



**NOTICE OF A PUBLIC MEETING POSTED IN ACCORDANCE WITH
THE PROVISIONS OF MGL 30A §18 – 25**

BOARD/COMMITTEE/COMMISSION: Board of Selectmen

Joint Meeting with Groton Selectboard

DATE SUBMITTED TO TOWN CLERK: September 13, 2023 3:20pm

MEETING DATE: Monday, September 18, 2023 TIME: 5:00 PM

LOCATION: Groton Town Hall, Second Floor, Groton, MA

Topics the Chair Reasonably Anticipates will or could be Discussed:

Note: All topic placement & times are estimated and may vary *tremendously* from projections

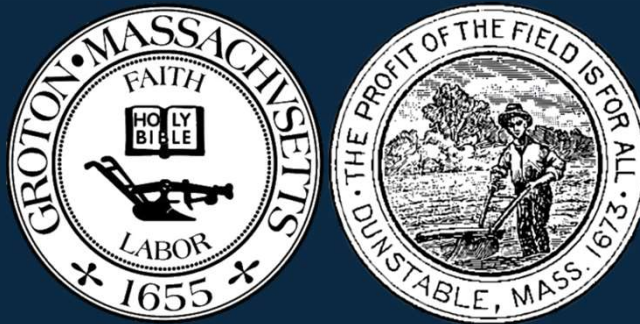
SCHEDULED AGENDA

5:00	1.	<i>Call to Order</i>
	2.	<i>Joint Meeting with the Groton Selectboard – PFAS at GDRHS: Intermunicipal Agreement*</i>
	3.	<i>Adjourn</i>

***Votes likely to be taken**

(Note: This listing of matters reflects those reasonably anticipated by the chair which may be discussed at the meeting. Not all items listed may in fact be discussed and other items not listed may also be brought up for discussion to the extent permitted by law.)

This week's meeting will be streaming live on [The Groton Channel](#).



GROTON DUNSTABLE REGIONAL HIGH SCHOOL WATER SUPPLY

Town Manager/Town Administrator Working Group



BACKGROUND

- In 2022, the Groton Dunstable Regional High School (GDRHS) sampled for PFAS6 in the school's well. Results came in well above the Maximum Containment Level enforced by MassDEP.
 - The cause of the contamination was a 2003 fire on the athletic field track that was extinguished with Aqueous Film Forming Foam (AFFF), a known PFAS contamination contributor.
- MassDEP has also sampled the surrounding private wells along Groton Street and Kemp Street. Several have high levels of PFAS6.
 - MassDEP notified the GDRHS that they are responsible for the PFAS6 contamination and must provide a solution to all impacted residents.



PROJECT OBJECTIVES

- Representatives from the School District and Towns of Groton, Dunstable, and Pepperell met several times to evaluate all the feasible options.
- Primary Goal:
 - Provide clean, less than four parts per trillion (ppt) PFAS water, to GDRHS and impacted private properties as quickly as possible.
- Secondary Goal:
 - Improve the water systems of the three communities in this area by expanding municipal fire protection, head off a potential PFAS plume spread, and increase water system resilience by establishing emergency interconnections between the three systems.



ALTERNATIVE WATER SUPPLY OPTIONS

- The working group evaluated three (3) Water Main alternatives.
 - Pepperell Water System Extension
 - Phase 1: Install a new water main from the intersection of Route 113 and Jersey Street to the GDRHS via Jersey Street, North Street, Kemp Street, Groton Street, and Chicopee Row. Paid for via Groton/Dunstable cost share.
 - Phase 2: Interconnect with Dunstable via Groton Street and install a booster station for Municipal Fire Protection. Paid for by Pepperell.
 - Groton Water System Extension
 - Phase 1: Install a new water main from the intersection of Common Street and Chicopee Row to the GDRHS and surrounding Properties on Groton Street, Kemp Street, and North Street. Paid for via Groton/Dunstable cost share with a \$1M contribution from the Groton Water Department.
 - Groton-Pepperell-Dunstable Regional Water System Plan
 - Phase 1: The Groton Water System Expansion. Paid for via Groton/Dunstable cost share with a \$1M contribution from the Groton Water Department.
 - Phase 2: A Pepperell Dunstable Water System Expansion. The cost share is still under negotiation.



