# Straightway & Hyannisport Water Treatment Facilities - Improvements Project

MEPA Virtual "Site Visit'

October 3, 2024 6:00 PM
Zoom

Town of Barnstable
Department of Public Works
Water Supply Division – Hyannis Water System

Engineer: Kleinfelder, Inc.

*Continuing a Program of Community Drinking Water Improvements*

- Quality
- Reliability
- Resiliency

# Tonight's Presenters & Agenda

Town of Barnstable – Department of Public Works

- Matt Wrobel, PE, Sr. Project Manager
- Hans Keijser, DPW Water Supply Division Supervisor

Kleinfelder – Engineering Consultant

- Kirsten Ryan – Sr. Project Manager

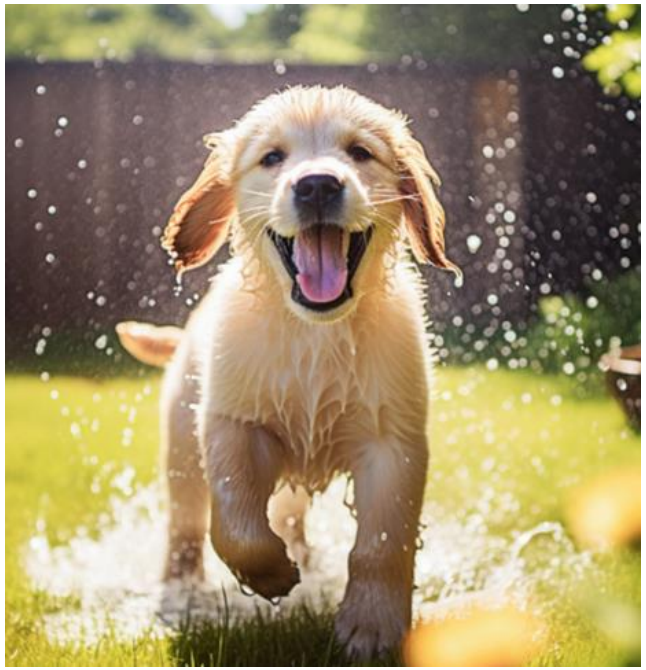
## Agenda

1. Hyannis Water System Overview
2. Project Overview
3. Project Purpose and Benefits
4. Existing Conditions & Improvements
5. Potential Environmental Impacts and Mitigation
6. Project Schedule & Next Steps
7. Where to Find more Information
8. Questions?

# Where does my tap water come from?

## The Town of Barnstable's Hyannis Water System

- Serves approximately 18,000 people year-round
- Serves approximately 35,000 people in summer
- 119 miles of water mains (pipes)
- Meets all state and federal health regulations



Hyannis Water System Water Treatment Facilities (WTF)

# Where does my tap water come from?

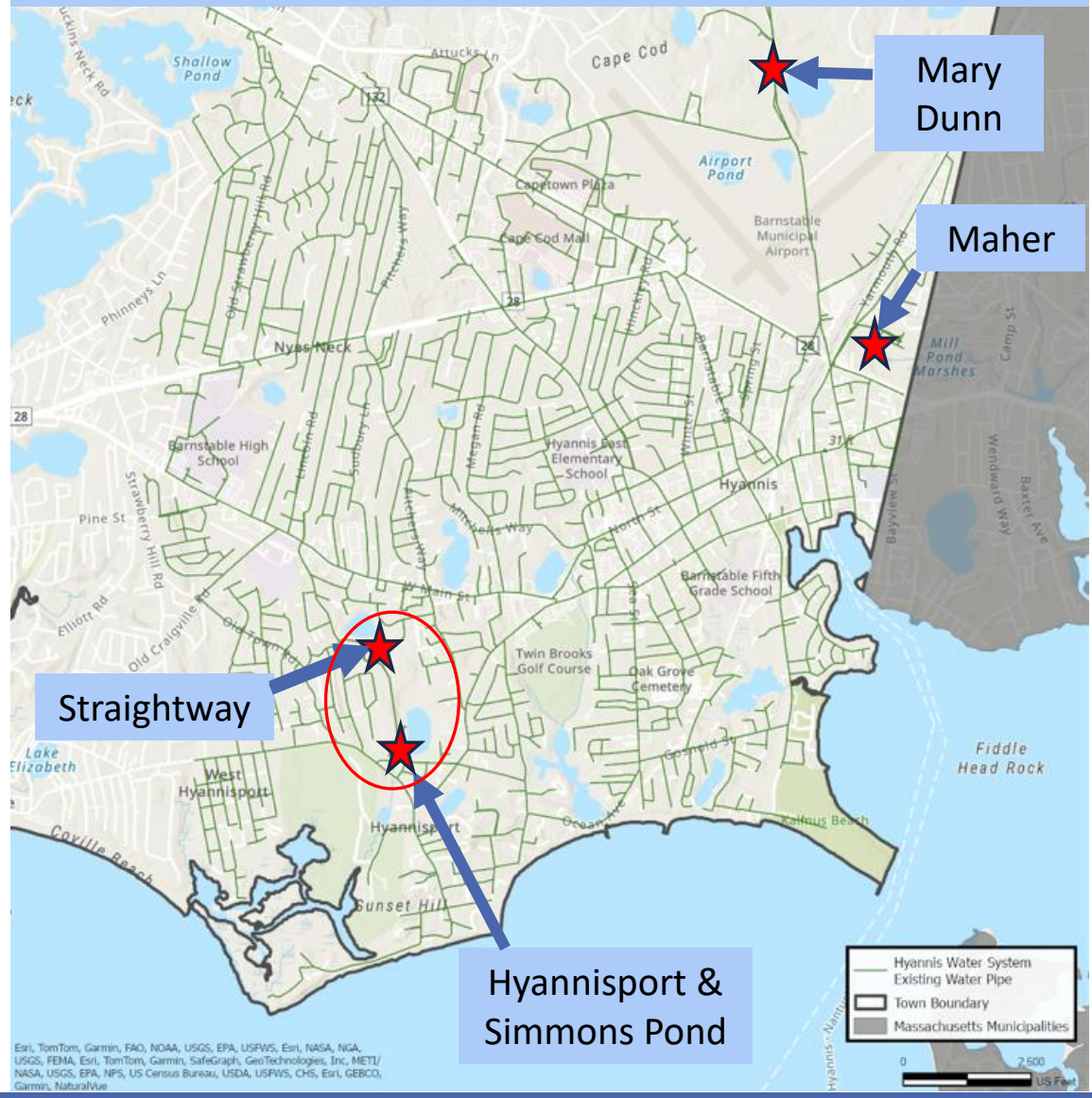
**Town of Barnstable's Hyannis Water System (HWS):**

- 12 wells at 4 water treatment facility (WTF) locations
- 6 treatment buildings

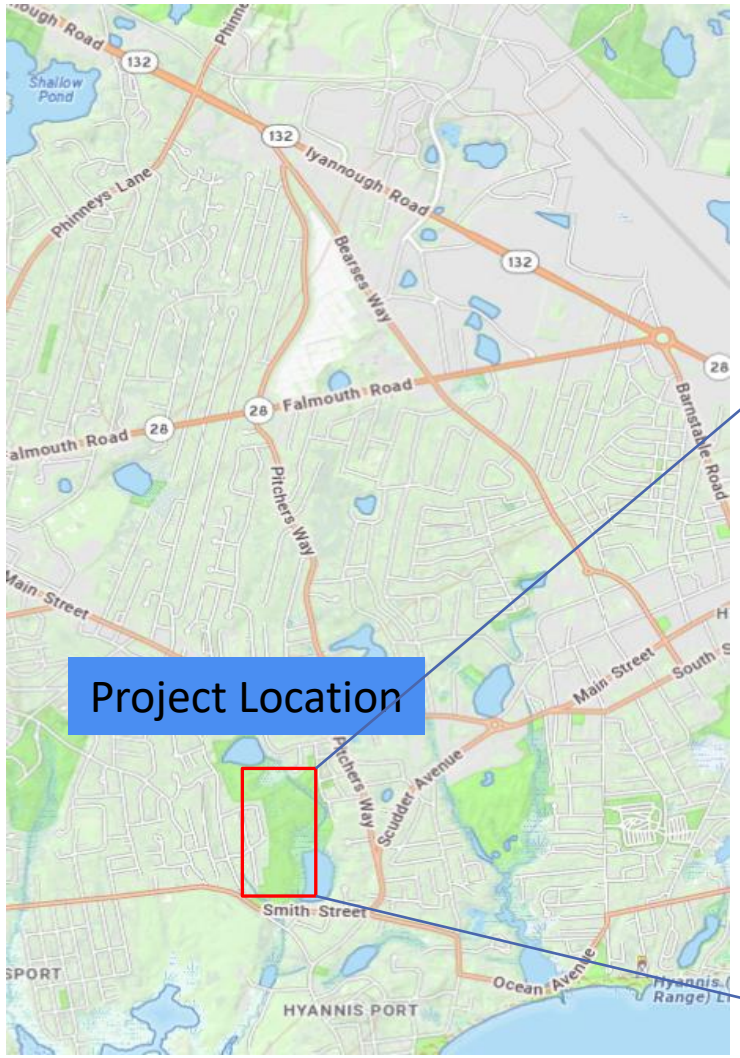
- Due to increases in water usage during the summer months, all Hyannis Water System wells and treatment facilities must operate continuously to meet demand.

