

## **Appendix L**

**Board of Selectmen Presentation, September 20, 2016**

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Town of Needham  
Public Works Facility

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Board of Selectmen Update Presentation  
September 20, 2016

# Town of Needham Public Works Facility

## **Agenda |**

- Project History
- Public Works Responsibilities
- Why does the Town need a new facility
- What is proposed
- What are the benefits of a new / improved facility
- Questions / comments

# Town of Needham Public Works Facility

## Site History |

- Original facility built in 1961
- A second floor addition was completed in 1966
- Since the facility was built, the Town's infrastructure maintained by DPW has grown:
  - Miles of road have increased
  - Quantity of water & sewer mains have increased
  - The population has increased
- The Town completed a Facilities Master Plan in 2006 which stated that the existing Dedham Ave facility is "too small, inefficient and inappropriate" for the department needs.



# Town of Needham Public Works Facility

## Site History |

- The Town updated the Facilities Master Plan in 2014 reaffirming the need to replace the existing DPW facility which was described as "undersized for its core purpose" and "does not meet current Building Code standards"
- The 2015 Annual Town Meeting approved Article 14 appropriating monies for a DPW Feasibility Study
- Town hired Weston & Sampson to prepare a comprehensive feasibility study in 2016 - (*Weston & Sampson brings experience with improvements to more than 100 public works facilities in New England*)



Town of Needham  
Public Works Facility

# **Public Works Responsibilities**

# Town of Needham Public Works Facility

**The DPW touches the lives of the residents everyday by maintaining the infrastructure that the community relies on including...**

- Highway maintenance and construction
  - 260 lane miles of roadway
  - 160 miles of sidewalk
  - 246 miles of grass/curbing and parking lots
- Equipment maintenance
- Sanitary sewer construction and maintenance
- Stormwater system construction and maintenance
- Solid waste disposal
- Park & Forestry maintenance
  - Public shade trees
  - Parks and athletic fields
  - Support of recreational programs
- Traffic control
  - Traffic signal maintenance & repair
  - Traffic markings
  - Sign repair and installation
- Administration / Engineering
- Water supply and distribution
  - Operation & maintenance of supply, storage, treatment and distribution

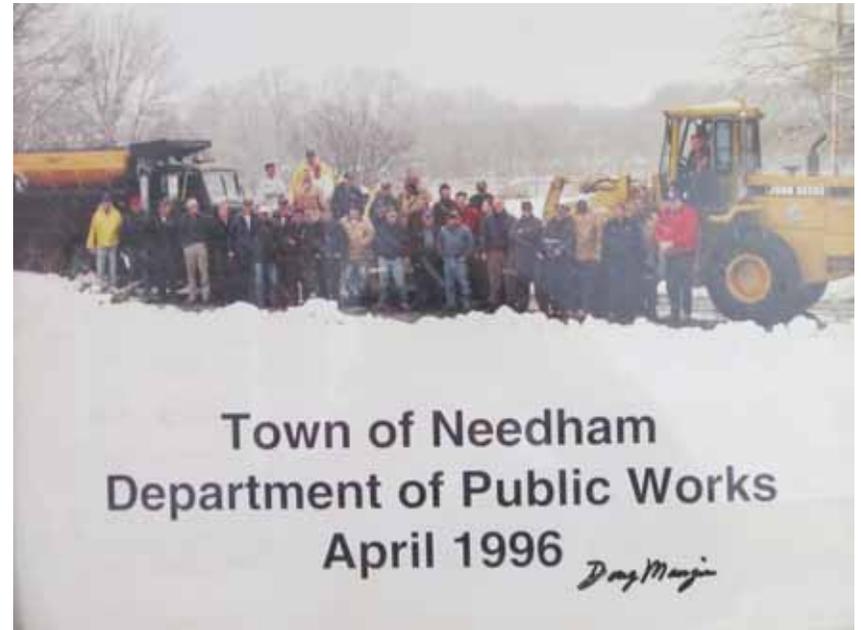


Town of Needham  
Public Works Facility

**The DPW touches the lives of the residents everyday by maintaining the infrastructure that the community relies on including...**

On call 24 hours a day to handle incidents & emergencies including:

- Snow and ice removal operations
- Hurricane / windstorm cleanup
- Removal of road hazards
- Flooding
- Road repair
- Emergency response / consequence management
- The support of other emergency departments



Town of Needham  
Public Works Facility

Public Works agencies are considered First Responder and the facilities must support this important role:



**Public Works**  
THE FIRST RESPONDERS WHO ARE THERE  
UNTIL THE EMERGENCY IS OVER

*“Since the Fall of 2009 DPW’s have been classified as first responders under U.S. Department of Homeland Security’s (DHS) Emergency Services Sector Coordinating Council’s Sector Specific Plan”*

Town of Needham  
Public Works Facility

# **Why Does the Town Need a New Facility?**

# Town of Needham Public Works Facility

## Why does the Town need a new Public Works facility?

- Existing facility is more than 50 years old with no significant improvements or modernizations
- Responsibilities have increased significantly over the decades along with vehicles, equipment, and staff
- The facility no longer meets the needs of Public Works/Town and is not code complaint
- Efficiency of operations and employee safety are negatively impacted by the substandard conditions



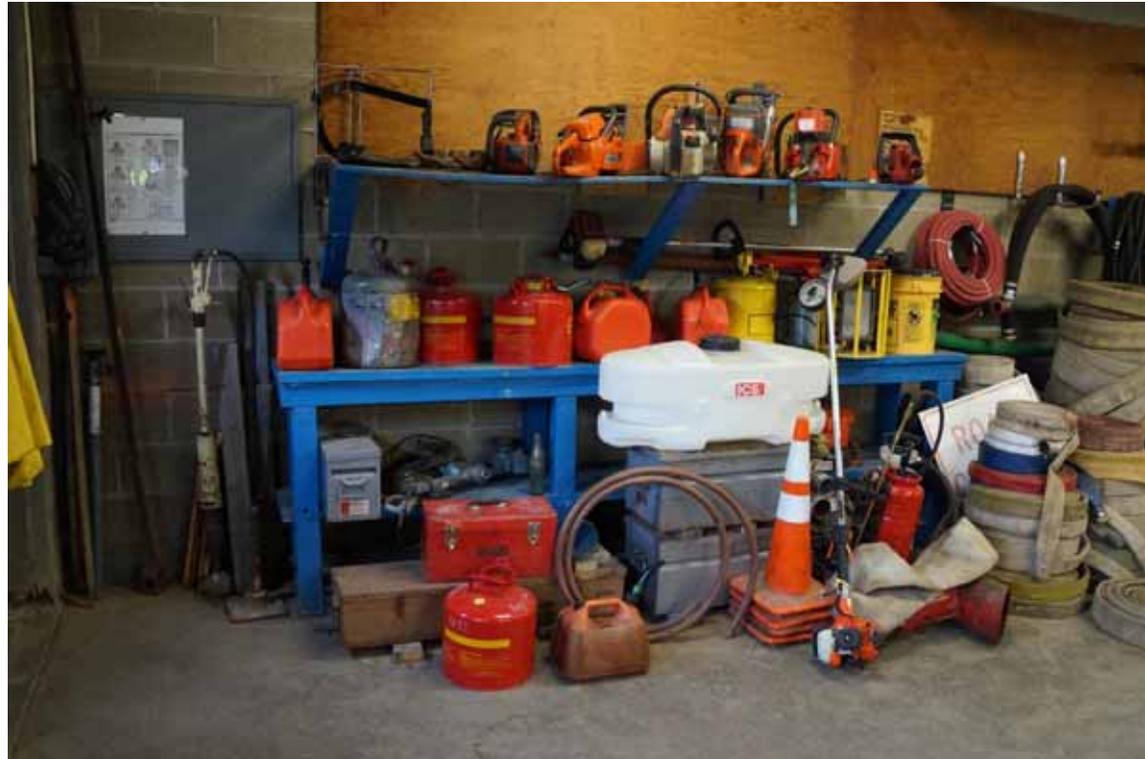


# Town of Needham Public Works Facility

## Non-Code Compliant and Unsafe Working Conditions



*Employee lockers, break area, and refrigerator are located in a Shop Area*



*Shop areas are undersized for safe and efficient work space and material storage*

Shop & Employee Support Spaces are Undersized, Inefficient, and Unsafe for Today's Operations

# Town of Needham Public Works Facility

## Non-Code Compliant and Unsafe Working Conditions



*Existing toilet facilities do not meet current Plumbing Code or Accessibility Codes*



*Egress does not meet code*

Shop & Employee Support Spaces are Not Code Compliant

# Town of Needham Public Works Facility

## Vehicle Maintenance Area

- Does not meet acceptable industry and safety standards
- Inadequate height for maintenance
- Poor ventilation - antiquated mechanical system
- Poor lighting
- Non code compliant shop clearances



# Town of Needham Public Works Facility

## Vehicle Maintenance Area

- Does not meet acceptable industry and safety standards
- Inadequate height for maintenance
- Poor ventilation - antiquated mechanical system
- Poor lighting
- Non code compliant shop clearances



*Maintenance bays and support space are undersized to safely and efficiently maintain vehicles and equipment*

# Town of Needham Public Works Facility

## Vehicle Maintenance Area

- Does not meet acceptable industry and safety standards
- Poor ventilation - antiquated mechanical system
- Poor lighting
- Non code compliant shop equipment



*Sample Photo of a Safe & Efficient Vehicle Maintenance Area*

# Town of Needham Public Works Facility

Why does the Town need a new Public Works facility?

