

Interface Control Document between Washington River Protection Solutions LLC (WRPS) the Tank Operations Contractor and Mission Support Alliance, LLC (MSA) The Water/Sanitary Sewer Utilities Distribution System Manager

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-09RL14728



**P.O. Box 650
Richland, Washington 99352**

**Interface Control Document between Washington River Protection Solutions LLC (WRPS)
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Water/Sanitary Sewer Utilities Distribution System Manager**

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**P.O. Box 650
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APPROVED

By Julia Raymer at 3:25 pm, Aug 20, 2020

Release Approval

Date

**DATE:
Aug 20, 2020**

**HANFORD
RELEASE**

Release Stamp

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Interface Control Document between Washington River Protection Solutions LLC (WRPS) the Tank Operations Contractor and Mission Support Alliance, LLC (MSA) The Water/Sanitary Sewer Util

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2	Completed Revision, per ECR-13-00866	G. Stevens	8/28/13
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5	Completed Revision, per ECR-17-000009	H. Pina	2/16/17
6	Completed Revision, per ECR-17-001216	S. Callison	9/26/17
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J. B. Kon
05/20/2020

INTERFACE CONTROL DOCUMENT BETWEEN
WASHINGTON RIVER PROTECTION SOLUTIONS LLC (WRPS)
THE TANK OPERATIONS CONTRACTOR

AND

MISSION SUPPORT ALLIANCE, LLC (MSA)
THE WATER/SANITARY SEWER UTILITIES DISTRIBUTION
SYSTEM MANAGER

Mission Support Alliance, LLC (MSA)

Brent R. Stenson 07/16/2020
Brent R. Stenson Water Utilities Water Purveyor Date

Sours, Daniel L. Digitally signed by Sours, Daniel L.
Date: 2020.08.03 15:50:58 -07'00'
Dan L. Sours, Director Interface Management Date

Jonathan B. Kon 07/16/2017
Jonathan B. Kon, Director of Water Utilities Date

Coby Sadler 7/30/2020
Coby Sadler, Fire Marshal Date

Washington River Protection Solutions LLC (WRPS)

David A. Lee 7/15/20
David A. Lee, Facilities Manager Date

Jeff H. Flora Digitally signed by Jeff H. Flora
Date: 2020.07.08 07:22:00 -07'00'
Jeff H. Flora, Cognizant System Engineer, Water Date

James R. Keene 7/8/2020
James R. Keene, Fire Protection Engineer Date

Jeremy T. Hartley 7/9/20
Jeremy T. Hartley, Production Operations Manager Date

Katie A. Downing 7.13.20
Katie A. Downing, Prime Contract Manager Date

1.0 SCOPE/PURPOSE

This Interface Control Document (ICD) provides the requirements for interfacing with the Washington River Protection Solutions (WRPS) Tank Operations Contractor and the Mission Support Alliance (MSA) Water and Sewer Utilities (W&SU) System management. It includes service requirements, administrative responsibilities, applicable references, acceptance standards, and other relevant information.

This ICD covers:

- Delivery of Water to the Double-Shell Tank (DST)/Single-Shell Tank (SST) East Tank Farm Facilities (including 242-A Evaporator and Low Activity Waste Pretreatment System [LAWPS]).
- Delivery of Water to the *DST/SST* West Tank Farm Facilities.
- Delivery of Water to all other WRPS facilities serviced by MSA W&SU.
- Collection of Sanitary Sewer from WRPS facilities serviced by MSA W&SU.

Work associated with this ICD, will be executed in accordance with the terms and conditions as agreed to in MOA-00001, *Memorandum of Agreement (MOA)* between WRPS and MSA, as well as *Service Delivery Document #42, Water Systems, Service Delivery Document #43, Sewer Systems*, and the Site-Wide Water and Sanitary Sewer Systems Master Plans.

The Waste Treatment Plant (WTP) raw and potable water interfaces with MSA W&SU are not included here as they are documented by 24590-WTP-ICD-MG-01-001, *ICD 01 - Interface Control Document for Raw Water*, and 24590-WTP-ICD-MG-01-002, *ICD 02 - Interface Control Document for Potable Water*, respectively. The WTP sanitary sewer interfaces with MSA W&SU are not included in the scope of this agreement.

