



Proposed IX and I-5 Zoning Text Amendments – Watershed Protection District

Wallingford Water Division
December 14, 2020 at 7:00 p.m. - Monday

WWD Presentation Agenda

- ❑ Wallingford Water Protection District (WPD)
- ❑ Public Utilities Commission Policy No. W/S-2
- ❑ Wallingford Water Division Perspectives
- ❑ Ice Control for Commercial and Residential Properties
- ❑ Water Quality (WQ) Sampling of Source Water
- ❑ Chloride (Cl) Measurements in Raw Water Sources

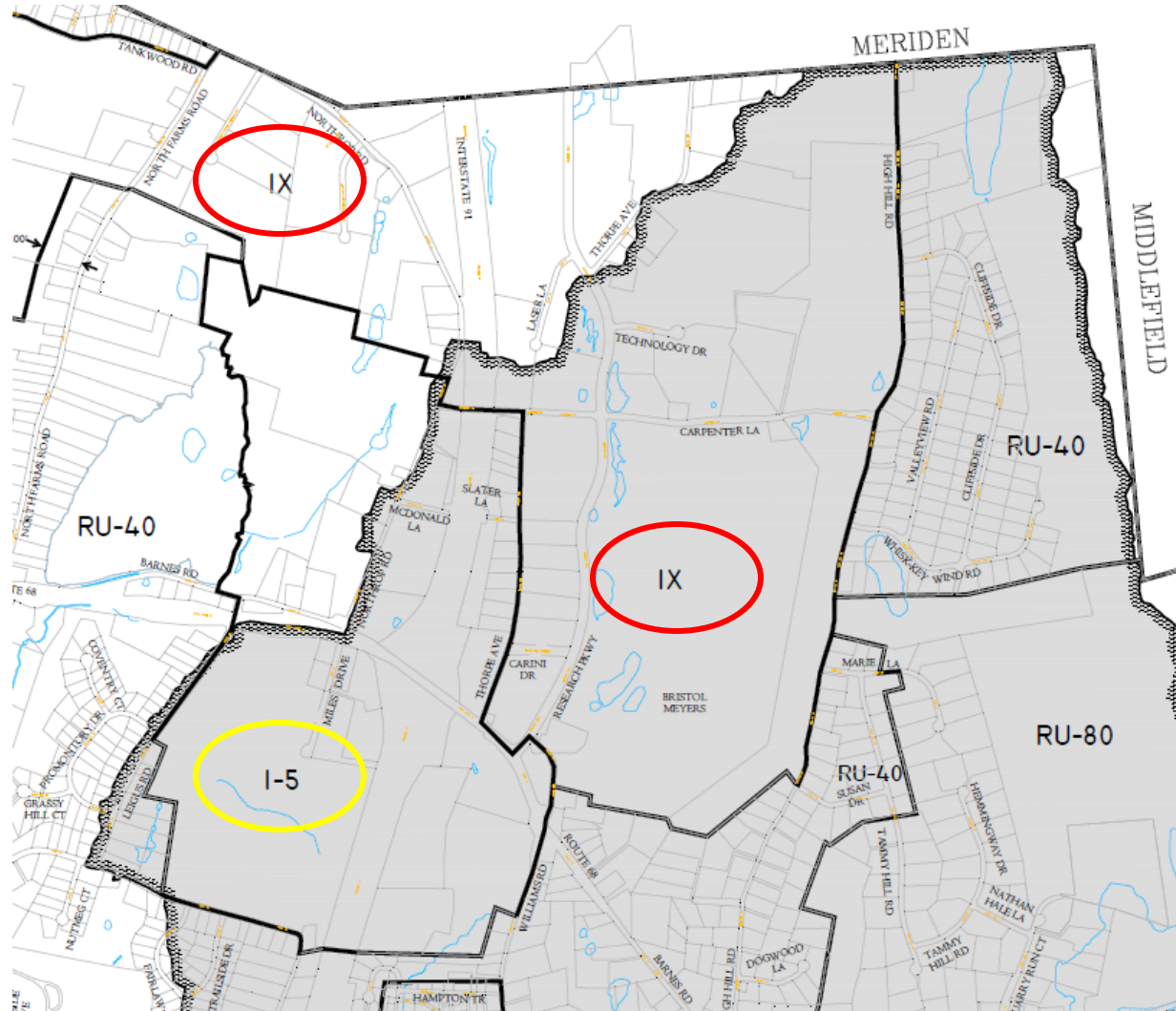


WWD Presentation Agenda (continued)

- ❑ Sodium (Na) Measurements in Raw Water Sources
 - ❑ Storm Water Quality Basins Maintenance
 - ❑ Recommended IX and I-5 Text Amendments and Clarifications
 - ❑ Based on the December 2, 2020 proposed revisions
 - ❑ Interchange District (I-5) Purpose Statement
 - ❑ Intent of the Watershed Protection District
 - ❑ Questions and Discussion
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Watershed Protection District Map



Watershed Protection District

- ❑ The majority of the land within the Interchange District (I-5) zone along with a significant portion of land in the Industrial Expansion (IX) zone is tributary to the Muddy River
 - ❑ The Muddy River is the primary source of water for the MacKenzie Reservoir public drinking water supply
 - ❑ All land within the watershed for the MacKenzie Reservoir has been designated as a Watershed Protection District (WPD) by the Planning and Zoning Commission
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Watershed Protection District (cont.)