- Vehicle and equipment types and sizes have changed significantly since the facility was constructed



Martin Phippard Collection

*1950's era DPW vehicles*



*Today's larger multipurpose DPW vehicles*

# Town of Needham Public Works Facility

## Existing Vehicle / Equipment Storage



*Vehicle and equipment storage area is too small to safely and efficiently store the DPW equipment*

# Town of Needham Public Works Facility

## Existing Vehicle / Equipment Storage



*Sample photograph of today's safe and efficient vehicle/equipment storage garages*

# Town of Needham Public Works Facility

Unprotected vehicle/equipment storage due to undersized facility



As a result, a portion of the multi-million dollar fleet and equipment are stored outdoors due to limited space

# Town of Needham Public Works Facility

Unprotected vehicle/equipment storage due to undersized facility



As a result, a portion of the multi-million dollar fleet and equipment are stored outdoors due to limited space

# Town of Needham Public Works Facility

## Why does the Town need a new Public Works facility?

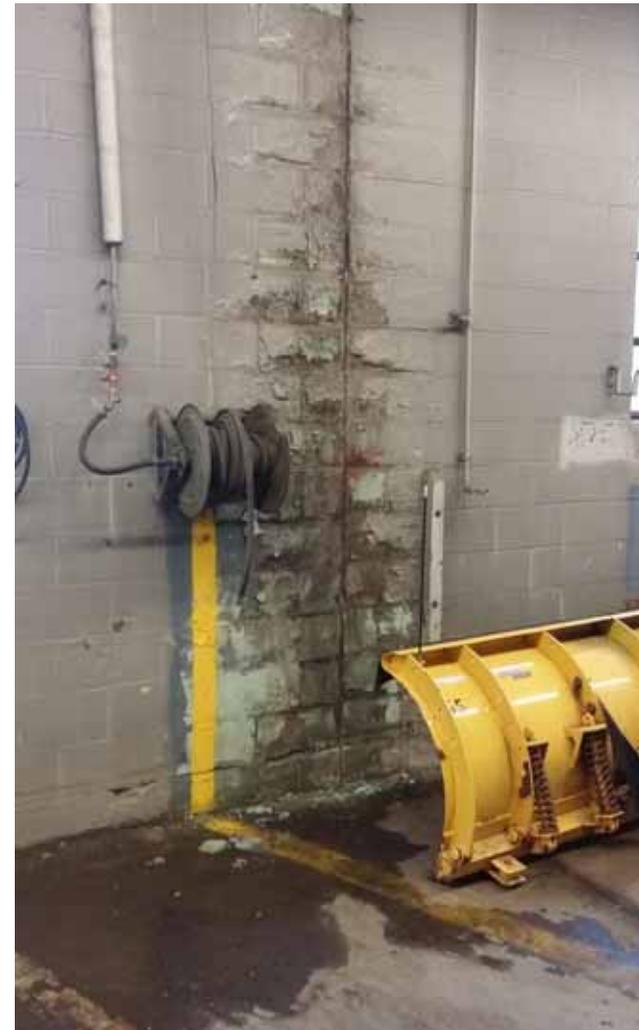
- Weston & Sampson completed an assessment of the existing DPW building for potential reuse
- The assessment determined that the reuse of the existing building is not economically or operationally feasible
  - Roof is past its useful life and leaking and is in need of replacements
  - Exterior walls are cracking and have no vertical reinforcing requiring structural upgrades
  - Windows are single pane and rusted/deteriorated requiring replacement
  - Steel joists over vehicle storage area are rusting and do not have capacity for current flat roof and drifting snow loads per current building code and require replacement
  - Mechanical systems have exceeded their useful life and do not meet current ventilation requirements required by code.
  - Wall and roof insulation does not meet current energy code
  - Upper level is not accessible



Town of Needham  
Public Works Facility

## Summary of Deficiencies |

- Existing buildings do not comply with today's Building Code
  - No sprinkler system
  - Inadequate egress
  - ADA Accessibility
  - Fire Separation
- Toilet facilities do not meet current Plumbing Code
  - Number of fixtures
  - Male/female toilet facilities
- Building does not meet current Mechanical Code
  - Ventilation /electric
  - Maintenance air exchanges
  - Carbon monoxide detection system
- Building framing does not meet current snow load requirements
- Operational inefficiencies due to space constraints
  - Inadequate storage areas
  - Inadequate employee facilities
  - Inadequate material storage areas
  - Undersized maintenance area
  - Inadequate file storage
  - Safety concerns for staff



# Town of Needham Public Works Facility

Potential risks associated with substandard facilities

***Town's Fleet of Plows Crushed in Collapse***  
*(Plymouth CT, NBCConnecticut.com 2011)*



***Fire destroys town's public works building***  
*Officials say fire was major loss for town (WMUR  
Hopkinton NH 2012)*



**Lynnfield DPW Storage Garage Fire (2013)**



**Blaze destroys Henniker snow-removal equipment, leaving 'serious problem'**  
*(Henniker NH, Concord Monitor 2015)*



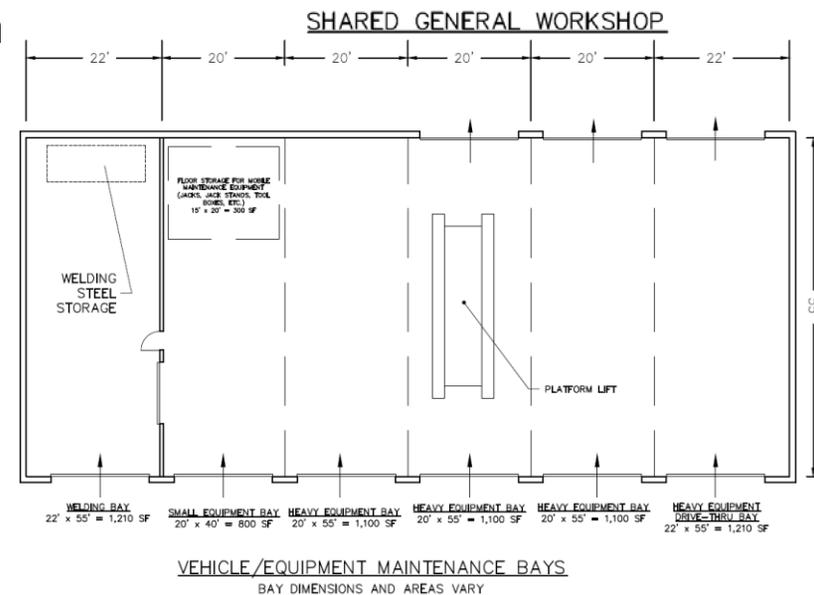
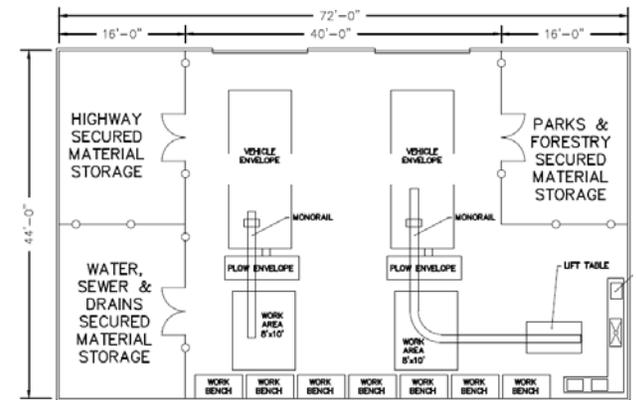
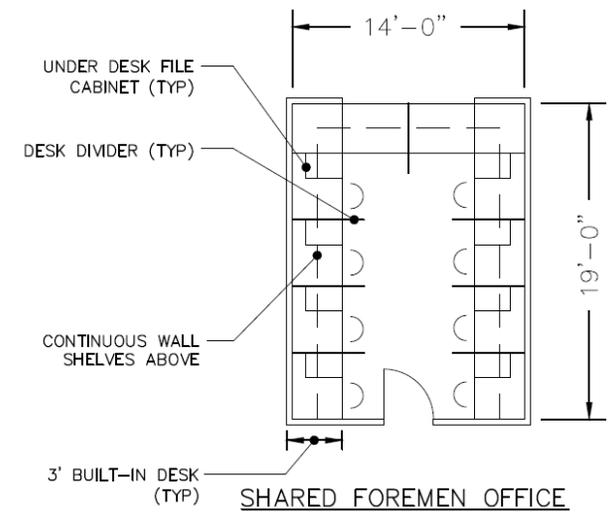
Town of Needham  
Public Works Facility

