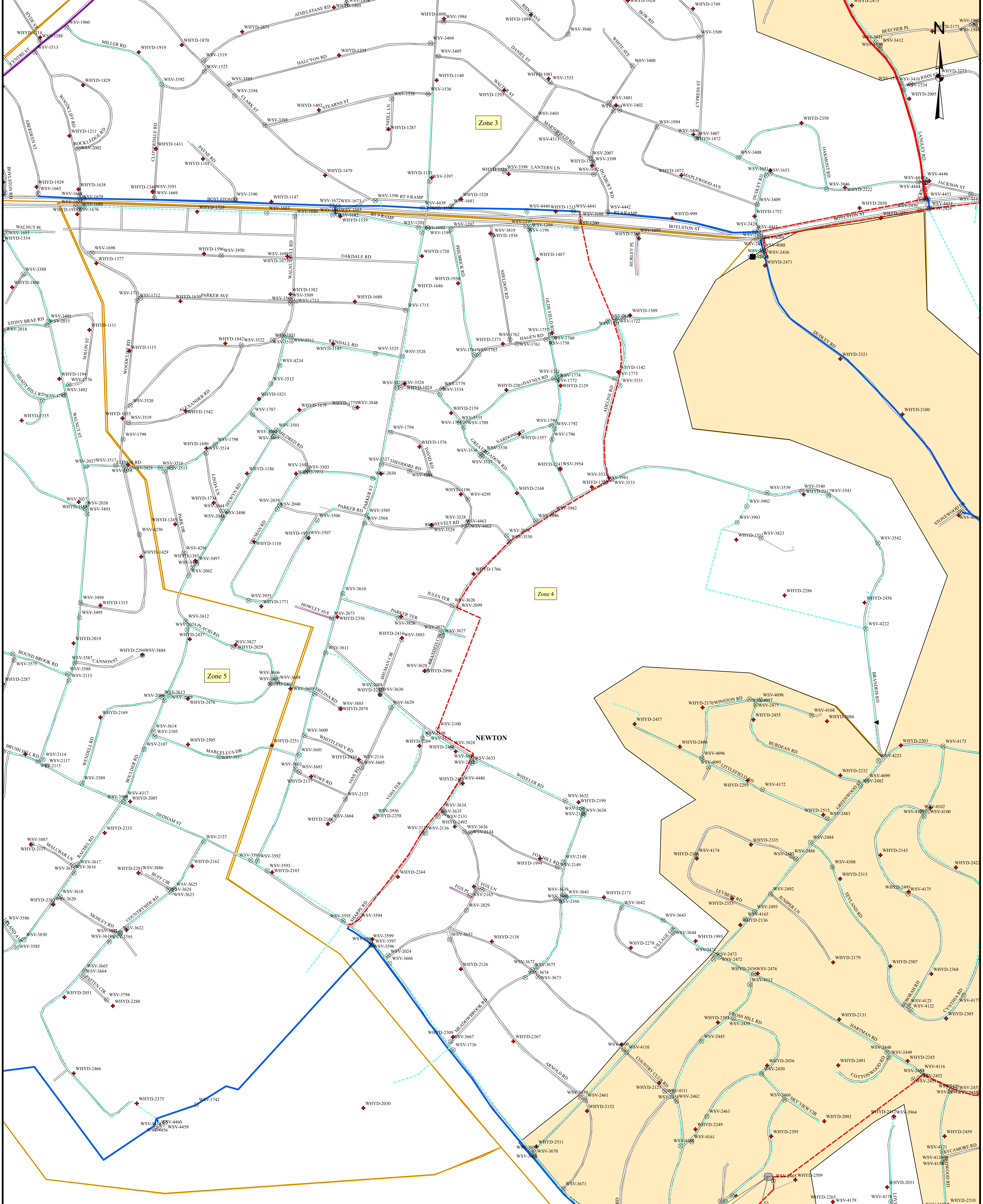




# Attachment A



**Legend**

- ◆ Hydrants
- ⊗ Valves

**Water Main Diameter**

- ..... 4-Inch or Smaller
- ..... 6-Inch
- ..... 8-Inch
- ..... 10-Inch
- ..... 12-Inch
- ..... 16-Inch
- ..... 20-Inch
- ..... 24-Inch
- ..... 30-Inch

▭ Zone Boundary

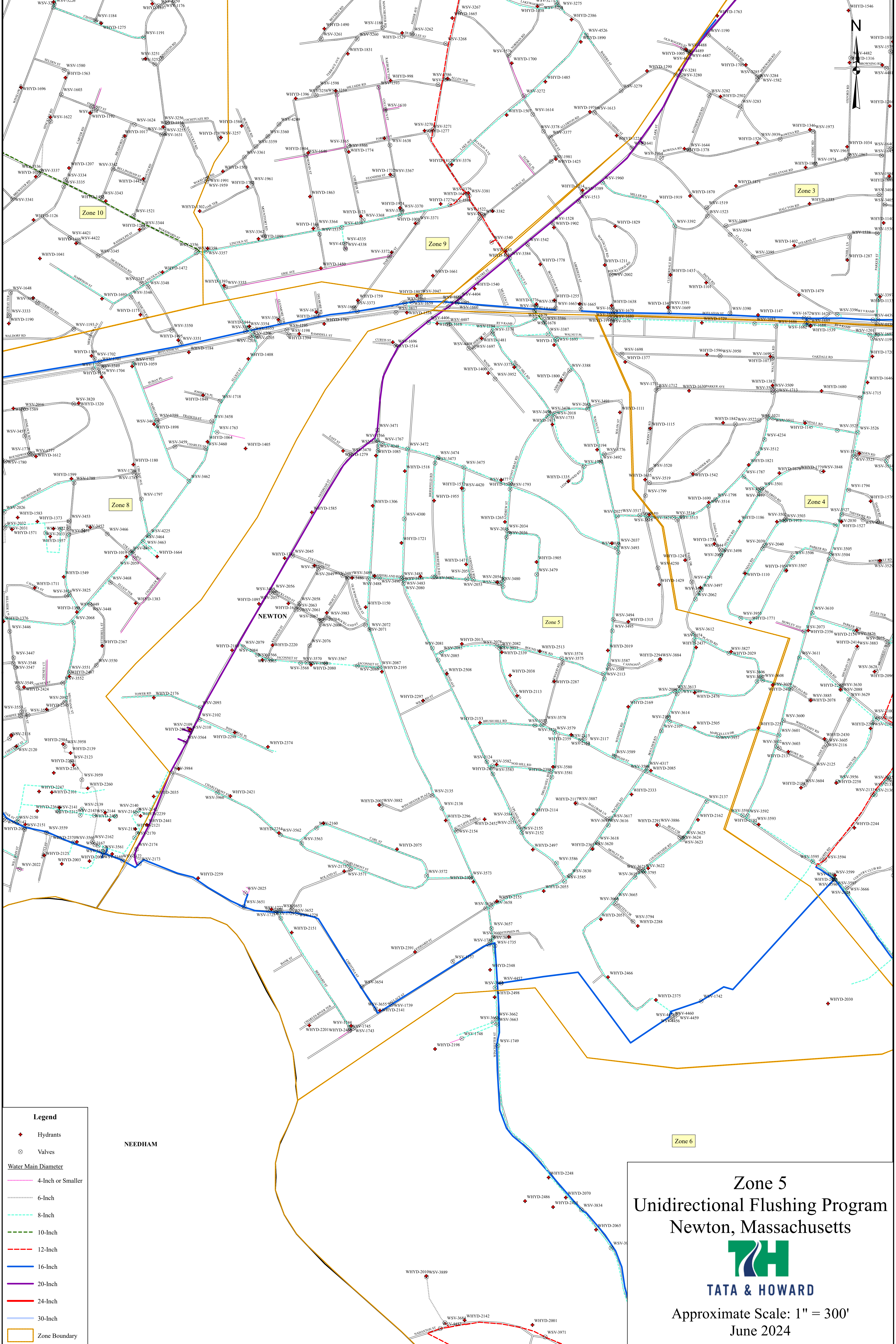
Oak Hill Ave Tank  
Capacity: 0.4 MG  
Overflow: 379 Feet

