Bull Run
TREATMENT
PROJECTS

Our water: Safe and abundant for generations to come

PORTLAND WATER BUREAU

Bull Run Filtration Project

Site Advisory Group

Facility Operations

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

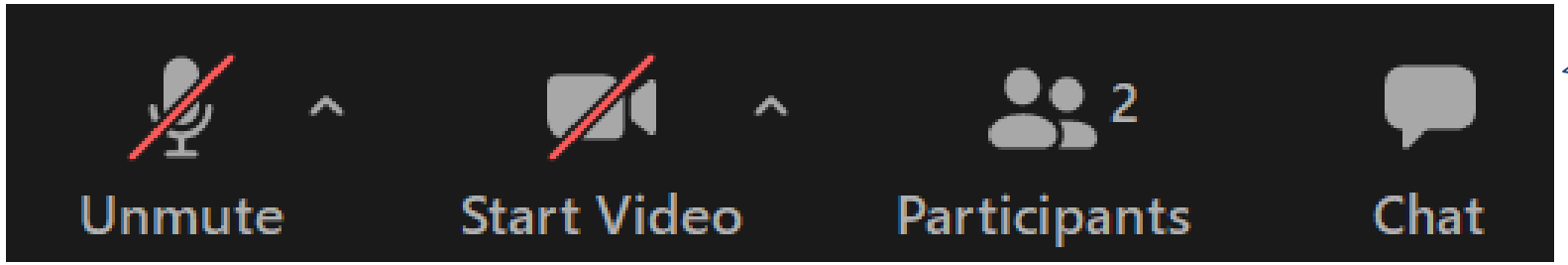
CITY OF PORTLAND, OREGON 1851

Agenda

1. Introductions
2. Project Update
3. Good Neighbor Agreement
4. Facility Operations
5. Site Advisor Discussion
6. Next Meeting

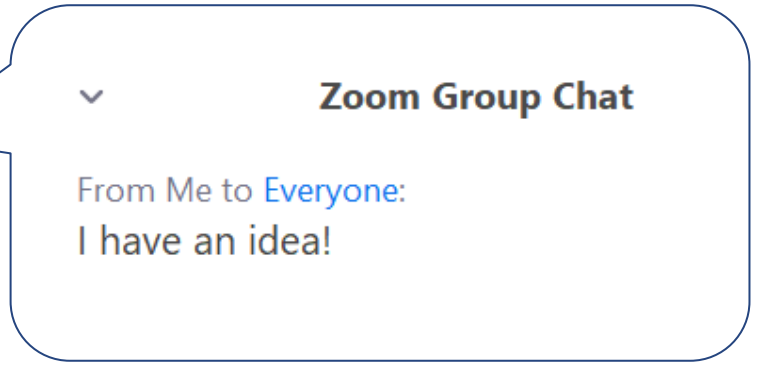
Conference call meeting tips

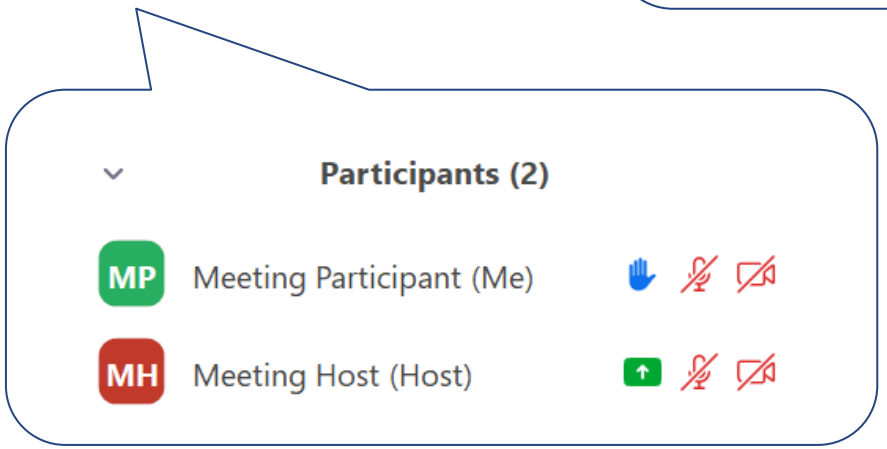
Using the Zoom tool bar, you can:



Mute/unmute your mic

Turn on/off your video





Recording

✓ We'll post the meeting recording on the website with a summary

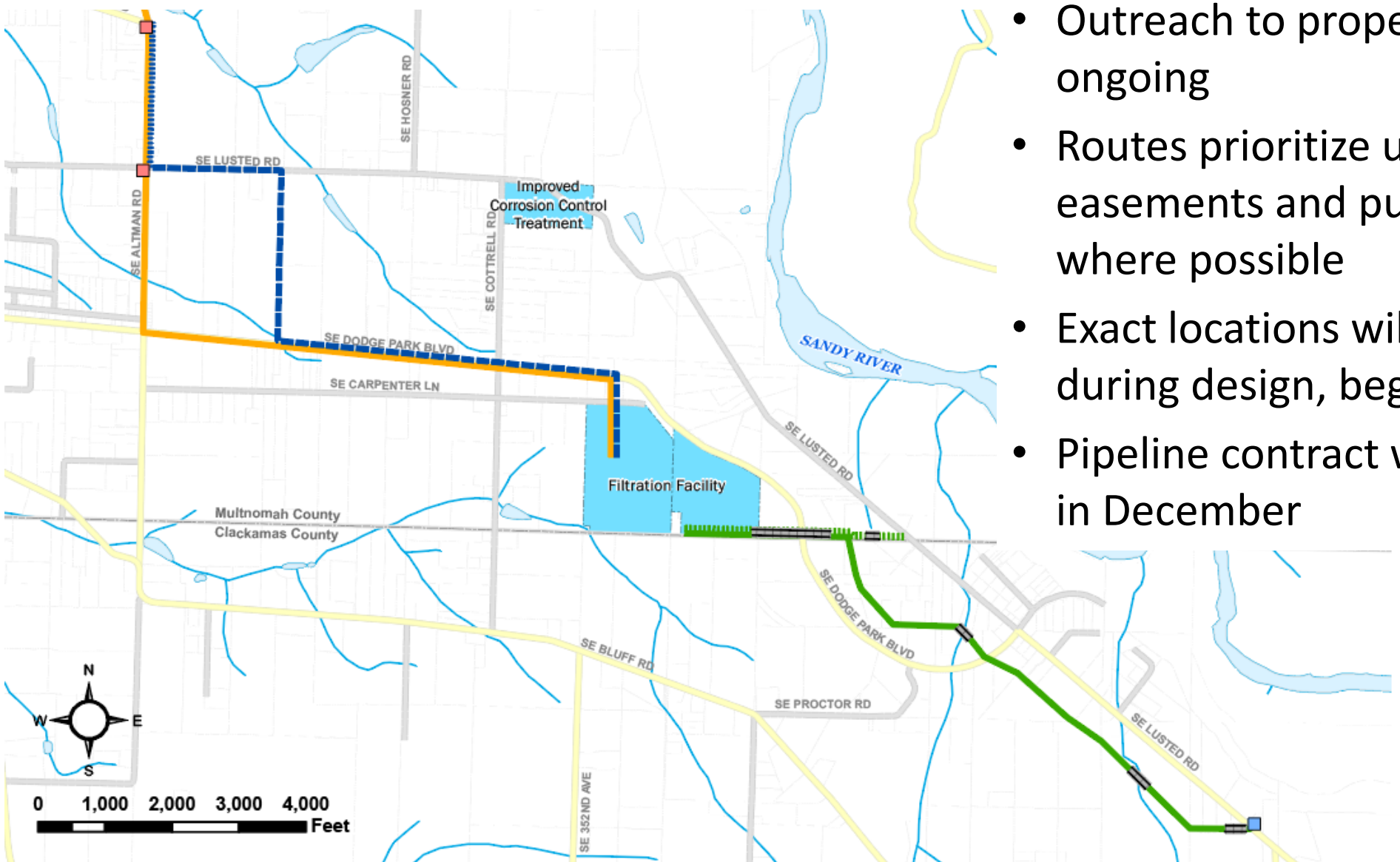
Who’s on the line?

- Introduce yourself
- What is your favorite holiday recipe?