- HWS has been constructing upgrades in stages to improve water quality, reliability, and resiliency while maintaining operations.

Hyannis Water System Water Treatment Facilities (WTF)

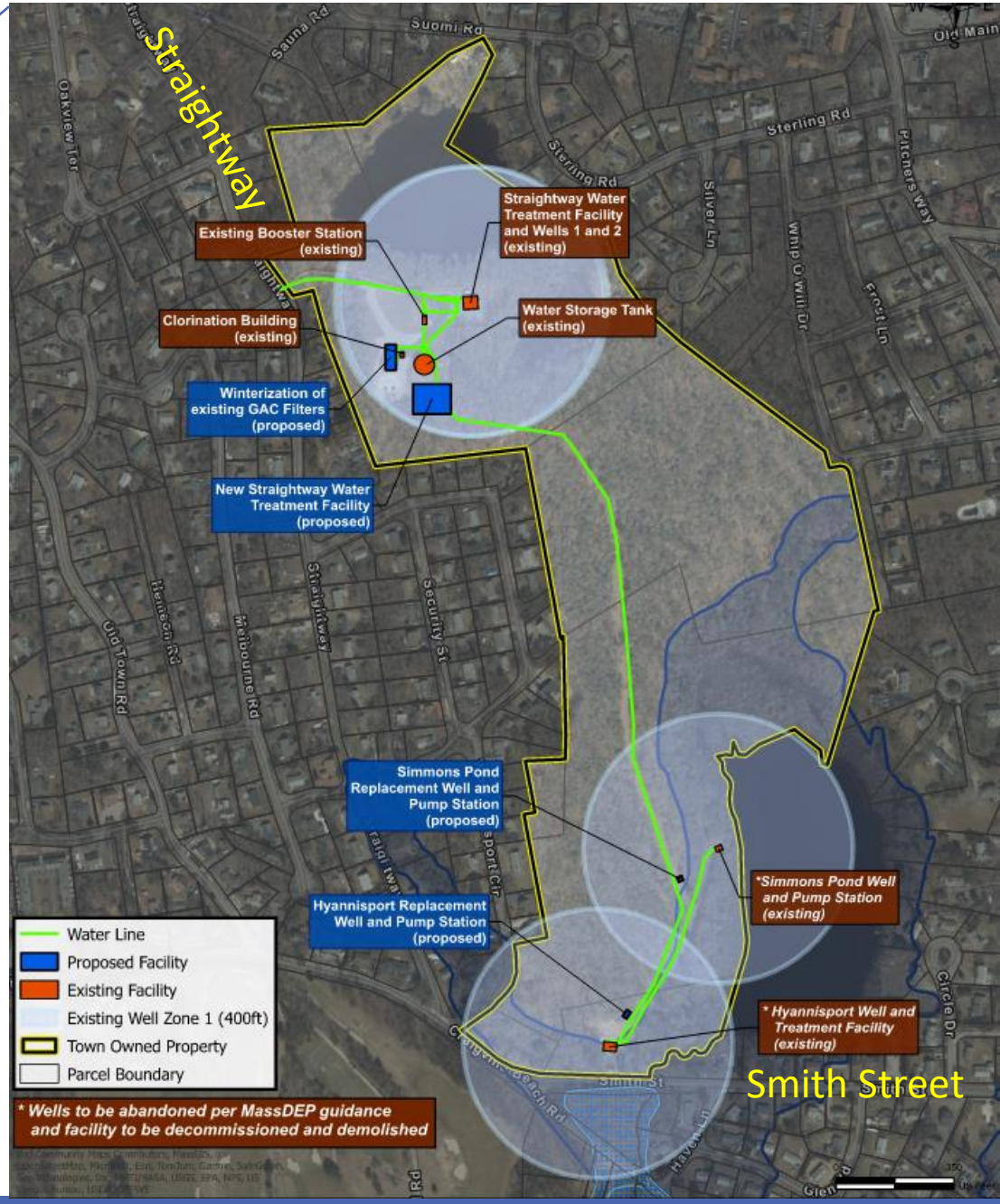


# Project: Straightway & Hyannisport Treatment Facilities Improvements Overview




Existing Infrastructure:

- 4 wells
- 3 treatment buildings
- 2 pump stations
- 1 tank
- 1 set of unwinterized PFAS filters



# Straightway-Hyannisport Project Purpose

Project Improvements Will:

- Maximize the permitted capacity of the Hyannis Water System
- Increase the amount of water that the wells can supply
- Allow the water treatment facility to be operated year-round
- Improve the water treatment process to further improve water quality
- Protect the wells and buildings from flooding
- Improve overall system resiliency

# Straightway-Hyannisport Project Need & Benefits

| Need or Challenge | Solution |
|---|---|
| The facility cannot be used year-round because PFAS filters are unwinterized. | ✓ Build enclosure over PFAS filters. |
| 2 of the 4 wells (Simmons Pond & Hyannisport) are not supplying enough water. | ✓ Replace the wells with new wells to maximize the permitted capacity. |
| SP & HP Wells and Hyannisport WTF are located within areas prone to flooding. | ✓ Locate the new wells at higher elevation out of the floodplain. Relocate all treatment to the Straightway site which is at a higher elevation. |
| Naturally occurring iron and manganese are clogging the PFAS filters, making them more expensive to operate | ✓ Add pre-filters to remove iron & manganese |
| 1,4 –dioxane levels are close to the MA guideline of 0.3 mg/L | ✓ Add new treatment technology to remove 1,4-dioxane |
| Treatment and pumping is undersized. | ✓ Add more treatment and pumping capability to maximize the permitted capacity. |

# Project MEPA Triggers, Filings, Status

This project triggers Mass Environmental Policy Act (301CMR11) Review:

- Expansion of an existing drinking water treatment facility by the greater of 1,000,000 gallons per day or 10% of existing capacity
  - Requires Environmental Notification Form (ENF) submittal
- Location of project within 1 mile of an Environmental Justice Population
  - Requires the filing of an Environmental Impact Report

✓ Early July – EJ Advance Screening Form was Distributed

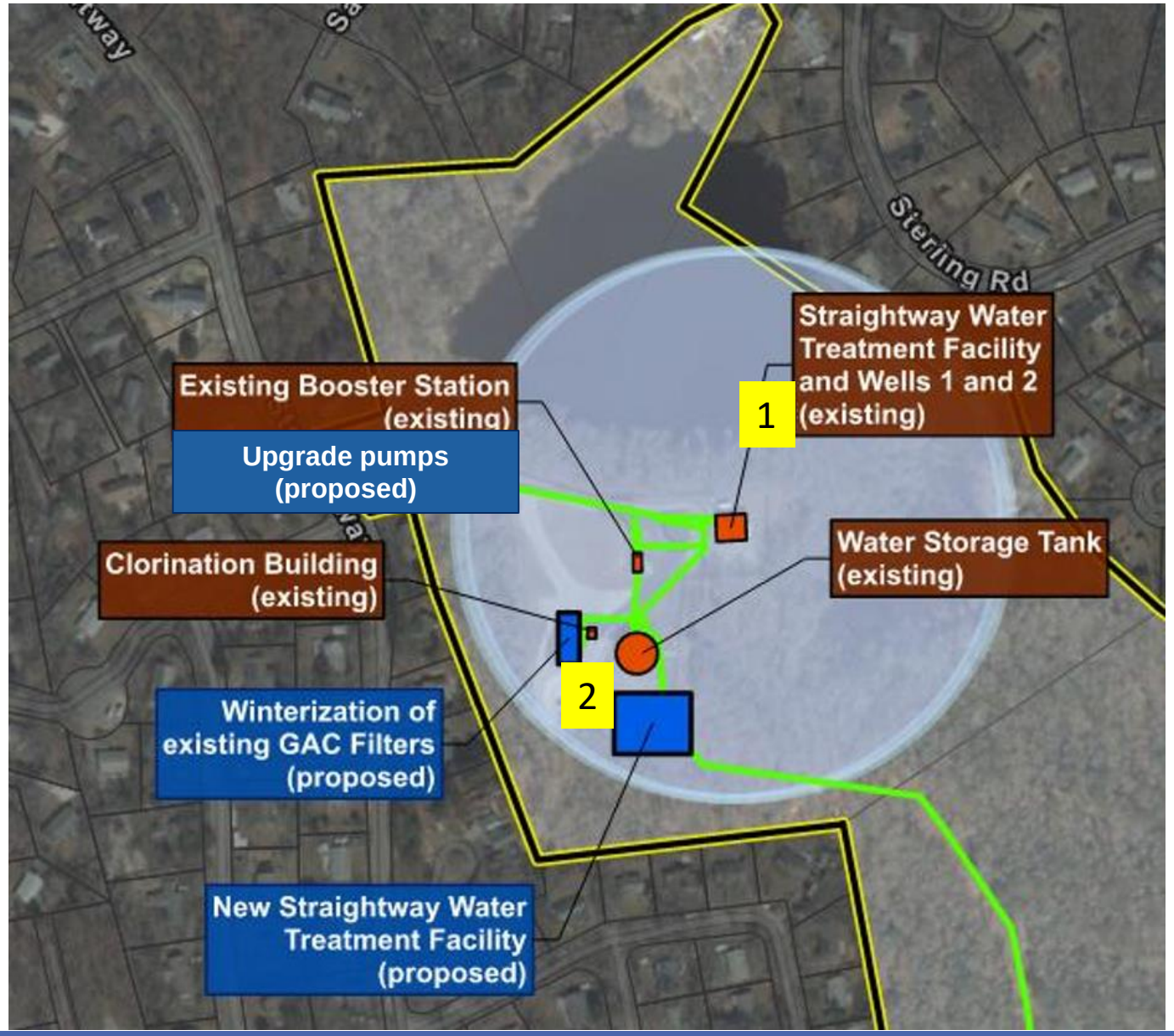
✓ Aug 8th – Public Meeting was held via Zoom

✓ Sept 3rd – EENF & Proposed EIR were filed with MEPA, requesting a Rollover EIR to seek expedited review.