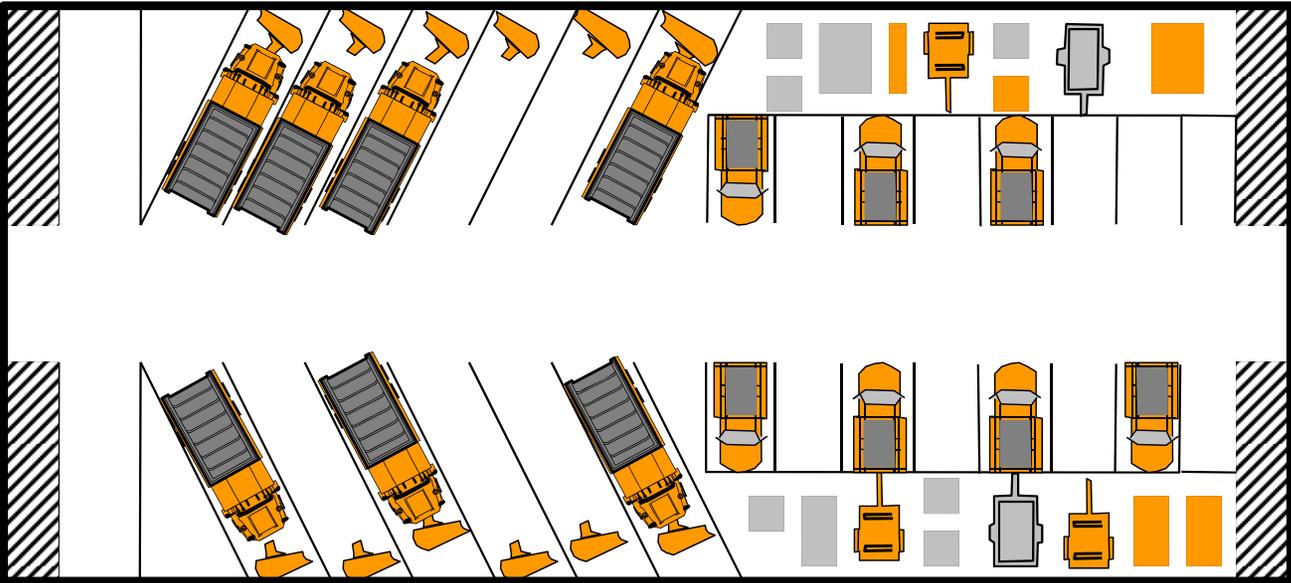
# **What is Proposed**

# Town of Needham Public Works Facility

## Programming Process |

- Conducted staff interviews to verify program requirements
  - Administration
  - Engineering
  - Highway
  - Water, Sewer, & Drains
  - Parks & Forestry
  - Recycling & Transfer Station
  
- Compared interview data to Weston & Sampson standards based > 100 New England public works facility projects
  
- Prepared programming sketches for each operating area





*Parking stalls sized to store plows*



*Safe and efficient vehicle / equipment storage*

Town of Needham  
Public Works Facility

**Programming Results |**

<u>Space Needs Assessment</u>	<u>2014 Master Plan Space Needs</u>	<u>2016 Comprehensive Feasibility Study Program</u>
• Administration / Engineering	13,793 SF	11,324 SF
• Staff Support	6,103 SF	5,901 SF
• Workshops	5,746 SF	4,922 SF
• Equipment Maintenance	14,818 SF	11,926 SF
• Wash Bay	1,776 SF	1,549 SF
• Vehicle & Equipment Storage	46,244 SF	51,744 SF
<b>Subtotal:</b>	<b>88,480 SF</b>	<b>87,366 SF</b>
• Open Canopy Storage	--	<u>11,880 SF</u>

**Space needs have been  
independently verified**

Town of Needham  
Public Works Facility

# Site Selection

# Town of Needham DPW Feasibility Study

## Site Selection

- Based on the results of the previous Master Plan Studies, Weston & Sampson evaluated two (2) potential sites for a New DPW Facility
  - 1421 Central Ave – Recycling & Transfer Station (RTS)
  - Dedham Avenue (Existing DPW Site)



*Central Ave Site (RTS)*



*Dedham Ave Site (Existing DPW)*

# Central Avenue Site (RTS)



# Town of Needham DPW Feasibility Study

## Existing Conditions Plan



EXISTING RTS  
SITE PLAN  
2  
SCALE: 1" = 50'



**Westerkamp**  
100 Frothingham Boulevard, Suite 250  
Framingham, MA 01704  
(508) 877-4110  
www.westerkamp.com

# Town of Needham DPW Feasibility Study

## Site Constraints/Opportunities

Wetlands

50' wetland setback

100' wetland setback

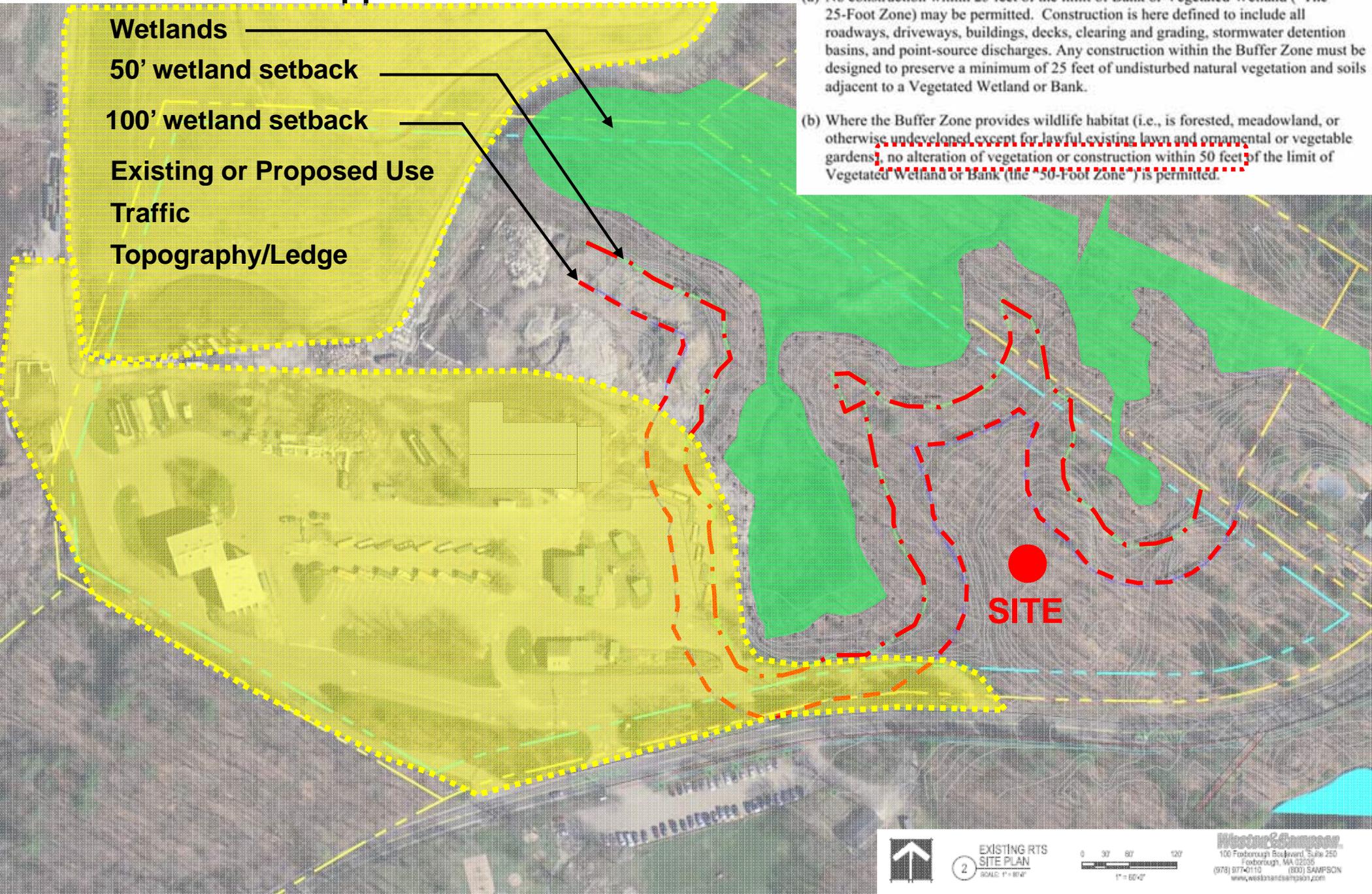
Existing or Proposed Use

Traffic

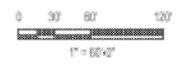
Topography/Ledge

(a) No construction within 25 feet of the limit of Bank or Vegetated Wetland ("The 25-Foot Zone") may be permitted. Construction is here defined to include all roadways, driveways, buildings, decks, clearing and grading, stormwater detention basins, and point-source discharges. Any construction within the Buffer Zone must be designed to preserve a minimum of 25 feet of undisturbed natural vegetation and soils adjacent to a Vegetated Wetland or Bank.