Project Update

- Submitting Pilot Study Report and Project Definition Report to Oregon Health Authority to meet first major compliance milestone
- Nearing completion of WIFIA loan negotiation, which will provide low-cost, long-term federal financing for the Bull Run Treatment Projects

Identified preferred routes for new pipes



- Outreach to property owners is ongoing
- Routes prioritize use of existing easements and public rights-of-way where possible
- Exact locations will be determined during design, beginning 2021
- Pipeline contract will go to Council in December

Bull Run
TREATMENT
PROJECTS

Good Neighbor Agreement

Our commitment to neighbors

Examples of how the agreement will help guide the Bull Run Filtration Project include:

- **Design:** used by the designers to make sure the facility is well adapted to its rural setting and reflects suggestions from the Site Advisors
- **Construction:** followed by the contractor to minimize impacts during construction
- **Ongoing Operations:** followed by facility staff once construction is completed
- **Communications:** used by staff to keep neighbors informed and involved before, during, and after construction

Site Advisor feedback on topic organization

Proposed Topics

- Communications
- Facility Architectural Design
- Facility Lighting Design
- Facility Sound Design
- Site Landscape Design
- Stormwater Management
- Operational Safety
- Construction Safety

Site Advisor Interest Areas

- Pipelines
- Traffic and Access
- Safety and Security

Milestones to develop Good Neighbor Agreement

Nov. 12, 2020 Meeting	Facility Operations Topic & **Draft Design- and Communications-related Language**
Jan. 14, 2021 Meeting	Facility and Site Design Topic
Feb. 11, 2021 Meeting	Facility Construction Topic
Mar. 2021	**Draft Operations- and Construction-related Language**
Apr. 2021	**Community Feedback**
May 2021	**Final Good Neighbor Agreement**

Sample Language: Facility Architectural Design

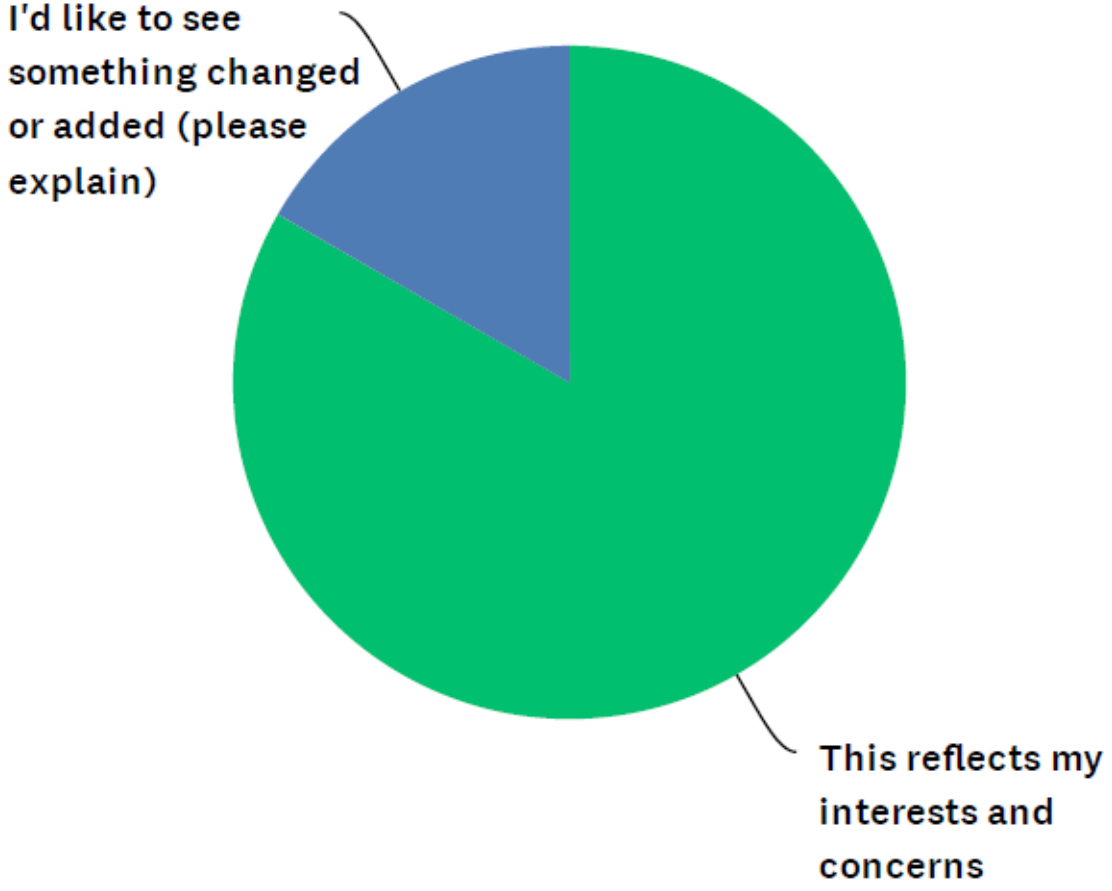
Design the filtration facility structures to be as unobtrusive as possible to neighboring properties and to be in keeping with the agricultural and rural nature of the local surroundings.

Strategies will include:

- ✓ Designing structures with a low profile wherever operationally feasible
- ✓ Using natural-looking building materials and finishes that have muted, earth tones to help integrate the facility with the surrounding landscape
- ✓ Using design attributes of the agrarian and Pacific Northwest architectural styles to help the facility fit in with the surrounding community
- ✓ Fencing the minimum area needed for facility security and, where possible, using landforms and landscaping to help screen security fencing

Site Advisor Feedback: Architectural Design

Answered: 6 Skipped: 0



Requested change/addition:

"Remove the cell tower and visitor center aspects."

Sample Language: Facility Lighting Design

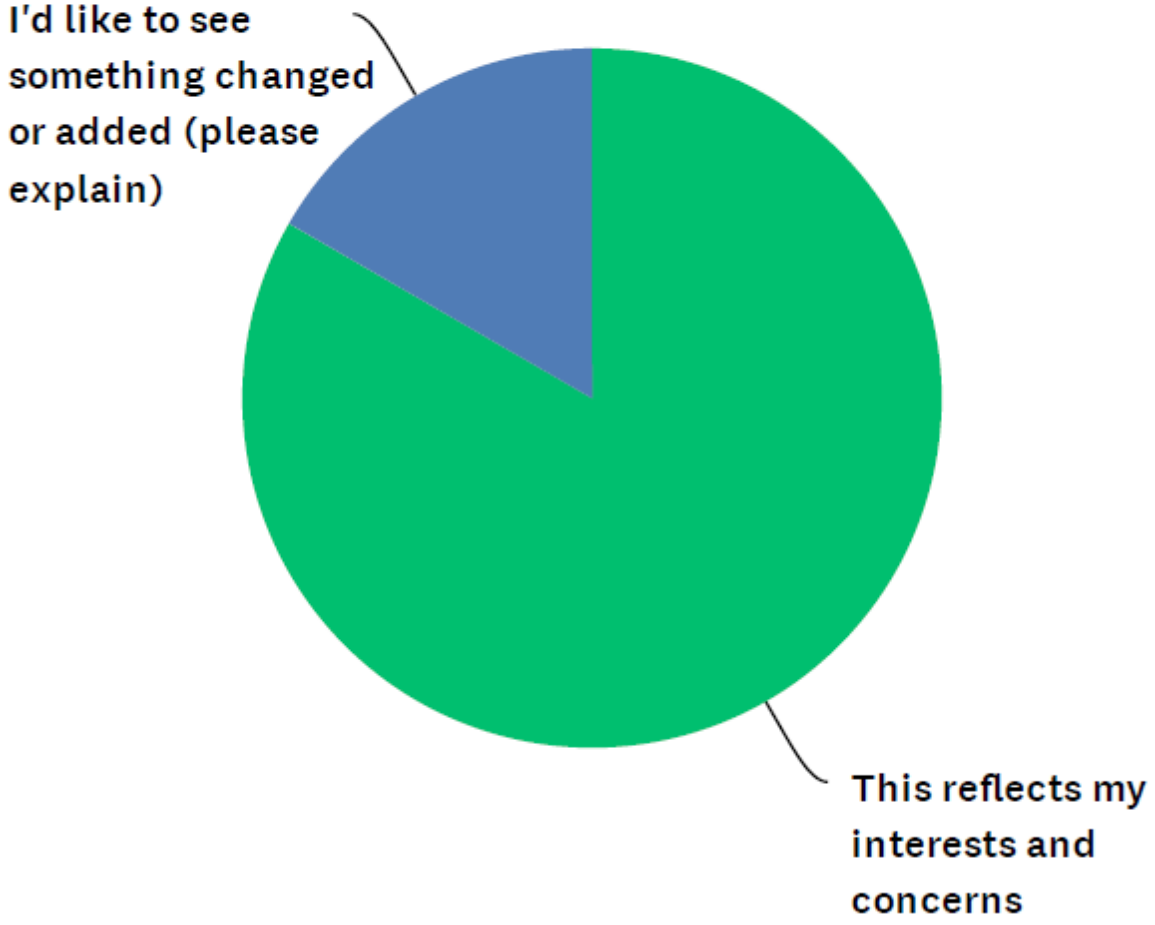
Use design best practices to help shield the filtration facility lighting at the source and minimize night-time impacts to neighboring properties and wildlife. The facility lighting will be designed to comply with Multnomah County's applicable lighting standards.