Pepperell Water System Extension

PROJECT COSTS

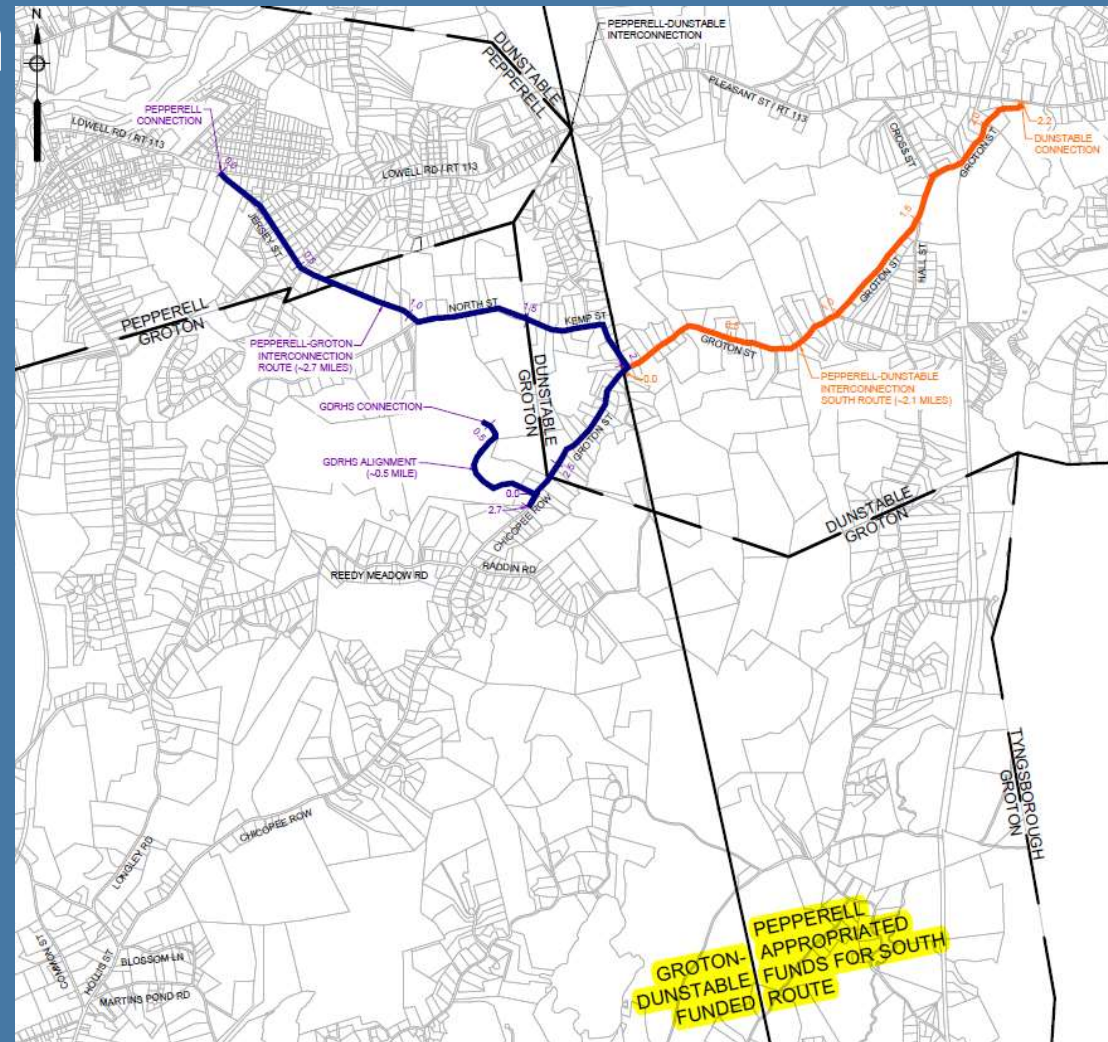
Groton	Dunstable	Pepperell
\$6.237M (77.0%)	\$1.863M (23.0%)	\$10.4M (Phase 2)

BENEFITS

- Least costly if water does not need to be treated for PFAS
- Multi-phase project to connect GDRHS more quickly (simpler permitting for Phase 1)
- Sufficient hydraulic capacity for normal demands only in Phase 1. Fire protection after Phase 2

CHALLENGES

- Phase 1 will provide over four ppt PFAS water until the Pepperell WTP is built (2-3 years)
- Insufficient hydraulic capacity for Fire Protection until after a booster station is installed in phase 2. (3-5 years)
- Phase 2 is subject to extensive ITA and WMA Permits
- Potential for contamination to spread further into Groton (Chicopee Row)



Groton Water System Extension

PROJECT COSTS

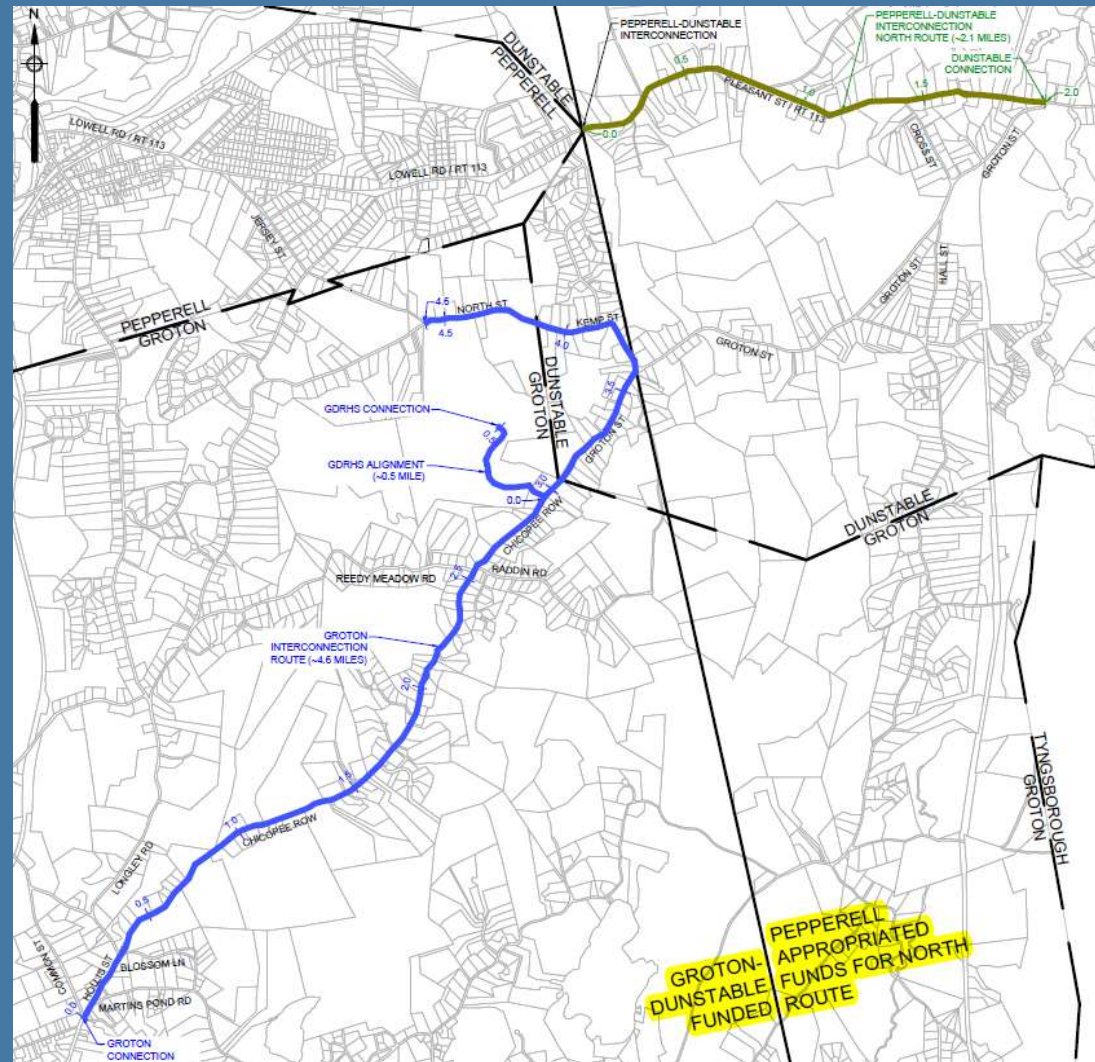
Groton	Dunstable	Pepperell
\$9.937M (77.6%) + \$1.0M from the GWD (7.8%)	\$1.863M (14.6%) Same as Pepperell Solution	\$10.4M (Separate Project)