(b) Where the Buffer Zone provides wildlife habitat (i.e., is forested, meadowland, or otherwise undeveloped except for lawful existing lawn and ornamental or vegetable gardens), no alteration of vegetation or construction within 50 feet of the limit of Vegetated Wetland or Bank (the "50-Foot Zone") is permitted.



EXISTING RTS  
SITE PLAN  
SCALE: 1" = 80'



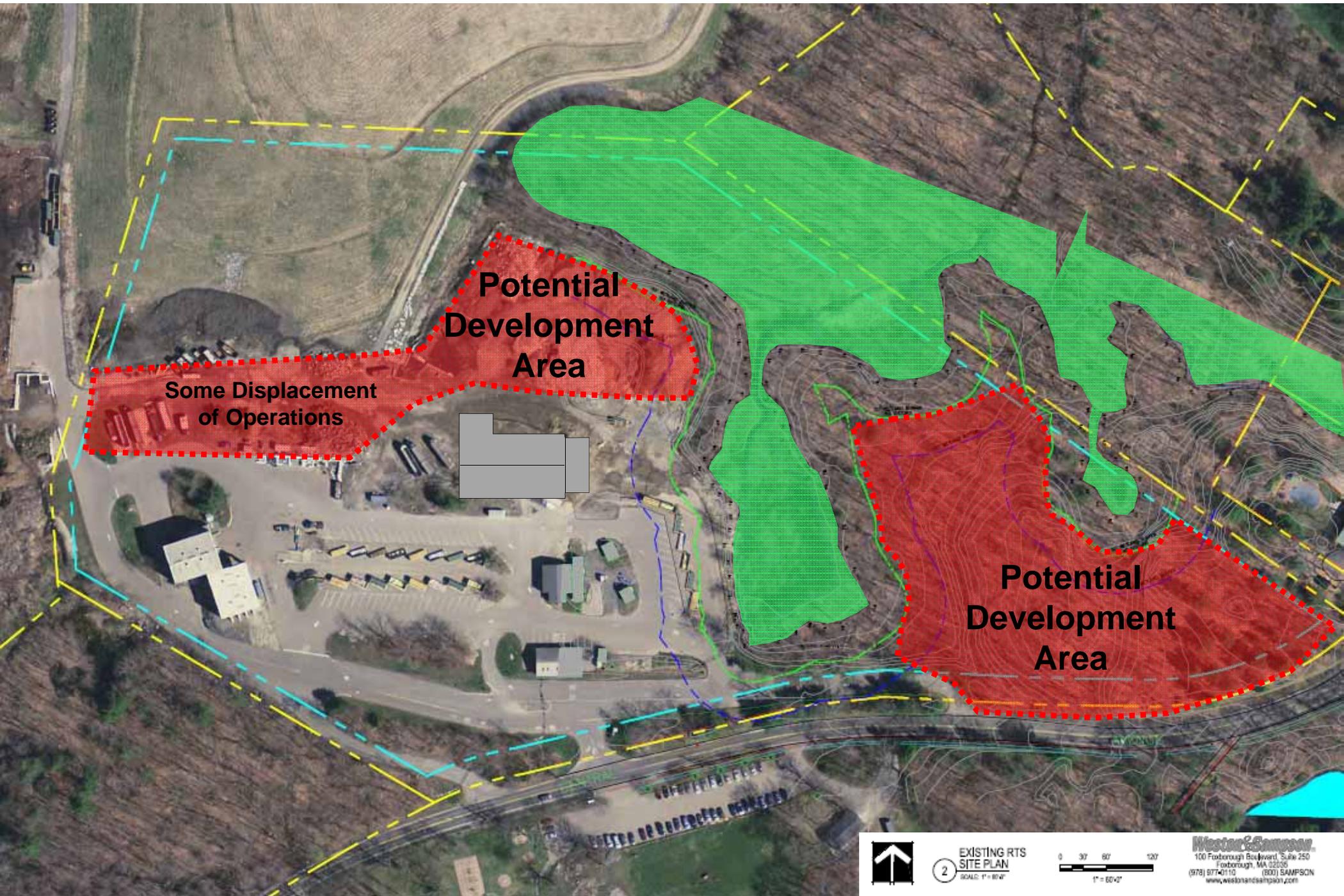
**Wester & Sampson**  
100 Fosterburgh Boulevard, Suite 250  
Fosterburgh, MA 02026  
(978) 517-4113 (800) 5AMPSON  
www.westerandsampson.com

Town of Needham  
DPW Feasibility Study

Existing Topography



# Town of Needham DPW Feasibility Study





# Town of Needham Public Works Facility

## Recommendations for RTS|

- Central Ave Site (RTS) – is not a viable site for a New DPW Facility due to:
  - Operational Impacts associated with extensive campus style layout requirements
  - Displacement of RTS operations with no room to relocate operations
  - Costs associated with site topography & ledge
  - Regulatory restrictions (wetlands) limiting developable area
  - Traffic impacts to DPW operations
- Use of undeveloped portion of RTS Central Ave site for DPW yard storage area is viable



Town of Needham  
DPW Feasibility Study

Dedham Avenue Site  
(Existing DPW Site)