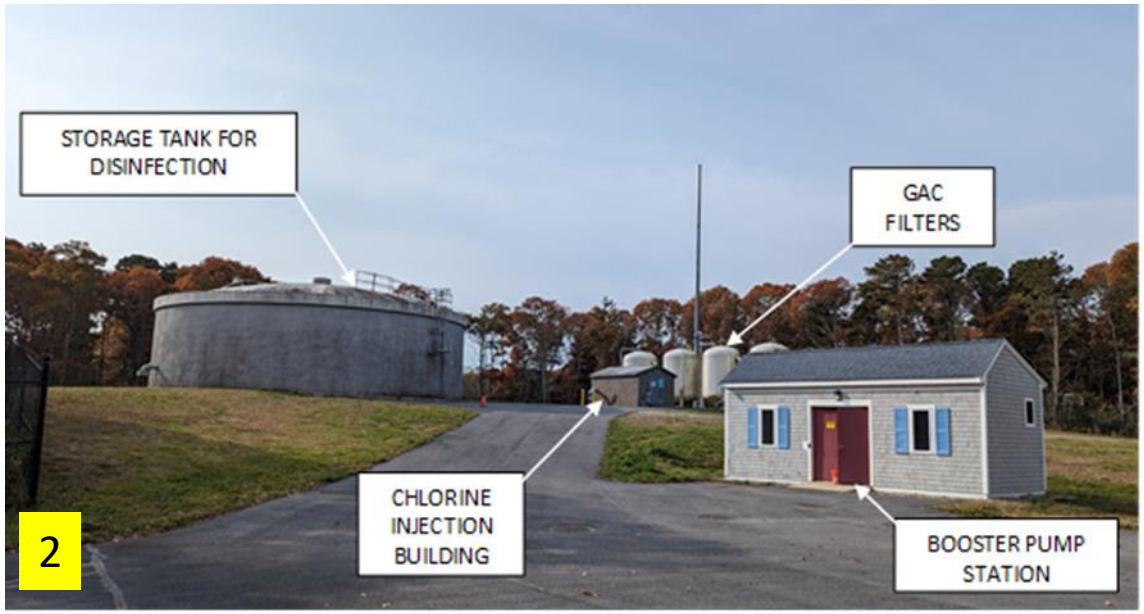
# Project Size & Summary

| Factor | Existing | Change | Total |
|---|---|---|---|
| Total Acreage | 4.77 | | |
| New Acres altered | | 2.19 | |
| Impervious area (acres) | 0.87 | 1.11 | 1.98 |
| BVW alteration (sq. ft) | | 0 | |
| Other wetlands: Riverfront (sq ft) | | 3,227 | |
| Structures (sq. ft.): | 7,639 | 12,438 | 20,077 |

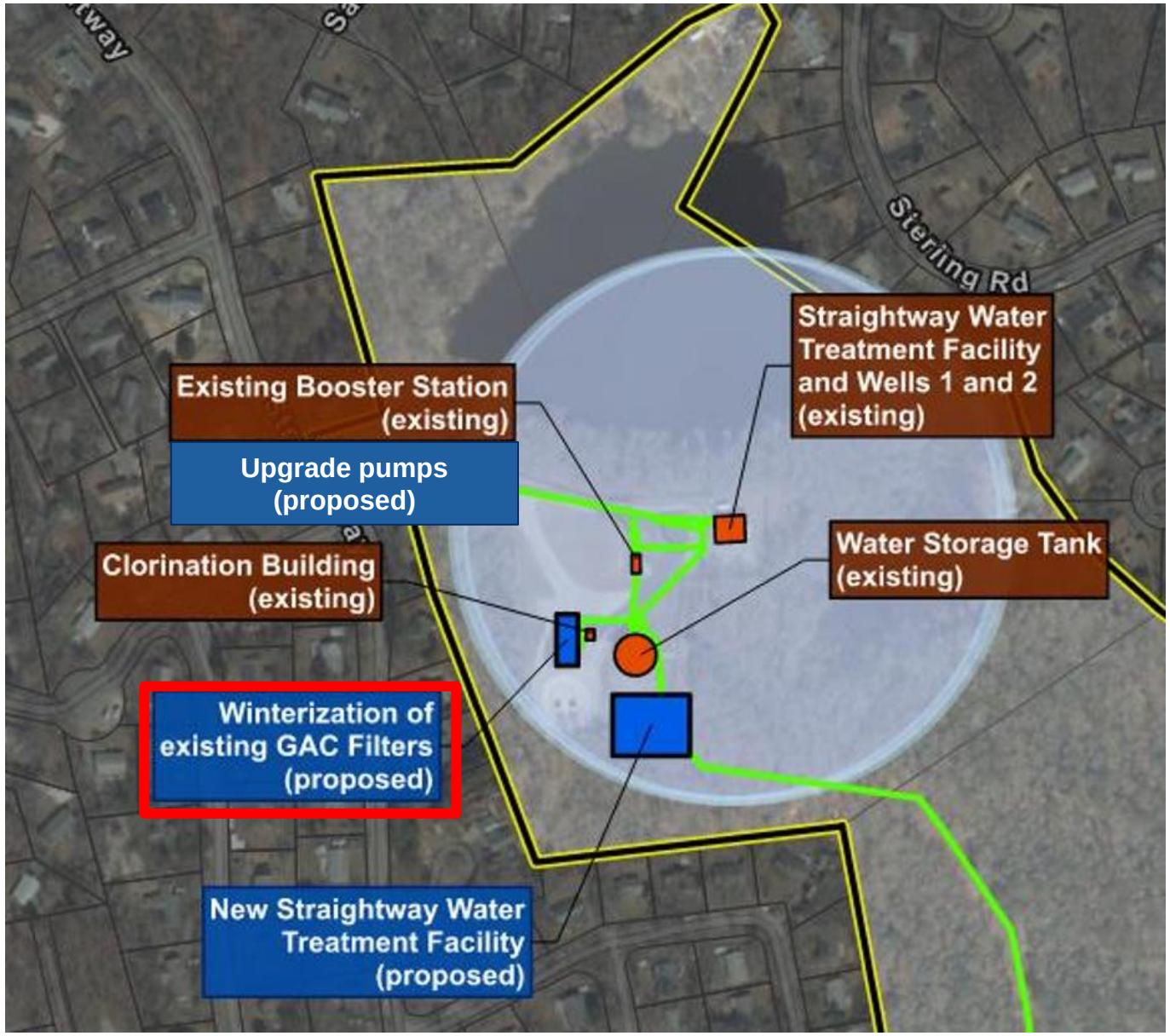
# Straightway Site – Existing Conditions