BENEFITS

- Shortest time frame to implement < 4 ppt PFAS water to the GDRHS and impacted properties
- Sufficient hydraulic capacity for both normal demand and fire protection along the alignment
- Dunstable Cost matches Pepperell Solution

CHALLENGES

- Does not enable a southerly interconnection between Pepperell and Dunstable
- Potential for contamination to spread further into Dunstable
- Subject to ITA Permitting



Regional Water System Plan

PROJECT COSTS

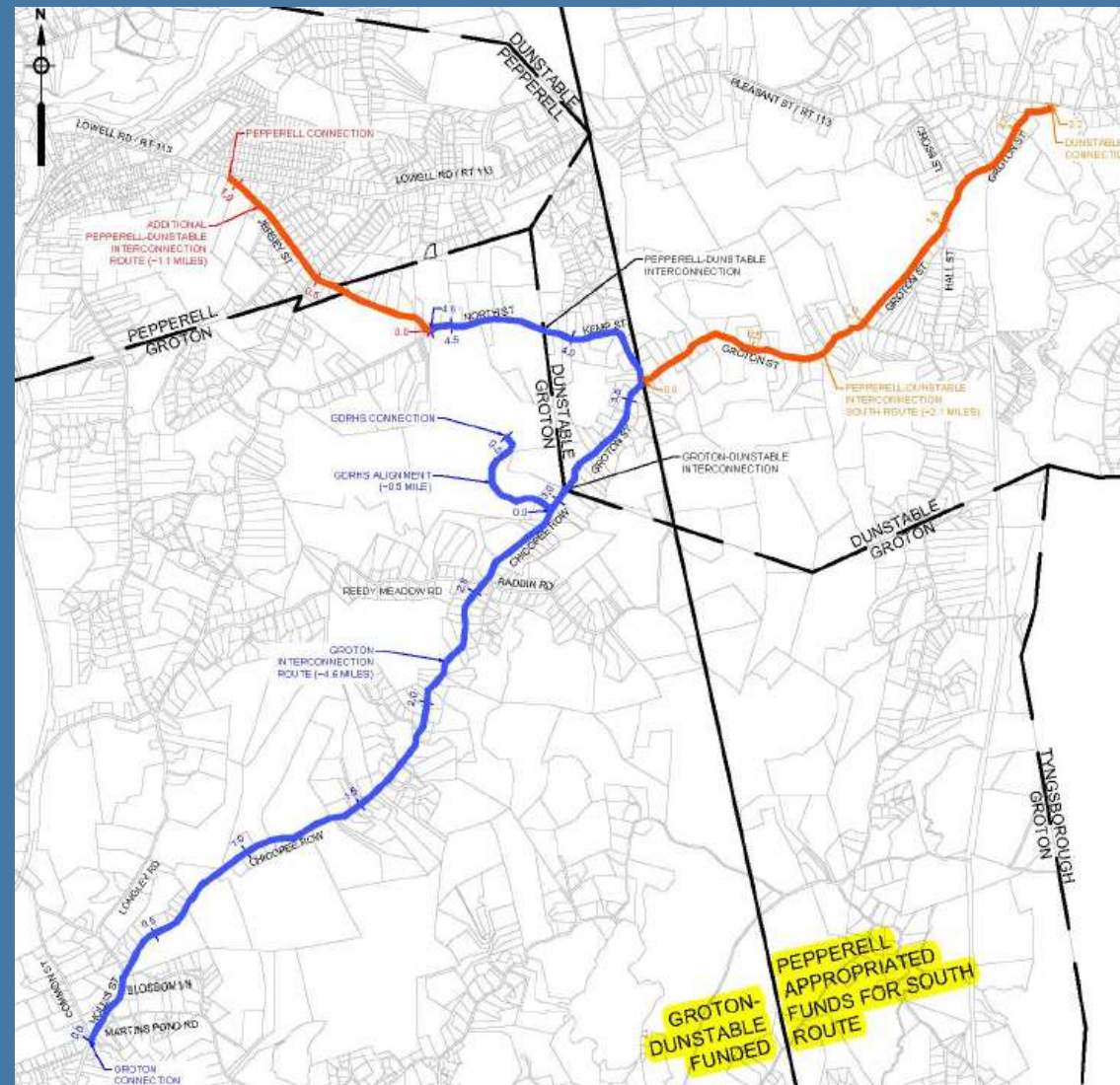
Groton	Dunstable	Pepperell
\$9.937M (77.6%) + \$1.0M from the GWD (7.8%)	\$1.863M (14.6%) Same as Pepperell Solution	\$10.4M (Phase 2)
\$3.1M (Phase 2) cost share to be determined		