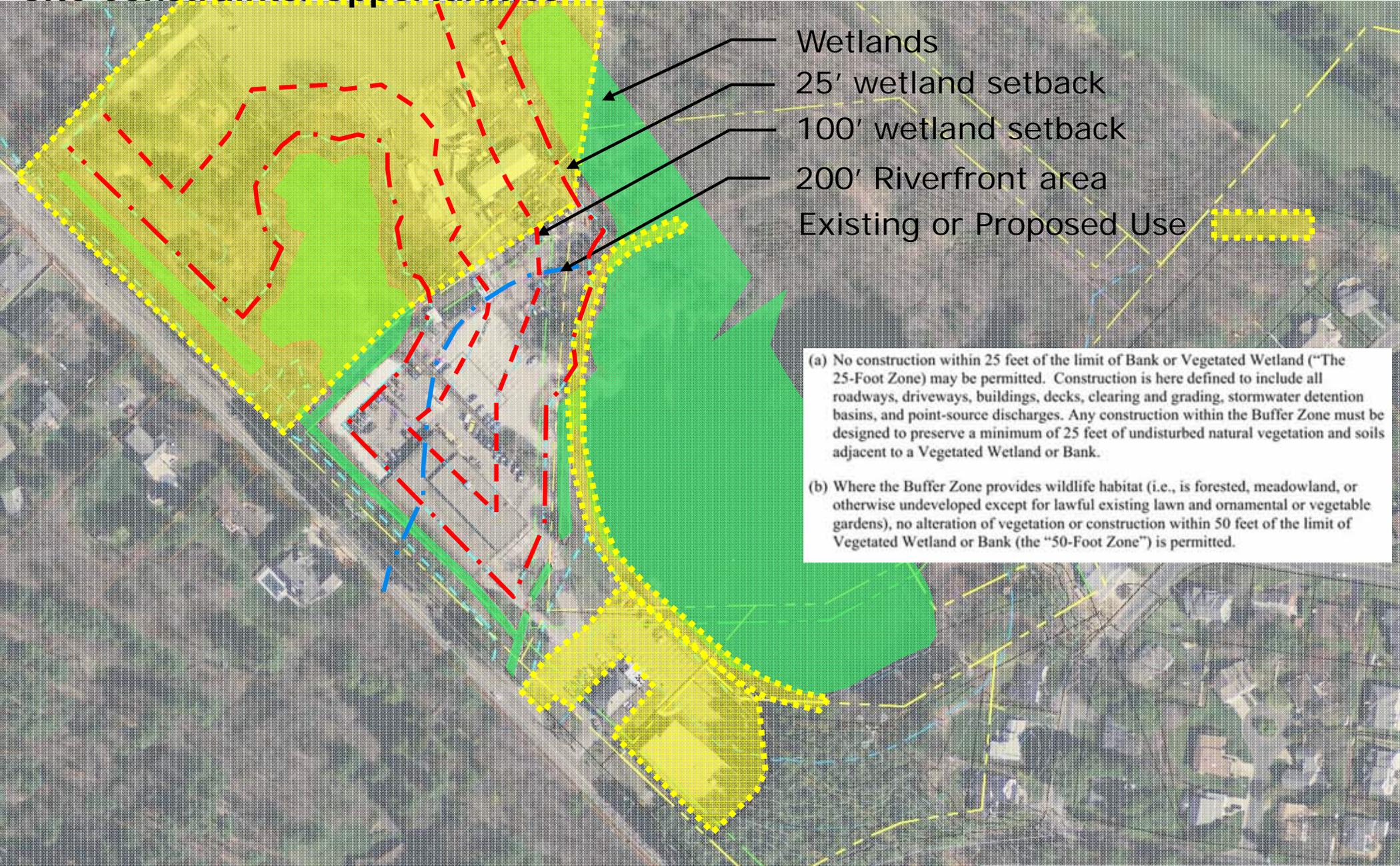
# Town of Needham DPW Feasibility Study

## Existing Conditions Plan



# Town of Needham DPW Feasibility Study

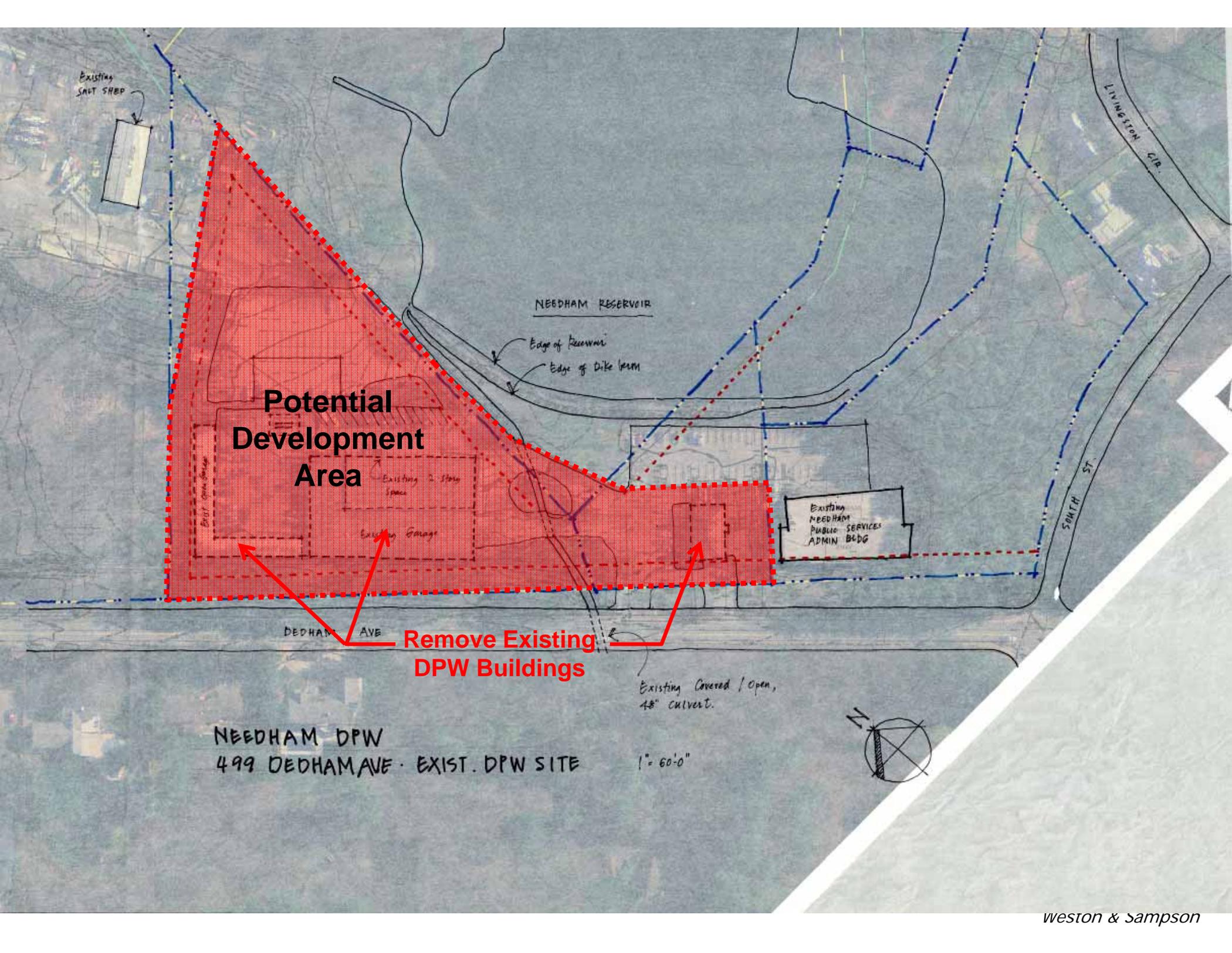
## Site Constraints/Opportunities



- Wetlands
- 25' wetland setback
- 100' wetland setback
- 200' Riverfront area
- Existing or Proposed Use

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EXISTING SALT SHED

NEEDHAM RESERVOIR

Edge of Reservoir  
Edge of Dike berm

**Potential  
Development  
Area**

EXISTING 2-STORE SPACE

EXISTING GARAGE

EXISTING NEEDHAM PUBLIC SERVICES ADMIN BLDG

**Remove Existing  
DPW Buildings**

EXISTING COVERED / OPEN,  
48" CULVERT.

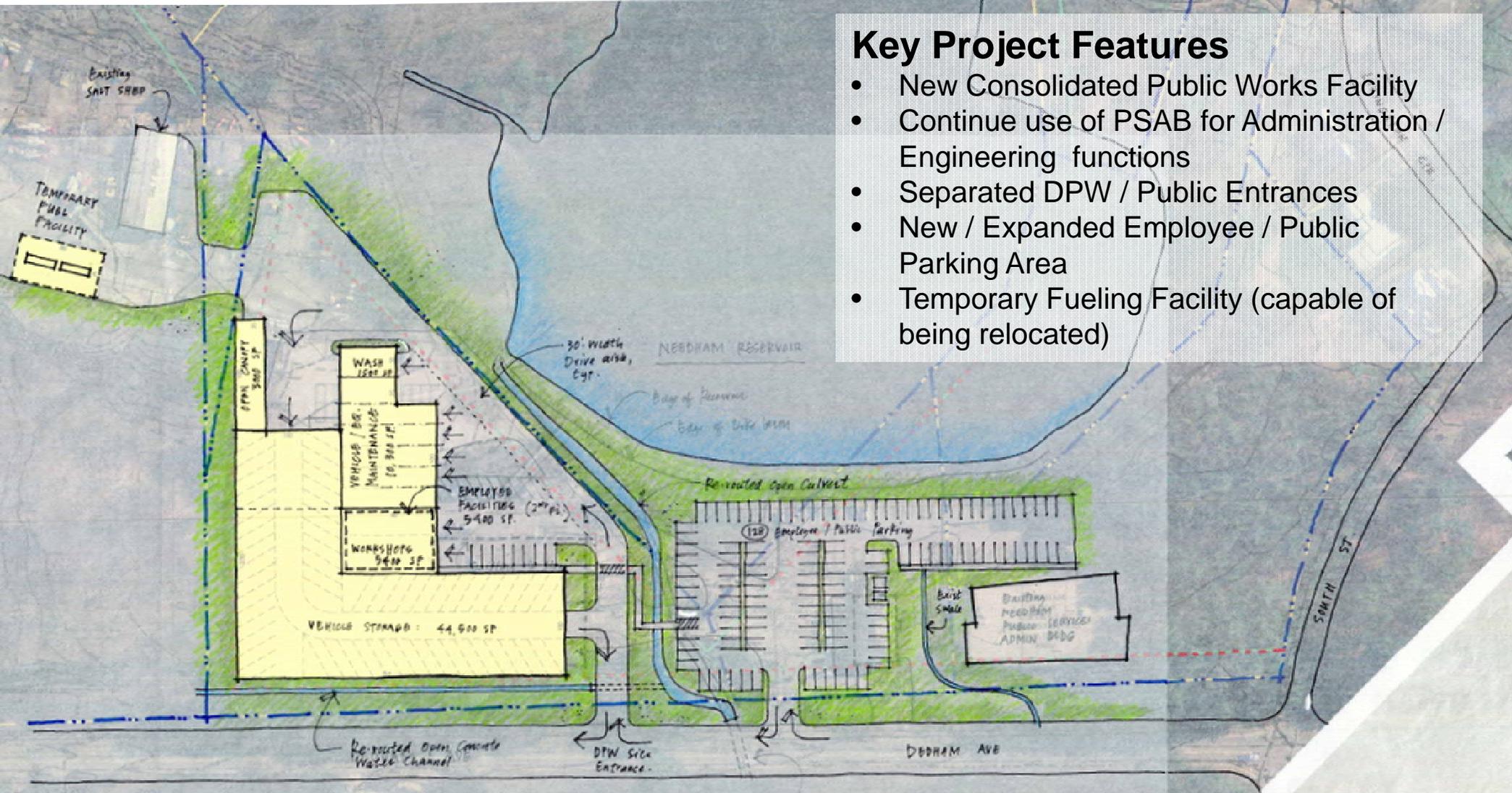
NEEDHAM DPW  
499 DEDHAM AVE · EXIST. DPW SITE

1" = 60'-0"



# Key Project Features

- New Consolidated Public Works Facility
- Continue use of PSAB for Administration / Engineering functions
- Separated DPW / Public Entrances
- New / Expanded Employee / Public Parking Area
- Temporary Fueling Facility (capable of being relocated)