Strategies will include:

- ✓ Designing lighting levels to be no brighter than necessary for operational safety and facility security around and within the facility
- ✓ Limiting exterior lighting to areas where needed for operational safety and facility security and using fully shielded fixtures that direct light downwards
- ✓ Using separate modes of lighting for regular operation and for safety and emergency scenarios
- ✓ Leveraging use of landforms and landscaping at site edges where possible to help shield facility lighting

Site Advisor Feedback: Lighting Design

Answered: 6 Skipped: 0



Requested change/addition:

"This language is ambiguous and has no clearly defined level of brightness. Needs to have a lumens requirement with a maximum visible distance."

Sample Language: Facility Sound Design

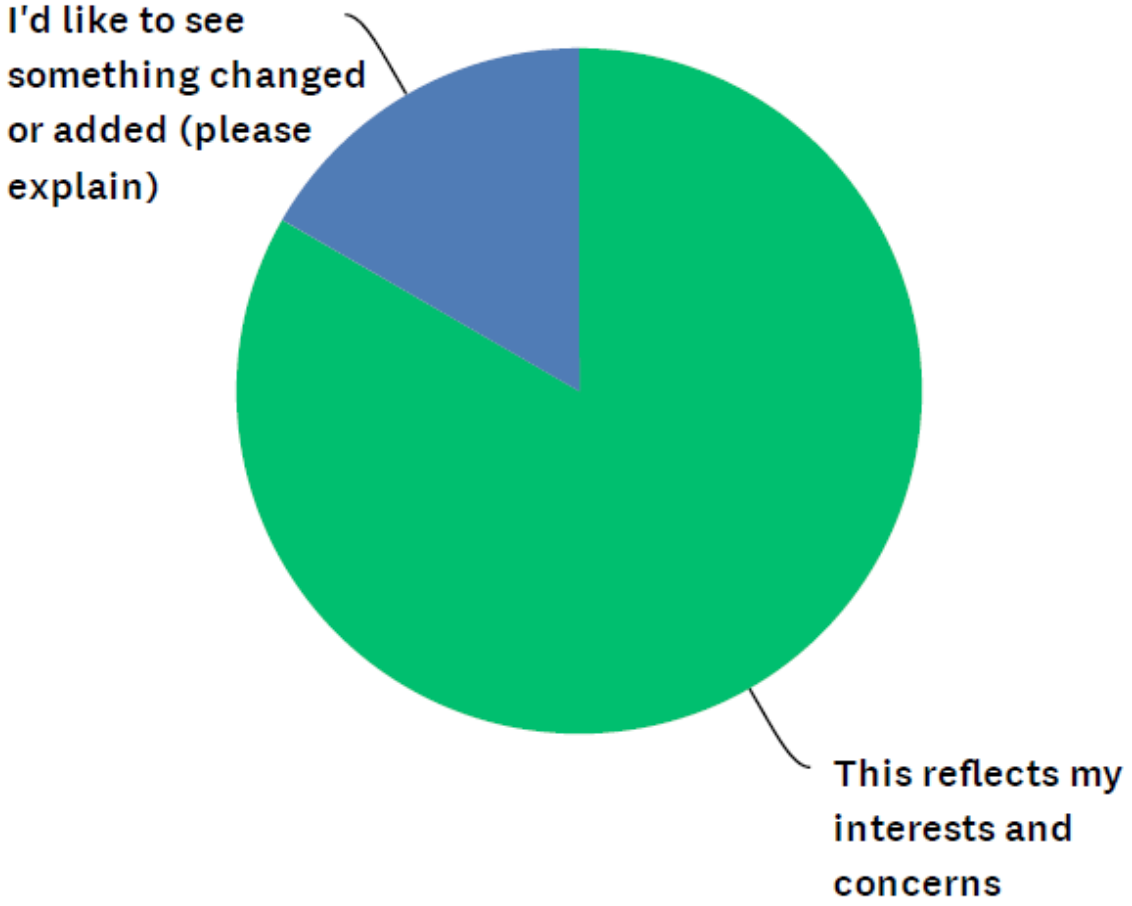
Use various noise-limiting design measures to help reduce off-site sound impacts from the filtration facility. The facility will be designed to comply with applicable Multnomah County and Clackamas County sound standards.

Strategies will include:

- ✓ Enclosing pumps, electrical, and mechanical equipment and locating facility processes within buildings or enclosures where possible to reduce potential off-site noise impacts
- ✓ Leveraging use of landforms and landscaping where possible to help block sounds

Site Advisor Feedback: Sound Design

Answered: 6 Skipped: 0



Requested change/addition:

"Declare maximum sound levels and at what distance."

Sample Language: Site Landscape Design

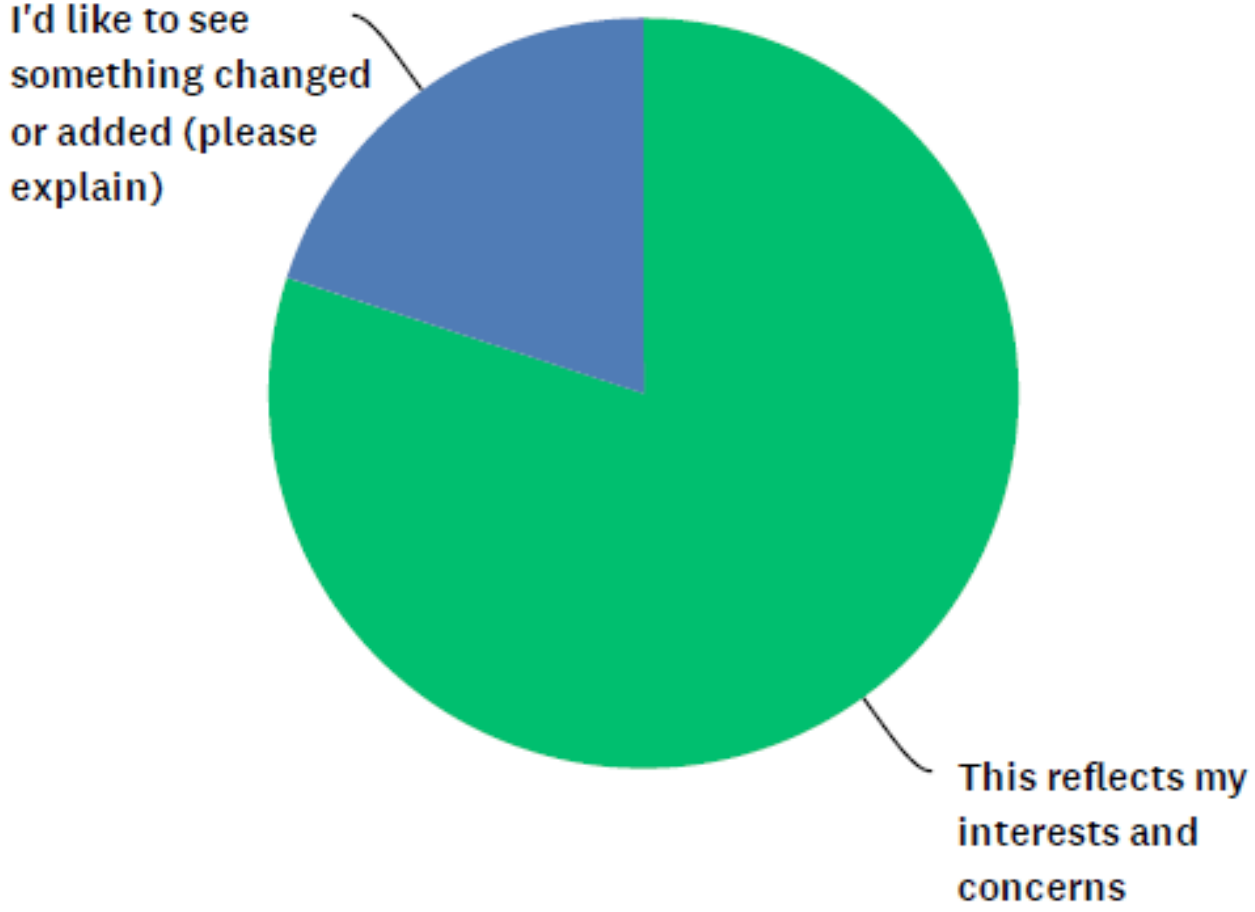
Use various landscaping design strategies to help buffer and screen views of the filtration facility from neighboring properties.