The activities in this agreement provide for the implementation of all elements of the W&SU System service captured in Section J.3 of the WRPS contract DE-AC27-08RV14800, with the Department of Energy (DOE) Office of River Protection and the MSA Contract DE-AC06-09RL14728.

2.0 RESPONSIBILITIES/REQUIREMENTS

2.1 RESPONSIBILITIES

2.1.1 MSA Site Water and Sewer Compliance

- The Water Purveyor will ensure compliance to Group A Public Water Supplies, through effective implementation of Chapter 246-290, *Washington Administrative Code (WAC)* requirements to include but not limited to the Site cross connection control program (back flow prevention) in accordance with MSC-RD-FM-10361, *Controlling Cross Connection*, WAC 246-290-490, Cross connection control and applicable MSA procedures.
- The W&SU Compliance manager will ensure compliance to WAC 246-272A *On-site Sewage Systems (OSS)*, 246-272B *Large On-site Sewage System Regulations (LOSS)*, 246-272C *On-site Sewage System Tanks (HTSS)*, WAC 173-216 *State Waste Discharge program*, WAC 173-200 *Water Quality standards for ground waters of the State Of Washington*, WAC 173-221 *Discharge standards and effluent limits for domestic wastewater facilities*.

2.1.2 MSA Water and Sewer Utilities

- Deliver water to the demarcation valve (Table 1) for each service point that meets described requirements for service quality (see Section 3.1), and availability (see Section 3.2).
- Deliver water volume to WRPS systems in accordance with the established capacity, and in accordance with projected demand increases for future needs (see Attachment 1).
- Provide sanitary sewer services in accordance with the established capacity of OSS/LOSS/HTSS and the 200W Area Evaporative Lagoon permit ST0045514. Sanitary sewer projected demands are based on site population, and are calculated using 10 gal/day per office personnel and 25 gal/day per non-office personnel. Population figures are based on HNF-63233, *Hanford Site Population Projections for Fiscal Years 2019 through 2029*.
- Review for concurrence WRPS water and sanitary sewer system configuration changes to ensure configuration does not jeopardize the MSA system configuration or capacity.
- Ensure that WRPS concurs with water or sewer system design changes that involve or impact WRPS water and sewer systems and facilities.
- Operate and maintain the Emergency Sanitary Water pump houses containing the fire pumps in accordance with the Hanford Fire Department and/or facility requirements. This will include all testing, maintenance, inspection, and other actions necessary to comply with applicable National Fire Protection Association (NFPA) standards. Any deficiencies identified shall follow the requirements of MSC-RD-FP-7899, *Fire Protection System Testing/Inspection/Maintenance/Deficiencies*.
- Provide facility surveillances as necessary and upon request, as a usage-based service.
- Operate, maintain, and manage configuration of the raw water, potable water, and sanitary sewer systems, up to and including the demarcation point of each WRPS facility or complex of facilities. Operation and maintenance of water distribution mains, sewer collection mains, and service connections that may affect service availability will be coordinated with impacted facilities, and must be approved by the assigned WRPS Facility/Plant Manager. Any deficiencies identified shall follow the requirements of MSC-RD-FP-7899 or MSC-PRO-WC-12115, *Work Management*.
- All of the fire hydrants located on the Central Plateau are the responsibility of MSA Water Utilities. However, any maintenance and flow testing required per MSC-RD-FP-7899 and NFPA 25 is the responsibility of the Hanford Fire Department. As access to hydrants is needed, within Other Hanford Contractors facility boundaries, either of the MSA organizations will contact the facility point of contact (POC) to make the necessary arrangements for access. It is expected that access will be granted, in a time frame acceptable to all parties, and in line with standards, regulations and procedures. No non-emergency hydrant usage shall occur without prior W&SU notification and approval.
- Work with WRPS to accommodate changes in water demand different than the values presented in Attachment 1.
- Work with WRPS to accommodate changes in population forecasts different than the values presented in HNF-63233.