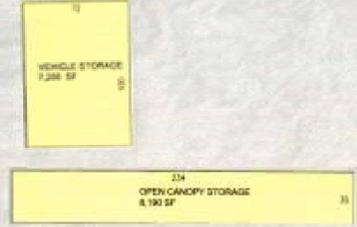


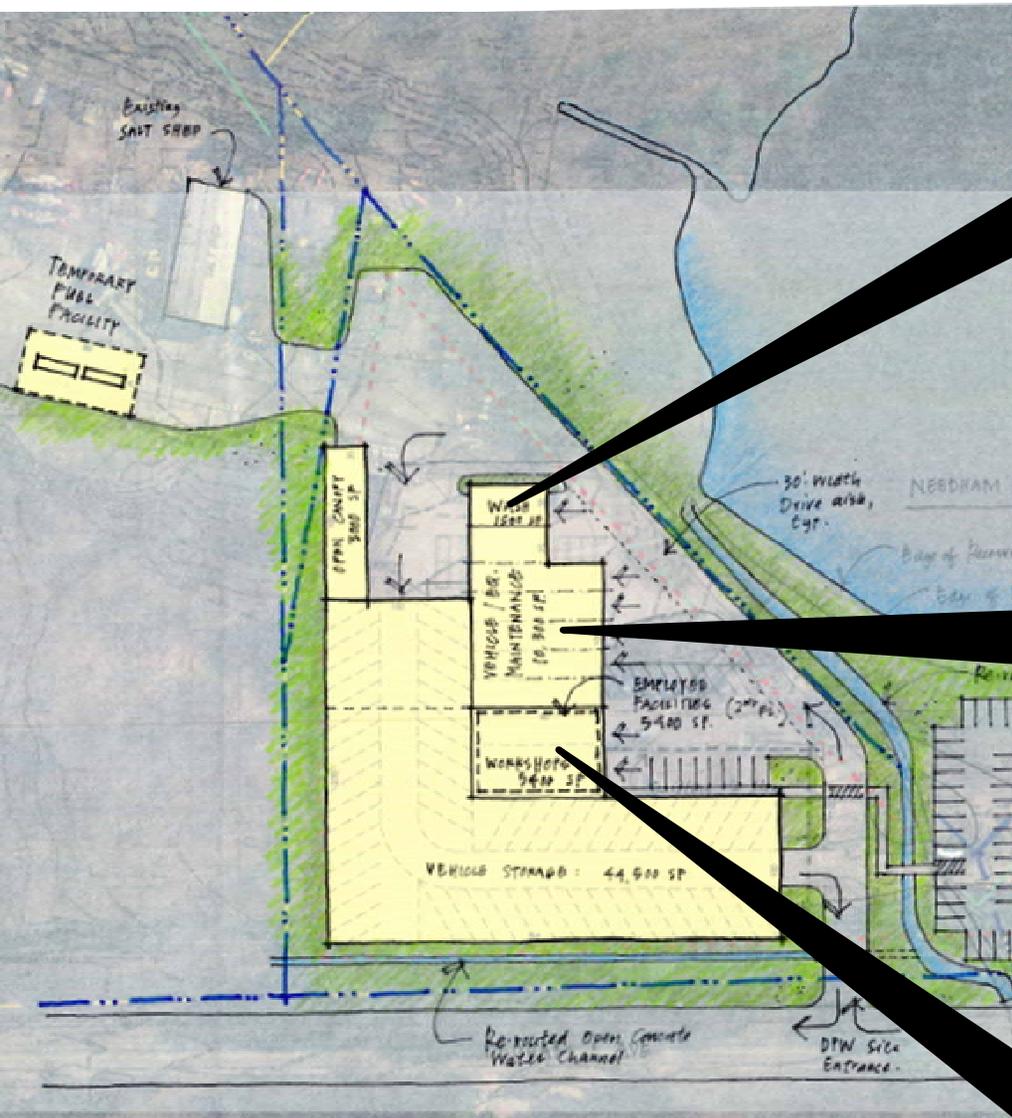
NEEDHAM DPW  
 499 DEDHAM AVE · EXIST. DPW SITE  
 OPTION 2 - REV 3 : 'L' SCHEME  
 2<sup>ND</sup> FLOOR EMPLOYEE FACILITIES

1" = 60'-0"



PROGRAM LOCATED OFF-SITE





### Vehicle Wash



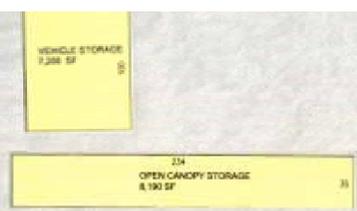
### Vehicle Maintenance

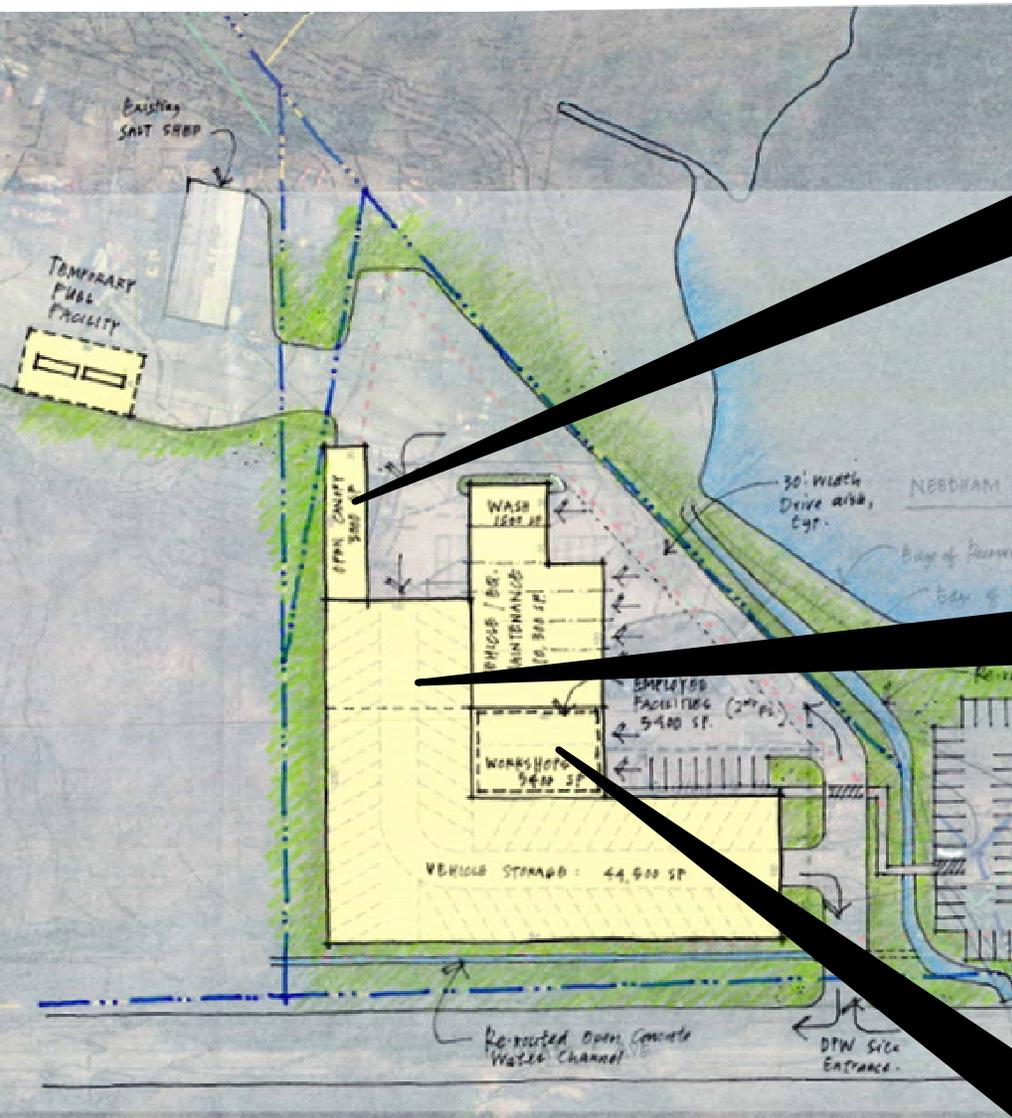


### Trade Shops



NEEDHAM DPW  
 499 DEDHAM AVE · EXIST. DPW SITE  
 OPTION 2 - REV 3 : 'L' SCHEME  
 2<sup>ND</sup> FLOOR EMPLOYEE FACILITIES





NEEDHAM DPW  
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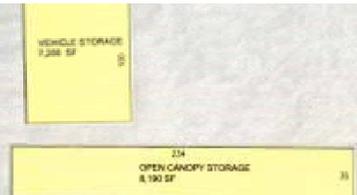
### Storage Canopy



