

Water Facility Improvements

Dover NH

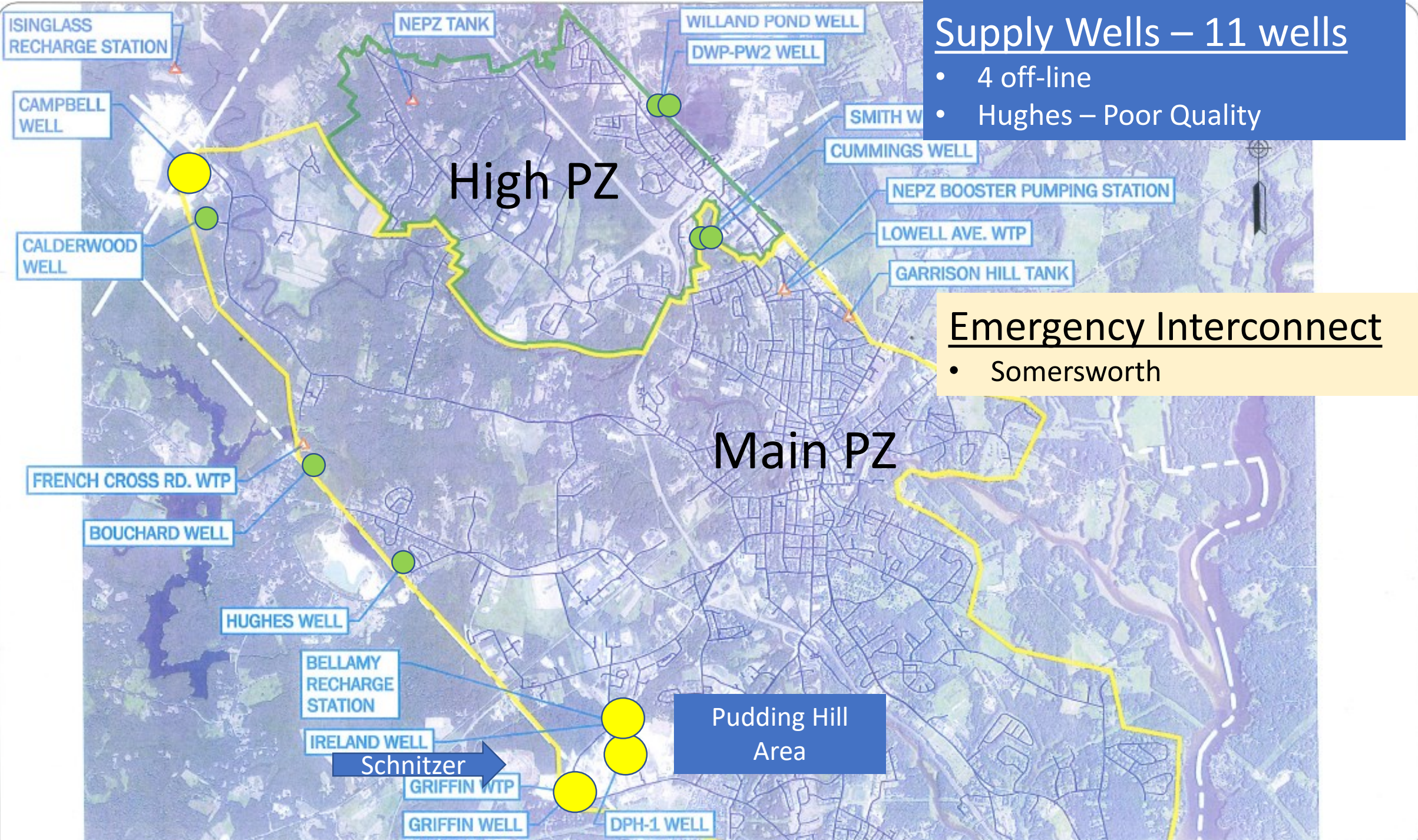
City Council Workshop

May 12, 2021

Agenda

- Pudding Hill Water Treatment Plant
- Water Storage Improvements





Supply Wells – 11 wells

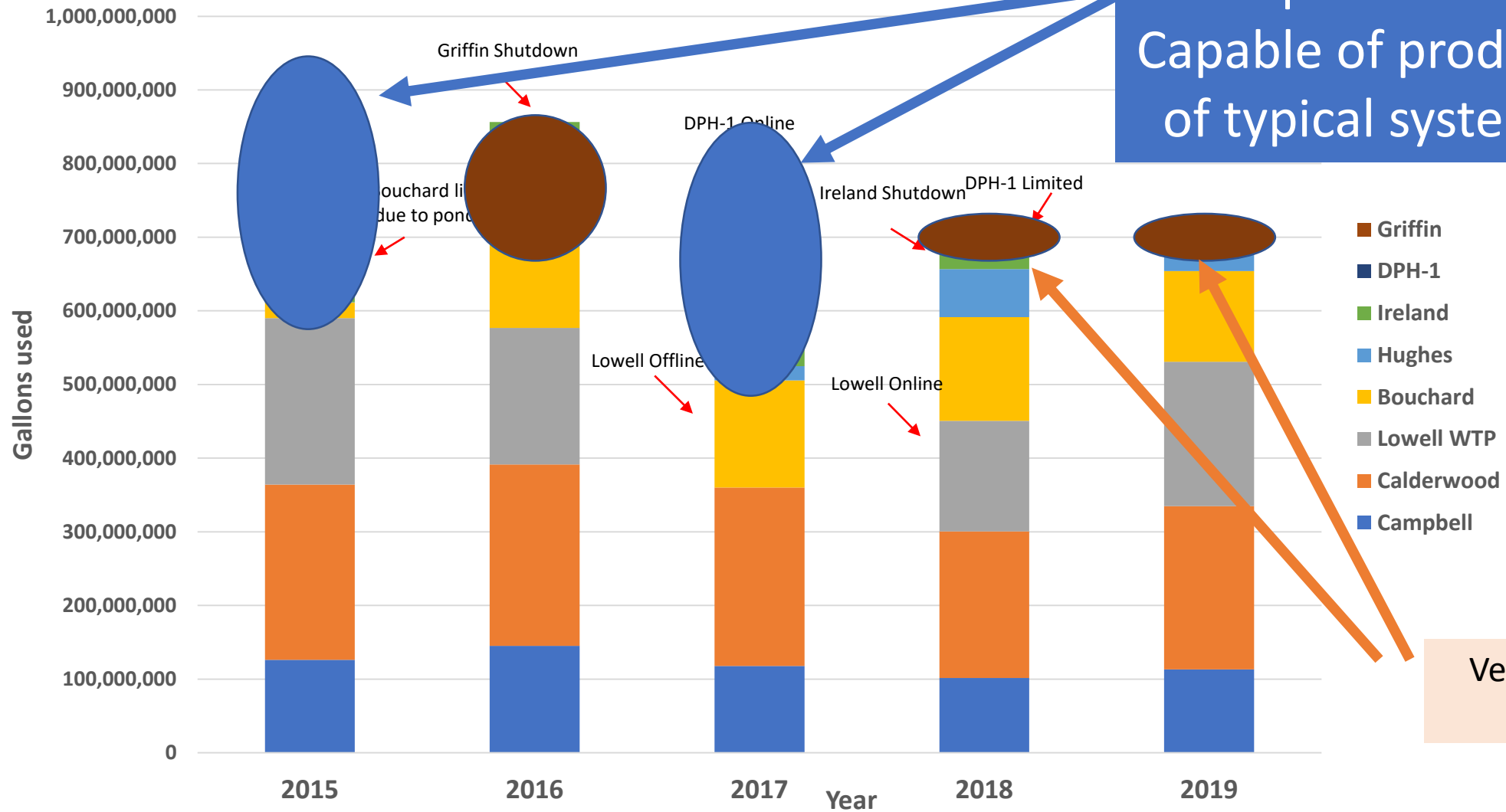
- 4 off-line
- Hughes – Poor Quality

Emergency Interconnect

- Somersworth

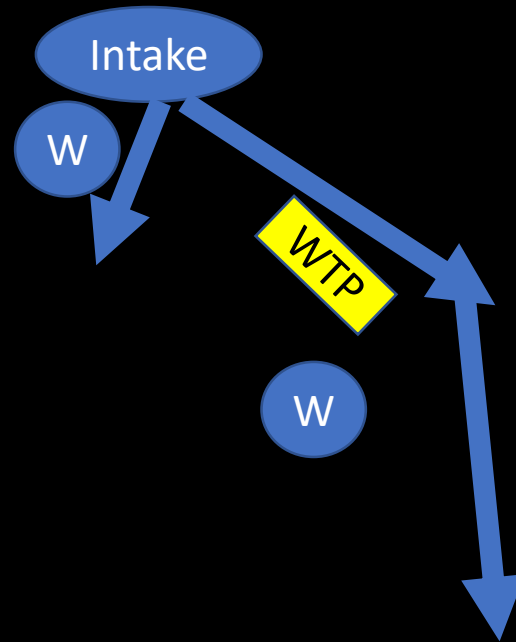
Dover Well Production
2 to 2.5 MGD

Pudding Hill is and
Important Aquifer!
Capable of producing 40%
of typical system needs.



Pudding Hill Improvements Project Goals and Basis of Design

- Restore full use of the aquifer as a drinking water source
- Treat regulated contaminants to MCL's (non-detect if feasible)
 - PFAS
 - 1,4 Dioxane
 - MtBE
- Treat iron and manganese to below SMCLs