## Zone 4 Unidirectional Flushing Program Newton, Massachusetts



**TATA & HOWARD**

Approximate Scale: 1" = 250'  
June 2024




**Legend**

- ◆ Hydrants
- ⊗ Valves

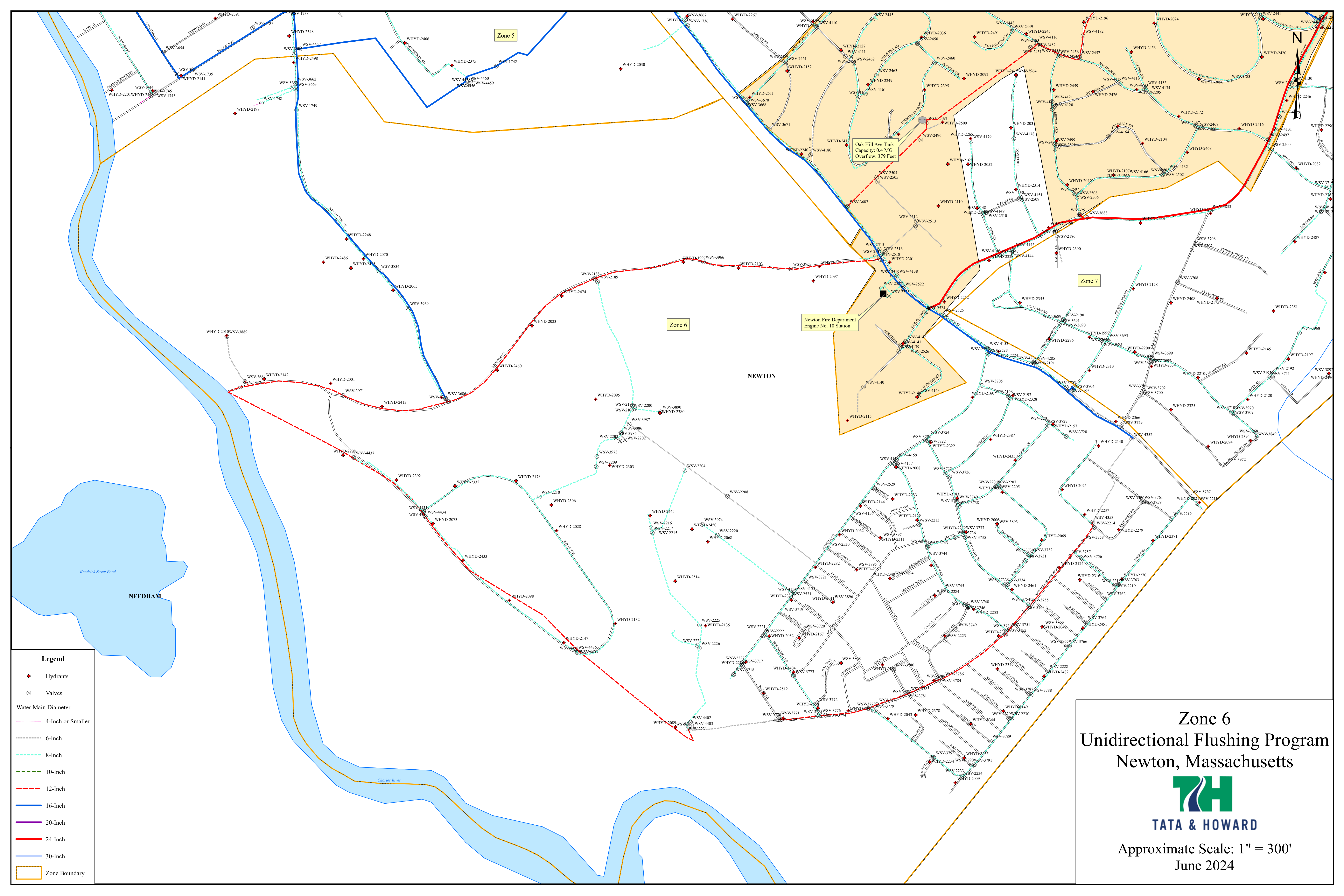
**Water Main Diameter**

- ..... 4-Inch or Smaller
- 6-Inch
- . - . - . 8-Inch
- 10-Inch
- 12-Inch
- 16-Inch
- 20-Inch
- 24-Inch
- 30-Inch
- Zone Boundary

