Town Garage Fuel System Replacement

2 Dedham Street
Dover, Massachusetts

Board of Selectmen Meeting

12/09/2025

Selectmen approval requested for proposed work in Zoning District "O"

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Town Garage Fuel System Replacement

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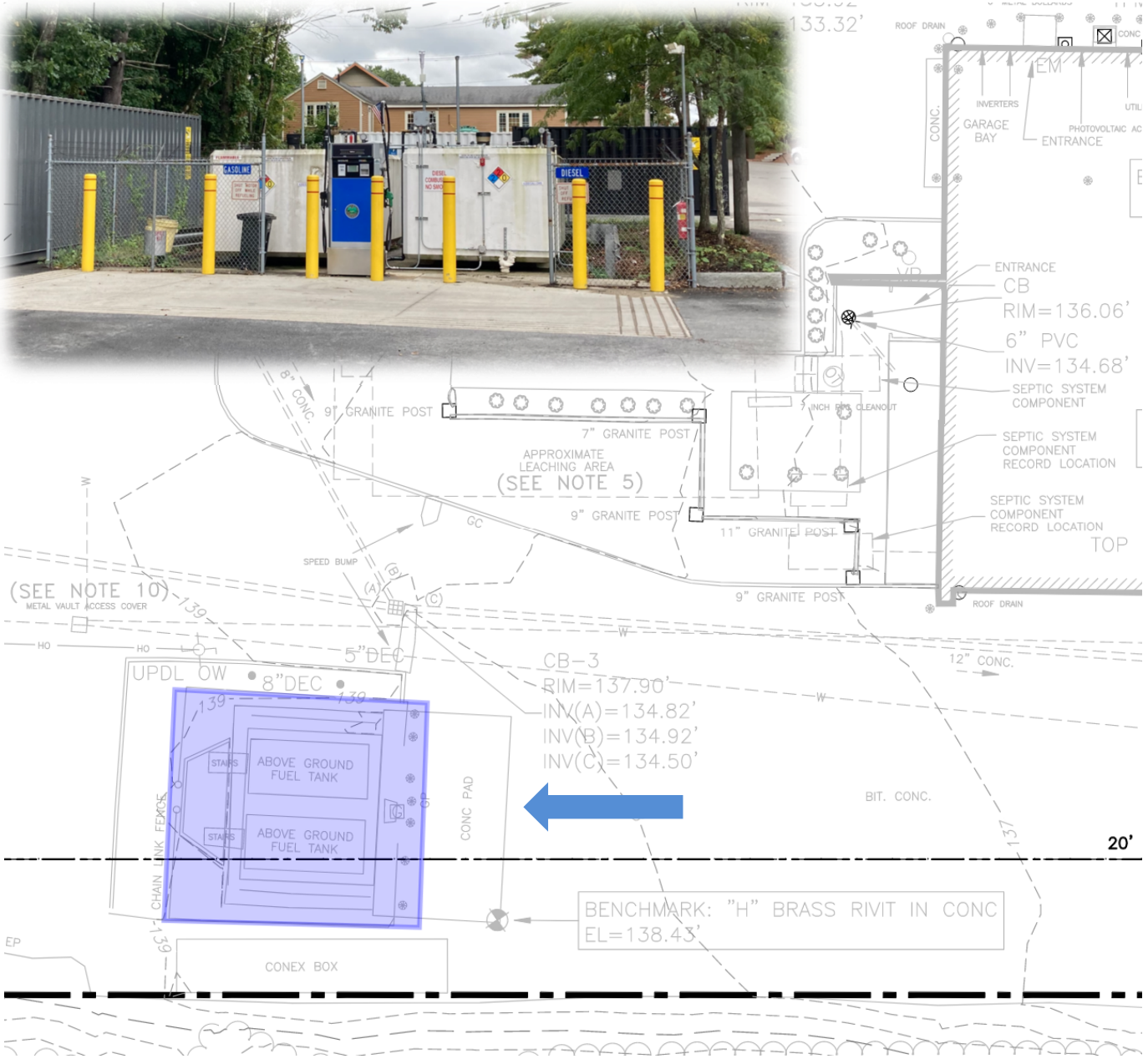
Town Garage Fuel System Replacement