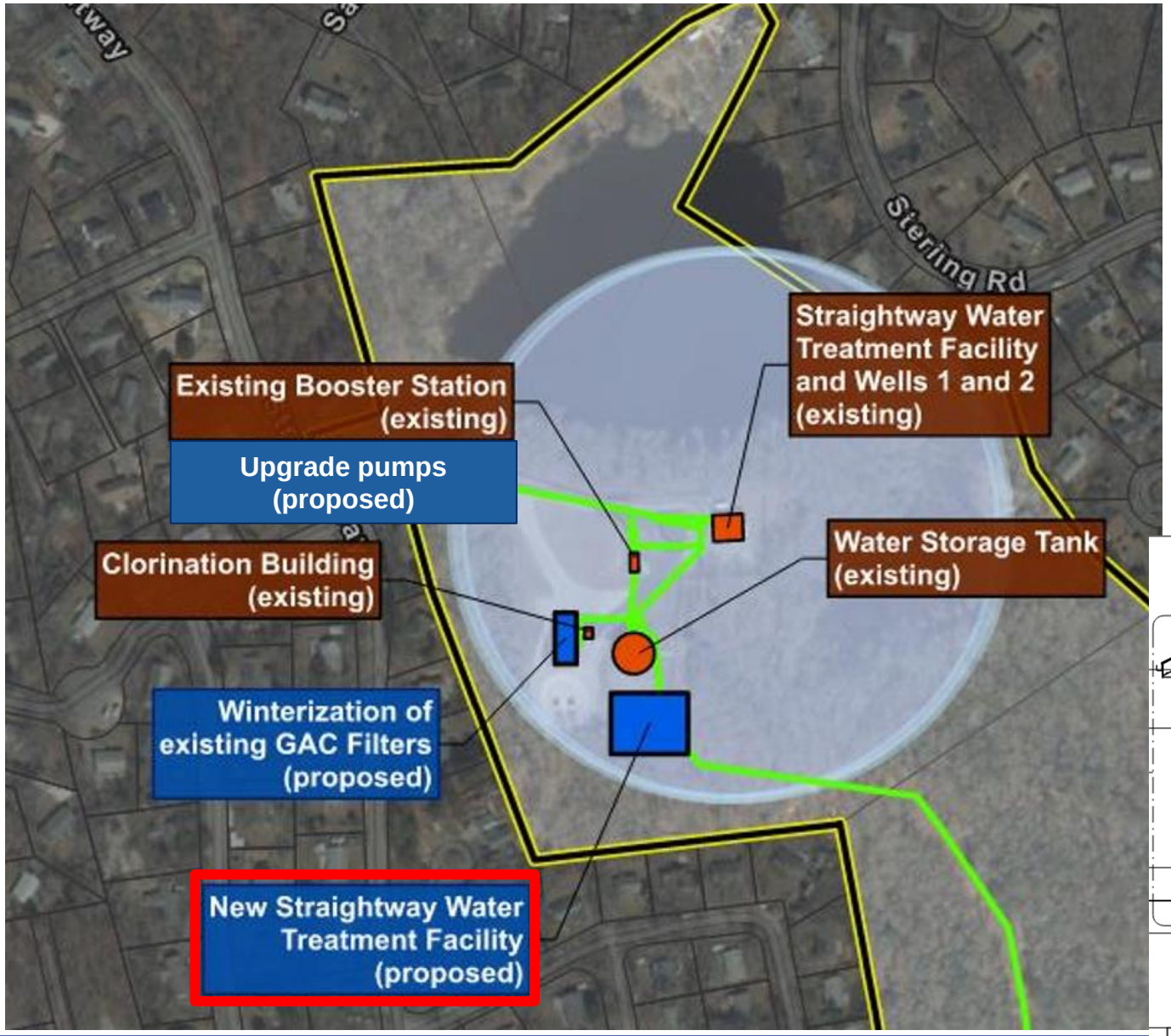
# Straightway Site – Project Improvements




## Winterization of Existing PFAS filters

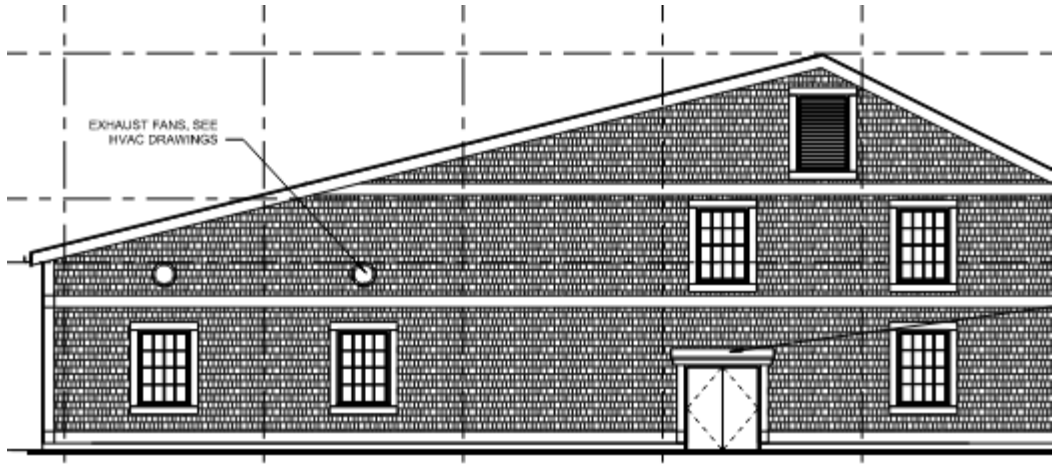
- Add climate-controlled enclosure on existing slab to existing PFAS units at Straightway
- Critical for year-round resiliency
- Completion of the emergency project constructed in 2019

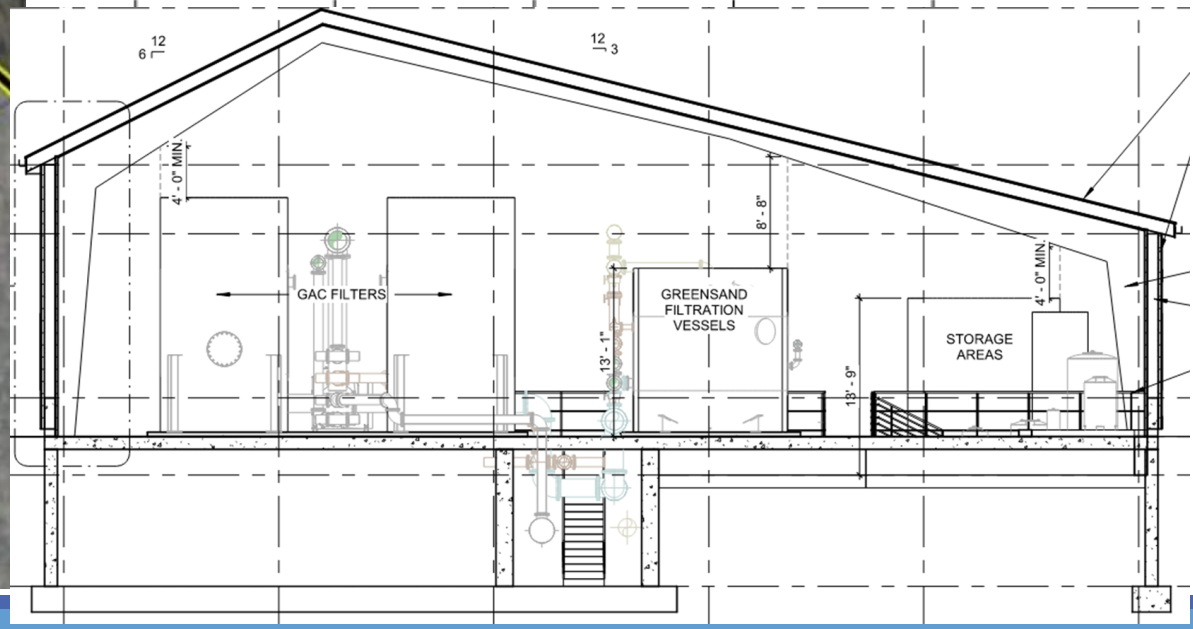
# Straightway Site – Project Improvements