**Zone 5**  
**Unidirectional Flushing Program**  
**Newton, Massachusetts**

  
**TATA & HOWARD**

Approximate Scale: 1" = 300'  
 June 2024



Zone 5

Zone 6

Zone 7

NEWTON


NEEDHAM

Oak Hill Ave Tank  
Capacity: 0.4 MG  
Overflow: 379 Feet

Newton Fire Department  
Engine No. 10 Station

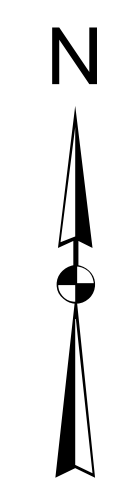
- Legend**
- ◆ Hydrants
  - ⊗ Valves
- Water Main Diameter**
- 4-Inch or Smaller
  - 6-Inch
  - 8-Inch
  - 10-Inch
  - 12-Inch
  - 16-Inch
  - 20-Inch
  - 24-Inch
  - 30-Inch
- Zone Boundary

**Zone 6**  
**Unidirectional Flushing Program**  
 Newton, Massachusetts



**TATA & HOWARD**

Approximate Scale: 1" = 300'  
 June 2024



Master Meter No. 243

BROOKLINE

NEWTON

BOSTON

Oak Hill Ave Tank  
Capacity: 0.4 MG  
Overflow: 379 Feet

Zone 4

Zone 7

Zone 6

# Zone 7 Unidirectional Flushing Program Newton, Massachusetts

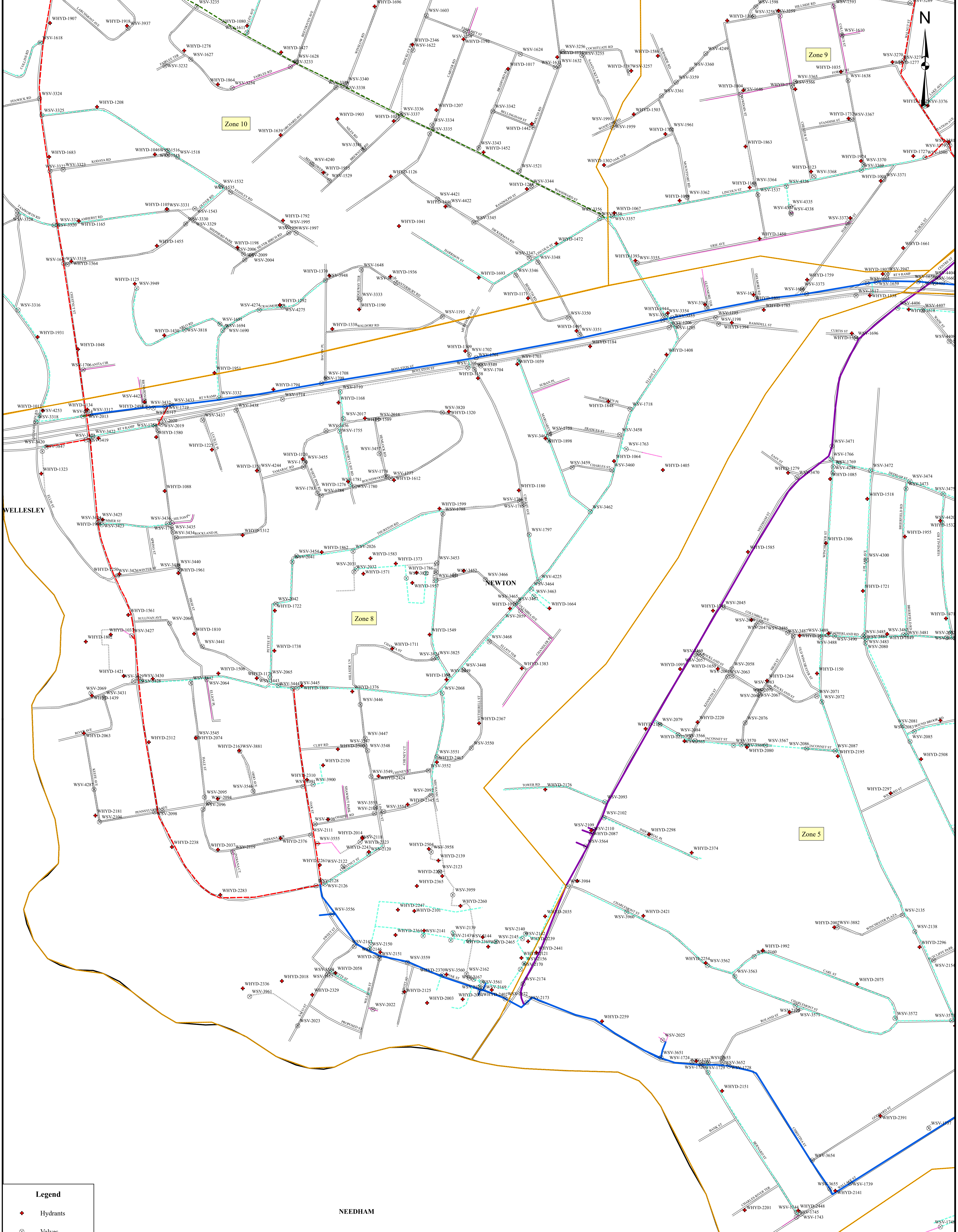


TATA & HOWARD

Approximate Scale: 1" = 250'  
June 2024

**Legend**

- ◆ Hydrants
- ⊗ Valves
- Water Main Diameter**
- 4-Inch or Smaller
- 6-Inch
- 8-Inch
- 10-Inch
- 12-Inch
- 16-Inch
- 20-Inch
- 24-Inch
- 30-Inch
- ▭ Zone Boundary