Project Timeline & Overview

- **June 2023**: Issued site feasibility report to DPW evaluating potential salt shed, stormwater, fuel improvements
- **August 2024**: Filed application with Planning for proposed fuel system
- **9/11/2024 1st Planning Board meeting**: Shifted fuel system further from cell tower enclosure per Board feedback
- **10/23/2024 Conservation Commission meeting**:
  - Received feedback regarding erosion controls, spill prevention measures, & incorporated feedback into design
- **1/6/2025 2nd Planning Board meeting**: Implemented fire suppression design per Board feedback
- **1/27/2025 3rd Planning Board meeting**: Recommendation passed with conditions (fueling safety & spill response procedures, construction coordination requirements)

Town Garage Fuel System Replacement
Existing Fuel System

- Located near front of Town Garage building
- Logistical challenge: Tank location requires vehicles to reverse in or out of a cramped/busy area where DPW vehicles are parked
- Existing Convault tanks were installed in 1994; warranty & 30-year life expectancy have expired
- Proposed removal: remove tanks, piping, chain link fence, bollards



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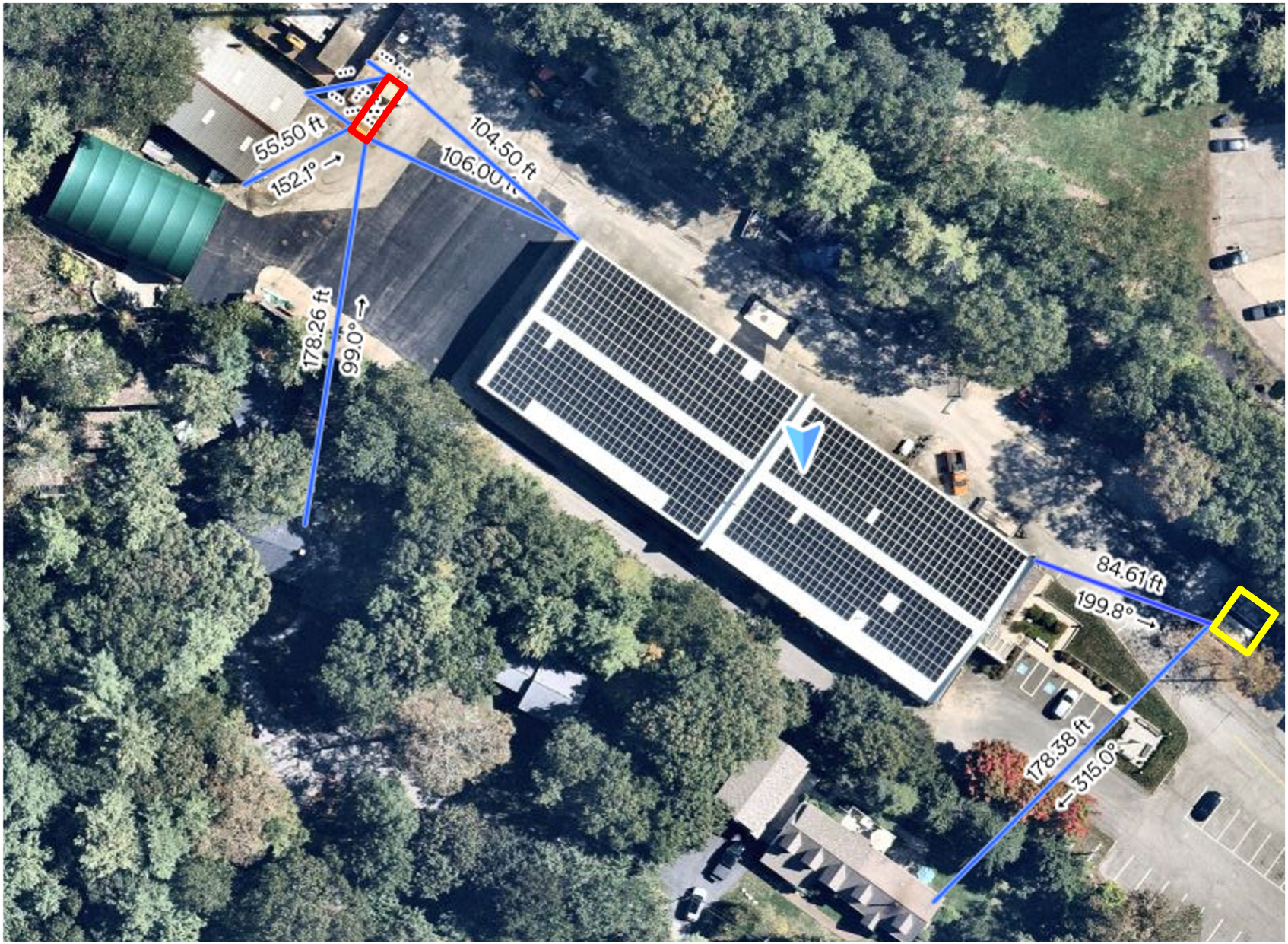
Town Garage Fuel System Replacement