BENEFITS

- All the benefits of the Groton Water System Extension
- All the benefits of the Pepperell Water System Extension
- All three water systems can be interconnected for emergency resiliency

CHALLENGES

- Highest Cost Option
- Need to negotiate the division of \$3.1M between Groton & Dunstable
- Permitting risks in Phase 2 include ITA and WMA permits



Working Group Recommendation: Regional Solution

Advantages

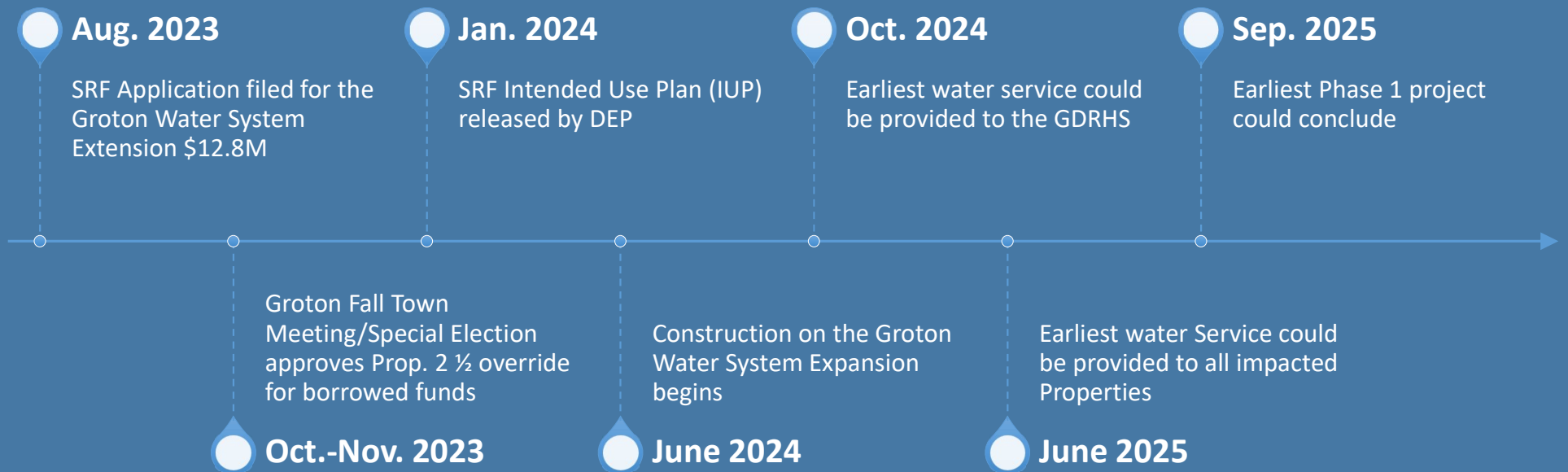
- Enables quick implementation of the Groton System Extension to solve the PFAS issue at the GDRHS and surrounding properties.
- Enables a continuous interconnection between Pepperell and Dunstable.
- Includes water infrastructure from all sides to mediate the spread of the PFAS plume.
- Expands the municipal fire protection coverage area for all three water systems.
- Enhances the resiliency of each water system by establishing multiple system emergency interconnections.

Disadvantages

- Highest Cost Option, with \$3.1M of the cost share still under negotiation.
- Phase 2 is subject to Permitting challenges.



Regional Solution (Phase 1): Implementation Timeline



Regional Solution (Phase 2): Implementation Timeline



CONCLUSION

- The Regional Solution is the only option that solves all three communities primary and secondary goals
- Groton & Dunstable need to sign a legal services Inter-Municipal Agreement (IMA) to continue negotiations
- Implementation timelines are subject to approval from MassDEP and the Water Resources Commission
- All solutions are subject to the approval of the Prop. 2 ½ override at the Groton Fall Town Meeting



THANK YOU

Questions?

