RT	Total	Absent--1801698_003A		NE 3RD AVE S11	DIST-A	1.17	Jan 18, 2018
Jan 16, 2018	1	RT	Total	Absent--1801698_002A		275 NE 12TH S10	DIST-A	1.02	Jan 18, 2018
Jan 16, 2018	1	RT	Total	Absent--1801698_001A		1690 E IDAHO S9	DIST-A	0.81	Jan 18, 2018
Jan 09, 2018	1	RT	Total	Absent--1801397_005A		777 STANTON BLVD S19	DIST-A	0.80	Jan 12, 2018
Jan 09, 2018	1	RT	Total	Absent--1801397_004A		1188 SE 9TH AVE S8	DIST-A	0.99	Jan 12, 2018
Jan 09, 2018	1	RT	Total	Absent--1801397_003A		207 S OREGON ST S6	DIST-A	0.89	Jan 12, 2018
Jan 09, 2018	1	RT	Total	Absent--1801397_002A		993 S OREGON ST S5	DIST-A	0.98	Jan 12, 2018
Jan 09, 2018	1	RT	Total	Absent--1801397_001A		650 COLLEGE BLVD S4	DIST-A	0.90	Jan 12, 2018
Jan 02, 2018	1	RT	Total	Absent--1801059_005A		777 STANTON BLVD S19	DIST-A	0.80	Jan 05, 2018
Jan 02, 2018	1	RT	Total	Absent--1801059_004A		389 NW 11TH AVE S14	DIST-A	0.57	Jan 05, 2018
Jan 02, 2018	1	RT	Total	Absent--1801059_003A		1435 ALAMEDA DR S3	DIST-A	0.83	Jan 05, 2018
Jan 02, 2018	1	RT	Total	Absent--1801059_002A		2546 SW 4TH AVE S2	DIST-A	0.99	Jan 05, 2018
Jan 02, 2018	1	RT	Total	Absent--1801059_001A		1293 SW 4TH AVE S1	DIST-A	1.00	Jan 05, 2018
Dec 19, 2017	1	RT	Total	Absent--1712906_005A		777 STANTON BLVD S19	DIST-A	0.75	Dec 22, 2017
Dec 19, 2017	1	RT	Total	Absent--1712906_004A		311 NW 4TH ST S16	DIST-A	0.97	Dec 22, 2017
Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Dec 19, 2017	1	RT	Total	Absent--1712906_003A		175 NE 6TH AVE S11	DIST-A	1.26	Dec 22, 2017
Dec 19, 2017	1	RT	Total	Absent--1712906_002A		275 NE 12TH S10	DIST-A	1.05	Dec 22, 2017
Dec 19, 2017	1	RT	Total	Absent--1712906_001A		993 S OREGON ST S5	DIST-A	1.40	Dec 22, 2017
Dec 12, 2017	1	RT	Total	Absent--1712519_005A		1188 SE 9TH AVE S8	DIST-A	0.98	Dec 15, 2017
Dec 12, 2017	1	RT	Total	Absent--1712519_004A		650 COLLEGE BLVD S4	DIST-A	1.03	Dec 15, 2017
Dec 12, 2017	1	RT	Total	Absent--1712519_003A		3500 BLOCK SW 4TH S20	DIST-A	1.01	Dec 15, 2017
Dec 12, 2017	1	RT	Total	Absent--1712519_002A		777 STANTON BLVD S19	DIST-A	0.74	Dec 15, 2017
Dec 12, 2017	1	RT	Total	Absent--1712519_001A		1690 E IDAHO S9	DIST-A	0.77	Dec 15, 2017
Dec 05, 2017	1	RT	Total	Absent--1712192_005A		777 STANTON BLVD S19	DIST-A	0.56	Dec 08, 2017
Dec 05, 2017	1	RT	Total	Absent--1712192_004A		389 NW 11TH AVE S14	DIST-A	0.63	Dec 08, 2017
Dec 05, 2017	1	RT	Total	Absent--1712192_003A		1435 ALAMEDA DR S3	DIST-A	0.91	Dec 08, 2017
Dec 05, 2017	1	RT	Total	Absent--1712192_002A		2546 SW 4TH AVE S2	DIST-A	0.73	Dec 08, 2017
Dec 05, 2017	1	RT	Total	Absent--1712192_001A		1293 SW 4TH AVE S1	DIST-A	0.84	Dec 08, 2017
Nov 20, 2017	1	RT	Total	Absent--1711930_005A		777 STANTON BLVD S19	DIST-A	0.79	Nov 27, 2017
Nov 20, 2017	1	RT	Total	Absent--1711930_004A		389 NW 11TH AVE S14	DIST-A	0.95	Nov 27, 2017
Nov 20, 2017	1	RT	Total	Absent--1711930_003A		195 NE 4TH ST S13	DIST-A	1.16	Nov 27, 2017
Nov 20, 2017	1	RT	Total	Absent--1711930_002A		207 S OREGON ST S6	DIST-A	1.12	Nov 27, 2017

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Nov 20, 2017	1	RT	Total	Absent--1711930_001A		1283 SW 4TH AVE S1	DIST-A	1.02	Nov 27, 2017
Nov 14, 2017	1	RT	Total	Absent--1711639_005A		777 STANTON BLVD S19	DIST-A	0.91	Nov 20, 2017
Nov 14, 2017	1	RT	Total	Absent--1711639_004A		175 NE 6TH AVE S11	DIST-A	1.25	Nov 20, 2017
Nov 14, 2017	1	RT	Total	Absent--1711639_003A		275 NE 12TH S10	DIST-A	1.04	Nov 20, 2017
Nov 14, 2017	1	RT	Total	Absent--1711639_002A		1435 ALAMEDA DR S3	DIST-A	1.39	Nov 20, 2017
Nov 14, 2017	1	RT	Total	Absent--1711639_001A		2546 SW 4TH AVE S2	DIST-A	1.28	Nov 20, 2017
Nov 07, 2017	1	RT	Total	Absent--1711337_005A		3500 BLOCK SW 4TH S20	DIST-A	1.35	Nov 10, 2017
Nov 07, 2017	1	RT	Total	Absent--1711337_004A		777 STANTON BLVD S19	DIST-A	0.90	Nov 10, 2017
Nov 07, 2017	1	RT	Total	Absent--1711337_003A		1188 SE 9TH AVE S8	DIST-A	1.13	Nov 10, 2017
Nov 07, 2017	1	RT	Total	Absent--1711337_002A		993 S OREGON ST S5	DIST-A	1.36	Nov 10, 2017
Nov 07, 2017	1	RT	Total	Absent--1711337_001A		650 COLLEGE BLVD S4	DIST-A	1.38	Nov 10, 2017
Oct 17, 2017	1	RT	Total	Absent--1710773_005A		777 STANTON BLVD S19	DIST-A	0.69	Oct 20, 2017
Oct 17, 2017	1	RT	Total	Absent--1710773_004A		1435 ALAMEDA DR S14	DIST-A	0.80	Oct 20, 2017
Oct 17, 2017	1	RT	Total	Absent--1710773_003A		175 NE 16TH AVE S13	DIST-A	1.11	Oct 20, 2017
Oct 17, 2017	1	RT	Total	Absent--1710773_002A		389 NW 11TH AVE S11	DIST-A	1.18	Oct 20, 2017
Oct 17, 2017	1	RT	Total	Absent--1710773_001A		195 NE 4TH ST S3	DIST-A	1.01	Oct 20, 2017
Oct 10, 2017	1	RT	Total	Absent--1710477_005A		777 STANTON BLVD S19	DIST-A	0.54	Oct 13, 2017
Oct 10, 2017	1	RT	Total	Absent--1710477_004A		1188 SE 9TH AVE S8	DIST-A	1.11	Oct 13, 2017
Oct 10, 2017	1	RT	Total	Absent--1710477_003A		207 S OREGON ST S6	DIST-A	1.12	Oct 13, 2017
Oct 10, 2017	1	RT	Total	Absent--1710477_002A		993 S OREGON ST S5	DIST-A	1.20	Oct 13, 2017
Oct 10, 2017	1	RT	Total	Absent--1710477_001A		650 COLLEGE BLVD S4	DIST-A	1.25	Oct 13, 2017
Oct 03, 2017	1	RT	Total	Absent--1710155_005A		3500 BLOCK SW 4TH S20	DIST-A	1.04	Oct 06, 2017
Oct 03, 2017	1	RT	Total	Absent--1710155_004A		777 STANTON BLVD S19	DIST-A	0.58	Oct 06, 2017
Oct 03, 2017	1	RT	Total	Absent--1710155_003A		275 NE 12TH S10	DIST-A	0.96	Oct 06, 2017
Oct 03, 2017	1	RT	Total	Absent--1710155_002A		2546 SW 4TH AVE S2	DIST-A	0.98	Oct 06, 2017
Oct 03, 2017	1	RT	Total	Absent--1710155_001A		1283 SW 4TH AVE S1	DIST-A	1.09	Oct 06, 2017
Sep 25, 2017	1	RT	Total	Absent--1709A23_010A		777 STANTON BLVD S19	DIST-A	0.45	Sep 28, 2017
Sep 25, 2017	1	RT	Total	Absent--1709A23_009A		311 NW 4TH ST S16	DIST-A	1.22	Sep 28, 2017
Sep 25, 2017	1	RT	Total	Absent--1709A23_008A		389 NW 11TH AVE S14	DIST-A	0.96	Sep 28, 2017
Sep 25, 2017	1	RT	Total	Absent--1709A23_007A		195 NE 4TH ST S13	DIST-A	1.12	Sep 28, 2017
Sep 25, 2017	1	RT	Total	Absent--1709A23_006A		175 NE 6TH AVE S11	DIST-A	1.24	Sep 28, 2017
Sep 25, 2017	1	RT	Total	Absent--1709A23_005A		275 NE 12TH S10	DIST-A	1.12	Sep 28, 2017
Sep 25, 2017	1	RT	Total	Absent--1709A23_004A		1188 SE 9TH AVE S8	DIST-A	0.96	Sep 28, 2017
Sep 25, 2017	1	RT	Total	Absent--1709A23_003A		207 S OREGON ST S6	DIST-A	1.24	Sep 28, 2017
Sep 25, 2017	1	RT	Total	Absent--1709A23_002A		650 COLLEGE BLVD S4	DIST-A	1.17	Sep 28, 2017
Sep 25, 2017	1	RT	Total	Absent--1709A23_001A		1435 ALAMEDA DR S3	DIST-A	1.21	Sep 28, 2017
Sep 06, 2017	1	RT	Total	Absent--1709209_005A		3500 BLOCK SW 4TH AVE S20	DIST-A	0.95	Sep 11, 2017
Sep 06, 2017	1	RT	Total	Absent--1709209_004A		777 STANTON BLVD S19	DIST-A	0.33	Sep 11, 2017
Sep 06, 2017	1	RT	Total	Absent--1709209_003A		650 COLLEGE BLVD S4	DIST-A	1.04	Sep 11, 2017
Sep 06, 2017	1	RT	Total	Absent--1709209_002A		2546 SW 4TH AVE S2	DIST-A	1.03	Sep 11, 2017
Sep 06, 2017	1	RT	Total	Absent--1709209_001A		1283 SW 4TH AVE S1	DIST-A	1.07	Sep 11, 2017
Aug 22, 2017	1	RT	Total	Absent--1708A55_005A		777 STANTON BLVD S19	DIST-A	0.24	Aug 25, 2017
Aug 22, 2017	1	RT	Total	Absent--1708A55_004A		311 NW 4TH ST S16	DIST-A	0.81	Aug 25, 2017
Aug 22, 2017	1	RT	Total	Absent--1708A55_003A		195 NE 4TH ST S13	DIST-A	0.91	Aug 25, 2017
Aug 22, 2017	1	RT	Total	Absent--1708A55_002A		207 S OREGON ST S6	DIST-A	1.04	Aug 25, 2017

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Aug 22, 2017	1	RT	Total	Absent--1708A55_001A		1188 SE 9TH AVE S8	DIST-A	0.97	Aug 25, 2017
Aug 15, 2017	1	RT	Total	Absent--1708772_005A		3500 BLOCK SW 4TH S20	DIST-A	0.88	Aug 18, 2017
Aug 15, 2017	1	RT	Total	Absent--1708772_004A		777 STANTON BLVD S19	DIST-A	0.20	Aug 18, 2017
Aug 15, 2017	1	RT	Total	Absent--1708772_003A		175 NE 6TH AVE S11	DIST-A	1.00	Aug 18, 2017
Aug 15, 2017	1	RT	Total	Absent--1708772_002A		275 NE 12TH S10	DIST-A	0.93	Aug 18, 2017
Aug 15, 2017	1	RT	Total	Absent--1708772_001A		1435 ALAMEDA DR S3	DIST-A	0.99	Aug 18, 2017
Aug 08, 2017	1	RT	Total	Absent--1708422_005A		777 STANTON BLVD S19	DIST-A	0.39	Aug 11, 2017
Aug 08, 2017	1	RT	Total	Absent--1708422_004A		389 NW 11TH AVE S14	DIST-A	0.51	Aug 11, 2017
Aug 08, 2017	1	RT	Total	Absent--1708422_003A		1435 ALAMEDA DR S3	DIST-A	0.91	Aug 11, 2017
Aug 08, 2017	1	RT	Total	Absent--1708422_002A		2546 SW 4TH AVE S2	DIST-A	0.90	Aug 11, 2017
Aug 08, 2017	1	RT	Total	Absent--1708422_001A		1283 SW 4TH AVE S1	DIST-A	0.87	Aug 11, 2017
Jul 18, 2017	1	RT	Total	Absent--1707776_005A		3500 BLOCK SW 4TH S20	DIST-A	1.01	Jul 24, 2017
Jul 18, 2017	1	RT	Total	Absent--1707776_004A		777 STANTON BLVD S19	DIST-A	0.30	Jul 24, 2017
Jul 18, 2017	1	RT	Total	Absent--1707776_003A		1690 E IDAHO S9	DIST-A	0.93	Jul 24, 2017
Jul 18, 2017	1	RT	Total	Absent--1707776_002A		207 S OREGON ST S6	DIST-A	1.15	Jul 24, 2017
Jul 18, 2017	1	RT	Total	Absent--1707776_001A		993 S OREGON ST S5	DIST-A	1.19	Jul 24, 2017
Jul 11, 2017	1	RT	Total	Absent--1707419_005A		777 STANTON BLVD S19	DIST-A	0.49	Jul 14, 2017
Jul 11, 2017	1	RT	Total	Absent--1707419_004A		175 NE 6TH AVE S11	DIST-A	0.78	Jul 14, 2017
Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Jul 11, 2017	1	RT	Total	Absent--1707419_003A		275 NE 12TH S10	DIST-A	0.64	Jul 14, 2017
Jul 11, 2017	1	RT	Total	Absent--1707419_002A		1188 SE 9TH AVE S8	DIST-A	0.82	Jul 14, 2017
Jul 11, 2017	1	RT	Total	Absent--1707419_001A		650 COLLEGE BLVD S4	DIST-A	0.72	Jul 14, 2017
Jul 05, 2017	1	RT	Total	Absent--1707135_005A		777 STANTON BLVD S19	DIST-A	0.33	Jul 10, 2017
Jul 05, 2017	1	RT	Total	Absent--1707135_004A		389 NW 11TH AVE S14	DIST-A	0.83	Jul 10, 2017
Jul 05, 2017	1	RT	Total	Absent--1707135_003A		1435 ALAMEDA DR S3	DIST-A	0.74	Jul 10, 2017
Jul 05, 2017	1	RT	Total	Absent--1707135_002A		2546 SW 4TH AVE S2	DIST-A	0.74	Jul 10, 2017
Jul 05, 2017	1	RT	Total	Absent--1707135_001A		1283 SW 4TH AVE S1	DIST-A	0.70	Jul 10, 2017
Jun 20, 2017	1	RT	Total	Absent--1706916_005A		777 STANTON BLVD S19	DIST-A	0.35	Jun 23, 2017
Jun 20, 2017	1	RT	Total	Absent--1706916_004A		195 NE 4TH ST S13	DIST-A	1.12	Jun 23, 2017
Jun 20, 2017	1	RT	Total	Absent--1706916_003A		175 NE 6TH AVE S11	DIST-A	1.14	Jun 23, 2017
Jun 20, 2017	1	RT	Total	Absent--1706916_002A		275 NE 12TH S10	DIST-A	1.07	Jun 23, 2017
Jun 20, 2017	1	RT	Total	Absent--1706916_001A		1690 E IDAHO S9	DIST-A	1.01	Jun 23, 2017
Jun 13, 2017	1	RT	Total	Absent--1706620_005A		777 STANTON BLVD S19	DIST-A	0.42	Jun 16, 2017
Jun 13, 2017	1	RT	Total	Absent--1706620_004A		1188 SE 9TH AVE S8	DIST-A	1.13	Jun 16, 2017
Jun 13, 2017	1	RT	Total	Absent--1706620_003A		207 S OREGON ST S6	DIST-A	1.14	Jun 16, 2017
Jun 13, 2017	1	RT	Total	Absent--1706620_002A		993 S OREGON ST S5	DIST-A	0.85	Jun 16, 2017
Jun 13, 2017	1	RT	Total	Absent--1706620_001A		605 COLLEGE BLVD S4	DIST-A	0.80	Jun 16, 2017
Jun 05, 2017	1	RT	Total	Absent--1706196_005A		777 STANTON BLVD S19	DIST-A	0.57	Jun 09, 2017
Jun 05, 2017	1	RT	Total	Absent--1706196_004A		389 NW 11TH AVE S14	DIST-A	0.96	Jun 09, 2017
Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Jun 05, 2017	1	RT	Total	Absent--1706196_003A		1435 ALAMEDA DR S3	DIST-A	0.81	Jun 09, 2017
Jun 05, 2017	1	RT	Total	Absent--1706196_002A		2546 SW 4TH AVE S2	DIST-A	0.72	Jun 09, 2017
Jun 05, 2017	1	RT	Total	Absent--1706196_001A		1283 SW 4TH AVE S1	DIST-A	0.61	Jun 09, 2017
May 15, 2017	1	RT	Total	Absent--1705634_005A		3500 BLOCK SW 4TH S20	DIST-A	1.00	May 18, 2017
May 15, 2017	1	RT	Total	Absent--1705634_004A		777 STANTON BLVD S19	DIST-A	0.78	May 18, 2017
May 15, 2017	1	RT	Total	Absent--1705634_003A		175 NE 6TH AVE S11	DIST-A	0.97	May 18, 2017
May 15, 2017	1	RT	Total	Absent--1705634_002A		275 NE 12TH S10	DIST-A	1.03	May 18, 2017
May 15, 2017	1	RT	Total	Absent--1705634_001A		1690 E IDAHO S9	DIST-A	0.94	May 18, 2017
May 09, 2017	1	RT	Total	Absent--1705412_005A		777 STANTON BLVD S19	DIST-A	0.69	May 12, 2017

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
May 09, 2017	1	RT	Total	Absent--1705412_004A		1188 SE 9TH AVE S8	DIST-A	1.15	May 12, 2017
May 09, 2017	1	RT	Total	Absent--1705412_003A		207 S OREGON ST S6	DIST-A	1.20	May 12, 2017
May 09, 2017	1	RT	Total	Absent--1705412_002A		993 S OREGON ST S5	DIST-A	1.10	May 12, 2017
May 09, 2017	1	RT	Total	Absent--1705412_001A		650 COLLEGE BLVD S4	DIST-A	1.09	May 12, 2017
May 02, 2017	1	RT	Total	Absent--1705128_005A		777 STANTON BLVD S19	DIST-A	1.05	May 05, 2017
May 02, 2017	1	RT	Total	Absent--1705128_004A		389 NW 11TH AVE S14	DIST-A	1.28	May 05, 2017
May 02, 2017	1	RT	Total	Absent--1705128_003A		1435 ALAMEDA DR S3	DIST-A	1.28	May 05, 2017
May 02, 2017	1	RT	Total	Absent--1705128_002A		2546 SW 4TH AVE S2	DIST-A	1.27	May 05, 2017
May 02, 2017	1	RT	Total	Absent--1705128_001A		1293 SW 4TH AVE S1	DIST-A	1.46	May 05, 2017
Apr 18, 2017	1	RT	Total	Absent--1704696_005A		3500 BLOCK SW 4TH S20	DIST-A	1.26	Apr 21, 2017
Apr 18, 2017	1	RT	Total	Absent--1704696_004A		777 STANTON BLVD S19	DIST-A	1.22	Apr 21, 2017
Apr 18, 2017	1	RT	Total	Absent--1704696_003A		175 NE 6TH AVE S11	DIST-A	1.33	Apr 21, 2017
Apr 18, 2017	1	RT	Total	Absent--1704696_002A		275 NE 12TH S10	DIST-A	1.26	Apr 21, 2017
Apr 18, 2017	1	RT	Total	Absent--1704696_001A		1690 E IDAHO S9	DIST-A	1.11	Apr 21, 2017
Apr 11, 2017	1	RT	Total	Absent--1704415_005A		777 STANTON BLVD S19	DIST-A	1.22	Apr 14, 2017
Apr 11, 2017	1	RT	Total	Absent--1704415_004A		389 NW 11TH AVE S14	DIST-A	1.58	Apr 14, 2017
Apr 11, 2017	1	RT	Total	Absent--1704415_003A		1435 ALAMEDA DR S3	DIST-A	1.68	Apr 14, 2017
Apr 11, 2017	1	RT	Total	Absent--1704415_002A		2546 SW 4TH AVE S2	DIST-A	1.58	Apr 14, 2017
Apr 11, 2017	1	RT	Total	Absent--1704415_001A		1283 SW 4TH AVE S1	DIST-A	1.22	Apr 14, 2017
Apr 04, 2017	1	RT	Total	Absent--1704105_005A		777 STANTON BLVD S19	DIST-A	1.26	Apr 07, 2017
Apr 04, 2017	1	RT	Total	Absent--1704105_004A		1188 SE 9TH AVE S8	DIST-A	1.73	Apr 07, 2017
Apr 04, 2017	1	RT	Total	Absent--1704105_003A		207 S OREGON ST S6	DIST-A	1.68	Apr 07, 2017
Apr 04, 2017	1	RT	Total	Absent--1704105_002A		993 S OREGON ST S5	DIST-A	1.65	Apr 07, 2017
Apr 04, 2017	1	RT	Total	Absent--1704105_001A		650 COLLEGE BLVD S4	DIST-A	1.72	Apr 07, 2017
Mar 21, 2017	1	RT	Total	Absent--1703864_005A		777 STANTON BLVD S19	DIST-A	1.25	Mar 24, 2017
Mar 21, 2017	1	RT	Total	Absent--1703864_004A		195 NE 4TH ST S13	DIST-A	2.20	Mar 24, 2017
Mar 21, 2017	1	RT	Total	Absent--1703864_003A		175 NE 6TH AVE S11	DIST-A	2.20	Mar 24, 2017
Mar 21, 2017	1	RT	Total	Absent--1703864_002A		275 NE 12TH S10	DIST-A	1.85	Mar 24, 2017
Mar 21, 2017	1	RT	Total	Absent--1703864_001A		1690 E IDAHO S9	DIST-A	1.59	Mar 24, 2017
Mar 14, 2017	1	RT	Total	Absent--1703563_005A		777 STANTON BLVD S19	DIST-A	1.07	Mar 17, 2017
Mar 14, 2017	1	RT	Total	Absent--1703563_004A		1188 SE 9TH AVE S8	DIST-A	1.52	Mar 17, 2017
Mar 14, 2017	1	RT	Total	Absent--1703563_003A		207 S OREGON ST S6	DIST-A	1.55	Mar 17, 2017
Mar 14, 2017	1	RT	Total	Absent--1703563_002A		993 S OREGON ST S5	DIST-A	1.37	Mar 17, 2017
Mar 14, 2017	1	RT	Total	Absent--1703563_001A		605 COLLEGE BLVD S4	DIST-A	1.34	Mar 17, 2017
Mar 07, 2017	1	RT	Total	Absent--1703296_005A		1435 ALAMEDA DR S3	DIST-A	1.48	Mar 10, 2017
Mar 07, 2017	1	RT	Total	Absent--1703296_004A		1283 SW 4TH AVE S1	DIST-A	1.44	Mar 10, 2017
Mar 07, 2017	1	RT	Total	Absent--1703296_003A		2546 SW 4TH AVE S2	DIST-A	1.36	Mar 10, 2017
Mar 07, 2017	1	RT	Total	Absent--1703296_002A		777 STANTON BLVD S19	DIST-A	1.07	Mar 10, 2017
Mar 07, 2017	1	RT	Total	Absent--1703296_001A		389 NW 11TH AVE S14	DIST-A	1.22	Mar 10, 2017
Feb 21, 2017	1	RT	Total	Absent--1702903_005A		777 STANTON BLVD S19	DIST-A	0.66	Feb 24, 2017
Feb 21, 2017	1	RT	Total	Absent--1702903_004A		195 NE 4TH ST S13	DIST-A	1.22	Feb 24, 2017
Feb 21, 2017	1	RT	Total	Absent--1702903_003A		175 NE 6TH AVE S11	DIST-A	1.26	Feb 24, 2017
Feb 21, 2017	1	RT	Total	Absent--1702903_002A		275 NE 12TH S10	DIST-A	1.20	Feb 24, 2017
Feb 21, 2017	1	RT	Total	Absent--1702903_001A		1690 E IDAHO S9	DIST-A	1.25	Feb 24, 2017
Feb 15, 2017	1	RT	Total	Absent--1702711_005A		3500 BLOCK SW 4TH S20	DIST-A	1.08	Feb 17, 2017
Feb 15, 2017	1	RT	Total	Absent--1702711_004A		777 STANTON BLVD S19	DIST-A	0.71	Feb 17, 2017
Feb 15, 2017	1	RT	Total	Absent--1702711_003A		311 NW 4TH ST S16	DIST-A	1.07	Feb 17, 2017

Sample Date	# Samples	Sample Type	Coliform Type	Results--ID	Repeat of Sample ID	Sample Site	Facility	Cl Residual	Receive Date
Feb 15, 2017	1	RT	Total	Absent--1702711_002A		1188 SE 9TH AVE S8	DIST-A	1.21	Feb 17, 2017
Feb 15, 2017	1	RT	Total	Absent--1702711_001A		605 COLLEGE BLVD S4	DIST-A	1.08	Feb 17, 2017
Feb 07, 2017	1	RT	Total	Absent--1702321_005A		777 STANTON BLVD S19	DIST-A	1.02	Feb 10, 2017
Feb 07, 2017	1	RT	Total	Absent--1702321_004A		389 NW 11TH AVE S14	DIST-A	1.03	Feb 10, 2017
Feb 07, 2017	1	RT	Total	Absent--1702321_003A		1435 ALAMEDA DR S3	DIST-A	0.87	Feb 10, 2017
Feb 07, 2017	1	RT	Total	Absent--1702321_002A		2546 SW 4TH AVE S2	DIST-A	1.08	Feb 10, 2017
Feb 07, 2017	1	RT	Total	Absent--1702321_001A		1283 SW 4TH AVE S1	DIST-A	1.03	Feb 10, 2017
Jan 25, 2017	1	RT	Total	Absent--1701829_004A		3500 BLOCK SW 4TH S20	DIST-A	1.23	Jan 30, 2017
Jan 25, 2017	1	RT	Total	Absent--1701829_003A		175 NE 6TH AVE S11	DIST-A	1.56	Jan 30, 2017
Jan 25, 2017	1	RT	Total	Absent--1701829_002A		275 NE 12TH S10	DIST-A	1.41	Jan 30, 2017
Jan 25, 2017	1	RT	Total	Absent--1701829_001A		1188 SE 9TH AVE S8	DIST-A	1.39	Jan 30, 2017
Jan 24, 2017	1	RT	Total	Absent--1701773_003A		175 NE 6TH AVE S11	DIST-A	1.49	Jan 27, 2017
Jan 24, 2017	1	RT	Total	Absent--1701773_002A		1690 E IDAHO S9	DIST-A	1.19	Jan 27, 2017
Jan 24, 2017	1	RT	Total	Absent--1701773_001A		1283 SW 4TH AVE S1	DIST-A	1.43	Jan 27, 2017
Jan 17, 2017	1	RT	Total	Absent--1701531_008A		3500 BLOCK SW 4TH AVE	DIST-A	1.59	Jan 20, 2017
Jan 17, 2017	1	RT	Total	Absent--1701531_007A		777 STANTON BLVD S19	DIST-A	1.40	Jan 20, 2017
Jan 17, 2017	1	RT	Total	Absent--1701531_006A		389 NW 11TH AVE S14	DIST-A	1.43	Jan 20, 2017
Jan 17, 2017	1	RT	Total	Absent--1701531_005A		275 NE 12TH S10	DIST-A	1.49	Jan 20, 2017
Jan 17, 2017	1	RT	Total	Absent--1701531_004A		1188 SE 9TH AVE S8	DIST-A	1.51	Jan 20, 2017
Jan 17, 2017	1	RT	Total	Absent--1701531_003A		650 COLLEGE BLVD S4	DIST-A	1.61	Jan 20, 2017
Jan 17, 2017	1	RT	Total	Absent--1701531_002A		1435 ALAMEDA DR S3	DIST-A	1.34	Jan 20, 2017
Jan 17, 2017	1	RT	Total	Absent--1701531_001A		2546 SW 4TH AVE S2	DIST-A	1.49	Jan 20, 2017

Recent Batch Numbers

Click here to show results prior to 2017
Click here to show results prior to 2002 (opens a different page)

Sample Types: AS=Assessment, CO=Confirmation, MU=Make-up, RP=Repeat, RT=Routine, SP=Special, TG=Triggered. Show special samples

Lead and Copper Results

PWS ID: 00587 ---- ONTARIO, CITY OF

Lead and Copper Compliance Actions

- No lead and copper schedules found.

Action Levels: Lead = 0.015 mg/L; Copper = 1.3 mg/L

All detailed results

Lead and Copper 90th Percentile Summary Results and Consumer Notices*

Sample Dates	Date Received	Sample Count	Duration	Lead (mg/L)	Copper (mg/L)	Consumer Notice Date*
Jan 08, 2018 - Jan 12, 2018	Jan 26, 2018	62	6M	0.0000	0.2720	02/15/2018
Jul 10, 2017 - Jul 31, 2017	Aug 15, 2017	60	6M	0.0022	0.1460	08/15/2017
Aug 14, 2014 - Aug 20, 2014		30	3Y	0.0015	0.2130	
Aug 14, 2014 - Aug 20, 2014		30	3Y	0.0015	0.2130	
Aug 29, 2011 - Aug 30, 2011	Sep 29, 2011	30	3Y	0.0017	0.2000	
Aug 26, 2008 - Aug 28, 2008	Oct 02, 2008	31	3Y	0.0010	0.1500	
Jul 13, 2005 - Aug 10, 2005	Sep 08, 2005	31	3Y	0.0020	0.2030	
Sep 04, 2002 - Sep 04, 2002	Oct 17, 2002	23	3Y	0.0020	0.1500	
Jan 01, 2001 - Oct 03, 2001	Dec 11, 2001	30	YR	0.0020	0.1800	
Jan 01, 2000 - Aug 29, 2000	Sep 12, 2000	30	YR	0.0020	0.3100	
Jan 01, 1998 - Jul 24, 1998	Mar 17, 1999	30	YR	0.0020	0.1100	
Jan 01, 1996 - Sep 18, 1997	Jan 09, 1998	30	YR	0.0000	0.3400	
Jan 01, 1996 - Dec 19, 1996	Feb 21, 1997	30	YR	**0.0180**	0.2300	
Jan 01, 1995 - Aug 25, 1995	Feb 16, 1996	30	YR	0.0000	0.2400	
Jan 01, 1994 - Aug 30, 1994	Jan 01, 1995	30	YR	0.0000	0.2400	
Jul 01, 1993 - Jul 01, 1993	Jul 30, 1993	60	6M	0.0060	0.3400	
Jan 01, 1993 - Feb 28, 1993	Mar 29, 1993	60	6M	0.0000	0.2700	

*Consumer notice date is the date water customers were notified of their tap results. Consumer notice records are not available prior to 2016.

Disinfection By-Product Results

Bromate Monitoring Requirements :: DBP Monitoring Schedules :: Excel Spreadsheet

PWS ID: 00587 ---- ONTARIO, CITY OF

Disinfection By-Product (DBP) Monitoring Samples

ND = Not Detected at the Minimum Reporting Level; -- = Not Sampled

Sample ID	Sample Date	Receive Date	Sample Point	Location	TTHM (mg/L) MCL = 0.080	HAA5 (mg/L) MCL = 0.060	Bromate (mg/L)	Notes
200409501-D	04/01/20	04/15/20	2DBP-01	SITE 1- WWTP	0.0311000	0.0147000	--	
200409502-D	04/01/20	04/15/20	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0258000	0.0105000	--	
200409503-D	04/01/20	04/15/20	2DBP-03	SITE 3 - HEINZ (#11)	0.0211000	0.0086300	--	
200409504-D	04/01/20	04/15/20	2DBP-04	SITE 4 -SRCI (#19)	0.0321000	0.0161000	--	
2001021701A-D	01/02/20	01/20/20	2DBP-01	SITE 1- WWTP	0.0257000	--	--	
2001021701B-D	01/02/20	01/20/20	2DBP-01	SITE 1- WWTP	--	0.0108000	--	
2001021702A-D	01/02/20	01/20/20	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0250000	--	--	
2001021702B-D	01/02/20	01/20/20	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0105000	--	
2001021703A-D	01/02/20	01/20/20	2DBP-03	SITE 3 - HEINZ (#11)	0.0192000	--	--	
2001021703B-D	01/02/20	01/20/20	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0031300	--	
2001021704A-D	01/02/20	01/20/20	2DBP-04	SITE 4 -SRCI (#19)	0.0313000	--	--	
2001021704B-D	01/02/20	01/20/20	2DBP-04	SITE 4 -SRCI (#19)	--	0.0142000	--	
191019101-D	10/02/19	10/23/19	2DBP-01	SITE 1- WWTP	0.0545000	0.0235000	--	
191019102-D	10/02/19	10/23/19	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0458000	0.0179000	--	
191019103-D	10/02/19	10/23/19	2DBP-03	SITE 3 - HEINZ (#11)	0.0409000	0.0158000	--	
191019104-D	10/02/19	10/23/19	2DBP-04	SITE 4 -SRCI (#19)	--	0.0242000	--	
1910027004A-D	10/02/19	10/15/19	2DBP-04	SITE 4 -SRCI (#19)	**0.0814000**	--	--	
1908015001-D	07/31/19	08/19/19	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0421000	--	
1907072001-D	07/01/19	08/01/19	2DBP-01	SITE 1- WWTP	0.0781000	0.0351000	--	
1907072002-D	07/01/19	08/01/19	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0730000	--	--	
1907072003-D	07/01/19	08/01/19	2DBP-03	SITE 3 - HEINZ (#11)	0.0592000	0.0257000	--	
1907072004-D	07/01/19	08/01/19	2DBP-04	SITE 4 -SRCI (#19)	0.0748000	0.0325000	--	
1904259001-D	04/03/19	05/07/19	2DBP-01	SITE 1- WWTP	0.0420000	0.0112000	--	
1904259002-D	04/03/19	05/07/19	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0331000	0.0091200	--	
1904259003-D	04/03/19	05/07/19	2DBP-03	SITE 3 - HEINZ (#11)	0.0288000	0.0080000	--	
1904259004-D	04/03/19	05/07/19	2DBP-04	SITE 4 -SRCI (#19)	0.0446000	0.0122000	--	
1901073001-D	01/02/19	01/16/19	2DBP-01	SITE 1- WWTP	0.0257000	0.0119000	--	
1901073002-D	01/02/19	01/16/19	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0239000	0.0110000	--	
1901073003-D	01/02/19	01/16/19	2DBP-03	SITE 3 - HEINZ (#11)	0.0195000	0.0193000	--	
1901073004-D	01/02/19	01/16/19	2DBP-04	SITE 4 -SRCI (#19)	0.0354000	0.0141000	--	
1810223001-D	10/03/18	10/16/18	2DBP-01	SITE 1- WWTP	0.0464000	0.0261000	--	
1810223002-D	10/03/18	10/16/18	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0326000	0.0170000	--	
1810223003-D	10/03/18	10/16/18	2DBP-03	SITE 3 - HEINZ (#11)	0.0265000	0.0147000	--	
1810223004-D	10/03/18	10/16/18	2DBP-04	SITE 4 -SRCI (#19)	0.0645000	0.0232000	--	
1807835001-D	07/17/18	08/03/18	2DBP-01	SITE 1- WWTP	0.0681000	0.0258000	--	
1807835002-D	07/17/18	08/03/18	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0463000	0.0200000	--	
1807835003-D	07/17/18	08/03/18	2DBP-03	SITE 3 - HEINZ (#11)	0.0403000	0.0169000	--	
1807835004-D	07/17/18	08/03/18	2DBP-04	SITE 4 -SRCI (#19)	0.0712000	0.0260000	--	
1804047001-D	04/02/18	04/18/18	2DBP-01	SITE 1- WWTP	0.0333000	0.0228000	--	
1804047002-D	04/02/18	04/18/18	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0284000	0.0192000	--	
1804047003-D	04/02/18	04/18/18	2DBP-03	SITE 3 - HEINZ (#11)	0.0258000	0.0168000	--	
1804047004-D	04/02/18	04/18/18	2DBP-04	SITE 4 -SRCI (#19)	0.0374000	0.0197000	--	
1801150001-D	01/04/18	01/17/18	2DBP-01	SITE 1- WWTP	0.0323000	0.0178000	--	
1801150002-D	01/03/18	01/17/18	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0253000	0.0143000	--	
1801150003-D	01/03/18	01/17/18	2DBP-03	SITE 3 - HEINZ (#11)	0.0208000	0.0091800	--	
1801150004-D	01/03/18	01/17/18	2DBP-04	SITE 4 -SRCI (#19)	0.0309000	0.0164000	--	
1710253001-D	10/04/17	10/19/17	2DBP-01	SITE 1- WWTP	0.0481000	0.0227000	--	
1710253002-D	10/04/17	10/19/17	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0361000	0.0168000	--	
1710253003-D	10/04/17	10/19/17	2DBP-03	SITE 3 - HEINZ (#11)	0.0331000	0.0175000	--	
1710253004-D	10/04/17	10/19/17	2DBP-04	SITE 4 -SRCI (#19)	0.0599000	0.0236000	--	
1707197001-D	07/06/17	07/21/17	2DBP-01	SITE 1- WWTP	0.0778000	0.0440000	--	

1707197002-D	07/06/17	07/21/17	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0754000	0.0443000	--
1707197003-D	07/06/17	07/21/17	2DBP-03	SITE 3 - HEINZ (#11)	0.0752000	0.0421000	--
1707197004-D	07/06/17	07/21/17	2DBP-04	SITE 4 -SRCI (#19)	**0.0827000**	0.0473000	--
1704177001A-D	04/05/17	04/19/17	2DBP-01	SITE 1- WWTP	0.0447000	--	--
1704177001B-D	04/05/17	04/19/17	2DBP-01	SITE 1- WWTP	--	0.0296000	--
1704177002A-D	04/05/17	04/19/17	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0314000	--	--
1704177002B-D	04/05/17	04/19/17	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0194000	--
1704177003A-D	04/05/17	04/19/17	2DBP-03	SITE 3 - HEINZ (#11)	0.0350000	--	--
1704177003B-D	04/05/17	04/19/17	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0233000	--
1704177004A-D	04/05/17	04/19/17	2DBP-04	SITE 4 -SRCI (#19)	0.0418000	--	--
1704177004B-D	04/05/17	04/19/17	2DBP-04	SITE 4 -SRCI (#19)	--	0.0285000	--
1701120001A-D	01/05/17	01/20/17	2DBP-01	SITE 1- WWTP	0.0293000	--	--
1701120001B-D	01/05/17	01/20/17	2DBP-01	SITE 1- WWTP	--	0.0143000	--
1701120002A-D	01/05/17	01/20/17	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0269000	--	--
1701120002B-D	01/05/17	01/20/17	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0137000	--
1701120003A-D	01/05/17	01/20/17	2DBP-03	SITE 3 - HEINZ (#11)	0.0241000	--	--
1701120003B-D	01/05/17	01/20/17	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0134000	--
1701120004A-D	01/05/17	01/20/17	2DBP-04	SITE 4 -SRCI (#19)	0.0356000	--	--
1701120004B-D	01/05/17	01/20/17	2DBP-04	SITE 4 -SRCI (#19)	--	0.0163000	--
1610211001A-D	10/05/16	10/20/16	2DBP-01	SITE 1- WWTP	0.0717000	--	--
1610211001B-D	10/05/16	10/20/16	2DBP-01	SITE 1- WWTP	--	0.0323000	--
1610211002A-D	10/05/16	10/20/16	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0418000	--	--
1610211002B-D	10/05/16	10/20/16	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0193000	--
1610211003A-D	10/05/16	10/20/16	2DBP-03	SITE 3 - HEINZ (#11)	0.0385000	--	--
1610211003B-D	10/05/16	10/20/16	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0175000	--
1610211004A-D	10/05/16	10/20/16	2DBP-04	SITE 4 -SRCI (#19)	0.0712000	--	--
1610211004B-D	10/05/16	10/20/16	2DBP-04	SITE 4 -SRCI (#19)	--	0.0243000	--
1607226001B-D	07/06/16	07/28/16	2DBP-01	SITE 1- WWTP	--	0.0406000	--
1607226001A-D	07/06/16	07/26/16	2DBP-01	SITE 1- WWTP	0.0655000	--	--
1607226002A-D	07/06/16	07/26/16	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0563000	--	--
1607226002B-D	07/06/16	07/28/16	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0383000	--
1607226003B-D	07/06/16	07/28/16	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0326000	--
1607226003A-D	07/06/16	07/26/16	2DBP-03	SITE 3 - HEINZ (#11)	0.0526000	--	--
1607226004A-D	07/06/16	07/26/16	2DBP-04	SITE 4 -SRCI (#19)	**0.0813000**	--	--
1607226004B-D	07/06/16	07/28/16	2DBP-04	SITE 4 -SRCI (#19)	--	0.0294000	--
1604360001A-D	04/07/16	04/26/16	2DBP-01	SITE 1- WWTP	0.0497000	--	--
1604360001B-D	04/07/16	04/26/16	2DBP-01	SITE 1- WWTP	--	0.0223000	--
1604360002A-D	04/07/16	04/26/16	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0320000	--	--
1604360002B-D	04/07/16	04/26/16	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0145000	--
1604360003A-D	04/07/16	04/26/16	2DBP-03	SITE 3 - HEINZ (#11)	0.0271000	--	--
1604360003B-D	04/07/16	04/26/16	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0143000	--
1604360004A-D	04/07/16	04/26/16	2DBP-04	SITE 4 -SRCI (#19)	0.0497000	--	--
1604360004B-D	04/07/16	04/26/16	2DBP-04	SITE 4 -SRCI (#19)	--	0.0206000	--
1601170001A-D	01/06/16	01/22/16	2DBP-01	SITE 1- WWTP	0.0270000	--	--
1601170001B-D	01/06/16	01/22/16	2DBP-01	SITE 1- WWTP	--	0.0072900	--
1601170002A-D	01/06/16	01/22/16	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0273000	--	--
1601170002B-D	01/06/16	01/22/16	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0077300	--
1601170003A-D	01/06/16	01/22/16	2DBP-03	SITE 3 - HEINZ (#11)	0.0225000	--	--
1601170003B-D	01/06/16	01/22/16	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0066500	--
1601170004A-D	01/06/16	01/22/16	2DBP-04	SITE 4 -SRCI (#19)	0.0389000	--	--
1601170004B-D	01/06/16	01/22/16	2DBP-04	SITE 4 -SRCI (#19)	--	0.0141000	--
1510294001A-D	10/07/15	10/16/15	2DBP-01	SITE 1- WWTP	0.0525000	--	--
1510294001B-D	10/07/15	10/16/15	2DBP-01	SITE 1- WWTP	--	0.0166000	--
1510294002A-D	10/07/15	10/16/15	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0354000	--	--
1510294002B-D	10/07/15	10/16/15	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0103000	--
1510294003A-D	10/07/15	10/16/15	2DBP-03	SITE 3 - HEINZ (#11)	0.0317000	--	--
1510294003B-D	10/07/15	10/16/15	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0087000	--
1510294004A-D	10/07/15	10/16/15	2DBP-04	SITE 4 -SRCI (#19)	0.0588000	--	--

1510294004B-D	10/07/15	10/16/15	2DBP-04	SITE 4 -SRCI (#19)	--	0.0143000	--
1504693001A-D	04/15/15	05/05/15	2DBP-01	SITE 1- WWTP	0.0474000	--	--
1504693001B-D	04/15/15	05/05/15	2DBP-01	SITE 1- WWTP	--	0.0204000	--
1504693002A-D	04/15/15	05/05/15	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0352000	--	--
1504693002B-D	04/15/15	05/05/15	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0164000	--
1504693003A-D	04/15/15	05/05/15	2DBP-03	SITE 3 - HEINZ (#11)	0.0359000	--	--
1504693003B-D	04/15/15	05/05/15	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0170000	--
1504693004A-D	04/15/15	05/05/15	2DBP-04	SITE 4 -SRCI (#19)	0.0458000	--	--
1504693004B-D	04/15/15	05/05/15	2DBP-04	SITE 4 -SRCI (#19)	--	0.0201000	--
1501679001A-D	01/21/15	02/06/15	2DBP-01	SITE 1- WWTP	0.0256000	--	--
1501679001B-D	01/21/15	02/06/15	2DBP-01	SITE 1- WWTP	--	0.0038300	--
1501679002A-D	01/21/15	02/06/15	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0211000	--	--
1501679002B-D	01/21/15	02/06/15	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	ND	--
1501679003A-D	01/21/15	02/09/15	2DBP-03	SITE 3 - HEINZ (#11)	0.0236000	--	--
1501679003B-D	01/21/15	02/06/15	2DBP-03	SITE 3 - HEINZ (#11)	--	ND	--
1501679004A-D	01/21/15	02/06/15	2DBP-04	SITE 4 -SRCI (#19)	0.0313000	--	--
1501679004B-D	01/21/15	02/06/15	2DBP-04	SITE 4 -SRCI (#19)	--	0.0037700	--
1410B51001A-D	10/28/14	11/12/14	2DBP-01	SITE 1- WWTP	0.0548000	--	--
1410B51001B-D	10/28/14	11/12/14	2DBP-01	SITE 1- WWTP	--	0.0262000	--
1410B51002A-D	10/28/14	11/12/14	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0294000	--	--
1410B51002B-D	10/28/14	11/12/14	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0088600	--
1410B51003A-D	10/28/14	11/12/14	2DBP-03	SITE 3 - HEINZ (#11)	0.0261000	--	--
1410B51003B-D	10/28/14	11/12/14	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0082100	--
1410B51004A-D	10/28/14	11/12/14	2DBP-04	SITE 4 -SRCI (#19)	0.0496000	--	--
1410B51004B-D	10/28/14	11/12/14	2DBP-04	SITE 4 -SRCI (#19)	--	0.0267000	--
140774801-D	07/24/14	08/13/14	2DBP-01	SITE 1- WWTP	0.0791000	--	--
140774802-D	07/24/14	08/13/14	2DBP-01	SITE 1- WWTP	--	0.0382000	--
140774803-D	07/24/14	08/13/14	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0699000	--	--
140774804-D	07/24/14	08/13/14	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0371000	--
140774805-D	07/24/14	08/13/14	2DBP-03	SITE 3 - HEINZ (#11)	0.0690000	--	--
140774806-D	07/24/14	08/13/14	2DBP-03	SITE 3 - HEINZ (#11)	--	0.0287000	--
140774807-D	07/24/14	08/13/14	2DBP-04	SITE 4 -SRCI (#19)	0.0780000	--	--
140774808-D	07/24/14	08/13/14	2DBP-04	SITE 4 -SRCI (#19)	--	0.0337000	--
140604003001-D	06/02/14	06/25/14	2DBP-01	SITE 1- WWTP	0.0666000	0.0460000	--
140604003003-D	06/02/14	06/25/14	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0514000	0.0348000	--
140604003002-D	06/02/14	06/25/14	2DBP-03	SITE 3 - HEINZ (#11)	0.0494000	0.0324000	--
140604003004-D	06/02/14	06/25/14	2DBP-04	SITE 4 -SRCI (#19)	0.0708000	0.0432000	--
140123027002-D	01/22/14	02/18/14	2DBP-01	SITE 1- WWTP	0.0332000	0.0161000	--
140123027001-D	01/22/14	02/18/14	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0258000	0.0126000	--
140123027004-D	01/22/14	02/18/14	2DBP-03	SITE 3 - HEINZ (#11)	0.0198000	0.0106000	--
140123027003-D	01/22/14	02/18/14	2DBP-04	SITE 4 -SRCI (#19)	0.0370000	0.0171000	--
131023022002-D	10/22/13	11/18/13	2DBP-01	SITE 1- WWTP	0.0667000	0.0156000	--
131023022004-D	10/22/13	11/18/13	2DBP-02	SITE 2 - MOTEL 6 (#10)	0.0585000	0.0243000	--
131023022003-D	10/22/13	11/18/13	2DBP-03	SITE 3 - HEINZ (#11)	0.0319000	0.0168000	--
131023022001-D	10/22/13	11/18/13	2DBP-04	SITE 4 -SRCI (#19)	0.0549000	0.0249000	--
130830016001-D	08/28/13	09/23/13	DBP01	EASTSIDE RESERVOIR	0.0506000	0.0251000	--
130830016002-D	08/28/13	09/23/13	DBP02	ORE/IDA HEINZ	0.0531000	0.0265000	--
130830016003-D	08/28/13	09/23/13	DBP03	WESTSIDE RESERVOIR	0.0601000	0.0287000	--
130830016004-D	08/28/13	09/23/13	DBPMAX01	PRISON-SRCI	0.0796000	0.0362000	--
130425029003-D	04/24/13	05/17/13	DBP01	EASTSIDE RESERVOIR	0.0313000	0.0155000	--
130425029002-D	04/24/13	05/17/13	DBP02	ORE/IDA HEINZ	0.0327000	0.0162000	--
130425029004-D	04/24/13	05/17/13	DBP03	WESTSIDE RESERVOIR	0.0359000	0.0177000	--
130425029001-D	04/24/13	05/17/13	DBPMAX01	PRISON-SRCI	0.0509000	0.0233000	--
130307022001-D	03/06/13	04/08/13	DBP01	EASTSIDE RESERVOIR	0.0220000	0.0095700	--
130307022002-D	03/06/13	04/08/13	DBP02	ORE/IDA HEINZ	0.0220000	0.0097400	--
130307022003-D	03/06/13	04/08/13	DBP03	WESTSIDE RESERVOIR	0.0258000	0.0099600	--
130307022004-D	03/06/13	04/08/13	DBPMAX01	PRISON-SRCI	0.0383000	0.0132000	--
121011017004-D	10/10/12	11/07/12	DBP01	EASTSIDE RESERVOIR	0.0341000	0.0133000	--