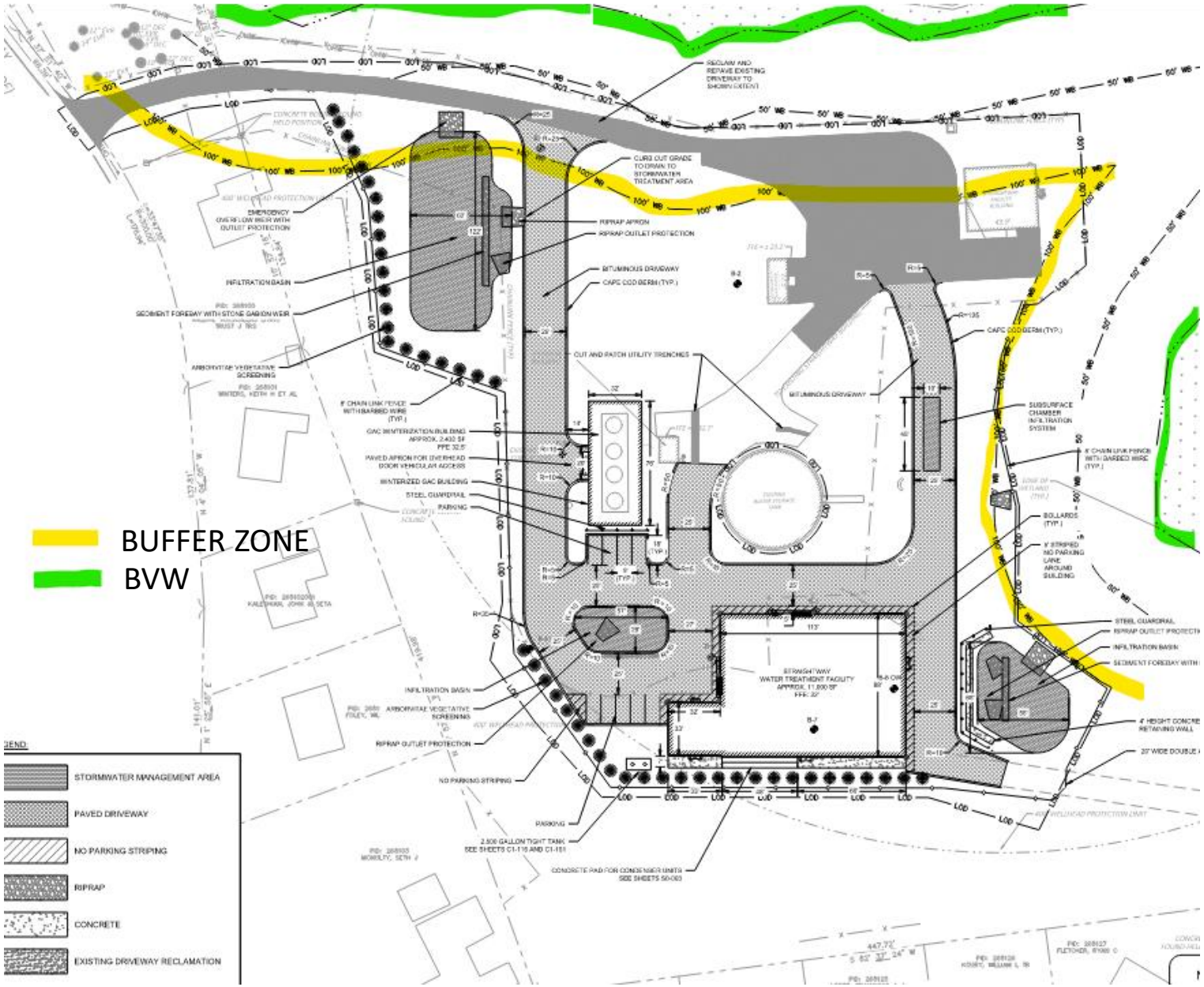

## New Straightway Treatment Facility

- Increased treatment capacity (4MGD)
- New removal of iron, manganese, 1,4-dioxane



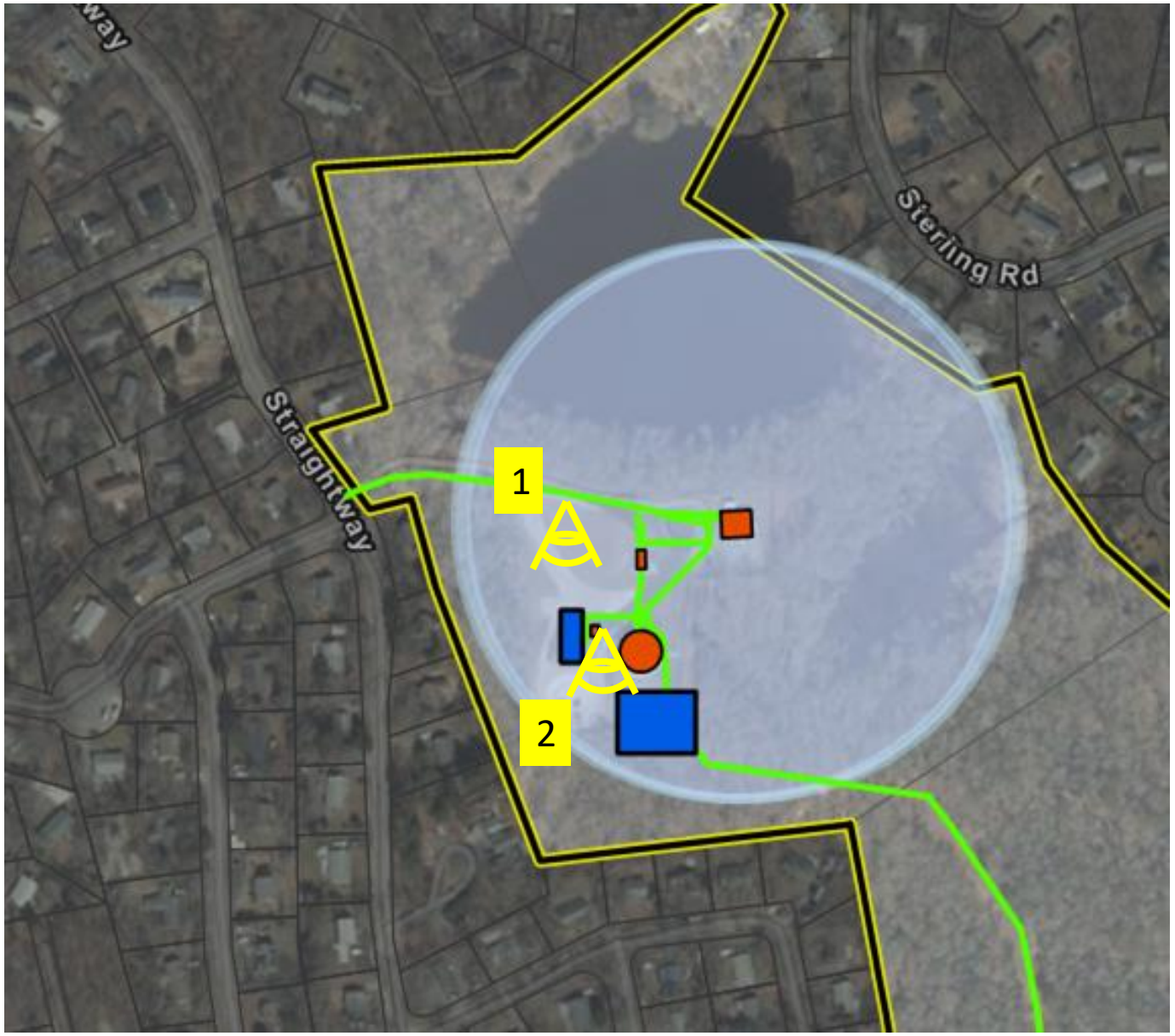



# Straightway Site




- Existing Infrastructure is located in the Buffer Zone
- No work or new structures in Bordering Vegetated Wetlands
- No work in any other resource area

# Straightway Site – Site Photos



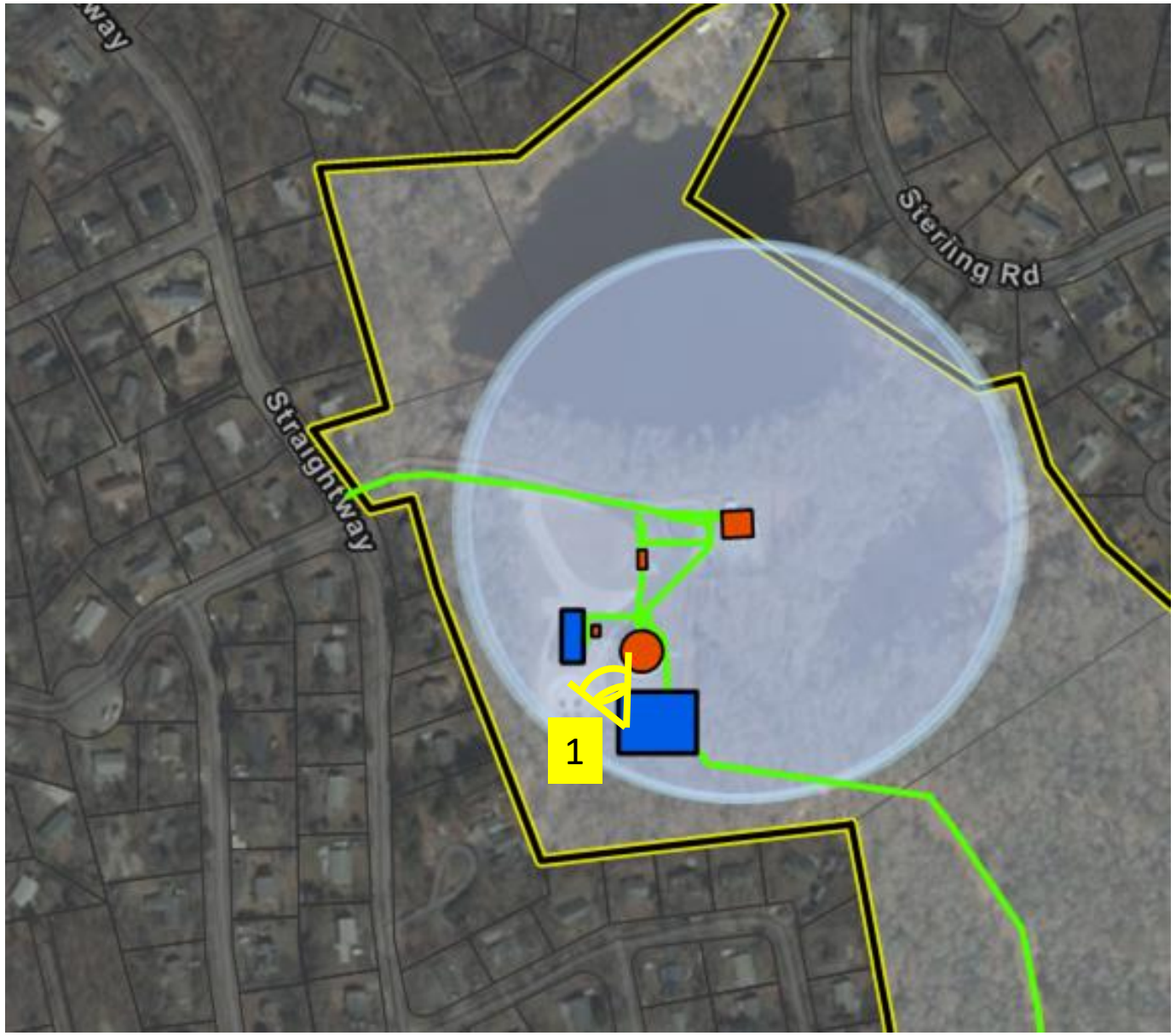



View south towards future new Straightway Facility area

# Straightway Site – Site Photos


View south of existing backwash basin to be filled in for Straightway new facility stormwater management system