Strategies will include:

- ✓ Designing landscape buffers that provide habitat for wildlife
- ✓ Using native forest with plant understory and meadow with stands of native trees to help buffer the facility from neighboring properties
- ✓ Leveraging best practices to reduce fire risk and irrigation and maintenance needs for landscaping near the facility process areas

Site Advisor Feedback: Landscape Design

Answered: 5 Skipped: 1



Requested change/addition:

"Leveraging best practices' is vague and not specific enough to determine is it is appropriate language."

Sample Language: Site Stormwater Management

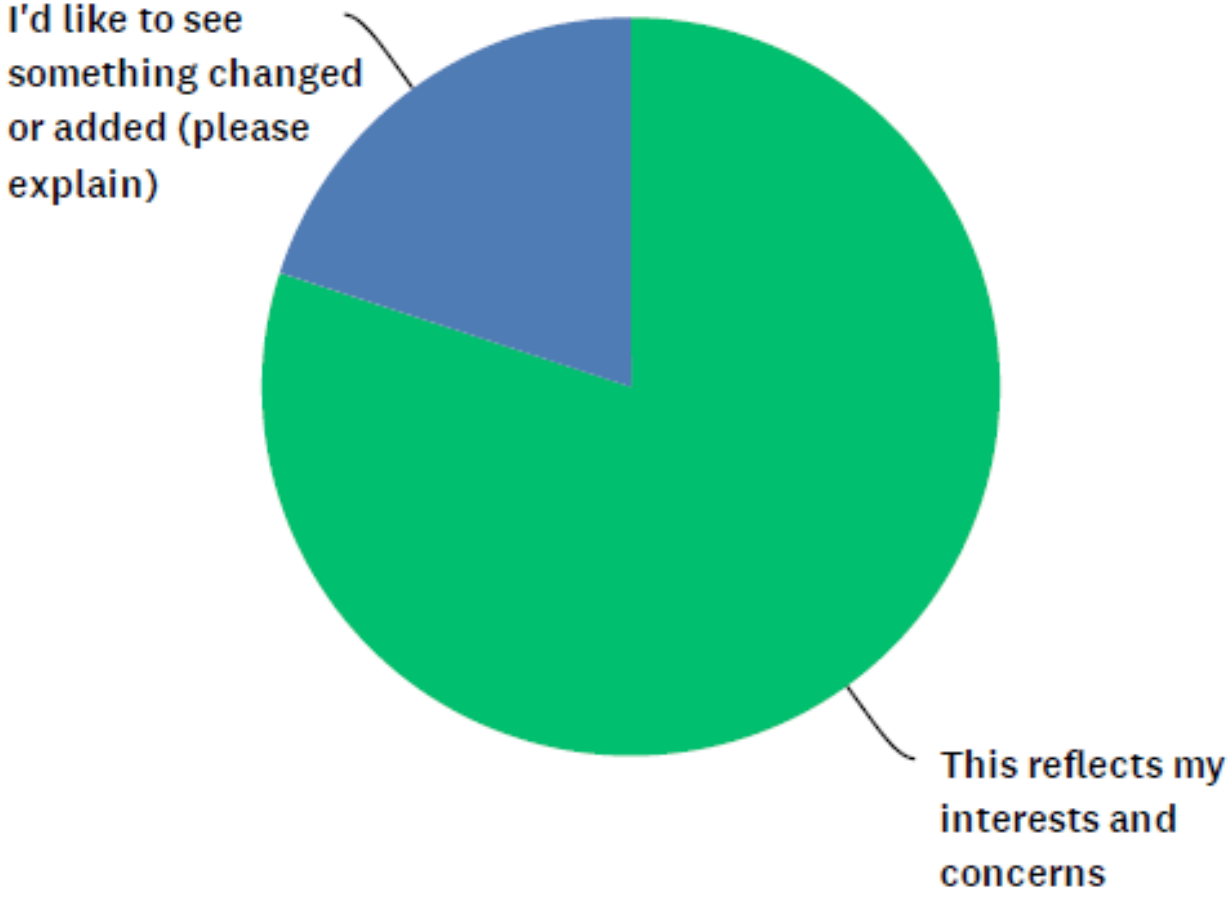
Incorporate stormwater management strategies into the facility and site design so that stormwater flows match existing conditions.

Strategies will include:

- ✓ Working with site neighbors to develop a better understanding of current stormwater conditions and how water leaves the site
- ✓ Using stormwater basins or ponds on or near the site low points to manage runoff during large events
- ✓ Creating ways for stormwater to evaporate or infiltrate on site, including using swales to manage stormwater near the source and planting vegetated buffer areas

Site Advisor Feedback: Stormwater

Answered: 5 Skipped: 1



Requested change/addition:

"I need more explanation. Can you provide that Thursday? Also, how does this storm water affect Johnson Creek?"

Sample Language: Communications

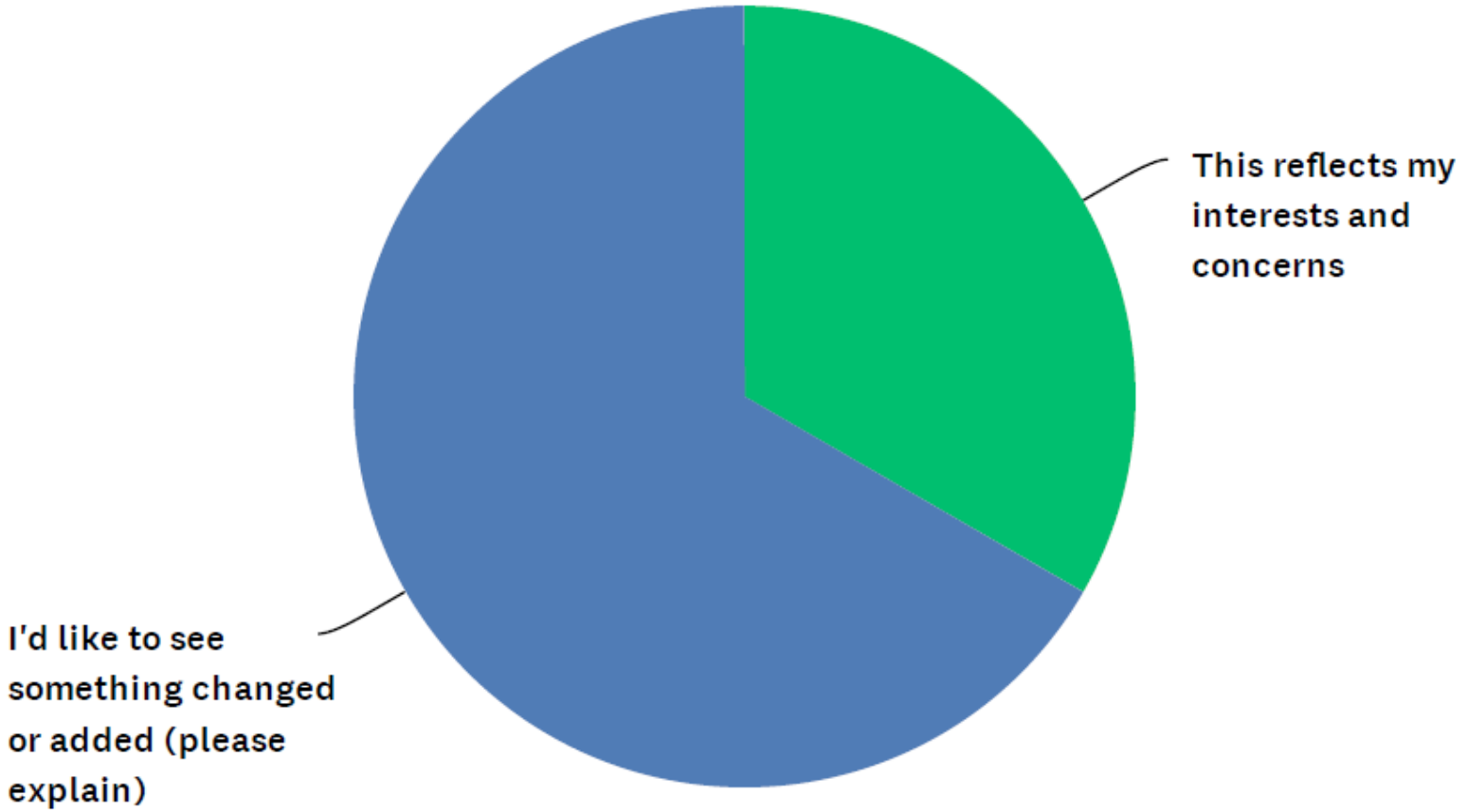
Commit to maintaining ongoing two-way communications with facility site neighbors throughout the life of the project to identify opportunities and resolve concerns.