121011017001-D	10/10/12	11/07/12	DBP02	ORE/IDA HEINZ	0.0357000	0.0133000	--
121011017003-D	10/10/12	11/07/12	DBP03	WESTSIDE RESERVOIR	0.0376000	0.0136000	--
121011017002-D	10/10/12	11/07/12	DBPMAX01	PRISON-SRCI	0.0653000	0.0164000	--
120719018004-D	07/18/12	08/01/12	DBP01	EASTSIDE RESERVOIR	0.0531000	0.0214000	--
120719018001-D	07/18/12	08/01/12	DBP02	ORE/IDA HEINZ	0.0544000	0.0216000	--
120719018003-D	07/18/12	08/01/12	DBP03	WESTSIDE RESERVOIR	0.0549000	0.0226000	--
120719018002-D	07/18/12	08/01/12	DBPMAX01	PRISON-SRCI	**0.0834000**	0.0295000	--
120516027003-D	05/15/12	06/11/12	DBP01	EASTSIDE RESERVOIR	0.0377000	0.0213000	--
120516027004-D	05/15/12	06/11/12	DBP02	ORE/IDA HEINZ	0.0388000	0.0235000	--
120516027001-D	05/15/12	06/11/12	DBP03	WESTSIDE RESERVOIR	0.0384000	0.0236000	--
120516027002-D	05/15/12	06/11/12	DBPMAX01	PRISON-SRCI	0.0598000	0.0312000	--
120202016003-D	02/01/12	02/21/12	DBP01	EASTSIDE RESERVOIR	0.0301000	0.0156000	--
120202016004-D	02/01/12	02/21/12	DBP02	ORE/IDA HEINZ	0.0313000	0.0155000	--
120202016002-D	02/01/12	02/21/12	DBP03	WESTSIDE RESERVOIR	0.0304000	0.0136000	--
120202016001-D	02/01/12	02/21/12	DBPMAX01	PRISON-SRCI	0.0375000	0.0133000	--
111103035001-D	11/02/11	11/18/11	DBP01	EASTSIDE RESERVOIR	0.0323000	0.0146000	--
111103035003-D	11/02/11	11/18/11	DBP02	ORE/IDA HEINZ	0.0330000	0.0146000	--
111103035002-D	11/02/11	11/18/11	DBP03	WESTSIDE RESERVOIR	0.0409000	0.0167000	--
111103035004-D	11/02/11	11/18/11	DBPMAX01	PRISON-SRCI	0.0656000	0.0244000	--
110720027001-D	07/19/11	08/15/11	DBP01	EASTSIDE RESERVOIR	0.0516000	0.0250000	--
110720027003-D	07/19/11	08/15/11	DBP02	ORE/IDA HEINZ	0.0534000	0.0250000	--
110720027002-D	07/19/11	08/15/11	DBP03	WESTSIDE RESERVOIR	0.0497000	0.0247000	--
110720027004-D	07/19/11	08/15/11	DBPMAX01	PRISON-SRCI	0.0773000	0.0411000	--
110413015001-D	04/12/11	05/02/11	DBP01	EASTSIDE RESERVOIR	0.0318000	0.0165000	--
110413015004-D	04/12/11	05/02/11	DBP02	ORE/IDA HEINZ	0.0336000	0.0171000	--
110413015002-D	04/12/11	05/02/11	DBP03	WESTSIDE RESERVOIR	0.0370000	0.0176000	--
110413015003-D	04/12/11	05/02/11	DBPMAX01	PRISON-SRCI	0.0492000	0.0203000	--
101217041001-D	12/14/10	01/07/11	DBP01	EASTSIDE RESERVOIR	0.0260000	0.0076000	--
101217041003-D	12/14/10	01/07/11	DBP02	ORE/IDA HEINZ	0.0264000	0.0075500	--
101217041002-D	12/14/10	01/07/11	DBP03	WESTSIDE RESERVOIR	0.0278000	0.0078600	--
101217041004-D	12/14/10	01/07/11	DBPMAX01	PRISON-SRCI	0.0416000	0.0115000	--
100916018001-D	09/14/10	10/05/10	DBP01	EASTSIDE RESERVOIR	0.0448000	0.0208000	--
100916018003-D	09/14/10	10/05/10	DBP02	ORE/IDA HEINZ	0.0450000	0.0205000	--
100916018004-D	09/14/10	10/05/10	DBP03	WESTSIDE RESERVOIR	0.0495000	0.0228000	--
100916018002-D	09/14/10	10/05/10	DBPMAX01	PRISON-SRCI	**0.0825000**	0.0268000	--
100513023002-D	05/12/10	06/09/10	DBP01	EASTSIDE RESERVOIR	0.0311000	0.0155000	--
100513023003-D	05/12/10	06/09/10	DBP02	ORE/IDA HEINZ	0.0325000	0.0161000	--
100513023001-D	05/12/10	06/09/10	DBP03	WESTSIDE RESERVOIR	0.0380000	0.0173000	--
100513023004-D	05/12/10	06/09/10	DBPMAX01	PRISON-SRCI	0.0552000	0.0229000	--
091028028001	10/27/09	11/19/09	DBP01	EASTSIDE RESERVOIR	0.0431000	0.0164000	--
091028028004	10/27/09	11/19/09	DBP02	ORE/IDA HEINZ	0.0525000	0.0191000	--
091028028002	10/27/09	11/19/09	DBP03	WESTSIDE RESERVOIR	0.0481000	0.0180000	--
091028028003	10/27/09	11/19/09	DBPMAX01	PRISON-SRCI	0.0680000	0.0244000	--
090805028001	08/03/09	08/21/09	DBP01	EASTSIDE RESERVOIR	0.0596000	0.0207000	--
090805028003	08/03/09	08/21/09	DBP02	ORE/IDA HEINZ	0.0607000	0.0216000	--
090805028002	08/03/09	08/21/09	DBP03	WESTSIDE RESERVOIR	0.0647000	0.0218000	--
090805028004	08/03/09	08/21/09	DBPMAX01	PRISON-SRCI	**0.1060000**	0.0340000	--
090505028001	04/30/09	06/03/09	DBP01	EASTSIDE RESERVOIR	0.0236000	0.0119000	--
09050502803	04/30/09	06/03/09	DBP02	ORE/IDA HEINZ	0.0247000	0.0114000	--
090505028002	04/30/09	06/03/09	DBP03	WESTSIDE RESERVOIR	0.0267000	0.0124000	--
090505028004	04/30/09	06/03/09	DBPMAX01	PRISON-SRCI	0.0404000	0.0159000	--
090122017003	01/21/09	02/05/09	DBP01	EASTSIDE RESERVOIR	0.0154000	0.0056500	--
090122017001	01/21/09	02/05/09	DBP02	ORE/IDA HEINZ	0.0272000	0.0081100	--
090122017002	01/21/09	02/05/09	DBP03	WESTSIDE RESERVOIR	0.0175000	0.0061800	--
090122017004	01/21/09	02/05/09	DBPMAX01	PRISON-SRCI	0.0287000	0.0087300	--
081022037002	10/21/08	11/14/08	DBP01	EASTSIDE RESERVOIR	0.0318000	0.0132000	--
081022037003	10/21/08	11/14/08	DBP02	ORE/IDA HEINZ	0.0332000	0.0134000	--
081022037001	10/21/08	11/14/08	DBP03	WESTSIDE RESERVOIR	0.0311000	0.0119000	--

081022037004	10/21/08	11/14/08	DBPMAX01	PRISON-SRCI	0.0556000	0.0239000	--	
080813044001	08/12/08	09/02/08	DBP01	EASTSIDE RESERVOIR	0.0779000	0.0388000	--	
080813044003	08/12/08	09/02/08	DBP02	ORE/IDA HEINZ	0.0397000	0.0229000	--	
080813044002	08/12/08	09/02/08	DBP03	WESTSIDE RESERVOIR	0.0508000	0.0279000	--	
080813044004	08/12/08	09/02/08	DBPMAX01	PRISON-SRCI	0.0402000	0.0218000	--	
080430004001	04/29/08	06/05/08	DBP01	EASTSIDE RESERVOIR	0.0371000	0.0117000	--	
080430004003	04/29/08	06/05/08	DBP02	ORE/IDA HEINZ	0.0373000	0.0120000	--	
080430004002	04/29/08	06/05/08	DBP03	WESTSIDE RESERVOIR	0.0373000	0.0116000	--	
080430004004	04/29/08	06/05/08	DBPMAX01	PRISON-SRCI	0.0508000	0.0147000	--	
080306031003-D	03/05/08	04/03/08	DBP01	EASTSIDE RESERVOIR	0.0203000	0.0065700	--	
080306031004-D	03/05/08		DBP02	ORE/IDA HEINZ	0.0217000	--	--	
080306031004-D	03/05/08	04/03/08	DBP02	ORE/IDA HEINZ	--	0.0067000	--	
080306031002-D	03/05/08	04/03/08	DBP03	WESTSIDE RESERVOIR	0.0247000	0.0066700	--	
080306031001-D	03/05/08	04/03/08	DBPMAX01	PRISON-SRCI	0.0361000	0.0103000	--	
071218015004	12/17/07	01/10/08	DBP01	EASTSIDE RESERVOIR	0.0158000	0.0059000	--	
071218015002	12/17/07	01/10/08	DBP02	ORE/IDA HEINZ	0.0160000	0.0056700	--	
071218015003	12/17/07	01/10/08	DBP03	WESTSIDE RESERVOIR	0.0196000	0.0078400	--	
071218015001	12/17/07	01/10/08	DBPMAX01	PRISON-SRCI	0.0328000	0.0117000	--	
070918033005	09/12/07	10/24/07	DBP01	EASTSIDE RESERVOIR	0.0296000	0.0139000	--	
070918033004	09/12/07	10/24/07	DBP02	ORE/IDA HEINZ	0.0331000	0.0147000	--	
070918033006	09/12/07	10/24/07	DBP03	WESTSIDE RESERVOIR	0.0372000	0.0166000	--	
070918033003	09/12/07	10/24/07	DBPMAX01	PRISON-SRCI	0.0626000	0.0249000	--	
070416024003	04/11/07	05/02/07	DBP01	EASTSIDE RESERVOIR	0.0400000	0.0090000	--	
070416024004	04/11/07	05/02/07	DBP02	ORE/IDA HEINZ	0.0422000	0.0090000	--	
070416024001	04/11/07	05/02/07	DBP03	WESTSIDE RESERVOIR	0.0369000	0.0080000	--	
070416024002	04/11/07	05/02/07	DBPMAX01	PRISON-SRCI	0.0574000	0.0110000	--	
070223010003	02/21/07	03/12/07	DBP01	EASTSIDE RESERVOIR	0.0339000	0.0080000	--	
070223010004	02/21/07	03/12/07	DBP02	ORE/IDA HEINZ	0.0243000	0.0070000	--	
070223010002	02/21/07	03/12/07	DBP03	WESTSIDE RESERVOIR	0.0218000	0.0060000	--	
070223010001	02/21/07	03/12/07	DBPMAX01	PRISON-SRCI	0.0322000	0.0090000	--	
06D2580-01	12/13/06	01/29/07	DBP01	EASTSIDE RESERVOIR	0.0174000	0.0050000	--	
06D2580-04	12/13/06	01/29/07	DBP02	ORE/IDA HEINZ	0.0170000	0.0050000	--	
06D2580-02	12/13/06	01/29/07	DBP03	WESTSIDE RESERVOIR	0.0217000	0.0050000	--	
06D2580-03	12/13/06	01/29/07	DBPMAX01	PRISON-SRCI	0.0358000	0.0070000	--	
06D1905-03	09/20/06	10/26/06	DBP01	EASTSIDE RESERVOIR	0.0393000	0.0140000	--	
06D1905-04	09/20/06	10/26/06	DBP02	ORE/IDA HEINZ	0.0434000	0.0160000	--	
06D1905-02	09/20/06	10/26/06	DBP03	WESTSIDE RESERVOIR	0.0459000	0.0140000	--	
06D1905-01	09/20/06	10/26/06	DBPMAX01	PRISON-SRCI	0.0777000	0.0070000	--	
06D0666-01	05/10/06	06/12/06	DBP01	EASTSIDE RESERVOIR	0.0425000	0.0190000	--	
06D0666-03	05/10/06	06/12/06	DBP02	ORE/IDA HEINZ	0.0447000	0.0210000	--	
06D0666-02	05/10/06	06/12/06	DBP03	WESTSIDE RESERVOIR	0.0472000	0.0240000	--	
06D0666-04	05/10/06	06/12/06	DBPMAX01	PRISON-SRCI	0.0701000	0.0380000	--	
06D0307-01	03/08/06	03/29/06	DBP02	ORE/IDA HEINZ	0.0322000	0.0130000	--	
06D0235-02	02/15/06	03/16/06	A		0.0186000	0.0080000	--	- Not sampled at approved location
06D0235-04	02/15/06	03/16/06	DBP01	EASTSIDE RESERVOIR	0.0365000	0.0120000	--	
06D0235-03	02/15/06	03/16/06	DBP03	WESTSIDE RESERVOIR	0.0384000	0.0140000	--	
06D0235-01	02/15/06	03/16/06	DBPMAX01	PRISON-SRCI	0.0502000	0.0170000	--	
1601170002B-D	01/06/06	01/22/16	2DBP-02	SITE 2 - MOTEL 6 (#10)	--	0.0077300	--	
05D2082-04	11/09/05	12/05/05	DBP01	EASTSIDE RESERVOIR	0.0585000	0.0130000	--	
05D2082-02	11/09/05	12/05/05	DBP02	ORE/IDA HEINZ	0.0660000	0.0140000	--	
05D2082-01	11/09/05	12/05/05	DBP03	WESTSIDE RESERVOIR	0.0316000	0.0130000	--	
05D2082-03	11/09/05	12/05/05	DBPMAX01	PRISON-SRCI	**0.0831000**	0.0150000	--	
05D1234-02	07/27/05	08/26/05	DBP01	EASTSIDE RESERVOIR	0.0546000	0.0250000	--	
05D1234-01	07/27/05	08/26/05	DBP02	ORE/IDA HEINZ	0.0335000	0.0270000	--	
05D1234-03	07/27/05	08/26/05	DBP03	WESTSIDE RESERVOIR	0.0633000	0.0250000	--	
05D1234-04	07/27/05	08/26/05	DBPMAX01	PRISON-SRCI	**0.1090000**	0.0320000	--	

05D0459-01	04/11/05	04/28/05	DBP01	EASTSIDE RESERVOIR	0.0359000	0.0140000	--
05D0459-04	04/11/05	04/28/05	DBP02	ORE/IDA HEINZ	0.0388000	0.0150000	--
05D0459-02	04/11/05	04/28/05	DBP03	WESTSIDE RESERVOIR	0.0394000	0.0150000	--
05D0459-03	04/11/05	04/28/05	DBPMAX01	PRISON-SRCI	0.0434000	0.0150000	--
05D0197-02	02/15/05	03/14/05	DBP01	EASTSIDE RESERVOIR	0.0211000	0.0100000	--
05D0197-04	02/15/05	03/14/05	DBP02	ORE/IDA HEINZ	0.0222000	0.0090000	--
05D0197-01	02/15/05	03/14/05	DBP03	WESTSIDE RESERVOIR	0.0231000	0.0100000	--
05D0197-03	02/15/05	03/14/05	DBPMAX01	PRISON-SRCI	0.0333000	0.0130000	--
04D2285-03	12/06/04	12/22/04	DBP02	ORE/IDA HEINZ	0.0224000	0.0090000	--
04D2285-04	12/06/04	12/22/04	DBP03	WESTSIDE RESERVOIR	0.0221000	0.0110000	--
04D1363-01	08/16/04	09/17/04	DBPMAX01	PRISON-SRCI	**0.0913000**	0.0380000	--
04D1144-01	07/27/04	08/08/05	DBP01	EASTSIDE RESERVOIR	0.0657000	0.0220000	--
04D1144-03	07/27/04	08/08/05	DBP02	ORE/IDA HEINZ	0.0604000	0.0370000	--
04D1144-04	07/27/04	08/08/05	DBP03	WESTSIDE RESERVOIR	0.0693000	0.0390000	--
04D1144-02	07/27/04	08/08/05	DBPMAX01	PRISON-SRCI	**0.0912000**	0.0470000	--
04D0517-02	04/27/04	08/08/05	DBP01	EASTSIDE RESERVOIR	0.0616000	0.0210000	--
04D0517-01	04/27/04	08/08/05	DBP02	ORE/IDA HEINZ	0.0622000	0.0210000	--
04D0517-04	04/27/04	08/08/05	DBP03	WESTSIDE RESERVOIR	0.0579000	0.0180000	--
04D0517-03	04/27/04	08/08/05	DBPMAX01	PRISON-SRCI	0.0744000	0.0230000	--
C244601	11/12/03	12/04/03	DBP01	EASTSIDE RESERVOIR	0.0280000	0.0123000	--
C244603	11/12/03	12/04/03	DBP02	ORE/IDA HEINZ	0.0265000	0.0120000	--
C244602	11/12/03	12/04/03	DBP03	WESTSIDE RESERVOIR	0.0288000	0.0138000	--
C244604	11/12/03	12/04/03	DBPMAX01	PRISON-SRCI	0.0450000	0.0169000	--
C169201	07/21/03	09/17/03	DBP01	EASTSIDE RESERVOIR	0.0528000	0.0338000	--
C169203	07/21/03	09/17/03	DBP02	ORE/IDA HEINZ	0.0598000	0.0323000	--
C169202	07/21/03	09/17/03	DBP03	WESTSIDE RESERVOIR	0.0658000	0.0404000	--
C198101	07/21/03	09/17/03	DBPMAX01	PRISON-SRCI	0.0628000	0.0395000	--
875101	01/13/03	02/21/03	DBP01	EASTSIDE RESERVOIR	0.0197000	0.0082000	--
875103	01/13/03	02/21/03	DBP02	ORE/IDA HEINZ	0.0193000	0.0082000	--
875102	01/13/03	02/21/03	DBP03	WESTSIDE RESERVOIR	0.0200000	0.0087000	--
875104	01/13/03	02/21/03	DBPMAX01	PRISON-SRCI	0.0311000	0.0118000	--
834703	10/16/02	11/06/02	DBP01	EASTSIDE RESERVOIR	0.0258000	0.0154000	--
834702	10/16/02	11/06/02	DBP02	ORE/IDA HEINZ	0.0300000	0.0146000	--
834704	10/16/02	11/06/02	DBP03	WESTSIDE RESERVOIR	0.0219000	0.0154000	--
834701	10/16/02	11/06/02	DBPMAX01	PRISON-SRCI	0.0507000	0.0117000	--
793601	08/05/02	09/16/02	DBPMAX01	PRISON-SRCI	0.0692000	--	--
775701	07/09/02	09/16/02	DBP01	EASTSIDE RESERVOIR	0.0608000	0.0150000	--
775704	07/09/02	09/16/02	DBP02	ORE/IDA HEINZ	0.0608000	0.0205000	--
775702	07/09/02	09/16/02	DBP03	WESTSIDE RESERVOIR	0.0606000	0.0356000	--
775703	07/09/02	09/16/02	DBPMAX01	PRISON-SRCI	--	0.0217000	--

APPENDIX C
2017 Sanitary Survey

PUBLIC HEALTH DIVISION
Drinking Water Services
Kate Brown, Governor

Oregon Health Authority

800 SE Emigrant Ave., Suite 240
Pendleton, OR 97801
(541) 276-8006
FAX (541) 276-4778
www.healthoregon.org/dwp

August 8, 2017

Kim Lord
City of Ontario
1900 SE 5th Av
Ontario, OR 97914

RE: Water System Survey, City of Ontario, PWS #4100587

Dear Kim:

Thanks are in order for: yourself, Randy Bartlett, Cliff Leeper, Casey Mordhorst, and Betsy Roberts you for everyone's time and assistance in conducting a **Water System Survey at City of Ontario on June 15, 2017**. The main purpose of the survey is to evaluate the entire water system in terms of supplying safe drinking water to the public. I have enclosed a copy of the report for your records. Please let me know if any corrections need to be made.

Water system facilities were found to be well operated and maintained by knowledgeable and competent staff.

The first page of the report lists significant deficiencies and rule violations in the system that will have to be corrected as soon as possible. **You must submit a written corrective action plan describing how and when the deficiencies/violations will be corrected by Sept 26, 2017.** Once the deficiencies and rule violations are corrected, you will need to send written verification that they have been corrected and the dates of correction.

The significant deficiencies and rule violations noted are as follows:

1. **No continuous chlorine analyzer with a low level alarm at the entry point to the distribution system after the Eastside reservoirs 3A and 3B, as required by Oregon Administrative Rule (OAR) 333-061-0036(5)(b)(D) and 333-061-0076(4)(a)(B) for systems serving greater than 3,300 persons.** Ensure that the chlorine residual of the water entering the distribution system after the Eastside reservoirs at the Eastside booster

pump station is monitored continuously with a low level alarm or auto dial call-out to the operator. Continue to record chlorine residual measurements taken daily at the Westside booster pump station to continue to verify that you maintain a minimum chlorine residual of 0.2 milligrams per liter where the water enters the distribution system at these locations.

2. **Not using contact time for disinfection from a DWS-approved tracer study, as required by OAR 333-061-0076(4)(d)(C). This significant deficiency occurring from April 1 through April 13, 2017 when Eastside reservoir 3B was being bypassed, has been resolved as DWS has verified that you began using a contact or detention time for disinfection on April 14, 2017 that has been approved by DWS in a May 11, 2016 correspondence for both reservoirs 3A and 3B in operation.** Contact DWS in the future before one of the Eastside reservoirs is bypassed for assistance, so we can review and approve a contact time derivation for this scenario. The formula used during this period did not incorporate a baffling efficiency factor of the reservoir, which may be able to be calculated from the results of tracer study for this bypass scenario. The baffling factor may be derived from the contact time through the reservoir, subtracting any contact time in plug flow conditions through the transmission pipeline, the peak hourly flow leaving the reservoir, and minimum volume of the reservoir. Once the baffling factor of the reservoir has been determined through the tracer study results, contact time may be calculated given this figure, the peak hourly demand flow, and minimum reservoir volume for the day. It is noted this item has already been addressed by the City.

In addition, I have the following comments and recommendations:

1. Drinking Water Services (DWS) has established criteria for determining whether a system should be considered to have "outstanding performance." Systems that are designated outstanding performers may have their water system survey frequency reduced from every 3 years to every 5 years. Although your water system did not meet the established criteria, please review the enclosed handout to see what steps you can take in the future towards receiving this designation.

2. DWS strongly recommends that you measure filtered total organic carbon (TOC) immediately after your filters prior to the two plants merging into the clearwell, quarterly for a period of twelve months, in addition to the filtered TOC samples taken quarterly from the blend of the two plants inside the clearwell. Monitor combined filter effluent-CFE TOC from the new Westech plant and alternate monitoring each of the two individual filter effluent-IFE's TOC from the old plant, as the old plant's filters dump directly into the clearwell. Determine if these pre-clearwell TOC samples (four from new plant and two from each IFE for the old plant) continue to meet <u>both</u> the following:

   - the alternative compliance criteria for enhanced coagulation and enhanced softening of filtered TOC less than 2.0 milligrams per liter (mg/L) as a running annual average; and

- the criteria for a reduction to quarterly raw TOC and alkalinity, and filtered TOC monitoring, of filtered TOC less than 2.0 mg/L for two consecutive years or less than 1.0 mg/L for one year.

You may take grab samples from the turbidimeter overflows if there is no grab sample tap, and determine if you find the information useful and wish to continue the sampling for more than 12 months. Filtered TOC monitoring is required to determine if each plant's filters are reducing TOC, a disinfection byproduct precursor, adequately, or if the filter plant needs to be enhanced to meet the treatment technique requirement.

3. In addition to monitoring clearwell effluent peak flow through the Eastside transmission line to ensure that the flows simulated during the tracer study are not exceeded by 10%, monitor the peak flow (or pumping flow) at the Eastside booster pump station, to ensure that the flow leaving the Eastside reservoirs does not exceed these flows simulated during the tracer study. Verify the DWS-calculated 3,924 gpm and 2,970 gpm flows leaving the Eastside reservoirs during the high and low flow tracer study tests, respectively. These are determined from the contact time measured, the peak clearwell flow, and change in Eastside reservoir volume during the study, assuming common level in both reservoirs.

4. I have attached the Oregon optimization goals for both of your water treatment plants to this letter. These turbidity goals for settled, filtered, and post-backwash water are established to assist conventional and direct filtration plants to optimize particulate and associated pathogen removal.

5. Verify whether the maximum value that the individual (IFE) and (CFE) turbidimeter controllers at both plants can record is 1.0 NTU. If so, consider increasing this value to above 5.49 NTU, the maximum contaminant level (MCL) for the combined filter effluent, at which a boil water notice would automatically be required. If the CFE meter at the new plant, or the IFE meters at the old plant 'peg out' at the maximum level of 1.0 NTU, you would not know if the MCL was exceeded, and a boil water notice for high turbidity may be required.

6. I have attached a post-backwash filter turbidity profile example to this letter. Consider expanding the SCADA print-outs of the post-backwash period to more easily analyze the backwash, filter-to-waste, and return to service turbidity values and durations for all four of your filters.

7. During the survey you asked about the upcoming Friday, September 8th, 2017, conventional and direct filtration one-day training in Keizer (Salem area) that DWS offers. See:http://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/OPERATIONS/TREATMENT/Pages/index.aspx

   or the attachment for information on registering for this free training and other resources for conventional filtration plants like yours.

8. DWS supports your efforts to obtain National Sanitation Foundation (NSF) Standard 60 documentation on the containers for all of your treatment plant chemicals including aluminum chlorohydrate, polymer, and ferric chloride, to supplement the NSF Standard 60 paperwork you maintain in the office for all chemicals.

9. Filtration endorsement is an additional classification that applies to water treatment plants with a Treatment 2 requirement. Your water system is classified as requiring a Treatment 3 certification, therefore a filtration endorsement is not needed for your operators.

10. It is noted that Casey Mordhorst and Randy Bartlett meet the minimum certification requirements to be listed as the DRC's. The City is working with Tony Fields, Manager of the Protection, Planning and Certification Unit, on the needed finalization for this designation on DWS' end.

11. A summary of your monitoring requirements can be found on page 21. Please maintain a copy of this page and refer to it for future monitoring scheduling.

If you have any questions or concerns, or would like this in an alternate format, please contact me at 541-966-0901, or James Nusrala at (971) 673-0459, or james.b.nusrala@state.or.us. Your cooperation is appreciated.

Sincerely,

Amy Ward

Drinking Water Specialist
Drinking Water Program

cc: Portland file copy
encl: Oregon Area Wide Optimization Goals
Example Filter Backwash Turbidity Profile
DWS Conventional and Direct Filtration Training Information

Deficiency Summary

Surveyor: Amy Word / James Nusrala

Date Corrective Action Plan is due: September 26, 2017 **County:** Malheur

Yes	No	Significant Deficiencies and Rule Violations:	Date to be corrected	Date corrected
☐	☒	**Source:**		
		Well construction:		
		Spring/other source:		
☒	☐	**Treatment:**		
		Surface water treatment: No continuous chlorine analyzer with low level alarm at entry point after Eastside reservoirs 3A/3B-OAR 333-061-0036(5)(b)(D).	9/26/17	
		Disinfection: Not using contact time from DWS-approved tracer study.	6/15/17	6/15/17
		Other treatment:		
☐	☒	**Finished Water Storage:**		
☐	☒	**Distribution:**		
☐	☒	**Monitoring:**		
☐	☒	**Management & Operations:**		
☐	☒	**Operator Certification:**		
☐	☒	**Other Rule Violations:**		

Comments:

☐ **Source Deficiencies:**

Well Construction Deficiencies:
- ☐⊕ Sanitary seal and casing not watertight
- ☐⊕ Does not meet setbacks from hazards
- ☐⊕ Wellhead not protected from flooding
- ☐⊕ No raw water sample tap
- ☐⊕ No treated sample tap (if applicable)
- ☐⊕ No screen on existing well vent

Spring Source Deficiencies:
- ☐⊕ Springbox not impervious durable material
- ☐⊕ No watertight access hatch/entry
- ☐⊕ No screened overflow
- ☐⊕ Does not meet setbacks from hazards
- ☐⊕ No raw water sample tap
- ☐⊕ No treated sample tap (if applicable)

☒ **Treatment Deficiencies/Violations:**

Surface Water Treatment Deficiencies:
- ☐+ Turbidity standards not met - *0030(3)*
- ☐+ Turbidimeters not calibrated per manufacturer or at least quarterly - *0036(5)(b)(A)(ii)*
- ☐⊕ Incorrect location for compliance turbidity monitoring
- ☒⊕ If serving > 3,300 people no alarm or auto plant shut off for low chlorine residual
- ☐⊕ For conventional or direct filtration: No alarm or plant shut off for high turbidity
- ☐⊕ For conventional filtration: Settled water not measured daily
- ☐⊕ For conventional or direct filtration: Turbidity profile not conducted on individual filters at least quarterly
- ☐⊕ For cartridge filtration: No pressure gauges before and after cartridge filter
- ☐⊕ For cartridge filtration: Filters not changed according to manufacturer's recommended pressure differential
- ☐⊕ For diatomaceous earth filtration: Body feed not added with influent flow
- ☐+ For membrane filtration: Turbidimeter not present on each unit - *0050(4)(c)(G)*
- ☐+ For membrane filtration: Direct integrity testing not done at least daily - *0036(5)(b)(F)*

Disinfection Deficiencies/Violations:
- ☐+ DPD or EPA approved method not used - *0036(9)(d)*
- ☐+ Free chlorine residual not maintained - *0032(3/5)*
- ☐+ Chlorine not measured & recorded as required - *0036(9)*
- ☐+ Minimum CT requirement not met all times - *0032(3/5)*
- ☐⊕ No means to adequately determine flow rate on contact chamber effluent line
- ☐+ pH, Temperature, and chlorine residual not measured daily at first user - *0036(5)(a/b)*
- ☐⊕ Failure to calculate CT values correctly
- ☒⊕ No means to adequately determine disinfection contact time under peak flow and minimum storage conditions

UV Disinfection Violations (OAR 333-0050(5)(k)):
- ☐+ Bypass around UV system
- ☐+ Lamp sleeve not cleaned
- ☐+ Lamp not replaced per manufacturer
- ☐+ No intensity sensor with alarm or shut-off

Other Treatment Violations:
- ☐+ Non-NSF approved chemicals - *0087(6)*
- ☐+ Corrosion control parameters not met - *0034*

☐ **Distribution System Violations:**
- ☐+ System pressure < 20 psi - *0025(7)*

Cross Connection (OAR 333-061-0070):
- ☐+ No ordinance or enabling authority (CWS)
- ☐+ Annual Summary Report not issued (CWS)
- ☐+ Testing records not current (CWS, NTNC, TNC)
- ☐+ No Cross Connection Control Specialist (CWS ≥ 300 connections)

☐ **Finished Water Storage Deficiencies:**
- ☐⊕ Hatch not locked or adequately secured
- ☐⊕ Roof and access hatch not watertight
- ☐⊕ No flap valve, screen, or equivalent on drain
- ☐⊕ No screened vent

☐ **Monitoring Violations:**
- ☐+ Monitoring not current - *0025(1)*
- ☐+ Unaddressed MCL violations or LCR AL exceedances - *0030*
- ☐+ No Coliform Sampling Plan - *0036(6)(a)(G)*

☐ **Management & Operations Violations:**
- ☐+ No operations and maintenance manual - *0065(4)*
- ☐+ Emergency response plan not completed - *0064(1)*
- ☐+ Major modifications not approved (plan review) - *0050*
- ☐+ Master plan not current (≥ 300 con.) - *0060(5)*
- ☐+ Annual CCR not submitted (CWS) - *0043(1)(a)*
- ☐+ PNC or out of compliance with AO
- ☐+ Public notice not issued as required - *0042*

☐ **Operator Certification Violations:**
- ☐+ No certified operator at required level - *0065(2)*
- ☐+ No protocol for under certified operator - *0225(2)*

☐ **Other Rule Violations:** ______

⊕ Significant deficiency per OAR 333-061-0076
+ Rule violation per OAR 333-061-XXX

Inventory and Narrative

☐ **Outstanding Performer**

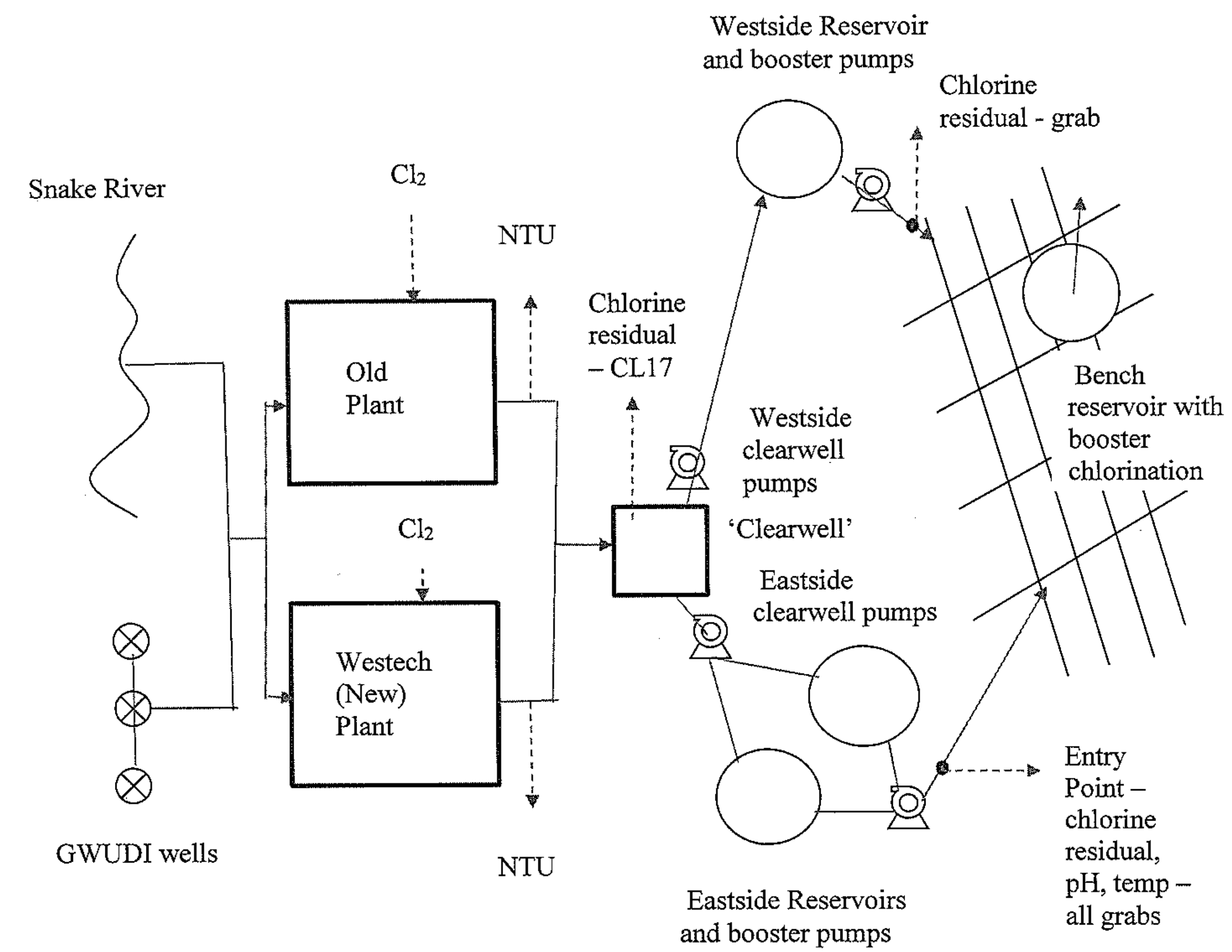
Type:	Community (C)	**Status**	**Size**	**Season:**	Year-round
License:	Not Licensed	Population:	14,465	Begins: (mm/dd)	/
Responsible Agency:	State	Connections:	3,900	Ends: (mm/dd)	/
Service Characteristics:	Residential: City or Town (MU)				
Ownership:	4 - Local Government				
Operator Certification Requirements:	WD: 2	WT: 3	FE ☐ Small WS ☐		

Primary Administrative Contact (Mailing Address):			
Contact Name:	Kim Lord	Phone:	541-889-8011
Title:	Water/Wastewater Operations Supervisor	Cell:	(208) 965-1534
Street Address:	1900 SE 5th Av	Emergency #:	( )
City/State/Zip:	Ontario, OR 97914	Email:	kim.lord@ch2m.com
Legal/Owner Address:			
Contact Name:	Cliff Leeper	Phone:	(541) 889-8572
Title:	Public Works Director	Cell:	(541) 709-8352
Street Address:	1551 NW 9th St	Emergency #:	( )
City/State/Zip:	Ontario, OR 97914	Email:	cliff.leeper@ch2m.com
System Physical Address:			
Contact Name:	Randy Bartlett	Phone:	541-889-8011
Title:	DRC - treatment	Cell:	(208) 451-4724
Street Address:	1900 SE 5th Av	Emergency #:	( )
City/State/Zip:	Ontario, OR 97914	Email:	randy.bartlett@ch2m.com
Emergency Systems Available:			
Name:	n/a	**PWS ID#:**	**41**

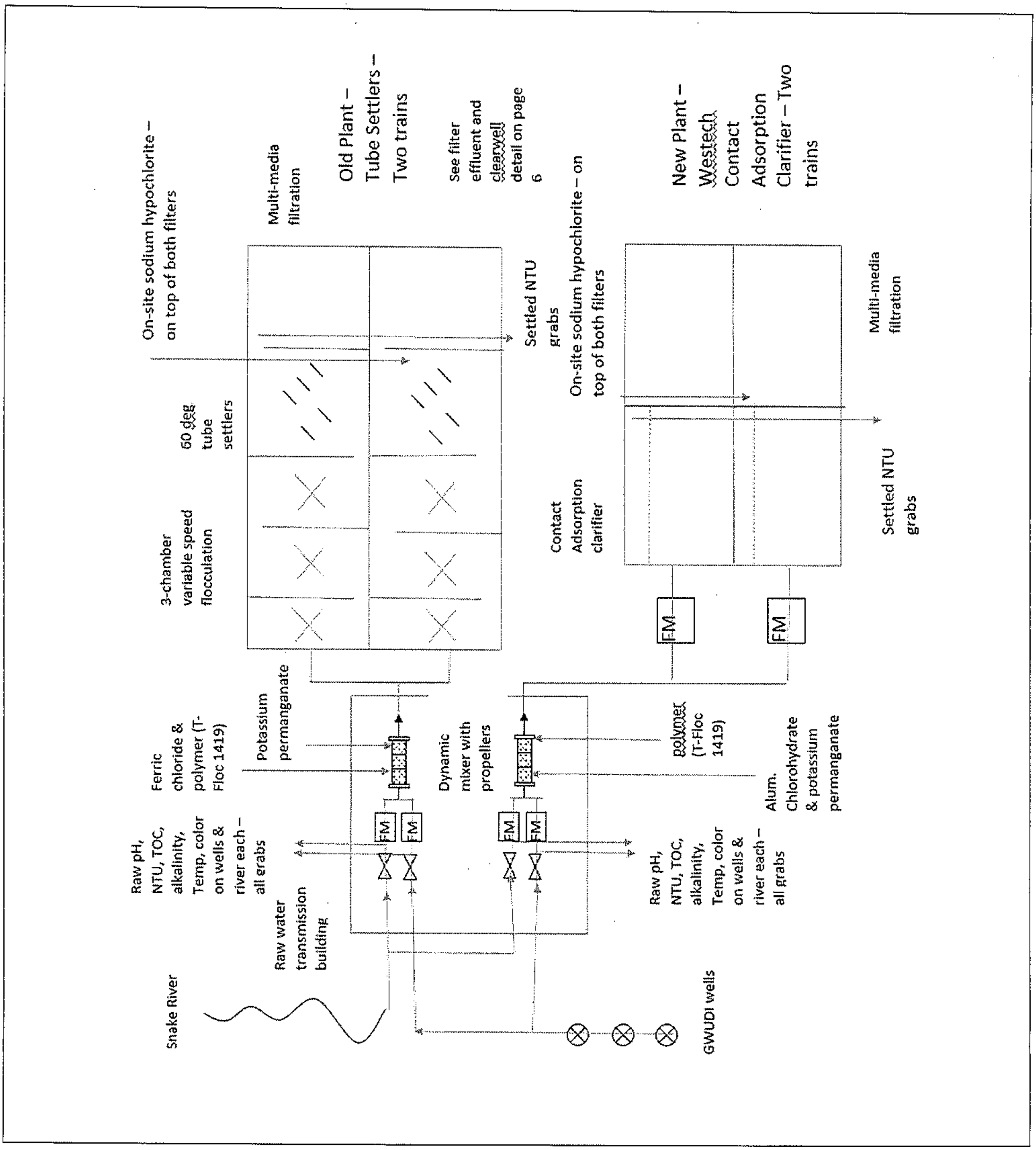
Narrative:

The City of Ontario uses the Snake River and several wells, that are classified as groundwater under the influence of surface water, as their sources. A separate blend of both sources are treated at two separate 2.5-log *giardia* conventional filtration plants. The old plant is an 8.8 MGD capacity plant consisting of two trains with tube settlers, with a plant rating conducted by DWS in 1998. Ferric chloride, polymer (T-Floc 1419), and potassium permangenate are injected at a dynamic mixer. Ferric chloride has recently replaced aluminum chlorohydrate (ACH) to keep the calcium in solution and increase the effectiveness of filtration. On-site sodium hypochlorite is added before the filters for disinfection. The new plant is a 4.0 MGD capacity WesTech facility with two trains consisting of contact adsorption clarification approved by DWS in 2006. ACH, T-Floc 1419, and potassium permanganate are added in a dynamic mixer. Sodium hypochlorite is added before the filters for disinfection. Filter effluent from both plants enters a series of 'clearwells', where caustic soda is added to increase the finished pH to between 7.8 and 8.0, as a result of the ferric chloride decreasing the pH. The flow leaves the 'clearwells' and enters the distribution system through two separate transmission pathways, East Side and West Side. A tracer study has been conducted on the shortest path to distribution, consisting of 12 and 16-inch transmission lines and East Side Tanks 3A and 3B, to determine contact time for the 0.5-log *giardia* disinfection requirement. The first user or entry point for both CT determination and entry point chemical sampling is located after the East Side booster station. The transmission to the West Side consists of a much longer contact segment, so it is assumed that the contact time is greater in this path. The distribution system consists of four reservoirs of approximately 11 million gallons of storage and several booster pump stations. Booster chlorination is practiced at the Bench Reservoir in the distribution system with 12.5 % sodium hypochlorite.

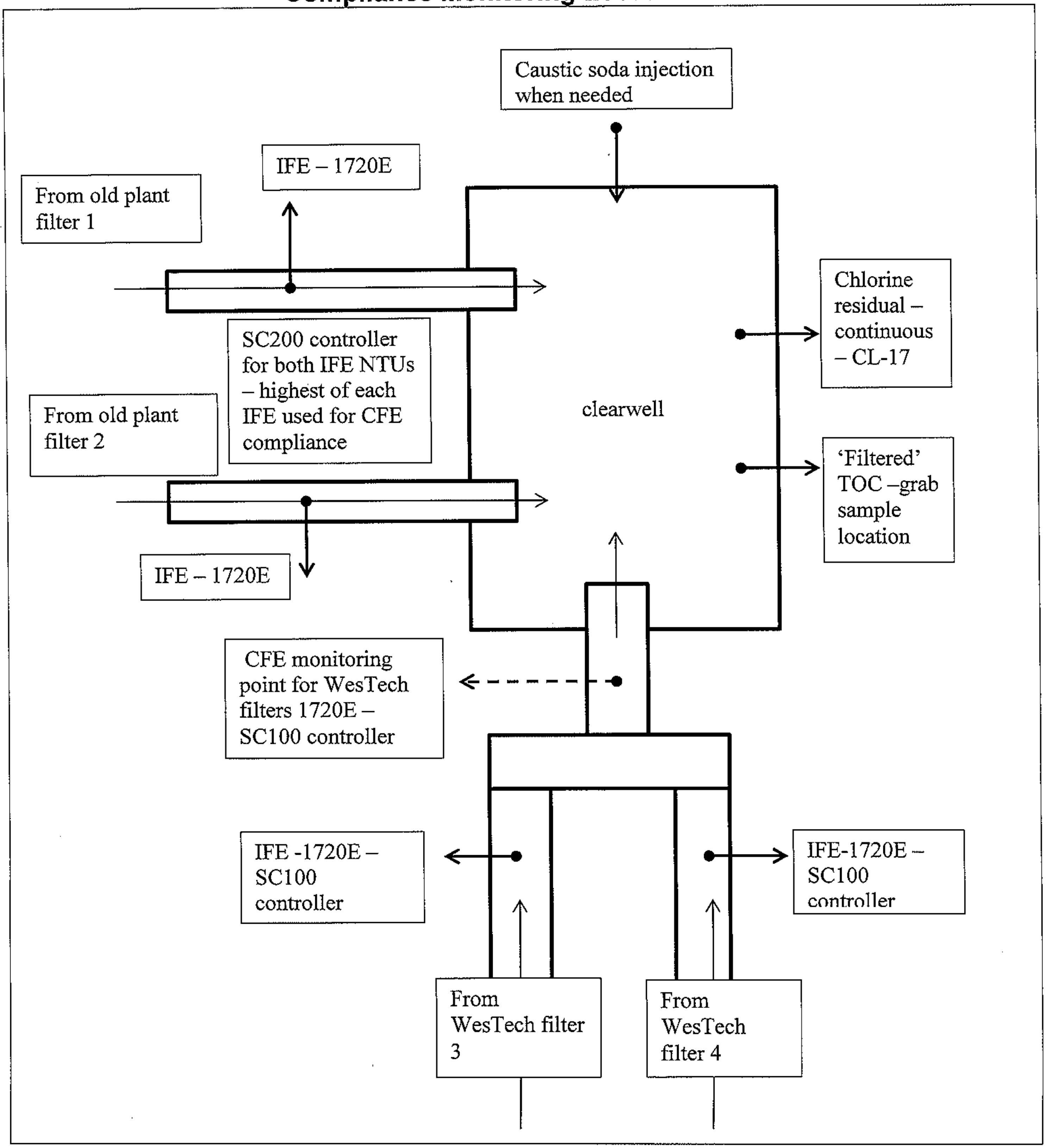
Water System Schematic (see detail in following pages)



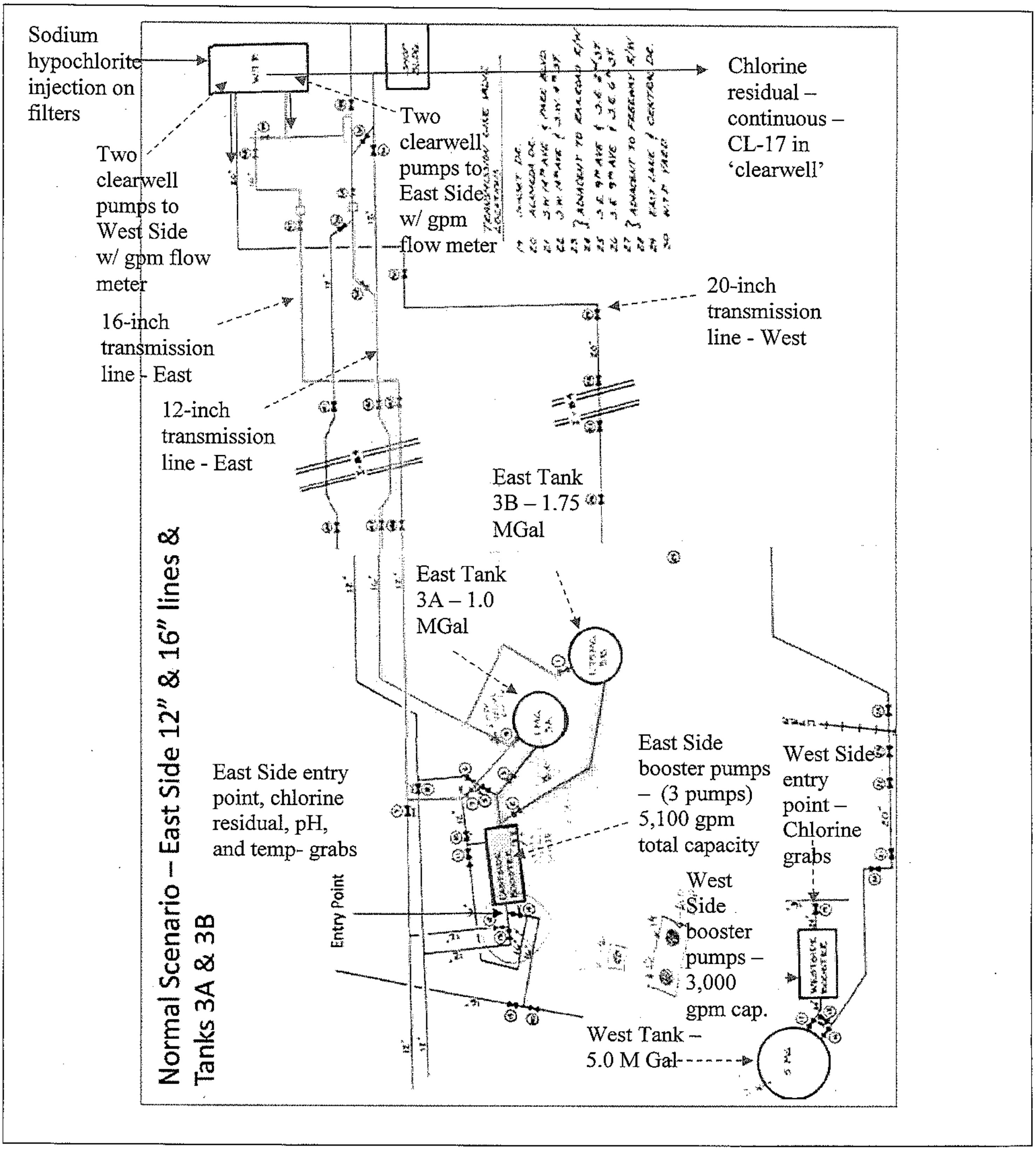
Water Treatment Plant Schematic



Filter Effluent Turbidity, Clearwell Chlorine Residual & Total Organic Carbon Compliance Monitoring Locations



East and West Sides Disinfection Contact Time Segments



Source Information

ID	Entry Points (Location where water enters distribution and is sampled)	Source Type	Availability (if seasonal, indicate begin/end dates)	Begin (M/D)		End (M/D)	
A	EP for river and wells	Surface	Permanent				

ID	Sources (Contributing to Entry Point)	Land Use*	Capacity (GPM)	Source Type	Availability
AA	Snake River	EGLM	7,000	Surface	Permanent
AB	Well #4 (MALH 1649)	EGLM	700	GWUDI	Permanent
AE	Well #6 (MALH 1284)	EGLM	225	GWUDI	Permanent
AF	Well #14 (MALH 1629)	EGLM	190	GWUDI	Permanent
AG	Well #15 (L88892)	EGLM	250	GWUDI	Permanent
AH	Well #16 (L88891)	EGLM	260	GWUDI	Permanent
AI	Well #17 (L106327)	EGLM	400	GWUDI	Disconnected

*Land Use Codes: (A) **Pristine Forest** (B) **Irrigated Crops** (C) **Non-Irrigated Crops** (D) **Pasture** (E) **Light Industry** (F) **Heavy Industry** (G) **Urban-Sewered Area** (H) **Rural On-Site Sewage Disposal** (I) **Urban On-Site Sewage Disposal** (J) **Rangeland** (K) **Managed Forest** (L) **Commercial** (M) **Recreational Use**

Yes No

☐ ☒ Has the water system implemented strategies (e.g., posting source area signs, notifying residents of Haz Waste collection events, provide residents information about maintaining their septic systems, abandoning unused wells, etc.) to protect their drinking water sources?

☒ ☐ Is the water system interested in protecting their drinking water sources from contamination? If yes, contact regional geologist at 541-726-2587.

Comments:

The system's water supply is from the Snake River. Fruitland, ID wastewater plant discharge about 3/4 mile upstream of Ontario intake.

Well #17 is being prepared to bring online. Pump was installed and well building being built at time of survey.
Rehabilitating Well #14.
City Water Management Conservation Plan approved by Oregon Water Resources Dept.

Well Information

Source ID#: SRC-	AB		AE		AF		AG		AH		AI	
Source Name:	Well 4		Well 6		Well 14		Well 15		Well 16		Well 17	
Well log available?*	Yes		Yes		Yes		Yes		Yes		Yes	
Well log ID (e.g., COLU123, L12345)	MALH1649		MALH128		MALH1629		L88892		L88891		L106327	
	Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
Well active?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	☐	☒
Pitless adaptor?	☐	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	☒
● Sanitary seal & casing watertight?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	~~☐~~	~~☐~~
● Raw water sample tap?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	~~☐~~	~~☐~~
● Treated water sample tap? ☐N/A	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	~~☐~~	~~☐~~
● If vented, properly screened?	☒	☐	~~☐~~	~~☐~~	☒	☐	☒	☐	~~☐~~	~~☐~~	~~☐~~	~~☐~~
● Wellhead protected from flooding?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	~~☐~~	~~☐~~
Concrete slab around casing?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐
Casing height ≥12-in. above slab/grade?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐
Flowmeter?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	~~☐~~	~~☐~~
Pressure gauge?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	~~☐~~	~~☐~~
Pump to waste piping?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	~~☐~~	~~☐~~
● Well meets setbacks from hazards?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐
If no, identify list of hazard(s) within the setback and the distance to the hazard. HAZARD:	Snake River		Snake River		Snake River		Snake River		Snake River		Snake River	
DISTANCE (ft):	<100 ft		<100 ft		<100 ft		<100 ft		<100 ft		<100 ft	
Protective housing?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
If yes, does it have:												
Heat?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Light?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Floor drain?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Well pump removal provision?	☒	☐	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Pump Type:	Submersible		Submersible		Verticle Turbine		Submersible		Submersible		Submersible	
Bearing lubrication:	Water		Water		Water		Water		Water		Water	
Pumping capacity (gpm):	700		250		170		220		190		400	

*If no well log available, record any known information regarding depth of well, depth of grout seal, year of installation, or casing diameter in the comments section below.

Comments:

Well 4 was rehabbed in 2012 and 2015 to increase production. Well 17 is getting ready to be put into production. Well pump has been installed and concrete flooring was being finished up during the survey. System anticipates having the well online soon.

Potential Sanitary Hazards

(From OAR 333-061-0050(2)(a)(E))

The following sanitary hazards are not allowed within 100 feet of a well or spring:

- Any existing or proposed pit privy
- Subsurface sewage disposal drain field
- Cesspool
- Solid Waste disposal site
- Pressure sewer line
- Buried fuel storage tank
- Animal yard, feedlot, or animal waste storage
- Untreated storm water or gray water disposal
- Chemical (including solvent, pesticides, and fertilizers)storage, usage, or application)
- Fuel transfer or storage
- Mineral resource extraction
- Vehicle or machinery maintenance or long term storage
- Junk / auto / scrap yard
- Cemetery
- Unapproved well
- Well that has not been properly abandoned or of unknown or suspect construction
- Source of pathogenic organisms
- Any other similar public health hazards

The following are not allowed within 50 feet of a well or spring:

- Gravity sewer line
- Septic Tank

Exemptions to these setbacks must be listed and documented within the plan approval letter and in an approved construction waiver standard.

If a surface water source is located within 500 feet of a well or spring, please note the water body name and the distance to the well or spring. All groundwater sources within 500 feet to a surface water source should be considered for potential surface water influence. Check the file for correspondence. If a review has been done indicate results in comment section. If not, contact the Springfield office 541-726-2587.

Conventional & Direct Treatment Plant Inspection

☒ WTP inspection done with Water System Survey

☐ WTP inspection only

WTP ID: 41 00587 WTP Name: WTP-A – Old Plant

Date of inspection: 6/15/17 Inspected by: Amy Word / James Nusrala

Total points given: 16 Plant operator: Kim Lord

Points	Visit Frequency	Check One
Low range (0-15)	Every 3 years	☐
Mid range (16-25)	Annually	☒
High range (26 or more)	Every 6 months	☐

Comments:
On 6/15/17, river water being sent to new Westech plant and GWUDI wells being sent to old plant.

Source:

Describe Intake: Snake River intake: Johnson intake screen with 0.25" slots. Two 20" lines carry raw water to plant with air scour on intake screen. GWUDI wells: Several wells are located near river and merge with river water at raw water transmission building. Valves set blend to plant.

Describe pumping facilities: Two turbine pumps (40 and 70 hp) variable speed drives and two auxiliary pumps send a blend of both sources to two plants.

Watershed control information: (protection plan, security measures, etc) Snake River watershed so large and difficult to control upstream activities. Hopes Idaho DEQ notifies City of spill in watershed, so can shut off river and go off wells.

Factors affecting water quality: (algal blooms, logging, etc.) Ice dams in river in winter cause higher NTUs, seasonal algae problems affect intake.