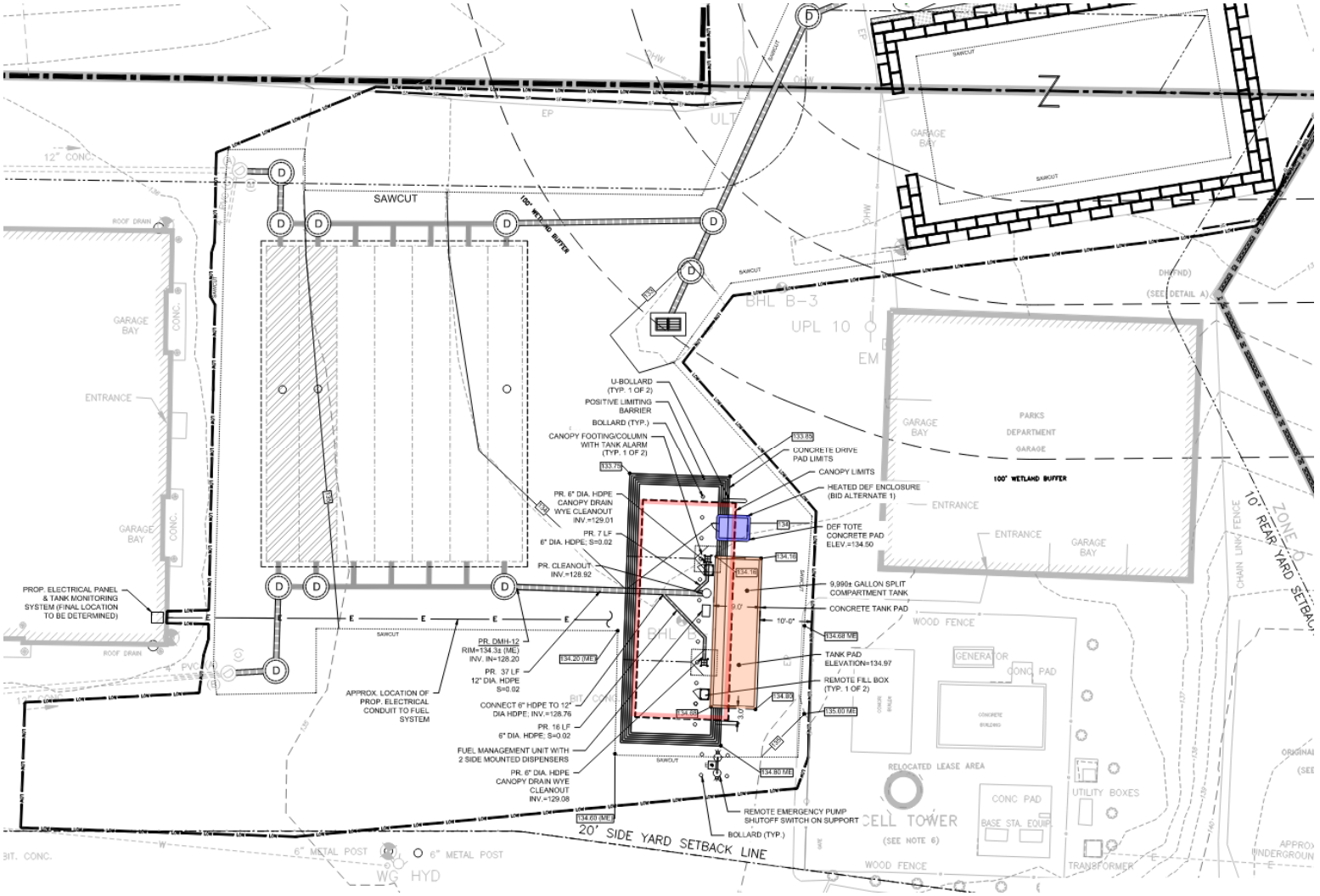
Town Garage Fuel System Replacement
Siting Assessment

