



CITY OF BEND
WATER SERVICES

Physical Security Standards for City of Bend Water Sites

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Background

The City of Bend is committed to safeguarding its public water supplies by aligning physical security practices with guidance and recommendations issued by the Environmental Protection Agency (EPA), American Water Works Association (AWWA), WaterISAC, the U.S. Department of Homeland Security (DHS), and the Oregon Department of Environmental Quality (DEQ).

Physical security is implemented using a layered, risk-based approach consistent with national water sector security principles. These practices support protection of public health, environmental quality, and service reliability.

Any deviation from these standards must be documented and approved by the responsible Water Services Manager and the Director of Water Services.

Site classifications and associated protection measures shall be reviewed periodically and updated as conditions, operations, infrastructure, or regulations change.

See **Appendix A** – EPA Compliance and Alignment Statement for federal regulatory context and documentation of consistency with EPA water sector guidance.

Classification of Critical Water Sites

Level 1 Sites

Level 1 sites present a low and localized risk to public health, system operations, and the environment in the event of unauthorized access, vandalism, or other malicious acts. These facilities shall be protected through Level 1 physical security measures as defined in this standard, consistent with a risk-based approach to water sector security.

Sites appropriate for Level 1 classification typically include stand-alone pump stations or similar assets that do not contain drinking water storage, groundwater wells, treatment processes, or on-site chemical storage. In addition, these sites do not serve critical system functions and are not located in proximity to sensitive populations, critical infrastructure, or environmentally sensitive resources, as demonstrated through a documented risk and consequence evaluation consistent with AWWA, EPA, and Department of Homeland Security water sector guidance.

Level 2 Sites

Level 2 sites are facilities where unauthorized access, vandalism, or malicious activity could significantly impact public health, water system reliability, environmental resources, or result in substantial financial loss. Factors influencing Level 2 designation include hazardous chemical storage, treatment processes, storage infrastructure, proximity to sensitive resources, or co-location with third-party infrastructure.

Level 2 sites shall be protected using enhanced security measures defined in this standard.

Refer to **Appendix A** for additional context regarding EPA risk-based asset classification expectations.

Security Standards for Level 1 Sites

Security Fence

Level 1 sites shall be enclosed with continuous perimeter fencing designed to deter unauthorized access. Fencing shall meet the following minimum requirements:

- Fully enclosed perimeter with no gaps.
- Minimum height: 6ft.
- Additional deterrent features (e.g., barbed or razor wire) applied based on site-specific risk.
- Galvanized chain-link fencing (minimum 9-gauge wire) with top rail.
- Posts set in concrete and spaced no more than 10ft on center.
- Gates of equivalent height and material, secured with hasp and padlock.
- Tamper-resistant hardware.
- Fire Department Knox Box mounted at or adjacent to the primary gate.

Landscaping

Landscaping shall maintain visibility, reduce concealment opportunities, and minimize wildfire risk:

- Interior clear zone up to 50ft where feasible.
- Fire-resistant, drought-tolerant plantings.
- Minimum of 5ft of defensible space is maintained around all structures.

Signage

Each site shall display:

- City of Bend facility identification with emergency contact information.
- Address signage compliant with Deschutes County requirements.
- "Restricted Access" signage spaced every 50ft along perimeter fence.
- Video surveillance notification signage where cameras are used spaced every 50ft along perimeter fence.

Exterior Lighting

Exterior lighting shall support safety and security while minimizing environmental and neighborhood impacts:

- Compliance with Bend Development Code and Oregon Energy Code.
- Illumination at gates, doors, building perimeters, and work areas.
- Target illumination consistent with applicable Oregon OSHA guidance where work tasks are performed.
- Color temperature must be 3000k or less to meet International Dark Sky certification requirements.

Security Standards for Level 2 Sites

All Level 1 requirements apply unless superseded below.

Security Fence

- Minimum fence height: 8ft (requires building department review).
- Chain-link fencing minimum 6-gauge wire.
- Required deterrent features (e.g., barbed, razor wire, or other) applied based to all sites unless agreed upon by Water Operations Manager.
- Vehicle pivot gates integrated with City access control systems.

Video Surveillance

Video surveillance at Level 2 sites supports post-incident investigation, deterrence, and operational awareness.

- Cameras are not continuously monitored by personnel.
- Minimum 1080p resolution at 30 fps.
- Infrared or low-light capability.
- Outdoor cameras rated minimum IP67.
- Coverage of gates, exterior doors, chlorine buildings, reservoir hatches, and ladders.
- Secure configuration and compliance with City cybersecurity and data management policies.