Treatment:

☒ Coagulation Chemical added: Ferric chloride & Polymer (T-Floc 1419)

☒ Sedimentation basin ☒ Tube settlers ☐ Adsorption clarifier ☐ Solids contact clarifier

☐ pH Adjustment ☒ Flocculation ☒ Filter Media (☐single ☒dual/mixed ☐deep bed >60" anthracite)

☒ Corrosion control ☒ Other treatment Describe: Potassium permanganate for Taste & Odor, caustic soda

Peak instantaneous op. flow last year (gpm): 4,900 Comments: Raw flow to old plant, filters do not have meters.

Filter Area (total) (ft²): 1,080

Filter Loading Rate (gpm/ft2): 4.5

Log removal credit given *Giardia*: 2.5 *Crypto.*: 2.0

What was the peak instantaneous operating flowrate at time of treatment plant evaluation (gpm): 6,736

Based on: ☒ CPE ☐ Plan review ☐ WTP evaluation/rating form Date: 9/22/98

Comments: 4.4 MGD each filter – total design cap. = 8.8 MGD total (6,111 gpm)
1998 CPE conducted by DWS noted 9.7 MGD (6,736 gpm) peak instantaneous flow through WTP and 2.5-log *giardia* plant rating.
ACH replaced with ferric chloride May 2017 to prevent calcium carbonate accumulation in the filter media. As a result of the ferric chloride lowering pH, caustic soda is added at times at the clearwells to increase pH at entry point and in distribution.

Conventional/Direct Treatment Plant Continued: **WTP-** A

Yes	No		If no, check points
☒	☐	Is raw water turbidity data collected at least daily? ☐ On-line ☒ Bench-top River: 5-11 NTU summer up to 90 NTU winter; Wells: peak is 5-6 NTU. Can treat higher raw NTUs.	☐ 3 pts
☒	☐	● For 2.5-log plants only: Is settled water turbidity measured at least daily? ☐ N/A	☐ 5 pts
☒	☐	When average annual raw water turbidity is ≤ 10 NTU, is settled water turbidity ≤ 1.0 NTU?	☐ 2 pts
☒	☐	When average annual raw water turbidity is > 10 NTU, is settled water turbidity ≤ 2.0 NTU? Takes grab samples daily after tube settlers, on top of filters, after chlorine injection. Settled NTUs, 0.5 to 0.8 now, with raw NTUs < 10 NTU.	☐ 2 pts
☒	☐	● Are turbidity compliance standards met? (<0.3 NTU 95% of time; all < 1 NTU)	☐ 10 pts
☐	☒	Are filter Optimization goals met? (≤ 0.10 NTU 95% of time; always ≤ 0.30 NTU) ☐ CFE ☒ IFE	☒ 4 pts
☒	☐	● Is CFE monitoring location acceptable (prior to any storage)? – see below. System monitors & reports turbidity at each plant for compliance (two sets of readings, two monthly reports); May '16 – April '17 – max. of both plants: Max NTU – 0.45, 95^{th} %tile – 0.14, so goals not met on max. of both plants; Reports highest of two IFE's as CFE for old plant, as two IFE's from old plant enter c/well separately.	☐ 5 pts
☒	☐	Is each IFE turbidity always below triggers? If no, check box below: ☐ Turbidity > 1.0 NTU in 2 consecutive 15-min readings ☐ > 10,000 population only: Turbidity > 0.5 NTU in 2 consecutive readings 1^{st} 4 hrs after startup ☐ Turbidity > 1.0 NTU in 2 consecutive 15-min readings for 3 months in a row ☐ Turbidity > 2.0 NTU in 2 consecutive 15-min readings for 2 months in a row	
☐	☐	Can chart recorder document turbidity > 1.5 NTU? ☐ N/A Reviewed past two week IFE NTU trends and all way below NTU triggers. SC200 for both IFE NTU meters capped at 1.0 NTU, but SCADA reads IFE NTUs up to 2.0 NTU?	
☒	☐	Are chemical dosages adjusted with water quality changes (jar test or equivalent)? Process identified: Conducts jar tests as needed for varying raw water quality (quick, medium, then slow mixing) to simulate rapid mix and floc chambers. Obtains ideal dose in mg/L from jar tests, and uses computer program with plant/feed flows, specific gravity of chemical, to obtain desired mL/min of chemical to be fed. Manually sets feed pump setting to obtain desired pump rate, and verifies feed rate using pump drawdown tubes. Wants to lower ferric chloride and increase polymer to increase pH. Adjusts dose for algae concerns.	☐ 3 pts
☐	☐	If using alum, is raw water alkalinity collected at least weekly? ☒ N/A Alum not used. But monitors raw water (blend of wells and river) alkalinity quarterly as required for enhanced coagulation requirements for 2.5-log *giardia* removal plant rating.	☐ 3 pts
☒	☐	Does the operator know all chemical dosages applied in mg/L? 6/15/17: 24 mg/L ferric chloride, 0.3 mg/L polymer, and 0.2 mg/L KMnO4.	☐ 3 pts
☒	☐	Are feed pumps calibrated at least annually? Plots calibrations at least annually, measures feed pump output weekly to verify output. Adjusts speed mainly.	☐ 3 pts
		How is backwash initiated? - whichever of below triggers first. ☒ Turbidity level: 0.3 NTU ☒ Headloss: 25 psi ☒ Time: 120 hours	
☒	☐	Is total plant flow adjusted when filters are taken off-line for backwashing? – slows down flow to filter max.	
☐	☐	Is evidence of air binding absent during backwash? – unknown, backwash not observed.	
☒	☐	Does the plant have filter to waste piping?	☐ 3 pts
☐	☒	If yes, is the duration of filter-to-waste cycle based on turbidity profile results? ☐ N/A What is the criteria for putting filters back on-line? Filter to waste time manually set at 10 minutes, to generally meet < 0.15 NTU returning to service.	☒ 3 pts

Yes	No	Conventional/Direct Treatment Plant Continued: WTP- A	If no, check points
☒	☐	• Are filter profiles conducted after backwash at least quarterly?-recommend labeling SCADA printouts.	☐ 5 pts
☐	☒	Are optimization goals immediately after backwash met? If no, check goal NOT met: For all conventional/direct plants: ☐ Max spike ≤ 0.30 NTU ☐ ≤ 0.10 NTU within 15 minutes For plants with filter-to-waste capability: ☒ Return to service ≤ 0.10 NTU Returns to service at < 0.15 NTU after 10 minutes.	☒ 4 pts
☐	☐	• If recycling filter backwash water, is return location prior to chemical addition? ☒ N/A System does not recycle filter backwash	☐ 5 pts
☒	☐	• Are turbidimeters calibrated according to factory specifications or at least quarterly?	☐ 5 pts
☒	☐	Are calibration standards valid (not expired)?	
☒	☐	Is flow through turbidimeter within manufacturer's range? ☐ N/A (bench top or portable meter) Hach calibrates all turbidimeters on a contract quarterly (2nd and 1st qtrs. 2017 on SC200 controllers). Bring their own current standard. Measures between 300-800 mL/min.	
☒	☐	• Are CT's calculated correctly?	☐ 10 pts
☐	☒	• Is contact time based on tracer study or adequate alternative?-see disinfection page	
☒	☐	• pH, temperature, and chlorine residual measured at or before 1st user? – see below.	
☒	☐	• Is there a flow meter on effluent side of clearwell or adequate alternative (describe)?- see below Chlorine residual, pH, and temp grabbed after eastside booster station, first user in shortest path to distribution where CTs are met and tracer study conducted. Eastside booster pump capacity less than 5,200 gpm peak flow from clearwells simulated going into Eastside reservoirs 3A & 3B used for contact time.	
☒	☐	Is corrosion control practiced?	
☐	☐	• Is it operated within parameters set by DWP? ☒ N/A- no parameters set. Describe method of corrosion control used: Caustic soda added in clearwells beginning in May 2017 to increase pH as change from ACH to ferric chloride at old plant decreases pH. Pilot study monitoring pH, alka and other parameters at entry points and in distribution throughout the year. Not adding caustic soda for lead and copper action level exceedance.	☐ 5 pts
☒	☐	• Do all under-certified operators follow a written decision-making protocol as established by DRC? ☐ N/A (all operators are certified at the level required for the plant)	☐ 5 pts
☒	☐	• Are standard plant operating procedures written and followed? Has detailed SOPs for old plant on chemical dose determination, feed pump calibration, jar testing, filter maintenance, etc.	☐ 5 pts
☐	☒	Are operators on site during all hours of plant operation?	
☐	☒	• If no, is there an alarm for low chlorine and high turbidity? (> 3300 pop. for chlorine) ☐ Low chlorine ☒ High turbidity ☒ Plant shutdown ☒ Auto-dial Automatic chlorine analyzer with low 1.0 mg/L autocall and 0.5 mg/L plant shutdown after clearwell, prior to Eastside reservoir contact chamber, only daily grab sampling after clearwell at entry point. IFE NTU meter high alarms at 0.4 NTU autocall and 0.45 NTU plant shut down. All alarms triggered instantaneously.	☒ 5 pts
		Total Points =	16
☒	☐	AWOP fact sheet provided to operator?	

Comments:

Floc unit consists of 3 chambers with paddle wheels in each train, first floc chamber has two sets of paddles. Will replace baffles in between chambers soon. Drains and sprays tube settlers every 4-6 weeks. Backwash consists of a surface wash ahead of the backwash, replaced media in filters recently.
System meeting enhanced coagulation requirements for 2.5-log giardia plant, as filtered running annual average total organic carbon - TOC < 2.0 mg/L.

Conventional & Direct Treatment Plant Inspection

☒ WTP inspection done with Water System Survey

☐ WTP inspection only

WTP ID: A WTP Name: Westech Plant (New Plant)

Date of inspection: 6/15/17 Inspected by: Amy Word / James Nusrala

Total points given: 16 Plant operator: Kim Lord

Points	Visit Frequency	Check One
Low range (0-15)	Every 3 years	☐
Mid range (16-25)	Annually	☒
High range (26 or more)	Every 6 months	☐

Comments:
On 6/15/17, river water being sent to new Westech plant and wells being sent to old plant.

Source:

Describe Intake: Snake River intake: Johnson intake screen with 0.25" slots. Two 20" lines carry raw water to plant with air scour on intake screen. GWUDI wells: Several wells are located near river and merge with river water at raw water transmission building. Valves send blend to plant via 20 " PVC piping.

Describe pumping facilities: Two turbine pumps (40 and 70 hp) variable speed drives and two auxiliary pumps send a blend of both sources to two plants.

Watershed control information: (protection plan, security measures, etc) Snake River watershed so large and difficult to control upstream activities. Hopes Idaho DEQ notifies City of spill in watershed, so can shut off river and go off wells.

Factors affecting water quality: (algal blooms, logging, etc.) Ice dams in river in winter cause higher NTUs, seasonal algae problems affect intake.

Treatment:

☒ Coagulation Chemical added: Aluminum Chlorohydrate (ACH) & Polymer

☒ Sedimentation basin ☐ Tube settlers ☒ Adsorption clarifier ☐ Solids contact clarifier

☐ pH Adjustment ☐ Flocculation ☒ Filter Media (☐single ☒dual/mixed ☐deep bed >60" anthracite)

☒ Corrosion control ☒ Other treatment Describe: Potassium permanganate for taste & odor, caustic soda

Peak instantaneous op. flow last year (gpm): 2,800 Comments: Has meters on each filter train.

Filter Area (total) (ft²): 560

Filter Loading Rate (gpm/ft2): 5.0

Log removal credit given *Giardia*: 2.5 *Crypto.*: 2.0

What was the peak instantaneous operating flowrate at time of treatment plant evaluation (gpm): 2,777

Based on: ☐ CPE ☒ Plan review ☐ WTP evaluation/rating form Date: 10/25/06

Comments:
Plan Review # 98-2004 rated plant, and DWS granted 2.5-log *giardia* reduction at a peak instantaneous flow of 4.0 MGD (2,777 gpm).
ACH will continue to be used at Westech plant.
2.0 MGD design cap. Each filter = 4 MGD total = 2,777 gpm total
ACH and polymer only used when treating surface water, Potassium permanganate used continuously for either wells or river.

Conventional/Direct Treatment Plant Continued: **WTP-** A

Yes	No		If no, check points
☒	☐	Is raw water turbidity data collected at least daily? ☐ On-line ☒ Bench-top Daily when plant running. Generally treats surface water when < 20 NTU raw.	☐ 3 pts
☒	☐	• For 2.5-log plants only: Is settled water turbidity measured at least daily? ☐ N/A	☐ 5 pts
☒	☐	When average annual raw water turbidity is ≤ 10 NTU, is settled water turbidity ≤ 1.0 NTU?	☐ 2 pts
☒	☐	When average annual raw water turbidity is > 10 NTU, is settled water turbidity ≤ 2.0 NTU? Daily grabs taken on each train after clarifier and on top of filters. Sees around 0.8 NTU settled.	☐ 2 pts
☒	☐	• Are turbidity compliance standards met? (<0.3 NTU 95% of time; all < 1 NTU)	☐ 10 pts
☐	☒	Are filter Optimization goals met? (≤ 0.10 NTU 95% of time; always ≤ 0.30 NTU) ☒ CFE ☐ IFE	☒ 4 pts
☒	☐	• Is CFE monitoring location acceptable (prior to any storage)? System monitors & reports turbidity at each plant for compliance (two sets of readings, two monthly reports); May '16 – April '17 – max. of either plant: Max NTU – 0.45, 95th %tile – 0.14, so goals not met of max of either plant; Reports CFE for Westech plant as two filter effluent pipes combine before clearwells.	☐ 5 pts
☒	☐	Is each IFE turbidity always below triggers? If no, check box below: ☐ Turbidity > 1.0 NTU in 2 consecutive 15-min readings ☐ > 10,000 population only: Turbidity > 0.5 NTU in 2 consecutive readings 1st 4 hrs after startup ☐ Turbidity > 1.0 NTU in 2 consecutive 15-min readings for 3 months in a row ☐ Turbidity > 2.0 NTU in 2 consecutive 15-min readings for 2 months in a row	
☐	☐	Can chart recorder document turbidity > 1.5 NTU? ☐ N/A SC100 for CFE capped at 1.0 NTU, but SCADA at 2.0 NTU?	
☒	☐	Are chemical dosages adjusted with water quality changes (jar test or equivalent)? Process identified: Conducts jar tests with varying water quality when using surface water. Looking for pin floc with the CAC. Sets feed pump setting from computer formula to deliver target dose of ferric and polymer based on jar tests, as per old plant. Checks feed pump column volume to verify correct delivery rate. With groundwater, just doses potassium permanganate. Hopes to obtain streaming current meter to target dose soon.	☐ 3 pts
☐	☐	If using alum, is raw water alkalinity collected at least weekly? ☒ N/A Alum not used. But monitors raw water (blend of wells and river) alkalinity quarterly as required for enhanced coagulation requirements for 2.5-log *giardia* removal plant rating.	☐ 3 pts
☒	☐	Does the operator know all chemical dosages applied in mg/L? 6/15/17: 24 mg/L ACH, 0.3 mg/L polymer, and 0.2 mg/L potassium permanganate.	☐ 3 pts
☒	☐	Are feed pumps calibrated at least annually? Per standard operating procedures that are currently being developed for new plant.	☐ 3 pts
		How is backwash initiated? - generally does air scour and backwash automatically at 30 hours run time ☒ Turbidity level: 0.3 NTU ☒ Headloss: 25 psi ☒ Time: 30 hours	
☒	☐	Is total plant flow adjusted when filters are taken off-line for backwashing? – won't exceed other filter's cap	
☐	☐	Is evidence of air binding absent during backwash? – Unknown, backwashed not observed.	
☒	☐	Does the plant have filter to waste piping?	☐ 3 pts
☐	☒	If yes, is the duration of filter-to-waste cycle based on turbidity profile results? ☐ N/A What is the criteria for putting filters back on-line? Less than 0.3 NTU.	☒ 3 pts

Conventional/Direct Treatment Plant Continued: **WTP-** A

Yes	No		If no, check points
☒	☐	● Are filter profiles conducted after backwash at least quarterly?	☐ **5 pts**
☐	☒	Are optimization goals immediately after backwash met? If no, check goal NOT met: For all conventional/direct plants: ☒ Max spike ≤ 0.30 NTU ☐ ≤ 0.10 NTU within 15 minutes For plants with filter-to-waste capability: ☒ Return to service ≤ 0.10 NTU Spikes during filter to waste up to 0.35 NTU, returns to service at 0.3 NTU.	☒ **4 pts**
☐	☐	● If recycling filter backwash water, is return location prior to chemical addition? ☒ N/A Filter backwash not recycled.	☐ **5 pts**
☒	☐	● Are turbidimeters calibrated according to factory specifications or at least quarterly?	☐ **5 pts**
☒	☐	Are calibration standards valid (not expired)?	
☒	☐	Is flow through turbidimeter within manufacturer's range? ☐ N/A (bench top or portable meter) Hach calibrates all turbidimeters on a contract quarterly (2nd and 1st qtrs. 2017 on SC200 controllers). Bring their own current standard. Measures between 300-800 mL/min.	
☒	☐	● Are CT's calculated correctly?	☐ **10 pts**
☐	☒	● Is contact time based on tracer study or adequate alternative? – see disinfection page	
☒	☐	● pH, temperature, and chlorine residual measured at or before 1st user? – see below	
☒	☐	● Is there a flow meter on effluent side of clearwell or adequate alternative (describe)?- see below Chlorine residual, pH, and temp grabbed after eastside booster station, first user in shortest path to distribution where CTs are met and tracer study conducted. Eastside booster pump capacity less than 5,200 gpm peak flow from clearwells simulated going into Eastside reservoirs 3A & 3B used for contact time.	
☒	☐	Is corrosion control practiced?	
☐	☐	● Is it operated within parameters set by DWP? ☒ N/A – no parameters set. Describe method of corrosion control used: Caustic soda added in clearwells beginning in May 2017 to increase pH as change from ACH to ferric chloride at old plant decreases pH. Pilot study monitoring pH, alka and other parameters at entry points and in distribution throughout the year. Not adding caustic soda for lead and copper action level exceedance.	☐ **5 pts**
☒	☐	● Do all under-certified operators follow a written decision-making protocol as established by DRC? ☐ N/A (all operators are certified at the level required for the plant)	☐ **5 pts**
☒	☐	● Are standard plant operating procedures written and followed? Developing SOPs as plant is newer.	☐ **5 pts**
☐	☒	Are operators on site during all hours of plant operation?	
☐	☒	● If no, is there an alarm for low chlorine and high turbidity? (> 3300 pop. for chlorine) ☐ Low chlorine ☒ High turbidity ☒ Plant shutdown ☒ Auto-dial Automatic chlorine analyzer with low 1.0 mg/L autocall and 0.5 mg/L plant shutdown after clearwell, prior to Eastside reservoir contact chamber, only daily grab sampling after clearwell at entry point. IFE & CFE NTU meter high alarms at 0.4 NTU autocall and 0.45 NTU plant shut down. All alarms triggered instantaneously.	☒ **5 pts**
		Total Points =	16
☒	☐	AWOP fact sheet provided to operator?	

Comments:

Flushes the beads below screens in clarifier regularly.

Disinfection

No #	Disinfection Method*	Location	Disinfection Source Water	Residual Maintenance	Other Purpose	Proportional to Flow	Dosage Recorded
1	Sodium Hypochlorite	Pre WTP	☒	☐		☒	☒
2	Sodium Hypochlorite	Booster chlor – Bench Reservoir	☐	☒		☐	☐

Yes	No	Chlorine residuals ☐ N/A
☒	☐	• Is a DPD or other EPA approved method used?
☒	☐	• NSF 60/61 certified (or equivalent)?
☒	☐	• Are entry point residuals recorded at least once per day (SWTR, GWR 4-log)? ☐N/A
☐	☒	• Is entry point residual monitoring continuous if population > 3,300? ☐N/A – see below
☒	☐	• Are distribution residuals recorded at least twice weekly?
☒	☐	Are on-line chlorine analyzers verified weekly with DPD type or EPA approved test kit? ☐N/A

Yes	No	Chlorine gas ☒ N/A
☐	☐	Separate room for gas storage and feeder?
☐	☐	Fan with on/off switch outside?
☐	☐	Vent located next to the floor?
☐	☐	Door with a window?
☐	☐	Gas cylinders properly secured?
☐	☐	Door that opens out?
☐	☐	Self-contained breathing apparatus?
☐	☐	Air scrubber system?

Yes	No	UV ☒ N/A
☐	☐	• Does all water contact UV (no bypass)?
☐	☐	• Is lamp sleeve cleaned?
☐	☐	• Is lamp replaced per manufacturer?
☐	☐	• Intensity sensor with alarm or shut-off?

Yes	No	CT Evaluation for disinfection ☐ N/A
☐	☒	• Is contact time based on a tracer study or adequate alternative? ☐ N/A – see below
		Describe adequate alternative method for contact time: ______
☒	☐	• Is there a flow meter on effluent side of clearwell /contact chamber or adequate alternative?
		Describe adequate alternative method for flow rate: E. Side booster pump capacity-5,100 gpm < 5,200 gpm test flow.
		Tracer study demand flow (gpm): See below.
☐	☒	Have tracer study parameters changed?
☒	☐	• (SW only) Are pH, temp, and chlorine residual measured daily before or at the first user? At east side booster pump
☒	☐	• Are CT values being calculated correctly? – see below
☒	☐	• Are CT values met at all times (SWTR, GWR 4-log)?

Comments: System using unapproved formula for determining contact time when bypassing tank 3B and only using tank 3A: Time = 20 min. x (4800 gpm / clearwell flow). Need to consult with DWS prior to bypassing tank 3A or 3B. Need to determine baffling factor of tanks 3A or 3B from tracer study scenarios 1 and 2 respectively, subtracting the plug flow time in the pipeline, and using tracer study contact time, volume of tank, and peak demand flow. Then calculate contact time daily using baffling factor, minimum tank volume and peak demand flow of the day.
Daily grab chlorine residual sampling after both East and West Side booster pumps (entry points). No continuous chlorine monitoring at East side entry point as required for > 3,300 population. See earlier figure.
Using 1.0-log *giardia* inactivation requirement in excel formula. Since 2.5-log *giardia* removal credit given for both filtration plants, only 0.5-log *giardia* inactivation needed. Changed formula to 0.5-log requirement.
System conducted tracer study on critical (shortest) path – Scenario 8 (East Side 12" and 16" lines & Tanks 3A and 3B), at both 3,000 and 5,200 gpm peak plant flows exiting clearwell and entering tanks 3A & 3B – see earlier figure. Uses a linear regression formula for contact time, based on peak hourly clearwell effluent flow of the day and two contact times measured at two clearwell flows. Scenario 8 contact time approved by DWS on May 11, 2016.
Time = -0.0332 x (Clearwell Flow) + 211.55. Scenario 8 critical or shortest contact time scenario. West side transmission is longer and lower flow.
East tank levels during Scenario 8 tracer study: (6.9' to 8.6' at 5,200 gpm-avg 7.75'; 6.1' to 6.6' at 3,000 gpm – avg 6.35'); tanks 3A/3B low level past year was 15 feet, so > Tracer Study levels.
Peak instantaneous clearwell flow noted on monthly SW forms – last year: 5,275 gpm – clearwell effluent flow into contact chambers (East side reservoirs 3A & 3B), peak demand flow leaving East side reservoirs limited to 5,100 booster pump capacity.
Estimated Scenario 8 tracer study flow leaving tanks 3A&3B from volume change, contact time, and peak clearwell flows: 3,924 -high and 2,970 gpm low.
Don't exceed 110% of study flow, clearwell flow of 5,720 gpm,, or drop below 90% of TS min. V in tanks (avg of begin/end volume), or 7.0'.

Treatment

Code / Purpose / Process Used*	Chemical Added**	Location in System
P240 | Particulate Removal (SWTR) | Coagulation	Aluminum Chlorohydrate – new plant, ferric chloride – old plant, & Polymer (T-Floc 1419) - both	WTP
P600 | Particulate Removal (SWTR) | Rapid Mix	N/A	WTP
P360 | Particulate Removal (SWTR) | Flocculation	N/A	WTP
P660 | Particulate Removal (SWTR) | Sedimentation	N/A	WTP
P345 | Particulate Removal (SWTR) | Filtration, Rapid Sand	N/A	WTP
D423 | Disinfection for Surface Water/GWUDI | Hypochlorination, Pre	On-site sodium hypochlorite	WTP
D421 | Disinfection for Surface Water/GWUDI | Hypochlorination, Post	On-site sodium hypochlorite	WTP
F560 | Iron Removal | Permanganate	Potassium permanganate	WTP
X421 | Disinfection or Res. Maint./Other for GW | Residual Maintenance, Hypochlorination	Sodium hypochlorite	Bench reservoir
C503 | Corrosion Control | pH/Alkalinity Adjustment-Caustic Soda	Caustic soda	WTP

*See "Treatment Plant Inspection" page for details on filtration. **See "Disinfection" page for details on disinfection equipment.

Yes	No		
☒	☐	Has treatment changed?	See below.
☒	☐	Is lab equipment for on-site analysis appropriate?	See below.
☒	☐	Is equipment maintained properly?	
☒	☐	Is redundant equipment available?	
☒	☐	• Are chemicals NSF Standard 60 certified or equivalent? (☐N/A - no chemicals are used)	
☒	☐	Does system practice corrosion control? – see below	
☐	☐	• Is corrosion control operated within parameters set by DWS? ☒N/A – see below.	

Describe method of corrosion control (if applicable)

Caustic soda added at clearwell #1 as needed, to bring finished pH up due to May 2017 change from ACH to ferric chloride at old plant lowering pH.
Caustic soda added based on daily Calcium Carbonate Precipitation Potential (CCPP), given daily pH at entry points. Shoots for CCPP > 4.
Not adding caustic soda for any lead or copper action level exceedances. No water quality parameter minimums set, but monitoring pH, alkalinity, and other water quality parameters regularly to monitor corrosivity and effectiveness of caustic soda.
Lab equipment: Hach DR 3900 spectrophotometer for chlorine residual, Hach 2100 P and N bench turbidimeters, Hach HQ 11d calibrate-able pH probe, alkalinity test kit, Thermo Scientific digital thermometer. Current standards for all.
Thatcher provides NSF St. 60 paperwork for AHC, ferric chloride, and polymer, but no labeling on packaging.
NSF St. 60 labeling on chlorine and potassium permanganate.

Records Kept:

Yes	No		Yes	No	
☒	☐	Dosages	☒	☐	Flowrate
☒	☐	Raw pH	☒	☐	Treated pH
☒	☐	Raw temperature	☒	☐	Treated temperature
☒	☐	Raw turbidity and/or particle counts	☒	☐	Treated turbidity

Comments:
ACH and polymer added at new plant only when surface water used, otherwise, when GWUDI wells only used, only injecting potassium permanganate.

Storage and Pressure Tanks

Number	Name	Tank Type*	Tank Material	Year Built	Volume (gal.)
3A	Reservoir 3A – Eastside	(G) Ground	Concrete	1968	1 MG
3B	Reservoir 3B – Eastside	(G) Ground	Concrete	1972	1.75 MG
4	Reservoir 4 – Westside	(G) Ground	Concrete	1980	5 MG
5	Reservoir 5 – Bench	(G) Ground	Steel	1999	3 MG
				Total Volume:	10,750,000

Reservoir Features — Reservoir Number:	3A Yes	3A No	3B Yes	3B No	4 Yes	4 No	5 Yes	5 No	Yes	No
Fence/gate?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
● Hatch secured (e.g. locked, bolted, etc)?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
● All tank access points watertight?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
● Screened vent?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Overflow?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
● Overflow protected (screen/flap/valve)?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Drain to daylight?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Water level gauge?	☐	☒	☐	☒	☐	☒	☐	☒	☐	☐
Bypass piping?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Alarm for high or low levels?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Separate inlet/outlet?	☒	☐	☒	☐	☒	☐	☐	☒	☐	☐
Approved interior coating?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Exterior in good condition?	☒	☐	☐	☒	☒	☐	☒	☐	☐	☐
Annual interior/exterior inspection?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Cleaning schedule?	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Continuously disinfected? (● post '81 redwood)	☒	☐	☒	☐	☒	☐	☒	☐	☐	☐
Pressure Tanks										
Accessible for maintenance?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Bypass piping?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Drain?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Pressure relief device?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Air bladder/diaphragm?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Valve for adding air?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Comments

Repairs on tank 3B were complete 05/2017. There are 2 pin hole size leaks in the liner that are unresolved. Currently, the holes are insignificant and previous attempts to fix have not not worked.

Distribution System Information

Service Area and Facility Map

Yes	No	
☒	☐	Does the system have a service area and facility map (indicate features on map):

- ☒ Water lines (including size and material)
- ☒ Treatment facilities
- ☒ Storage facilities (reservoirs)
- ☒ Sampling points
- ☒ Sources-wells & withdrawal points
- ☒ Pressure zones
- ☒ Pressure regulating valves
- ☒ Booster pumps

Distribution Data

Yes	No		Comments
☒	☐	● System pressure ≥ 20 psi?	60-85 psi
☒	☐	Water system leakage <10%?	
☒	☐	Hydrants or blowoffs on all dead ends? ☐ N/A	6-8 dead end lines
☒	☐	Routine flushing? (How often)	annually
☒	☐	Adequate valving?	
☒	☐	Routine valve turning? (How often)	annually
☒	☐	Does the distribution system have asbestos cement (AC) pipe?	system has a large amount of AC pipe

***If yes**, verify asbestos sampling is completed on Water Quality Monitoring Page (CWS, NTNC).*

Cross Connection Control (CWS, NTNC, and TNC)

Yes	No	N/A		Comments
☒	☐	☐	● Devices tested annually? (CWS, NTNC, TNC)	
☒	☐	☐	● Ordinance or enabling authority? (CWS)	
☒	☐	☐	● Annual Summary Report submitted? (CWS)	
☒	☐	☐	● Certified Cross Connection Control Specialist? (CWS ≥ 300 connections)	system has 3 people on staff

Comments:

Written program with BMI Cross-Track 4 software. Property owners required to have testing performed.
Has reduced pressure backflow assemblies on finished carrier water used to mix with chemicals fed at water treatment plant.

Water Quality Monitoring

Contaminant	N/A	Frequency	Next Tests Due
Entry Point Sampling:			
Nitrate	☐	annually	2018
Arsenic	☐	annually	2018
Inorganic Chemicals (Including Nitrite) (sw)	☐	every 9 years	2020
Inorganic Chemicals (Including Nitrite) (gw)	☒	---	---
SOCs	☐	2 consec. Qtrs. every 3 years	*3rd qtr 2017* - one set
VOCs (sw)	☐	annually	2018
VOCs (gw)	☒	---	---
Radionuclides (Community Water Systems Only):			
Gross Alpha	☐	every 9 years	2019
Radium 226/228	☐	every 9 years	2019
Uranium	☐	every 6 years	2019
Distribution System Sampling:			
Coliform Bacteria	☐	15/month	on-going
Asbestos (for AC pipe/asbestos geologic areas)	☐	every 9 years	2023
TTHMs and HAA5s	☐	4 per quarter	on-going
Lead and Copper, # sites: 60	☐	(2) six month rounds	07/2017, 01/2018
Other Sampling:			
TOC – Raw and filtered, and raw alkalinity	☐	quarterly	on-going
Turbidity	☐	every 4 hours	on-going
Source Water Coliform	☒	---	---
Other (specify) LT2	☐	monthly (crypto/ E. coli)	on-going

Yes	No	
☒	☐	• Is all required monitoring current?
☒	☐	Are samples collected at the correct locations in the system?

*****Discuss correct sampling locations for all sampling (SRC, EP, DIST)*****

*****Discuss proper way to collect representative samples at all locations*****

*****Discuss possible sample reductions*****

Yes	No	
☐	☐	• Have all MCL violations or LCR AL exceedances been addressed? ☒ N/A
☒	☐	DBP's collected at correct locations? ☐ N/A
☒	☐	• Does the system have a written coliform sampling plan?

Does the plan include:

Yes	No		Yes	No	
☒	☐	Brief narrative	☐	☒	Rotation schedule
☐	☒	Distribution map	☐	☒	Repeat locations
☒	☐	Sample site locations	☐	☐	Source locations ☒ N/A

Comments:

DBP sample sites: 01 WWTP, 02 Motel 6, 03 Heinz, 04 SRCI

Coliform sampling plan needs to be updated to reflect repeat sample locations and a map of the sample sites.

Management & Operations

O&M Manual and Emergency Response Plan

Yes	No	
☒	☐	• Does system have an operation and maintenance manual?
☒	☐	• Does system have an emergency response plan?
☒	☐	Do any system components have auxiliary power?

If yes, describe: System has 4 backup generators that are tested monthly and twice a year with a load.

Operator Certification

Yes	No	N/A	
☒	☐		• Is the DRC identified and certified at the appropriate level?
		☐	If the DRC is a contract operator, how do they work with the system? see below
☒	☐	☐	• Does system have written protocols for under-certified operators?

Plan Review/Master Plan

Yes	No	N/A	
☒	☐	☐	• Have all major modifications been approved by DWS?
☒	☐	☐	• Does the system have a current (<20 yr. old) master plan? (Not required if < 300 connections)

What year was the plan completed? 2009 (update) - system has been approved to update the 2009 plan

Compliance Status

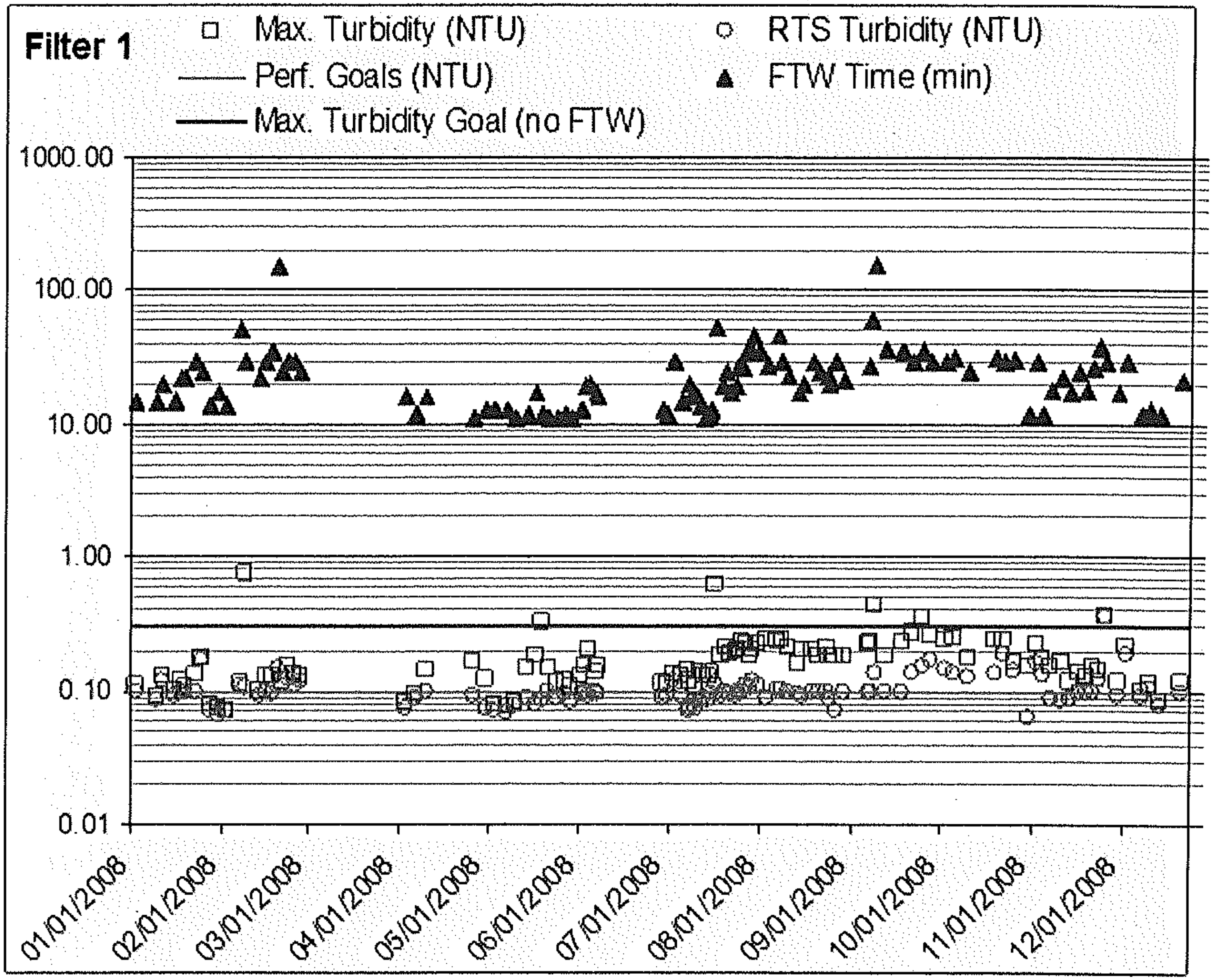
Yes	No	N/A	
☒	☐		• Is water system in compliance (all orders resolved and not a priority non-complier)?
☐	☐	☒	• Does the system issue public notice as required?
☒	☐	☐	• Are consumer confidence reports sent to users each year?

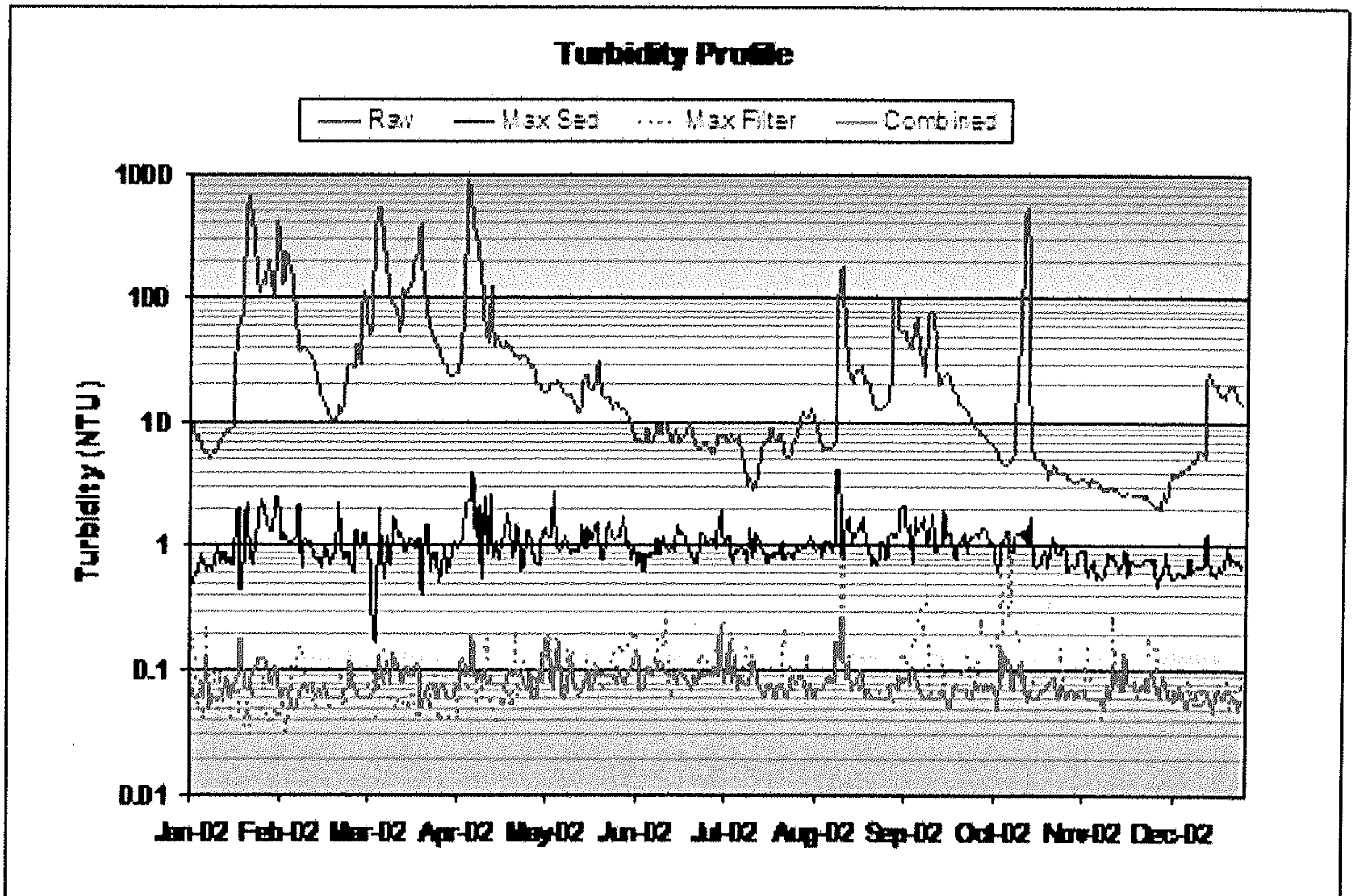
Comments:
CH2M Hill has been contracted with the City of Ontario to run the water/wastewater operations for the City. The DRC for both Distribution and Treatment have been identified and meet the certification levels required for the system. CH2M will be working with Tony Fields (Manager of the Protection, Planning and Certification Unit) on the needed contract information.

Table 1. Oregon Area Wide Optimization (AWOP) and Water Treatment Plant Goals are listed below (refer to water treatment and system type)

SEDIMENTATION (for Conventional Filtration)	**Turbidity**	**Criteria**
Settled Water	≤ 2.0 NTU, 95% of the time.	If average annual raw water turbidity is > 10 NTU.
	≤ 1.0 NTU, 95% of the time.	If average annual raw water turbidity is ≤ 10 NTU.
FILTRATON (for Conventional and Direct Systems)	**Turbidity**	**Criteria**
IFE and CFE Filtered Water	• Turbidity ≤ 0.10 NTU, 95% of the time. • Max. turbidity ≤ 0.30 NTU.	Based on maximum values recorded during 4-hour increments (excluding the 15-minute period following backwash).
IFE filtered water after backwash	• Turbidity returns to ≤ 0.10 NTU within 15 minutes after backwash. • Max. spike ≤ 0.30 NTU. • Turbidity at return to service ≤ 0.10 NTU.	Goals apply to both systems with and without filter-to-waste capability. Goals also apply to the backwash recovery period starting immediately after backwash.
IFE = Individual Filter Effluent; CFE = Combined Filter Effluent		

Figure 6. Turbidity and Backwash Trending Data





Turbidity Profile
Raw
Max Sed
Max Filter
Combined
1000
100
10
1
0.1
0.01
Turbidity (NTU)
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Oct-02
Nov-02
Dec-02

APPENDIX D
Oregon Water Resources Department and City Well Information

ORIGINAL
File Original, and Duplicate with the STATE ENGINEER, SALEM, OREGON

Malh
1649

WATER WELL DRILLERS REPORT

STATE OF OREGON

G2030

RECEIVED AUG 23 1961 STATE ENGINEER SALEM, OREGON

Do Not Fill In — State Well No. 18/47-11C — State Permit No. G1867

(1) OWNER:
Name City of Ontario
Address Ontario, Oregon

(2) LOCATION OF WELL:
County MALHEUR Owner's number, if any— 4
R. F. D. or Street No.
Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):
New well ☐ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☒
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:
Rotary ☐
Cable ☒
Dug Well ☐

(6) CASING INSTALLED:
Threaded ☐ Welded ☒

FROM	ft. to	ft. Diam.	Gage or Wall
0	29	16 ~~16~~ O.D.	.375"

If gravel packed

Diameter of Bore	from ft.	to ft.

Type and size of shoe or well ring
Size of gravel:
Describe joint butt joints electric welded

(7) PERFORATIONS:
Type of perforator used
SIZE of perforations in., length, by in.

FROM	ft. to	ft.	perf per foot	No. of rows
29	30			

SCREENS:
Give Manufacturer's Name, Model No. and Size
Johnson 16" OD x 10' #80 stainless Steel

(8) CONSTRUCTION:
Was a surface sanitary seal provided? ☐ Yes ☐ No To what depth ft.
Were any strata sealed against pollution? ☐ Yes ☐ No
If yes, note depth of strata
FROM ft. to ft.
METHOD OF SEALING

(9) WATER LEVELS:
Depth at which water was first found ft.
Standing level before perforating ft.
Standing level after perforating ft.

Log Accepted by:
[Signed] .... Dated ...., 19....
Owner

(10) WELL TESTS:
Was a pump test made? ☐ Yes ☐ No If yes, by whom?

Yield: gal./min.	with ft. draw down	after hrs.
500	15'-3"	2
800	21'-1"	2
1,000	27'	5½

Artesian flow .... g.p.m.
Shut-in pressure .... lbs. per square inch.
Bailer test .... g.p.m. with .... ft. drawdown
Temperature of water Was a chemical analysis made? ☐ Yes ☐ No
Was electric log made of well? ☐ Yes ☐ No

(11) WELL LOG:
Diameter of well, 16" inches.
Total depth 50 ft. Depth of completed well 50 ft.
Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

ft. to	ft.	
0	3	soil & silt
3	9	cemented gravel
9	13	small gravel in clay
13	20	meduim gravel
20	25	coarse gravel
25	41	meddium gravel & coarse sand
41	50	blue coarse clay

Ground elevation at well site .... feet above mean sea level.
Work started Jund 5 1961. Completed June 26, 1961

Well Driller's Statement:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME A.E. Hosack & Son
(Person, firm, or corporation) (Typed or printed)
Address 707-6th Ave. So. Nampa, Idaho
Driller's well number #2 A E Hosack & Son
[Signed] Allen E Hosack
(Well Driller)
License No. 207 Dated Aug. 17, 1961

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED APR 8 1969 STATE ENGINEER SALEM, OREGON

RECEIVED APR 16 1969 STATE ENGINEER SALEM, OREGON

Malh 1284

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

State Well No. 18/47-2 cdd
State Permit No. G-4761

(1) OWNER:
Name: City Ontario
Address: Ontario Oregon

(2) TYPE OF WORK (check):
New Well ☑ Deepening ☐ Reconditioning ☐ Abandon ☐
Test
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☑ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☑ Other ☐

CASING INSTALLED: Threaded ☐ Welded ☑
12" Diam. from 0 ft. to 18 ft. Gage .250 WALL
10" Diam. from 0 ft. to 48 ft. Gage .250 WALL
" Diam. from ft. to ft. Gage

PERFORATIONS: Perforated? ☑ Yes ☐ No.
Type of perforator used: FACTORY (ROTORY) (SAW)
Size of perforations 3/16 in. by 3 in.
perforations from ~~35~~ ft. to ~~35~~ ft.
10 Rows perforations from ft. to ft.
per FT perforations from 18 ft. to 40 ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS: Well screen installed? ☐ Yes ☑ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WATER LEVEL: Completed well.
Static level 38'' ~~ft.~~ below land surface Date
sian pressure lbs. per square inch Date

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes (yes) ~~☑ No~~ If yes, by whom? PARMA WATER LIFTER
Yield: 835 gal./min. with 35 ft. drawdown after 12 hrs.
" " "
" " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? ☐ Yes ☐ No

(10) CONSTRUCTION:
Well seal—Material used: CLAY
Depth of seal 18 ft.
Diameter of well bore to bottom of seal 12 in.
Were any loose strata cemented off? ☐ Yes ☑ No Depth
Was a drive shoe used? ☑ Yes ☐ No
Did any strata contain unusable water? ☐ Yes ☑ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☑ No Size of gravel:
Gravel placed from ft. to ft.

(11) LOCATION OF WELL:
County: MALHEUR Driller's well number 68-2
¼ ¼ Section 2 T. 18S R. 47E W.M.
Bearing and distance from section or subdivision corner
LOT 4

(12) WELL LOG: Diameter of well below casing NONE
Depth drilled 49 ft. Depth of completed well 49 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level as drilling proceeds. Note drilling rates.

MATERIAL	From	To	SWL
Fine, River, Silt, Blue	0	8	
Fine Sand Gravel Dark	8	20	4 FT
Fine Gravel Silt	20	23	4 FT
4 TO 1¼ Gravel	23	34	4
Sand Medium, Gravel	34	40	4
~~40~~ Blue Sand Medium	40	48	4
Clay Blue Sandy	48	49	
Completed			3'2''

Work started 3/12 1969 Completed 3/18 1969
Date well drilling machine moved off of well 3/18 1969

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Kenneth Witt (Drilling Machine Operator) Date 3/26, 1969
Drilling Machine Operator's License No. 610

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME WITT AND SON'S (Person, firm or corporation) (Type or print)
Address Rt #4 Caldwell, Idaho
[Signed] Kenneth Witt (Water Well Contractor)
Contractor's License No. 498 Date 3/26/ 1969

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310
within 30 days from the date of well completion.

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line) Malh 1629

State Well No. 18S/47E-11ba

State Permit No.

(1) OWNER:
Name City of Ontario
Address 444 S.W. 4th St., Ontario, Or. 97914

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☒
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:
Threaded ☐ Welded ☒
18 " Diam. from +2 ft. to 28 ft. Gage 375
18 " Diam. from 40 ft. to 50 ft. Gage 375
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:
Perforated? ☐ Yes ☒ No.
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☒ Yes ☐ No
Manufacturer's Name Johnson
Type S.S. Model No. 304
Diam. 18" Slot size 40 Set from 28 ft. to 40 ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 50 gal./min. with 2 ft. drawdown after 1 hrs.
Artesian flow g.p.m.
Temperature of water 54° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Portland Cement Grout
Well sealed from land surface to 19 ft.
Diameter of well bore to bottom of seal 30 in.
Diameter of well bore below seal 30 in.
Number of sacks of cement used in well seal 110 sacks
How was cement grout placed? Pumped From Bottom Up..

Was a drive shoe used? ☐ Yes ☒ No Plugs 18" Size: location 50 ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☒ Yes ☐ No Size of gravel: ½ minus
Gravel placed from 19 ft. to 50 ft.

(10) LOCATION OF WELL:
County Malheur Driller's well number 14
NE ¼ NW ¼ Section 11 T. 18S R. 47E W.M.
Bearing and distance from section or subdivision corner
532' So. & 2468' East from the NW corner of Sec. 11

(11) WATER LEVEL: Completed well.
Depth at which water was first found 44 ft.
Static level 16 ft. below land surface. Date 11-30-79
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 30"
Depth drilled 50 ft. Depth of completed well 50 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
4' Filldirt - 6' Brn. Clay & 1' Clay and Gravel	0	11	
Sand - Gravel & River Rock	11	18	
Sand - Gravel & River Rock	18	28	
Dk. Gray w/Small gravel & Few River Rocks	28	38	
Dk. Gray w/Small Gravel & Few River Rocks	38	40	
Blue Clay	40	42	
Dk. Brn. & Gray Sand	42	50	

Work started 11-20 1979 Completed 11-30 1979
Date well drilling machine moved off of well 12-3 1979

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Earl Shinn (Drilling Machine Operator) Date 3-25, 1980
Drilling Machine Operator's License No. 276

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Leeman A.. White dba Highland Drilling Co. (Person, firm or corporation) (Type or print)
Address P.O. Box 973, Hines, Or. 97738
[Signed] Leeman A. White (Water Well Contractor)
Contractor's License No. 577 Date 3-26, 1980

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

MALH 53658

Revised

MALH 53658

Well #15

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

WELL LABEL # L 88892

START CARD # 1008707

(1) LAND OWNER Owner Well I.D.

First Name Last Name

Company CITY OF ONTARIO

Address 444 SW 4TH STREET

City ONTARIO State OREGON Zip 97914

(2) TYPE OF WORK [X] New Well [ ] Deepening [ ] Conversion [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD [ ] Rotary Air [X] Rotary Mud [ ] Cable [ ] Auger [ ] Cable Mud [ ] Reverse Rotary [ ] Other

(4) PROPOSED USE [ ] Domestic [ ] Irrigation [X] Community [ ] Industrial/Commercial [ ] Livestock [ ] Dewatering [ ] Thermal [ ] Injection [ ] Other

(5) BORE HOLE CONSTRUCTION Special Standard [ ] (Attach copy)

Depth of Completed Well 52 ft.

BORE HOLE Dia	From	To	SEAL Material	From	To	Amt	sacks/lbs
30"	0	18	CEMENT	0	18	300GAL	
22"	18	55					
12	55	100					

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E [ ] Other

Backfill placed from 55 ft. to 100 ft. Material CLAY + GRAVEL

Filter pack from 0 ft. to 55 ft. Material SILICA S Size 6/9

Explosives used: [ ] Yes Type Amount

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
X		24"	+	2	18	.250	X			
X		16"	+	2.5	22	.375	X		X	
		16"	-	42	52	.375	X		X	

Shoe [ ] Inside [ ] Outside [ ] Other Location of shoe(s)

Temp casing [ ] Yes Dia From To

(7) PERFORATIONS/SCREENS

Perforations Method

Screens Type WIRE WRAP Material STAINLESS

Perf/Screen	Casing/Liner	Screen Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/pipe size
		16"	22	42	.030			P.S.

(8) WELL TESTS: Minimum testing time is 1 hour

[X] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
232	21		24hrs

Temperature 57 °F Lab analysis [ ] Yes By

Water quality concerns? [ ] Yes (describe below)

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)

County MALHEUR Twp 18 N Range 47 E WM

Sec 11 SE 1/4 of the NW 1/4 Tax Lot 1500

Tax Map Number Lot

Lat 44° 01' 278" or DMS or DD

Long 116° 56' 178" or DMS or DD

(X) Street address of well ( ) Nearest address

SE 5TH AVENUE ONTARIO

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Predeepening				
Completed Well	1-14-10		-	14

Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES Depth water was first found -14

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
1-14-10	-14	42	232		-	14

(11) WELL LOG Ground Elevation

Material	From	To
TOP SOIL	0	4
BROWN CLAY	4	10
SAND & GRAVEL TAN	10	31
BROWN SAND	31	32
SAND & GRAVEL	32	41
BROWN CLAY	41	42
BLUE CLAY	42	43
BLUE SAND	43	44
BLUE CLAY	44	55
SAND VERY FINE	55	72
BLUE CLAY	72	100

RECEIVED

JAN 21 2010

WATER RESOURCES DEPT
SALEM, OREGON

Date Started NOVEMBER 09 Completed 12-28-09

(unbonded) Water Well Constructor Certification

I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

License Number Date

Password : (if filing electronically)

Signed

(bonded) Water Well Constructor Certification

I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

License Number 1714 Date 1-14-10

Password (if filing electronically)

Signed Dave Adamson

Contact Info (optional)

ORIGINAL - WATER RESOURCES DEPARTMENT

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Form Version: 0.89

WELL #15

MALH 53657

Revised

MALH 53657

Well #16

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

WELL LABEL # L 88891

START CARD # 1008492

(1) LAND OWNER Owner Well I.D.
First Name Last Name
Company CITY OF ONTARIO
Address 444 SW 4TH STREET
City ONTARIO State OREGON Zip 97914

(2) TYPE OF WORK [X] New Well [ ] Deepening [ ] Conversion
[ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD
[ ] Rotary Air [X] Rotary Mud [ ] Cable [ ] Auger [ ] Cable Mud
[ ] Reverse Rotary [ ] Other

(4) PROPOSED USE [ ] Domestic [ ] Irrigation [X] Community
[ ] Industrial/ Commericial [ ] Livestock [ ] Dewatering
[ ] Thermal [ ] Injection [ ] Other

(5) BORE HOLE CONSTRUCTION Special Standard [ ] (Attach copy)
Depth of Completed Well 52 ft.