ENVIRONMENTAL
 PARTNERS
— An Apex Company —

ALTERNATIVES SUMMARY

Groton Water System Extension

Benefits

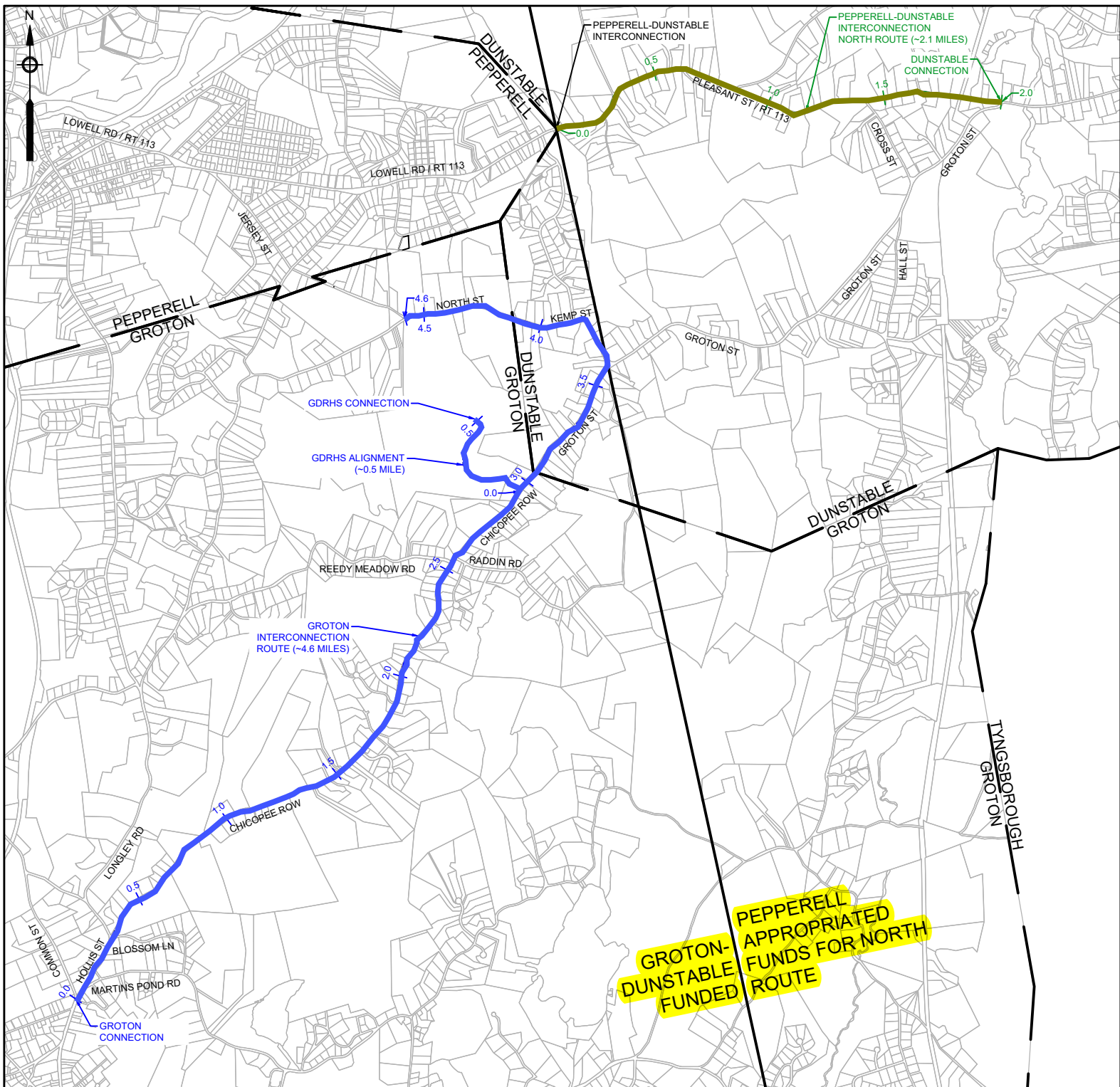
- Provides the shortest timeframe for water with PFAS < 4 ppt to GDRHS and residential properties in Dunstable.
- Provides a water main in Groton to serve properties that may be in the path of the PFAS plume.
- Provides interconnections for a potential water main extension on Wyman Road in Groton in case of PFAS issues.
- Dunstable cost-share matches Pepperell solution with Groton Water Department contribution.
- Provides domestic water and irrigation demands with PFAS levels below proposed EPA rules.
- Fire flow is sufficient for the GDRHS sprinkler system and residential properties, which avoids future expense to rehabilitation three cisterns.

Challenges

- Needs a determination of insignificance through the Inter-basin Transfer Act process to provide domestic water to the GDRHS and surrounding Dunstable properties. This requires a two-step process with the Water Resources Commission.
- Does not enable a connection to the future Pepperell-Dunstable interconnection.

Summary of Comparable Benefits and Challenges

Solution Effectiveness	Implementation Timeline	Design, Permitting, and Constructability Challenges	Capital Cost
Domestic water, irrigation and fire flow demands met Does not enable a connection to the future Pepperell-Dunstable interconnection.	Solution for PFAS contaminated properties could be implemented by September 2025	Only water main and chlorine booster construction Determination of Insignificance for Groton connection	\$12.8M



GROTON WATER MAIN TO GDRHS & DUNSTABLE/GROTON PROPERTIES

SCALE: 1"=3000'

Description beginning in Groton:

- A new 12-Inch water main in Chicopee Row 2.6 miles from Hollis Street to Reedy Meadow Road,
- Followed by an 8-inch water main to the GDRHS and in Dunstable via Groton Street and Kemp Street to the Dunstable-Groton town line,
- Then in Groton via North Street to Wyman Road.

Opinion of Probable Project Cost for Comparison of Alternatives

Item No.	Description	Units	Quantity	Unit Price	Extended Amount
1	MOBILIZATION AND DEMOBILIZATION				
1a	Mobilization and Demobilization	ALLOW	1	\$490,000	\$490,000
2	DUCTILE-IRON WATER MAINS				
2a	6-inch Ductile-Iron Water Main, Class 52 Pipe	LF	1,250	\$150	\$187,500
2b	8-inch Ductile-Iron Water Main, Class 52 Pipe	LF	12,935	\$185	\$2,392,975
2c	12-inch Ductile-Iron Water Main, Class 52 Pipe	LF	13,500	\$200	\$2,700,000
3	FIRE HYDRANTS				
3a	Fire Hydrants	EA.	50	\$6,500	\$325,000
4	DUCTILE-IRON FITTINGS				
4a	Ductile-Iron Fittings	LB.	5,537	\$2.00	\$11,074
5	GATE VALVES AND BOXES				
5a	6-inch Gate Valves and Boxes	EA.	50	\$1,750	\$87,500
5b	8-inch Gate Valves and Boxes	EA.	29	\$2,500	\$72,500
5c	12-inch Gate Valves and Boxes	EA.	30	\$3,500	\$105,000
6	Service Connections				
6a	Service Connections (Corp/Curb/1" PE Tubing)	EA.	92	\$3,500	\$322,000
7	EARTHWORK				
7a	Earthwork (Test Pit/Rock/Unsuitable/Select Full)	CY	7,690	\$40	\$307,600
8	TEMPORARY PAVEMENT				
8a	Temporary Trench Pavement (3.5" Depth)	SY	18,569	\$60	\$1,114,158
9	PERMANENT PAVEMENT				
9a	Trench Width Mill w/12-inch cutbacks (2" Depth)	SY	26,232	\$35	\$918,125
10	ENVIRONMENTAL PROTECTION				
10a	Environmental Protection (Silt Sack/Filter Sock) 1% of items 2 through 9	LS	1	\$85,000	\$85,000
11	TRAFFIC CONTROL				
11a	Uniformed Police Officer Allowance (10 hr. days x \$65 per hr. x 2 officers)	ALLOW	1	\$435,500	\$435,500
11b	Traffic Management	DAYS	335	\$250	\$83,750
12	MISCELLANEOUS ITEMS				
12a	Chlorine Booster Station	LS	1	\$600,000	\$600,000
				Subtotal	\$10,238,000
				Engineering (10%)	\$1,023,800
				Contingency (15%)	\$1,535,700
				Total	\$12,800,000