**Legend**

- ◆ Hydrants
- ⊗ Valves

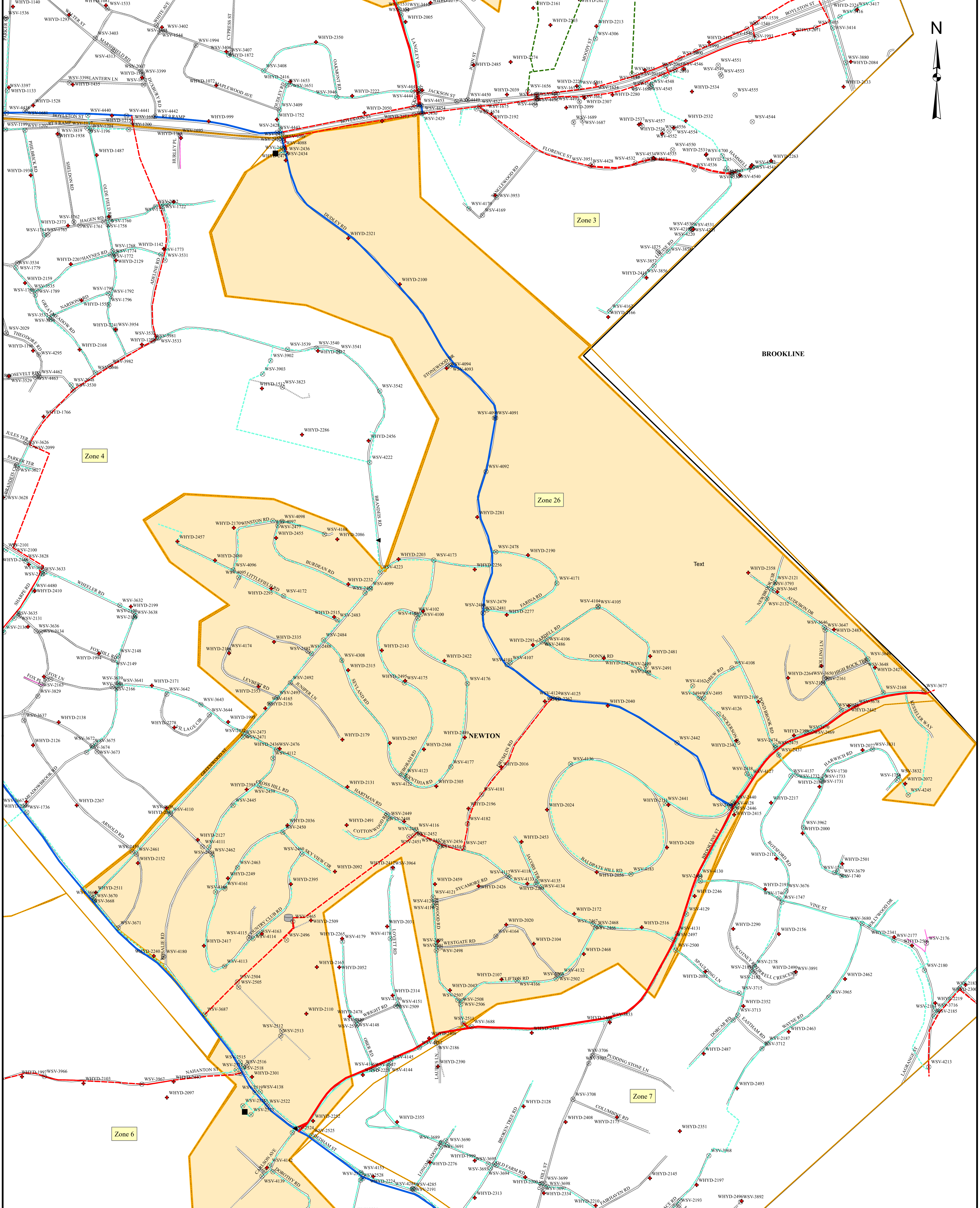
**Water Main Diameter**

- ..... 4-Inch or Smaller
- 6-Inch
- . - . - . 8-Inch
- 10-Inch
- 12-Inch
- 16-Inch
- 20-Inch
- 24-Inch
- 30-Inch
- Zone Boundary

**Zone 8**  
**Unidirectional Flushing Program**  
**Newton, Massachusetts**

  
**TATA & HOWARD**

Approximate Scale: 1" = 250'  
 June 2024



**Legend**

- Hydrants
- Valves
- Water Main Diameter**
- 4-inch and smaller
- 6-inch
- 8-inch
- 10-inch
- 12-inch
- 16-inch
- 20-inch
- 24-inch
- 30-inch
- Zone Boundary

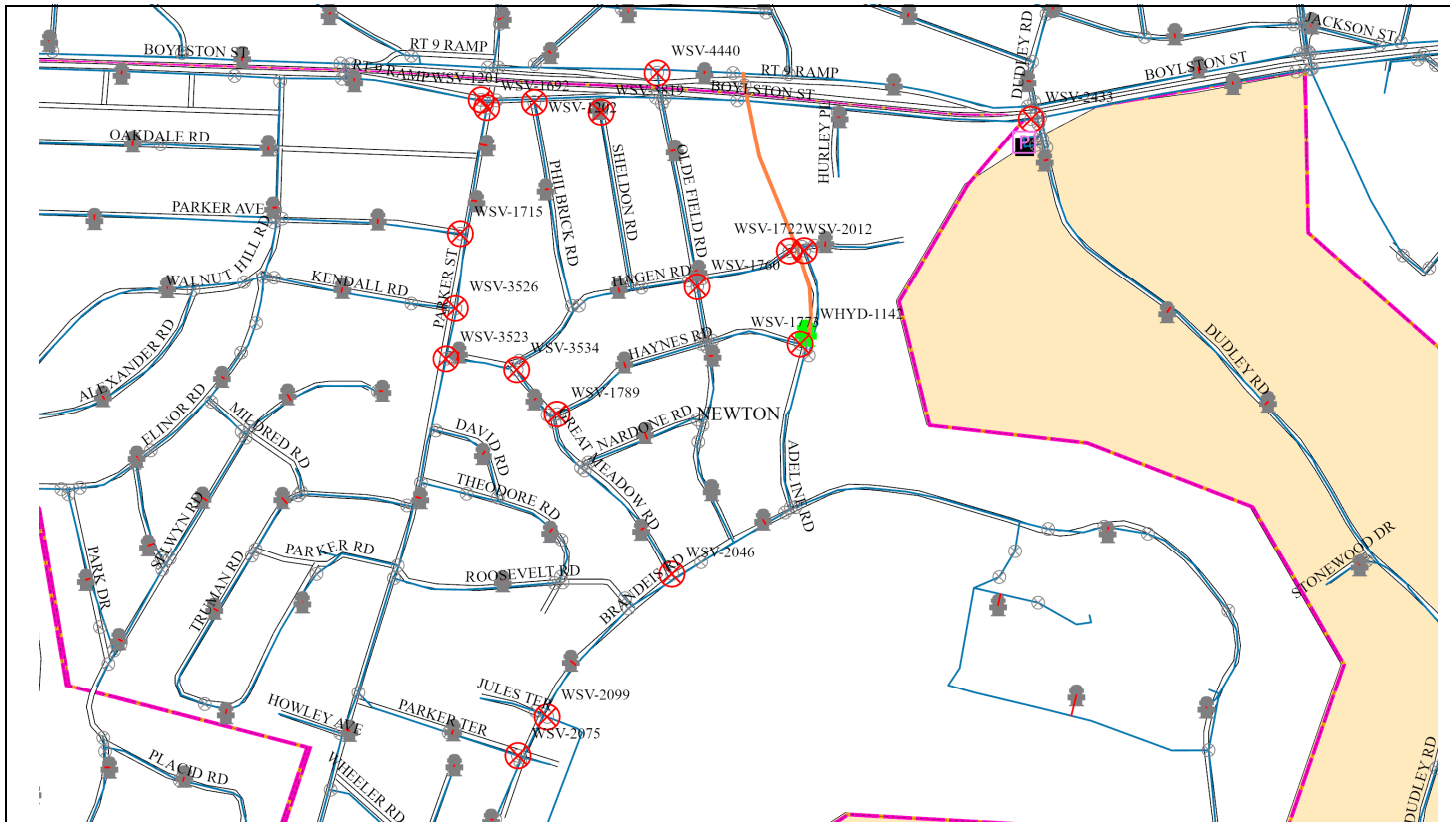
**Zone 26**  
**Unidirectional Flushing Program**  
Newton, Massachusetts