- Conduct a site wide system review that is delivered to DOE as part of the MSA Water and Sanitary Sewer Utilities Master Plans.

2.1.3 WRPS Facility/Plant Manager

- Operate, maintain, and manage configuration of facility water and sewer systems inside the WRPS facility and up to the demarcation point.
- Provide at least thirty days advanced notice for planned water or sewer demand at flow rates greater than normal conditions.
- Ensure that MSA concurs with water or sewer system design changes to protect the MSA system configuration or capacity.
- Provide 2 weeks' notice to W&SU Operation of pending start of 242-A Evaporator Campaigns.
- Communicate with W&SU Operation with sufficient time for W&SU to meet WRPS needs.
- Comply with directions from the Water Purveyor, including the Site cross connection control program (back flow prevention) in accordance with MSC-RD-FM-10361, *Controlling Cross Connections*, WAC 246-290-490, Cross Connection Control and applicable MSA procedures.
- Comply with directions from the W&SU manager in accordance with WAC 246-272A *On-site Sewage Systems* (OSS), 246-272B *Large On-site Sewage System Regulations* (LOSS), 246-272C *On-site Sewage System Tanks* (HTSS), WAC 173-216 *State Waste Discharge program*, WAC 173-200 *Water Quality standards for ground waters of the State Of Washington*, WAC 173-221 *Discharge standards and effluent limits for domestic wastewater facilities*.
- Immediately report to MSA any upset conditions causing accidental discharges to the sanitary sewer system which impact compliance to the MSA OSS/LOSS/HTSS 200W Area Evaporative Lagoon permits. If applicable, WRPS is responsible for providing categorization information of these events for reporting to DOE. Event ownership will be determined in accordance with the MOA between WRPS and MSA.
- In accordance with WAC 246-272B-06000(4) and WAC 173-216-060, ensure prohibited substances do not enter the sanitary sewer system. In addition, the following are prohibited:
 - a. The discharge into a municipal sewerage system of substances prohibited from such discharge by section 307 of Federal Water Pollution Control Act.
 - b. All of the following discharges to sewerage system:
 - (i) Waste materials that pass through the treatment works untreated or interfere with its operation or performance.
 - (ii) Any liquids, solids or gases which by reason of their nature or quantity are or may be sufficient either alone or by interaction to cause fire or explosion or be capable of creating a public nuisance or hazard to life or are sufficient to prevent entry into the sewers for their maintenance and repair or be injurious in any other way to the operation of the system or the operating personnel.
 - (iii) Solid or viscous substances which may cause obstruction to the flow in a sewer or other interference with the operation of the system.

- (iv) Any wastewater having a pH less than 5.0 or greater than 11.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment, or personnel of the system, unless the system is specifically designed to accommodate such discharge and the discharge is authorized by a permit under this chapter.
- (v) Wastewater which would cause the influent temperature to exceed 40°C (104°F), unless the system is specifically designed to accommodate such discharge and the discharge is authorized by a permit under this chapter. In any case, any wastewater having a temperature which will interfere with the biological activity in the system is prohibited.
- (vi) Any waste materials, including oxygen demanding waste materials (BOD, etc.), released in either a slug load or continuous discharge of such volume or strength as to cause interference to the system.
- (vii) Any of the following discharges unless approved by the department under extraordinary circumstances, such as lack of direct discharge alternatives due to combined sewer service or need to augment sewage flows due to septic conditions:
 - (A) Noncontact cooling water in significant volumes.
 - (B) Storm water, and other direct inflow sources.
 - (C) Wastewaters significantly affecting system hydraulic loading, which do not require treatment or would not be afforded a significant degree of treatment by the system.
- (viii) Products such as: paper towels, shop towels, flushable wipes, feminine products, refuse, facial tissues, food/chewing gum, and medications. (Chemicals in common household products used in moderate amounts are exempt from the provisions of this subsection.)
- For repairs/replacement of sanitary water piping within a facility, primary contact with the Water Purveyor is required to ensure all proper disinfection standards are met per the Uniform Plumbing Code. This will ensure safety of water systems within the facilities as well as protect the overall distribution system.
- Contact MSA W&SU in order to request MSA W&SU surveillances.
- Provide funding to conduct the requested surveillances performed inside the WRPS facilities and up to the demarcation point.
- Contact MSA W&SU to provide surveillance criteria and interval requirements, facility contacts, access and facility-specific information (i.e., hazards, limited access areas, and required personal protection equipment).