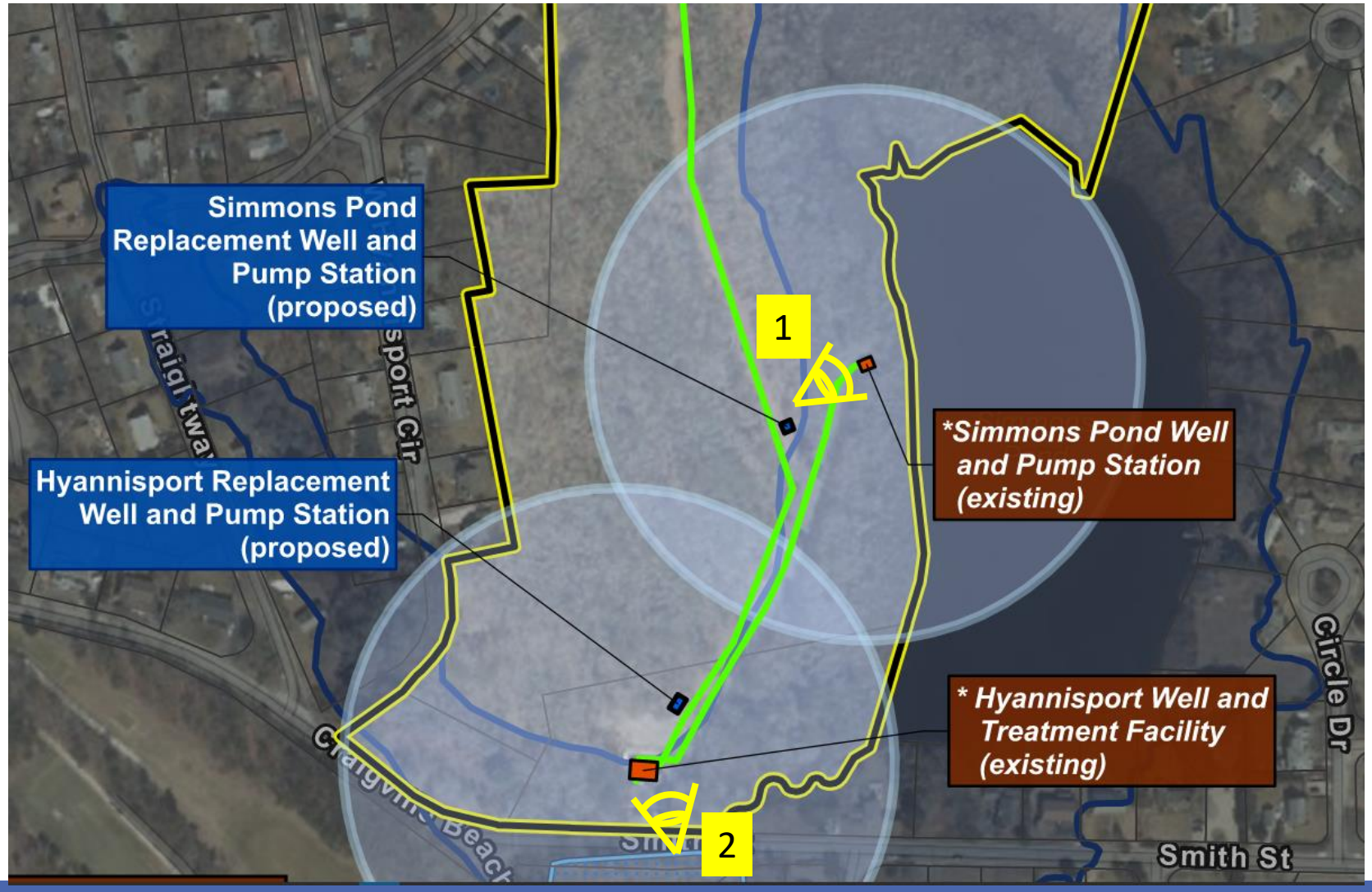
# Straightway Site – Site Photos




Existing GAC PFAS filters are unwinterized, so the Straightway & Hyannisport Water Treatment Facilities must be turned off from October to April.

# Hyannisport Site – Existing Conditions

Existing wells and buildings are prone to flooding. Well yields currently are reduced due to plugging of the well screens and aquifer.