Strategies will include:

- ✓ Providing regular project updates through the Bull Run Treatment Project e-newsletter
- ✓ Providing in-person or virtual informational updates and opportunities for discussion to Site Advisors either quarterly throughout design or at key design milestones
- ✓ Dedicating a communications lead throughout the life of the project, who will respond to emails or phone calls within two business days
- ✓ Maintaining up-to-date information on the project website (portland.gov/bullrunprojects)

Site Advisor Feedback: Communications

Answered: 6 Skipped: 0



Site Advisor Feedback: Communications

- *"We are assuming that dedicated to communications throughout the life of the project includes even after completion."*
- *"Quarterly seems too long a time frame. The addition of a 6-month notification prior to road/ traffic disruption due to pipeline construction. Scheduling of pipeline construction with awareness of local business needs directly along construction pathways."*
- *"Prior visitations and communications with both businesses and neighbors who may be directly impacted."*
- *"Public Portland outreach for any changes to the plans or budget."*
- *"Providing us with information is good but will our comments actually effect any changes to the project?"*

Bull Run
TREATMENT
PROJECTS

Facility Operations

Site Advisor questions

- What will we notice during the day? What about at night?
- What treatment chemicals will be used? How will safety be addressed?
- Is there a plan for emergencies?
- What type of waste is produced during treatment? Where will that go?
- What is the planned staffing at the facility?
- How will the site be accessed? What will security look like?
- Can deliveries be limited to weekday hours?
- What will public tours look like?

What will we notice during the day? At night?

Wilsonville Water Treatment Facility Tour

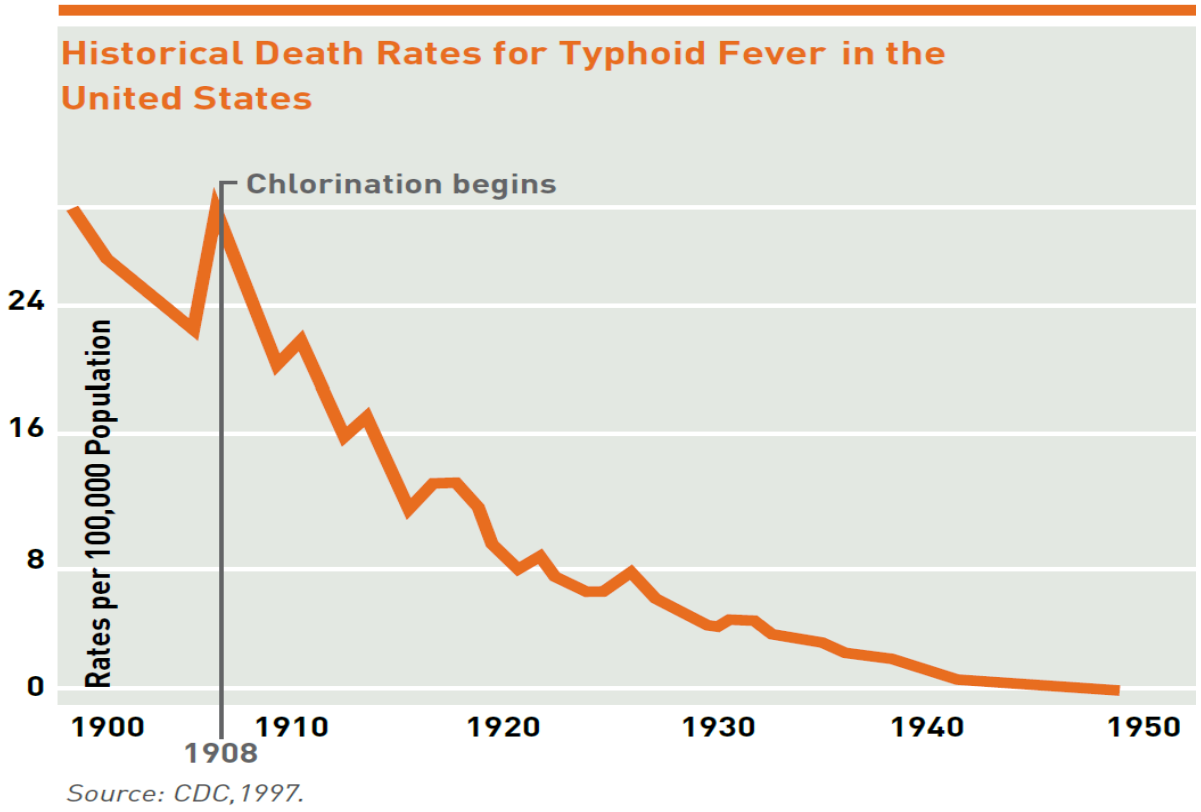
Joint Water Commission Water Treatment Facility Tour

What treatment chemicals will be used? How will safety be addressed?