ALTERNATIVES SUMMARY

Pepperell Water System Extension

Benefits

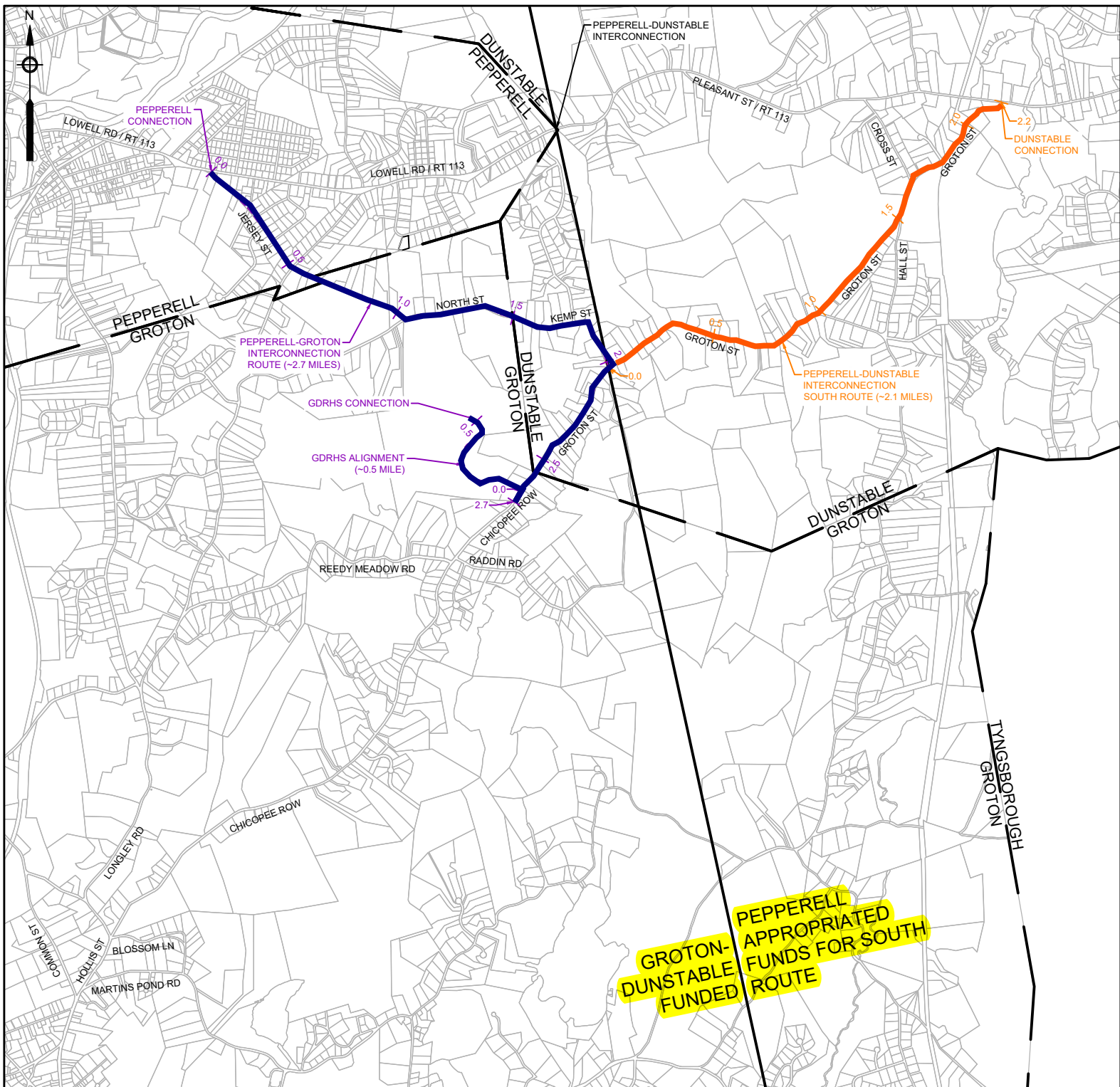
- Enables the completion of the future South route interconnection between Pepperell and Dunstable, which provides a water main in Groton Street to Dunstable in case of contamination of wells that may be in the path of the PFAS plume.
- Inter-basin transfer permit is not needed to provide water to the GDRHS and surrounding properties, although PFAS levels will exceed pending EPA limits.
- Least costly alternative if water is untreated for PFAS.
- Enables a connection to a future Pepperell-Dunstable interconnection (South route).

Challenges

- To provide water with PFAS concentrations below 4 ppt, a new water treatment plant (WTP) is needed in Pepperell. The estimated cost is \$13 million (Estimated cost source: Pepperell). The cost sharing formula is unknown.
- Does not provide fire flow to the GDRHS and residents in Dunstable and Groton.
- Requires a booster station to supplement the new WTP to provide suitable hydraulics to complete the Pepperell-Dunstable interconnection main.
- WTP design process has just begun with pilot testing; startup is 2 to 3 years away.

Summary of Comparable Benefits and Challenges

Solution Effectiveness	Implementation Timeline	Design, Permitting, and Constructability Challenges	Capital Cost
Domestic water and irrigation demands met. Fire flow needs not met.	Irrigation water could be provided by September 2024. Availability of domestic water is dependent on the WTP construction schedule.	WTP construction and permitting.	\$8.1M plus WTP costs.