**TATA & HOWARD**

Approximate Scale: 1" = 300'  
June 2024


# Attachment B





**Legend**

- Flushing Hydrant
- Closed Valve
- Open Valve
- Flushed Pipe
- Flushing Pipe

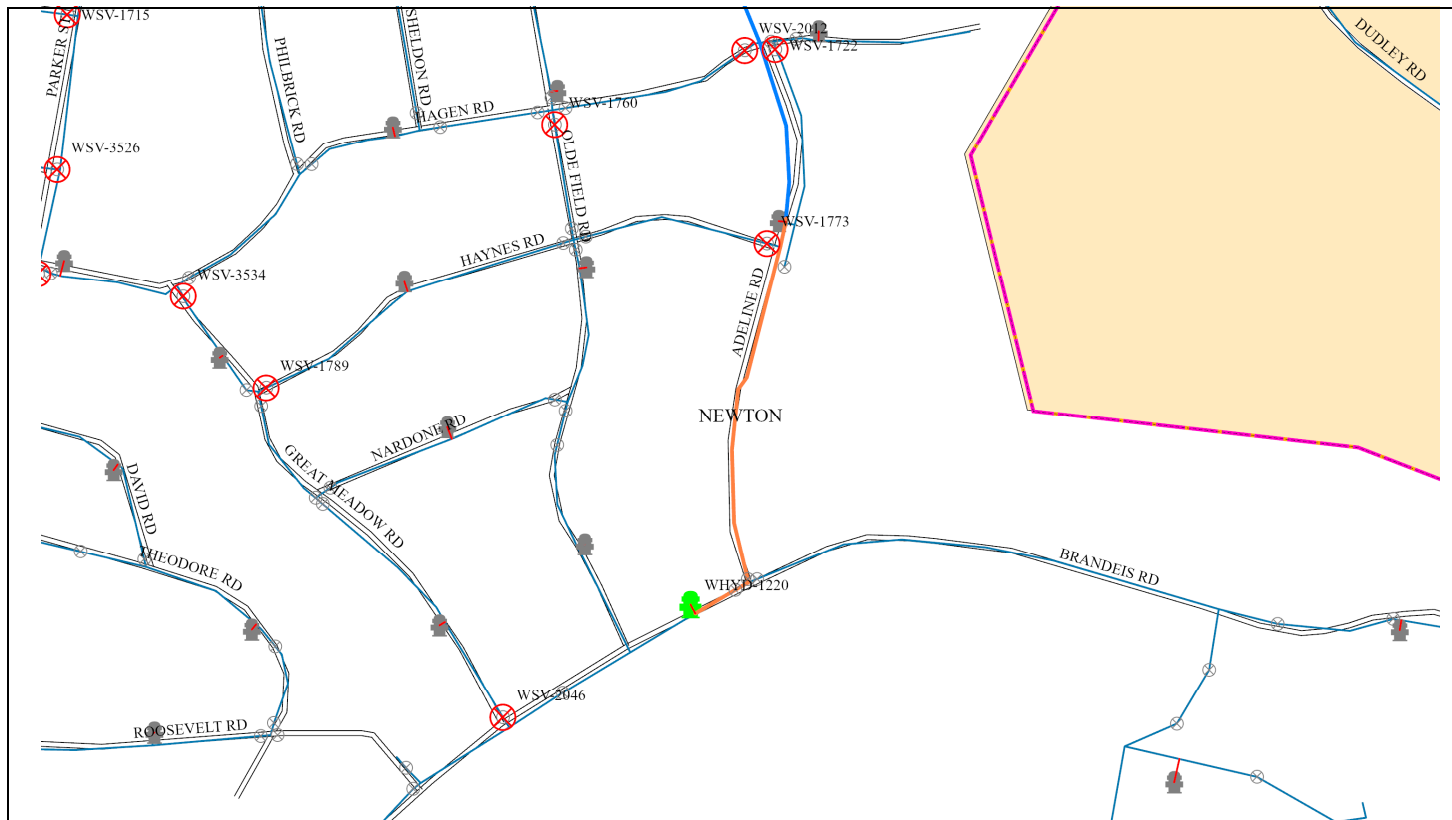


**TATA & HOWARD**

**NEWTON DPW  
UNIDIRECTIONAL FLUSHING PROGRAM**


For all Sequences in Zone 4:  
 -24" PRV on Brookline Street is CLOSED  
 -8" PRV on Brandeis Road is CLOSED  
 -Firehouse Pump Station is CLOSED  
 -Dudley Road Pump Station is CLOSED  
 -WSV-2099 (12" valve at intersection of Brandeis Road and Jules Terrace) shall be opened at the end of each day.