NOTE: MSA W&SU maintains Radiation Worker I training for its employees. Service manpower for support can become limited at times and will be provided on a priority basis.

2.2 OUTAGES/FACILITY SUPPORT

2.2.1 MSA Engineering Support

- W&SU and Hanford Fire Department must approve the Non-emergency Hydrant Tie-In Permits for any non-emergency tie-ins to fire hydrants.

- W&SU must approve the backflow prevention assemblies or air gaps for any tie-ins to the potable and raw water systems. This approval shall be granted prior to any tie-ins that require backflow prevention strategies or assemblies.

2.2.2 MSA Water and Sewer Utilities Operations

- Provide notification of unplanned water or sewer outages (leaks, etc.) to WRPS POC (provided in Section 7.0 of this document) within 2 hours of the event, and develop a recovery plan within 24 hours, unless otherwise mutually agreed upon. The plan will include a schedule for return of water or sanitary sewer service to the facility.

NOTE: If the repair is declared Emergent by the MSA W&SU Operation Manager, then the recovery plan will be developed within 8 hours.

- Provide at least thirty days advanced notice for all planned outages (unless otherwise agreed upon) that could affect the following facilities/tank farms:
 - 242-A Evaporator
 - Effluent Treatment Facility (ETF)
 - C-Farm
 - A/AX Farms
 - AY Farm
 - 222-S Labs
 - 2704HV
 - 2750E
- Provide at least a 48 hour advanced notice for all planned outages for WRPS facilities (other than the facilities/tank farms mentioned immediately above).
- Provide facility support (i.e., isolations and flushes).
- Coordinate efforts between W&SU manager and a facility's manager.

2.2.3 WRPS Facility/Plant Manager

- Contact MSA W&SU management for resolution of unacceptable schedules for unplanned MSA W&SU outages.
- Provide MSA W&SU with at least thirty days advance notification unless otherwise agreed upon for requested support of planned operations (sluicing, etc.).
- Obtain a Nonemergency Hydrant Tie-In Permit from MSA W&SU for any tie-ins to fire hydrants as indicated in MSC-RD-FP-9717, *Fire Protection for Construction/Occupancy/Demolition Activities*, and TFC-ESHQ-FP-STD-01, *Fire Protection Standard*.
- Provide priority to Water & Sewer Utilities workers to access and work on their equipment physically located within WRPS facility boundaries.
- Install a backflow prevention assembly and/or air gap at any tie-ins to the potable or raw water systems.

2.3 COORDINATION OF CHANGES TO WRPS WATER OR SEWER DEMANDS

2.3.1 Service Requests

For Water and Sanitary Sewer Utilities service requests, WRPS will prepare and submit a request using the on-line Service Catalog under MSA's web page on the Hanford Intranet when new or additional services, or modifications to existing services are needed.

2.3.2 New WRPS Facilities

New water distribution, sanitary sewer collection and utilization facilities are brought online by coordinated efforts between MSA W&SU and WRPS. Following identification of a need and funding, MSA W&SU and the Hanford Fire Marshal's Office will participate as part of the WRPS project team in the design, testing, and turnover process. The WRPS project team procures equipment and provides the labor to build the facility. The WRPS project startup team tests the equipment and verifies its readiness to be placed into service, at which time the equipment is then turned over to MSA W&SU. MSA W&SU may require system or component upgrades that are compliant with current regulations prior to accepting any systems, facilities, or components. Following turnover, MSA W&SU assumes responsibility for operation and maintenance of water and sanitary sewer utility components and equipment up to and including the demarcation point. WRPS assumes responsibility for operation and maintenance of water distribution and sanitary sewer equipment and components that are within the WRPS facility up to the demarcation point.