BORE HOLE Dia	From	To	SEAL Material	From	To	Amt	sacks/ lbs
30	0	18	CEMENT	18	0	300	GAL
22	18	55					
12	55	100					

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E
[ ] Other
Backfill placed from 55 ft. to 100 ft. Material CLAY + GRAVEL
Filter pack from 65 ft. to 0 ft. Material SILICA S. Size 6/9
Explosives used: [ ] Yes Type Amount

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
X		24"	+	2	18	.250	X			
X		16"	+	2.5	22	.375	X		X	
X		16"	-	42	52	.375	X		X	

Shoe [ ] Inside [ ] Outside [ ] Other Location of shoe(s)
Temp casing [ ] Yes Dia From To

(7) PERFORATIONS/SCREENS
Perforations Method
Screens Type WIRE WRAP Material STAINLESS S

Perf/S creen	Casing/ Liner	Screen Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ pipe size
		16"	22	42	.030			PS

(8) WELL TESTS: Minimum testing time is 1 hour
(X) Pump ( ) Bailer ( ) Air ( ) Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
276	21		24 HRS

Temperature 57 °F Lab analysis [ ] Yes By
Water quality concerns? [ ] Yes (describe below)

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)
County MALHEUR Twp 18 N/S Range 47 E/W WM
Sec 11 SE 1/4 of the NW 1/4 Tax Lot 1801
Tax Map Number Lot
Lat 44° 01' 24.2" or DMS or DD
Long 116° 56' 17.8" or DMS or DD
(X) Street address of well ( ) Nearest address
SE 5TH AVENUE ONTARIO

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Predeepening				
Completed Well	1-14-10		-	16

Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES Depth water was first found -16

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
1-14-10	16	42	278		-	16

(11) WELL LOG Ground Elevation

Material	From	To
TOP SOIL	0	4
BROWN CLAY	4	10
SAND & GRAVEL TAN	10	31
SAND BROWN	31	32
SAND & GRAVEL	32	41
BROWN CLAY	41	42
BLUE CLAY	42	43
BLUE SAND	43	44
BLUE CLAY	44	55
SAND VERY FINE	55	72
BLUE CLAY	72	100

RECEIVED
JAN 21 2010
WATER RESOURCES DEPT
SALEM, OREGON

Date Started OCTOBER 09 Completed 12 NOV 09

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
License Number Date
Password : (if filing electronically)
Signed

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
License Number 1714 Date 1-14-10
Password : (if filing electronically)
Signed Dave Adamson
Contact Info (optional)

ORIGINAL - WATER RESOURCES DEPARTMENT
THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Form Version: 0.89

WELL #16

MALH 54103

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

MALH 54103

2/3/201

WELL I.D. LABEL# L	106327
START CARD #	1020812
ORIGINAL LOG #	

(1) LAND OWNER
Owner Well I.D.
First Name Last Name
Company CITY OF ONTARIO
Address 444 SW 4TH STREET
City ONTARIO State OR Zip 97914

(2) TYPE OF WORK
[X] New Well [ ] Deepening [ ] Conversion
[ ] Alteration (complete 2a & 10) [ ] Abandonment(complete 5a)

(2a) PRE-ALTERATION
Casing: Dia + From To Gauge Stl Plstc Wld Thrd
Seal: Material From To Amt sacks/lbs

(3) DRILL METHOD
[ ] Rotary Air [ ] Rotary Mud [X] Cable [ ] Auger [ ] Cable Mud
[ ] Reverse Rotary [ ] Other

(4) PROPOSED USE
[ ] Domestic [ ] Irrigation [X] Community
[ ] Industrial/ Commericial [ ] Livestock [ ] Dewatering
[ ] Thermal [ ] Injection [ ] Other

(5) BORE HOLE CONSTRUCTION
Special Standard [ ] (Attach copy)
Depth of Completed Well 80.50 ft.

BORE HOLE Dia	From	To	SEAL Material	From	To	Amt	sacks/lbs
32	0	20	Cement	0	20.2	8400	P
22	20	80.5					

How was seal placed: Method [ ] A [ ] B [ ] C [ ] D [ ] E
[X] Other PUMPED
Backfill placed from ft. to ft. Material
Filter pack from 15 ft. to 41 ft. Material SILICA SAN Size 6/9
Explosives used: [ ] Yes Type Amount

(5a) ABANDONMENT USING UNHYDRATED BENTONITE
Proposed Amount Actual Amount

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
(•)	( )	16	X	3	35	.375	(•)	( )	X	
(•)	( )	26	X	2	20	.375	(•)	( )	X	
(•)	( )	16		40	50	.375	(•)	( )	X	
(•)	( )	16		75	80	.375	(•)	( )	X	

Shoe [ ] Inside [ ] Outside [ ] Other Location of shoe(s)
Temp casing [ ] Yes Dia From To

(7) PERFORATIONS/SCREENS
Perforations Method
Screens Type Johnson Material Stainless 304

Perf/ Screen	Casing/ Liner	Screen Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ pipe size
Screen	Casing	16	35	40	.08			16
Screen	Casing	16	50	75	.03			16

(8) WELL TESTS: Minimum testing time is 1 hour
(•) Pump ( ) Bailer ( ) Air ( ) Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
400	31	42	24

Temperature 60 °F Lab analysis [X] Yes By Table Rock Analytical Lab
Water quality concerns? [ ] Yes (describe below) TDS amount

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)
County MALHEUR Twp 18.00 S N/S Range 47.00 E E/W WM
Sec 11 SW 1/4 of the NW 1/4 Tax Lot
Tax Map Number Lot
Lat ° ' " or 44.02033000 DMS or DD
Long ° ' " or -116.93630000 DMS or DD
( ) Street address of well ( ) Nearest address
1900 SE 5TH AVE
ONTARIO, OREGON 97914

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Pre-Alteration				
Completed Well				

Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES Depth water was first found 13'

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
8/22/2013	11	43	300			13
11/12/2013	50	78	110			14

(11) WELL LOG
Ground Elevation

Material	From	To
brown sandy clay	0	11
Sand & Gravel	11	43
Blue Clay	43	50
Fine Black Sand	50	78
Blue Clay	78	80 5

Date Started 8/21/2013 Completed 1/9/2014

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
License Number Date
Signed

RECEIVED BY OWRD
FEB 18 2014
SALEM, OR

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
License Number 1914 Date 2/3/2014
Signed DAVID MCLERAN (E-filed)
Contact Info (optional)

ORIGINAL - WATER RESOURCES DEPARTMENT
THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK Form Version:

MALH 54103

WATER SUPPLY WELL REPORT - continuation page

MALH 54103

2/3/2014

WELL I.D. LABEL# L 106327

START CARD # 1020812

ORIGINAL LOG #

(2a) PRE-ALTERATION

Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd

Material	From	To	Amt	sacks/lbs

Water Quality Concerns

From	To	Description	Amount	Units

(5) BORE HOLE CONSTRUCTION

BORE HOLE Dia	From	To	SEAL Material	From	To	Amt	sacks/lbs

FILTER PACK

From	To	Material	Size
41	80	SILICA SAND	16/30

(10) STATIC WATER LEVEL

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd

(11) WELL LOG

Material	From	To

RECEIVED BY OWRD

FEB 18 2014

SALEM, OR

(7) PERFORATIONS/SCREENS

Perf/ Screen	Casing/ Liner	Screen Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ pipe size

(8) WELL TESTS: Minimum testing time is 1 hour

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)

Comments/Remarks

APPENDIX E
Municipal Water Right Permits, Certificates, and Transfers

Permit A-1—1500—2-38 State Printing 69196

STATE OF OREGON

COUNTY OF MALHEUR

CERTIFICATE OF WATER RIGHT

This Is to Certify, *That* THE CITY OF ONTARIO

of Box 119, Ontario *, State of* Oregon *, has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of* 2 wells *a tributary of* *for the purpose of* municipal *under Permit No.* U-428 *of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from* March 10, 1952;

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 3.35 cubic foot per second

or its equivalent in case of rotation, measured at the point of diversion from the stream.

The point of diversion is located in the Lot 2 ($SE\frac{1}{4}NW\frac{1}{4}$), Section 11, Township 18 South, Range 47 East, W. M.

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to — — — — — — — *of one cubic foot per second per acre,*

and shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

$SW\frac{1}{4}$ & $S\frac{1}{2}NW\frac{1}{4}$
Section 3
$SE\frac{1}{4}$ & $S\frac{1}{2}SW\frac{1}{4}$ & $SE\frac{1}{4}NE\frac{1}{4}$
Section 4
$NE\frac{1}{4}$ & $E\frac{1}{2}NW\frac{1}{4}$
Section 9
$NW\frac{1}{4}$
Section 10
Township 18 South, Range 47 East, W. M.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described.

WITNESS the signature of the State Engineer, affixed this 12th *day of* July *,* 1957.

LEWIS A. STANLEY
State Engineer

Recorded in State Record of Water Right Certificates, Volume 16 *, page* 22879.

STATE OF OREGON

COUNTY OF MALHEUR

CERTIFICATE OF WATER RIGHT

This Is to Certify, *That* CITY OF ONTARIO

of Ontario *, State of* Oregon *, has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of* municipal well No. 4

a tributary of Snake River (Columbia River) *for the purpose of* municipal

under Permit No. G-1867 *of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from* May 24, 1961

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 2.0 cubic feet per second

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the Lot 1 (NE$\frac{1}{4}$ NW$\frac{1}{4}$) Section 11, T. 18 S., R. 47 E., W. M. Well located 255 feet S. and 1061 feet E. from the Northwest corner of Lot 1 (NE$\frac{1}{4}$ NW$\frac{1}{4}$) Section 11

The amount of water used for irrigation, together with the amount secured under any other right existing for the same lands, shall be limited to - - - - - - - *of one cubic foot per second per acre,*

and shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

W$\frac{1}{2}$
SW$\frac{1}{4}$ SE$\frac{1}{4}$
Section 3
S$\frac{1}{2}$
NE$\frac{1}{4}$
SE$\frac{1}{4}$ NW$\frac{1}{4}$
Section 4
N$\frac{1}{2}$
NE$\frac{1}{4}$ SE$\frac{1}{4}$
Section 9
N$\frac{1}{2}$
NW$\frac{1}{4}$ SW$\frac{1}{4}$
Section 10
NW$\frac{1}{4}$
Section 11
T. 18 S., R. 47 E., W. M.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described.

WITNESS the signature of the St[illegible]e Engineer, affixed

this date. April 20, 65

CHRIS L. WHEELER
State Engineer

Recorded in State Record of Water Right Certificates, Volume 24 *, page* 32125

STATE OF OREGON

COUNTY OF MALHEUR

CERTIFICATE OF WATER RIGHT

THIS CERTIFICATE ISSUED TO

CITY OF ONTARIO
444 SW 4TH
ONTARIO, OREGON 97914

confirms the right to use the waters of WELLS 8 AND 9 in the SNAKE RIVER BASIN for the purpose of MUNICIPAL USES.

The right has been perfected under Permit G-6794. The date of priority is APRIL 14, 1975. The right is limited to not more than 1.10 CUBIC FEET PER SECOND, BEING 0.44 CFS FROM WELL 8 AND 0.66 CFS FROM WELL 9, or its equivalent in case of rotation, measured at the well.

The wells are located as follows:

LOT 1 (NE 1/4 NW 1/4), SECTION 11, T 18 S, R 47 E, W.M.; WELL 8 - NORTH 49 DEGREES 50 MINUTES EAST, 1221.5 FEET; WELL 9 - NORTH 64 DEGREES 35 MINUTES EAST, 1151.4 FEET BOTH FROM SW CORNER, LOT 1 (NE 1/4 NW 1/4), SECTION 11.

The right shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right, and to which such right is appurtenant, is as follows:

W 1/2 NE 1/4
E 1/2 NW 1/4
NE 1/4 SW 1/4
SE 1/4
SECTION 33
TOWNSHIP 17 SOUTH, RANGE 47 EAST, W.M.

SEE NEXT PAGE

T 8078

SW 1/4 SW 1/4
SECTION 2

W 1/2 NE 1/4
W 1/2
NW 1/4 SE 1/4
S 1/2 SE 1/4
SECTION 3

NE 1/4
S 1/2 NW 1/4
S 1/2
SECTION 4

S 1/2 NE 1/4
NE 1/4 SW 1/4
S 1/2 SW 1/4
SE 1/4
SECTION 5

NE 1/4 NE 1/4
SECTION 7

N 1/2 N 1/2
NE 1/4 SE 1/4
SECTION 8

N 1/2
SW 1/4
N 1/2 SE 1/4
SW 1/4 SE 1/4
SECTION 9

N 1/2
N 1/2 SW 1/4
SW 1/4 SW 1/4
SE 1/4
SECTION 10

NW 1/4
NW 1/4 SW 1/4
SECTION 11

SE 1/4 NW 1/4
NW 1/4 SW 1/4
SECTION 15
TOWNSHIP 18 SOUTH, RANGE 47 EAST, W.M.

The use of water shall be further limited to appropriation of water only to the extent that it does not impair or substantially interfere with existing surface water rights of others.

The right to the use of the water for the above purpose is restricted to beneficial use on the lands or place of use described.

WITNESS the signature of the Water Resources Director, affixed this date FEBRUARY 9, 1989.

/s/ WILLIAM H. YOUNG
Water Resources Director

Recorded in State Record of Water Right Certificates numbered 60022

G-6892.SB

STATE OF OREGON

COUNTY OF MALHEUR

CERTIFICATE OF WATER RIGHT

THIS CERTIFICATE ISSUED TO

CITY OF ONTARIO
444 SW 4TH
ONTARIO, OREGON 97914

confirms the right to use the waters of WELL 14 in the SNAKE RIVER BASIN for the purpose of MUNICIPAL USES.

The right has been perfected under Permit G-9113. The date of priority is SEPTEMBER 18, 1980. The right is limited to not more than 0.94 CUBIC FOOT PER SECOND, or its equivalent in case of rotation, measured at the well.

The well is located as follows:

LOT 1 (NE 1/4 NW 1/4), SECTION 11, T 18 S, R 47 E, W.M.; 600 FEET SOUTH AND 2550 FEET EAST FROM NW CORNER SECTION 11.

The right shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right, and to which such right is appurtenant, is as follows:

W 1/2 NE 1/4
E 1/2 NW 1/4
NE 1/4 SW 1/4
SE 1/4
SECTION 33
TOWNSHIP 17 SOUTH, RANGE 47 EAST, W.M.

SEE NEXT PAGE

T-8078

SW 1/4 SW 1/4
SECTION 2

W 1/2 NE 1/4
W 1/2
NW 1/4 SE 1/4
S 1/2 SE 1/4
SECTION 3

NE 1/4
S 1/2 NW 1/4
S 1/2
SECTION 4

S 1/2 NE 1/4
NE 1/4 SW 1/4
S 1/2 SW 1/4
SE 1/4
SECTION 5

NE 1/4 NE 1/4
SECTION 7

N 1/2 N 1/2
NE 1/4 SE 1/4
SECTION 8

N 1/2
SW 1/4
N 1/2 SE 1/4
SW 1/4 SE 1/4
SECTION 9

N 1/2
N 1/2 SW 1/4
SW 1/4 SW 1/4
SE 1/4
SECTION 10

NW 1/4
NW 1/4 SW 1/4
SECTION 11

SE 1/4 NW 1/4
NW 1/4 SW 1/4
SECTION 15
TOWNSHIP 18 SOUTH, RANGE 47 EAST, W.M.

The use of water shall be further limited to appropriation of water only to the extent that it does not impair or substantially interfere with existing surface water rights of others.

The right to the use of the water for the above purpose is restricted to beneficial use on the lands or place of use described.

WITNESS the signature of the Water Resources Director, affixed this date FEBRUARY 9, 1989.

/s/ WILLIAM H. YOUNG

Water Resources Director

Recorded in State Record of Water Right Certificates numbered 60023

G-9944.SB

STATE OF OREGON

COUNTY OF MALHEUR

CERTIFICATE OF WATER RIGHT

THIS CERTIFICATE ISSUED TO

CITY OF ONTARIO
444 SW 4TH
ONTARIO, OREGON 97914

confirms the right to use the waters of has a right to the use of the waters of WELL 13 in the SNAKE RIVER BASIN for the purpose of MUNICIPAL USES.

The right has been perfected under Permit G-9114. The date of priority is SEPTEMBER 18, 1980. The right is limited to not more than 0.78 CUBIC FOOT PER SECOND or its equivalent in case of rotation, measured at the well.

The well is located as follows:

LOT 1 (NE 1/4 NW 1/4), SECTION 11, T 18 S, R 47 E, W.M.; 1130 FEET SOUTH AND 2590 FEET EAST FROM NW CORNER SECTION 11.

The right shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right, and to which such right is appurtenant, is as follows:

W 1/2 NE 1/4
E 1/2 NW 1/4
NE 1/4 SW 1/4
SE 1/4
SECTION 33
TOWNSHIP 17 SOUTH, RANGE 47 EAST, W.M.

SEE NEXT PAGE

T 8078

SW 1/4 SW 1/4
SECTION 2

W 1/2 NE 1/4
W 1/2
NW 1/4 SE 1/4
S 1/2 SE 1/4
SECTION 3

NE 1/4
S 1/2 NW 1/4
S 1/2
SECTION 4

S 1/2 NE 1/4
NE 1/4 SW 1/4
S 1/2 SW 1/4
SE 1/4
SECTION 5

NE 1/4 NE 1/4
SECTION 7

N 1/2 N 1/2
NE 1/4 SE 1/4
SECTION 8

N 1/2
SW 1/4
N 1/2 SE 1/4
SW 1/4 SE 1/4
SECTION 9

N 1/2
N 1/2 SW 1/4
SW 1/4 SW 1/4
SE 1/4
SECTION 10

NW 1/4
NW 1/4 SW 1/4
SECTION 11

SE 1/4 NW 1/4
NW 1/4 SW 1/4
SECTION 15
TOWNSHIP 18 SOUTH, RANGE 47 EAST, W.M.

The use of water shall be further limited to appropriation of water only to the extent that it does not impair or substantially interfere with existing surface water rights of others.

The right to the use of the water for the above purpose is restricted to beneficial use on the lands or place of use described.

WITNESS the signature of the Water Resources Director, affixed this date FEBRUARY 9, 1989.

/s/ WILLIAM H. YOUNG

Water Resources Director

Recorded in State Record of Water Right Certificates numbered 60024

G-9945.SB

STATE OF OREGON

COUNTY OF MALHEUR

CERTIFICATE OF WATER RIGHT

THIS CERTIFICATE ISSUED TO

CITY OF ONTARIO
444 SW FOURTH STREET
ONTARIO, OR 97914

confirms the right to use the waters of WELL #6 in the SNAKE RIVER BASIN for MUNICIPAL USE.

This right was perfected under Permit G-999. The date of priority is AUGUST 11, 1958. The amount of water to which this right is entitled is limited to an amount actually beneficially used and shall not exceed 500 GALLONS PER MINUTE, or its equivalent in case of rotation, measured at the point of diversion from the source.

The well is located as follows:

LOT 4 (SE 1/4 SW 1/4), SECTION 2, T 18 S, R 47 E, W.M.; 264 FEET NORTH AND 914 FEET EAST FROM THE SW CORNER OF SECTION 2.

The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use to which this right is appurtenant is as follows:

W 1/2
SW 1/4 SE 1/4
SECTION 3

NE 1/4
SE 1/4 NW 1/4
S 1/2
SECTION 4

N 1/2
NE 1/4 SE 1/4
SECTION 9

N 1/2
NW 1/4 SW 1/4
SECTION 10

LOT 1 (NE 1/4 NW 1/4)
NW 1/4 NW 1/4
SW 1/4 NW 1/4
LOT 2 (SE 1/4 NW 1/4)
SECTION 11
TOWNSHIP 18 SOUTH, RANGE 47 EAST, W.M.

This certificate is issued to confirm a change in POINT OF APPROPRIATION approved by an order of the Water Resources Director entered FEBRUARY 28, 1990, and supersedes Certificate 32124, State Record of Water Right Certificates.

The issuance of this superseding certificate does not confirm the status of the water right in regard to the provisions of ORS 540.610 pertaining to forfeiture or abandonment.

SEE NEXT PAGE

T-6160.DEK

T-8078

The quantity of water diverted at the new point of appropriation shall not exceed the quantity of water available at the original point of appropriation.

The water user shall maintain an in-line flow meter or other suitable device for measuring and recording the quantity of water used.

Water shall be acquired from the same aquifer as the original point of appropriation.

The well shall be maintained in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon.

The right to use water for the above purpose is restricted to beneficial use on the lands or place of use described.

WITNESS the signature of the Water Resources Director, affixed OCTOBER 10, 1995.

/s/

Martha O. Pagel

Recorded in State Record of Water Right Certificates numbered 68622.

T-6160.DEK

RECEIVED
AUG 11 1958
STATE ENGINEER
SALEM, OREGON

Permit No. G- 999

APPLICATION FOR A PERMIT

To Appropriate the Ground Waters of the State of Oregon

I, City of Ontario, Oregon (Name of applicant)

of Box 119, Ontario (Postoffice Address), county of Malheur,

state of Oregon, do hereby make application for a permit to appropriate the following described ground waters of the state of Oregon, SUBJECT TO EXISTING RIGHTS:

If the applicant is a corporation, give date and place of incorporation

1896 State of Oregon

1. Give name of nearest stream to which the well, tunnel or other source of water development is situated Snake River (Name of stream)

tributary of Columbia River

2. The amount of water which the applicant intends to apply to beneficial use is 2.25 cubic feet per second or .... gallons per minute.

3. The use to which the water is to be applied is municipal water supply

4. The well or other source is located 1115.0 ft. E. (N. or S.) and 188.0 ft. N. (E. or W.) from the S.E. corner of the NW¼ of the NW¼ of Sec. 11, T. 18 S., R. 47 E., W. M. (Section or subdivision)

(If preferable, give distance and bearing to section corner)

(If there is more than one well, each must be described. Use separate sheet if necessary)

being within the NW¼ NW¼ of Sec. 11, Twp. 18 S., R. 47 E.,

W. M., in the county of Malheur

5. The pipe lines (Canal or pipe line) to be one miles in length, terminating in the City Limits of Ontario, Oregon (Smallest legal subdivision) of Sec. 3,4,9,10 Twp. 18 S. R. 47 E., W. M., the proposed location being shown throughout on the accompanying map.

6. The name of the well or other works is Municipal Well No. 3

DESCRIPTION OF WORKS

7. If the flow to be utilized is artesian, the works to be used for the control and conservation of the supply when not in use must be described.

8. The development will consist of one well (Give number of wells, tunnels, etc.) having a diameter of 30" outside casing 14" inside inches and an estimated depth of 80 feet. It is estimated that 80 feet of the well will require Gravel packed between to eliminate sand 14 inch (Kind) casing. Depth to water table is estimated at (Feet) 15' below the ground surface.

CANAL SYSTEM OR PIPE LINE—

9. (a) Give dimensions at each point of canal where materially changed in size, stating miles from headgate. At headgate: width on top (at water line) .... feet; width on bottom .... feet; depth of water .... feet; grade .... feet fall per one thousand feet.

(b) At .... miles from headgate: width on top (at water line) .... feet; width on bottom .... feet; depth of water .... feet; grade .... feet fall per one thousand feet.

(c) Length of pipe, 200 to existing pipe line ft.; size at intake, 8 in.; in size at .... ft. from intake .... in.; size at place of use 8 in.; difference in elevation between intake and place of use, 2 ft. Is grade uniform? yes. Estimated capacity, 2.5 sec. ft.

10. If pumps are to be used, give size and type Layne-Bowler 1000 g.p.m. 210 ft. 1770 R.P.M. Model 12 C.M. Serial #22747 Verti-Line pump. (Turbine Type)

Give horsepower and type of motor or engine to be used 75 H.P. 220 V. U.S. Motor Type C.F.U. 1800 R.P.M. 3 Phase.

11. If the location of the well, tunnel, or other development work is less than one-fourth mile from a natural stream or stream channel, give the distance to the nearest point on each of such channels and the difference in elevation between the stream bed and the ground surface at the source of development

Well is located 130 feet from Snake River.. Elevation 2142.90 or approximately 15.64 above stream bed.

12. Location of area to be irrigated, or place of use Municipal Water System. Ontario, Oregon

Township N. or S.	Range E. or W. of Willamette Meridian	Section	Forty-acre Tract	Number Acres To Be Irrigated
18 S.	47 E.	3	SW¼ S½ of NW¼	
"	"	4	SE¼ & S½ of SW¼ & SE¼ of NE¼	
"	"	9	NE¼ & E½ of NW¼	
"	"	10	NW¼	
"	"	9	E½ of NW¼ of the NW¼	

(If more space required, attach separate sheet)

Character of soil ....

Kind of crops raised ....

[illegible] County of [illegible]

[illegible] having a present population of 4650

and an estimated population of [illegible] in 19 62

ANSWER QUESTIONS 14, 15, 16, 17 AND 18 IN ALL CASES

14. Estimated cost of proposed works, $ 10,000.00

15. Construction work will begin on or before ....

16. Construction work will be completed on or before ....

17. The water will be completely applied to the proposed use on or before 7-1-62

18. If the ground water supply is supplemental to an existing water supply, identify any application for permit, permit, certificate or adjudicated right to appropriate water, made or held by the applicant. ....

CITY OF ONTARIO

By H. L. Wesick City Supt.
(Signature of applicant)

Remarks: Owing to the growing population, greater use of domestic water and the elimination of surface type lawn irrigation, it has become necessary to pump water directly into the domestic system and bypass the treatment plant. Water will be chlorinated at sources.

STATE OF OREGON, } ss.
County of Marion, }

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for ....

In order to retain its priority, this application must be returned to the State Engineer, with corrections on or before ...., *19*......

WITNESS my hand this .... *day of* ...., *19*......

....
STATE ENGINEER

By ....
ASSISTANT

STATE OF OREGON, } ss. **PERMIT**

County of Marion,

This is to certify that I have examined the foregoing application and do hereby grant the same, ***SUBJECT TO EXISTING RIGHTS*** *and the following limitations and conditions:*

The right herein granted is limited to the amount of water which can be applied to beneficial use and shall not exceed ......2.25...... *cubic feet per second measured at the point of diversion from the well or source of appropriation, or its equivalent in case of rotation with other water users, from* Municipal Well No. 3

The use to which this water is to be applied is municipal

If for irrigation, this appropriation shall be limited to .... *of one cubic foot per second or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed* .... *acre feet per acre for each acre irrigated during the irrigation season of each year;*

and shall be subject to such reasonable rotation system as may be ordered by the proper state officer.

The well shall be cased as necessary in accordance with good practice and if the flow is artesian the works shall include proper capping and control valve to prevent the waste of ground water.

The works constructed shall include an air line and pressure gauge or an access port for measuring line, adequate to determine water level elevation in the well at all times.

The permittee shall install and maintain a weir, meter, or other suitable measuring device, and shall keep a complete record of the amount of ground water withdrawn.

The priority date of this permit is .... August 11, 1958

Actual construction work shall begin on or before .... September 17, 1959 .... *and shall thereafter be prosecuted with reasonable diligence and be completed on or before October 1, 19*59

*Complete application of the water to the proposed use shall be made on or before October 1, 19*60

WITNESS my hand this 17th *day of* September 1958

Lewis A. Stanley

STATE ENGINEER

Application No. G- 1191

Permit No. G- 999

PERMIT

TO APPROPRIATE THE GROUND WATERS OF THE STATE OF OREGON

This instrument was first received in the office of the State Engineer at Salem, Oregon, on the 11th *day of* August *19*58*, at* 8:00 *o'clock* A *M.*

Returned to applicant:

Approved:

September 17, 1958

Recorded in book No. 4 *of Ground Water Permits on page* 999

LEWIS A. STANLEY

STATE ENGINEER

Drainage Basin No. 10 *page* 37

State Printing

RECEIVED
MAY 25 1961
STATE ENGINEER
SALEM, OREGON

Permit No. G-1867

APPLICATION FOR A PERMIT

To Appropriate the Ground Waters of the State of Oregon

I, City of Ontario (Name of applicant)

of Ontario, Oregon (Postoffice Address), county of Malheur,

state of Oregon, do hereby make application for a permit to appropriate the following described ground waters of the state of Oregon, SUBJECT TO EXISTING RIGHTS:

If the applicant is a corporation, give date and place of incorporation

1896 State of Oregon

1. Give name of nearest stream to which the well, tunnel or other source of water development is situated Snake River (Name of stream)

tributary of Columbia River

2. The amount of water which the applicant intends to apply to beneficial use is ______ cubic feet per second or 900 gallons per minute.

3. The use to which the water is to be applied is Municipal Water Supply

4. The well or other source is located 255 ft. South (N. or S.) and 1061 ft. East (E. or W.) from the N.W. corner of Lot 1, Section 11, Twp. 18 S., R. 47 E.W.M. (Section or subdivision)

(If preferable, give distance and bearing to section corner)

(If there is more than one well, each must be described. Use separate sheet if necessary)

being within the N.W. ¼ (NE ¼ NW ¼) Lot 1 of Sec. 11, Twp. 18 S., R. 47 E. W. M., in the county of Malheur

5. The Cast iron pipe line (Canal or pipe line) to be 1 ¼ miles in length, terminating in the City Limits of Ontario, Oregon (Smallest legal subdivision) of Sec. 3-4-9-10, Twp. 18 S. R. 47 E., W. M., the proposed location being shown throughout on the accompanying map.

6. The name of the well or other works is Municipal Well #4

DESCRIPTION OF WORKS

7. If the flow to be utilized is artesian, the works to be used for the control and conservation of the supply when not in use must be described.

8. The development will consist of one well (Give number of wells, tunnels, etc.) having a diameter of 16" inches and an estimated depth of 51 feet. It is estimated that 51 feet of the well will require 16" (Kind) casing. Depth to water table is estimated 5 ft. (Feet)

G1— —3.5M

1867

CANAL SYSTEM OR PIPE LINE—

9. (a) *Give dimensions at each point of canal where materially changed in size, stating miles from headgate. At headgate: width on top (at water line)* .... *feet; width on bottom* .... *feet; depth of water* .... *feet; grade* .... *feet fall per one thousand feet.*

(b) *At* .... *miles from headgate: width on top (at water line)* .... *feet; width on bottom* .... *feet; depth of water* .... *feet; grade* .... *feet fall per one thousand feet.*

(c) *Length of pipe,* 1200' to existing pipe line *ft.; size at intake,* 8 *in.; in size at* .... *ft. from intake* .... *in.; size at place of use* 8 *in.; difference in elevation between intake and place of use,* Approx. 10' *ft. Is grade uniform?* Yes *Estimated capacity,* 2.5 *sec. ft.*

10. *If pumps are to be used, give size and type* (planned) Submersible 8" 900 GPM

Give horsepower and type of motor or engine to be used 75 H.P. Electric

11. *If the location of the well, tunnel, or other development work is less than one-fourth mile from a natural stream or stream channel, give the distance to the nearest point on each of such channels and the difference in elevation between the stream bed and the ground surface at the source of development*

Well is to be located 77 ft. from Snake River-Elevation approx. 2132.9- Approx 5 ft. above stream bed.

12. *Location of area to be irrigated, or place of use* Municipal Water System of Ontario, Oregon

Township N. or S.	Range E. or W. of Willamette Meridian	Section	Forty-acre Tract	Number Acres To Be Irrigated
18.S	47 E.	3	S.W. $\frac{1}{4}$ & S.$\frac{1}{2}$ of N.W.$\frac{1}{4}$ & Lots 1 & 2	
18 S.	47 E.	4	S.$\frac{1}{2}$ & S.$\frac{1}{2}$ of N.E.$\frac{1}{4}$	
18 S.	47 E.	9	N.E. $\frac{1}{4}$ & E.$\frac{1}{2}$ of N.W. $\frac{1}{4}$	
18 S.	47 E.	10	N.W. $\frac{1}{4}$ & N.$\frac{1}{2}$ of S.W.$\frac{1}{4}$	
~~18 S.~~	~~47 E.~~	~~9~~	~~E.$\frac{1}{2}$ of N.W.$\frac{1}{4}$ of the N.W.$\frac{1}{4}$~~	

(If more space required, attach separate sheet)

Character of soil ....

Kind of crops raised ....

MUNICIPAL SUPPLY—

13. To supply the city of Ontario, Oregon

in Malheur *county, having a present population of* 5125

and an estimated population of 8,000 *in 19*76

ANSWER QUESTIONS 14, 15, 16, 17 AND 18 IN ALL CASES

14. Estimated cost of proposed works, $ 30,000.00

15. Construction work will begin on or before June 5, 1961

16. Construction work will be completed on or before Jan. 1, 1962

17. The water will be completely applied to the proposed use on or before July 1, 1963

18. If the ground water supply is supplemental to an existing water supply, identify any application for permit, permit, certificate or adjudicated right to appropriate water, made or held by the applicant. Permit # G-999 U-427 U-428

City of Ontario
By John W. Laske City Supt.
(Signature of applicant)

Remarks: During the dry season, about June 1 to Oct. 1 of each year, the City of Ontario runs very short of water. The source applied for above is needed to relieve this shortage and to have ample water for population growth. The water is used for domestic use, lawn irrigation, by processing plants in the processing of perishable fruits and vegetables and for fire protection.

STATE OF OREGON,
County of Marion, } *ss.*

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for

In order to retain its priority, this application must be returned to the State Engineer, with corrections on or before , 19 .

WITNESS my hand this day of , 19 .

STATE ENGINEER

By

ASSISTANT

STATE OF OREGON, } ss. PERMIT

County of Marion,

This is to certify that I have examined the foregoing application and do hereby grant the same. SUBJECT TO EXISTING RIGHTS and the following limitations and conditions:

The right herein granted is limited to the amount of water which can be applied to beneficial use and shall not exceed 2.0 *cubic feet per second measured at the point of diversion from the well or source of appropriation, or its equivalent in case of rotation with other water users, from* Municipal well No. 4

The use to which this water is to be applied is municipal

If for irrigation, this appropriation shall be limited to - - *of one cubic foot per second or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed acre feet per acre for each acre irrigated during the irrigation season of each year;*

and shall be subject to such reasonable rotation system as may be ordered by the proper state officer.

The well shall be cased as necessary in accordance with good practice and if the flow is artesian the works shall include proper capping and control valve to prevent the waste of ground water.

The works constructed shall include an air line and pressure gauge or an access port for measuring line, adequate to determine water level elevation in the well at all times.

The permittee shall install and maintain a weir, meter, or other suitable measuring device, and shall keep a complete record of the amount of ground water withdrawn.

The priority date of this permit is May 24, 1961

Actual construction work shall begin on or before August 11, 1962 *and shall thereafter be prosecuted with reasonable diligence and be completed on or before October 1, 19*62

Complete application of the water to the proposed use shall be made on or before October 1, 19 63

WITNESS my hand this 11th *day of* August, 19 61.

Lewis A. Stanley

STATE ENGINEER

Application No. G- 2030

Permit No. G- 1867

PERMIT

TO APPROPRIATE THE GROUND WATERS OF THE STATE OF OREGON

This instrument was first received in the office of the State Engineer at Salem, Oregon, on the 24th *day of* 5/24, *19*61, *at* 1:00 *o'clock* P. *M.*

Returned to applicant:

Approved:

August 11, 1961

Recorded in book No. 7 *of Ground Water Permits on page* 1867

LEWIS A. STANLEY

STATE ENGINEER

Drainage Basin No. 2 *page*

State Printing

Permit No. G-4485

APPLICATION FOR A PERMIT

To Appropriate the Ground Waters of the State of Oregon

I, City of Ontario (Name of applicant)

of City Hall, Ontario, Oregon (Postoffice Address), county of Malheur,

state of Oregon, do hereby make application for a permit to appropriate the following described ground waters of the state of Oregon, SUBJECT TO EXISTING RIGHTS:

If the applicant is a corporation, give date and place of incorporation

1. Give name of nearest stream to which the well, tunnel or other source of water development is situated Snake River (Name of stream) tributary of Columbia River

2. The amount of water which the applicant intends to apply to beneficial use is 5.0 cubic feet per second or 2250 gallons per minute. (Approx. 750 gpm from each of 3 wells.)

3. The use to which the water is to be applied is Municipal water supply.

4. The well or other source is located ft. (N. or S.) and ft. (E. or W.) from the corner of see attached list (Section or subdivision)

(If preferable, give distance and bearing to section corner)

Lot 4 2

(If there is more than one well, each must be described. Use separate sheet if necessary)

being within the Lots 1 & 3 of Sec. 11, Twp. 18S, R. 47E, W. M., in the county of Malheur

5. The see attached list (Canal or pipe line) to be miles in length, terminating in the (Smallest legal subdivision) of Sec. , Twp. , R. , W. M., the proposed location being shown throughout on the accompanying map.

6. The name of the well or other works is . See attached list.

DESCRIPTION OF WORKS

7. If the flow to be utilized is artesian, the works to be used for the control and conservation of the supply when not in use must be described.

Not applicable

8. The development will consist of Three production wells (Give number of wells, tunnels, etc.) having a diameter of 16 inches and an estimated depth of 50 feet. It is estimated that 50 feet of the well will require S. S. well screen or 0.375" wall steel (Kind) casing. Depth to water table is estimated 5 (Feet)

T-9577

T-8077

G1—4M

SP*F291

Item 4. Location of Wells.

Proposed Well 5. Located 690 feet North and 1230 feet East from the Southwest corner of Lot 1, Section 11, T. 18 S., R. 47 E., W.M. Malheur County, Oregon.

Proposed Well 68-1. Located 1630 feet South and 900 feet East of the Northwest corner of Lot 2, Section 11, T. 18. S., R. 47 E., W.M., Malheur County, Oregon.

Proposed Well 68-2. Located 250 feet North and 950 feet East of the Southwest corner of Lot 4, Section 2, T. 18 S., R.47 E., W.M., Malheur County, Oregon

Item 5. Canal or Pipe Line.

The pipe line to Well 5 and 68-2 would be 0.31 miles in length, terminating at the water treatment plant in Lot 1, Section 11, T. 18 S., R.47 E., W.M. The pipeline to Well 68-1 would be 0.30 miles in length, terminating at the same point.

Item 6. Name of Wells.

Well 5
Well 68-1
Well 68-2

Application No. G-4761
Permit No. G-4485

CANAL SYSTEM OR PIPE LINE— G 4485

9. (a) Give dimensions at each point of canal where materially changed in size, stating miles from headgate. At headgate: width on top (at water line) .... feet; width on bottom .... feet; depth of water .... feet; grade .... feet fall per one thousand feet.

(b) At .... miles from headgate: width on top (at water line) .... feet; width on bottom .... feet; depth of water .... feet; grade .... feet fall per one thousand feet.

(c) Length of pipe, S 1600 ft. N. 1640 ft.; size at intake 10 In. 10 in.; in size at 950 ft. from intake 12 in.; size at place of use 12 in.; difference in elevation between intake and place of use, 0 ft. Is grade uniform? yes Estimated capacity, ... sec. ft. N. 0+00 to 9+50 2.2 cfs S. 0+00 to 16+00 2.2 cfs N. 9+50 to 16+40 3.34

10. If pumps are to be used, give size and type 12 inch submersible turbines

Give horsepower and type of motor or engine to be used 3-electric drive, 30 horsepower ± depending on final yield of wells.

11. If the location of the well, tunnel, or other development work is less than one-fourth mile from a natural stream or stream channel, give the distance to the nearest point on each of such channels and the difference in elevation between the stream bed and the ground surface at the source of development

Nearest point 30 to 60 feet

Difference in elevation 5 feet ±.

12. Location of area to be irrigated, or place of use

Township N. or S.	Range E. or W. of Willamette Meridian	Section	Forty-acre Tract	Number Acres To Be Irrigated
T. 17 S.	R. 47 E.	33	All of SE 1/4 plus W 1/2 NE 1/4, E 1/2 NW 1/4 & NE 1/4 SW 1/4.	
T. 18 S.	R. 47 E.	4, 9, 10	Entire Section	
"	"	Sec. 3	All of NW 1/4 & SW 1/4, plus NW 1/4 SE 1/4, SW 1/4 SE 1/4, SE 1/4 SE 1/4	
"	"	" 2	Lot 4 and SW 1/4, SW 1/4	
"	"	" 5	All of S 1/2 plus NE 1/4 and S 1/2 NW 1/4	
"	"	" 6	All of E 1/2 of SE 1/4	
"	"	" 7	All of E 1/2 of NE 1/4	
"	"	" 8	All of NE 1/4, NW 1/4, SW 1/4	
"	"	" 11	All of Lots 1, 2, 3 & 4, W 1/2 of NW 1/4, and W 1/2 SW 1/4	

(If more space required, attach separate sheet)

Character of soil Silt Loam

Kind of crops raised Municipal Supply

MUNICIPAL SUPPLY— **G 4485**

13. *To supply the city of* Ontario

in Malheur *county, having a present population of* 6090

and an estimated population of 7200 *in 19*80

ANSWER QUESTIONS 14, 15, 16, 17 AND 18 IN ALL CASES

14. *Estimated cost of proposed works, $* 55,500

15. *Construction work will begin on or before* 10 January 1969

16. *Construction work will be completed on or before* July, 1970

17. *The water will be completely applied to the proposed use on or before* July, 1970

18. *If the ground water supply is supplemental to an existing water supply, identify any application for permit, permit, certificate or adjudicated right to appropriate water, made or held by the applicant.* U-428; G-1867; G-999

City of Ontario
C. Lloyd Arstner City Supt.
(Signature of applicant)

Remarks:

STATE OF OREGON,
County of Marion, } *ss.*

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for Correction and Completion

In order to retain its priority, this application must be returned to the State Engineer, with corrections on or before March 24th, *19*69

WITNESS my hand this 23rd *day of* January, *19*69

RECEIVED
JAN 31 1969
STATE ENGINEER
SALEM, OREGON

CHRIS L. WHEELER
STATE ENGINEER

By Larry W. Jebousek
Larry W. Jebousek
ASSISTANT

STATE OF OREGON, } ss. PERMIT
County of Marion,

This is to certify that I have examined the foregoing application and do hereby grant the same, SUBJECT TO EXISTING RIGHTS and the following limitations and conditions:

The right herein granted is limited to the amount of water which can be applied to beneficial use and shall not exceed 5.0 cubic feet per second measured at the point of diversion from the well or source of appropriation, or its equivalent in case of rotation with other water users, from three wells

The use to which this water is to be applied is municipal

If for irrigation, this appropriation shall be limited to ——— of one cubic foot per second or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed .... acre feet per acre for each acre irrigated during the irrigation season of each year; This permit shall be limited to appropriation of water only to the extent that it does not impair or substantially interfere with existing surface water rights of others.

and shall be subject to such reasonable rotation system as may be ordered by the proper state officer.

The well shall be cased as necessary in accordance with good practice and if the flow is artesian the works shall include proper capping and control valve to prevent the waste of ground water.

The works constructed shall include an air line and pressure gauge or an access port for measuring line, adequate to determine water level elevation in the well at all times.

The permittee shall install and maintain a weir, meter, or other suitable measuring device, and shall keep a complete record of the amount of ground water withdrawn.

The priority date of this permit is January 14, 1969

Actual construction work shall begin on or before August 25, 1970 and shall thereafter be prosecuted with reasonable diligence and be completed on or before October 1, 19 70.

Complete application of the water to the proposed use shall be made on or before October 1, 19 71.

WITNESS my hand this 25th day of August, 19 69.

Chris L. Wheeler
STATE ENGINEER

Application No. G- 4761

Permit No. G- 4485

PERMIT

TO APPROPRIATE THE GROUND WATERS OF THE STATE OF OREGON

This instrument was first received in the office of the State Engineer at Salem, Oregon, on the 14th day of January, 1969, at 8:00 o'clock A M.

Returned to applicant:

Approved: August 25, 1969

Recorded in book No. .... of Ground Water Permits on page G 4485

CHRIS L. WHEELER
STATE ENGINEER

Drainage Basin No. 10 page 41

$33.00

BC23

RECEIVED
MAR 1 4 1975
STATE ENGINEER
SALEM, OREGON

RECEIVED
APR 1 4 1975
STATE ENGINEER
SALEM, OREGON

Permit No. G- G 6794 "CERTIFICATE NO. 60022

APPLICATION FOR A PERMIT

To Appropriate the Ground Waters of the State of Oregon

I, CITY OF ONTARIO, OREGON
(Name of applicant)

of P.O. Box 159, Ontario, Oregon (Postoffice Address), *county of* Malheur,

state of Oregon, *do hereby make application for a permit to appropriate the following described ground waters of the state of Oregon, SUBJECT TO EXISTING RIGHTS:*

If the applicant is a corporation, give date and place of incorporation

1. *Give name of nearest stream to which the well, tunnel or other source of water development is situated* Snake River (Name of stream) *tributary of* Columbia River

2. *The amount of water which the applicant intends to apply to beneficial use is* .... *cubic feet per second or* 1050 *gallons per minute.* (350 g.p.m. per each of three wells)

3. *The use to which the water is to be applied is* municipal water supply for the City of Ontario

4. *The well or other source is located* .... *ft.* .... (N. or S.) *and* .... *ft.* .... (E. or W.) *from the* .... *corner of* .... (Section or subdivision)

(See attached sheet)
(If preferable, give distance and bearing to section corner)

(If there is more than one well, each must be described. Use separate sheet if necessary)

being within the Lot 1 *of Sec.* 11, *Twp.* 18S, *R.* 47E, *W. M., in the county of* Malheur

5. *The* .... (Canal or pipe line) *to be* .... *miles in length, terminating in the* .... (Smallest legal subdivision) *of Sec.* ...., *Twp.* ...., *R.* ...., *W. M., the proposed location being shown throughout on the accompanying map.*

6. *The name of the well or other works is* Well No. 7, Well No. 8 and Well No. 9

DESCRIPTION OF WORKS

7. *If the flow to be utilized is artesian, the works to be used for the control and conservation of the supply when not in use must be described.*

8. *The development will consist of* 3 wells (Give number of wells, tunnels, etc.) *having a diameter of* 12 *inches and an estimated depth of* 50 *feet. It is estimated that* 50 *feet of the well will require* welded steel (Kind) *casing. Depth to water table is estimated* 27/23/32 (Feet)

G 6794

G 6794

CANAL SYSTEM OR PIPE LINE—

9. (a) Give dimensions at each point of canal where materially changed in size, stating miles from headgate. At headgate: width on top (at water line) n/a *feet; width on bottom* .... *feet; depth of water* .... *feet; grade* .... *feet fall per one thousand feet.*

(b) At .... *miles from headgate: width on top (at water line)* .... *feet; width on bottom* .... *feet; depth of water* .... *feet; grade* .... *feet fall per one thousand feet.*

(c) Length of pipe, ... *ft.; size at intake* .... *in.; in size at* .... *ft. from intake* .... *in.; size at place of use* .... *in.; difference in elevation between intake and place of use,* .... *ft. Is grade uniform?* .... *Estimated capacity,* .... *sec. ft.*

10. If pumps are to be used, give size and type 2 stage vertical turbine

Give horsepower and type of motor or engine to be used 10 H.P. electric

11. If the location of the well, tunnel, or other development work is less than one-fourth mile from a natural stream or stream channel, give the distance to the nearest point on each of such channels and the difference in elevation between the stream bed and the ground surface at the source of development

Well 7; 352 feet from river, 13 feet elev. difference

Well 8, 282 feet from river, 11 feet elev. difference

Well 9, 247 feet from river, 8 feel elev. difference.

12. Location of area to be irrigated, or place of use ....

Township N. or S.	Range E. or W. of Willamette Meridian	Section	Forty-acre Tract	Number Acres To Be Irrigated
17S	47E	33	W½ NE¼; E½ NW¼; NE¼ SW¼; SE¼ see attached map	n/a
18S	47E	2	S½ SW¼ see attached map	n/a
18S	47E	3	SW¼ NE¼; W½; NW¼ SE¼; S½ SE¼ see attached map	n/a
18S1	47E	4	entire section	n/a
18 18S	47E	5	E½; S½ NW¼; SW¼ see attached map	n/a
18S	47E	6	E½ SE¼ see attached map	n/a
18S	47E	7	E½ NE¼ see attached map	n/a
18S	47E	8	N½; SE¼ see attached map	n/a
18S	47E	9	entire section	n/a
18S	47E	10	entire section	n/a
18S	47E	11	W½ see attached map	n/a

Letter dated 4-10-75 JRS

(If more space required, attach separate sheet)

Character of soil n/a

Kind of crops raised n/a

RECEIVED
APR 1 4 1975
STATE ENGINEER
SALEM, OREGON

RECEIVED
MAR 1 4 1975
STATE ENGINEER
SALEM, OREGON

ATTACHMENT SHEET
APPLICATION FOR A PERMIT
TO APPROPRIATE THE GROUND WATERS OF THE STATE OF OREGON

#4. Well No. 7 is located N. 36° 34' E 1,318.6 feet from the S. W. corner of Lot 1, Section 11, Twp. 18 S., R. 47 E., W.M.

Well No. 8 is located N. 49° 50' E 1,221.5 feet from the S. W. cornmer of Lot, Section 11, Twp. 18 S., R. 47 E., W.M.

Well No. 9 is located N. 64° 35' E 1,151.4 feet from the S. W. cornmer of Lot 1, Section 11, Twp. 18 S., R. 47 E., W.M.

Application No. G-6892
Permit No. G 6794

MUNICIPAL SUPPLY— **G 6794**

13. *To supply the city of* Ontario, Oregon

in Malheur *county, having a present population of* 7,700

and an estimated population of 11,700 *in 19*94.

ANSWER QUESTIONS 14, 15, 16, 17 AND 18 IN ALL CASES

14. *Estimated cost of proposed works, $* 31,000

15. *Construction work will begin on or before* July 31, 1974

16. *Construction work will be completed on or before* November 30, 1975

17. *The water will be completely applied to the proposed use on or before* November 30, 1975

18. *If the ground water supply is supplemental to an existing water supply, identify any application for permit, permit, certificate or adjudicated right to appropriate water, made or held by the applicant.* Engrs Certificate 22879, Permit G-999, Permit G-1867, Permit G-4485
~~Permit~~ application G-4761

John B. Collins City Mgr.
(Signature of applicant)

Remarks:

STATE OF OREGON,
County of Marion, } *ss.*

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for

In order to retain its priority, this application must be returned to the State Engineer, with corrections on or before , *19*

WITNESS my hand this *day of* , *19*

STATE ENGINEER

By ASSISTANT

G 6794

STATE OF OREGON, }
County of Marion, } ss,

PERMIT

This is to certify that I have examined the foregoing application and do hereby grant the same, SUBJECT TO EXISTING RIGHTS and the following limitations and conditions:

The right herein granted is limited to the amount of water which can be applied to beneficial use and shall not exceed 2.3 *cubic feet per second measured at the point of diversion from the well or source of appropriation, or its equivalent in case of rotation with other water users, from* 3 wells No's 7, 8 and 9

The use to which this water is to be applied is municipal purposes

If for irrigation, this appropriation shall be limited to .... of one cubic foot per second or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed .... acre feet per acre for each acre irrigated during the irrigation season of each year; and shall be further limited to appropriation of water only to the extent that it does not impair or substantially interfere with existing surface water rights of others.

and shall be subject to such reasonable rotation system as may be ordered by the proper state officer.

The well shall be cased as necessary in accordance with good practice and if the flow is artesian the works shall include proper capping and control valve to prevent the waste of ground water.

The works constructed shall include an air line and pressure gauge or an access port for measuring line, adequate to determine water level elevation in the well at all times.

The permittee shall install and maintain a weir, meter, or other suitable measuring device, and shall keep a complete record of the amount of ground water withdrawn.

The priority date of this permit is April 14, 1975

Actual construction work shall begin on or before August 5, 1977 *and shall thereafter be prosecuted with reasonable diligence and be completed on or before October 1, 19*77
Extended to Oct. 1, 1982

*Complete application of the water to the proposed use shall be made on or before October 1, 19*78
Extended to Oct. 1, 1982

WITNESS my hand this 5th *day of* August*, 19*76

James E. Sexson
WATER RESOURCES DIRECTOR ~~STATE ENGINEER~~ FH B

Application No. G- 6892

Permit No. G- G 6794

PERMIT

TO APPROPRIATE THE GROUND WATERS OF THE STATE OF OREGON

This instrument was first received in the office of the State Engineer at Salem, Oregon, on the 14 *day of* April*, 19*75*, at* 8:00 *o'clock* A. *M.*

Returned to applicant:

Approved:

Recorded in book No. .... of Ground Water Permits on page G 6794

STATE ENGINEER

Drainage Basin No. 10 *page* 42

$34.00

"CERTIFICATE NO. 60023"

Application No. G 9944 Permit No. G 9113

STATE OF OREGON WATER RESOURCES DEPARTMENT

Application for a Permit to Appropriate Ground Water

RECEIVED
SEP 18 1980
WATER RESOURCES DEPT.
SALEM, OREGON

I, CITY OF ONTARIO (Name of Applicant)

of 444 S. W. 4th (Mailing Address), Ontario (City)

State of Oregon, 97914 (Zip Code) Phone No. 889-7684 do hereby

make application for a permit to appropriate the following described ground waters of the State of Oregon:

1. The development will consist of one (1) well called Well No. 14 (Give number of wells, tile lines, infiltration galleries, etc.) having a diameter of 30" hole, 18" casing and an estimated depth of 42 feet.