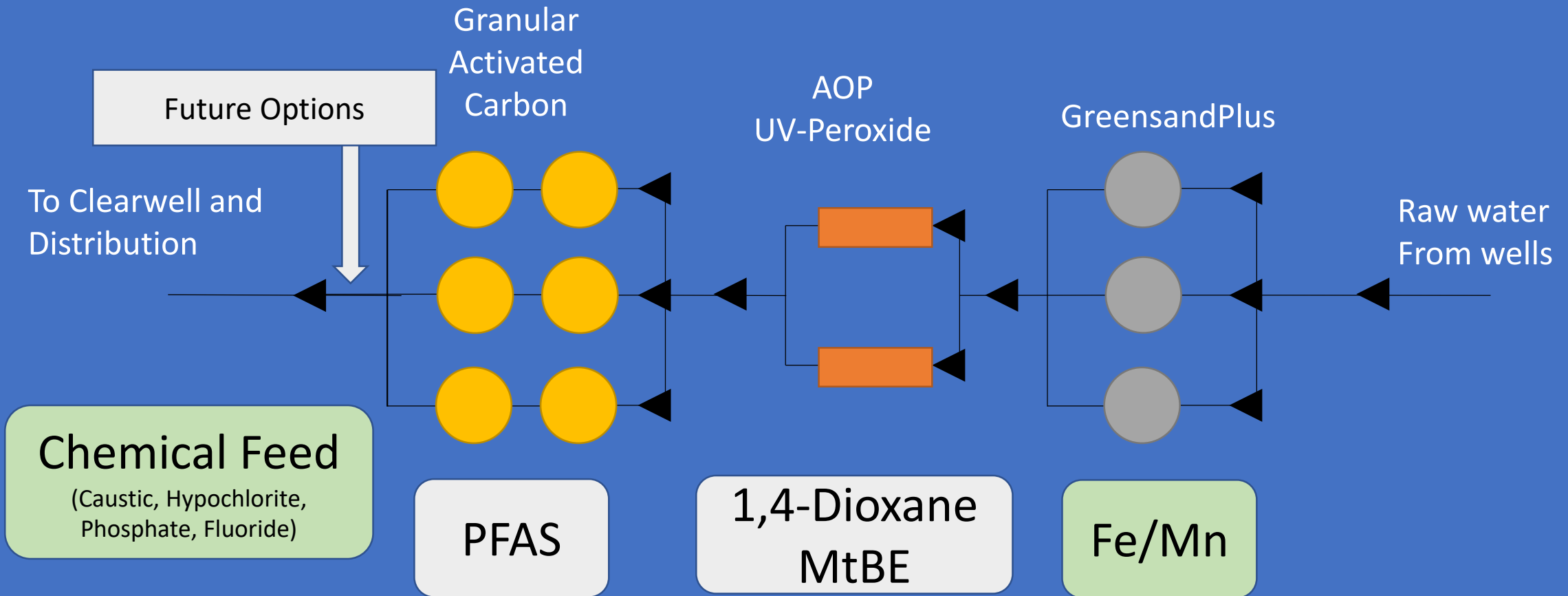


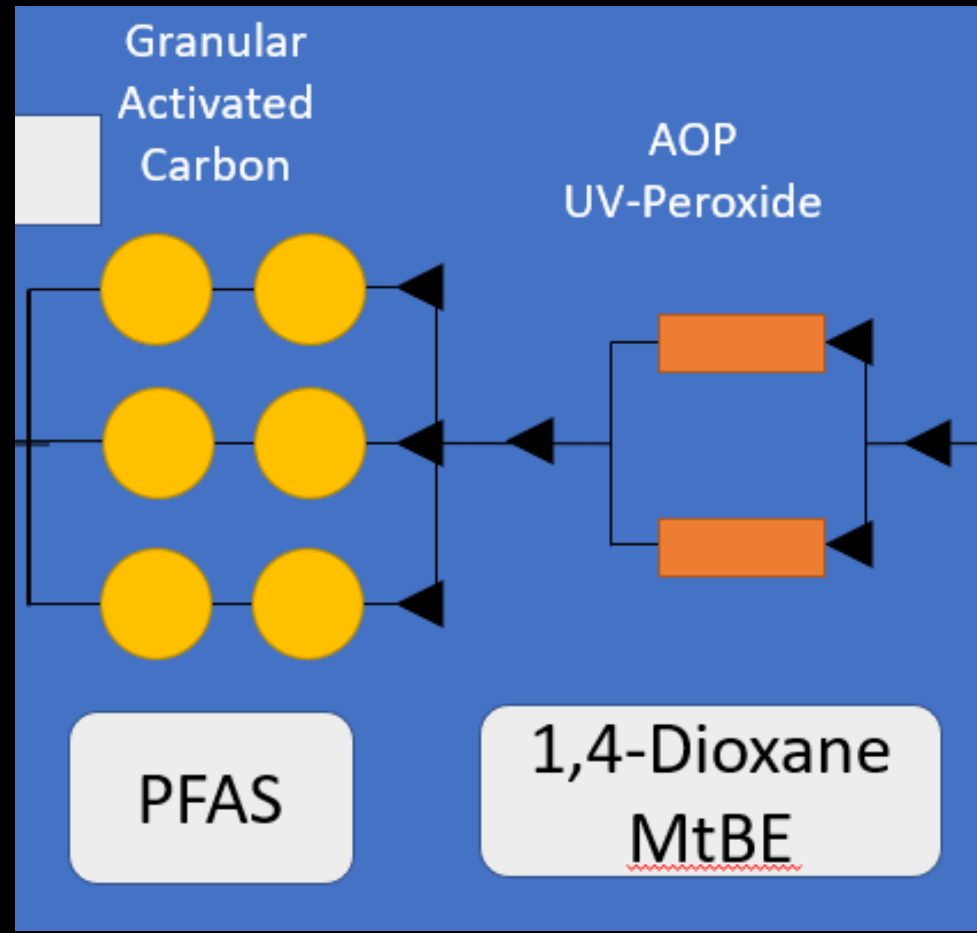
Pudding Hill Aquifer

- 3 Wells and Griffin WTP
- Bellamy River Intake
- 2 Recharge Basins and
- **Proposed Pudding Hill WTP**

Community Services

Pudding Hill Water Treatment Plant Treatment Process – 3 Major Parts





GreenSand Plus Filters – Fe/Mn



UV-Peroxide Advanced Oxidation Process – 1,4-Dioxane, MtBE



Typical Trojan
UV Reactor

Granular Activated Carbon (GAC) Vessels - PFAS



Portsmouth – Pease
Tradeport WTP



Merrimack Village
District - #4 and #5

Treatment Goals

Meet MCL. No Detect, when feasible.