2.3.3 Changes in Water Distribution and Sanitary Sewer Needs/Demands

Provide forecasted annual potable water usage to MSA during annual data call. Ensure population forecasts are current in HNF-63233. It is presumed that there will be times when WRPS water flow demands and pressure requirements will change, or population figures will change. Upon such changes, WRPS will notify MSA W&SU, and the two will work cooperatively to resolve any issues to meet the new demands.

3.0 REQUIREMENTS

3.1 WATER QUALITY

3.1.1 Raw Water - The existing Raw Water System does not provide any filtration or other treatment of the water. It is assumed that conditioning will be provided on a case-by-case basis, with appropriate filtering systems provided by the end users. Prior to installation of any water treatment device or technology, end users shall notify W&SU so the treatment device can be documented and tracked by W&SU.

3.1.2 Potable Water - Potable water is provided to WRPS facilities via a separate distribution system originating at the 283-W Water Treatment Facility located in the 200 West Area. Water quality is in accordance with the state regulatory requirements provided in Chapter 246-290 WAC, "Public Water Systems." Potable water shall be tested at WRPS facilities in accordance with regulatory requirements as outlined in W&SU Water Compliance Monitoring Program Plans. Prior to installation of any water treatment device or technology, end users shall notify W&SU so the treatment device can be documented and tracked by W&SU.

3.2 WATER FLOW REQUIREMENTS

WRPS projected raw water flow requirements during Waste Feed Delivery (WFD) Phase 1 activities are presented in Attachment 1 for the 200 East Area and 200 West Area. Raw water is provided through permanent connections and via hydrants, dependent on facility location. All peak flows can be achieved individually and are evaluated collectively based on customer requirements.

Building 6241-V (Cross Site Transfer Line Vent Station) and other WRPS facilities in the 600 Area are not included in Attachment 1. Building 6241-V has a peak demand of 80 gpm for building wash-down as provided in drawing H-2-822370 (serviced from a hydrant or water truck).

Note(s):

1. Consistent with current WRPS activities, static water pressure of 110 psig (at the pump station) is estimated to be sufficient).
2. All peak flows can be achieved individually, but not collectively, due to system constraints. See Section 6.0 Issues statement.

Waste Retrieval from SSTs and DSTs (A, AY, AX, AZ, AN, AW, AP, B, BX, BY, C, S, SX, SY T, TX, TY, and U Tank Farms) will be performed using processes that are unique to the waste content in the tanks. Retrieval techniques have widely varying raw water utilization rates from very low demand vacuum retrieval to sluicing retrieval. Estimates included in Attachment 1 are based on projected sluicing operations.

Service showers and eyewash stations require minimum flow capacities of 20 gpm and 0.4 gpm each, respectively, for a minimum duration of 15 minutes. Personnel increases are expected to cause an additional 20% rise in potable water usage. A breakdown of estimated potable water by farm or complex is not available. The LAWPS facility uses potable water instead of raw water for its process. This potable water use is projected to be 60 gpm for both process and sanitary needs from 2017-2031.

4.0 INTERFACE DESCRIPTION

The physical interface points that separate the MSA W&SU systems from WRPS systems are listed in Table 1, otherwise the following default definition applies:

- The water system interface point is the first off valve (demarcation valve) from the main distribution line to the facility/plant or complex of facilities owned by the same contractor. The first off valve is part of the W&SU system. Where multiple facilities are fed by a single demarcation valve, the serviced facilities shall establish responsibilities and interfaces downstream of that valve.
- As per the definition in WAC 246-272B-01100(6), “*Building Sewer*”, means that part of the horizontal piping of a drainage system extending from the building drain, which collects sewage from all the drainage pipes inside a building, to an OSS. It begins two feet outside the building wall and conveys sewage from the building drain to the remaining portions of the OSS.” Accordingly, the sanitary sewer system interface point will begin at the building sewer, two feet outside the building wall.

MSA W&SU water distribution consists of five water distribution systems:

- Export Water from 100B and 100D.
- 200 East Area Raw Water (see drawing H-2-830461).

- 200 West Area Raw Water (see drawing H-2-830463).
- 200 East Area Potable Water (see drawing H-2-830460).
- 200 West Area Potable Water (see drawing H-2-830462).
- For any facility not specifically listed, the first off-valve from the main distribution line to outside that plant/facility or complex shall be considered the default point of demarcation.