Zone	4	Sequence	1	Hydraulics	Model	Field	Water Quality	Initial Value	Final Value
Date of Flush		Start Time		Static Pressure	91.20 psi				
Duration	17.2 min.	Open Hydrant	WHYD-1142	Res. Pressure	86.21 psi		Turbidity		
Valves to Open				Discharge Flow	997.59 gpm		Disinf. Res.		
				Available Flow	5,264.71 gpm		pH		
Valves to Close	WSV-1202, WSV-3819, WSV-4440, WSV-2012, WSV-1760, WSV-3534, WSV-2433, WSV-1773, WSV-1722, WSV-2099, WSV-2075, WSV-2046, WSV-1201, WSV-1692, WSV-3523, WSV-3526, WSV-1715, WSV-1789			Total Pipe Len.	1,000.1 ft		Iron		
				Min Flushing Vol	764.89 ft <sup>3</sup>		Odor		
Pipes to Flush				Desired Flushing Vol	2,294.66 ft <sup>3</sup>		HPC		
				Min Flushing Time	5.7 min.		Color		
				Desired Flushing Tim	17.2 min.		Other		



**Legend**

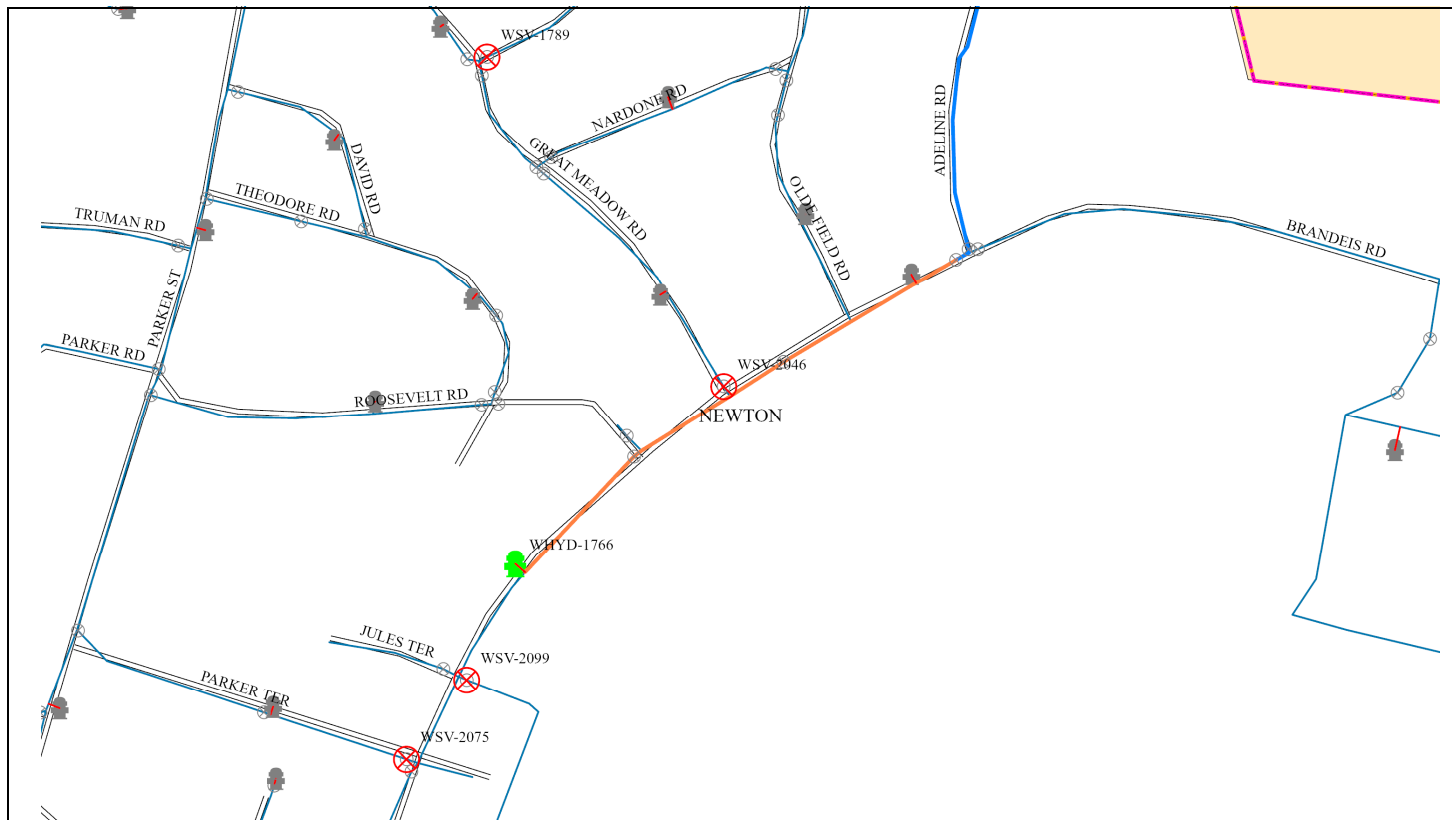
- Flushing Hydrant
- Closed Valve
- Open Valve
- Flushed Pipe
- Flushing Pipe



**TATA & HOWARD**


**NEWTON DPW  
UNIDIRECTIONAL FLUSHING PROGRAM**

<b>Zone</b>	4	<b>Sequence</b>	2	<b>Hydraulics</b>	<b>Model</b>	<b>Field</b>	<b>Water Quality</b>	<b>Initial Value</b>	<b>Final Value</b>
<b>Date of Flush</b>		<b>Start Time</b>		Static Pressure	93.26 psi				
<b>Duration</b>	13.5 min.	<b>Open Hydrant</b>	WHYD-1220	Res. Pressure	86.81 psi		Turbidity		
<b>Valves to Open</b>				Discharge Flow	1,001.04 gpm		Disinf. Res.		
				Available Flow	4,362.06 gpm		pH		
<b>Valves to Close</b>	(WSV-1202, WSV-3819, WSV-4440, WSV-2012, WSV-1760, WSV-3534, WSV-2433, WSV-1773, WSV-1722, WSV-2099, WSV-2075, WSV-2046, WSV-1201, WSV-1692, WSV-3523, WSV-3526, WSV-1715, WSV-1789)			Total Pipe Len.	779.6 ft		Iron		
				Min Flushing Vol	600.89 ft <sup>3</sup>		Odor		
<b>Pipes to Flush</b>				Desired Flushing Vol	1,802.68 ft <sup>3</sup>		HPC		
				Min Flushing Time	4.5 min.		Color		
				Desired Flushing Tim	13.5 min.		Other		