Wilsonville Water Treatment Facility Tour

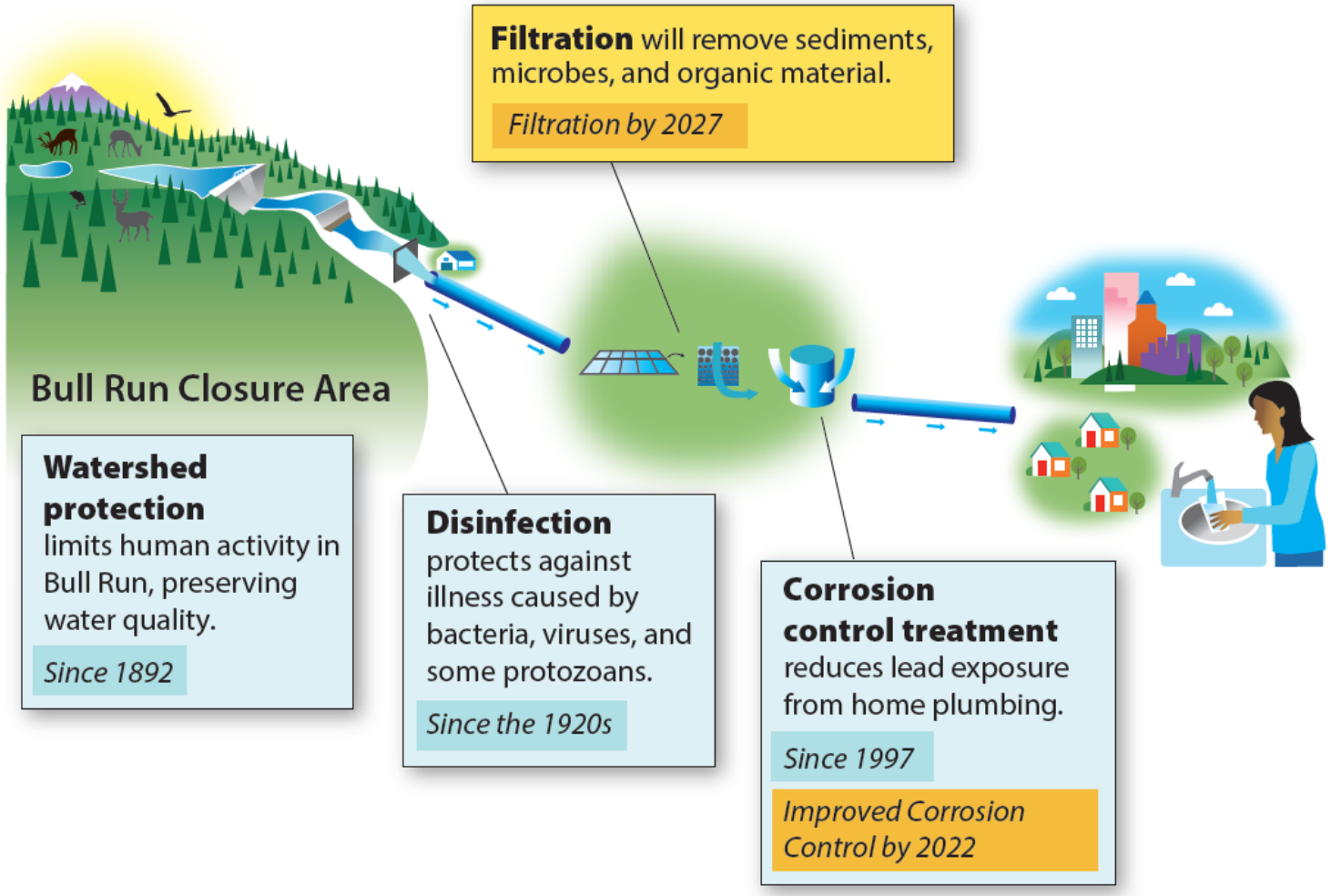
Water treatment has a history of saving lives

- Using chlorine to kill disease-causing microorganisms and safeguard drinking water supplies is one of the world's greatest public health accomplishments
- Adding chlorine disinfectant to our drinking water in 1929 nearly eliminated waterborne disease outbreaks



Treatment changes will produce cleaner, safer drinking water

- Improvements will help meet national safe drinking water standards
- Treatment process will use proven treatment methods and only chemicals certified as safe for drinking water
- Drinking water quality will be routinely tested and monitored to make sure it meets the highest standards

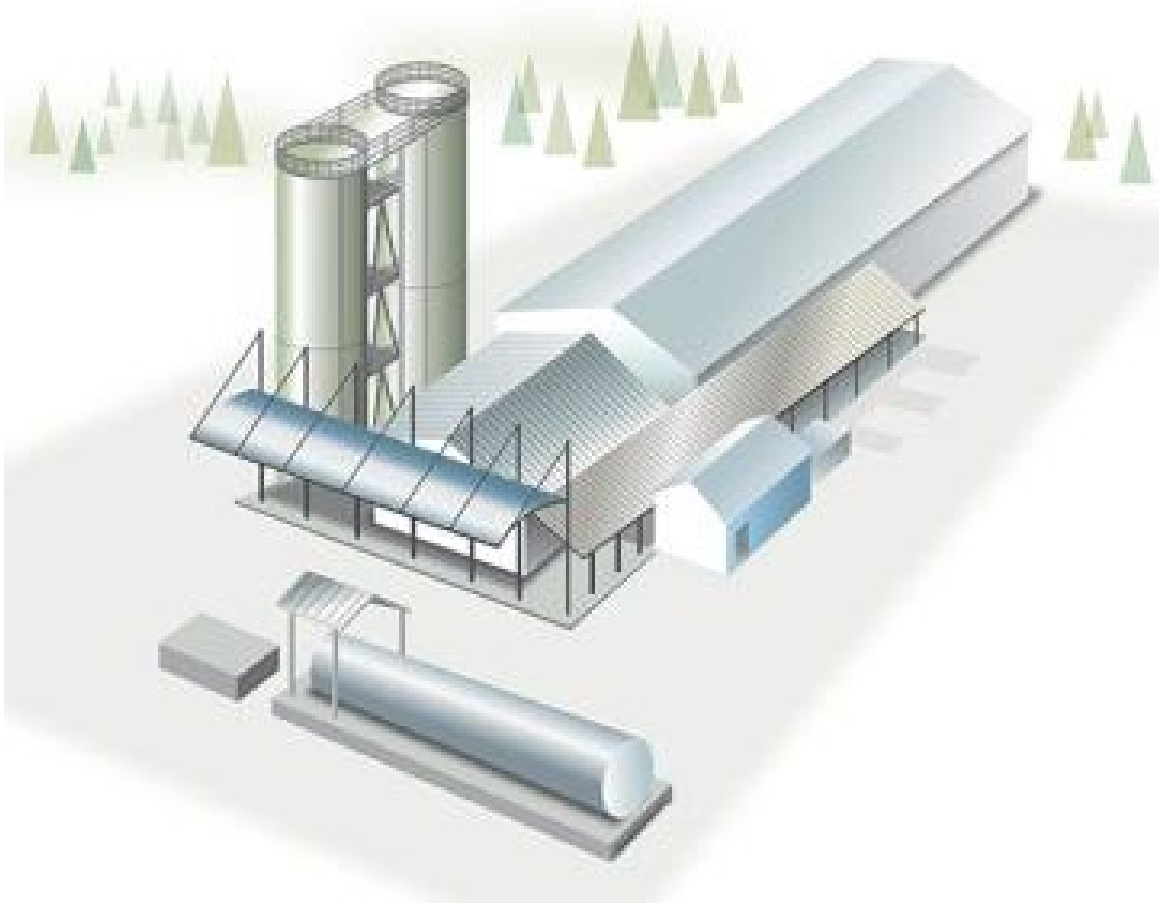


Adding treatment to make water less corrosive to metals found in home and building plumbing

- Building improved corrosion control treatment at Lusted Hill facility
- Treatment uses naturally occurring substances to adjust pH and alkalinity

Soda Ash

Carbon dioxide



Improved Corrosion Control Treatment project

Adapting to new science and technology and testing which processes work best for our water

- Pilot study to help determine specific treatment best-suited to Bull Run water chemistry
- Water treatment chemicals being evaluated are commonly and safely used at facilities nationwide
- An independent panel of water treatment and public health experts is advising on treatment decisions

Optimized amounts of treatment improve the efficiency of the filtration process

Why filtration?