Table 1. Water System Interface between the WRPS Tank Operations systems and the MSA W&SU Site Infrastructure.

WRPS Facility/Building/Complex	Demarcation Valves – Raw Water	Demarcation Valves – Potable Water
2704HV	686R, 688R	523S
2704 Trailer Complex	n/a	800S
272AW	142R	199S
278AW	n/a	266S
274AW	167R	269S
2750E	n/a	178S, 179S, 177S, 171S, 529S, 205S, 206S, 436S
2752E	n/a	204S
2101HV	91R	n/a
MO 850	n/a	546S
242A	117R*, 123R	168S
A-Complex and AN Farm, 160r, 338R	235R, 153R, 154R, 219R, 331R	n/a
AW Farm	n/a	n/a
AP Farm	232R	n/a
B/BX/BY Farms	n/a	n/a
C Farms	211R	n/a
ETF (2025E)	194R, 195R	322S, 294S
LAWPS	FP-VLV-001, FP-VLV-005	TBD
T/TX/TY Farms	n/a	n/a
U Farm	n/a	n/a
S/SX Farms	n/a	n/a
242S	64R, 66R	565S
SY Farm	Service water pit edge BFP	n/a
222-S Laboratory	The First off Valve from water main to each facility, identified on the above drawings	The First off valve from water main to each facility, identified on the above drawings

*Valve 117R at the 242-A Evaporator is owned by MSA but may be isolated by WRPS for maintenance and Emergency Response.

5.0 CONFIGURATION MANAGEMENT

The signatures on the cover page of this document indicate agreement between the parties that this document reflects the current technical design requirements baseline for the system described herein and that the responsibilities and technical requirements contained in this document will not be revised without the agreement of MSA W&SU and WRPS.

6.0 ISSUES

6.1 RELIABILITY OF RAW WATER PRESSURE AND FLOW

The L-778 Plateau Water Project was conducted by MSA to test system flows and pressures to determine the raw water system reliability. The results were released in April 2013 as document HNF-54762, Rev. 0, *Letter Report Hydraulic Analysis: 200E/W Potable Water Systems Fire Protection Supply*, and is available via the Integrated Document Management System for reference use.

7.0 POINTS OF CONTACT

In accordance with the MOA between MSA and WRPS, any issues that arise in regard to this service and ICD shall be handled accordingly, beginning at the technical points of contact, as follows:

For Technical questions or issues concerning this AGREEMENT:

Point of Contact: MSA – Jonathan B. Kon (W&SU) @ 373-5366
WRPS – Jeff H. Flora (CSE) @ 373-7387

For Unplanned Outage Notifications:

Point of Contact: WRPS Tank Farm Office @ 373-2689 or email at ^Tank Farms Shift Operations
ETF Outage Point of Contact: WRPS – ETF Shift Operations Manager @ 373-9000
222-S Labs Point of Contact: WRPS – Dayshift 373-2432, Nightshift 373-2435

Interface Management Contacts:

For issues or modifications to this AGREEMENT:
Point of Contact: MSA – Dan L. Sours @ 372-1324
WRPS - Jeff S. Van Meighem @ 373-7333

8.0 DEFINITIONS

Potable (or Sanitary) Water: Water that is free from impurities present in amounts to cause disease or harmful physiological effects and that is safe for human consumption. Potable water conforms to the requirements of Washington State Department of Health water standards. Potable water is also designated as "Sanitary Water" in some Hanford supporting documents and drawings.

Raw Water: Water that may be chemically, biologically, or otherwise contaminated with impurities in amounts sufficient to constitute a health hazard if consumed.

Process Water: Water that is downstream of a backflow prevention assembly within a facility or process that can be raw water or potable water.

Service Water: Water that is downstream of a backflow prevention assembly (can be raw water or potable water).

Water Purveyor: The individual, who designated by the Authorized Agent to develop and implement all programs required by federal and state drinking water laws, perform oversight activities to ensure production and distribution system compliance, perform tasks identified within the Washington Administrative Code (WAC Chapter 246-290) as being the responsibility of the Water Purveyor.