**Legend**

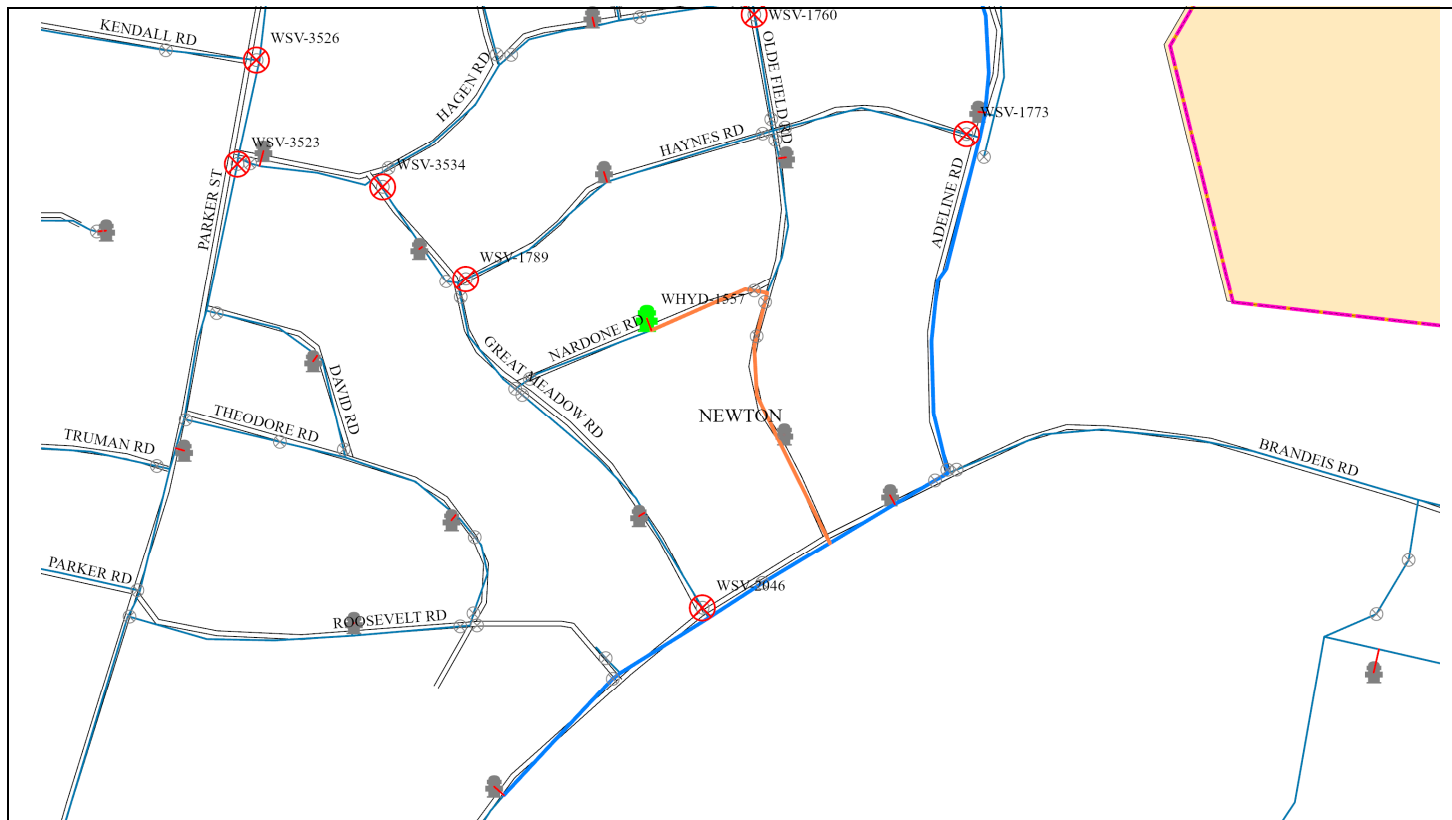
- Flushing Hydrant
- Closed Valve
- Open Valve
- Flushed Pipe
- Flushing Pipe



**TATA & HOWARD**


**NEWTON DPW  
UNIDIRECTIONAL FLUSHING PROGRAM**

Zone	4	Sequence	3	Hydraulics	Model	Field	Water Quality	Initial Value	Final Value
Date of Flush		Start Time		Static Pressure	94.28 psi				
Duration	16.9 min.	Open Hydrant	WHYD-1766	Res. Pressure	86.29 psi		Turbidity		
Valves to Open				Discharge Flow	998.04 gpm		Disinf. Res.		
				Available Flow	3,739.74 gpm		pH		
Valves to Close	(WSV-1202, WSV-3819, WSV-4440, WSV-2012, WSV-1760, WSV-3534, WSV-2433, WSV-1773, WSV-1722, WSV-2099, WSV-2075, WSV-2046, WSV-1201, WSV-1692, WSV-3523, WSV-3526, WSV-1715, WSV-1789)			Total Pipe Len.	960.4 ft		Iron		
				Min Flushing Vol	750.80 ft <sup>3</sup>		Odor		
Pipes to Flush				Desired Flushing Vol	2,252.41 ft <sup>3</sup>		HPC		
				Min Flushing Time	5.6 min.		Color		
				Desired Flushing Tim	16.9 min.		Other		