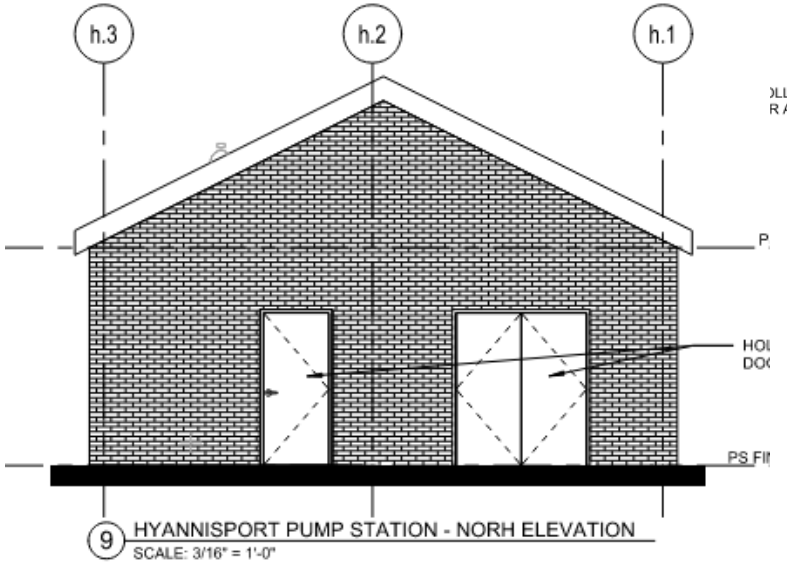
Existing Simmons Pond Pump Station

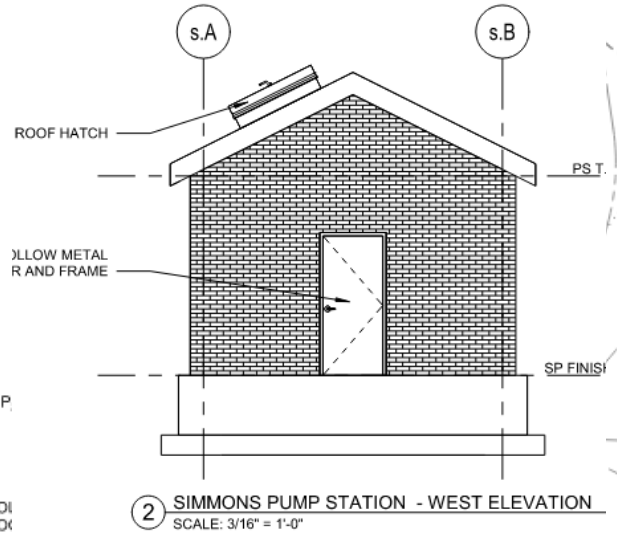

Existing Hyannisport Treatment Building

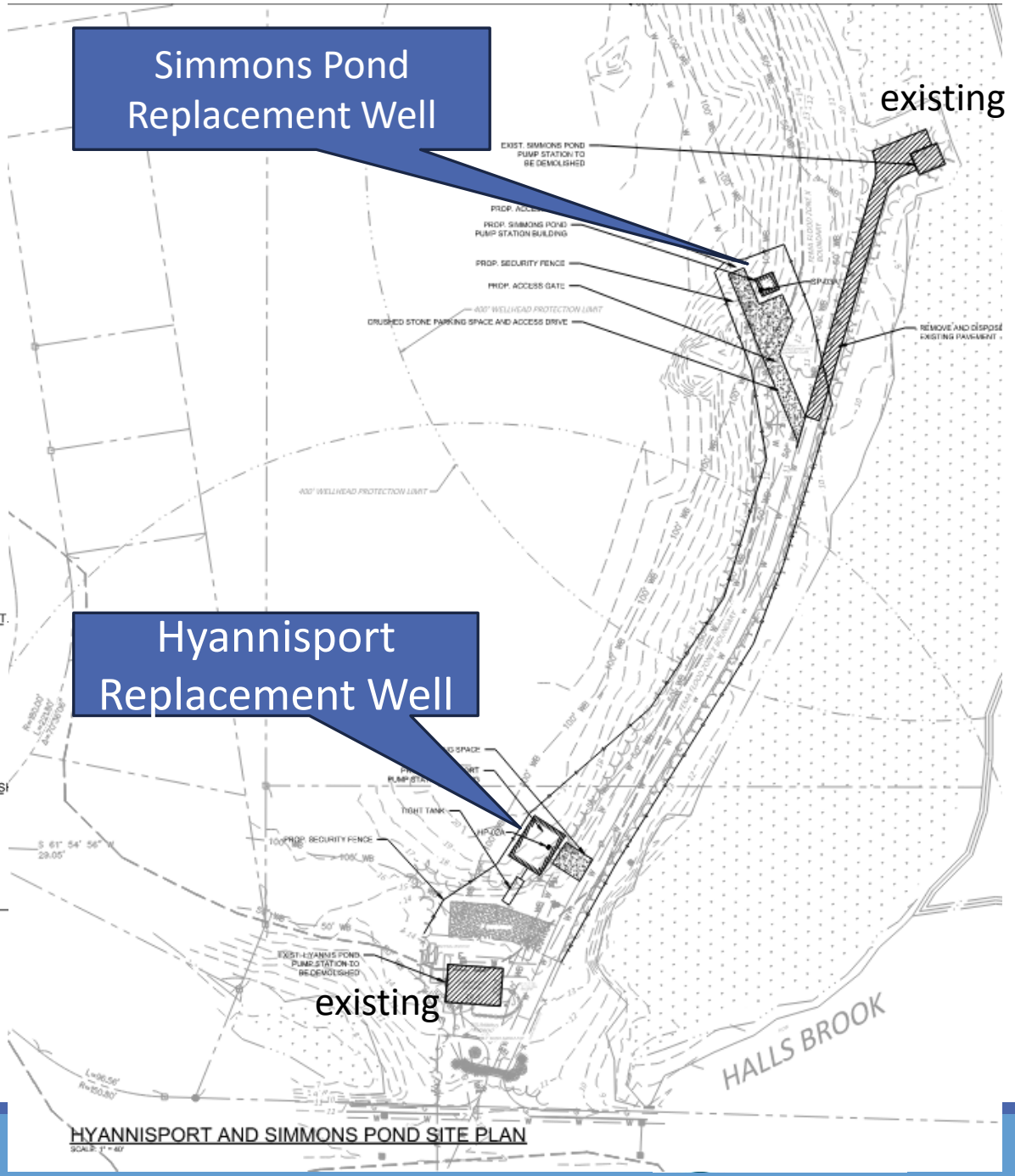
# Hyannisport Site – Project Improvements

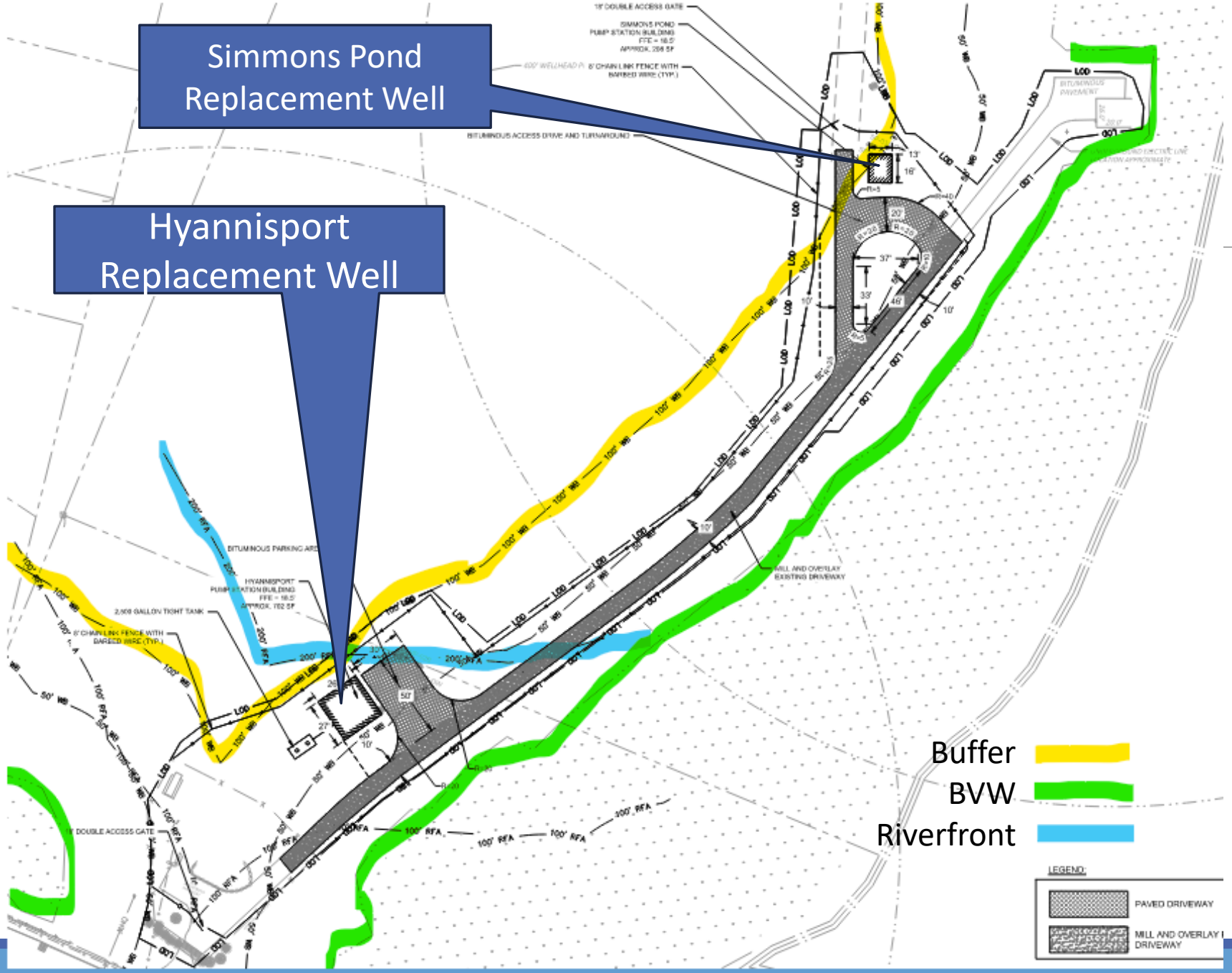
## Hyannisport & Simmons Pond Replacement Wells and New Pump Stations

- Redrill wells at higher elevations out of floodzone
- New pump stations will send water to the new Straightway WTF
- New backup generator