Sanitary Sewer: The system of underground pipes that carries sewage from bathrooms, sinks, kitchens, and other plumbing components to a wastewater treatment system.

Building Sewer: The part of the horizontal piping of a drainage system extending from the building drain, which collects sewage from all the drainage pipes inside a building, to an OSS/LOSS/HTSS or collection system. It begins two feet outside the building wall and conveys sewage from the building drain to the remaining portions of the OSS/LOSS/HTSS or collection system.

Sewage: Any urine, feces, and the water carrying human wastes, including kitchen, bath, and laundry wastes from, buildings, industrial establishments or other places.

9.0 REFERENCES

24590-WTP-ICD-MG-O1-001, ICD 01 - Interface Control Document for Raw Water, Bechtel Hanford, Inc., Richland, Washington

24590-WTP-ICD-MG-O1-002, ICD 02 - Interface Control Document for Potable Water, Bechtel Hanford, Inc., Richland, Washington

DE-AC06-09RL14728, Mission Support Contract

DE-AC27-08RV14800, Tank Operations Contract

ENS-ENG-IP-05, Fire Protection Program

Hanford Site Drawings:

- H-2-830460, Site Map Potable Water System 200 East, Sheets 1-15
- H-2-830461, Site Map Raw Water System 200 East, Sheets 1-15
- H-2-830462, Site Map Potable Water System 200 West, Sheets 1-19
- H-2-830463, Site Map Raw Water System 200 West, Sheets 1-19

HNF-5828, *MSA Water System Master Plan*

HNF-6612, *MSA Sanitary Sewer Master Plan*

HNF-63233, *Hanford Site Population Projections for Fiscal Years 2019 through 2029.*

HNF-SD-WM-SP-012, *Tank Farm Contractor Operation and Utilization Plan*, CH2M HILL Hanford Group Inc., Richland, Washington

HNF-SD-W049H-ICD-001, 200 Area Treated Effluent Disposal Facility Interface Control Document

MOA-00001, Memorandum of Agreement between MSA, LLC. and WRPS LLC

MSC-PRO-WC-12115, *Work Management*, MSA

MSC-PRO-WS-14566, *Infrastructure /Water Utilities Furnished Services*, MSA

MSC-RD-FM-10361, *Controlling Cross Connections*, MSA

MSC-RD-FP-7899, *Fire Protection System Testing/Inspection/Maintenance/Deficiencies*, MSA

MSC-RD-FP-9717, *Fire Protection for Construction/Occupancy/Demolition Activities*, MSA

RPP-5227, Waste Feed Delivery Raw Water, Potable Water, and Compressed Air Capacity Evaluation

Service Delivery Document #42, Water Systems, MSA

Service Delivery Document #43, Sewer Systems, MSA

TFC-ESHQ-FP-STD-01, *Fire Protection Standard*, WRPS

WAC 246-272A, *On-site Sewage Systems*

WAC 246-272B, *Large On-site Sewage System Regulations*

WAC 246-290, Washington Administrative Code, "Public Water Systems," as amended

WAC 246-290-490, *Cross Connection Control*

WAC 173-216, *State Waste Discharge program*

WAC 173-200, *Water Quality standards for ground waters of the State Of Washington*

WAC 173-221, *Discharge standards and effluent limits for domestic wastewater facilities*

Attachment 1: Forecasted Water Flow Demands (Updated May 2020)