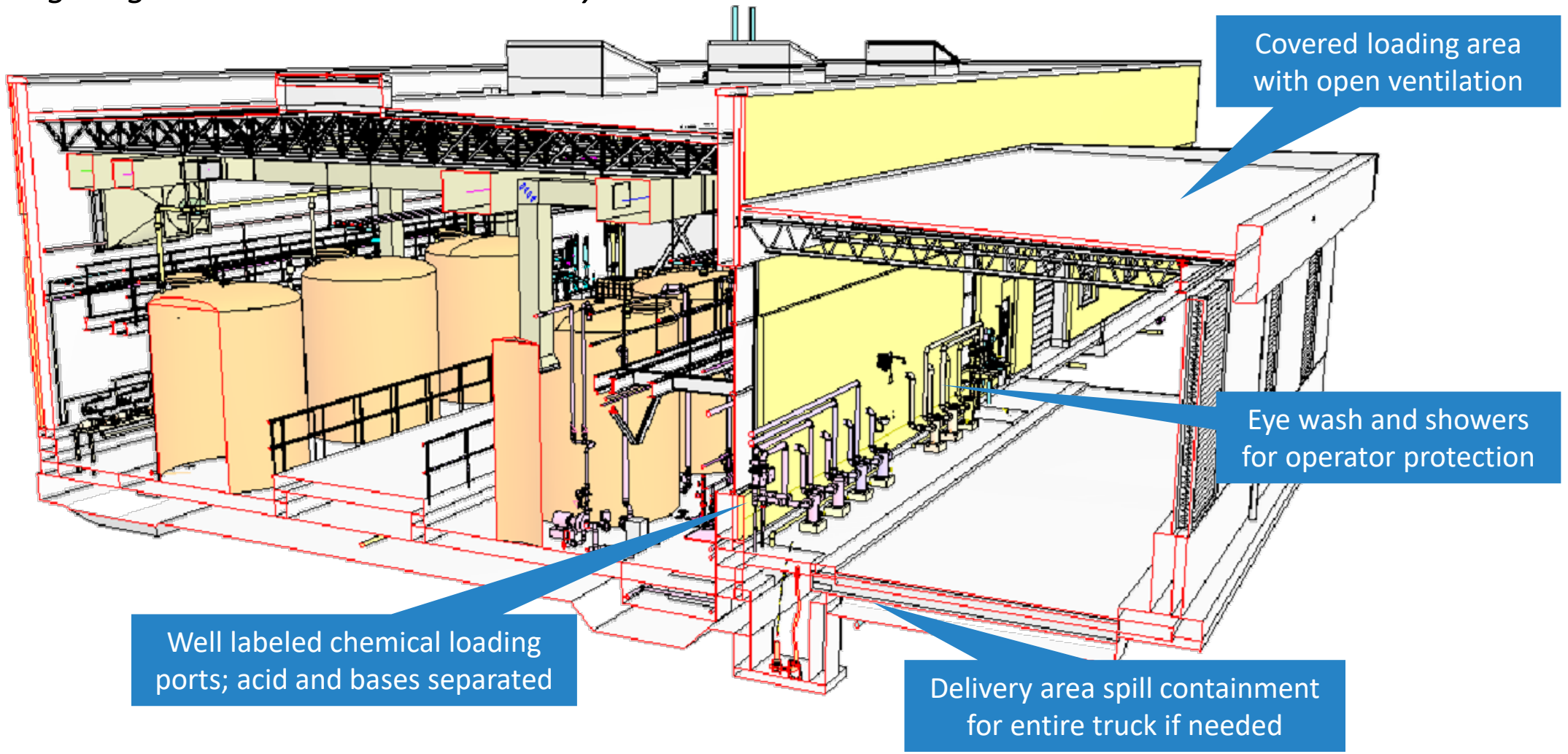
- ✓Best pathogen protection
- ✓Reduces disinfection byproducts
- ✓Addresses high turbidity (fire or storms)
- ✓Addresses algae concerns
- ✓Keeps sediment out of distribution system
- ✓Helps prepare for future regulations and emerging contaminants

Designing and operating the facility with safety as the priority

- Safer technologies (e.g., liquid sodium hypochlorite for disinfection, not chlorine gas)
- Storage and receiving areas designed with extra safety measures
- Strict protocols and standard operating procedures for safe storage and handling
- Special certifications and safety training for operators

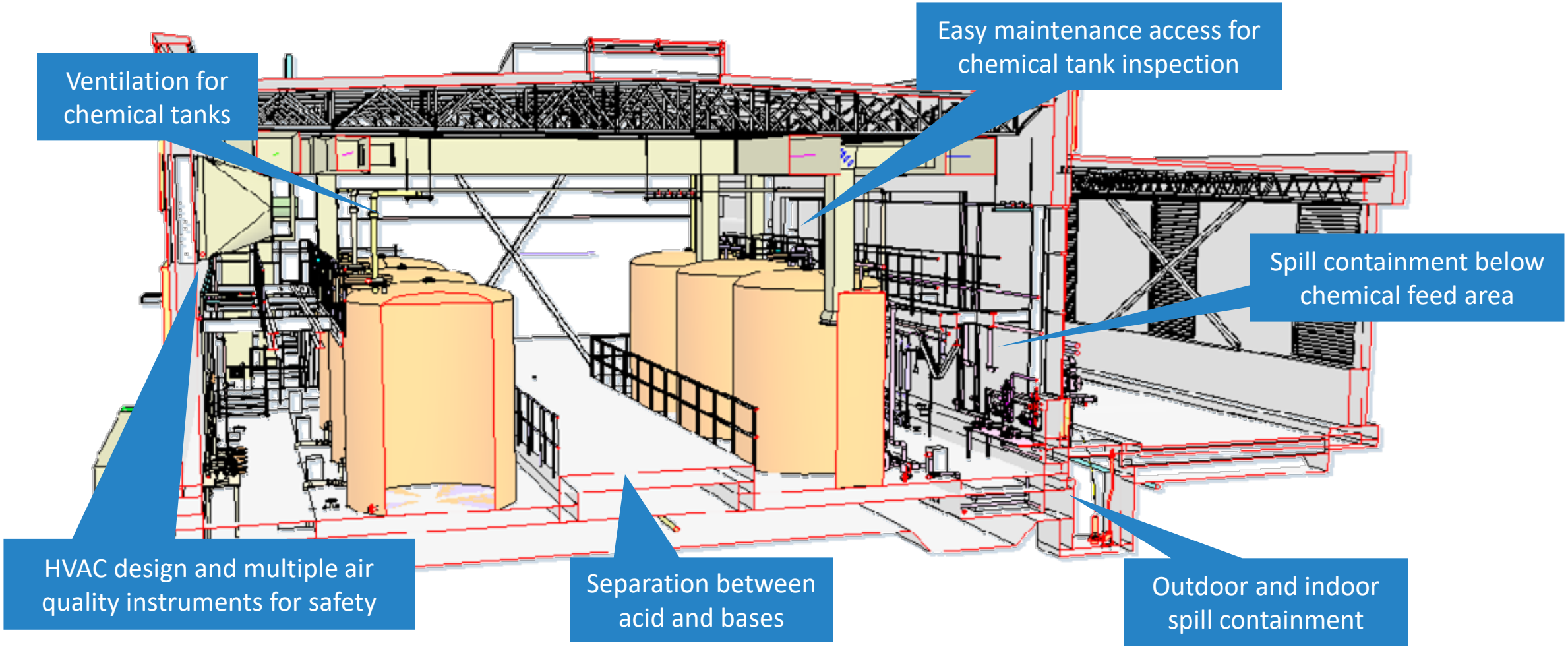
Chemical Loading Designed for Safety

Lake Oswego-Tigard Water Treatment Facility



Chemical Storage Designed for Safety

Lake Oswego-Tigard Water Treatment Facility



Is there a plan for emergencies?

- Evaluating design-decisions with safety and resilience top of mind
- Robust Bureau-wide emergency response planning to prepare for natural disasters
- Regular training exercises so coordination of response activities is efficient
- Infrastructure improvements to speed recovery after an earthquake
- Coordination with local first responders during design to confirm emergency access and protocols
- Future facility-specific risk management and emergency action plans

What type of waste is produced during treatment? Where will that go?