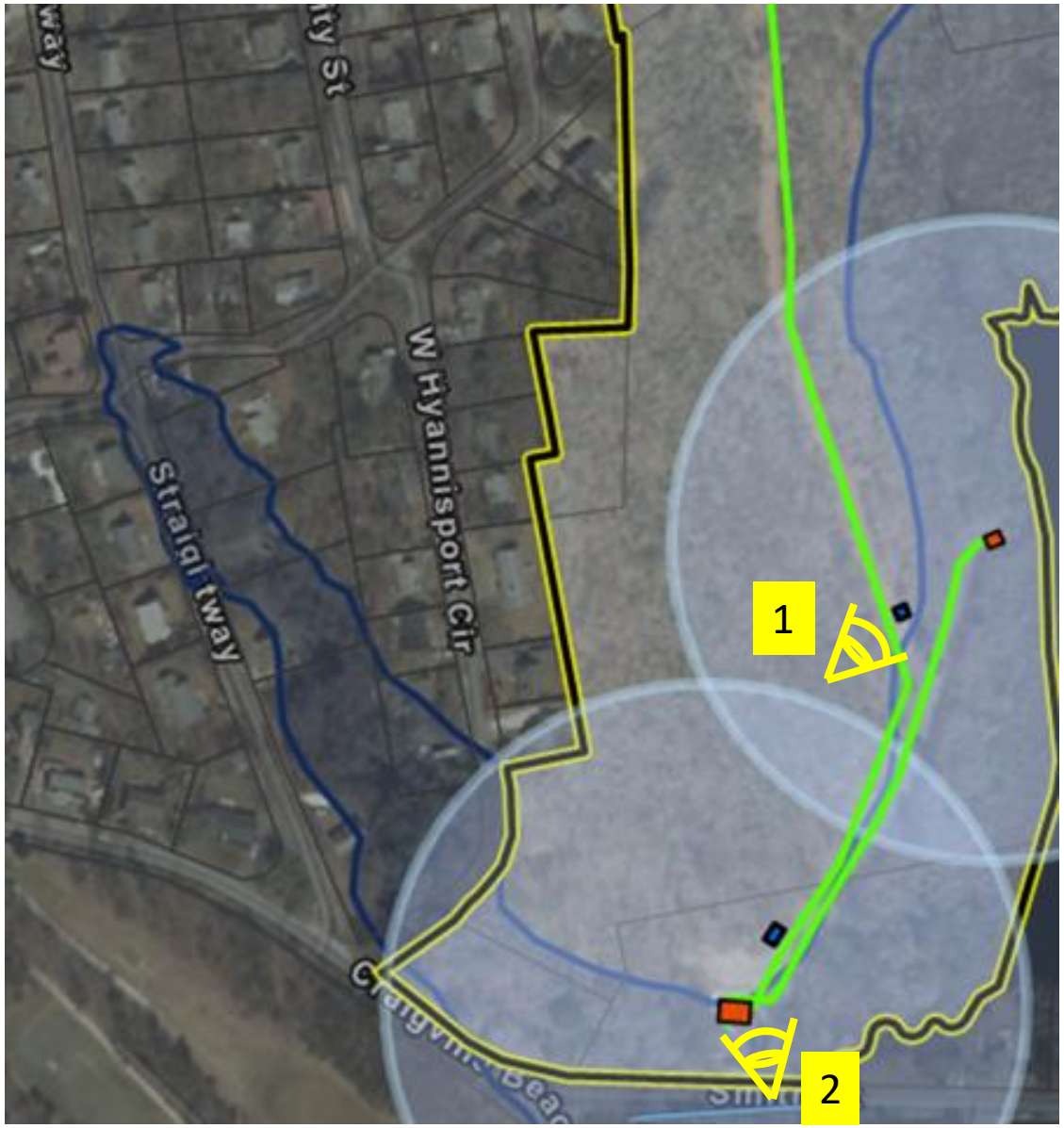



# Hyannisport Site

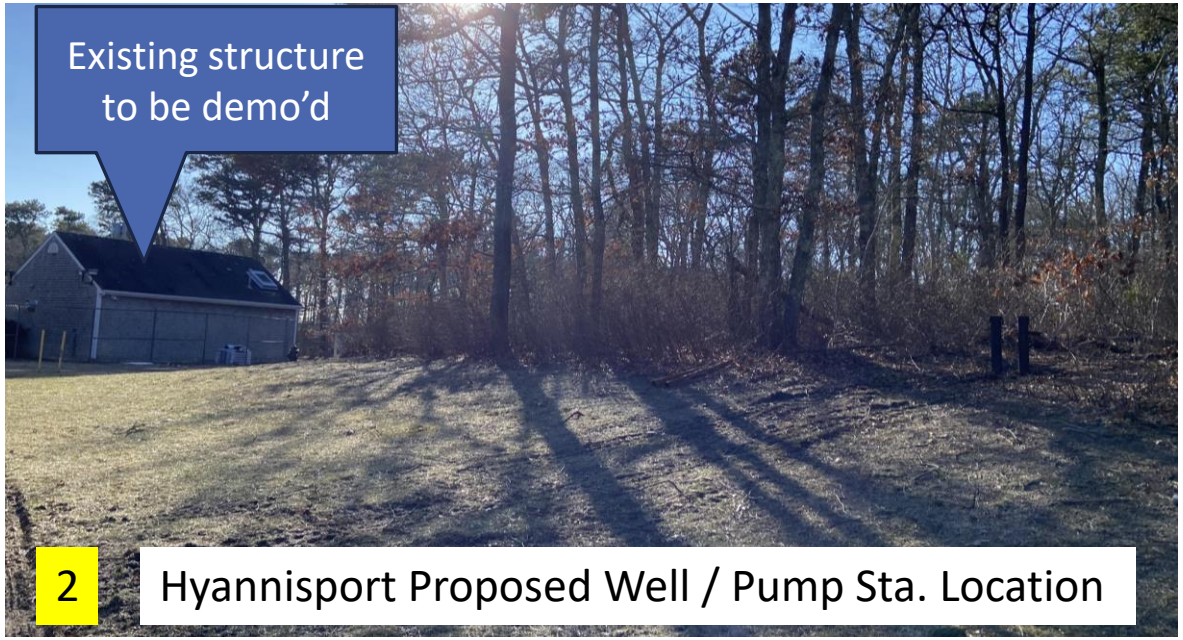
- Demolish existing structures in floodplain
- New infrastructure at higher elevation
- No work in BVW
- NOI filing in prep

KLEINFELDER
Bright People. Right Solutions.

# Hyannisport Site – Site Photos







# Summary of Project Mitigation Measures

Environmental:

- ✓ Infrastructure siting to minimize environmental impacts.
- ✓ Stormwater management to meet or exceed MassDEP Standards.
- ✓ Tree clearing time of year restrictions to protect species, per Fish & Wildlife recommendation
- ✓ Wetlands protection review (NOI) by Barnstable Conservation Commission
- ✓ Restoration with native vegetation at existing structures to be demolished at Hyannisport site.

Electrification and Energy Efficiency:

- ✓ Efficient building envelopes
- ✓ Electric space heating and cooling (efficiency better than code)
- ✓ High efficiency process equipment
- ✓ Energy efficient LED lighting
- ✓ Solar photovoltaic array

# Project Schedule & Next Steps

Environmental Notification Form / Environmental Impact Report

- Public comment period 9/11 – 10/11/24

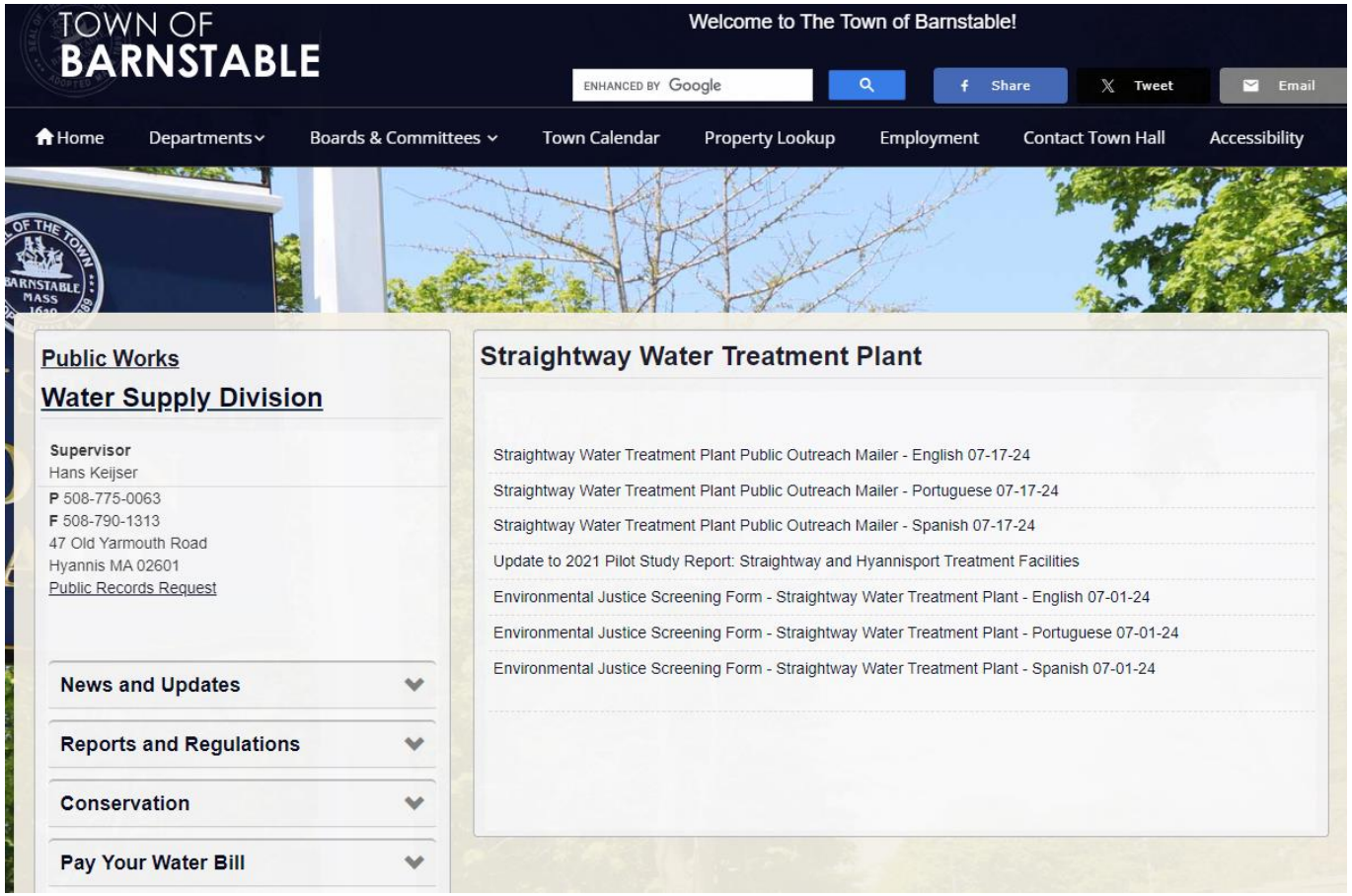
- Fall – Winter 2024:
  - Final Design & Permit Approvals

- Spring – Summer 2025:
  - Bidding and Contract Award

- Fall 2025 – Construction start. Approximately 2-year duration.

# For More Information:

townofbarnstable.us/Departments/watersupply/Straightway-Water-Treatment-Plant.asp




## Thank you!

## Questions?