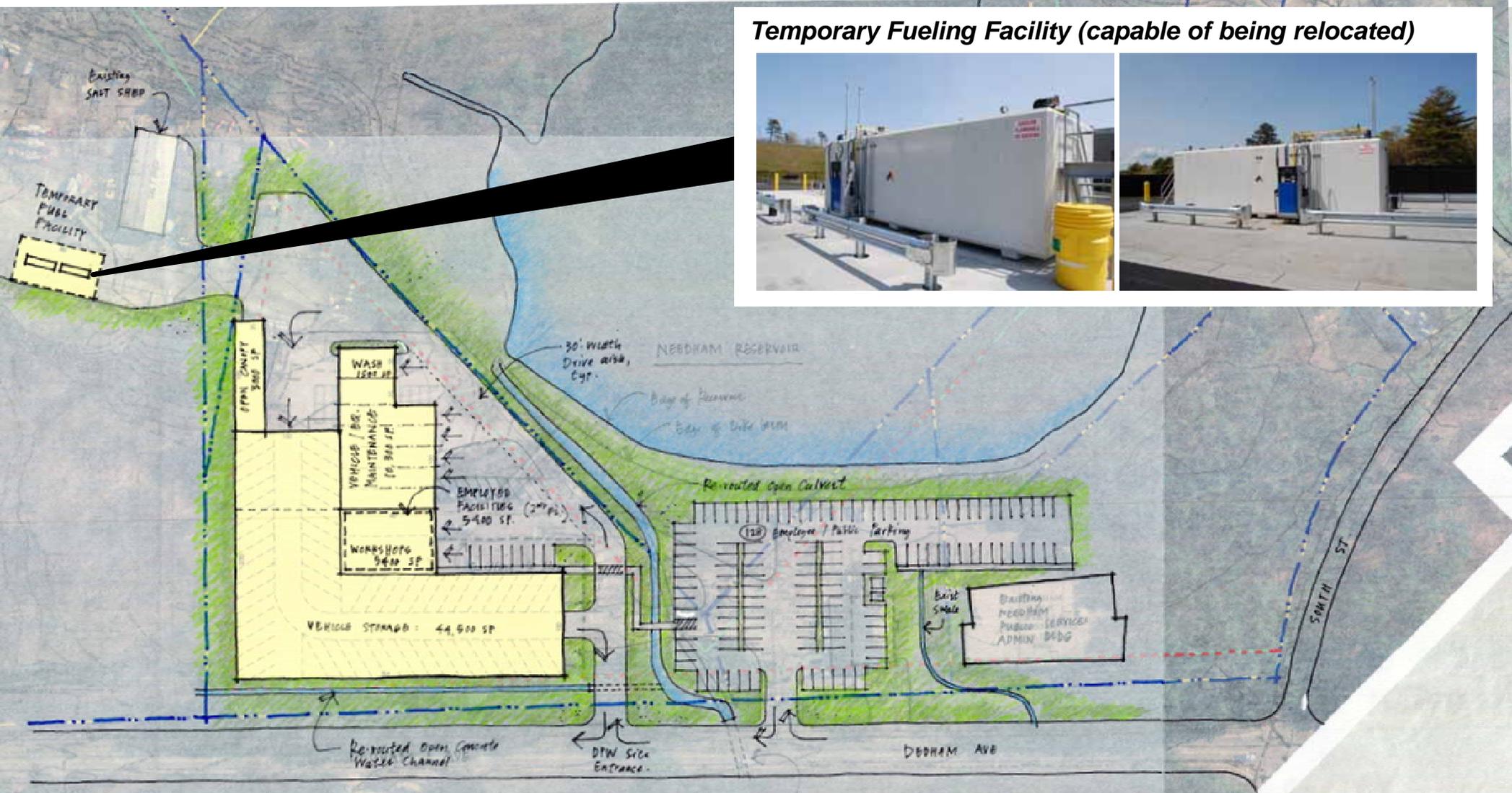
### Vehicle / Equipment Storage



### Employee Support Space (2<sup>nd</sup> floor)



**Temporary Fueling Facility (capable of being relocated)**

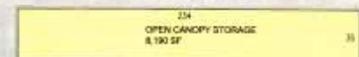


NEEDHAM DPW  
 499 DEDHAM AVE · EXIST. DPW SITE  
 OPTION 2 - REV 3 : 'L' SCHEME  
 2<sup>ND</sup> FLOOR EMPLOYEE FACILITIES

1" = 60'-0"