2. The well or other source is to be located 600 ft. South (N. or S.) and 2550 ft. East (E. or W.) from the Northwest corner of Section 11 (Public Land Survey Corner)

(If there is more than one well, each must be described)

being within the Northeast ¼ of the Northwest ¼ of Sec. 11 Tp. 18 South R. 47 East, W. M., in the county of Malheur

3. Location of area to be irrigated, or place of use if use other than irrigation.

Township	Range	Section	List ¼ ¼ of Section	List use and/or number of acres to be irrigated
T 17 S	R47E	33	South 1/2	Municipal
T 18 S	R47E	3	Entire Section	Municipal
T 18 S	R47E	4	Entire Section	Municipal
T 18 S	R47E	5	Entire Section	Municipal
T 18 S	R47E	8	North 1/2	Municipal
T 18 S	R47E	9	Entire Section	Municipal
T 18 S	R47E	10	Entire Section	Municipal
T 18 S	R47E	11	West 1/2	Municipal

4. It is estimated that 24 feet of the well will require steel (Kind) casing.

5. Depth to water table is estimated 14 (Feet) Well drilled by Highland Drilling Co., Inc.

Form 690-3-0-1-77

6. *The amount of water which the applicant intends to apply to beneficial use is* 1.11 *cubic feet per second or* 500 *gallons per minute.*

7. *The use to which the water is to be applied is* Municipal

8. *If the flow to be utilized is artesian, the works to be used for the control and conservation of the supply when not in use must be described.*

9. *If the location of the well, or other development work is less than one-fourth mile from a natural stream channel, give the distance to the channel and the difference in elevation between the stream bed and the ground surface at the source of development.*

84 feet ± West of the Snake River, 17 feet difference in elevation

10. *DESCRIPTION OF WORKS*

Include length and dimensions of supply ditch or pipeline, size and type of pump and motor, type of irrigation system to adequately describe the proposed distribution system.

Pump, motor, and piping tying into the existing water distribution system will be installed at a later date by the City of Ontario.

11. *Construction work will begin on or before* November 1979

12. *Construction work will be completed on or before* January 1980

13. *The water will be completely applied to the proposed use on or before* 1981

14. *If the ground water supply is supplemental to an existing supply, identify the supply and existing water right.* City of Ontario wells and the Snake River

Application No. G 9944 *Permit No.* **G 9113**

Remarks: ....

....

....

....

....

....

....

....

City of Ontario

Signature of Applicant

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for ....

....

In order to retain its priority, this application must be returned to the Water Resources Director with corrections on or before ...., 19..............

WITNESS my hand this .... day of ...., 19..............

.... Water Resources Director

By ....

This instrument was first received in the office of the Water Resources Director at Salem, Oregon, on the 18th day of September, 19 80, at 11:00 o'clock A. M.

Application No. G 9944

Permit No. G 9113

G 9113

Application No. G 9944 Permit No. G 9113

Permit to Appropriate the Public Waters of the State of Oregon

G 9113

This is to certify that I have examined the foregoing application and do hereby grant the same, SUBJECT TO EXISTING RIGHTS INCLUDING THE EXISTING MINIMUM FLOW POLICIES ESTABLISHED BY THE WATER POLICY REVIEW BOARD and the following limitations and conditions:

The right herein granted is limited to the amount of water which can be applied to beneficial use and shall not exceed 1.11 *cubic feet per second measured at the point of diversion from the well or source of appropriation, or its equivalent in case of rotation with other water users, from* Well 14

The use to which this water is to be applied is municipal

If for irrigation, this appropriation shall be limited to .... *of one cubic foot per second or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed* .... *acre feet per acre for each acre irrigated during the irrigation season of each year;*

and shall be further limited to appropriation of water only to the extent that it does not impair or substantially interfere with existing surface water rights of others,

and shall be subject to such reasonable rotation system as may be ordered by the proper state officer.

The well shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon.

The works constructed shall include an air line and pressure gauge or an access port for measuring line, adequate to determine water level elevation in the well at all times.

The permittee shall install and maintain a weir, meter, or other suitable measuring device, and shall keep a complete record of the amount of ground water withdrawn.

The priority date of this permit is September 18, 1980

Actual construction work shall begin on or before January 26, 1982 *and shall thereafter be prosecuted with reasonable diligence and be completed on or before October 1, 19*82

*Complete application of the water to the proposed use shall be made on or before October 1, 19*83

WITNESS my hand this 26th *day of* January, *19*81

James E. Sexson

Water Resources Director

"CERTIFICATE NO. 60024"

Application No. G 9945 Permit No. G 9114

STATE OF OREGON WATER RESOURCES DEPARTMENT
Application for a Permit to Appropriate Ground Water

RECEIVED
SEP 18 1980
WATER RESOURCES DEPT.
SALEM, OREGON

I, CITY OF ONTARIO (Name of Applicant)

of 444 S. W. 4th (Mailing Address), Ontario (City)

State of Oregon, 97914 (Zip Code) Phone No. 889-7684 do hereby

make application for a permit to appropriate the following described ground waters of the State of Oregon:

1. The development will consist of one (1) well called Well No. 13 (Give number of wells, tile lines, infiltration galleries, etc.) having a diameter of 30 inch hole, 18 inch casing and an estimated depth of 52 feet.

2. The well or other source is to be located 1130 ft. South (N. or S.) and 2590 ft. East (E. or W.) from the Northwest corner of Section 11 (Public Land Survey Corner)

(If there is more than one well, each must be described)

being within the Northeast ¼ of the Northwest ¼ of Sec. 11 Tp. 18 South R. 47 East, W. M., in the county of Malheur

3. Location of area to be irrigated, or place of use if use other than irrigation.

Township	Range	Section	List ¼ ¼ of Section	List use and/or number of acres to be irrigated
T 17 S	R47E	33	South 1/2	Municipal
T 18 S	R47E	3	Entire Section	Municipal
T 18 S	R47E	4	Entire Section	Municipal
T 18 S	R47E	5	Entire Section	Municipal
T 18 S	R47E	8	North 1/2	Municipal
T 18 S	R47E	9	Entire Section	Municipal
T 18 S	R47E	10	Entire Section	Municipal
T 18 S	R47E	11	West 1/2	Municipal

4. It is estimated that 32 feet of the well will require steel (Kind) casing.

5. Depth to water table is estimated 18 (Feet) Well drilled by Highland Drilling Co., Inc.

Form 690-3-0-1-77

6. *The amount of water which the applicant intends to apply to beneficial use is* 1.34 *cubic feet per second or* 600 *gallons per minute.*

7. *The use to which the water is to be applied is* Municipal

8. *If the flow to be utilized is artesian, the works to be used for the control and conservation of the supply when not in use must be described.*

9. *If the location of the well, or other development work is less than one-fourth mile from a natural stream channel, give the distance to the channel and the difference in elevation between the stream bed and the ground surface at the source of development.*

90 feet ± West of the Snake River, 23 feet difference in elevation

10. *DESCRIPTION OF WORKS*

Include length and dimensions of supply ditch or pipeline, size and type of pump and motor, type of irrigation system to adequately describe the proposed distribution system.

Pump, motor, and piping tying into the existing water distribution system will be installed at a later date by the City of Ontario.

11. *Construction work will begin on or before* November 1979

12. *Construction work will be completed on or before* January 1980

13. *The water will be completely applied to the proposed use on or before* 1981

14. *If the ground water supply is supplemental to an existing supply, identify the supply and existing water right.* City of Ontario wells and the Snake River

Application No. G 9945 *Permit No.* G 9114

Remarks: ....

....

City of Ontario
Signature of Applicant
[signature]

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for ....

In order to retain its priority, this application must be returned to the Water Resources Director with corrections on or before ...., *19*..........

WITNESS my hand this .... *day of* ...., *19*..........

.... *Water Resources Director*

By ....

This instrument was first received in the office of the Water Resources Director at Salem, Oregon, on the 18 *day of* September, *19* 80, *at* 11:00 *o'clock* A *M.*

Application No. G 9945 *Permit No.* **G 9114**

G 9114

Application No. G 9945 Permit No. G 9114

Permit to Appropriate the Public Waters of the State of Oregon

G 9114

This is to certify that I have examined the foregoing application and do hereby grant the same, SUBJECT TO EXISTING RIGHTS INCLUDING THE EXISTING MINIMUM FLOW POLICIES ESTABLISHED BY THE WATER POLICY REVIEW BOARD and the following limitations and conditions:

The right herein granted is limited to the amount of water which can be applied to beneficial use and shall not exceed 1.34 *cubic feet per second measured at the point of diversion from the well or source of appropriation, or its equivalent in case of rotation with other water users, from* Well 13

The use to which this water is to be applied is municipal

If for irrigation, this appropriation shall be limited to .... *of one cubic foot per second or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed* .... *acre feet per acre for each acre irrigated during the irrigation season of each year;*

and shall be further limited to appropriation of water only to the extent that it does not impair or substantially interfere with existing surface water rights of others,

and shall be subject to such reasonable rotation system as may be ordered by the proper state officer.

The well shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon.

The works constructed shall include an air line and pressure gauge or an access port for measuring line, adequate to determine water level elevation in the well at all times.

The permittee shall install and maintain a weir, meter, or other suitable measuring device, and shall keep a complete record of the amount of ground water withdrawn.

The priority date of this permit is September 18, 1980

Actual construction work shall begin on or before January 26, 1982 *and shall thereafter be prosecuted with reasonable diligence and be completed on or before October 1, 19*82

*Complete application of the water to the proposed use shall be made on or before October 1, 19*83

WITNESS my hand this 26th *day of* January, *19*81

James E. Sexson

Water Resources Director

Application No. 57572 Permit No. 43401

STATE OF OREGON WATER RESOURCES DEPARTMENT

Application for Permit to Appropriate Surface Water

RECEIVED
JUN 26 1978
WATER RESOURCES DEPT.
SALEM, OREGON

I, City of Ontario
(Name of Applicant)

of 444 S. W. 4th Street (Mailing Address), Ontario (City)

State of Oregon, 97914 (Zip Code) *Phone No.* 503-889-7689 *do hereby make application for a permit to appropriate the following described waters of the State of Oregon:*

1. The source of the proposed appropriation is the Snake River *, a tributary of* the Columbia River

2. The point of diversion is to be located 1353 *ft.* S. (N. or S.) *and* 2545 *ft.* E. (E. or W.) *from the* NW *corner of* Section 11 (Public Land Survey Corner)

(If there is more than one point of diversion, each must be described)

being within the Government Lot 2 ~~¼ of the~~ ~~¼ of~~

Sec. 11 *Tp.* 18S (N. or S.) *R.* 47E (E. or W.)*, W. M., in the county of* Malheur

3. Location of area to be irrigated, or place of use if other than irrigation.

Township	*Range*	*Section*	*List ¼ ¼ of Section*	*List use and/or number of acres to be irrigated*
17S	47E	33	SE 1/4	domestic use 160 AC.
18S	47E	2		domestic use 640 AC.
18S	47E	3		domestic use 640 AC
18 S	47E	4		domestic use 640 AC.
18S	47E	5	E½&SE¼SW¼	domestic use 400 AC.
18S	47E	7		domestic use 640 AC.
18S	47E	8	N½&SE¼	domestic use 480 AC.
18S	47E	9		domestic use 640 AC.
18S	47E	10		domestic use 640 AC.
18S	47E	11		domestic use 640 AC

Form 690-1-0-1-77

4. *The amount of water which the applicant intends to apply to beneficial use is*

cubic feet per second 20.1
(If water is to be used from more than one source, give quantity from each)

5. *The use to which the water is to be applied is* municipal water supply for domestic use

6. *DESCRIPTION OF WORKS*

Include dimensions and type of construction of diversion dam and headgate, length and dimensions of supply ditch or pipeline, size and type of pump and motor, type of irrigation system to adequately describe the proposed distribution system.

The City of Ontario intends to expand its present water treatment plant capacity to 13 MG.D. capacity and construct a river intake. We will also construct an additional 10 million gallon storage reservoir with booster pumping facilities as well as additional distribution system links. We are using the year 2000 as our design year with a projected population of 15,500 persons with some additional capacity built in for present and future industrial development.

If for domestic use state number of families to be supplied 5100

7. *Construction work will begin on or before* 1978

8. *Construction work will be completed on or before* 1985

9. *The water will be completely applied to the proposed use on or before* 2000

Application No. 57572 *Permit No.* 43401

Remarks: The initial work shall consist of retrofitting our old water treatment plant which had previously had a river intake. We will implement this in the summer of 1978. However, the major construction will not begin in 1980

CITY OF ONTARIO

Signature of Applicant

By: Thomas R. Hardy

City Manager

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for ....

In order to retain its priority, this application must be returned to the Water Resources Director with corrections on or before ...., 19..........

WITNESS my hand this .... day of.........., 19..........

.... Water Resources Director

By ....

This instrument was first received in the office of the Water Resources Director at Salem, Oregon, on the 26th *day of* June, *19* 78, *at* 8:00 *o'clock* A.*M.*

Application No. 57572

Permit No. 43401

Application No. 57572   *Permit No.* **43401**

Permit to Appropriate the Public Waters of the State of Oregon

This is to certify that I have examined the foregoing application and do hereby grant the same SUBJECT TO EXISTING RIGHTS INCLUDING THE EXISTING FLOW POLICIES ESTABLISHED BY THE WATER POLICY REVIEW BOARD and the following limitations and conditions:

The right herein granted is limited to the amount of water which can be applied to beneficial use and shall not exceed 20.1 *cubic feet per second measured at the point of diversion from the stream, or its equivalent in case of rotation with other water users, from* Snake River.

The use to which this water is to be applied is municipal.

If for irrigation, this appropriation shall be limited to .... *of one cubic foot per second or its equivalent for each acre irrigated*

and shall be subject to such reasonable rotation system as may be ordered by the proper state officer.

The priority date of this permit is June 26, 1978

Actual construction work shall begin on or before September 27, 1979 *and shall thereafter be prosecuted with reasonable diligence and be completed on or before October 1, 19*80

Extended to Oct. 1985 **Extended to October 1, 1990**, 10-1-95

*Complete application of the water to the proposed use shall be made on or before October 1, 19*81

Extended to Oct. 1985 **Extended to October 1, 1990**, 10-1-95

WITNESS my hand this 27th *day of* September, *19*78

Extended BC 2000

James E. Sexson

Water Resources Director

Permit No. [redacted]

APPLICATION FOR A PERMIT

To Appropriate the Underground Waters of the State of Oregon

I, The City of Ontario
(Name of applicant)

of Box 119, Ontario, Oregon, county of Malheur,
(Postoffice)

state of Oregon, *do hereby make application for a permit to appropriate the following described underground waters of the state of Oregon, SUBJECT TO EXISTING RIGHTS:*

If the applicant is a corporation, give date and place of incorporation

1896 - State of Oregon

1. *Give name of nearest stream to which the well, tunnel or other source of water development is situated* Snake River
(Name of stream)
tributary of Columbia River

2. *The amount of water which the applicant intends to apply to beneficial use is* [illegible] *cubic feet per second.*

3. *The use to which the water is to be applied is* Municipal supply.

4. *The place where the water is to be pumped or developed is located* Well #1: [illegible] feet East and 141.0 feet South of the SE Cor. of the NW¼ of the NW¼, Sec. 11, T18S, R47 EWM. Well #2: 1055.0 feet East and 158.5 feet South of the Cor. heretofore referred to.
(Give distance and bearing from section corner)

being within the NW¼ *of Sec.* 11, *Twp.* 18S, *R.* 47E, *W. M., in the county of* Malheur

5. *The* pipe lines *to be* one (1) *miles*
(Canal or pipe line)
in length, terminating in the City Limits of Ontario *of Sec.* [illegible], *Twp.* [illegible], *R.* 47E, *W. M., the proposed location being shown throughout on the accompanying map.*
(Smallest legal subdivision)

6. *The name of the well or other works is* Municipal Wells Nos. 1 and 2.

DESCRIPTION OF WORKS

7. *If the flow to be utilized is artesian, the works to be used for the control and conservation of the supply when not in use must be described.*

8. *The development will consist of* 2 wells *having a*
(Give number of wells, tunnels, etc.)
diameter of [illegible] *inches and an estimated depth of* [illegible] *feet.*

[illegible] of canal where materially changed in size, stating miles from [illegible] water line) .... feet; width on bottom .... feet; depth of water .... feet; grade .... feet fall per one thousand feet.

(b) At .... miles from headgate: width on top (at water line) .... feet; width on bottom .... feet; depth of water .... feet; grade .... feet fall per one thousand feet.

See remarks (c) Length of pipe, 183 ft.; size at intake, 8 in.; in size at .... ft. from intake .... in.; size at place of use 8 in.; difference in elevation between intake and place of use, 2 ft. Is grade uniform? yes Estimated capacity, 4 sec. ft. Each of 2 wells estimated at 2 cfs.

10. If pumps are to be used, give size and type 2 - Johnson, turbine type, 10" CC - 2 stage - 1760 RPM.

Give capacity and type of motor or engine to be used 2 - 15 H.P. - 1800 RPM - Type SCU - 3 phase electric.

11. If the location of the well, tunnel, or other development work is less than one-fourth mile from a natural stream or stream channel, give the distance to be the nearest point on each of such channels and the difference in elevation between the stream bed and the ground surface at the source of development

Well #1: 35 ft. from river bank -- 16.31 ft. above channel bed.

Well #2: 120 ft. from river bank -- 17.53 ft. above channel bed.

12. Location of area to be irrigated, or place of use City of [illegible]

Township	Range	Section	Forty-acre Tract	Number Acres To Be Irrigated
18 South	47-East	3	SW¼ & S½ of NW¼	
"	"	4	SE¼ & S½ of SW¼ & SE¼ of NE¼	
"	"	9	[illegible]	
"	"	10	[illegible]	

(If more space required, attach separate sheet)

(a) Character of soil ....

(b) Kind of crops raised ....

MUNICIPAL SUPPLY—

13. (a) To supply the city of [illegible]

[illegible] county, having a present population of ....
(Name of)

and an estimated population of [illegible] in 19[illegible].

U-[illegible]

... on or before

Construction work will be completed on or before —

... The water will be completely applied to the proposed use on or before Both wells now in operation.

City of [illegible] Oregon

[illegible] Mayor.

Remarks: * Water is pumped from both wells to the treatment plant and is re-pumped to the City distribution system. 183 ft. of 8" pipe carries the water from both pumps to the treatment plant. 2 - 12" lines carries the water from the treatment plant to the City Limits.

STATE OF OREGON,
County of Marion, } *ss.*

This is to certify that I have examined the foregoing application, together with the accompanying maps and data, and return the same for ...

In order to retain its priority, this application must be returned to the State Engineer, with corrections on or before ..., *19*...

WITNESS my hand this ... *day of* ..., *19*...

STATE ENGINEER

STATE OF OREGON, } ss. PERMIT
County of Marion,

This is to certify that I have examined the foregoing application and do hereby grant the same, SUBJECT TO EXISTING RIGHTS and the following limitations and conditions:

The right herein granted is limited to the amount of water which can be applied to beneficial use and shall not exceed 4 *cubic feet per second measured at the point of diversion from the well or source of appropriation, or its equivalent in case of rotation with other water users, from* 2 Wells

The use to which this water is to be applied is Municipal

If for irrigation, this appropriation shall be limited to - - - - - - - *of one cubic foot per second*

and shall be subject to such reasonable rotation system as may be ordered by the proper state officer.

The well shall be so cased as to prevent the loss of underground water.

The priority date of this permit is March 10, 1952

Actual construction work shall begin on or before June 30, 1953 *and shall thereafter be prosecuted with reasonable diligence and be completed on or before* October 1, 1954

Complete application of the water to the proposed use shall be made on or before October 1, 1955

WITNESS my hand this 30th *day of* June, 19 52

Chas E Stricklin
STATE ENGINEER

Application No. U-172

Permit No. U-128

PERMIT

TO APPROPRIATE THE UNDERGROUND WATERS OF THE STATE OF OREGON

This instrument was first received in the office of the State Engineer at Salem, Oregon, on the 10 *day of* March, 1952, *at* 8:00 *o'clock* A. *M.*

Returned to applicant:

Corrected application received:

Approved:

June 30, 1952

Recorded in book No. 2 *of Permits on page* U-128

CHAS. E. STRICKLIN
STATE ENGINEER

Drainage Basin No. 10 *Page* 4

Fees Paid $26.00

State Printing Dept 31150

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1271
(503) 986-0900
www.wrd.state.or.us

Application for Water Right Transfer

Please type or print legibly in dark ink. If your application is incomplete or inaccurate, we will return it to you. If any requested information does not apply to your application, insert "n/a". Please read and refer to the instructions when completing your application. A summary of review criteria and procedures that are generally applicable to these applications is available at www.wrd.state.or.us/publication/reports/index.shtml.

APPLICATION FOR:

Please check one

- ☐ Water Right Transfer
  - ☐ Historic Change in POD
  - ☐ To Instream Use
  - ☐ Other Transfer
- ☐ Temporary Transfer (number of years _____)
- ☑ Permit Amendment
- ☐ Drought Transfer
- ☐ Point of Diversion Change Due to Government Action

1. APPLICANT INFORMATION

Name: City of Ontario
First / Last

Address: 444 SW 4th Street

ONTARIO / OREGON / 97914
City / State / Zip

Phone: (541) 881-3231
Home / Work / Other

*Fax: (541) 889-7121 *E-Mail address: ____________

**Optional information*

2. AGENT INFORMATION

(The agent listed is authorized to represent the applicant in all matters relating to this transfer application)

Name: Michael E. Holladay, P.E. Holladay Engineering
First / Last

Address: P.O. Box 235

Payette / Idaho / 83661
City / State / Zip

Phone: (208) 642-3304
Home / Work / Other

*Fax: (208) 642-2159 *E-Mail address: ____________

**Optional information*

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SAL...

3. TYPE OF CHANGE PROPOSED

Please check all that apply

Point of Diversion or Appropriation	Place of Use	Character of Use (n/a for Permit Amendments)
☐ Change (The old point of diversion or appropriation will **not** be used for the portion of the water right affected by the transfer.) ☑ Additional (Both the old and new points of diversion or appropriation will be used for the portion of the water right affected by the transfer.) ☐ Historic Point of Diversion (Unauthorized point of diversion used for more than 10 years.) ☐ Surface Water to Ground Water (A new point of appropriation will be used **instead of** the old point of diversion and not as an additional point of appropriation.)	☐ All, or a portion, of the right will be exercised at a different location than currently authorized. (Use of water at the current location will be discontinued.) ☐ Exchange (Water from another source will be used in exchange for supplying an equal amount of replacement water to that source.)	Proposed new use: ☐ Irrigation ☐ Municipal ☐ Quasi-municipal ☐ Commercial ☐ Industrial ☐ Instream (complete **Supplemental Form B)** ☐ Domestic (indicate number of households) _____ ☐ Other ______________ ☐ Substitution (A supplemental ground water right will be substituted for a primary surface water right.)

Reason for changes: To enable the city to better manage the water from its municipal rights

Describe the ***current*** water delivery system. Include information on the pumps, canals, pipelines and sprinklers used to divert, convey and apply the water at the authorized place of use.

The description must be sufficient to demonstrate that the full quantity of water to be transferred can be conveyed from the authorized source and applied at the authorized location and that the applicant is ready, willing, and able to exercise the right. (Not applicable to applications for Permit Amendments.)

The appropriation points to be added are hydrologically connected to the Snake river and are in the same area as the diversion for this right. The city water treatment facility is also in the area as part of the municipal delivery system.

System capacity: 34+ cubic feet per second (cfs)

*Attach one or more **Evidence of Use Affidavits** (Supplemental Form A) demonstrating that each of the right(s) involved in the transfer have been exercised in the last five years or that a presumption of forfeiture for non-use could be rebutted. (Not applicable to applications for Permit Amendments.)*

4. CURRENT WATER RIGHT INFORMATION

*A separate page providing the information in this section must be completed for **each** certificate, permit, decree, or other right involved in the proposed transfer.*

Water Right Subject to Transfer (check and complete **one** of the following):

☐	Certificated Right	Certificate Number	Permit Number or Decree Name
☐	Adjudicated, Un-certificated Right	Name of Decree	Page Number
☐	Permit for which Proof has been Approved	Permit Number	Date Claim of Beneficial Use Submitted
☐	Transferred Right for which Proof has been Filed	Previous Transfer Number	Date Claim of Beneficial Use Submitted
☑	Permit for which an Amendment is Requested	43401, 4485 Permit Number	43401-Extention Submitted, 4485 - 10/1/2023 Completion Date of Permit

Name on Permit, Certificate, or Decree: City of Ontario

County: Malheur Authorized Use(s): Municipal

Are there multiple **Priority Dates** identified on the water right? ☐ Yes ☑ No

*If "**Yes**", any information provided on **Page 4 must** identify which priority date is associated with each of the proposed points of diversion/appropriation and places of use. In addition, list those priority dates:* ____________

Source(s) of Water Listed on Right: 43401 - Snake River, 4485 - 3 Wells

Tributary to: Columbia River

Are there other **Sources** listed on the water right? ☐ Yes ☑ No

*If "**Yes**", any information provided on **Page 4 must** identify which source is associated with each of the proposed points of diversion/appropriation and proposed places of use. In addition, list those other sources:* ____________

Are there **Other Water Rights** or permits associated with this land? ☑ Yes ☐ No

*If "**Yes**", what are the Permit or Certificate Numbers?* C22879, C68622, C32125, C60022, C60023, C60024

Pursuant to ORS 540.510, any right that is supplemental to a primary right proposed for transfer must be included in the transfer or be cancelled.

Remarks: ____________

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Certificate Number or other identifying number from ***Page 3***: P-4485

*A separate page providing the following information must be completed for **each** certificate, permit, decree, or other right involved in the proposed transfer.*

Is the entire water right identified on ***Page 3*** affected by this transfer? ☑ Yes ☐ No

*If "**Yes**", the remainder of **this page** need **not** be completed.*
*If "**No**", the following information **must be provided** only for those points of diversion/appropriation and places of use that are **involved in the transfer**.*

Government lot and donation land claim numbers must be included in the tables below only if the information is reflected on the existing water right.

Location of Existing Authorized Point(s) of Diversion or Appropriation to be Changed:

Township		Range		Mer	Sec	¼ ¼ Section	Gov't Lot or DLC	Survey Coordinates (coordinates from a recognized survey corner)
								See Attached

Location of Existing Authorized Place of Use to be Changed:

Township		Range		Mer	Sec	¼ ¼ Section	Gov't Lot or DLC	Acres (if applicable)
								Ontario UGB
								See Attached

5. PROPOSED CHANGES TO THE WATER RIGHT

A separate page providing the information in this section must be completed for ***each*** *certificate, permit, decree, or other right involved in the proposed transfer.*

Certificate Number or other identifying number from ***Section 4***: P-4485

Location of Proposed Point(s) of Diversion or Point(s) of Appropriation:

Township		Range		Mer	Sec	¼ ¼ Section	Gov't Lot or DLC	Survey Coordinates (coordinates from a recognized survey corner)
								See Attached

Attach additional copies as necessary to describe locations of other proposed points of diversion or appropriation. Clearly mark each of the additional copies with the appropriate Certificate Number or other identifying number. Not applicable to applications for transfers to instream water rights.

Location of Proposed Place of Use:

Township		Range		Mer	Sec	¼ ¼ Section	Gov't Lot or DLC	Acres (if applicable)
								Ontario UGB
								See attached

Attach additional copies as necessary to describe locations of other proposed places of use. Clearly mark each of the additional copies with the appropriate Certificate Number or other identifying number. Not applicable to applications for transfers to instream water rights.

Remarks: See attached for Ontario Service Boundary description

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Certificate Number or other identifying number from ***Page 3***: P-43401

A separate page providing the following information must be completed for each certificate, permit, decree, or other right involved in the proposed transfer.

Is the entire water right identified on ***Page 3*** affected by this transfer? ☑ Yes ☐ No

*If "**Yes**", the remainder of **this page** need **not** be completed.*

*If "**No**", the following information **must be provided** only for those points of diversion/appropriation and places of use that are **involved in the transfer**.*

Government lot and donation land claim numbers must be included in the tables below only if the information is reflected on the existing water right.

Location of Existing Authorized Point(s) of Diversion or Appropriation to be Changed:

Township		Range		Mer	Sec	¼ ¼ Section	Gov't Lot or DLC	Survey Coordinates (coordinates from a recognized survey corner)
18	S	47	E	W.M.	11	SENW	Lot 2	1353' S & 2545' E from the NW Corner, Sec. 11

Location of Existing Authorized Place of Use to be Changed:

Township		Range		Mer	Sec	¼ ¼ Section	Gov't Lot or DLC	Acres (if applicable)

5. PROPOSED CHANGES TO THE WATER RIGHT

*A separate page providing the information in this section must be completed for **each** certificate, permit, decree, or other right involved in the proposed transfer.*

Certificate Number or other identifying number from ***Section 4***: P-43401

Location of Proposed Point(s) of Diversion or Point(s) of Appropriation:

Township		Range		Mer	Sec	¼ ¼ Section	Gov't Lot or DLC	Survey Coordinates (coordinates from a recognized survey corner)
								See Attached

Attach additional copies as necessary to describe locations of other proposed points of diversion or appropriation. Clearly mark each of the additional copies with the appropriate Certificate Number or other identifying number. Not applicable to applications for transfers to instream water rights.

Location of Proposed Place of Use:

Township		Range		Mer	Sec	¼ ¼ Section	Gov't Lot or DLC	Acres (if applicable)
								Ontario UGB
								See attached

Attach additional copies as necessary to describe locations of other proposed places of use. Clearly mark each of the additional copies with the appropriate Certificate Number or other identifying number. Not applicable to applications for transfers to instream water rights.

Remarks: See attached for Ontario Service Boundary description

6. AFFECTED DISTRICTS AND LOCAL GOVERNMENTS

Are any of the water rights proposed for transfer located within or served by an irrigation or other water district? ☑ Yes ☐ No

Will any of the water rights be located within or served by an irrigation or other water district after the proposed transfer? ☑ Yes ☐ No

Is water for any of the rights supplied under a water service agreement or other contract for stored water with a Federal agency? ☐ Yes ☑ No

*If "**Yes**", for any of the above, list the name and mailing address of the district and/or agency:*

The city is surrounded by Warmsprings and Owyhee ID, and Owyhee Ditch Co.

List the name and mailing address of all affected local governments (e.g., county, city, municipal corporation, and tribal governments within whose jurisdiction the rights are located).

7. LAND OWNERSHIP

Does the applicant own the lands **FROM** which the right is being transferred? ☑ Yes ☐ No

*If "**No**", provide the following information. For Temporary Transfers, also include a notarized statement granting consent to the transfer from each of the landowners:*

Names of Current Landowner(s): ____________ First ____________ Last

Address: ____________

____________ City ____________ State ____________ Zip

Does the applicant own the lands **TO** which the right is being transferred? ☑ Yes ☐ No

*If "**No**", provide the following information:*

Names of Receiving Landowner(s): ____________ First ____________ Last

Address: ____________

____________ City ____________ State ____________ Zip

Check one of the following:

☐ The receiving landowner will be responsible for completion of the proposed changes after the final order is issued. All notices and correspondence should be sent to this landowner.

☑ The applicant will remain responsible for completion of changes. Notices and correspondence should continue to be sent to the applicant and applicant's agent.

Authorized Diversions for P-4485

Township		Range		Mer	Sec	¼¼ Section	Gov't Lot	Survey Coordinates
18	S	47	E	W.M.	11	NENW	1	Muni Well #5 - 690' N & 1230' E from SW corner, Lot 1
18	S	47	E	W.M.	11	SWNE	3	Muni Well 68-1 - 1630' S & 900' E from NW corner, Lot 2
18	S	47	E	W.M.	2	SESW	4	Muni Well #6 (68-2) - 250' N & 950' E from SW corner, Lot 4

(Attachment A) Location of Proposed Points of Appropriation

Township		Range		Mer	Sec	¼¼ Section	Gov't Lot	Survey Coordinates
18	S	47	E	W.M.	11	SENW	2	Muni Well #1 - 141' S & 1140' E from NW 1/16 Sec. 11
18	S	47	E	W.M.	11	SENW	2	Muni Well #2 - 158.5' S & 1055' E from NW 1/16 Sec. 11
18	S	47	E	W.M.	11	NENW	1	Muni Well #4 - 255' S & 1061' E from NW corner, Lot 1
18	S	47	E	W.M.	2	SESW	4	Muni Well #6 (68-2) - 264' N & 914' E from SW corner, Lot 4
18	S	47	E	W.M.	11	NENW	1	Muni Well #8 - 421' S & 2320' E from NW corner, Sec. 11
18	S	47	E	W.M.	11	NENW	1	Muni Well #9 - 709' S & 2441' E from NW corner, Sec. 11
18	S	47	E	W.M.	11	NENW	1	Muni Well #13 - 1130' S & 2590' E from NW corner, Sec. 11
18	S	47	E	W.M.	11	NENW	1	Muni Well #14 - 600' S & 2550' E from NW corner, Sec. 11
18	S	47	E	W.M.	11	SENW	2	Proposed Well #15 - 570' S & 1040' E from NW 1/16, Sec. 11
18	S	47	E	W.M.	11	SENW	2	Proposed Well #16 - 980' S & 1000' E from NW 1/16, Sec. 11
18	S	47	E	W.M.	11	NESW	3	Proposed Well #17 - 1370' S & 930' E from NW 1/16, Sec. 11
18	S	47	E	W.M.	11	NESW	3	Proposed Well #18 - 1780' S & 770' E from NW 1/16, Sec. 11
18	S	47	E	W.M.	11	NESW	3	Proposed Well #19 - 2175' S & 660' E from NW 1/16, Sec. 11
18	S	47	E	W.M.	11	NESW	3	Proposed Well #20 - 2570' S & 600' E from NW 1/16, Sec. 11
18	S	47	E	W.M.	11	NESW	3	Muni Well 68-1 - 1630' S & 900' E from NW corner, Lot 2
18	S	47	E	W.M.	11	SENW	2	Gravel Pit #1 - 2382' S & 2328' E from NW corner, Sec. 11
18	S	47	E	W.M.	11	SENW	2	Gravel Pit #2 - 2447' S & 2036' E from NW corner, Sec. 11

Authorized Place of Use - City of Ontario Service Area

Township		Range		Mer	Sec	¼¼ Section	Gov't Lot	Acres (if applicable)
17	S	46	E	W.M.	22 & 23	all of sections		
					25	S½S½, NW¼SW¼, W½W½NW¼		
					26	E½E½NE¼, NW¼NE¼NE¼, N½NW¼NE¼		
					27	NW¼		
					36	NE¼NE¼		
17	S	47	E	W.M.	31, 32, & 33	all of sections		
					29	S½S½		
18	S	47	E	W.M.	2-11 & 14	all of sections		
					15, 16, & 17	N½ of all 3 sections & NW¼SW¼ of Sec. 15		

8. ATTACHMENTS

Check each of the following attachments included with this application. The application will be returned if all required attachments are not included.

Form A – Evidence of Use Affidavits

☐ At least one Evidence of Use Affidavit documenting that the right has been used during the last five years or that the right is not subject to forfeiture under ORS 540.610 is attached. The affidavit provided must be the original, not a copy.

Form B – Instream Water Right Transfer

☐ Required for instream transfers only.

Map

☐ Permanent Water Right Transfer
The map must be prepared by a Certified Water Right Examiner and meet the requirements of OAR 690-380-3100 unless a waiver has been granted. The map provided must be the original, not a copy.

☑ Permit Amendment, Temporary Transfer, or Other Application
A map meeting the requirements of OAR 690-380-3100 must be included but need not be prepared by a Certified Water Right Examiner.

Evidence of Lien Holder Notification

☐ Copies of the written notification of the proposed transfer provided by the applicant to each lien holder, unless the water right has been quit claimed.

Recorded Deed

☐ Required for temporary transfers only.

Land Use Information Form:

☑ Enclosed

☐ Not Required if all of the following are met:
1. In EFU zone or irrigation district,
2. Change in place of use only,
3. No structural changes needed, including diversion works, delivery facilities, other structures, and
4. Irrigation only.

Water Well Reports/Well Logs:

☑ The application is for a change in point of appropriation or change from surface water to ground water and copies of all water well reports are attached.

☑ Water well reports are not available and a description of construction details including well depth, static water level, and information necessary to establish the ground water body developed or proposed to be developed is attached.

☐ The application is for a surface water transfer and water well reports are not required.

Fees:

☐ Amount enclosed: $__________
See the Department's Fee Schedule at www.wrd.state.or.us or call (503) 986-0900.

9. SIGNATURES

I (we) understand that prior to approval of a permanent transfer and after issuance of a draft preliminary determination by the Department, I (we) must submit:

(1) A report on ownership and lien information prepared by a title company within the last three months if required under OAR 690-380-3000(13), and
(2) If I (we) are not the landowners, proof that the landowner or entity to which the water right has been quitclaimed consents to the transfer or that ownership information is not required.

I (we) affirm that the information contained in this application is true and accurate.

Steve Gaschler	STEVE GASCHLER	9-5-06
applicant signature	name (print)	date
applicant signature	name (print)	date

Before submitting your application, be sure you have:

- Answered each question completely
- Included the required attachments.
- Provided original signatures for all named deed holders or other parties with an interest in the right.
- Included a check payable to the Oregon Water Resources Department for the appropriate amount.

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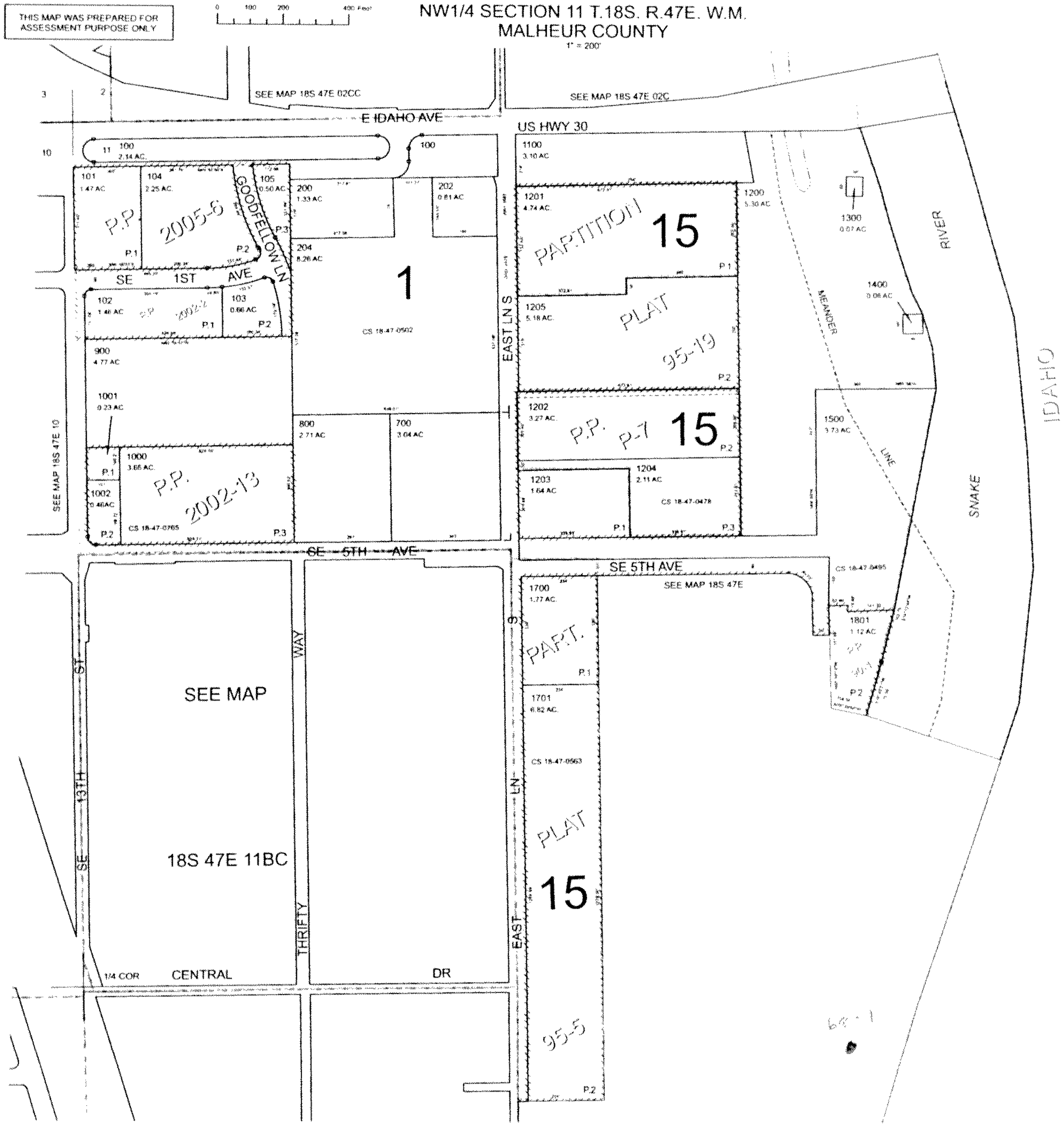
SALEM, OREGON

CANCELLED NO.
201
203
205
300
301
400 THRU
402
500
501
600
601
701
702
801 THRU
804
1800

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

NW1/4 SECTION 11 T.18S. R.47E. W.M.
MALHEUR COUNTY
1" = 200'



BEFORE THE WATER RESOURCES DEPARTMENT
OF THE
STATE OF OREGON

In the Matter of Permit Amendment	)	FINAL ORDER
T-8077, Malheur County	)	DENYING A CHANGE IN POINT OF
	)	DIVERSION AND A CHANGE IN
	)	POINT OF APPROPRIATION

Authority

Oregon Revised Statute (ORS) 537.211 establishes the process in which a water right permit holder may submit a request to change the point of diversion and/or place of use authorized under an existing water right permit.

Applicant

CITY OF ONTARIO
444 SW 4TH ST
ONTARIO, OR 97914

Findings of Fact

1. On September 8, 1998, the City of Ontario filed an application to change the point of diversion and to change the point of appropriation under Permits G-4485 and S-43401. The Department assigned the application number T-8077.

2. On June 24, 2003, the Department approved an extension of time for Water Use Permit G-4485 to complete application of water to October 1, 2023.

3. Notice of the application for the permit amendment was published in the Department's weekly notice on September 15, 1998, pursuant to ORS 540.520(5). No comments were filed in response to the notice.

4. The development deadline date under Permit S-43401 expired on October 1, 2000.

5. The development deadline date under Permit S-43401 is expired and there is not a pending Extension of Time Application on file for Water Use Permit S-43401; therefore, the Department cannot approve Permit Amendment T-8077.

This is a final order in other than contested case. This order is subject to judicial review under ORS 183.484. Any petition for judicial review must be filed within the 60 day time period specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-0080 and OAR 690-01-0005 you may either petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.

Conclusions of Law

The changes in points of diversion and changes in point of appropriation proposed by Permit Amendment Application T-8077 are **NOT** consistent with the requirements of ORS 537.211.

Now, therefore, it is ORDERED:

1. Permit Amendment Application T-8077 is denied.

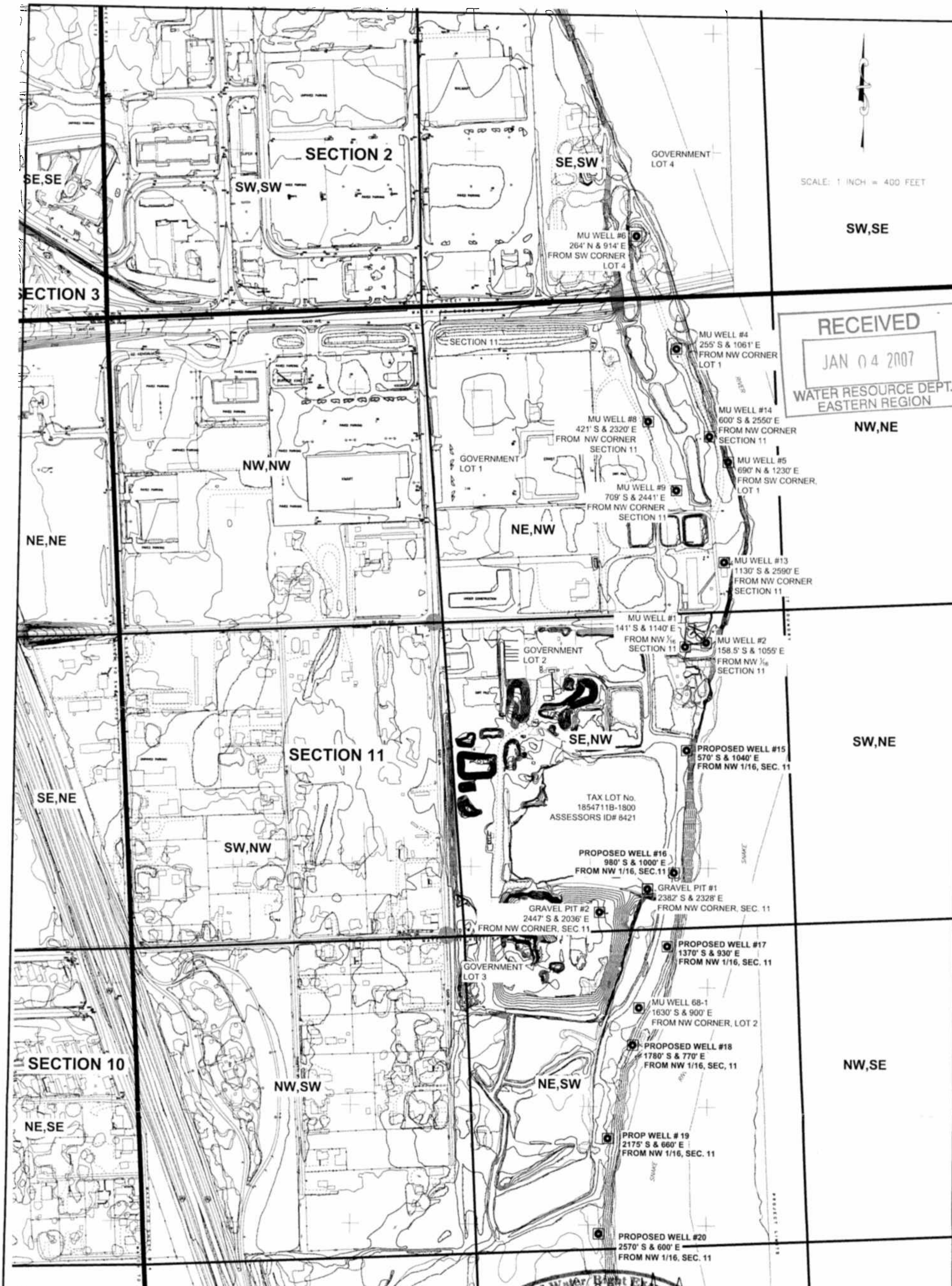
2. Permit Amendment Application T-8077 is no longer in any force or effect.

Dated at Salem, Oregon this 7th day of November, 2018.

Dwight French

Dwight French, Water Right Services Administrator, for
Thomas M. Byler, Director
Oregon Water Resources Department

Mailing Date: NOV 08 2018



WELL MAP
CITY OF ONTARIO, OR

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF HOLLADAY ENG. CO. AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF HOLLADAY ENG. CO.

JOB NO.: ON 031903 A
CADD FILE:
DATE: 09/19/03
PLOTTED: 11/15/06
DRAWN BY: MGM
CHECKED BY: MEH
SHEET

HOLLADAY ENGINEERING CO.
ENGINEERS · CONSULTANTS
32 N. MAIN P.O. BOX 235 PAYETTE, ID 83661
(208) 642-3304 · FAX# (208) 642-2159
EMAIL: hec@holladayengineering.com

BEFORE THE WATER RESOURCES DEPARTMENT
OF THE
STATE OF OREGON

In the Matter of Transfer Application T-8078, Malheur County	) FINAL ORDER) APPROVING A CHANGE IN PLACE OF) USE, CHANGES IN POINTS OF) APPROPRIATION, ADDITIONAL POINTS) OF APPROPRIATION AND) CANCELLATION OF WATER RIGHTS.

Authority

ORS 540.505 to 540.580 establishes the process in which a water right holder may submit a request to transfer the point of diversion, place of use, or character of use authorized under an existing water right. OAR Chapter 690, Division 380 implements the statutes and provides the Department's procedures and criteria for evaluating transfer applications.

ORS 540.621 establishes the process for the owner of land to which a water right is appurtenant to certify under oath that the water right, or a portion thereof, has been abandoned and to voluntarily request that it be cancelled.

Applicant

City Of Ontario
444 SW 4th Street
Ontario, Oregon 97914

Findings of Fact

1. On September 8, 1998, the City of Ontario filed a transfer application to change the points of appropriation under Certificates 22879, 32125, 60022, 60023, 60024, 68622, and 80759, and to change the place of use and request additional points of appropriation under Certificate 72138. The Department assigned the application number T-8078.

2. On October 16, 2008, the City of Ontario submitted Exhibits A, B, C, and D to clarify the authorized points of appropriation and current places of use.

3. On October 16, 2008, the applicant also requested a modification to Finding No. 16 that limited ground water production from sources no deeper than 60 feet below land surface. The applicant proposes a limit of ground water production from no deeper than 80 feet below land surface.

This final order is subject to judicial review by the Court of Appeals under ORS 183.482. Any petition for judicial review must be filed within the 60-day time period specified by ORS 183.482(1). Pursuant to ORS 536.075 and OAR 137-003-0675, you may petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.

4. On November 10, 2008, the City of Ontario submitted an amended Exhibit B to correctly describe the current places of use.