See **Appendix A** for EPA expectations related to physical security monitoring and surveillance practices.

Facility Doors

- Exterior security doors shall be heavy-duty steel, compliant with ASTM F476 Grade 40 and ANSI/NAAMM HMMA 862-03.
- Doors prepared for high-security hardware and electronic access control.
- Entry points covered by security cameras.

- Emergency egress compliant with applicable fire and building codes.
- Intrusion alarm system shall interface with the SCADA System to arm emergency exit doors.

All installations require Water Services Division Supervisor approval.

Appendix A – EPA Compliance and Alignment Statement

Purpose

This appendix documents how the *Physical Security Standards for City of Bend Water Sites* align with guidance, expectations, and recommended practices issued by the U.S. Environmental Protection Agency (EPA) for the Drinking Water and Water Sector. This appendix is intended to support internal governance, regulatory readiness, grant eligibility documentation, and audit activities.

Federal Regulatory Framework

The City of Bend Water Services operates under the Safe Drinking Water Act (SDWA) and applicable Oregon primacy implementation programs. While the SDWA does not prescribe specific physical security design standards, the EPA—acting as the Sector Risk Management Agency (SRMA) for the Water Sector—expects public water systems to take reasonable actions to protect drinking water infrastructure from intentional and unintentional contamination, service disruption, and damage.

EPA guidance relevant to physical security emphasizes:

- Risk-based decision making
- Layered protection (“defense in depth”)
- Protection of high-consequence assets
- Integration of physical, operational, and cyber controls

Applicable EPA Guidance and Resources

This standard aligns with, and was informed by, the following EPA documents and programs (or their successors):

- **Guidelines for the Physical Security of Water Utilities** (ASCE/AWWA/EPA, WISE Phase 3)
- **Water Sector Security Incident Action Checklists**

- **Surveillance and Response System (SRS) Guidance – Physical Security Monitoring**
- **National Infrastructure Protection Plan (NIPP) – Water Sector Annex**
- **EPA Water Sector Resilience and Emergency Preparedness Guidance**
- **WaterISAC–EPA Joint Security Advisories and Bulletins**

These resources are advisory in nature and do not create legally binding requirements; however, they represent EPA’s current expectations for reasonable and prudent water utility security practices.

Alignment Summary

City of Bend Standard Component	EPA Alignment
Risk-based site classification (Level 1 / Level 2)	Consistent with EPA’s risk-informed and asset-based security planning approach
Perimeter fencing and controlled access	Aligns with EPA guidance on exclusion of contamination and intrusion deterrence
Protection of treatment, storage, and chemical assets	Consistent with EPA high-consequence asset protection principles
Landscaping and defensible space	Supports EPA recommendations to reduce concealment and access aids
Exterior lighting	Aligns with EPA emphasis on deterrence, safety, and situational awareness
Video surveillance for Level 2 sites	Consistent with EPA Physical Security Monitoring guidance for recording and post-incident review
Access control and secured doors	Aligns with EPA expectations for limiting unauthorized access
Documentation, inspection, and maintenance	Consistent with EPA emphasis on sustainability and continuous improvement

Relationship to Sanitary Surveys and Significant Deficiencies

EPA guidance to state primacy agencies identifies unauthorized access, inadequate physical protection, and unsecured entry points as potential contributors to significant deficiencies identified during sanitary surveys.

Implementation of this Physical Security Standard supports:

- Proactive prevention of conditions that could be cited during sanitary surveys
- Demonstration of due diligence in protecting public health infrastructure
- Reduction of security-related corrective action findings

Emergency Preparedness and Resilience

Physical security controls established under this standard complement the City of Bend's:

- Emergency Response Plans
- Resilience planning activities
- Hazard mitigation strategies

EPA encourages water systems to integrate physical security controls into broader resilience and emergency preparedness frameworks rather than treating them as standalone measures.

Compliance Statement

Implementation of the *Physical Security Standards for City of Bend Water Sites* is intended to:

- Support compliance with Safe Drinking Water Act objectives
- Align with EPA water sector physical security expectations
- Demonstrate adoption of nationally recognized best practices
- Reduce risk to public health, environmental quality, and service continuity

Nothing in this standard is intended to conflict with EPA regulations, Oregon primacy requirements, or applicable state or local law. Where conflicts arise, applicable regulatory requirements shall govern.

Periodic Review

This appendix, along with the associated Physical Security Standard, should be reviewed periodically to reflect updates to EPA guidance, threat conditions, infrastructure changes, or operational needs.