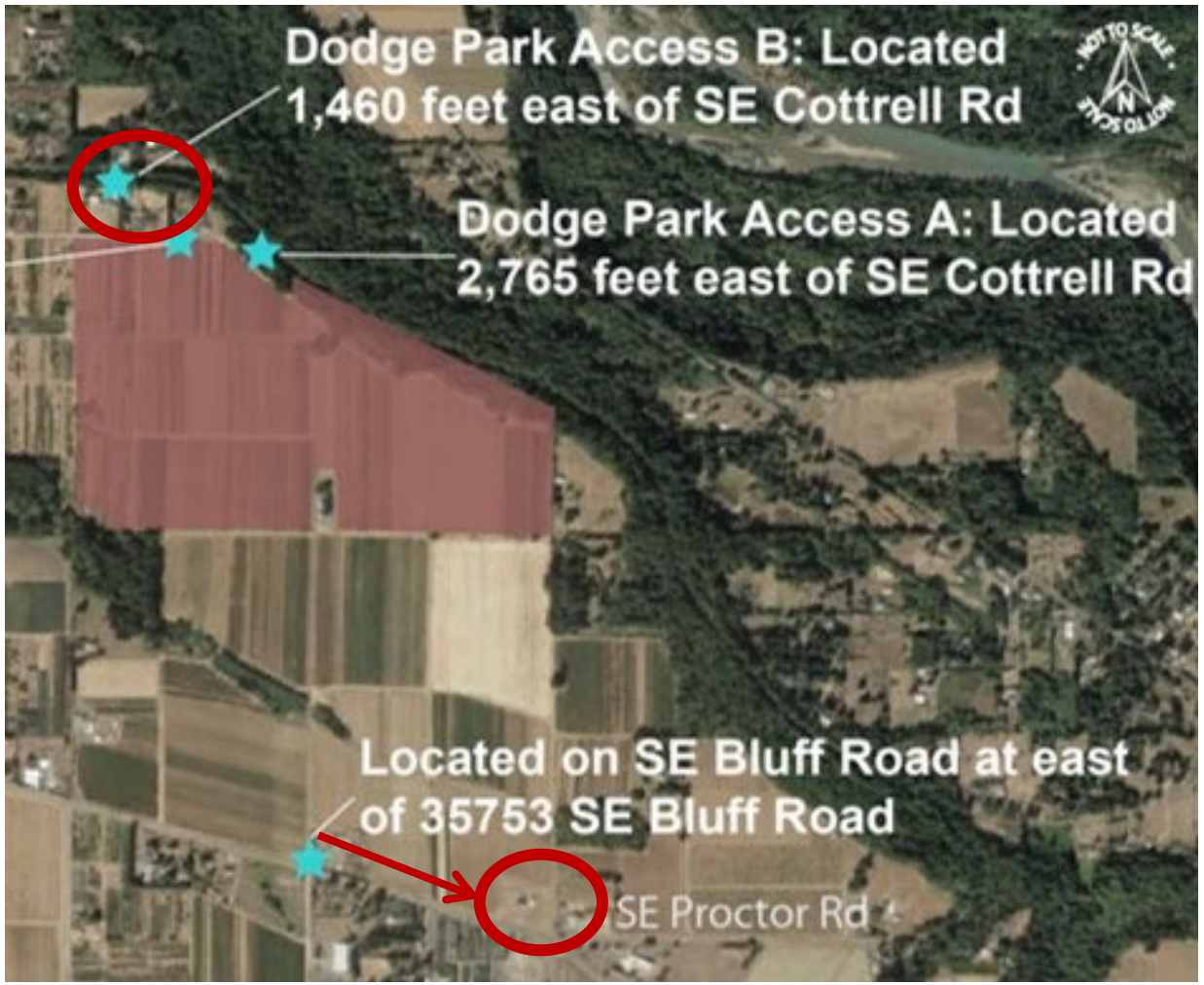
- Designing treatment process to be sustainable and reduce footprint
- Filtration facility site will be zero liquid discharge
- Evaluating potential beneficial uses for the silts and clays generated through treating drinking water

What is the planned staffing at the facility?

- Still evaluating staffing needs
- Staff may include administrative, engineering, operations, and maintenance
- Similar facilities have around 15-20 certified operators and 5-10 maintenance staff
- Number of staff on site will vary depending on the time of day

How will the site be accessed?

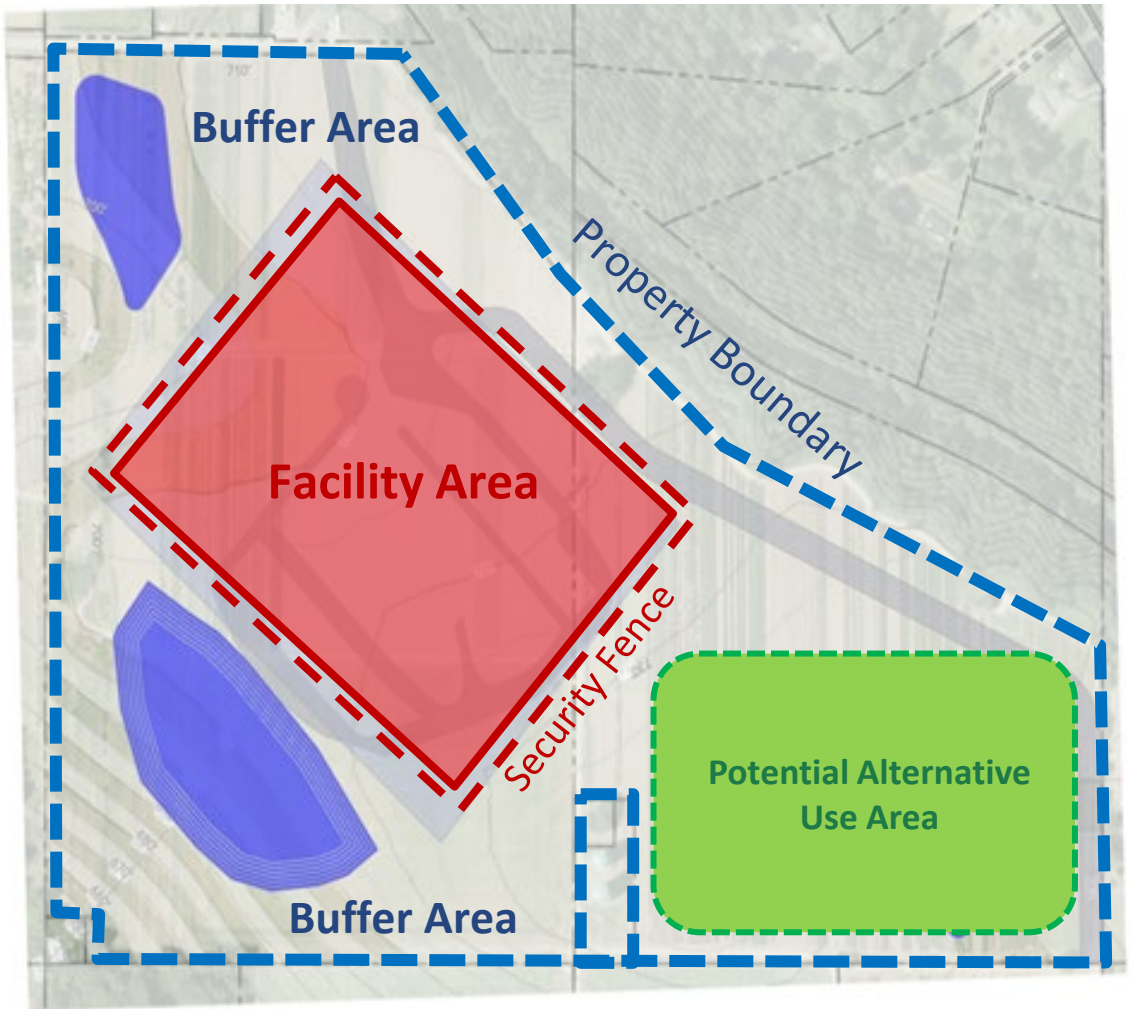
- Two site accesses (north and south) are preferred
- Continuing work on specific access requirements and discussions with neighbors about property uses and easements
- Looking at north access off SE Dodge Park Blvd to help reduce impacts to SE Carpenter Ln
- Looking at locations for south access from SE Bluff Rd



Project Definition Report: Site Planning Considerations

What will site security look like?

- A water filtration facility is considered critical infrastructure and is required to be secure
- ‘Facility Area’ will be fenced and include electronic security to control access to essential facilities and operations
- ‘Buffer Area ’ at the site edges will include landforms and vegetation for visual screening



Can deliveries be limited to weekday hours?

- Weekday deliveries are standard practice
- Future vendor contracts will specify restrictions on allowable delivery times and days
- Occasionally, evening or weekend deliveries may be needed if weather or other events prevent a regularly scheduled delivery

Joint Water Commission Water Treatment Facility Tour

What can we expect from public tours?

- Guided, educational tours of an operating facility (not designed as a tourist attraction)
- Available for school kids and community members
- Registration process for scheduled days and times
- Limited group size, potentially using small PWB bus
- Preliminary design includes 1 parking space for small PWB bus and 10 spaces for visiting staff and members of the public

Bull Run
TREATMENT
PROJECTS

Comments or Feedback?

What’s next?

Pipeline, Facility, and Site Design

Thursday January 14, 6-8 pm

Facility Construction

Thursday February 11, 6-8 pm

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Bull Run
TREATMENT
PROJECTS

Our water: Safe and abundant for generations to come

Thank you!