PEPPERELL WATER MAIN TO GDRHS & DUNSTABLE/GROTON PROPERTIES

SCALE: 1"=3000'

Description beginning in Pepperell:

- Replace the 8-inch water main in Jersey Street with a 12-inch water main from Route 113 to East Street near the Pepperell-Groton town line, and
- A new 12-inch water main from East Street to North Street in Groton,
- Then to Kemp Street and Groton Street in Dunstable,
- Followed by a 8-inch water main in Groton Street to Chicopee Row in Groton and the GDRHS.

Opinion of Probable Project Cost for Comparison of Alternatives

Item No.	Description	Units	Quantity	Unit Price	Extended Amount
1	MOBILIZATION AND DEMOBILIZATION				
1a	Mobilization and Demobilization	ALLOW	1	\$300,000	\$300,000
2	DUCTILE-IRON WATER MAINS				
2a	6-inch Ductile-Iron Water Main, Class 52 Pipe	LF	950	\$150	\$142,500
2b	8-inch Ductile-Iron Water Main, Class 52 Pipe	LF	6,340	\$185	\$1,172,900
2c	12-inch Ductile-Iron Water Main, Class 52 Pipe	LF	10,665	\$200	\$2,133,000
3	FIRE HYDRANTS				
3a	Fire Hydrants	EA.	38	\$6,500	\$247,000
4	DUCTILE-IRON FITTINGS				
4a	Ductile-Iron Fittings	LB.	3,591	\$2.00	\$7,182
5	GATE VALVES AND BOXES				
5a	6-inch Gate Valves and Boxes	EA.	38	\$1,750	\$66,500
5b	8-inch Gate Valves and Boxes	EA.	15	\$2,500	\$37,500
5c	12-inch Gate Valves and Boxes	EA.	24	\$3,500	\$84,000
6	Service Connections				
6a	Service Connections (Corp/Curb/1" PE Tubing)	EA.	84	\$3,500	\$294,000
7	EARTHWORK				
7a	Earthwork (Test Pit/Rock/Unsuitable/Select Full)	CY	4,990	\$40	\$199,600
8	TEMPORARY PAVEMENT				
8a	Temporary Trench Pavement (3.5" Depth)	SY	12,276	\$60	\$736,575
9	PERMANENT PAVEMENT				
9a	Trench Width Mill w/12-inch cutbacks (2" Depth)	SY	17,401	\$35	\$609,050
10	ENVIRONMENTAL PROTECTION				
10a	Environmental Protection (Silt Sack/Filter Sock) 1% of items 2 through 9	LS	1	\$57,000	\$57,000
11	TRAFFIC CONTROL				
11a	Uniformed Police Officer Allowance (10 hr. days x \$65 per hr. x 2 officers)	ALLOW	1	\$325,000	\$325,000
11b	Traffic Management	DAYS	250	\$250	\$62,500
				Subtotal	\$6,474,300
				Engineering (10%)	\$647,430
				Contingency (15%)	\$971,145
				Total	\$8,100,000

ALTERNATIVES SUMMARY

Groton-Pepperell-Dunstable Regional Water System Plan

Benefits

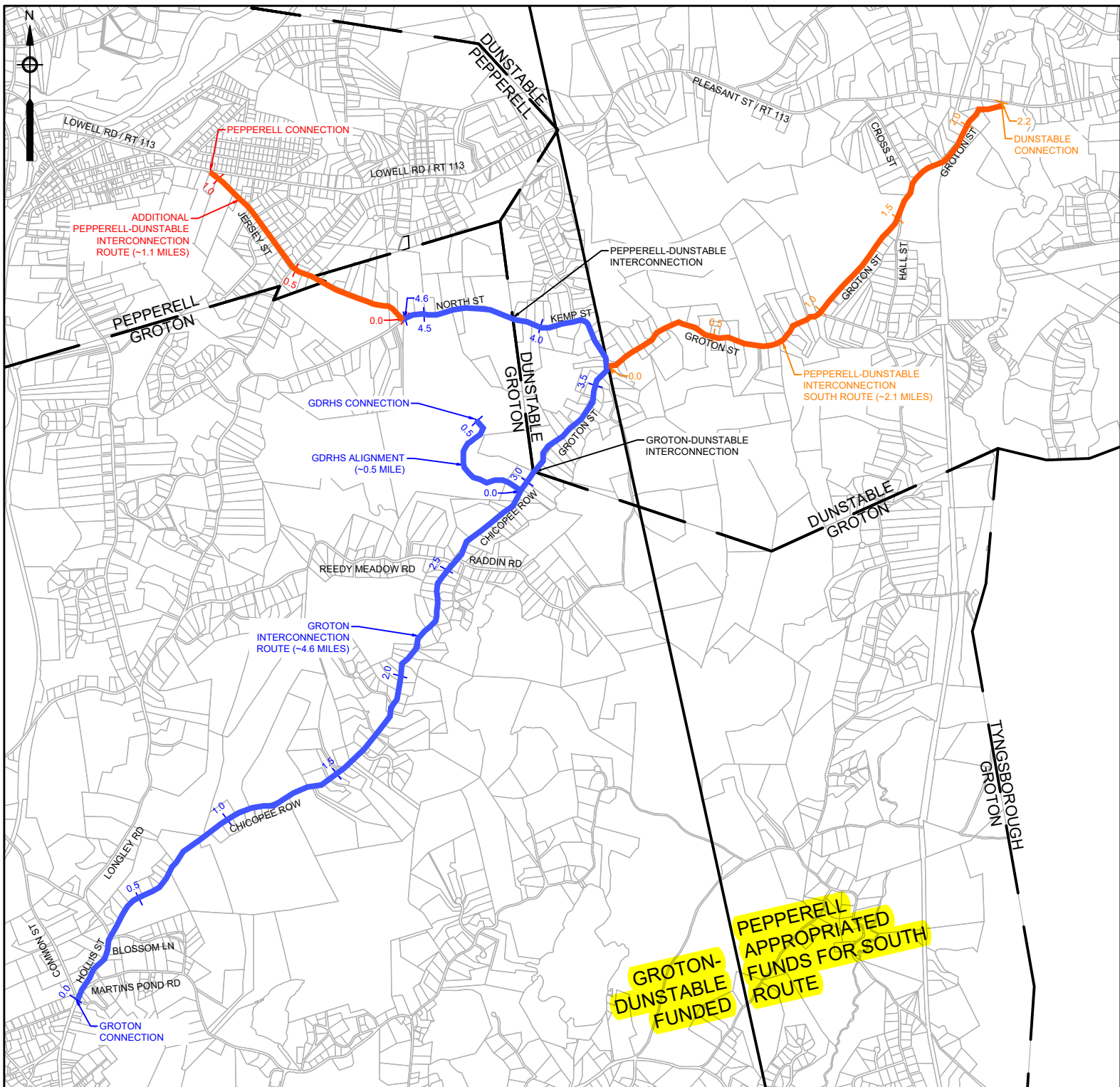
- Provides the benefits of both the Groton extension and the Pepperell extension.
 - Provides a water main in Groton Street for properties that may be in the path of the PFAS plume.
 - Provides a water main in Chicopee Row for properties that may be in the path of the PFAS plume.
 - The Groton water main delivers clean water to GDRHS and contaminated properties most quickly.
 - Provides fire flow to the GDRHS and surrounding properties.
- Will enable the connection of the Pepperell system to the contaminated properties once the Jersey Street water treatment plant (WTP) and booster station are completed.
- Provides interconnections between the three water systems once the Pepperell-Dunstable interconnection is completed.
- The water main in Dunstable can be turned over to Dunstable water system when the Pepperell-Dunstable interconnection is complete.
- Provides additional flexibility for additional water main extensions in case of PFAS contamination (e.g. Wyman Road in Groton could be served by Pepperell/Dunstable or Groton).