Contaminant	MCL	Remarks
PFAS	Per NH regs 4 compounds	No detect when feasible. Will reduce most other PFAS too, but not all.
MtBE	13 ppb	Goal of <1 ppb based on pilot work and may be close to reporting limit of 0.5 ppb
1,4 Dioxane	0.32 ppb	Based on pilot work should be close to non-detect (reporting limit = 0.2 ppb)

View from
Driveway

DOVER WATER TREATMENT

Dover Water Pudding Hill

January 26, 2021

Tennant Goucher Architects PA



Schedule – Pending Settlement Agreement

- | | |
|--------------------------|------------------|
| • Final Design | Spring 2021 |
| • Bidding and Award | Summer 2021 |
| • Notice to Proceed | Summer/Fall 2021 |
| • Substantial Completion | Spring 2023 |

Water Storage Facilities



Garrison Hill Reservoir

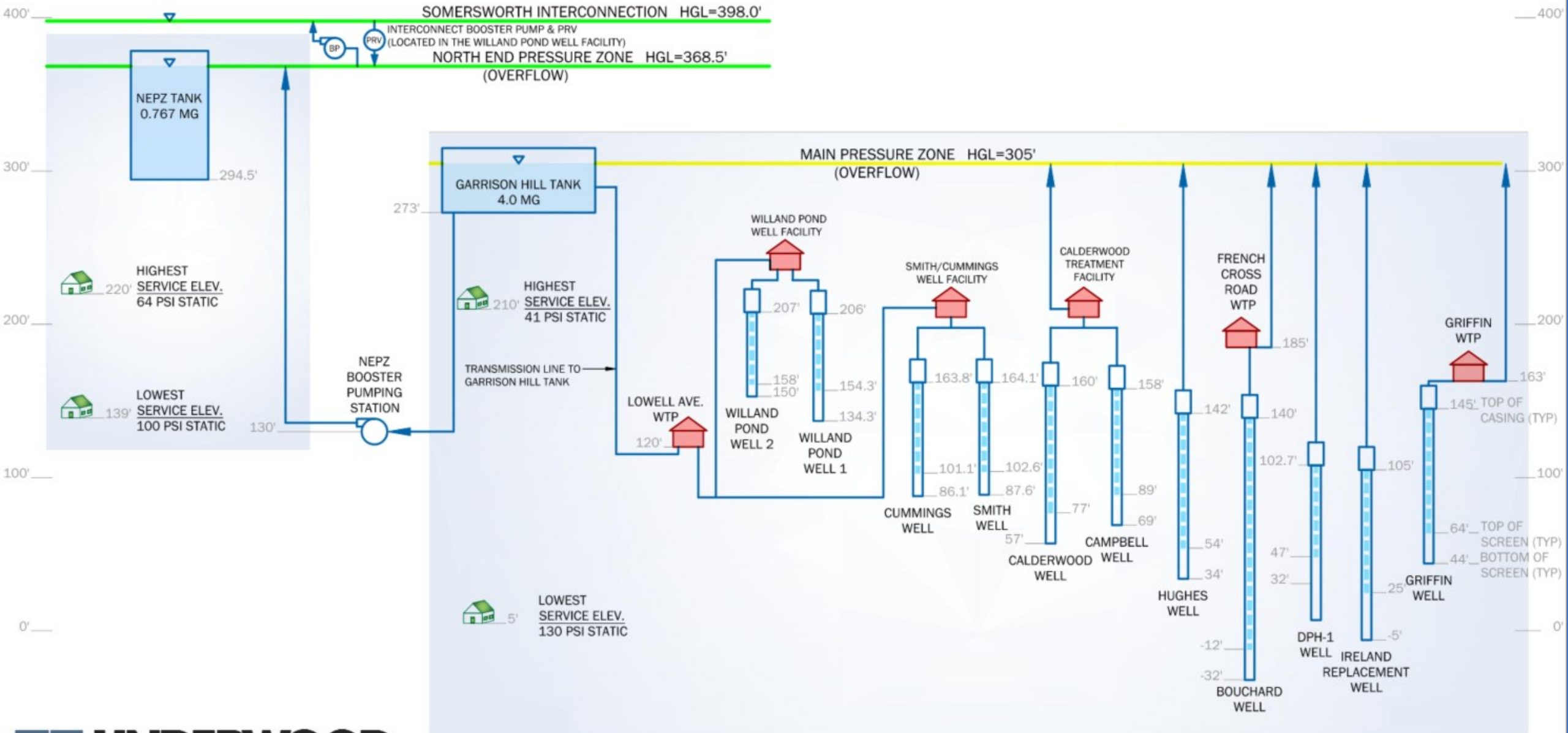
- Located near Abbey Sawyer Memorial Drive
- 4 Million Gallons
- Built in 1968 – Only tank in the main pressure zone
- Needs to be taken offline for maintenance – Need alternative storage