Major Facility or Process Operation	Potable or Raw Water	Normal Demand (GPM)	Normal Demand Duration	Peak Demand (GPM)	Peak Demand Duration	Assumptions Made	Source Documentation
A Complex and AN Farm	Raw	40	24/7 during safe storage 2020-2035	1140	Flushing/Dilution activities in 2020 through 2026, 4 hour batches, two batches per week Sluicing activities in 2020 - 2026	Note a Note b Note c Note e Note f	References 1, 3
AW Farm	Raw	20	24/7 during safe storage 2020-2035	540	Flushing/Dilution activities in 2020 through 2035, 4 hour batches, two batches per week	Note a Note b Note e	Reference 1, 3
AP Farm	Raw	20	24/7 during safe storage 2020-2035	540	Flushing/Dilution activities in 2020 through 2035, 4 hour batches, two batches per week	Note a Note b Note e Note g	Reference 1, 3
B, BX, BY Farm	Raw	20	24/7 during safe storage 2020-2035	700	Flushing/Dilution activities in 2034 through 2035, 4 hour batches, two batches per week Sluicing activities in 2034 through 2035	Note a Note b Note c Note e Note f	References 1, 2
C Farm	Raw	65	24/7 during safe storage 2020-2035		Planned sluicing has been completed. Remaining activities, 2021-2023, are low demand or utilize outside sources.	Note e	Reference 1
ETF	Raw			50	2020 – 2035	Does not include Fire Suppression	Reference 1
242-A Evaporator	Raw	10 - 500	24/7 standby mode 2020-2035	3000	Evaporator campaigns, 24/7 flow for 45 day duration per campaign 2022 through 2035.	During standby operation, demand is approximately 500 gal/min for vessel fill, flushing operations, and wash-downs Does not include Fire Suppression	Reference 1, 3
TWCSF	Raw	100	Construction 2025-2032 Operation 2032-2035	320	Flushing/Dilution activities in 2032 through 2035, 4 hour batches, two batches per week	Note a Note b Safe storage water use is assumed to support water additions and tank to tank transfers with TWCSF Does not include Fire Suppression	References 1, 2
Balance of 200 East – Other facilities	Raw	20		100		Does not include Fire Suppression	Reference 1
T, TX, TY Farms	Raw	0	24/7 during safe storage 2020-2035		No sluicing activities planned until 2043.	Note d	References 1, 2

Major Facility or Process Operation	Potable or Raw Water	Normal Demand (GPM)	Normal Demand Duration	Peak Demand (GPM)	Peak Demand Duration	Assumptions Made	Source Documentation
S, SX Farms	Raw	0	24/7 during safe storage 2020-2035	1140	Flushing/Dilution activities in 2027 through 2035, 4 hour batches, two batches per week Sluicing activities in 2027 through 2035	Note a Note b Note c Note e Note f	Reference 1, 2
SY Farms	Raw	0	24/7 during safe storage 2020-2035	540	Flushing/Dilution activities in 2024 through 2035, 4 hour batches, two batches per week	Note a Note b Note e	Reference 1, 2, 3
U Farm	Raw		24/7 during safe storage 2020-2035	0	2020-2035	Note d	References 1, 2
222-S Laboratory	Raw			20		The 222-S Laboratory uses minimal raw water, and the raw water flow rate is assumed to include some utilization potential for wash-down Does not include Fire Suppression	Reference 1
Balance of 200 Waste – Other facilities	Raw	30		80		Does not include Fire Suppression	Reference 1

General Notes:

- a. Flushing/Dilution activities remain on schedule according to project schedule.
- b. Flushing/Dilution flow rate assumed to be a maximum of 220 gpm per activity with two simultaneous activities.
- c. Sluicing flow rate is assumed to be 350 gpm per activity with two simultaneous activities.
- d. No safe storage water usage for tank farms with no current water connection.
- e. Safe storage activities are those related to non-retrieval and non-WFD transfers (e.g., supernatant), and other miscellaneous uses.
- f. Maximum flow rate anticipated from two concurrent activities (sluicing or post-transfer flushes) during SST retrieval. With constraints on the number of simultaneous retrievals, the raw water for two sluicing operations and for two transfer flushes and/or two dilutions are highly unlikely to be required for two simultaneous sluicing operation.
- g. TSCR operations will start in 2021, but no additional demand will be added to AP-Farm water supply. TSCR will only utilize potable water supplied by MSA via tanker trucks.

References

- 1. RPP-5227, Rev 2, Waste Feed Delivery Raw Water, Potable Water and Compressed Air Capacity Evaluation.
- 2. MR-50461, 2019 Flowsheet Integration Joint Scenarios.
- 3. RPP-PLAN-63778, WRPS Multi-Year Operating Plan (MYOP), Revision 1 – FY2020-FY2022.