- Siting options assessed
  - **Replacing the fuel system in-place**
    - Reverse maneuvers - safety risk & fuel delivery challenges
    - Interruption to on-site fueling operations → Temporary fueling is expensive
    - Tanks are partially within AT&T easement & the Dover structure setback
  - **Relocate to area south of existing fuel tanks**
    - Would require significantly more funding to accommodate additional geotechnical & environmental exploration, design and permitting ($50k-100k) with a 6-12 month schedule delay
    - Material and equipment storage area. Placing fuel system here could reduce operational efficiency
    - Area is not paved; adding impervious would exacerbate potential flooding issues. Project design aims to limit new impervious area.

- **Relocate to rear of site (selected option)**
  - Met with Conservation Commission to review the project & incorporated their feedback into the design
  - Received positive Planning Board recommendation vote
  - Best option for vehicular access and circulation
  - Rear location keeps critical infrastructure away from public facing location
  - Complies with zoning and dimensional requirements
  - Grades are less steep than other options
  - Geotechnical and environmental investigations already complete in vicinity of fueling system from recent salt shed replacement & stormwater improvement project

Town Garage Fuel System Replacement
Proposed Fuel System

- 9,990± gallon double walled steel split tank (gasoline and diesel fuel)
- Single-side fueling configuration
- Fueling Canopy (recessed motion-sensing lighting)
- Concrete fueling pad with bollard protection
- One gasoline/diesel dispenser & fuel management system
- Diesel exhaust fluid tote (bid alternate)
- Placement allows no interruption to fueling during construction (existing tanks will be removed <u>after</u> proposed installation)



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Town Garage Fuel System Replacement

Proposed Fuel System

SAFETY MEASURES

TANK DESIGN

UL2085 Rating (Protected Aboveground Tank)

- **Fire Test**
  - 2000-degree furnace to simulated pool fire for 2 hours:
- **Stream Hose Test**
  - Shows tank wont rupture during a fire event when sprayed with water
- **Impacted Test**
  - 12,000 Lbs. object traveling at 10mph
- **Ballistics test**
  - 5 times 100ft away with a .308 caliber rifle. Bullet cannot pierce inner tank.

Town Garage Fuel System Replacement
Proposed Fuel System
SAFETY MEASURES

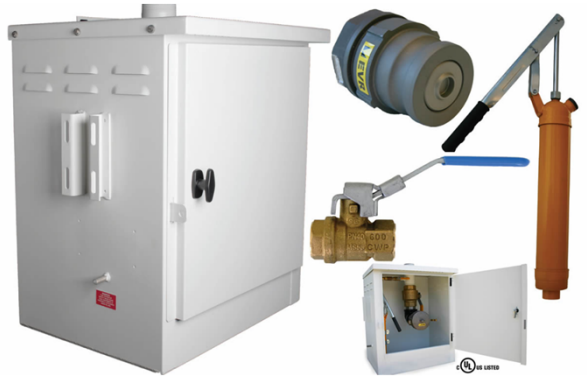
Vapors & Emissions

- **Stage I Vapor Recovery System**: returns vapors to fuel delivery truck
- **Certified Pressure/Vacuum Vent Caps**: prevent vapors from escaping tanks, venting allowed only when tank depressurizes
- **Onboard refueling vapor recovery in vehicles**: starting in 1998, vehicles began incorporating this to capture vapor during refueling

Town Garage Fuel System Replacement

Proposed Fuel System

SAFETY MEASURES



Additional Safety Measures

- **Continuous electronic leak monitoring system**
- Overfill prevention valves
- audible/visual high-level
- In-line leak detection
- 10-gallon remote fill box to contain minor spills
- Camlock poppetted fill port
- **Dispenser hoses with shear valves**
- Dispensers' emergency shear valves
- Expansion relief valves
- **Anti-Siphoning Valve**
- A fuel management
- **Catch basin mat used during tank fuel deliveries**
- Fire extinguishers
- Fixed fire suppression
- A Spill Prevention, Control, and Countermeasure (SPCC) plan will be prepared prior to facility operation per EPA regulations (40 CFR 112).

Thank you.

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