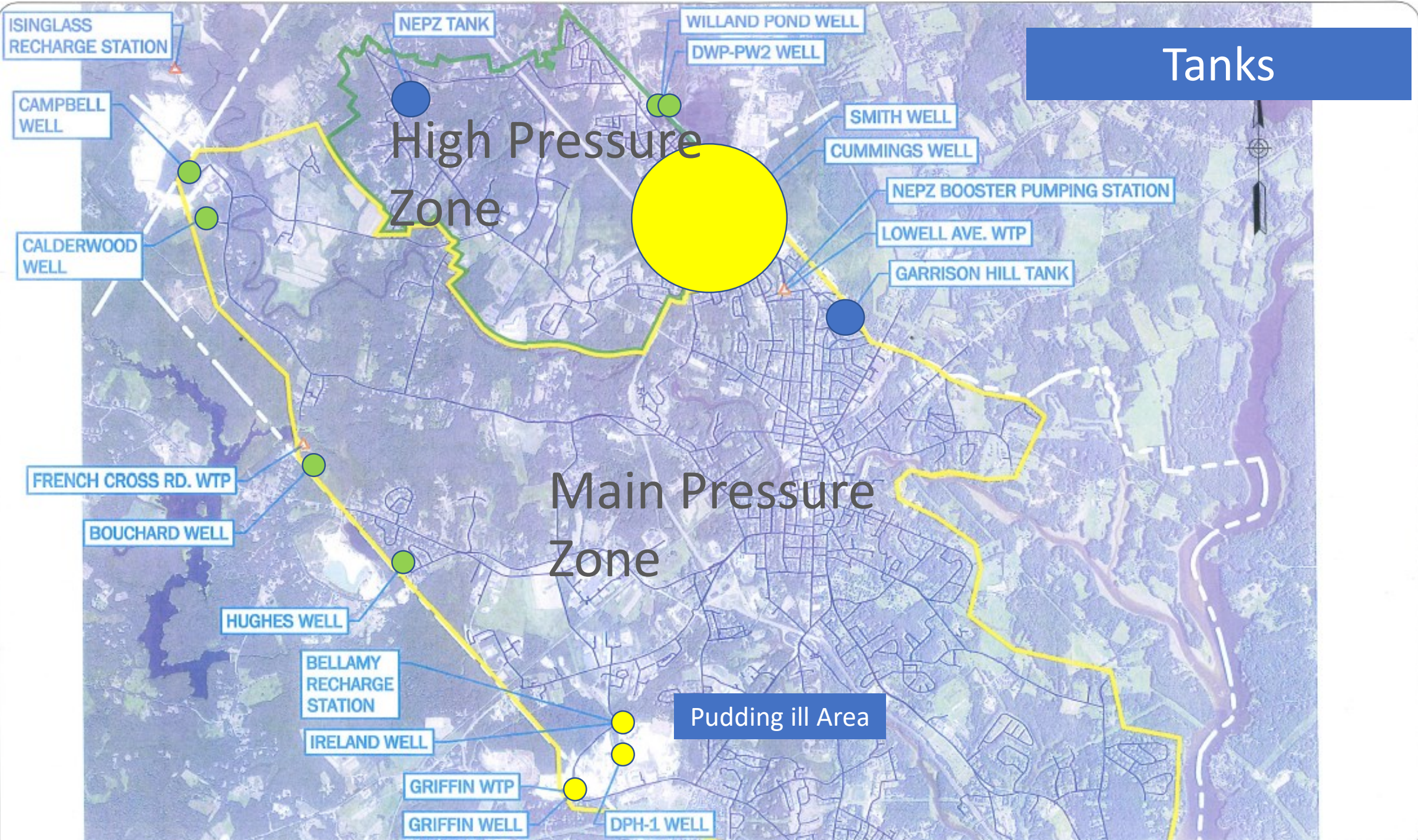


North End Tank

- Long Hill Road
- 750,000 Gallons
- Concrete Standpipe
- Built in almost 10-years ago
- High Pressure Zone