Challenges

- Most expensive alternative.
- Needs a determination of insignificance through the Inter-basin Transfer Act process to provide domestic water to the GDRHS and surrounding Dunstable properties from Groton.

Summary of Comparable Benefits and Challenges

Solution Effectiveness	Implementation Timeline	Design, Permitting, and Constructability Challenges	Capital Cost
Domestic water, irrigation and fire flow demands met. Enables a connection to the future Pepperell-Dunstable interconnection.	Solution for PFAS contaminated properties could be implemented by September 2025.	WTP construction and permitting. Determination of Insignificance for the Groton connection. A full Inter-basin transfer permit for tri-community connections.	\$15.9M



GROTON-PEPPERELL-DUNSTABLE REGIONAL PLAN

SCALE: 1"=3000'

Description beginning in Groton:

- A new 12-Inch water main in Chicopee Row 2.6 miles from Hollis Street to Reedy Meadow Road,
- Followed by a new 8-inch water main to the GDRHS and via Groton Street to Kemp Street in Dunstable,
- Continuing in Kemp Street as a 12-inch water main to the Dunstable-Groton town line, and in Groton via North Street to East Street in Pepperell, and
- Then a new 12-inch water main to replace the 8-inch water main in Jersey Street in Pepperell from East Street near the Pepperell-Groton town line to Route 113.

Opinion of Probable Project Cost for Comparison of Alternatives

Item No.	Description	Units	Quantity	Unit Price	Extended Amount
1 MOBILIZATION AND DEMOBILIZATION					
1	Mobilization and Demobilization	ALLOW	1	\$600,000	\$600,000
2 DUCTILE-IRON WATER MAINS					
2a	6-inch Ductile-Iron Water Main, Class 52 Pipe	LF	1,650	\$150	\$247,500
2b	8-inch Ductile-Iron Water Main, Class 52 Pipe	LF	7,920	\$185	\$1,465,200
2c	12-inch Ductile-Iron Water Main, Class 52 Pipe	LF	24,165	\$200	\$4,833,000
3 FIRE HYDRANTS					
3a	Fire Hydrants	EA.	66	\$6,500	\$429,000
4 DUCTILE-IRON FITTINGS					
4a	Ductile-Iron Fittings	LB.	6,747	\$2.00	\$13,494
5 GATE VALVES AND BOXES					
5a	6-inch Gate Valves and Boxes	EA.	66	\$1,750	\$115,500
5b	8-inch Gate Valves and Boxes	EA.	18	\$2,500	\$45,000
5c	12-inch Gate Valves and Boxes	EA.	54	\$3,500	\$189,000
6 Service Connections					
6a	Service Connections (Corp/Curb/1" PE Tubing)	EA.	151	\$3,500	\$528,500
7 EARTHWORK					
7a	Earthwork (Test Pit/Rock/Unsuitable/Select Full)	CY	9,370	\$40	\$374,800
8 TEMPORARY PAVEMENT					
8a	Temporary Trench Pavement (3.5" Depth)	SY	23,000	\$60	\$1,380,000
9 PERMANENT PAVEMENT					
9a	Trench Width Mill w/12-inch cutbacks (2" Depth)	SY	32,586	\$35	\$1,140,506
10 ENVIRONMENTAL PROTECTION					
10a	Environmental Protection (Silt Sack/Filter Sock) 1% of items 2 through 9	LS	1	\$108,000	\$108,000
11 TRAFFIC CONTROL					
11a	Uniformed Police Officer Allowance (10 hr. days x \$65 per hr. x 2 officers)	ALLOW	1	\$520,000	\$520,000
11b	Traffic Management	DAYS	400	\$250	\$100,000
12 MISCELLANEOUS ITEMS					
12a	Chlorine Booster Station	LS	1	\$600,000	\$600,000
				Subtotal	\$12,689,500
				Engineering (10%)	\$1,268,950
				Contingency (15%)	\$1,903,425
				Total	\$15,900,000