**Legend**

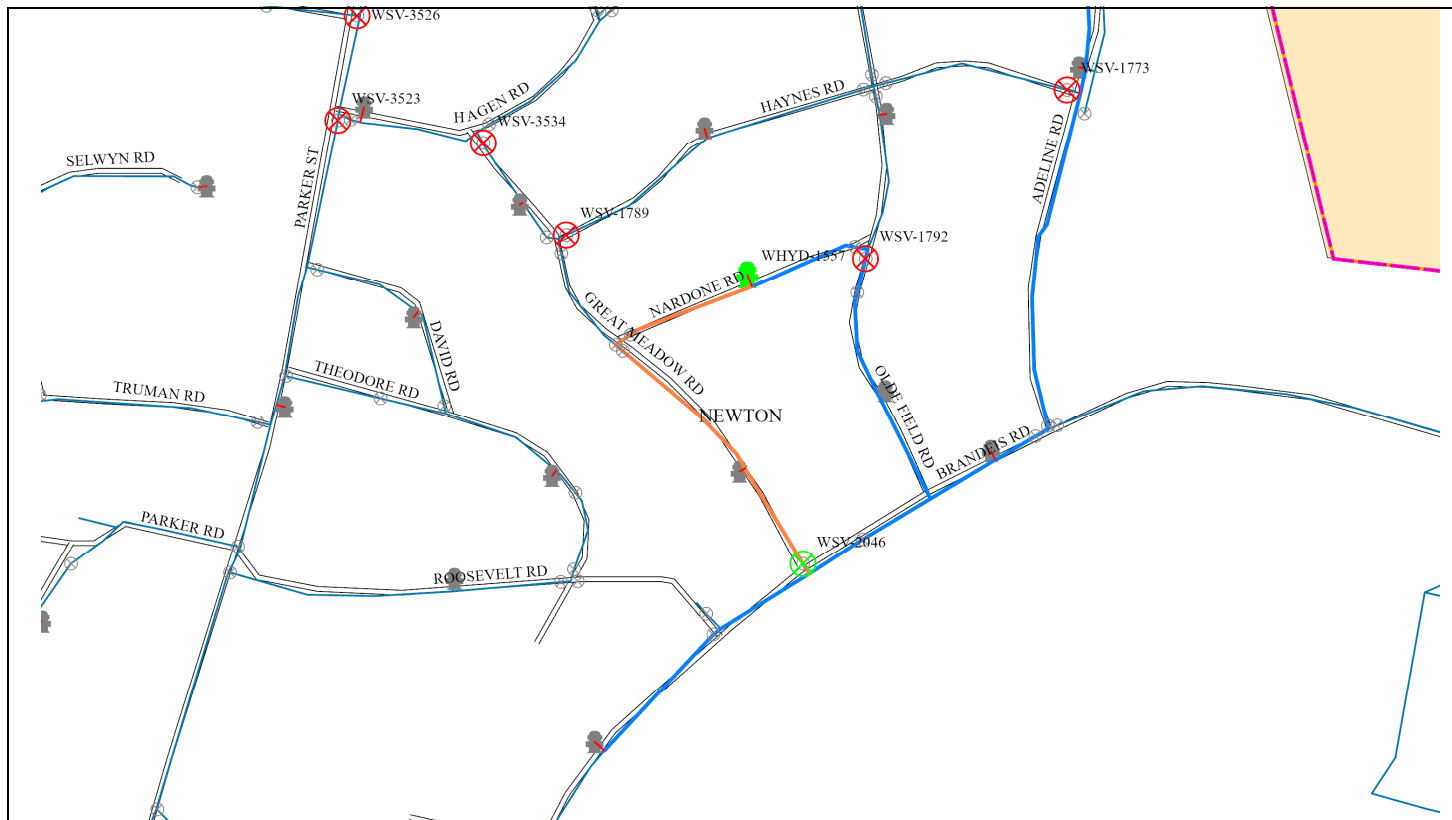
- Flushing Hydrant
- Closed Valve
- Open Valve
- Flushed Pipe
- Flushing Pipe



**TATA & HOWARD**


**NEWTON DPW  
UNIDIRECTIONAL FLUSHING PROGRAM**

Zone	4	Sequence	4	Hydraulics	Model	Field	Water Quality	Initial Value	Final Value
<b>Date of Flush</b>		<b>Start Time</b>		Static Pressure	94.26 psi				
<b>Duration</b>	5.9 min.	<b>Open Hydrant</b>	WHYD-1557	Res. Pressure	74.84 psi		Turbidity		
<b>Valves to Open</b>				Discharge Flow	929.49 gpm		Disinf. Res.		
				Available Flow	1,979.04 gpm		pH		
<b>Valves to Close</b>	(WSV-1202, WSV-3819, WSV-4440, WSV-2012, WSV-1760, WSV-3534, WSV-2433, WSV-1773, WSV-1722, WSV-2099, WSV-2075, WSV-2046, WSV-1201, WSV-1692, WSV-3523, WSV-3526, WSV-1715, WSV-1789)			Total Pipe Len.	705.0 ft		Iron		
				Min Flushing Vol	244.36 ft <sup>3</sup>		Odor		
<b>Pipes to Flush</b>				Desired Flushing Vol	733.08 ft <sup>3</sup>		HPC		
				Min Flushing Time	2.0 min.		Color		
				Desired Flushing Tim	5.9 min.		Other		



**Legend**

- Flushing Hydrant
- Closed Valve
- Open Valve
- Flushed Pipe
- Flushing Pipe



**TATA & HOWARD**

**NEWTON DPW  
UNIDIRECTIONAL FLUSHING PROGRAM**

Zone	4	Sequence	5	Hydraulics	Model	Field	Water Quality	Initial Value	Final Value
<b>Date of Flush</b>		<b>Start Time</b>		Static Pressure	94.26 psi				
<b>Duration</b>	7.0 min.	<b>Open Hydrant</b>	WHYD-1557	Res. Pressure	71.16 psi		Turbidity		
<b>Valves to Open</b>	WSV-2046			Discharge Flow	906.31 gpm		Disinf. Res.		
				Available Flow	1,742.55 gpm		pH		
<b>Valves to Close</b>	WSV-1792 (WSV-1202, WSV-3819, WSV-4440, WSV-2012, WSV-1760, WSV-3534, WSV-2433, WSV-1773, WSV-1722, WSV-2099, WSV-2075, WSV-1201, WSV-1692, WSV-3523, WSV-3526, WSV-1715, WSV-1789)			Total Pipe Len.	809.2 ft		Iron		
				Min Flushing Vol	280.86 ft <sup>3</sup>		Odor		
<b>Pipes to Flush</b>				Desired Flushing Vol	842.57 ft <sup>3</sup>		HPC		
				Min Flushing Time	2.3 min.		Color		
				Desired Flushing Tim	7.0 min.		Other		