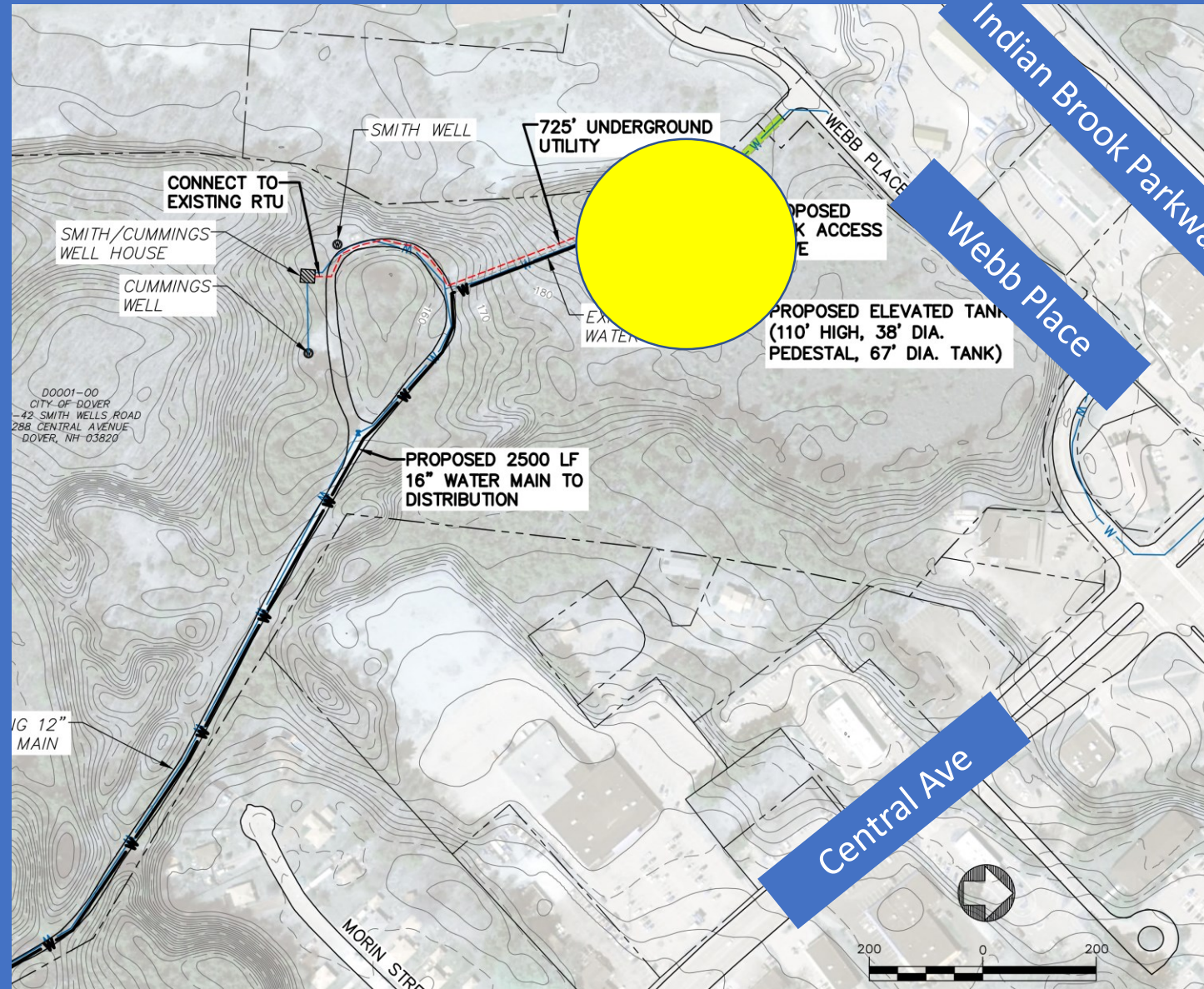






Proposed Tank

- In lieu of a temporary tank
- Near Smith/Cummings Wells
- Very few locations that were suitable
- 1,000,000 Gallons
- About 110 feet tall
- Composite construction
- Provides redundancy



Sample Composite Tanks

Dover will be 110 ft tall.



Portsmouth – Spinney Ave



Exeter – Epping Road (156 ft. to O/F)

Next Steps

- Field Work
- Balloon Test
- Design
- Bid and Construct

Balloon/Drone Test And Rendering

- Londonderry Example