5. The first right to be transferred is as follows:

Certificate: 22879 in the name of the City of Ontario (perfected under Permit U-428)
Use: Municipal
Priority Date: March 10, 1952
Quantity: 3.35 cubic feet per second (cfs)
Source: Two wells (tributaries of the Snake River)

Authorized Points of Appropriation:

Township		Range		Meridian	Sec	Q-Q		GLot	Measured distances
18	S	47	E	W.M.	11	SE	NW	2	Well No. 1
18	S	47	E	W.M.	11	SE	NW	2	Well No. 2

Authorized Place of Use:

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
18 S	47 E	WM	3	SW NW
18 S	47 E	WM	3	SE NW
18 S	47 E	WM	3	NE SW
18 S	47 E	WM	3	NW SW
18 S	47 E	WM	3	SW SW
18 S	47 E	WM	3	SE SW
18 S	47 E	WM	4	SE NE
18 S	47 E	WM	4	SW SW
18 S	47 E	WM	4	SE SW
18 S	47 E	WM	4	NE SE
18 S	47 E	WM	4	NW SE
18 S	47 E	WM	4	SW SE
18 S	47 E	WM	4	SE SE
18 S	47 E	WM	9	NE NE
18 S	47 E	WM	9	NW NE
18 S	47 E	WM	9	SW NE
18 S	47 E	WM	9	SE NE
18 S	47 E	WM	9	NE NW
18 S	47 E	WM	9	SE NW
18 S	47 E	WM	10	NE NW
18 S	47 E	WM	10	NW NW
18 S	47 E	WM	10	SW NW
18 S	47 E	WM	10	SE NW

6. The department received information that better describes the location of the points of appropriation for Certificate 22879 located at:

Township		Range		Meridian	Sec	Q-Q	GLot	Measured distances
18	S	47	E	W.M.	11	SE NW	2	Muni Well No. 1 – 141 feet South and 1140 feet East from the NW 1/16 Corner of Sec. 11
18	S	47	E	W.M.	11	SE NW	2	Muni Well No. 2 – 158.5 feet South and 1055 feet East from the NW 1/16 Corner of Sec. 11

7. The second right to be transferred is as follows:

Certificate: 32125 in the name of the City of Ontario (perfected under Permit G-1867)
Use: Municipal
Priority Date: May 24, 1961
Quantity: 2.0 cubic feet per second (cfs)
Source: Municipal Well No. 4, tributary to the Snake River (Columbia River)

Authorized Point of Appropriation:

Township		Range		Meridian	Sec	Q-Q	GLot	Measured distances
18	S	47	E	W.M.	11	NE NW	1	Muni Well No. 4 – 255 feet South and 1061 feet East from the NW Corner of Lot 1 of Sec. 11

Authorized Place of Use:

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
18 S	47 E	WM	3	NE NW
18 S	47 E	WM	3	NW NW
18 S	47 E	WM	3	SW NW
18 S	47 E	WM	3	SE NW
18 S	47 E	WM	3	NE SW
18 S	47 E	WM	3	NW SW
18 S	47 E	WM	3	SW SW
18 S	47 E	WM	3	SE SW
18 S	47 E	WM	3	SW SE
18 S	47 E	WM	4	NE NE
18 S	47 E	WM	4	NW NE
18 S	47 E	WM	4	SW NE
18 S	47 E	WM	4	SE NE
18 S	47 E	WM	4	SE NW
18 S	47 E	WM	4	NE SW
18 S	47 E	WM	4	NW SW
18 S	47 E	WM	4	SW SW
18 S	47 E	WM	4	SE SW
18 S	47 E	WM	4	NE SE
18 S	47 E	WM	4	NW SE
18 S	47 E	WM	4	SW SE
18 S	47 E	WM	4	SE SE

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
18 S	47 E	WM	9	NE NE
18 S	47 E	WM	9	NW NE
18 S	47 E	WM	9	SW NE
18 S	47 E	WM	9	SE NE
18 S	47 E	WM	9	NE NW
18 S	47 E	WM	9	NW NW
18 S	47 E	WM	9	SW NW
18 S	47 E	WM	9	SE NW
18 S	47 E	WM	9	NE SE
18 S	47 E	WM	10	NE NE
18 S	47 E	WM	10	NW NE
18 S	47 E	WM	10	SW NE
18 S	47 E	WM	10	SE NE
18 S	47 E	WM	10	NE NW
18 S	47 E	WM	10	NW NW
18 S	47 E	WM	10	SW NW
18 S	47 E	WM	10	SE NW
18 S	47 E	WM	10	NW SW
18 S	47 E	WM	11	NE NW
18 S	47 E	WM	11	NW NW
18 S	47 E	WM	11	SW NW
18 S	47 E	WM	11	SE NW

8. The third right to be transferred is as follows:

Certificate: 60022 in the name of the City of Ontario
Use: Municipal
Priority Date: April 14, 1975
Quantity: 1.10 cubic feet per second (cfs), being 0.44 cfs from Well 8 and 0.66 cfs from Well 9
Source: Wells 8 and 9, in the Snake River Basin

Authorized Points of Appropriation:

Township		Range		Meridian	Sec	Q-Q	GLot	Measured distances
18	S	47	E	W.M.	11	NE NW	1	Well 8 – North 49 Degrees 50 Minutes East, 1221.5 feet from the SW Corner of Lot 1
18	S	47	E	W.M.	11	NE NW	1	Well 9 – North 64 Degrees 35 Minutes East, 1151.4 feet from the SW Corner of Lot 1

Authorized Place of Use:

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
17 S	47 E	WM	33	NW NE
17 S	47 E	WM	33	SW NE
17 S	47 E	WM	33	NE NW
17 S	47 E	WM	33	SE NW
17 S	47 E	WM	33	NE SW
17 S	47 E	WM	33	NE SE

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
17 S	47 E	WM	33	NW SE
17 S	47 E	WM	33	SW SE
17 S	47 E	WM	33	SE SE
18 S	47 E	WM	2	SW SW
18 S	47 E	WM	3	NW NE
18 S	47 E	WM	3	SW NE
18 S	47 E	WM	3	NE NW
18 S	47 E	WM	3	NW NW
18 S	47 E	WM	3	SW NW
18 S	47 E	WM	3	SE NW
18 S	47 E	WM	3	NE SW
18 S	47 E	WM	3	NW SW
18 S	47 E	WM	3	SW SW
18 S	47 E	WM	3	SE SW
18 S	47 E	WM	3	NW SE
18 S	47 E	WM	3	SW SE
18 S	47 E	WM	3	SE SE
18 S	47 E	WM	4	NE NE
18 S	47 E	WM	4	NW NE
18 S	47 E	WM	4	SW NE
18 S	47 E	WM	4	SE NE
18 S	47 E	WM	4	SW NW
18 S	47 E	WM	4	SE NW
18 S	47 E	WM	4	NE SW
18 S	47 E	WM	4	NW SW
18 S	47 E	WM	4	SW SW
18 S	47 E	WM	4	SE SW
18 S	47 E	WM	4	NE SE
18 S	47 E	WM	4	NW SE
18 S	47 E	WM	4	SW SE
18 S	47 E	WM	4	SE SE
18 S	47 E	WM	5	SW NE
18 S	47 E	WM	5	SE NE
18 S	47 E	WM	5	NE SW
18 S	47 E	WM	5	SW SW
18 S	47 E	WM	5	SE SW
18 S	47 E	WM	5	NE SE
18 S	47 E	WM	5	NW SE
18 S	47 E	WM	5	SW SE
18 S	47 E	WM	5	SE SE
18 S	47 E	WM	7	NE NE
18 S	47 E	WM	8	NE NE
18 S	47 E	WM	8	NW NE
18 S	47 E	WM	8	NE NW
18 S	47 E	WM	8	NW NW
18 S	47 E	WM	8	NE SE
18 S	47 E	WM	9	NE NE
18 S	47 E	WM	9	NW NE
18 S	47 E	WM	9	SW NE
18 S	47 E	WM	9	SE NE

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
18 S	47 E	WM	9	NE NW
18 S	47 E	WM	9	NW NW
18 S	47 E	WM	9	SW NW
18 S	47 E	WM	9	SE NW
18 S	47 E	WM	9	NE SW
18 S	47 E	WM	9	NW SW
18 S	47 E	WM	9	SW SW
18 S	47 E	WM	9	SE SW
18 S	47 E	WM	9	NE SE
18 S	47 E	WM	9	NW SE
18 S	47 E	WM	9	SW SE
18 S	47 E	WM	10	NE NE
18 S	47 E	WM	10	NW NE
18 S	47 E	WM	10	SW NE
18 S	47 E	WM	10	SE NE
18 S	47 E	WM	10	NE NW
18 S	47 E	WM	10	NW NW
18 S	47 E	WM	10	SW NW
18 S	47 E	WM	10	SE NW
18 S	47 E	WM	10	NE SW
18 S	47 E	WM	10	NW SW
18 S	47 E	WM	10	SW SW
18 S	47 E	WM	10	NE SE
18 S	47 E	WM	10	NW SE
18 S	47 E	WM	10	SW SE
18 S	47 E	WM	10	SE SE
18 S	47 E	WM	11	NE NW
18 S	47 E	WM	11	NW NW
18 S	47 E	WM	11	SW NW
18 S	47 E	WM	11	SE NW
18 S	47 E	WM	11	NW SW
18 S	47 E	WM	15	SE NW
18 S	47 E	WM	15	NW SW

9. The department received information that better describes the location of the points of appropriation for Certificate 60022 located at:

Township		Range		Meridian	Sec	Q-Q	GLot	Measured distances
18	S	47	E	W.M.	11	NE NW	1	Muni Well No. 8 – 421 feet South and 2320 feet East from the NW Corner of Sec. 11
18	S	47	E	W.M.	11	NE NW	1	Muni Well No. 9 – 709 feet South and 2441 feet East from the NW Corner of Sec. 11

10. The fourth right to be transferred is as follows:

Certificate: 60023 in the name of the City of Ontario (perfected under Permit G-9113)
Use: Municipal
Priority Date: September 18, 1980
Quantity: 0.94 cubic foot per second (cfs)
Source: Well 14, in the Snake River Basin

Authorized Point of Appropriation:

Township		Range		Meridian	Sec	Q-Q	GLot	Measured distances
18	S	47	E	W.M.	11	NE NW	1	Muni Well No. 14 – 600 feet South and 2550 feet East from NW Corner of Sec. 11

Authorized Place of Use:

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
17 S	47 E	WM	33	NW NE
17 S	47 E	WM	33	SW NE
17 S	47 E	WM	33	NE NW
17 S	47 E	WM	33	SE NW
17 S	47 E	WM	33	NE SW
17 S	47 E	WM	33	NE SE
17 S	47 E	WM	33	NW SE
17 S	47 E	WM	33	SW SE
17 S	47 E	WM	33	SE SE
18 S	47 E	WM	2	SW SW
18 S	47 E	WM	3	NW NE
18 S	47 E	WM	3	SW NE
18 S	47 E	WM	3	NE NW
18 S	47 E	WM	3	NW NW
18 S	47 E	WM	3	SW NW
18 S	47 E	WM	3	SE NW
18 S	47 E	WM	3	NE SW
18 S	47 E	WM	3	NW SW
18 S	47 E	WM	3	SW SW
18 S	47 E	WM	3	SE SW
18 S	47 E	WM	3	NW SE
18 S	47 E	WM	3	SW SE
18 S	47 E	WM	3	SE SE
18 S	47 E	WM	4	NE NE
18 S	47 E	WM	4	NW NE
18 S	47 E	WM	4	SW NE
18 S	47 E	WM	4	SE NE
18 S	47 E	WM	4	SW NW
18 S	47 E	WM	4	SE NW
18 S	47 E	WM	4	NE SW
18 S	47 E	WM	4	NW SW
18 S	47 E	WM	4	SW SW
18 S	47 E	WM	4	SE SW
18 S	47 E	WM	4	NE SE
18 S	47 E	WM	4	NW SE

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
18 S	47 E	WM	4	SW SE
18 S	47 E	WM	4	SE SE
18 S	47 E	WM	5	SW NE
18 S	47 E	WM	5	SE NE
18 S	47 E	WM	5	NE SW
18 S	47 E	WM	5	SW SW
18 S	47 E	WM	5	SE SW
18 S	47 E	WM	5	NE SE
18 S	47 E	WM	5	NW SE
18 S	47 E	WM	5	SW SE
18 S	47 E	WM	5	SE SE
18 S	47 E	WM	7	NE NE
18 S	47 E	WM	8	NE NE
18 S	47 E	WM	8	NW NE
18 S	47 E	WM	8	NE NW
18 S	47 E	WM	8	NW NW
18 S	47 E	WM	8	NE SE
18 S	47 E	WM	9	NE NE
18 S	47 E	WM	9	NW NE
18 S	47 E	WM	9	SW NE
18 S	47 E	WM	9	SE NE
18 S	47 E	WM	9	NE NW
18 S	47 E	WM	9	NW NW
18 S	47 E	WM	9	SW NW
18 S	47 E	WM	9	SE NW
18 S	47 E	WM	9	NE SW
18 S	47 E	WM	9	NW SW
18 S	47 E	WM	9	SW SW
18 S	47 E	WM	9	SE SW
18 S	47 E	WM	9	NE SE
18 S	47 E	WM	9	NW SE
18 S	47 E	WM	9	SW SE
18 S	47 E	WM	10	NE NE
18 S	47 E	WM	10	NW NE
18 S	47 E	WM	10	SW NE
18 S	47 E	WM	10	SE NE
18 S	47 E	WM	10	NE NW
18 S	47 E	WM	10	NW NW
18 S	47 E	WM	10	SW NW
18 S	47 E	WM	10	SE NW
18 S	47 E	WM	10	NE SW
18 S	47 E	WM	10	NW SW
18 S	47 E	WM	10	SW SW
18 S	47 E	WM	10	NE SE
18 S	47 E	WM	10	NW SE
18 S	47 E	WM	10	SW SE
18 S	47 E	WM	10	SE SE
18 S	47 E	WM	11	NE NW
18 S	47 E	WM	11	NW NW
18 S	47 E	WM	11	SW NW

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
18 S	47 E	WM	11	SE NW
18 S	47 E	WM	11	NW SW
18 S	47 E	WM	15	SE NW
18 S	47 E	WM	15	NW SW

11. The fifth right to be transferred is as follows:

Certificate: 60024 in the name of the City of Ontario (perfected under Permit G-9114)
Use: Municipal
Priority Date: September 18, 1980
Quantity: 0.78 cubic foot per second (cfs)
Source: Well 13, in the Snake River Basin

Authorized Point of Appropriation:

Township		Range		Meridian	Sec	Q-Q		GLot	Measured distances
18	S	47	E	W.M.	11	NE	NW	1	Muni Well No. 13 – 1130 feet South and 2590 feet East from NW Corner of Sec. 11

Authorized Place of Use:

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
17 S	47 E	WM	33	NW NE
17 S	47 E	WM	33	SW NE
17 S	47 E	WM	33	NE NW
17 S	47 E	WM	33	SE NW
17 S	47 E	WM	33	NE SW
17 S	47 E	WM	33	NE SE
17 S	47 E	WM	33	NW SE
17 S	47 E	WM	33	SW SE
17 S	47 E	WM	33	SE SE
18 S	47 E	WM	2	SW SW
18 S	47 E	WM	3	NW NE
18 S	47 E	WM	3	SW NE
18 S	47 E	WM	3	NE NW
18 S	47 E	WM	3	NW NW
18 S	47 E	WM	3	SW NW
18 S	47 E	WM	3	SE NW
18 S	47 E	WM	3	NE SW
18 S	47 E	WM	3	NW SW
18 S	47 E	WM	3	SW SW
18 S	47 E	WM	3	SE SW
18 S	47 E	WM	3	NW SE
18 S	47 E	WM	3	SW SE
18 S	47 E	WM	3	SE SE
18 S	47 E	WM	4	NE NE
18 S	47 E	WM	4	NW NE
18 S	47 E	WM	4	SW NE
18 S	47 E	WM	4	SE NE
18 S	47 E	WM	4	SW NW

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
18 S	47 E	WM	4	SE NW
18 S	47 E	WM	4	NE SW
18 S	47 E	WM	4	NW SW
18 S	47 E	WM	4	SW SW
18 S	47 E	WM	4	SE SW
18 S	47 E	WM	4	NE SE
18 S	47 E	WM	4	NW SE
18 S	47 E	WM	4	SW SE
18 S	47 E	WM	4	SE SE
18 S	47 E	WM	5	SW NE
18 S	47 E	WM	5	SE NE
18 S	47 E	WM	5	NE SW
18 S	47 E	WM	5	SW SW
18 S	47 E	WM	5	SE SW
18 S	47 E	WM	5	NE SE
18 S	47 E	WM	5	NW SE
18 S	47 E	WM	5	SW SE
18 S	47 E	WM	5	SE SE
18 S	47 E	WM	7	NE NE
18 S	47 E	WM	8	NE NE
18 S	47 E	WM	8	NW NE
18 S	47 E	WM	8	NE NW
18 S	47 E	WM	8	NW NW
18 S	47 E	WM	8	NE SE
18 S	47 E	WM	9	NE NE
18 S	47 E	WM	9	NW NE
18 S	47 E	WM	9	SW NE
18 S	47 E	WM	9	SE NE
18 S	47 E	WM	9	NE NW
18 S	47 E	WM	9	NW NW
18 S	47 E	WM	9	SW NW
18 S	47 E	WM	9	SE NW
18 S	47 E	WM	9	NE SW
18 S	47 E	WM	9	NW SW
18 S	47 E	WM	9	SW SW
18 S	47 E	WM	9	SE SW
18 S	47 E	WM	9	NE SE
18 S	47 E	WM	9	NW SE
18 S	47 E	WM	9	SW SE
18 S	47 E	WM	10	NE NE
18 S	47 E	WM	10	NW NE
18 S	47 E	WM	10	SW NE
18 S	47 E	WM	10	SE NE
18 S	47 E	WM	10	NE NW
18 S	47 E	WM	10	NW NW
18 S	47 E	WM	10	SW NW
18 S	47 E	WM	10	SE NW
18 S	47 E	WM	10	NE SW
18 S	47 E	WM	10	NW SW
18 S	47 E	WM	10	SW SW

MUNICIPAL				
Twp	Rng	Mer	Sec	Q-Q
18 S	47 E	WM	10	NE SE
18 S	47 E	WM	10	NW SE
18 S	47 E	WM	10	SW SE
18 S	47 E	WM	10	SE SE
18 S	47 E	WM	11	NE NW
18 S	47 E	WM	11	NW NW
18 S	47 E	WM	11	SW NW
18 S	47 E	WM	11	SE NW
18 S	47 E	WM	11	NW SW
18 S	47 E	WM	15	SE NW
18 S	47 E	WM	15	NW SW

12. The sixth right to be transferred is as follows:

Certificate: 68622 in the name of the City of Ontario (perfected under Permit G-999)
Use: Municipal
Priority Date: August 11, 1958
Quantity: 500 gallons per minute (gpm) (see Finding No. 12)
Source: Well 6, in the Snake River Basin

Authorized Point of Appropriation:

Township		Range		Meridian	Sec	Q-Q		GLot	Measured distances
18	S	47	E	W.M.	2	SE	SW	4	Muni Well No. 6 (68-2) – 264 feet North and 914 feet East from SW Corner of Lot 4

Authorized Place of Use:

MUNICIPAL					
Twp	Rng	Mer	Sec	Q-Q	GLot
18 S	47 E	WM	3	NE NW	
18 S	47 E	WM	3	NW NW	
18 S	47 E	WM	3	SW NW	
18 S	47 E	WM	3	SE NW	
18 S	47 E	WM	3	NE SW	
18 S	47 E	WM	3	NW SW	
18 S	47 E	WM	3	SW SW	
18 S	47 E	WM	3	SE SW	
18 S	47 E	WM	3	SW SE	
18 S	47 E	WM	4	NE NE	
18 S	47 E	WM	4	NW NE	
18 S	47 E	WM	4	SW NE	
18 S	47 E	WM	4	SE NE	
18 S	47 E	WM	4	SE NW	
18 S	47 E	WM	4	NE SW	
18 S	47 E	WM	4	NW SW	
18 S	47 E	WM	4	SW SW	
18 S	47 E	WM	4	SE SW	
18 S	47 E	WM	4	NE SE	
18 S	47 E	WM	4	NW SE	
18 S	47 E	WM	4	SW SE	

MUNICIPAL					
Twp	Rng	Mer	Sec	Q-Q	GLot
18 S	47 E	WM	4	SE SE	
18 S	47 E	WM	9	NE NE	
18 S	47 E	WM	9	NW NE	
18 S	47 E	WM	9	SW NE	
18 S	47 E	WM	9	SE NE	
18 S	47 E	WM	9	NE NW	
18 S	47 E	WM	9	NW NW	
18 S	47 E	WM	9	SW NW	
18 S	47 E	WM	9	SE NW	
18 S	47 E	WM	9	NE SE	
18 S	47 E	WM	10	NE NE	
18 S	47 E	WM	10	NW NE	
18 S	47 E	WM	10	SW NE	
18 S	47 E	WM	10	SE NE	
18 S	47 E	WM	10	NE NW	
18 S	47 E	WM	10	NW NW	
18 S	47 E	WM	10	SW NW	
18 S	47 E	WM	10	SE NW	
18 S	47 E	WM	10	NW SW	
18 S	47 E	WM	11	NE NW	1
18 S	47 E	WM	11	NW NW	
18 S	47 E	WM	11	SW NW	
18 S	47 E	WM	11	SE NW	2

13. Certificate 32124 allowed the use of 2.25 cubic feet per second (cfs). Transfer Application T-6160 modified this right by changing the point of appropriation. During the final proof process, the surveyor provided a site report dated January 10, 1991 stating that the city perfected 500 gallons per minute (gpm) and requested to defer the remaining portion as allowed under ORS 537.260. This resulted in Certificate 68622 being issued for 500 gpm.

14. Pursuant to 537.260, the City of Ontario requests that the deferred amount of 1.15 cubic feet per second be perfected with the proposed changes identified in Transfer Application T-8078, modifying Certificate 68622.

15. Transfer Application T-8078 proposes to change the authorized points of appropriation of the rights described by Certificates 22879, 32125, 60022, 60023, 60024, and 68622 to:

Township		Range		Meridian	Sec	Q-Q		GLot	Measured distances
18	S	47	E	W.M.	11	SE	NW	2	Municipal Well No. 1 – 141 feet South and 1140 feet East from the NW 1/16 Corner of Sec. 11
18	S	47	E	W.M.	11	SE	NW	2	Municipal Well No. 2 – 158.5 feet South and 1055 feet East from the NW 1/16 Corner of Sec. 11
18	S	47	E	W.M.	11	NE	NW	1	Municipal Well No. 4 – 255 feet South and 1061 feet East from the NW Corner of Lot 1
18	S	47	E	W.M.	2	SE	SW	4	Municipal Well No. 6 (68-2) – 264 feet North and 914 feet East from the SW Corner of Lot

Township		Range		Meridian	Sec	Q-Q		GLot	Measured distances
									4
18	S	47	E	W.M.	11	NE	NW	1	Municipal Well No. 8 – 421 feet South and 2320 feet East from the NW Corner of Sec. 11
18	S	47	E	W.M.	11	NE	NW	1	Municipal Well No. 9 – 709 feet South and 2441 feet East from the NW Corner of Sec. 11
18	S	47	E	W.M.	11	NE	NW	1	Municipal Well No. 13 – 1130 feet South and 2590 feet East from the NW Corner of Sec. 11
18	S	47	E	W.M.	11	NE	NW	1	Municipal Well No. 14 – 600 feet South and 2550 feet East from the NW Corner of Sec. 11
18	S	47	E	W.M.	11	SE	NW	2	Proposed Well No. 15 – 570 feet South and 1040 feet East from the NW 1/16 Corner of Sec. 11
18	S	47	E	W.M.	11	SE	NW	2	Proposed Well No. 16 – 980 feet South and 1000 feet East from the NW 1/16 Corner of Sec. 11
18	S	47	E	W.M.	11	NE	SW	3	Proposed Well No. 17 – 1370 feet South and 930 feet East from the NW 1/16 Corner of Sec. 11
18	S	47	E	W.M.	11	NE	SW	3	Proposed Well No. 18 – 1780 feet South and 770 feet East from the NW 1/16 Corner of Sec. 11
18	S	47	E	W.M.	11	NE	SW	3	Proposed Well No. 19 – 2175 feet South and 660 feet East from the NW 1/16 Corner of Sec. 11
18	S	47	E	W.M.	11	NE	SW	3	Proposed Well No. 20 – 2570 feet South and 600 feet East from the NW 1/16 Corner of Sec. 11
18	S	47	E	W.M.	11	NE	SW	3	Municipal Well 68-1 – 1630 feet South and 900 feet East from the NW Corner of Lot 2
18	S	47	E	W.M.	11	SE	NW	2	Gravel Pit No. 1 – 2382 feet South and 2328 feet East from the NW Corner of Sec. 11
18	S	47	E	W.M.	11	SE	NW	2	Gravel Pit No. 2 – 2447 feet South and 2036 feet East from the NW corner of Sec. 11

16. The Department's Ground Water Section has recommended that the transfer be conditioned so that the proposed points of appropriation only allow production of ground water from no deeper than 60 feet below land surface.

17. Upon review of the request by the City of Ontario to modify the production depth limitation of ground water in the proposed wells described in Finding No. 16. The Department's Ground Water Section has agreed to modify the production depth limitation to 80 feet below land surface, provided that the wells do not develop a confined aquifer. The city should be aware of changes in the lithology as the wells are drilled. If ground water is encountered below significant clay beds with a corresponding static water level change, which may indicate the presence of a confined aquifer, the well should not be completed below the clay bed.

18. The Ontario Service Area has been changed since Certificates 22879, 32125, 60022, 60023, 60024, and 68622 were issued. The department has received information that more accurately describes the current place of use. However, this information does not change the authorized place of use as described under Certificates 22879, 32125, 60022, 60023, 60024, and 68622. The current place of use can be described as:

MUNICIPAL					
Twp	Rng	Mer	Sec	Q-Q	GLot
17 S	46 E	WM	22	NE NE	
17 S	46 E	WM	22	NW NE	
17 S	46 E	WM	22	SW NE	
17 S	46 E	WM	22	SE NE	
17 S	46 E	WM	22	NE NW	
17 S	46 E	WM	22	NW NW	
17 S	46 E	WM	22	SW NW	
17 S	46 E	WM	22	SE NW	
17 S	46 E	WM	22	NE SW	
17 S	46 E	WM	22	NW SW	
17 S	46 E	WM	22	SW SW	
17 S	46 E	WM	22	SE SW	
17 S	46 E	WM	22	NE SE	
17 S	46 E	WM	22	NW SE	
17 S	46 E	WM	22	SW SE	
17 S	46 E	WM	22	SE SE	
17 S	46 E	WM	23	NE NE	
17 S	46 E	WM	23	NW NE	
17 S	46 E	WM	23	SW NE	
17 S	46 E	WM	23	SE NE	
17 S	46 E	WM	23	NE NW	
17 S	46 E	WM	23	NW NW	
17 S	46 E	WM	23	SW NW	
17 S	46 E	WM	23	SE NW	
17 S	46 E	WM	23	NE SW	
17 S	46 E	WM	23	NW SW	
17 S	46 E	WM	23	SW SW	
17 S	46 E	WM	23	SE SW	
17 S	46 E	WM	23	NE SE	
17 S	46 E	WM	23	NW SE	
17 S	46 E	WM	23	SW SE	
17 S	46 E	WM	23	SE SE	
17 S	46 E	WM	25	NW NW	
17 S	46 E	WM	25	SW NW	

MUNICIPAL					
Twp	Rng	Mer	Sec	Q-Q	GLot
17 S	46 E	WM	25	NW SW	
17 S	46 E	WM	25	SW SW	
17 S	46 E	WM	25	SE SW	
17 S	46 E	WM	25	SW SE	
17 S	46 E	WM	25	SE SE	
17 S	46 E	WM	26	NE NE	
17 S	46 E	WM	26	NW NE	
17 S	46 E	WM	26	SE NE	
17 S	46 E	WM	27	NE NW	
17 S	46 E	WM	27	NW NW	
17 S	46 E	WM	27	SW NW	
17 S	46 E	WM	27	SE NW	
17 S	46 E	WM	36	NE NE	
17 S	46 E	WM	36	NE SE	
17 S	46 E	WM	36	NW SE	
17 S	47 E	WM	29	SW SW	
17 S	47 E	WM	29	SE SW	
17 S	47 E	WM	29	SW SE	
17 S	47 E	WM	29	SE SE	
17 S	47 E	WM	31	NE NE	
17 S	47 E	WM	31	NW NE	
17 S	47 E	WM	31	SW NE	
17 S	47 E	WM	31	SE NE	
17 S	47 E	WM	31	NE NW	
17 S	47 E	WM	31	NW NW	
17 S	47 E	WM	31	SW NW	
17 S	47 E	WM	31	SE NW	
17 S	47 E	WM	31	NE SW	
17 S	47 E	WM	31	NW SW	
17 S	47 E	WM	31	SW SW	
17 S	47 E	WM	31	SE SW	
17 S	47 E	WM	31	NE SE	
17 S	47 E	WM	31	NW SE	
17 S	47 E	WM	31	SW SE	
17 S	47 E	WM	31	SE SE	
17 S	47 E	WM	32	NE NE	
17 S	47 E	WM	32	NW NE	
17 S	47 E	WM	32	SW NE	
17 S	47 E	WM	32	SE NE	
17 S	47 E	WM	32	NE NW	
17 S	47 E	WM	32	NW NW	
17 S	47 E	WM	32	SW NW	
17 S	47 E	WM	32	SE NW	
17 S	47 E	WM	32	NE SW	
17 S	47 E	WM	32	NW SW	
17 S	47 E	WM	32	SW SW	
17 S	47 E	WM	32	SE SW	
17 S	47 E	WM	32	NE SE	
17 S	47 E	WM	32	NW SE	
17 S	47 E	WM	32	SW SE	

MUNICIPAL					
Twp	Rng	Mer	Sec	Q-Q	GLot
17 S	47 E	WM	32	SE SE	
17 S	47 E	WM	33	NW NE	
17 S	47 E	WM	33	SW NE	
17 S	47 E	WM	33	NE NW	
17 S	47 E	WM	33	NW NW	
17 S	47 E	WM	33	SW NW	
17 S	47 E	WM	33	SE NW	
17 S	47 E	WM	33	NE SW	
17 S	47 E	WM	33	NW SW	
17 S	47 E	WM	33	SW SW	
17 S	47 E	WM	33	SE SW	
17 S	47 E	WM	33	NE SE	
17 S	47 E	WM	33	NW SE	
17 S	47 E	WM	33	SW SE	
17 S	47 E	WM	33	SE SE	
18 S	47 E	WM	2	SW NW	1
18 S	47 E	WM	2	NE SW	3
18 S	47 E	WM	2	NW SW	2
18 S	47 E	WM	2	SW SW	
18 S	47 E	WM	2	SE SW	4
18 S	47 E	WM	3	NE NE	4
18 S	47 E	WM	3	NW NE	3
18 S	47 E	WM	3	SW NE	
18 S	47 E	WM	3	SE NE	5
18 S	47 E	WM	3	NE NW	2
18 S	47 E	WM	3	NW NW	1
18 S	47 E	WM	3	SW NW	
18 S	47 E	WM	3	SE NW	
18 S	47 E	WM	3	NE SW	
18 S	47 E	WM	3	NW SW	
18 S	47 E	WM	3	SW SW	
18 S	47 E	WM	3	SE SW	
18 S	47 E	WM	3	NE SE	
18 S	47 E	WM	3	NW SE	
18 S	47 E	WM	3	SW SE	
18 S	47 E	WM	3	SE SE	
18 S	47 E	WM	4	NE NE	
18 S	47 E	WM	4	NW NE	
18 S	47 E	WM	4	SW NE	
18 S	47 E	WM	4	SE NE	
18 S	47 E	WM	4	NE NW	
18 S	47 E	WM	4	NW NW	
18 S	47 E	WM	4	SW NW	
18 S	47 E	WM	4	SE NW	
18 S	47 E	WM	4	NE SW	
18 S	47 E	WM	4	NW SW	
18 S	47 E	WM	4	SW SW	
18 S	47 E	WM	4	SE SW	
18 S	47 E	WM	4	NE SE	
18 S	47 E	WM	4	NW SE	

MUNICIPAL					
Twp	Rng	Mer	Sec	Q-Q	GLot
18 S	47 E	WM	4	SW SE	
18 S	47 E	WM	4	SE SE	
18 S	47 E	WM	5	NE NE	1
18 S	47 E	WM	5	NW NE	2
18 S	47 E	WM	5	SW NE	
18 S	47 E	WM	5	SE NE	
18 S	47 E	WM	5	NE NW	3
18 S	47 E	WM	5	NW NW	4
18 S	47 E	WM	5	SW NW	
18 S	47 E	WM	5	SE NW	
18 S	47 E	WM	5	NE SW	
18 S	47 E	WM	5	NW SW	
18 S	47 E	WM	5	SW SW	
18 S	47 E	WM	5	SE SW	
18 S	47 E	WM	5	NE SE	
18 S	47 E	WM	5	NW SE	
18 S	47 E	WM	5	SW SE	
18 S	47 E	WM	5	SE SE	
18 S	47 E	WM	6	NE NE	1
18 S	47 E	WM	6	NW NE	2
18 S	47 E	WM	6	SW NE	
18 S	47 E	WM	6	SE NE	
18 S	47 E	WM	6	NE NW	3
18 S	47 E	WM	6	NW NW	4
18 S	47 E	WM	6	SW NW	5
18 S	47 E	WM	6	SE NW	
18 S	47 E	WM	6	NE SW	
18 S	47 E	WM	6	NW SW	6
18 S	47 E	WM	6	SW SW	7
18 S	47 E	WM	6	SE SW	
18 S	47 E	WM	6	NE SE	
18 S	47 E	WM	6	NW SE	
18 S	47 E	WM	6	SW SE	
18 S	47 E	WM	6	SE SE	
18 S	47 E	WM	7	NE NE	
18 S	47 E	WM	7	NW NE	
18 S	47 E	WM	7	SW NE	
18 S	47 E	WM	7	SE NE	
18 S	47 E	WM	7	NE NW	
18 S	47 E	WM	7	NW NW	1
18 S	47 E	WM	7	SW NW	2
18 S	47 E	WM	7	SE NW	
18 S	47 E	WM	7	NE SW	
18 S	47 E	WM	7	NW SW	3
18 S	47 E	WM	7	SW SW	4
18 S	47 E	WM	7	SE SW	
18 S	47 E	WM	7	NE SE	
18 S	47 E	WM	7	NW SE	
18 S	47 E	WM	7	SW SE	
18 S	47 E	WM	7	SE SE	

MUNICIPAL					
Twp	Rng	Mer	Sec	Q-Q	GLot
18 S	47 E	WM	8	NE NE	
18 S	47 E	WM	8	NW NE	
18 S	47 E	WM	8	SW NE	
18 S	47 E	WM	8	SE NE	
18 S	47 E	WM	8	NE NW	
18 S	47 E	WM	8	NW NW	
18 S	47 E	WM	8	SW NW	
18 S	47 E	WM	8	SE NW	
18 S	47 E	WM	8	NE SW	
18 S	47 E	WM	8	NW SW	
18 S	47 E	WM	8	SW SW	
18 S	47 E	WM	8	SE SW	
18 S	47 E	WM	8	NE SE	
18 S	47 E	WM	8	NW SE	
18 S	47 E	WM	8	SW SE	
18 S	47 E	WM	8	SE SE	
18 S	47 E	WM	9	NE NE	
18 S	47 E	WM	9	NW NE	
18 S	47 E	WM	9	SW NE	
18 S	47 E	WM	9	SE NE	
18 S	47 E	WM	9	NE NW	
18 S	47 E	WM	9	NW NW	
18 S	47 E	WM	9	SW NW	
18 S	47 E	WM	9	SE NW	
18 S	47 E	WM	9	NE SW	
18 S	47 E	WM	9	NW SW	
18 S	47 E	WM	9	SW SW	
18 S	47 E	WM	9	SE SW	
18 S	47 E	WM	9	NE SE	
18 S	47 E	WM	9	NW SE	
18 S	47 E	WM	9	SW SE	
18 S	47 E	WM	9	SE SE	
18 S	47 E	WM	10	NE NE	
18 S	47 E	WM	10	NW NE	
18 S	47 E	WM	10	SW NE	
18 S	47 E	WM	10	SE NE	
18 S	47 E	WM	10	NE NW	
18 S	47 E	WM	10	NW NW	
18 S	47 E	WM	10	SW NW	
18 S	47 E	WM	10	SE NW	
18 S	47 E	WM	10	NE SW	
18 S	47 E	WM	10	NW SW	
18 S	47 E	WM	10	SW SW	
18 S	47 E	WM	10	SE SW	
18 S	47 E	WM	10	NE SE	
18 S	47 E	WM	10	NW SE	
18 S	47 E	WM	10	SW SE	
18 S	47 E	WM	10	SE SE	
18 S	47 E	WM	11	NE NW	1
18 S	47 E	WM	11	NW NW	

MUNICIPAL					
Twp	Rng	Mer	Sec	Q-Q	GLot
18 S	47 E	WM	11	SW NW	2
18 S	47 E	WM	11	NE SW	3
18 S	47 E	WM	11	NW SW	
18 S	47 E	WM	11	SW SW	
18 S	47 E	WM	11	SE SW	4
18 S	47 E	WM	14	NE NW	
18 S	47 E	WM	14	NW NW	
18 S	47 E	WM	14	SW NW	
18 S	47 E	WM	14	SW SW	1
18 S	47 E	WM	15	NE NE	
18 S	47 E	WM	15	NW NE	
18 S	47 E	WM	15	SW NE	
18 S	47 E	WM	15	SE NE	1
18 S	47 E	WM	15	NE NW	
18 S	47 E	WM	15	NW NW	
18 S	47 E	WM	15	SW NW	
18 S	47 E	WM	15	SE NW	
18 S	47 E	WM	15	NW SW	
18 S	47 E	WM	15	SW SW	6
18 S	47 E	WM	15	NE SE	2
18 S	47 E	WM	15	NW SE	
18 S	47 E	WM	16	NE NE	
18 S	47 E	WM	16	NW NE	
18 S	47 E	WM	16	SW NE	
18 S	47 E	WM	16	SE NE	
18 S	47 E	WM	16	NE NW	
18 S	47 E	WM	16	NW NW	
18 S	47 E	WM	16	SW NW	
18 S	47 E	WM	16	SE NW	
18 S	47 E	WM	16	NE SW	
18 S	47 E	WM	16	NW SW	
18 S	47 E	WM	16	SW SW	
18 S	47 E	WM	16	SE SW	
18 S	47 E	WM	16	NE SE	
18 S	47 E	WM	16	NW SE	
18 S	47 E	WM	16	SW SE	
18 S	47 E	WM	16	SE SE	
18 S	47 E	WM	17	NE NE	
18 S	47 E	WM	17	NW NE	
18 S	47 E	WM	17	SW NE	
18 S	47 E	WM	17	SE NE	
18 S	47 E	WM	17	NE NW	
18 S	47 E	WM	17	NW NW	
18 S	47 E	WM	17	SW NW	
18 S	47 E	WM	17	SE NW	
18 S	47 E	WM	17	NE SW	
18 S	47 E	WM	17	NW SW	
18 S	47 E	WM	17	SW SW	
18 S	47 E	WM	17	SE SW	
18 S	47 E	WM	17	NE SE	

MUNICIPAL					
Twp	Rng	Mer	Sec	Q-Q	GLot
18 S	47 E	WM	17	NW SE	
18 S	47 E	WM	17	SW SE	
18 S	47 E	WM	17	SE SE	
18 S	47 E	WM	18	NE NE	
18 S	47 E	WM	18	NW NE	
18 S	47 E	WM	18	SW NE	
18 S	47 E	WM	18	SE NE	
18 S	47 E	WM	21	NW NE	
18 S	47 E	WM	21	SW NE	
18 S	47 E	WM	21	SE NE	
18 S	47 E	WM	21	NE NW	
18 S	47 E	WM	21	NW NW	
18 S	47 E	WM	21	SW NW	
18 S	47 E	WM	21	SE NW	

19. The portion of the seventh right to be transferred is as follows:

Certificate: 80759 in the name of the City of Ontario, (perfected under Permit U-226)
Use: Irrigation of 21.1 Acres
Priority Date: December 15, 1947
Quantity: 0.25 cubic foot per second (cfs)
Rate/Duty: THREE-EIGHTIETHS of one cubic foot per second, or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 4.0 acre feet per acre for each acre irrigated during the irrigation season of each year
Source: Four wells, tributary to the Snake River

Authorized Points of Appropriation:

Township		Range		Meridian	Sec	Q-Q	
18	S	47	E	W.M.	4	SW	SE
18	S	47	E	W.M.	9	SW	NE
18	S	47	E	W.M.	9	NE	SW

Authorized Place of Use:

IRRIGATION								
Township		Range		Meridian	Sec	Q-Q	Acres	POA
18	S	47	E	W.M.	4	SW SE	5.6	Well 1 (Lions Park)
18	S	47	E	W.M.	9	SW NE	0.4	Well 2 (TVCC No. 2)
18	S	47	E	W.M	9	SE NW	4.6	Wells 3 and 4 (TVCC No. 3 and Evergreen Cemetery No. 4)
18	S	47	E	W.M	9	NE SW	9.6	Wells 3 and 4 (TVCC No. 3 and Evergreen Cemetery No. 4)
18	S	47	E	W.M	9	NW SE	0.9	Wells 3 and 4 (TVCC No. 3 and Evergreen Cemetery No. 4)

20. The department received information that better describes the location of the points of appropriation for the right described by Certificate 80759 located:

Township		Range		Meridian	Sec	Q-Q		Measured distances
18	S	47	E	W.M.	4	SW	SE	Lions Park – 225 feet North and 50 feet East from the S¼ Corner of Sec. 4
18	S	47	E	W.M.	9	SW	NE	TVCC No. 2 – 1690 feet South and 250 feet East from the N¼ Corner of Sec. 9
18	S	47	E	W.M.	9	SW	NE	TVCC No. 3 – 2625 feet South and 450 feet East from the N¼ Corner of Sec. 9
18	S	47	E	W.M.	9	NE	SW	Evergreen Cemetery No. 4 – 2900 feet South and 210 feet West from the N¼ Corner of Sec. 9

21. Transfer Application T-8078 proposes to change the authorized points of appropriation to:

Township		Range		Meridian	Sec	Q-Q		Measured distances
18	S	47	E	W.M.	4	SW	SE	Lions Park – 225 feet North and 50 feet East from the S¼ Corner of Sec. 4
18	S	47	E	W.M.	9	SE	NW	Evergreen Cemetery No. 2 – 612 feet North and 11 feet West from the Center of Sec. 9
18	S	47	E	W.M.	9	NE	SW	Evergreen Cemetery No. 4 – 3900 feet South and 210 feet West from the N¼ Corner of Sec. 9
18	S	47	E	W.M.	9	NE	SW	Evergreen Cemetery No. 1 – 100 feet South and 2310 feet East from the W¼ Corner of Sec. 9

22. Transfer Application T-8078 proposes to irrigate the authorized place of use as follows:

IRRIGATION								
Township		Range		Meridian	Sec	Q-Q	Acres	POA
18	S	47	E	W.M.	4	SW SE	5.6	Lions Park
18	S	47	E	W.M.	9	SW NE	0.4	Evergreen Cemetery Well Nos. 1, 2, and 4
18	S	47	E	W.M	9	SE NW	4.6	Evergreen Cemetery Well Nos. 1, 2, and 4
18	S	47	E	W.M	9	NE SW	9.6	Evergreen Cemetery Well Nos. 1, 2, and 4
18	S	47	E	W.M	9	NW SE	0.9	Evergreen Cemetery Well Nos. 1, 2, and 4

23. The eighth right to be transferred is as follows:

Certificate: 72138 in the name of the City of Ontario (perfected under Permit G-2616)
Use: Irrigation of 89.7 acres
Priority Date: March 6, 1964
Quantity: 1.12 cubic feet per second, being 0.37 cubic foot per second from Well 2 and 0.75 cubic foot per second from Well 3, the quantity of water diverted at Wells 4 and 5 shall not exceed the quantity of water available from Wells 2 and 3.
Rate/Duty: ONE-EIGHTIETH of one cubic foot per second per acre, or its equivalent for each acre irrigated and shall be further limited to a diversion of not to exceed 3.0 acre-feet per acre for each acre irrigated during the irrigation season of each year
Source: Four wells, in the Malheur River Basin

Authorized Points of Diversion:

Township		Range		Meridian	Sec	Q-Q		Measured distances
18	S	47	E	W.M.	7	SE	NE	GC No. 2 – 1410 feet South and 1475 feet East from the N¼ Corner of Sec. 7
18	S	47	E	W.M.	7	NW	SE	GC No. 3 – 670 feet North and 1825 feet East from the SW Corner of the NESW of Sec. 7
18	S	47	E	W.M.	7	SE	NW	GC No. 4 – 2934 feet North and 1016 feet West from the S¼ Corner of Sec. 7
18	S	47	E	W.M.	7	SE	SE	GC No. 5 – 1279 feet North and 546 feet West from the SE Corner of Sec. 7

Authorized Place of Use:

IRRIGATION							
Township		Range		Meridian	Sec	Q-Q	Acres
18	S	47	E	W.M.	7	NW NE	0.1
18	S	47	E	W.M.	7	SW NE	12.0
18	S	47	E	W.M.	7	SE NE	5.4
18	S	47	E	W.M.	7	NE NW	2.4
18	S	47	E	W.M.	7	SE NW	23.5
18	S	47	E	W.M.	7	NE SW	23.1
18	S	47	E	W.M.	7	NE SE	8.4
18	S	47	E	W.M.	7	NW SE	14.8

24. Transfer Application T-8078 proposes additional points of appropriation for the right described by Certificate 72138 located:

Township		Range		Meridian	Sec	Q-Q		Measured distances
18	S	47	E	W.M.	7	SE	NW	GC No. 7 – 3040 feet North and 930 feet West from the S¼ Corner of Sec. 7
18	S	47	E	W.M.	7	NE	SE	GC No. 1 – 13 feet South and 933 feet West from the NE Corner of the NESE of Sec. 7
18	S	47	E	W.M.	7	SW	NE	GC No. 6 – 2740 feet North and 220 feet East from the S¼ Corner of Sec. 7
18	S	47	E	W.M.	7	SW	SE	GC No. 8 – 1140 feet North and 900 feet East from the S¼ Corner of Sec. 7
18	S	47	E	W.M.	7	SW	SE	GC No. 9 – 375 feet North and 1100 feet East from the S¼ Corner of Sec. 7

25. Transfer Application T-8078 proposes to change the place of use of the right described by Certificate 72138 to:

IRRIGATION							
Township		Range		Meridian	Sec	Q-Q	Acres
18	S	47	E	W.M.	6	SE SW	0.5
18	S	47	E	W.M.	7	SW NE	7.0
18	S	47	E	W.M.	7	NE NW	10.2
18	S	47	E	W.M.	7	SE NW	23.5
18	S	47	E	W.M.	7	NE SW	23.1
18	S	47	E	W.M.	7	NW SE	14.9
18	S	47	E	W.M.	7	SW SE	10.5

Partial Cancellation of Water Rights

26. An affidavit was received from the City of Ontario, owners of certain land and the water rights appurtenant to it. Certificates 41004, 22880, and 32003 have been abandoned and are requested to be canceled.

The first right to be cancelled is as follows:

Certificate: 41004 in the name of the City of Ontario (perfected by Permit G-4522)
Use: Supplemental irrigation of 17.3 acres
Priority Date: February 21, 1969
Quantity: 0.21 cubic foot per second (cfs)
Rate/Duty: ONE-EIGHTIETH of one cfs per acre, not to exceed 3.0 acre-feet per acre for each acre irrigated during the irrigation season of each year; provided further that the right allowed herein shall be limited to any deficiency in the available supply of any prior right existing for the same land and shall not exceed the limitation allowed herein.
Source: A well, tributary to the Malheur River

Authorized Point of Diversion:

Township		Range		Meridian	Sec	Q-Q	Measured distances
18	S	47	E	W.M.	7	NE SE	13 feet South and 933 feet West from the NE corner of the NESE of Sec. 7

Authorized Place of Use to be cancelled:

SUPPLEMENTAL IRRIGATION							
Township		Range		Meridian	Sec	Q-Q	Acres
18	S	47	E	W.M.	7	NW NE	0.1
18	S	47	E	W.M.	7	SW NE	3.4
18	S	47	E	W.M.	7	SE NE	5.4
18	S	47	E	W.M.	7	NE SE	8.4

The second right to be cancelled is as follows:

Certificate: 22880 in the name of the City of Ontario (perfected by Permit U-429)
Use: Supplemental irrigation of 7.57 acres
Priority Date: March 10, 1952
Quantity: 0.25 cubic foot per second (cfs)
Rate/Duty: THREE-EIGHTIETHS of one cfs per acre, not to exceed 4.0 acre-feet per acre for each acre irrigated during the irrigation season of each year; and shall be further limited to a diversion of not to exceed 0.25 cfs.
Source: A well, tributary to the Malheur River

Authorized Point of Diversion:

Township		Range		Meridian	Sec	Q-Q
18	S	47	E	W.M.	9	NE SW

Authorized Place of Use to be cancelled:

SUPPLEMENTAL IRRIGATION							
Township		Range		Meridian	Sec	Q-Q	Acres
18	S	47	E	W.M.	9	SW NE	0.53
18	S	47	E	W.M.	9	SE NW	4.6
18	S	47	E	W.M.	9	NE SW	2.22
18	S	47	E	W.M.	9	NW SE	0.22

The third right to be cancelled is as follows:

Certificate: 32003 in the name of the City of Ontario (perfected by Permit G-2044)
Use: Irrigation of 16.2 acres
Priority Date: January 31, 1962
Quantity: 0.20 cubic foot per second
Rate/Duty: ONE-EIGHTIETH of one cfs per acre, not to exceed 3.0 acre-feet per acre for each acre irrigated during the irrigation season of each year
Source: Well No. 2, tributary to the Snake River

Authorized Point of Diversion:

Township		Range		Meridian	Sec	Q-Q		Measured distances
18	S	47	E	W.M.	9	SE	NW	612 feet North and 10.7 feet West from the SE Corner of the NW¼ of Sec. 9

Authorized Place of Use to be cancelled:

IRRIGATION							
Township		Range		Meridian	Sec	Q-Q	Acres
18	S	47	E	W.M.	9	SW NE	0.53
18	S	47	E	W.M.	9	SE NW	5.06
18	S	47	E	W.M.	9	NE SW	9.98
18	S	47	E	W.M.	9	NW SE	0.63

27. Notice of the application for transfer was published September 15, 1998, pursuant to ORS 540.520 and OAR 690-380-4000. No comments were filed in response to the notice.

28. On June 3, 2011, the Department mailed a copy of a revised draft Preliminary Determination proposing to approve Transfer Application T-8078 to the applicant. The draft Preliminary Determination set forth a deadline of July 5, 2011, for the applicant to respond. The applicant requested that the Department proceed with issuance of a Preliminary Determination.

29. On July 7, 2011, the Department issued a preliminary determination proposing to approve Transfer T-8078 and mailed a copy to the applicant. Additionally, notice of the preliminary determination for the transfer application was published on the Department's weekly notice on July 12, 2011, and in The Argus Observer on July 17, 24, and 31, 2011, pursuant to ORS 540.520 and OAR 690-380-4020. No protests were filed in response to the notices.

Transfer Review Criteria [OAR 690-380-4010(2)]

30. Water has been used within the last five years according to the terms and conditions of the rights, and no evidence is available that would demonstrate that the rights are subject to forfeiture under ORS 540.610.

31. Pumps, pipelines, and delivery systems sufficient to use the full amount of water allowed under the existing rights are present.

32. The proposed changes would not result in enlargement of the rights.

33. The proposed changes would not result in injury to other water rights.

Conclusions of Law

The change in points of appropriation, additional points of appropriation, and change in place of use proposed in Transfer Application T-8078 are consistent with the requirements of ORS 537.705 and 540.505 to 540.580, and OAR 690-380-5000 and the abandoned rights will be cancelled.

Now, therefore it is ORDERED:

1. The change in points of appropriation, additional points of appropriation, and change in place of use proposed in Transfer Application T-8078 are approved.

2. The right to use of the water is restricted to beneficial use at the place of use described, and is subject to all other conditions and limitations contained in Certificates 22879, 32125, 60022, 60023, 60024, 68622, 80759, and 72138.

3. Water right certificates 22879, 32125, 60022, 60023, 60024, 68622, 80759, and 72138 are cancelled. A new certificate will be issued for the right described by Certificate 80759 not affected by this transfer.

4. Certificates 41004, 22280, and 32003 described in Finding of Fact No. 26 are cancelled.

5. Water shall be acquired from the same aquifer (water source) as the original points of appropriation.

6. The proposed points of appropriation shall only acquire ground water from no deeper than 80 feet below land surface, and shall not develop any confined aquifer.

7. The former place of use of Certificate 72138 shall no longer be irrigated as part of the water right.

8. The approved changes shall be completed and full beneficial use of the water shall be made on or before October 1, 2024. A Claim of Beneficial Use prepared by a Certified Water Rights Examiner shall be submitted by the applicant to the Department within one year after the deadline for completion of the changes and full beneficial use of the water.

9. Pursuant to 537.260, the deferred amount of 1.15 cubic feet per second from Certificate 32124 shall be perfected with the proposed changes identified in T-8078 modifying Certificate 68622.

10. The quantity of water diverted at the additional points of appropriation, together with that diverted at the original points of appropriation, shall not exceed the quantity of water lawfully available at the original points of appropriation.

11. Prior to diverting water at the new points of appropriation, the water user shall install and maintain an in-line flow meter(s) or other suitable device(s) for measuring and recording the quantity of water appropriated. The type and plans of the measuring device(s) must be approved by the Department prior to beginning construction and shall be installed under the general supervision of the Department.

Dated at Salem, Oregon this 30 day of August, 2011.

Dwight French

Dwight French, Water Right Services Administrator, for
PHILLIP C. WARD, DIRECTOR

Mailing Date: SEP 0 1 2011

APPENDIX F
Reservoir Inspection Reports

Diving & Marine Services, Inc.

Report of Procedures and Findings From the ROV Inspection of the

Bench Tank City of Ontario, OR

By Midco Diving & Marine Services, Inc.

800.479.1558
www.midcodiving.com
info@midcodiving.com
Corporate Office: P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030

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Diving & Marine Services, Inc.

November 20, 2019

City of Ontario
Attn: Kim Lord
1900 SE 5th Ave.
Ontario, OR 97914

INTRODUCTION

The following is a summary of a visual and video inspection of the Bench Tank for the City of Ontario, OR. This inspection was undertaken on September 24, 2019 by Midco Diving & Marine Services, Inc., of Rapid City, SD. The findings of this inspection report are a supplement to the inspection video and worksheets, which are found under the same cover.

The Reservoir, which is the subject of this report, appears to be of conventional design and construction.

METHODOLOGY

The reservoir was inspected by an inspection class, commercial, Remotely Operated Vehicle (ROV). The ROV is equipped with real-time high-definition color video and an LED lighting system as well as video enhancing technology. All procedures were carried out in accordance with Midco Diving's Safe Practices Manual and Midco's Standards and Procedures. Prior to entering your reservoir, the ROV and umbilical were disinfected with a 200 parts per million chlorine solution per ANSI/AWWA C652-11 standards.

EXTERIOR FINDINGS

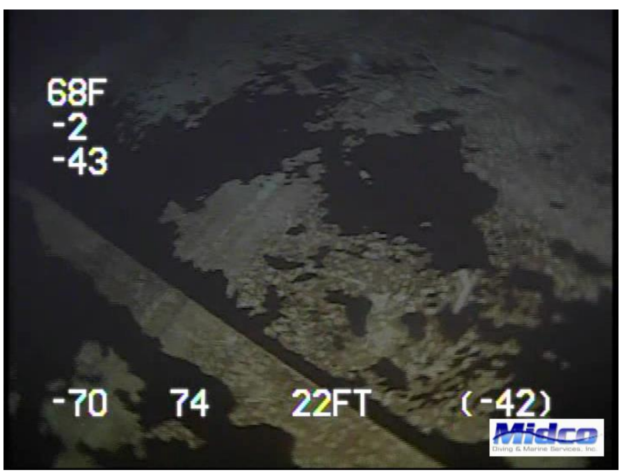
Upon visual inspection of the exterior of the structure, the reservoir appears to be in good condition, with the following findings noted:

1. No weather stripping noted on the access hatch.
2. Areas of coating failure with corrosion noted.

INTERIOR FINDINGS

Upon visual inspection of the structure above and below the water line, the overall condition of the tank appears to be in good condition, with the following findings noted:

1. Light skiff of sediment noted.
2. Areas of coating failure with corrosion noted.
3. No interior ladder noted.



City of Ontario

JOB NUMBER:	**P2019076**
UTILITY:	**City of Ontario**
DATE:	**September 24, 2019**
MANAGER:	**Kim Lord**
ADDRESS:	**1900 SE 5th Ave. Ontario, OR 97914**

DIVE TEAM LEADER:	**Brian Kilburn**

Reservoir:	**Bench Tank**
Gallons:	**3 MG**
Diameter:	**105'**
Height:	**45'**
Water Depth:	**33'**
Construction:	**Steel Welded**
Date Built:	**1994**
Last Cleaned:	**2013**
Last Inspected:	**2013**

Recommendations:

1. **Install weather stripping on the access hatch.**
2. **Epoxy repair areas of coating failure with corrosion noted.**
3. **Consider installing an interior ladder for future maintenance and repairs.**
4. **Have Midco Diving & Marine Services, Inc. return to clean.**
5. **Have Midco Diving & Marine Services, Inc. clean and inspect every 3-5 years.**

Midco
Diving & Marine Services, Inc.

N/A - Not applicable
Excellent (Ex) - Like new condition, no maintenance needed.
Good - Cosmetic only problems, maintenance if wanted.
Fair - Minor problems, maintenance needed, not immediate.
Poor - Major problems, structural or like, immediate maintenance needed.