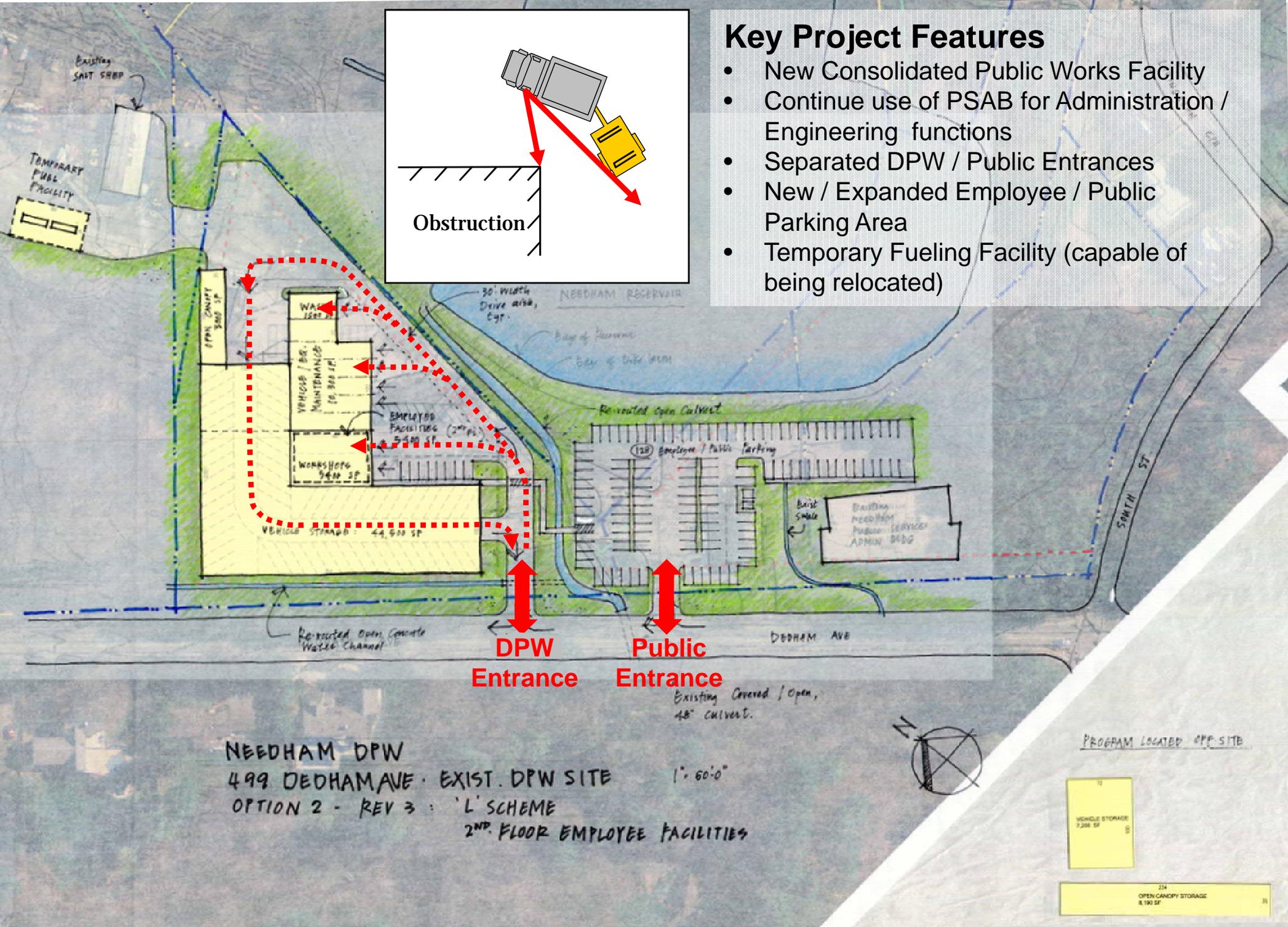


PROGRAM LOCATED OFF-SITE



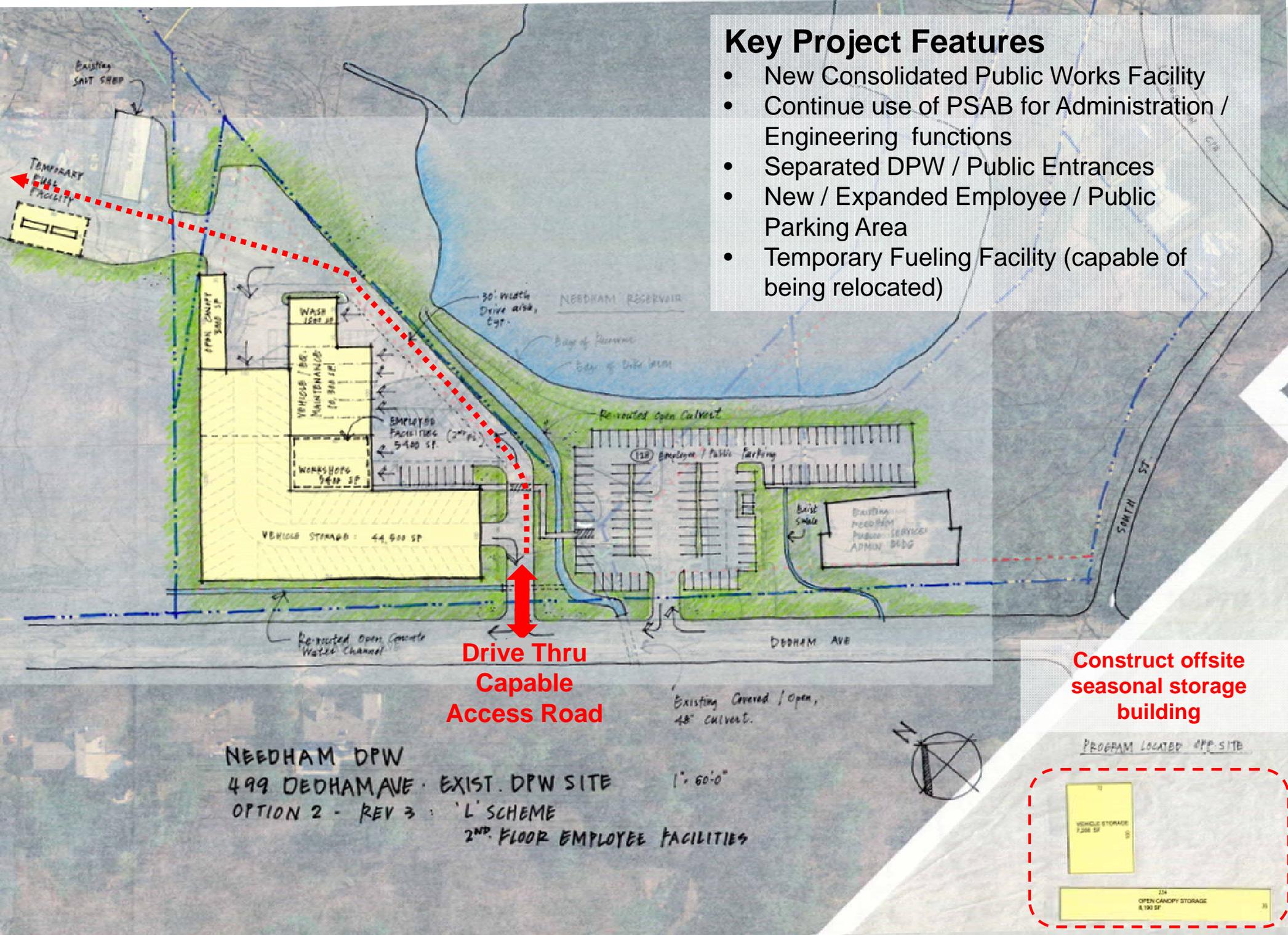
## Key Project Features

- New Consolidated Public Works Facility
- Continue use of PSAB for Administration / Engineering functions
- Separated DPW / Public Entrances
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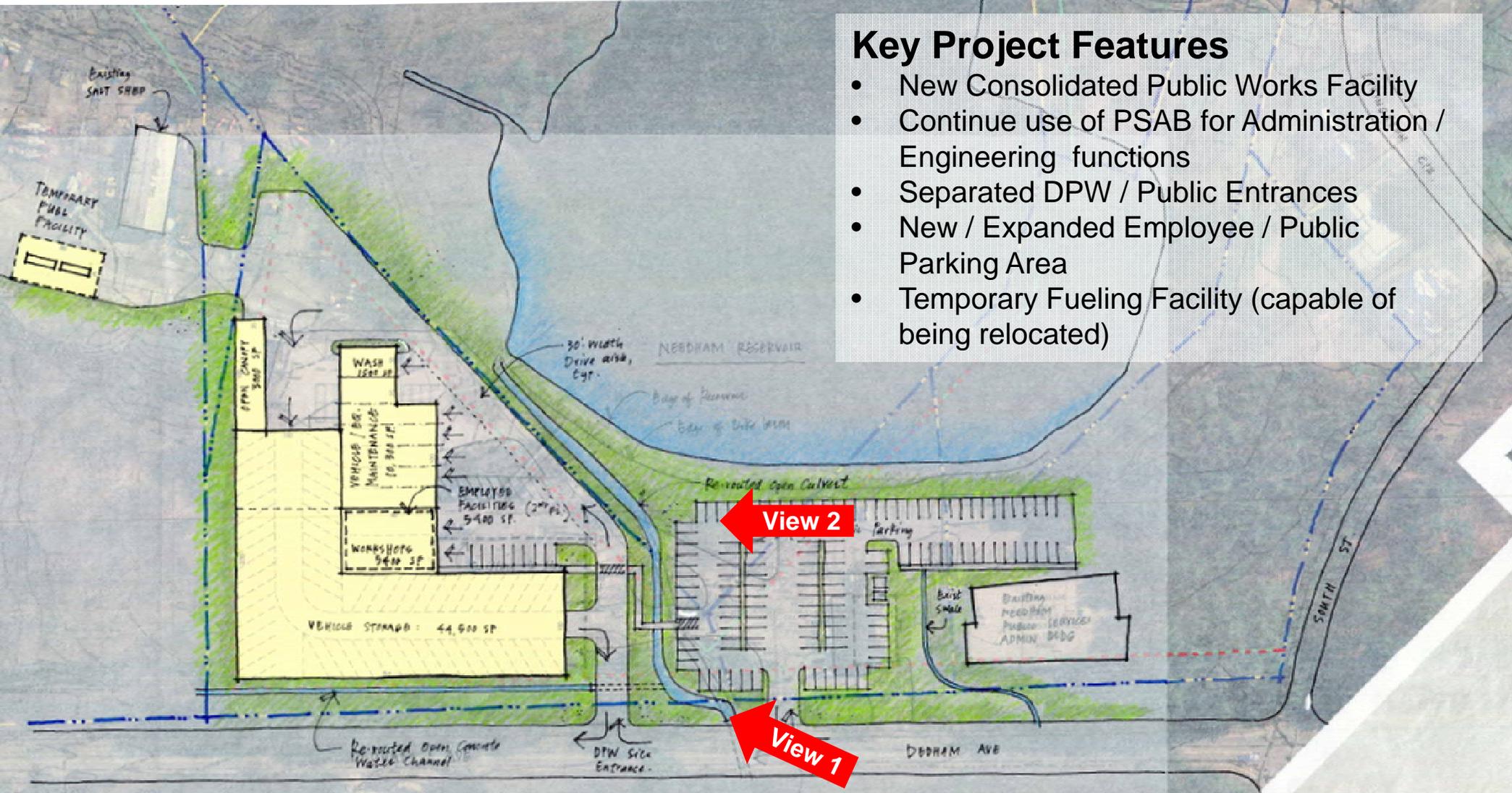
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View 2

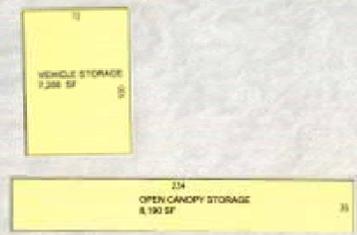
View 1

NEEDHAM DPW  
 499 DEDHAM AVE · EXIST. DPW SITE  
 OPTION 2 - REV 3 : 'L' SCHEME  
 2<sup>ND</sup> FLOOR EMPLOYEE FACILITIES

1" = 60'-0"



PROGRAM LOCATED OFF-SITE



# Town of Needham Public Works Facility

Massing Model – View 1



# Town of Needham Public Works Facility

## Massing Model – View 2



# Town of Needham Public Works Facility

## Conclusions|

- Dedham Ave (Existing DPW Site) – viable for a New DPW Facility with off-site seasonal storage
- Renovation and expansion of existing Dedham Ave DPW Building is not viable due to regulatory restrictions (remove & replace)
- Central Ave Site (RTS) – is not a viable site for a New DPW Facility due to:
  - Operational Impacts associated with extensive campus style layout requirements
  - Displacement of RTS operations with no room to relocate operations
  - Costs associated with site topography & ledge
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Town of Needham  
Public Works Facility

# **Benefits of an Improved / Code Compliant Facility?**

# Town of Needham Public Works Facility

## What are the benefits |

What will an improved / code compliant facility do for the DPW & community.....

- Code compliant and safe work environment for Town employees
- Protect the Town's multi-million dollar investment in vehicles and equipment
- More efficient work space and response times
- Creates a consolidated public works operations improving overall efficiencies for the department
- Eliminates the need to invest money (band-aids) in the existing substandard facility



Town of Needham  
Public Works Facility

**Questions?**