Component	Condition					Comments
	NA	Ex.	Good	Fair	Poor	
Site Security			X			
Gate			X			
Fence			X			
Locks			X			
Alarm	X					
Reservoir Exterior			X			
Coating			X			Staining Noted
Foundation			X			
Cleanliness			X			
Seams/Joints			X			
Exterior Roof			X			
Coating			X			
Cleanliness			X			
Seams/Joints			X			
Exterior Ladder			X			Width: 17”
Coating			X			
Caged	X					
Safety Climb			X			Type: Notch
Roof Vents			X			Size: 46” Height: 30 ½”
Coating	X					
Screen			X			
Side Vents	X					
Coating	X					
Screen	X					
Exterior Telemetry			X			Hardware Corrosion Noted
Coating			X			
Functioning			X			

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www.midcodiving.com
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Component	Condition					Comments
	NA	Ex.	Good	Fair	Poor	
Manual Level Indicator	X					
Tag	X					
Cable	X					
Indicator	X					
Pulleys	X					
Base	X					
Man Entries x2			X			**Size: 39”**
Coating			X			
Gasket			X			
Exterior Inlet	X					
Coating	X					
Valve	X					
Exterior Outlet	X					
Coating	X					
Valve	X					
Exterior Drain/Scour	X					
Coating	X					
Valve	X					
Exterior Water Tap	X					
Coating	X					
Valve	X					
Exterior Overflow			X			
Coating			X			
Stand-offs	X					
Screen			X			**Type: Flapper Valve**
Access Hatch			X			**Size: 30 ½” x 36”**
Weather Stripping			X			
Coating					X	**No Weather Stripping Noted**
Hinges			X			
Lock			X			
Safety Railing			X			**Height: 42”**

Component	Condition NA	 Ex.	 Good	 Fair	 Poor	Comments
Interior Ladder	X					
Caged	X					
Safety Climb	X					
Telemetry Sensor	X					
Functioning	X					
Float	X					
Guide Wires	X					
Interior Floor			X			
Coating			X			
Sediment			X			Depth: Light Skiff of Sediment Noted
Seams/Joints			X			Coating Failure with Corrosion Noted
Interior Walls			X			
Coating			X			Coating Failure with Corrosion Noted
Seams/Joints			X			
Interior Ceiling			X			
Coating			X			Coating Failure with Corrosion Noted
Rafters			X			
Interior Man Entries			X			
Coating			X			Coating Failure with Corrosion Noted
Gasket			X			
Support Columns			X			# of Columns: 1
Coating			X			
Base			X			
Top			X			
Cathodic Protection	X					
Anodes	X					
Wires	X					
Sacrificial Anodes	X					

Component	Condition					Comments
	NA	Ex.	Good	Fair	Poor	
Interior Overflow Pipe			X			
Coating			X			**Coating Failure with Corrosion Noted**
Top/Cap			X			
Connections/Flange	X					
Interior Inlet			X			
Coating			X			**Staining Noted**
Riser			X			
Interior Outlet			X			
Coating			X			**Staining Noted**
Riser			X			
Interior Drain/Scour			X			
Coating			X			
Riser			X			
Interior Water Tap	X					
Coating	X					
Valve	X					

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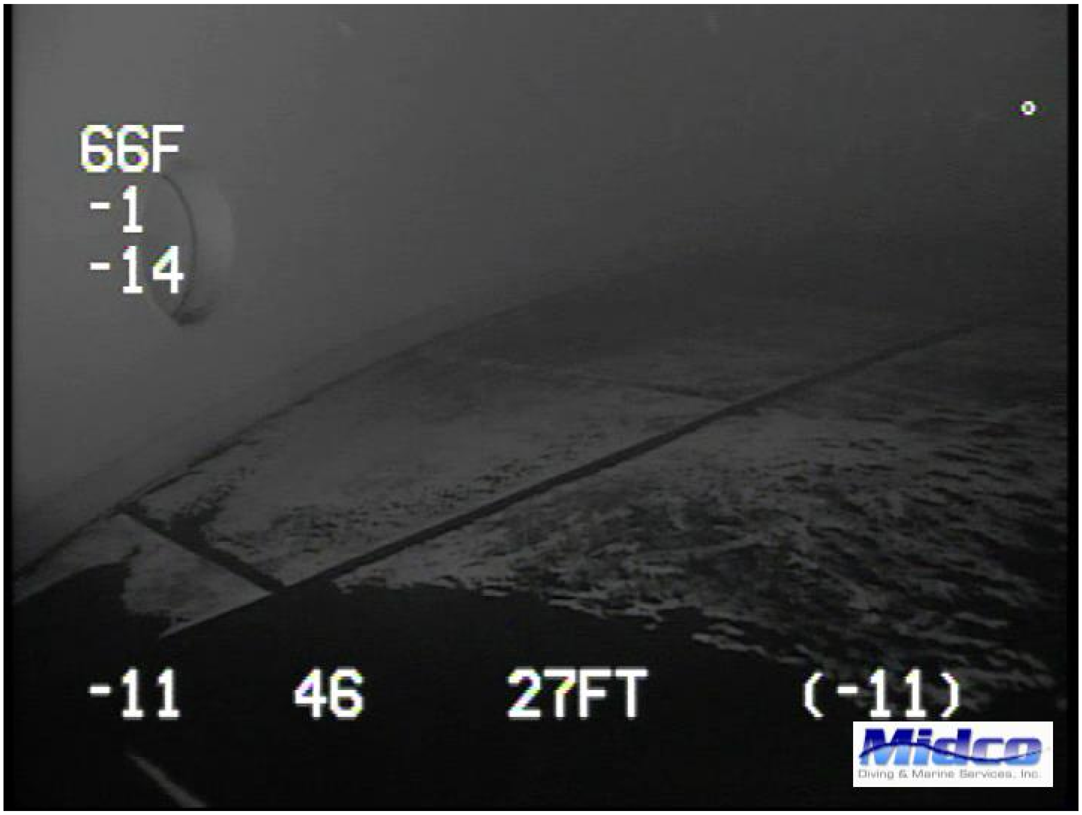
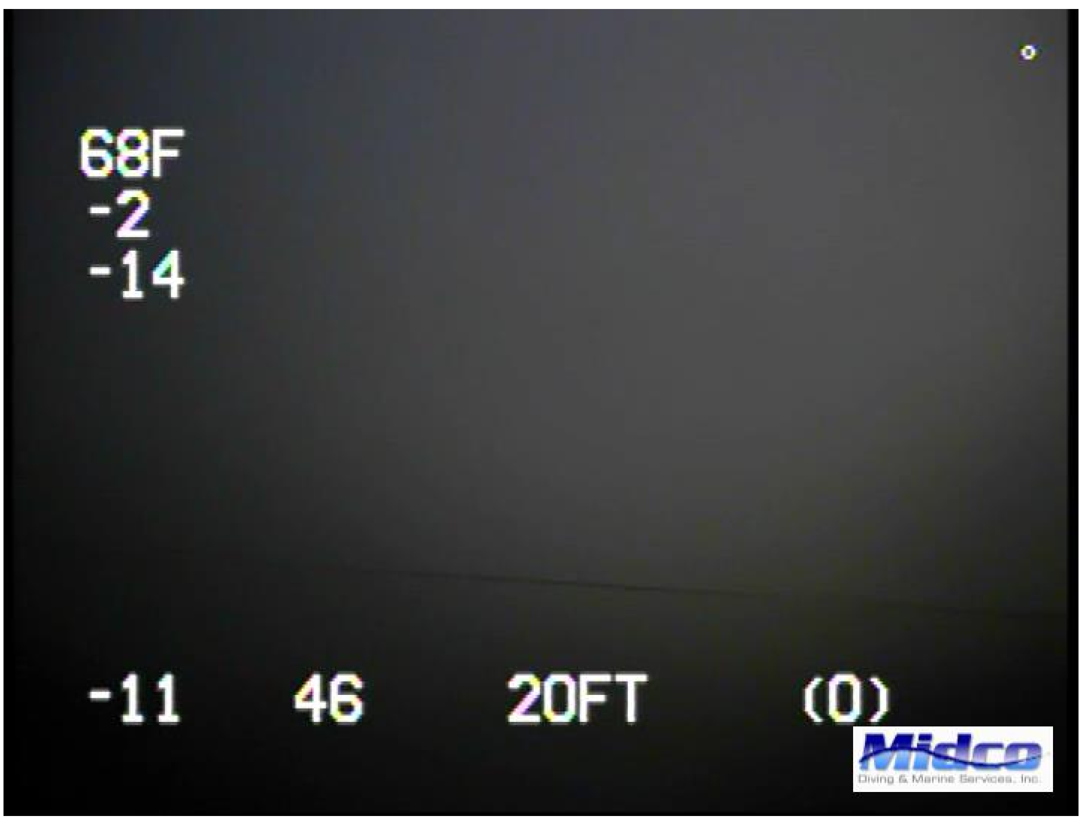


Typical Floor – Light Skiff of Sediment Noted

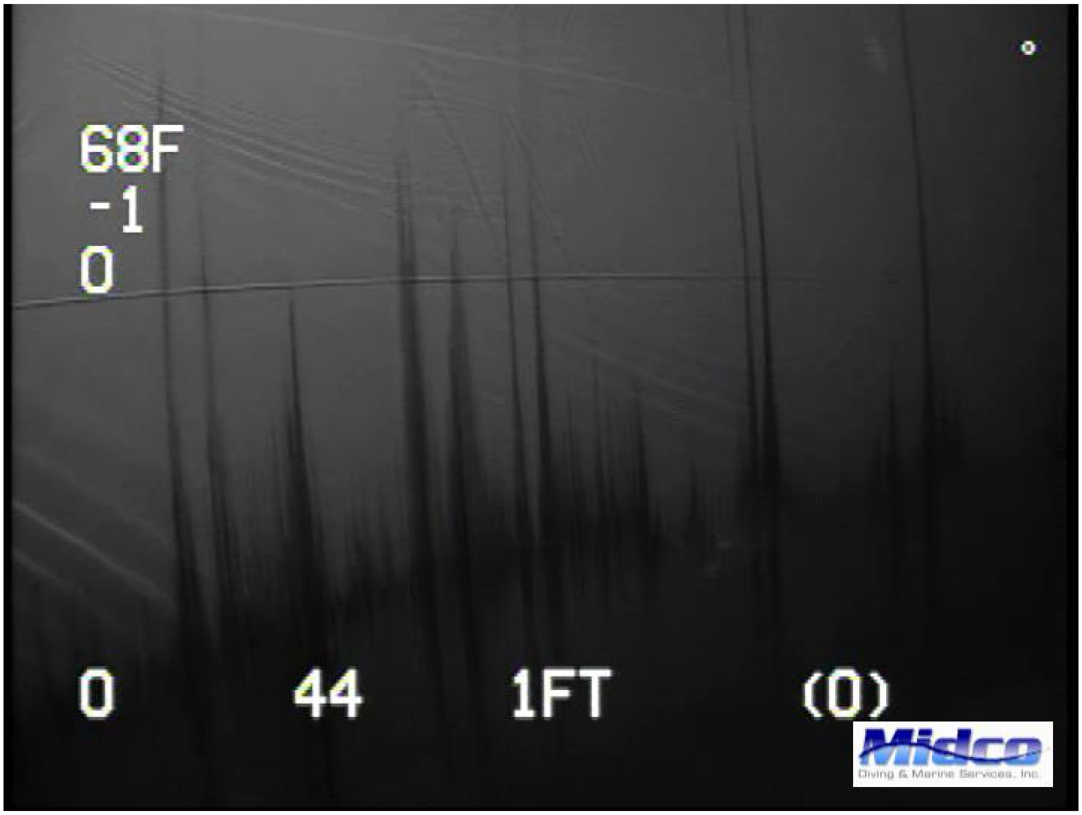
Floor to Wall Seam

Floor to Wall Seam – Coating Failure with Corrosion Noted



Typical Wall

800.479.1558
www.midcodiving.com
info@midcodiving.com
Corporate Office: P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030



Typical Wall – Coating Failure with Corrosion & Staining Noted

Wall to Roof Seam

800.479.1558
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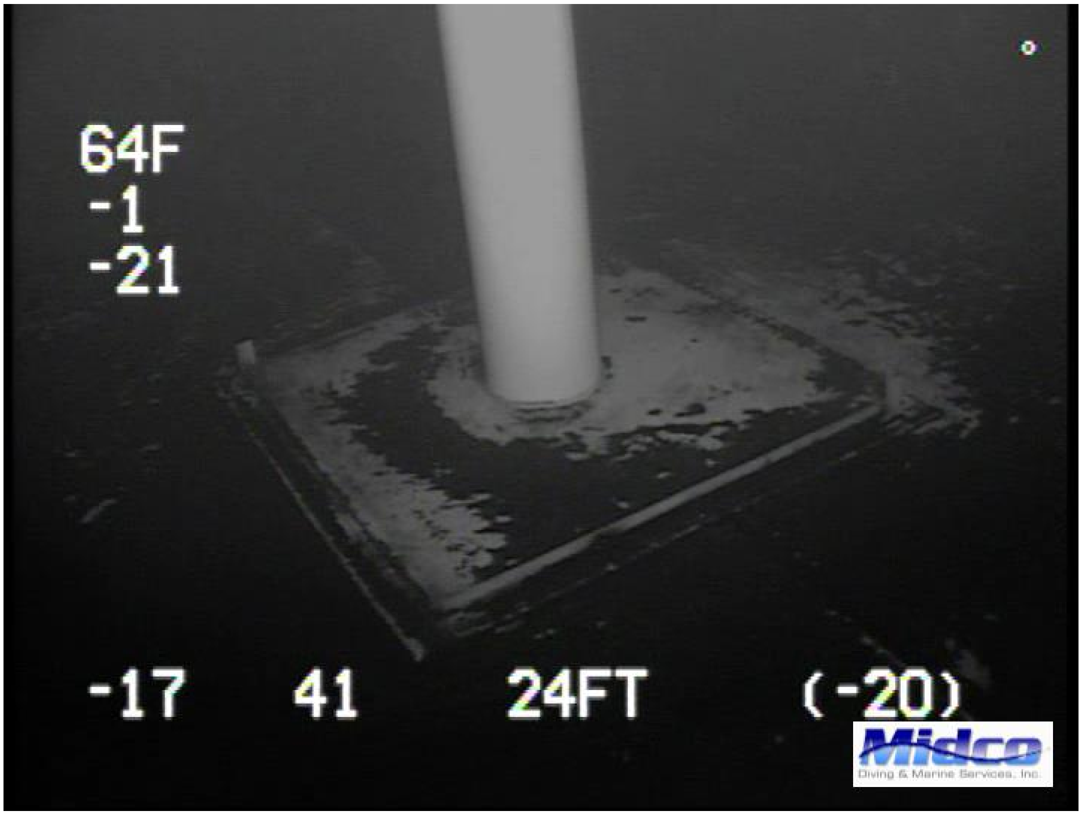
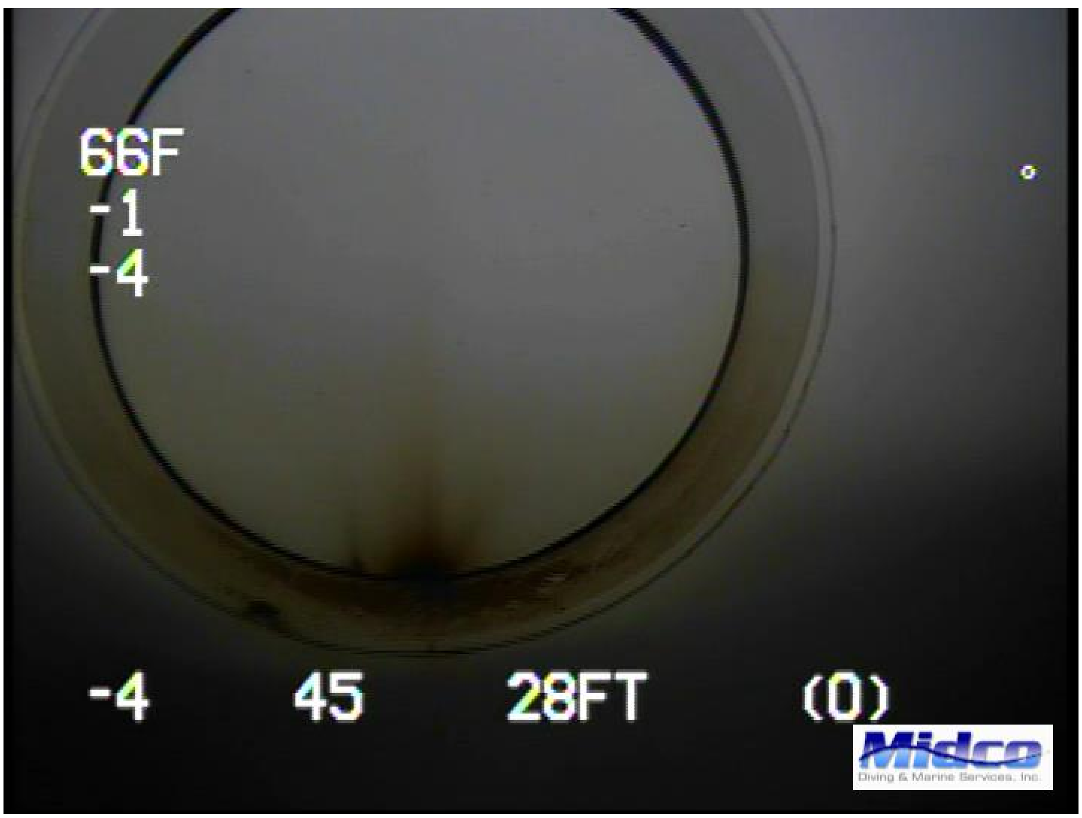
Typical Rafters – Coating Failure with Corrosion Noted

Column Top

800.479.1558
www.midcodiving.com
info@midcodiving.com
Corporate Office: P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030

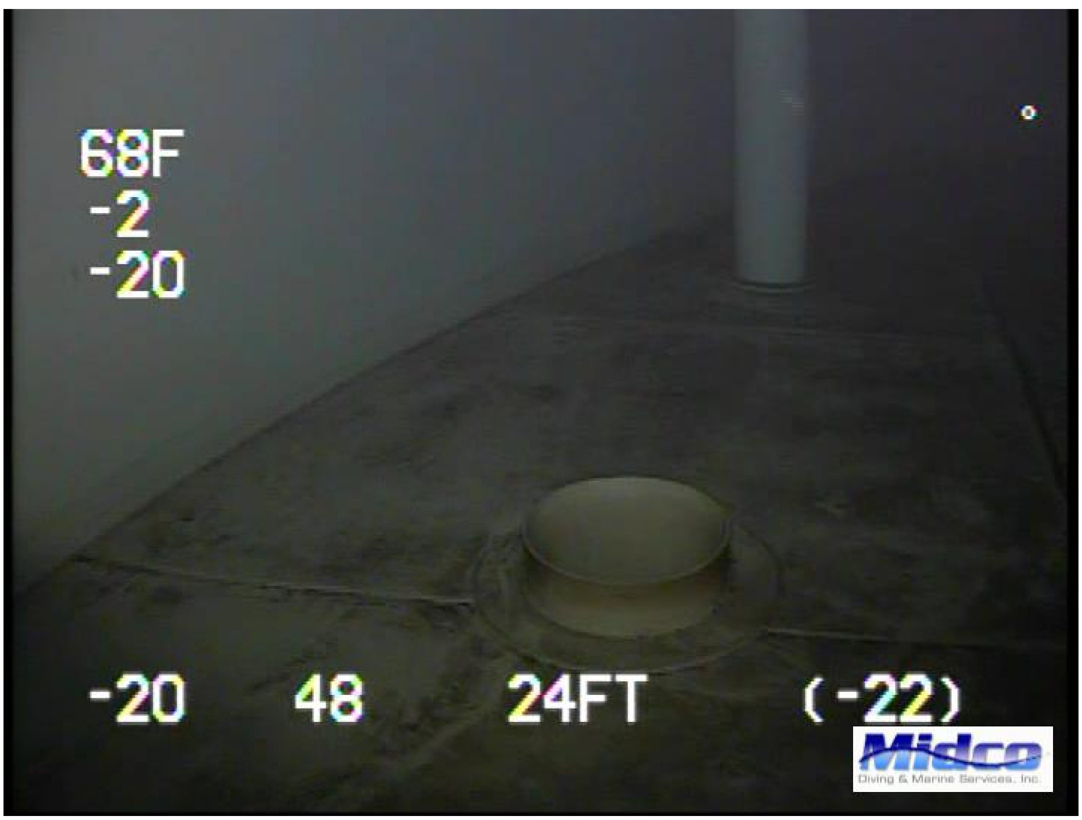


Column Base



First Man Entry – Coating Failure with Corrosion & Staining Noted

Second Man Entry – Coating Failure with Corrosion & Staining Noted



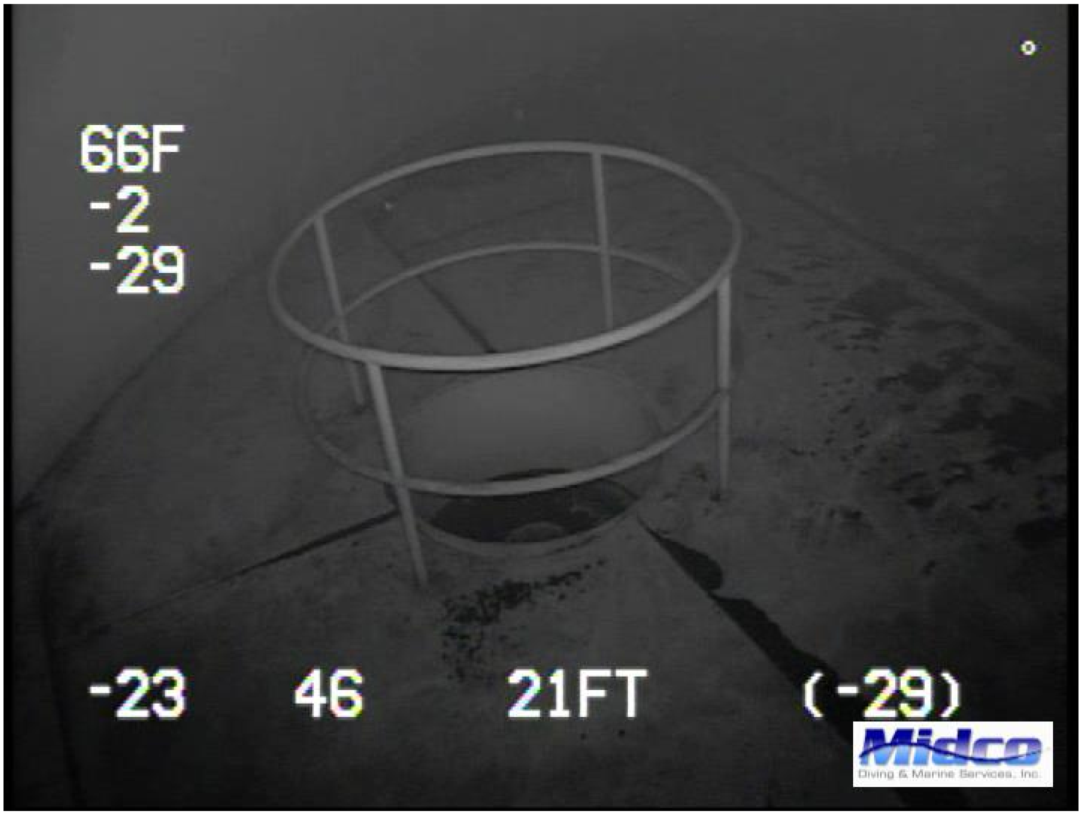
Interior Plumbing

Overflow Plumbing

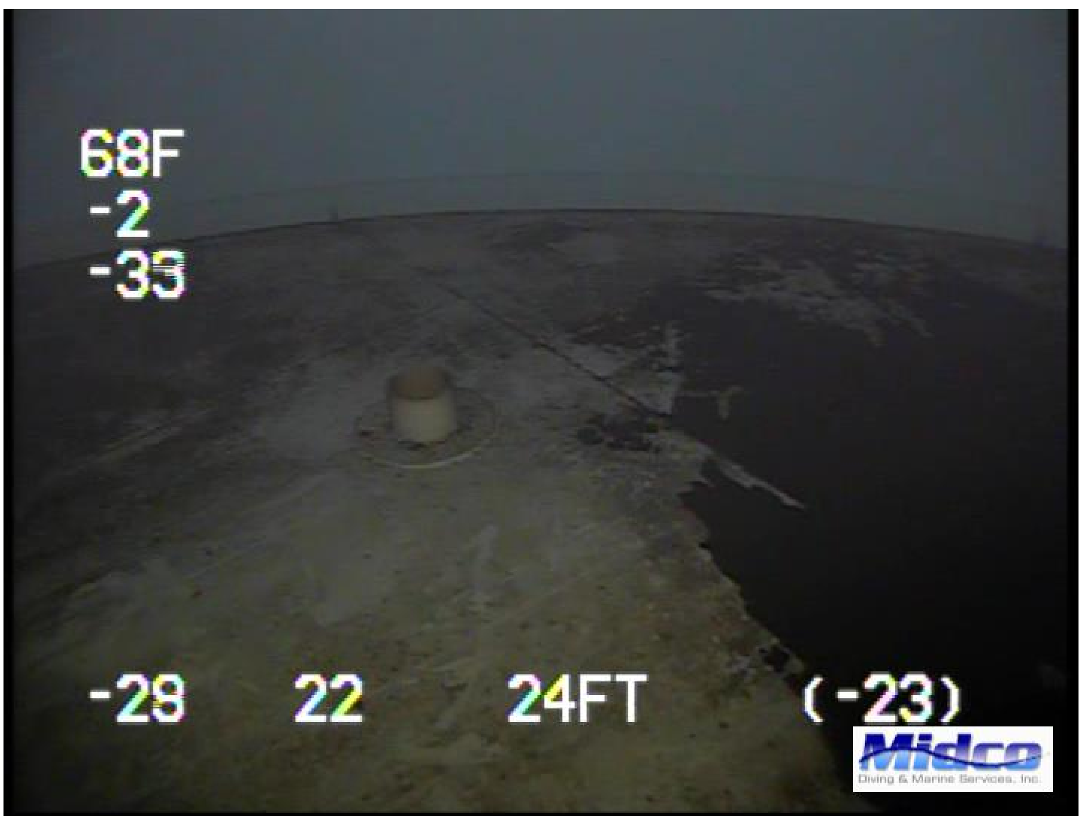
Overflow Plumbing

Overflow Top

Interior Plumbing



Interior Plumbing



Interior Plumbing

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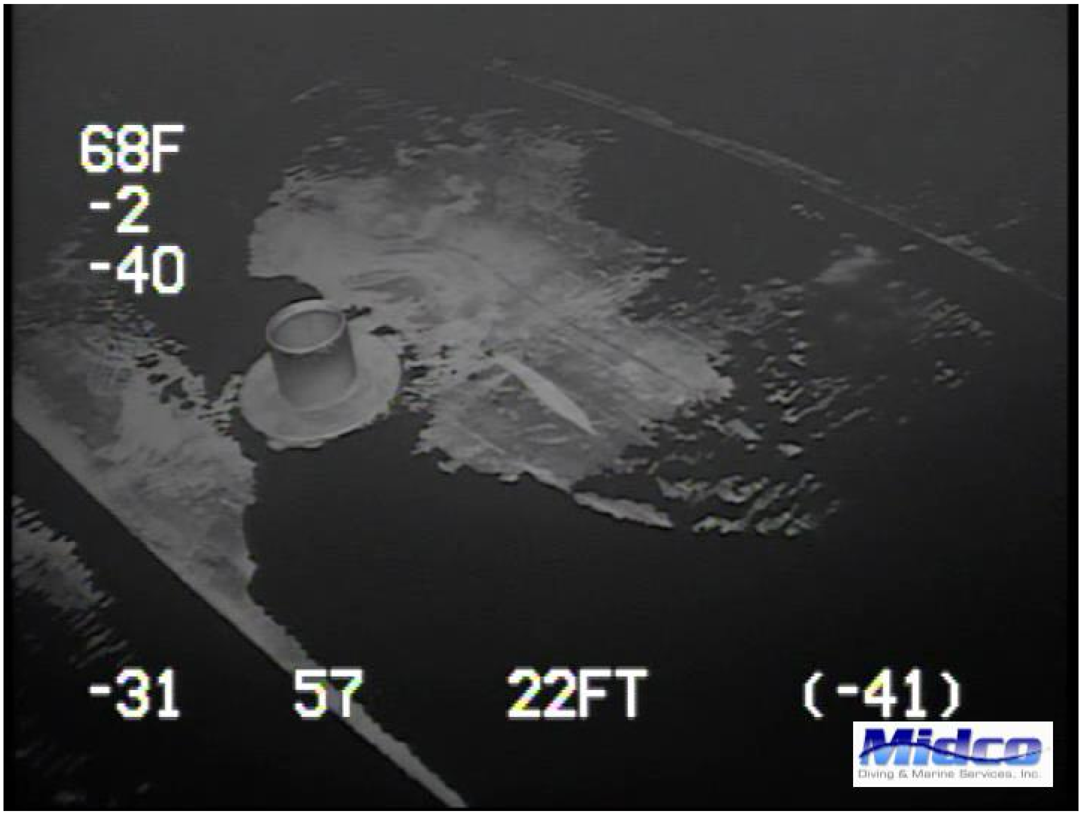
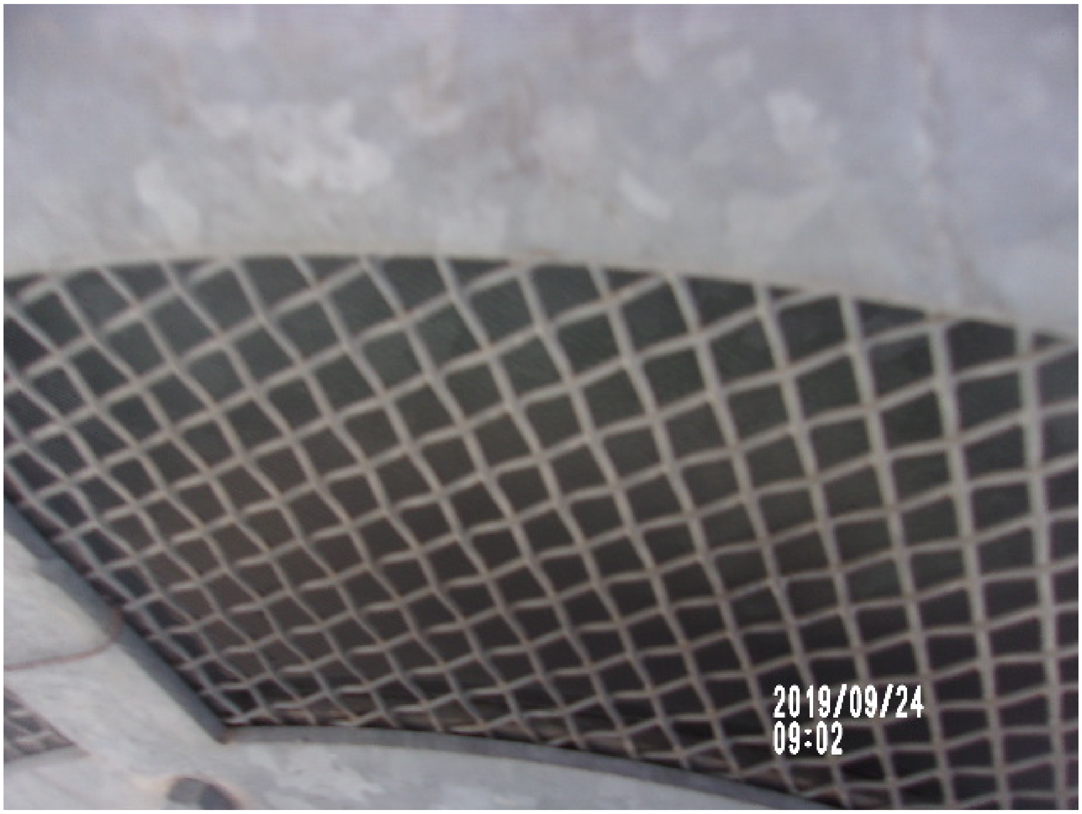


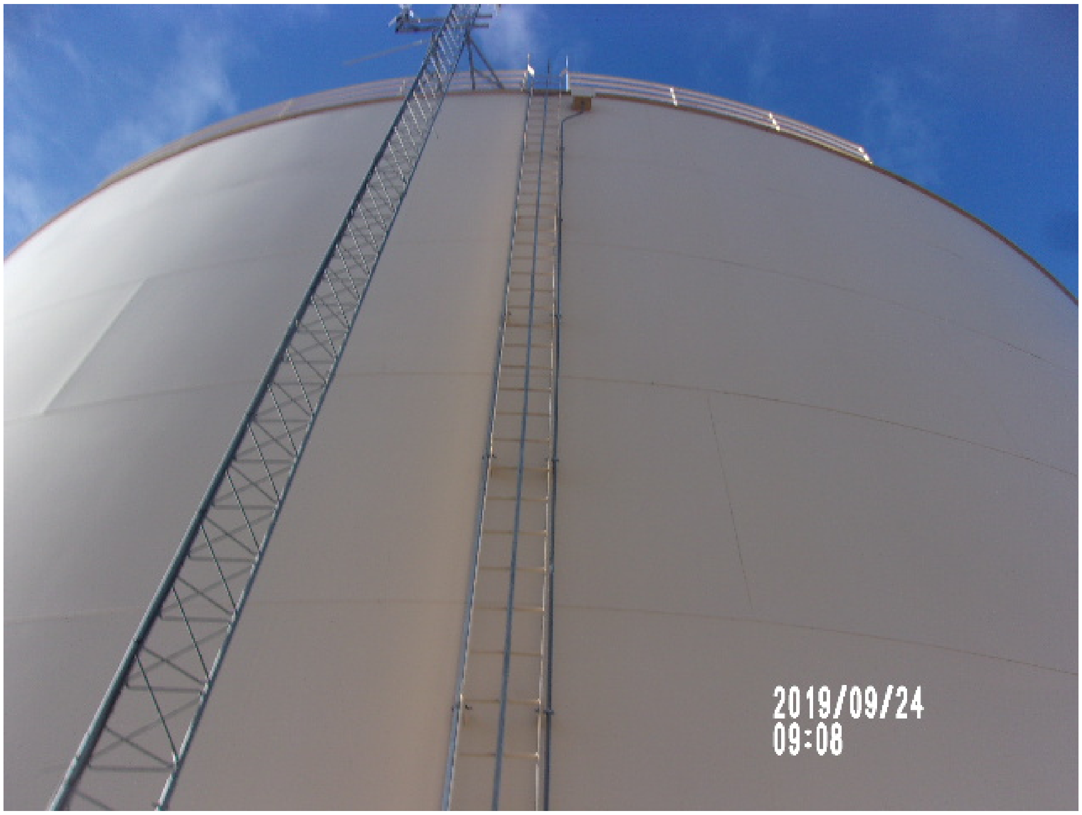
Interior Plumbing

Access Hatch – No Weather Stripping Noted

Roof Vent



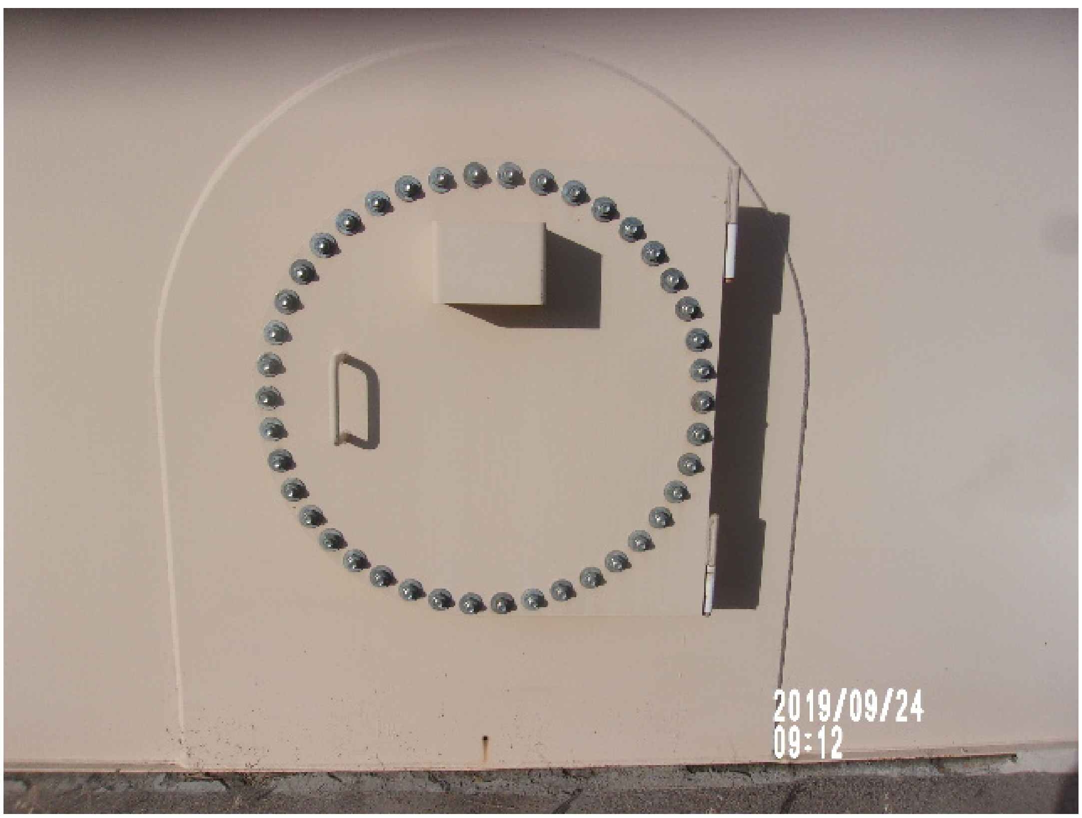
Roof Vent Screen



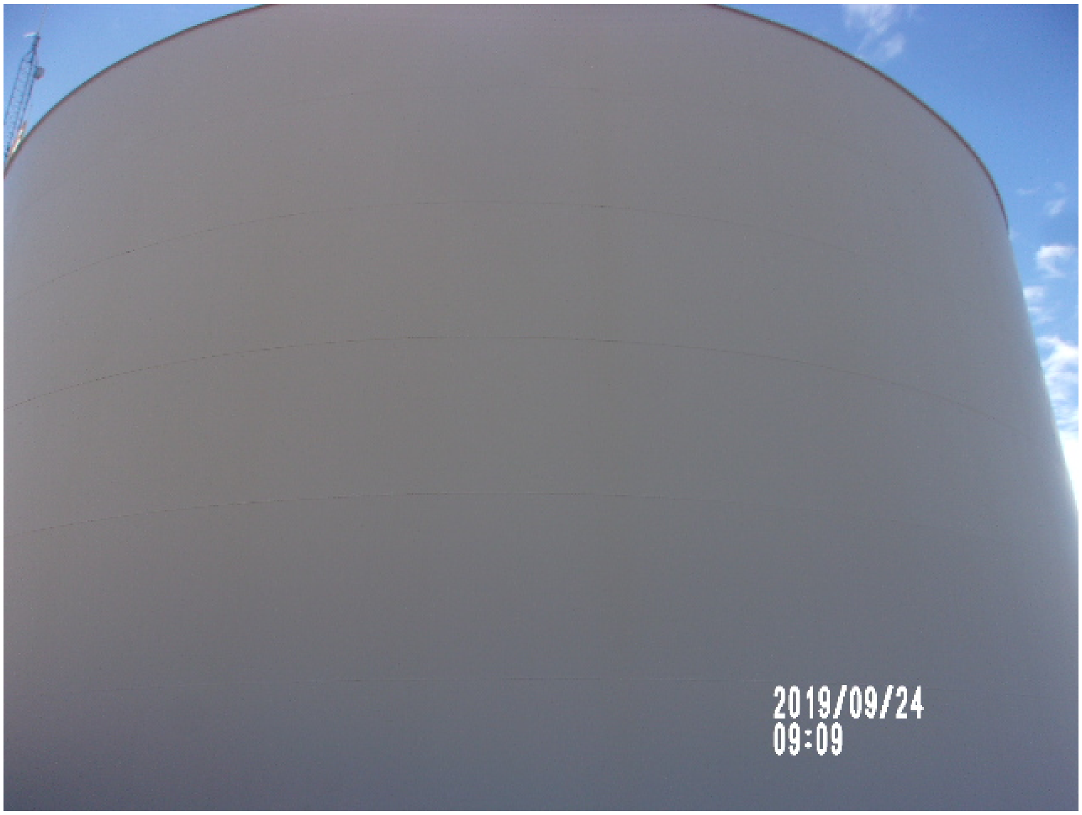
Exterior Ladder

Exterior Telemetry – Hardware Corrosion Noted

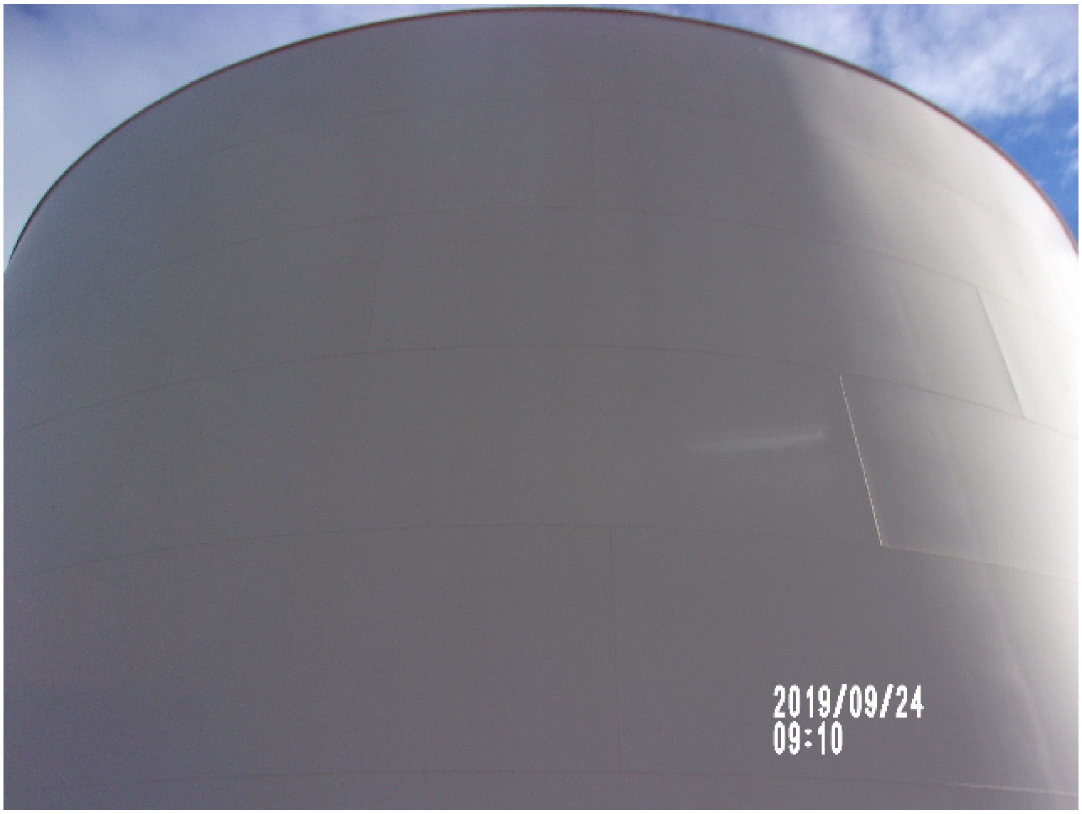
First Man Entry



Second Man Entry



Exterior Reservoir



Exterior Reservoir

Overflow Plumbing

Overflow Plumbing Flapper Valve

EPA Compliant Report **Finished Water Storage Tank Inspection / Cleaning Checklist** Fill out one checklist per storage tank & submit labeled photos of each tank component with this form	
Public Water System Name: City of Ontario	Public Water System ID:
Reservoir Name: Bench Tank	Reservoir ID:
Proposed Inspection Date: September 24, 2019	Actual Inspection Date: September 24, 2019
Name of Person Filling Out Form: Kadi Gill	Title of Person Filling Out Form: Sales Fulfillment Manager
I certify that this information is complete and accurate: Yes Kadi Gill	Date: November 20, 2019

Inspector Qualifications (answer to all questions must be "yes")	
Name and contact information of inspector or inspection company: **Midco Diving & Marine Services, Inc.**	
☒ Yes ☐ No	Has the inspector completed confined space training?
☒ Yes ☐ No	Did the inspector have a confined space entry permit?

Overall Tank Condition

Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☒ Yes ☐ No	Does the tank appear to be structurally sound?	If no, what repairs are suggested by the tank inspector?		
☐ Yes ☒ No	Are there any unprotected openings in the tank (breaches, leaks, daylight coming through tank in spots, etc.)	If yes, indicate type of breach and how it should be repaired.		

Air Vent

Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
Above Ground Tanks (Ground Level or Elevated)			☐ Check if NA	
☐ Yes ☐ No ☒ N/A	Downturned vent: Is the vent at least 24" or 3 pipe diameters above the roof?	If no reconfigure vent to provide proper air gap.		
☒ Yes ☐ No ☐ N/A	Non-downturned vent: Is there a solid cover down to the bottom of the vent screen?	If no, indicate deficiency and proposed correction:		
☒ Yes ☐ No ☐ N/A	Non-downturned vent: Is the screen at least 8" above the roof surface? What is the height of the start of the screening above the tank? 30.5"	If no, indicate deficiency and proposed correction:		
☒ Yes ☐ No	Is the vent covered with #24 mesh corrosion resistant screening (some exceptions apply)? Mesh Size:	If no, indicate deficiency and proposed correction:		

Buried or Partially Buried Tanks ☒ Check if NA				
☐ Yes ☐ No	Is the vent covered with #24 mesh corrosion resistant screening?	If no, install proper #24 mesh corrosion resistant screening.		
☐ Yes ☐ No	Does the air vent terminate downward?	If no, re-configure the vent so that it terminates downward.		
☐ Yes ☐ No	Is the air vent at least 24" above the tank roof or ground surface (whichever is higher)? What is the height of the vent above the roof or ground surface?	If no, raise air vent to provide for an appropriate air gap.		

Access Hatch				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☒ Yes ☐ No	Is the hatch raised at least 4" above the roof (for ground level or elevated tanks) or at least 24 inches above the roof or ground, whichever is higher (for buried or partially buried tanks)? What is the height of the access hatch above the roof or ground surface? 9.5"	If no, the hatch should be raised to the appropriate height above the tank roof or ground.		
☒ Yes ☐ No	Does the hatch have a shoe box lid?	If no, a properly designed shoe box type lid should be installed.		
☐ Yes ☒ No	Is the lid water tight and sealed with a rubber gasket?	If no, the reason for the lack of a seal should be investigated and repaired.		
☒ Yes ☐ No	Is the hatch locked?	If no, the hatch should be equipped with a lock.		

Overflow ☐ Check if NA				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☒ Yes ☐ No	Discharge has #24 mesh corrosion resistant screen OR a duckbill valve OR a properly sealed flapper valve with a screen inside (EPA recommends #24 mesh screen)?	If no, indicate proposed correction:		
☒ Yes ☐ No	Overflow terminates between 12 and 24 inches above the ground surface? At what height does the overflow discharge?	If no, modify overflow to provide for an appropriate air gap.		
☒ Yes ☐ No	Overflow discharges over an inlet structure, splash plate, or engineered rip-rap?	If no, indicate proposed correction:		

☐ Yes ☒ No	Is the overflow directly connected to a sanitary sewer or storm drain?	If yes, indicate proposed correction:		
☐ Yes ☒ No	Is there blockage in the overflow, an inadequately sized overflow, a malfunction of the level control system, or other issue that is causing the tank to overflow through the hatch or vent?	If yes, indicate what is causing the problem and how it should be repaired:		
☒ Yes ☐ No	Is the overflow discharge point visible? If no, it is recommended that the discharge point be moved to a location that is visible.		Not Required	

Drain ☒ Check if NA				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☐ Yes ☐ No	Does the drain pipe have an air gap of 3 or more pipe diameters above the entrance to any storm or sanitary sewers?	If no, indicate proposed correction:		
☐ Yes ☐ No	Does the discharge have a #24 mesh corrosion resistant screen OR a duckbill valve OR a properly sealed flapper valve with a screen inside? If no, EPA recommends that a #24 mesh screen be installed.		Not Required	
☐ Yes ☐ No	Does the drain terminate between 12 and 24 inches above the ground surface and discharges over an inlet structure or splash plate? If no, it is recommended that the discharge point be modified to provide for the appropriate air gap.		Not Required	

Cleaning and Other Items			
Significant Deficiency	**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
Describe any other items noted by the inspector that have the potential to cause contamination of the finished drinking water:	What repairs are suggested to prevent or eliminate the source of contamination?		

Depth of sediment found in the tank before cleaning (inches): Light skiff of sediment noted
How was the storage tank cleaned? ROV Inspect Only
How was the storage tank disinfected after cleaning? N/A
List any objects found inside the tank during cleaning that may have introduced contamination into the water system (examples: debris, animals, etc.): N/A
Please attach tank as-built drawings (if available) or a sketch of the tank's configuration and dimensions including the location, layout and dimensions of all major components (i.e. access hatch, vent, overflow, drain)

Report of Procedures and Findings From the Cleaning & Inspection of the

Eastside A Tank City of Ontario, OR

By Midco Diving & Marine Services, Inc.

800.479.1558
www.midcodiving.com
info@midcodiving.com
Corporate Office: P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030

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Diving & Marine Services, Inc.

November 20, 2019

City of Ontario
Attn: Kim Lord
1900 SE 5th Ave.
Ontario, OR 97914

INTRODUCTION

The following is a summary of a visual and video inspection of the Eastside A Tank for the City of Ontario, OR. This inspection was undertaken on September 24, 2019 by Midco Diving & Marine Services, Inc., of Rapid City, SD. The findings of this inspection report are a supplement to the inspection video and worksheets, which are found under the same cover.

The Reservoir, which is the subject of this report, appears to be of conventional design and construction.

METHODOLOGY

The reservoir was inspected by a surface-supplied commercial air diver. The diver was equipped with real-time high-definition color video and a LED lighting system as well as live voice communication between the inspecting diver and the surface team. All procedures were carried-out in accordance with Midco Diving's Standards and Procedures. Prior to entering your reservoir, the diver and equipment were disinfected with a 200 parts per million chlorine solution per ANSI/AWWA C652-11 standards.

EASTSIDE A TANK FINDINGS

EXTERIOR FINDINGS

Upon visual inspection of the exterior of the structure, the reservoir appears to be in good condition, with the following findings noted:

1. Deteriorated access hatch hinges noted.
2. Lock deterioration noted.

INTERIOR FINDINGS

Upon visual inspection of the structure above and below the water line, the overall condition of the tank appears to be in fair condition, with the following findings noted:

1. Light skiff of sediment noted.
2. Possible inlet filter rupture, up to 21” of sediment noted.
3. Coating failure with corrosion noted on interior plumbing.
4. Ladder rung deterioration noted.
5. Previous repairs noted.
6. Seam sealant deterioration noted.
7. Areas of spalling noted.

DISCLAIMER

Midco Diving & Marine Services, Inc. does not provide consulting engineering services, nor do we employ licensed Professional Engineers. The findings contained herein were neither prepared or reviewed by a licensed engineer, but are based on the visual examination, experience, and training of the inspecting diver and dive support crew.

City of Ontario

JOB NUMBER:	**P2019076**
UTILITY:	**City of Ontario**
DATE:	**September 24, 2019**
MANAGER:	**Kim Lord**
ADDRESS:	**1900 SE 5th Ave.** **Ontario, OR 97914**

DIVE TEAM LEADER:	**Brian Kilburn**
Reservoir:	**Eastside A Tank**
Gallons:	**1 MG**
Diameter:	**75'**
Height:	**30'**
Water Depth:	**26'**
Construction:	**Concrete**
Date Built:	**1963**
Last Cleaned:	**2013**
Last Inspected:	**2013**

Recommendations:

1. **Install a new lock on the access hatch.**
2. **Repair/replace deteriorated access hatch hinges.**
3. **Monitor/repair corrosion noted on interior plumbing.**
4. **Consider repair/replacement of interior ladder.**
5. **Monitor/repair areas of spalling and seam sealant deterioration noted.**
6. **Continue to monitor previous repairs.**
7. **Investigate and replace inlet filter if required.**
8. **Have Midco Diving & Marine Services, Inc. return to finish cleaning.**
9. **Have Midco Diving & Marine Services, Inc. clean and inspect every 3-5 years.**

Diving & Marine Services, Inc.

N/A - Not applicable
Excellent (Ex) - Like new condition, no maintenance needed.
Good - Cosmetic only problems, maintenance if wanted.
Fair - Minor problems, maintenance needed, not immediate.
Poor - Major problems, structural or like, immediate maintenance needed.

Component	Condition					Comments
	NA	Ex.	Good	Fair	Poor	
Site Security			X			
Gate			X			
Fence			X			
Locks			X			
Alarm	X					
Reservoir Exterior			X			
Coating			X			
Foundation			X			
Cleanliness			X			
Seams/Joints			X			
Exterior Roof			X			
Coating			X			
Cleanliness			X			
Seams/Joints			X			
Exterior Ladder			X			
Coating			X			
Caged	X					
Safety Climb			X			Type: Cable
Roof Vents			X			Size: 19 ½" Height: 16"
Coating	X					
Screen			X			
Side Vents	X					
Coating	X					
Screen	X					
Exterior Telemetry			X			
Coating	X					
Functioning			X			

Component	Condition					Comments
	NA	Ex.	Good	Fair	Poor	
Manual Level Indicator	X					
Tag	X					
Cable	X					
Indicator	X					
Pulleys	X					
Base	X					
Man Entries	X					
Coating	X					
Gasket	X					
Exterior Inlet	X					
Coating	X					
Valve	X					
Exterior Outlet	X					
Coating	X					
Valve	X					
Exterior Drain/Scour	X					
Coating	X					
Valve	X					
Exterior Water Tap	X					
Coating	X					
Valve	X					
Exterior Overflow			X			Size: 16”
Coating			X			Coating Failure Noted
Stand-offs	X					
Screen			X			
Access Hatch			X			Size: 38” x 38”
Weather Stripping			X			
Coating	X					
Hinges					X	Corrosion Deterioration Noted
Lock					X	Corrosion Deterioration Noted
Safety Railing	X					

Component	Condition NA	Ex.	Good	Fair	Poor	Comments
Interior Ladder				X		Size: 20" – Coating Failure with Corrosion and Rung Deterioration Noted
Caged	X					
Safety Climb	X					
Telemetry Sensor			X			
Functioning			X			
Float	X					
Guide Wires	X					
Interior Floor			X			
Coating	X					
Sediment				X		Depth: Light Skiff up to 21" of Sediment Noted
Seams/Joints			X			
Interior Walls			X			Previous Repairs Noted
Coating	X					
Seams/Joints			X			
Interior Ceiling			X			
Coating	X					
Rafters			X			
Interior Man Entries	X					
Coating	X					
Gasket	X					
Support Columns			X			# of Columns: 1
Coating	X					
Base			X			
Top			X			
Cathodic Protection	X					
Anodes	X					
Wires	X					
Sacrificial Anodes	X					

Component	NA	Ex.	Good	Fair	Poor	Comments
Interior Overflow Pipe			X			Size: 12”
Coating				X		Coating Failure with Corrosion Noted
Top/Cap			X			
Connections/Flange			X			
Interior Inlet			X			Size: 16 ¼” – Possible Filter Rupture Noted
Coating				X		Coating Failure with Corrosion Noted
Riser			X			Measurement: 24”
Interior Outlet			X			Size: 31”
Coating				X		Coating Failure with Corrosion Noted
Riser			X			Measurement: 13 ½”
Interior Drain/Scour			X			Size: 8 ½”
Coating				X		Coating Failure with Corrosion Noted
Riser			X			Measurement: 6”
Interior Water Tap	X					
Coating	X					
Valve	X					

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Cleaning Reservoir

Cleaning Reservoir

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Up to 21" of Sediment Noted Near Inlet Plumbing – Possible Filter Rupture

Typical Floor

Areas of Spalling Noted

Seam Sealant Deterioration Noted

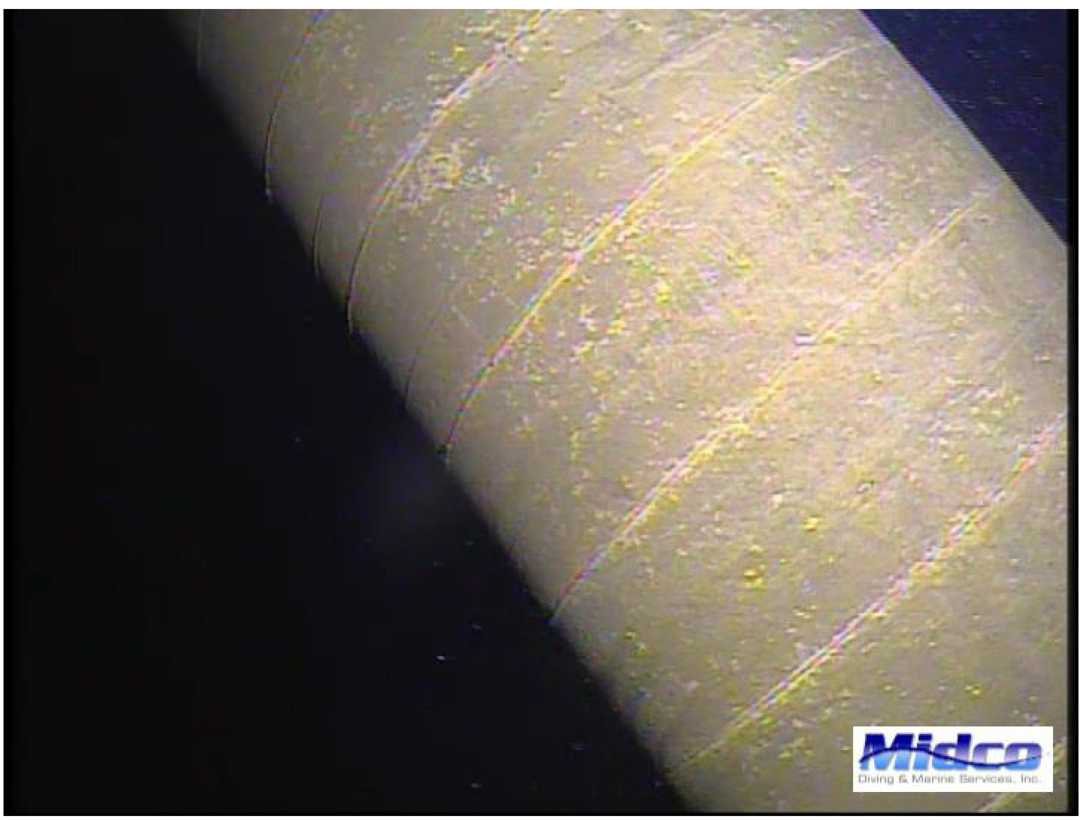
Floor to Wall Seam

Typical Wall

Previous Repairs Noted

Typical Roof

Column Top



Support Column

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Column Base

Overflow Base

Overflow Plumbing – Coating Failure with Corrosion Noted

Overflow Top

Interior Plumbing

Outlet Plumbing

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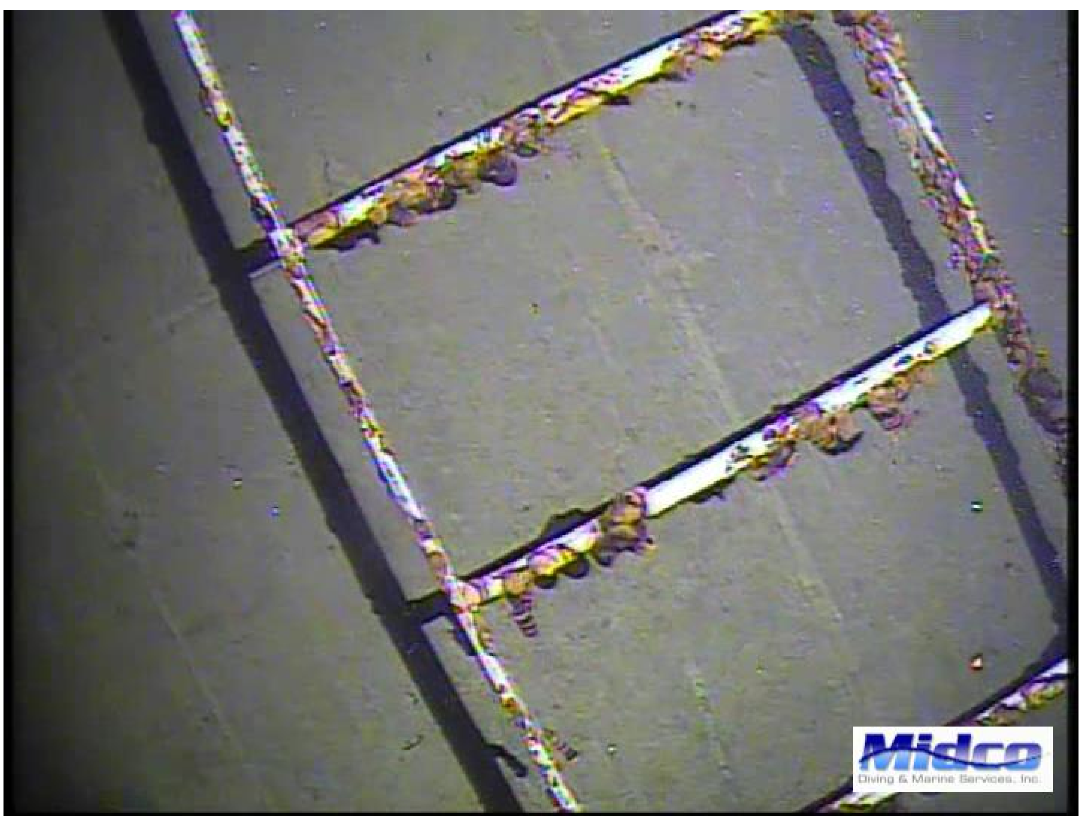
Outlet Plumbing – Coating Failure with Corrosion Noted

Drain Plumbing – Coating Failure with Corrosion Noted

Inlet Plumbing – Coating Failure with Corrosion Noted



Interior Ladder – Coating Failure with Corrosion Noted

Ladder Rung Deterioration Noted

Access Hatch – Hinge Deterioration Noted

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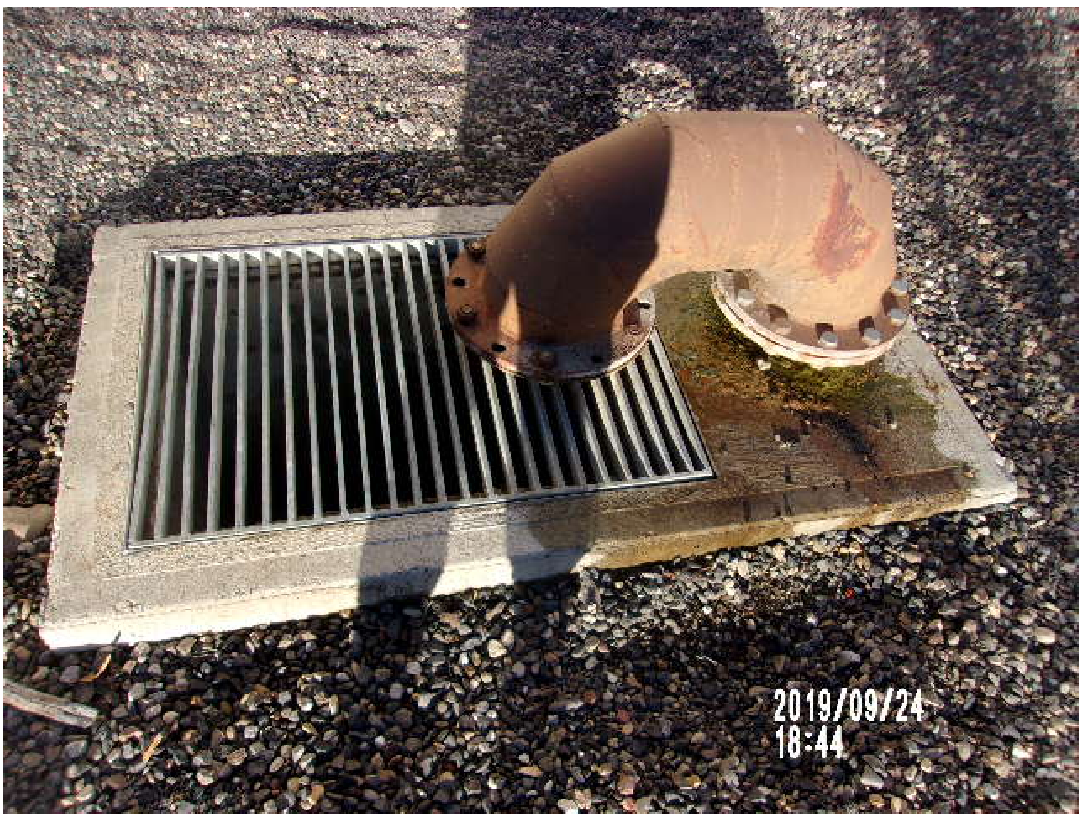
Roof Vent



Overflow Plumbing

Exterior Reservoir

Exterior Ladder

EPA Compliant Report **Finished Water Storage Tank Inspection / Cleaning Checklist** Fill out one checklist per storage tank & submit labeled photos of each tank component with this form	
Public Water System Name: City of Ontario	Public Water System ID:
Reservoir Name: Eastside A Tank	Reservoir ID:
Proposed Inspection Date: September 24, 2019	Actual Inspection Date: September 24, 2019
Name of Person Filling Out Form: Kadi Gill	Title of Person Filling Out Form: Sales Fulfillment Manager
I certify that this information is complete and accurate: Yes Kadi Gill	Date: November 20, 2019

Inspector Qualifications (answer to all questions must be "yes")	
Name and contact information of inspector or inspection company: **Midco Diving & Marine Services, Inc.**	
☒ Yes ☐ No	Has the inspector completed confined space training?
☒ Yes ☐ No	Did the inspector have a confined space entry permit?

Overall Tank Condition				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☒ Yes ☐ No	Does the tank appear to be structurally sound?	If no, what repairs are suggested by the tank inspector?		
☐ Yes ☒ No	Are there any unprotected openings in the tank (breaches, leaks, daylight coming through tank in spots, etc.)	If yes, indicate type of breach and how it should be repaired.		

Air Vent				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
Above Ground Tanks (Ground Level or Elevated)			☐ Check if NA	
☐ Yes ☐ No ☒ N/A	<u>Downturned vent:</u> Is the vent at least 24" or 3 pipe diameters above the roof?	If no reconfigure vent to provide proper air gap.		
☒ Yes ☐ No ☐ N/A	<u>Non-downturned vent:</u> Is there a solid cover down to the bottom of the vent screen?	If no, indicate deficiency and proposed correction:		
☒ Yes ☐ No ☐ N/A	<u>Non-downturned v</u>ent: Is the screen at least 8" above the roof surface? What is the height of the start of the screening above the tank?	If no, indicate deficiency and proposed correction:		
☒ Yes ☐ No	Is the vent covered with #24 mesh corrosion resistant screening (some exceptions apply)? Mesh Size:	If no, indicate deficiency and proposed correction:		

Buried or Partially Buried Tanks ☒ Check if NA				
☐ Yes ☐ No	Is the vent covered with #24 mesh corrosion resistant screening?	If no, install proper #24 mesh corrosion resistant screening.		
☐ Yes ☐ No	Does the air vent terminate downward?	If no, re-configure the vent so that it terminates downward.		
☐ Yes ☐ No	Is the air vent at least 24" above the tank roof or ground surface (whichever is higher)? What is the height of the vent above the roof or ground surface?	If no, raise air vent to provide for an appropriate air gap.		

Access Hatch				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☒ Yes ☐ No	Is the hatch raised at least 4" above the roof (for ground level or elevated tanks) or at least 24 inches above the roof or ground, whichever is higher (for buried or partially buried tanks)? What is the height of the access hatch above the roof or ground surface?	If no, the hatch should be raised to the appropriate height above the tank roof or ground.		
☒ Yes ☐ No	Does the hatch have a shoe box lid?	If no, a properly designed shoe box type lid should be installed.		
☒ Yes ☐ No	Is the lid water tight and sealed with a rubber gasket?	If no, the reason for the lack of a seal should be investigated and repaired.		
☒ Yes ☐ No	Is the hatch locked?	If no, the hatch should be equipped with a lock.		

Overflow ☐ Check if NA				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☒ Yes ☐ No	Discharge has #24 mesh corrosion resistant screen OR a duckbill valve OR a properly sealed flapper valve with a screen inside (EPA recommends #24 mesh screen)?	If no, indicate proposed correction:		
☒ Yes ☐ No	Overflow terminates between 12 and 24 inches above the ground surface? At what height does the overflow discharge?	If no, modify overflow to provide for an appropriate air gap.		
☒ Yes ☐ No	Overflow discharges over an inlet structure, splash plate, or engineered rip-rap?	If no, indicate proposed correction:		

☐ Yes ☒ No	Is the overflow directly connected to a sanitary sewer or storm drain?	If yes, indicate proposed correction:		
☐ Yes ☒ No	Is there blockage in the overflow, an inadequately sized overflow, a malfunction of the level control system, or other issue that is causing the tank to overflow through the hatch or vent?	If yes, indicate what is causing the problem and how it should be repaired:		
☒ Yes ☐ No	Is the overflow discharge point visible? If no, it is recommended that the discharge point be moved to a location that is visible.		Not Required	

Drain ☒ Check if NA				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☐ Yes ☐ No	Does the drain pipe have an air gap of 3 or more pipe diameters above the entrance to any storm or sanitary sewers?	If no, indicate proposed correction:		
☐ Yes ☐ No	Does the discharge have a #24 mesh corrosion resistant screen OR a duckbill valve OR a properly sealed flapper valve with a screen inside? If no, EPA recommends that a #24 mesh screen be installed.		Not Required	
☐ Yes ☐ No	Does the drain terminate between 12 and 24 inches above the ground surface and discharges over an inlet structure or splash plate? If no, it is recommended that the discharge point be modified to provide for the appropriate air gap.		Not Required	

Cleaning and Other Items			
Significant Deficiency	**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
Describe any other items noted by the inspector that have the potential to cause contamination of the finished drinking water:	What repairs are suggested to prevent or eliminate the source of contamination?		
Depth of sediment found in the tank before cleaning (inches): Light skiff up to 21” of sediment noted How was the storage tank cleaned? Diver with vacuum How was the storage tank disinfected after cleaning? N/A List any objects found inside the tank during cleaning that may have introduced contamination into the water system (examples: debris, animals, etc.): N/A Please attach tank as-built drawings (if available) or a sketch of the tank’s configuration and dimensions including the location, layout and dimensions of all major components (i.e. access hatch, vent, overflow, drain)			

Report of Procedures and Findings From the Cleaning & Inspection of the

Eastside B Tank City of Ontario, OR

By Midco Diving & Marine Services, Inc.

800.479.1558
www.midcodiving.com
info@midcodiving.com
Corporate Office: P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030

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www.midcodiving.com
info@midcodiving.com
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Diving & Marine Services, Inc.

November 20, 2019

City of Ontario
Attn: Kim Lord
1900 SE 5th Ave.
Ontario, OR 97914

INTRODUCTION

The following is a summary of a visual and video inspection of the Eastside B Tank for the City of Ontario, OR. This inspection was undertaken on September 24, 2019 by Midco Diving & Marine Services, Inc., of Rapid City, SD. The findings of this inspection report are a supplement to the inspection video and worksheets, which are found under the same cover.

The Reservoir, which is the subject of this report, appears to be of conventional design and construction.

METHODOLOGY

The reservoir was inspected by a surface-supplied commercial air diver. The diver was equipped with real-time high-definition color video and a LED lighting system as well as live voice communication between the inspecting diver and the surface team. All procedures were carried-out in accordance with Midco Diving's Standards and Procedures. Prior to entering your reservoir, the diver and equipment were disinfected with a 200 parts per million chlorine solution per ANSI/AWWA C652-11 standards.

EASTSIDE B TANK FINDINGS

EXTERIOR FINDINGS

Upon visual inspection of the exterior of the structure, the reservoir appears to be in good condition, with the following findings noted:

1. Areas of coating failure noted.

INTERIOR FINDINGS

Upon visual inspection of the structure above and below the water line, the overall condition of the tank appears to be in good condition, with the following findings noted:

1. Light skiff of sediment noted.
2. Possible inlet filture rupture, up to 20” of sediment noted.
3. Areas of coating failure with corrosion noted.
4. Settling cracks with efflorescence noted.

City of Ontario

JOB NUMBER:	P2019076
UTILITY:	City of Ontario
DATE:	September 24, 2019
MANAGER:	Kim Lord
ADDRESS:	1900 SE 5th Ave. Ontario, OR 97914

DIVE TEAM LEADER:	Brian Kilburn
Reservoir:	Eastside B Tank
Gallons:	1.7 MG
Diameter:	100’
Height:	30’
Water Depth:	26’
Construction:	Concrete
Date Built:	1969
Last Cleaned:	2017
Last Inspected:	2017

Recommendations:

1. Continue to monitor coating failure.
2. Investigate and replace inlet filter if required.
3. Continue to monitor coating failure with corrosion on interior ladder.
4. Monitor/repair noted settling cracks with efflorescence.
5. Have Midco Diving & Marine Services, Inc. return to finish cleaning.
6. Have Midco Diving & Marine Services, Inc. clean and inspect every 3-5 years.

Diving & Marine Services, Inc.

N/A - Not applicable
Excellent (Ex) - Like new condition, no maintenance needed.
Good - Cosmetic only problems, maintenance if wanted.
Fair - Minor problems, maintenance needed, not immediate.
Poor - Major problems, structural or like, immediate maintenance needed.

Component	Condition					Comments
	NA	Ex.	Good	Fair	Poor	
Site Security			X			
Gate			X			
Fence			X			
Locks			X			
Alarm	X					
Reservoir Exterior			X			
Coating			X			Staining Noted
Foundation			X			
Cleanliness			X			
Seams/Joints			X			
Exterior Roof			X			
Coating			X			Coating Failure Noted
Cleanliness			X			
Seams/Joints			X			
Exterior Ladder			X			Width: 19”
Coating	X					
Caged			X			
Safety Climb	X					
Roof Vents			X			
Coating			X			
Screen			X			
Side Vents	X					
Coating	X					
Screen	X					
Exterior Telemetry			X			
Coating	X					
Functioning			X			

Component	Condition					Comments
	NA	Ex.	Good	Fair	Poor	
Manual Level Indicator	X					
Tag	X					
Cable	X					
Indicator	X					
Pulleys	X					
Base	X					
Man Entries	X					
Coating	X					
Gasket	X					
Exterior Inlet	X					
Coating	X					
Valve	X					
Exterior Outlet	X					
Coating	X					
Valve	X					
Exterior Drain/Scour	X					
Coating	X					
Valve	X					
Exterior Water Tap	X					
Coating	X					
Valve	X					
Exterior Overflow	X					
Coating	X					
Stand-offs	X					
Screen	X					
Access Hatch			X			Size: 37” x 45”
Weather Stripping			X			
Coating			X			
Hinges	X					
Lock			X			
Safety Railing	X					

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Component	Condition NA	Ex.	Good	Fair	Poor	Comments
Interior Ladder			X			Size: 18 ½" – Coating Failure with Corrosion Noted
Caged	X					
Safety Climb	X					
Telemetry Sensor			X			
Functioning			X			
Float	X					
Guide Wires	X					
Interior Floor			X			
Coating			X			Coating Failure Noted
Sediment			X			Depth: Light Skiff up to 20" of Sediment with Debris Noted
Seams/Joints			X			
Interior Walls			X			
Coating			X			
Seams/Joints			X			
Interior Ceiling			X			Settling Cracks with Efflorescence Noted
Coating	X					
Rafters	X					
Interior Man Entries			X			Size: 25" x 14 ½"
Coating			X			
Gasket			X			
Support Columns	X					
Coating	X					
Base	X					
Top	X					
Cathodic Protection	X					
Anodes	X					
Wires	X					
Sacrificial Anodes	X					

Component	Condition					Comments
	NA	Ex.	Good	Fair	Poor	
Interior Overflow Pipe			X			Size: 24”
Coating			X			
Top/Cap			X			
Connections/Flange	X					
Interior Inlet			X			Size: 19 ½” – Possible Filter Rupture Noted
Coating			X			Coating Failure with Corrosion Noted
Riser			X			
Interior Outlet			X			Size: 20”
Coating			X			Coating Failure with Corrosion Noted
Riser			X			Measurement: 8”
Interior Drain/Scour	X					
Coating	X					
Riser	X					
Interior Water Tap	X					
Coating	X					
Valve	X					

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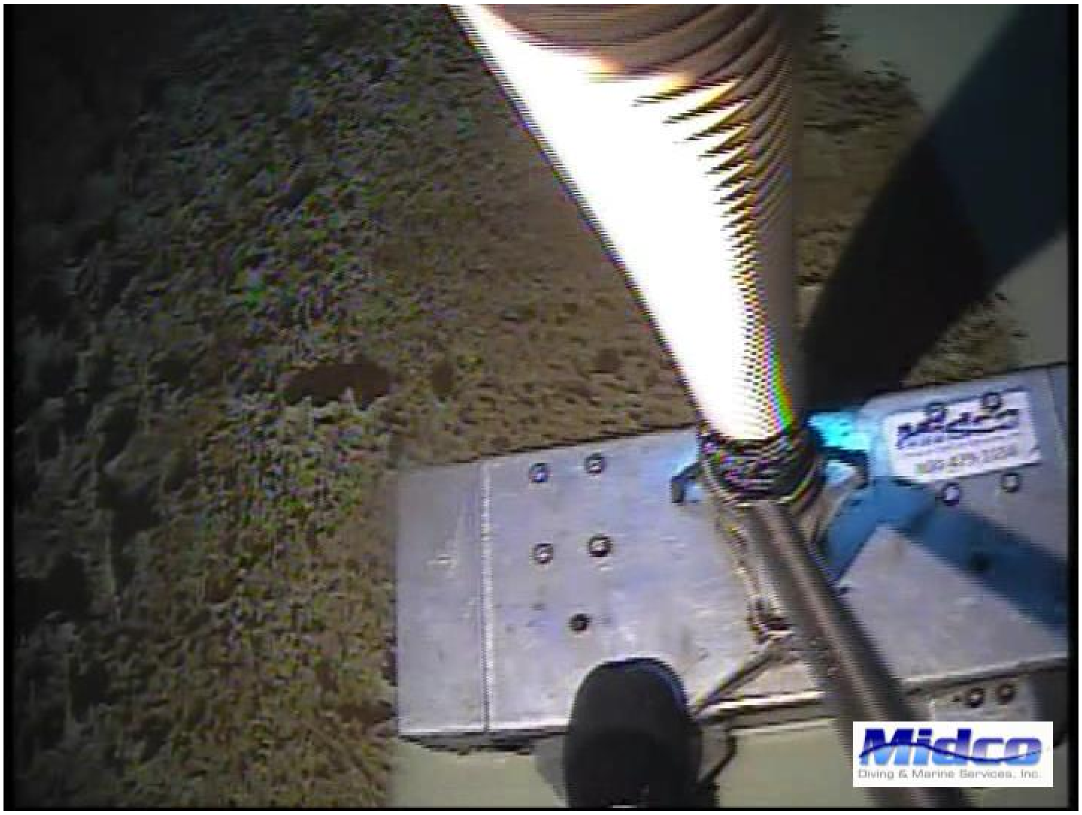

Cleaning Reservoir

Cleaning Reservoir

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Up to 20” of Sediment Noted Near Inlet Plumbing – Possible Filter Rupture

Sample bucket Noted (Removed)

Typical Floor

Typical Floor – Coating Failure Noted

Floor to Wall Seam

Typical Wall

Typical Roof and Vent

Typical Roof – Settling Cracks with Efflorescence Noted

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Overflow Top

Overflow Support Bracket

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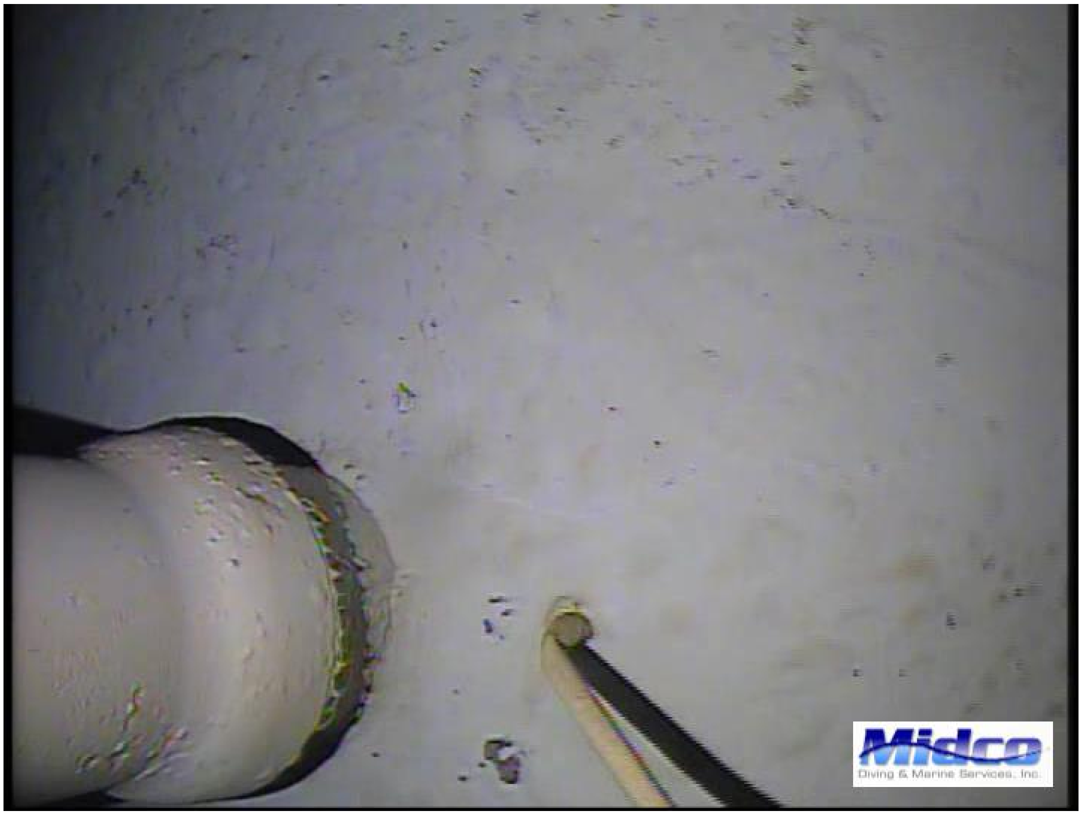

Overflow Base

Interior Plumbing

Outlet Plumbing

Outlet Plumbing – Coating Failure with Corrosion Noted

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Inlet Plumbing

Telemetry Sensor

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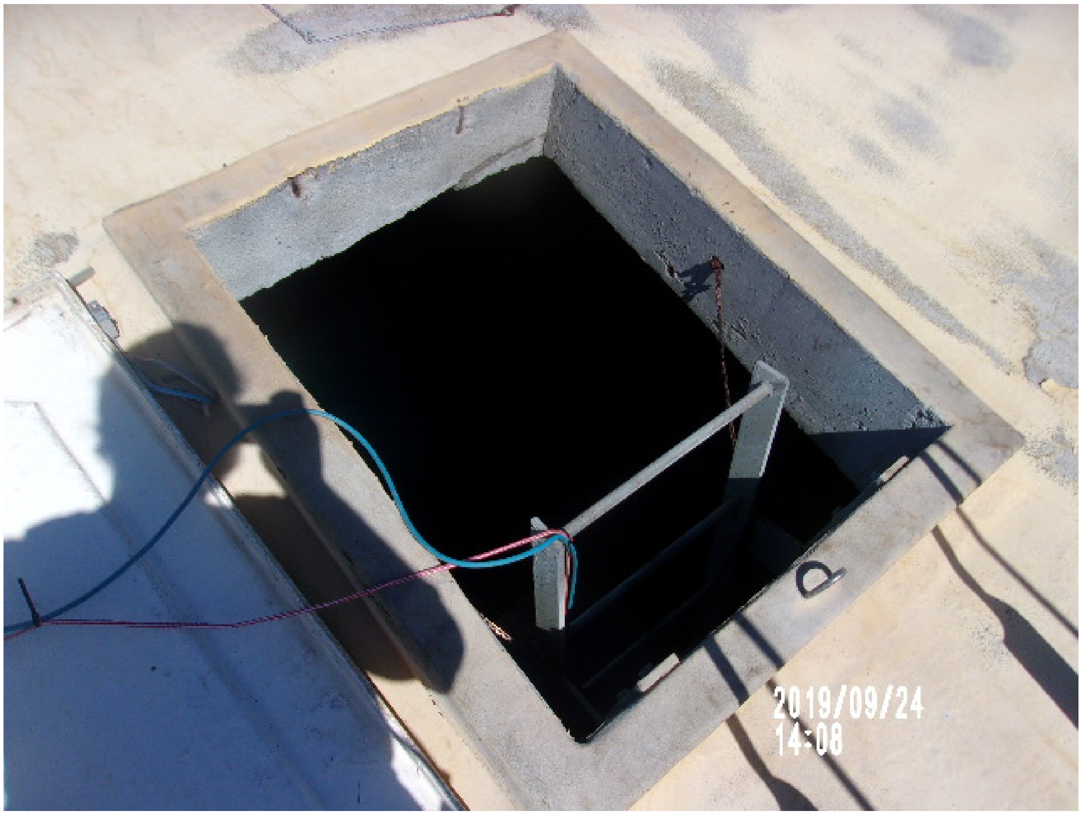
Man Entry

Interior Ladder – Coating Failure with Corrosion Noted



Access Hatch

Roof Vent – Coating Failure Noted

Roof Vent Screen

Exterior Ladder

Reservoir Roof

Reservoir Roof – Coating Failure Noted

Reservoir Roof

Reservoir Roof

Exterior Ladder

Exterior Reservoir and Man Entry

Exterior Reservoir

Exterior Reservoir

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EPA Compliant Report Finished Water Storage Tank Inspection / Cleaning Checklist Fill out one checklist per storage tank & submit labeled photos of each tank component with this form	
Public Water System Name: City of Ontario	Public Water System ID:
Reservoir Name: Eastside B Tank	Reservoir ID:
Proposed Inspection Date: September 24, 2019	Actual Inspection Date: September 24, 2019
Name of Person Filling Out Form: Kadi Gill	Title of Person Filling Out Form: Sales Fulfillment Manager
I certify that this information is complete and accurate: Yes Kadi Gill	Date: November 20, 2019

Inspector Qualifications (answer to all questions must be "yes")	
Name and contact information of inspector or inspection company: **Midco Diving & Marine Services, Inc.**	
☒ Yes ☐ No	Has the inspector completed confined space training?
☒ Yes ☐ No	Did the inspector have a confined space entry permit?

Overall Tank Condition				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☒ Yes ☐ No	Does the tank appear to be structurally sound?	If no, what repairs are suggested by the tank inspector?		
☐ Yes ☒ No	Are there any unprotected openings in the tank (breaches, leaks, daylight coming through tank in spots, etc.)	If yes, indicate type of breach and how it should be repaired.		

Air Vent				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
Above Ground Tanks (Ground Level or Elevated)			☐ Check if NA	
☐ Yes ☐ No ☒ N/A	Downturned vent: Is the vent at least 24" or 3 pipe diameters above the roof?	If no reconfigure vent to provide proper air gap.		
☒ Yes ☐ No ☐ N/A	Non-downturned vent: Is there a solid cover down to the bottom of the vent screen?	If no, indicate deficiency and proposed correction:		
☒ Yes ☐ No ☐ N/A	Non-downturned vent: Is the screen at least 8" above the roof surface? What is the height of the start of the screening above the tank?	If no, indicate deficiency and proposed correction:		
☒ Yes ☐ No	Is the vent covered with #24 mesh corrosion resistant screening (some exceptions apply)? Mesh Size:	If no, indicate deficiency and proposed correction:		

Buried or Partially Buried Tanks ☒ Check if NA				
☐ Yes ☐ No	Is the vent covered with #24 mesh corrosion resistant screening?	If no, install proper #24 mesh corrosion resistant screening.		
☐ Yes ☐ No	Does the air vent terminate downward?	If no, re-configure the vent so that it terminates downward.		
☐ Yes ☐ No	Is the air vent at least 24" above the tank roof or ground surface (whichever is higher)? What is the height of the vent above the roof or ground surface?	If no, raise air vent to provide for an appropriate air gap.		

Access Hatch				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☒ Yes ☐ No	Is the hatch raised at least 4" above the roof (for ground level or elevated tanks) or at least 24 inches above the roof or ground, whichever is higher (for buried or partially buried tanks)? What is the height of the access hatch above the roof or ground surface?	If no, the hatch should be raised to the appropriate height above the tank roof or ground.		
☒ Yes ☐ No	Does the hatch have a shoe box lid?	If no, a properly designed shoe box type lid should be installed.		
☒ Yes ☐ No	Is the lid water tight and sealed with a rubber gasket?	If no, the reason for the lack of a seal should be investigated and repaired.		
☒ Yes ☐ No	Is the hatch locked?	If no, the hatch should be equipped with a lock.		

Overflow ☒ Check if NA				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☐ Yes ☐ No	Discharge has #24 mesh corrosion resistant screen OR a duckbill valve OR a properly sealed flapper valve with a screen inside (EPA recommends #24 mesh screen)?	If no, indicate proposed correction:		
☐ Yes ☐ No	Overflow terminates between 12 and 24 inches above the ground surface? At what height does the overflow discharge?	If no, modify overflow to provide for an appropriate air gap.		
☐ Yes ☐ No	Overflow discharges over an inlet structure, splash plate, or engineered rip-rap?	If no, indicate proposed correction:		

☐ Yes ☐ No	Is the overflow directly connected to a sanitary sewer or storm drain?	If yes, indicate proposed correction:		
☐ Yes ☐ No	Is there blockage in the overflow, an inadequately sized overflow, a malfunction of the level control system, or other issue that is causing the tank to overflow through the hatch or vent?	If yes, indicate what is causing the problem and how it should be repaired:		
☐ Yes ☐ No	Is the overflow discharge point visible? If no, it is recommended that the discharge point be moved to a location that is visible.		Not Required	

Drain ☒ Check if NA				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☐ Yes ☐ No	Does the drain pipe have an air gap of 3 or more pipe diameters above the entrance to any storm or sanitary sewers?	If no, indicate proposed correction:		
☐ Yes ☐ No	Does the discharge have a #24 mesh corrosion resistant screen OR a duckbill valve OR a properly sealed flapper valve with a screen inside? If no, EPA recommends that a #24 mesh screen be installed.		Not Required	
☐ Yes ☐ No	Does the drain terminate between 12 and 24 inches above the ground surface and discharges over an inlet structure or splash plate? If no, it is recommended that the discharge point be modified to provide for the appropriate air gap.		Not Required	

Cleaning and Other Items			
Significant Deficiency	**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
Describe any other items noted by the inspector that have the potential to cause contamination of the finished drinking water:	What repairs are suggested to prevent or eliminate the source of contamination?		

Depth of sediment found in the tank before cleaning (inches): Light skiff up to 20” of sediment noted
How was the storage tank cleaned? Diver with vacuum
How was the storage tank disinfected after cleaning? N/A
List any objects found inside the tank during cleaning that may have introduced contamination into the water system (examples: debris, animals, etc.): Sample bucket noted (removed)
Please attach tank as-built drawings (if available) or a sketch of the tank’s configuration and dimensions including the location, layout and dimensions of all major components (i.e. access hatch, vent, overflow, drain)

Report of Procedures and Findings From the Cleaning & Inspection of the

Westside 4 Tank
City of
Ontario, OR

By
Midco Diving & Marine Services, Inc.

800.479.1558
www.midcodiving.com
info@midcodiving.com
Corporate Office: P.O. Box 513 Rapid City, South Dakota 57709 605-791-3030

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Diving & Marine Services, Inc.

November 18, 2019

City of Ontario
Attn: Kim Lord
1900 SE 5th Ave.
Ontario, OR 97914

INTRODUCTION

The following is a summary of a visual and video inspection of the Westside 4 Tank for the City of Ontario, OR. This inspection was undertaken on September 20, 2019 by Midco Diving & Marine Services, Inc., of Rapid City, SD. The findings of this inspection report are a supplement to the inspection video and worksheets, which are found under the same cover.

The Reservoir, which is the subject of this report, appears to be of conventional design and construction.

METHODOLOGY

The reservoir was inspected by a surface-supplied commercial air diver. The diver was equipped with real-time high-definition color video and a LED lighting system as well as live voice communication between the inspecting diver and the surface team. All procedures were carried-out in accordance with Midco Diving's Standards and Procedures. Prior to entering your reservoir, the diver and equipment were disinfected with a 200 parts per million chlorine solution per ANSI/AWWA C652-11 standards.

WESTSIDE 4 TANK FINDINGS

EXTERIOR FINDINGS

Upon visual inspection of the exterior of the structure, the reservoir appears to be in good condition, with the following findings noted:

1. Areas of coating failure noted.
2. Settling cracks noted.
3. Roof vent screen does not sit 8" above the roof surface.

INTERIOR FINDINGS

Upon visual inspection of the structure above and below the water line, the overall condition of the tank appears to be in good condition, with the following findings noted:

1. Up to 3" of sediment noted.
2. Settling cracks noted.
3. Settling cracks with previous repairs noted.
4. Areas with previous repair failures noted.
5. Daylighting noted.
6. Corrosion noted on interior plumbing.






DISCLAIMER

Midco Diving & Marine Services, Inc. does not provide consulting engineering services, nor do we employ licensed Professional Engineers. The findings contained herein were neither prepared or reviewed by a licensed engineer, but are based on the visual examination, experience, and training of the inspecting diver and dive support crew.

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City of Ontario

JOB NUMBER:	P2019076
UTILITY:	City of Ontario
DATE:	September 20, 2019
MANAGER:	Kim Lord
ADDRESS:	1900 SE 5th Ave. Ontario, OR 97914

DIVE TEAM LEADER:	Brian Kilburn

Reservoir:	Westside 4 Tank
Gallons:	5 MG
Diameter:	177’
Height:	30’
Water Depth:	28’
Construction:	Concrete
Date Built:	1981
Last Cleaned:	2013
Last Inspected:	2013

Recommendations:

1. Continue to monitor areas of noted coating failure.
2. Correct roof vent screen to sit 8” above the roof surface.
3. Continue to monitor/repair noted settling cracks.
4. Continue to monitor noted corrosion on interior plumbing.
5. Repair noted daylighting from secondary access hatch.
6. Have Midco Diving & Marine Services, Inc. clean and inspect every 3-5 years.

Diving & Marine Services, Inc.

N/A - Not applicable
Excellent (Ex) - Like new condition, no maintenance needed.
Good - Cosmetic only problems, maintenance if wanted.
Fair - Minor problems, maintenance needed, not immediate.
Poor - Major problems, structural or like, immediate maintenance needed.

Component	Condition NA	Ex.	Good	Fair	Poor	Comments
Site Security			X			
Gate			X			
Fence			X			
Locks			X			
Alarm	X					
Reservoir Exterior			X			
Coating			X			
Foundation			X			
Cleanliness			X			
Seams/Joints			X			
Exterior Roof			X			Settling Cracks Noted
Coating			X			
Cleanliness			X			
Seams/Joints			X			
Exterior Ladder			X			Width: 19”
Coating	X					
Caged			X			
Safety Climb			X			Type: Rail
Roof Vents			X			Height: 5”
Coating			X			Coating Failure Noted
Screen			X			
Side Vents	X					
Coating	X					
Screen	X					
Exterior Telemetry			X			
Coating	X					
Functioning			X			

Component	Condition NA	Ex.	Good	Fair	Poor	Comments
Manual Level Indicator	X					
Tag	X					
Cable	X					
Indicator	X					
Pulleys	X					
Base	X					
Man Entries	X					
Coating	X					
Gasket	X					
Exterior Inlet	X					
Coating	X					
Valve	X					
Exterior Outlet	X					
Coating	X					
Valve	X					
Exterior Drain/Scour	X					
Coating	X					
Valve	X					
Exterior Water Tap	X					
Coating	X					
Valve	X					
Exterior Overflow	X					
Coating	X					
Stand-offs	X					
Screen	X					
Access Hatch x2			X			Size: 39” x 33”
Weather Stripping			X			
Coating			X			Coating Failure Noted
Hinges			X			
Lock			X			
Safety Railing	X					

Component	Condition NA	Ex.	Good	Fair	Poor	Comments
Interior Ladder			X			Size: 19”
Caged	X					
Safety Climb			X			Type: Rail – Corrosion Noted
Telemetry Sensor			X			
Functioning			X			
Float			X			
Guide Wires			X			
Interior Floor			X			Settling Cracks with Previous Repairs Noted; Repair Failures Noted
Coating	X					
Sediment			X			Depth: Up to 3” of Sediment Noted
Seams/Joints			X			
Interior Walls			X			Settling Cracks Noted
Coating	X					
Seams/Joints			X			
Interior Ceiling			X			Daylighting Noted
Coating	X					
Rafters	X					
Interior Man Entries	X					
Coating	X					
Gasket	X					
Support Columns	X					
Coating	X					
Base	X					
Top	X					
Cathodic Protection	X					
Anodes	X					
Wires	X					
Sacrificial Anodes	X					

Component	Condition					Comments
	NA	Ex.	Good	Fair	Poor	
Interior Overflow Pipe			X			Size: 15” – Corrosion Noted
Coating	X					
Top/Cap			X			
Connections/Flange			X			
Interior Inlet			X			Size: 27 ½” – Possible Filter Rupture Noted; Corrosion Noted
Coating	X					
Riser			X			Measurement: 36”
Interior Outlet			X			Size: 27” – Corrosion Noted
Coating	X					
Riser			X			Measurement: 4 ½”
Interior Drain/Scour	X					
Coating	X					
Riser	X					
Interior Water Tap	X					
Coating	X					
Valve	X					

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Cleaning Reservoir

Cleaning Reservoir

Typical Floor – Settling Cracks with Previous Repairs Noted

Floor Repairs Noted

Areas with Repair Failures Noted

Floor to Wall Seam

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Typical Wall

Wall to Roof Seam – Settling Cracks Noted

Typical Roof

Typical Roof and Vent

Daylighting Noted

Access Hatch and Telemetry Guide Wires

Interior Ladder and Safety Rail

Interior Plumbing – Corrosion Noted

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Interior Plumbing – Corrosion Noted

Outlet Plumbing – Corrosion Noted

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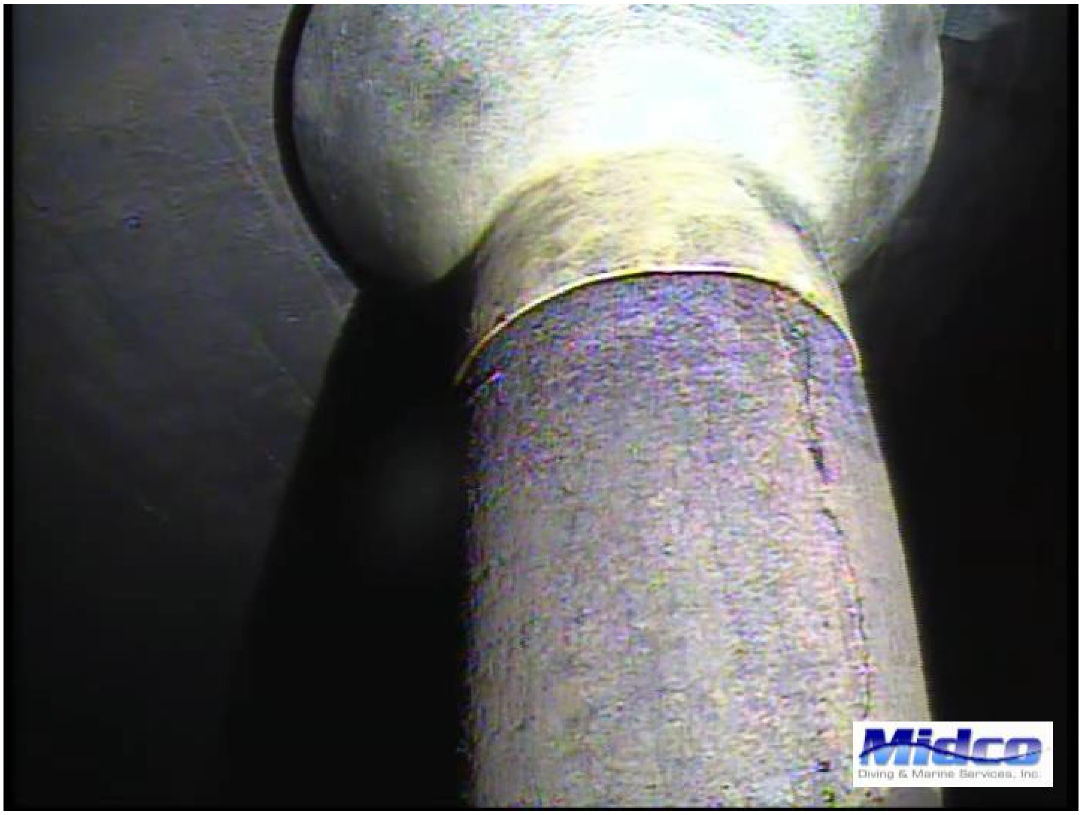
Inlet Plumbing – Corrosion Noted

Overflow Plumbing – Corrosion Noted



Overflow Top

Access Hatch

Access Hatch – Coating Failure Noted

Secondary Access Hatch

Roof Vent – Coating Failure Noted

Roof Vent Screen

Roof Vent

Reservoir Roof

Reservoir Roof – Settling Cracks Noted

Exterior Ladder

Exterior Reservoir

Exterior Reservoir

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Exterior Reservoir

Exterior Reservoir

EPA Compliant Report **Finished Water Storage Tank Inspection / Cleaning Checklist** Fill out one checklist per storage tank & submit labeled photos of each tank component with this form	
Public Water System Name: City of Ontario	Public Water System ID:
Reservoir Name: Westside 4 Tank	Reservoir ID:
Proposed Inspection Date: September 20, 2019	Actual Inspection Date: September 20, 2019
Name of Person Filling Out Form: Kadi Gill	Title of Person Filling Out Form: Sales Fulfillment Manager
I certify that this information is complete and accurate: Yes Kadi Gill	Date: November 18, 2019

Inspector Qualifications (answer to all questions must be "yes")	
Name and contact information of inspector or inspection company: **Midco Diving & Marine Services, Inc.**	
☒ Yes ☐ No	Has the inspector completed confined space training?
☒ Yes ☐ No	Did the inspector have a confined space entry permit?

Overall Tank Condition				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☒ Yes ☐ No	Does the tank appear to be structurally sound?	If no, what repairs are suggested by the tank inspector?		
☒ Yes ☐ No	Are there any unprotected openings in the tank (breaches, leaks, daylight coming through tank in spots, etc.)	If yes, indicate type of breach and how it should be repaired.		

Air Vent				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
Above Ground Tanks (Ground Level or Elevated)			☐ Check if NA	
☐ Yes ☐ No ☒ N/A	Downturned vent: Is the vent at least 24" or 3 pipe diameters above the roof?	If no reconfigure vent to provide proper air gap.		
☒ Yes ☐ No ☐ N/A	Non-downturned vent: Is there a solid cover down to the bottom of the vent screen?	If no, indicate deficiency and proposed correction:		
☐ Yes ☒ No ☐ N/A	Non-downturned vent: Is the screen at least 8" above the roof surface? What is the height of the start of the screening above the tank? 5"	If no, indicate deficiency and proposed correction:		
☒ Yes ☐ No	Is the vent covered with #24 mesh corrosion resistant screening (some exceptions apply)? Mesh Size:	If no, indicate deficiency and proposed correction:		

Buried or Partially Buried Tanks ☒ Check if NA				
☐ Yes ☐ No	Is the vent covered with #24 mesh corrosion resistant screening?	If no, install proper #24 mesh corrosion resistant screening.		
☐ Yes ☐ No	Does the air vent terminate downward?	If no, re-configure the vent so that it terminates downward.		
☐ Yes ☐ No	Is the air vent at least 24" above the tank roof or ground surface (whichever is higher)? What is the height of the vent above the roof or ground surface?	If no, raise air vent to provide for an appropriate air gap.		

Access Hatch				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☒ Yes ☐ No	Is the hatch raised at least 4" above the roof (for ground level or elevated tanks) or at least 24 inches above the roof or ground, whichever is higher (for buried or partially buried tanks)? What is the height of the access hatch above the roof or ground surface? 12"	If no, the hatch should be raised to the appropriate height above the tank roof or ground.		
☒ Yes ☐ No	Does the hatch have a shoe box lid?	If no, a properly designed shoe box type lid should be installed.		
☒ Yes ☐ No	Is the lid water tight and sealed with a rubber gasket?	If no, the reason for the lack of a seal should be investigated and repaired.		
☒ Yes ☐ No	Is the hatch locked?	If no, the hatch should be equipped with a lock.		

Overflow ☒ Check if NA				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☐ Yes ☐ No	Discharge has #24 mesh corrosion resistant screen OR a duckbill valve OR a properly sealed flapper valve with a screen inside (EPA recommends #24 mesh screen)?	If no, indicate proposed correction:		
☐ Yes ☐ No	Overflow terminates between 12 and 24 inches above the ground surface? At what height does the overflow discharge?	If no, modify overflow to provide for an appropriate air gap.		
☐ Yes ☐ No	Overflow discharges over an inlet structure, splash plate, or engineered rip-rap?	If no, indicate proposed correction:		

☐ Yes ☐ No	Is the overflow directly connected to a sanitary sewer or storm drain?	If yes, indicate proposed correction:		
☐ Yes ☐ No	Is there blockage in the overflow, an inadequately sized overflow, a malfunction of the level control system, or other issue that is causing the tank to overflow through the hatch or vent?	If yes, indicate what is causing the problem and how it should be repaired:		
☐ Yes ☐ No	Is the overflow discharge point visible? If no, it is recommended that the discharge point be moved to a location that is visible.		Not Required	

Drain ☒ Check if NA				
Significant Deficiency		**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
☐ Yes ☐ No	Does the drain pipe have an air gap of 3 or more pipe diameters above the entrance to any storm or sanitary sewers?	If no, indicate proposed correction:		
☐ Yes ☐ No	Does the discharge have a #24 mesh corrosion resistant screen OR a duckbill valve OR a properly sealed flapper valve with a screen inside? If no, EPA recommends that a #24 mesh screen be installed.		Not Required	
☐ Yes ☐ No	Does the drain terminate between 12 and 24 inches above the ground surface and discharges over an inlet structure or splash plate? If no, it is recommended that the discharge point be modified to provide for the appropriate air gap.		Not Required	

Cleaning and Other Items			
Significant Deficiency	**Required Correction**	**Proposed Completion Date**	**Proposed Completion Date**
Describe any other items noted by the inspector that have the potential to cause contamination of the finished drinking water:	What repairs are suggested to prevent or eliminate the source of contamination?		
Depth of sediment found in the tank before cleaning (inches): Up to 3" of sediment noted How was the storage tank cleaned? Diver with vacuum How was the storage tank disinfected after cleaning? N/A List any objects found inside the tank during cleaning that may have introduced contamination into the water system (examples: debris, animals, etc.): N/A Please attach tank as-built drawings (if available) or a sketch of the tank's configuration and dimensions including the location, layout and dimensions of all major components (i.e. access hatch, vent, overflow, drain)			

APPENDIX G
Hydrant Flow Test Results
Technical Memorandum