- ❑ The tributary area to MacKenzie Reservoir accounts for approximately 75% of the total watershed area tributary to the Town's reservoir system
- ❑ The **surface water supply system provides approximately 94% of the public drinking water** delivered to 39,500± residents and business in the Town of Wallingford
- ❑ The watershed associated with the MacKenzie Reservoir is **critical** for supplying the Town with an adequate volume of **potable water**



PUC Policy No. W/S-2

- ❑ Adopted by the Public Utilities Commission
 - ❑ February 15, 2011

“... the Public Utilities Department staff would in all cases recommend against any increase in the zoning densities set forth on the Zoning Map and Regulations. **Staff would recommend against any other zoning changes that, in the opinion of staff, would potentially result in a detrimental impact on water quality within said areas.**”



Policy No. W/S-2

Policy No. W/S-2
Page 1 of 1

TITLE: POLICY REGARDING ZONING CHANGES IN WATERSHED AREAS

Effective Date: 2/16/2011

Adopted by Board: 2/15/2011

Revised by Board:

Certified by: 

WHEREAS, the Wallingford Board of Public Utilities Commissioners (the "PUC") recognizes that watershed areas provide a valuable public health function by protecting reservoirs from polluted runoff and by ensuring a clean and safe drinking water supply.

NOW, THEREFORE BE IT RESOLVED THAT the PUC affirms the following:

For properties that fall within public water supply watershed areas as indicated in the Atlas of the Public Water Supply Sources and Drainage Basins of Connecticut, dated June 1982 (as it may be updated and/or amended by the staff of the Water Division to reflect any revised conditions or to more accurately reflect field information), the Public Utilities Department staff would in all cases recommend against any increase in the zoning densities set forth on the Zoning Map and Regulations. Staff would also recommend against any other zoning changes that, in the opinion of staff, would potentially result in a detrimental impact on water quality within said areas.

This policy supercedes the PUC Resolution approved August 12, 2009, titled *Wallingford Water and Sewer System Capacities and Zoning Map Density Designation*.

Wallingford Water Division Perspectives

- ❑ Ice control associated with parking area maintenance promotes use of less expensive sodium chloride (NaCl) products, which then enters the raw drinking water sources of the Town
- ❑ Poorly maintained storm water quality basins do not effectively and efficiently capture storm water runoff pollutants such as silt, sediment, oil drippings, etc. from entering local water bodies
- ❑ Undisturbed native and natural land promote pollutant capture and higher surface water quality



Ice Control in Parking Lots in WPD

- ❑ Per §4.13.D facilities located within the watershed with parking lots of **more than ten (10) parking spaces** are **prohibited from using sodium chloride** for ice control
- ❑ Unfortunately, products labeled “environmentally safe” are comprised mostly of the **prohibited sodium chloride**
- ❑ **Straight calcium chloride, magnesium chloride and/or unsalted sand** are acceptable alternatives



Ice Control in Parking Lots in WPD

- Annual letter sent to all commercial addresses within the Wallingford Water Division watershed with 10 or more parking spaces



Town of Wallingford, Connecticut

NEIL H. AMWAKE, P.E.
GENERAL MANAGER
DEPARTMENT OF PUBLIC UTILITIES
WATER & SEWER DIVISIONS
377 SOUTH CHERRY STREET
WALLINGFORD, CONNECTICUT 06492
TELEPHONE 203-949-2666



WATER AND SEWER DIVISIONS
DEPARTMENT OF PUBLIC UTILITIES
Town of Wallingford
377 South Cherry Street
Wallingford, Connecticut 06492
Telephone: 203-949-2666

November 6, 2020

New Life Church
262 Bee Street
Meriden, CT 06450

Re: Ice Control in Parking Lots in the Watershed - 350 High Hill Road, Wallingford

Dear Sir:

Your facility is located in the Town of Wallingford's public drinking water supply watershed. With the onset of the winter season this is a reminder that, pursuant to the Town's Zoning Regulations, facilities located within the watershed with parking lots of more than ten (10) spaces are prohibited from using sodium chloride for ice control.

According to an ice control industry professional, any blend products, even if labeled "environmentally safe," will be comprised mostly of the prohibited sodium chloride. Straight calcium chloride, magnesium chloride, and unsalted sand are acceptable alternatives.

Please verify the Safety Data Sheet (SDS) for ingredient contents to ensure that the product you plan to use does not contain sodium chloride. To assist you in selecting a suitable product, please see the enclosure which includes various several vetted treatment options.

Your cooperation in complying with this restriction and helping to ensure the purity of our drinking water supply is greatly appreciated.

Should you have any questions, please feel free to contact the Wallingford Water Division at 203-949-2666.

Sincerely,

Neil H. Amwake
Neil H. Amwake, P.E.
General Manager

Thomas Esposito
Assistant Superintendent
Water Supply and Treatment

Ryan Carboni
Water Quality Inspector

H:\uvex\Treatment\winter notice on watershed\Ice Control let 2020 main.docx

The following ice control products have been vetted by the Wallingford Water Division as suitable for use by facilities located within the watershed with parking lots of more than ten (10) spaces.

Solids

- Calcium Chloride
- Magnesium Chloride
- Peladow Calcium Chloride Pellets
- Unsalted Sand

Liquid De-icers

- ProMelt Cal 30
- ProMelt Mag 30
- ProMelt Magic Minus Zero
- ProMelt Ultra 1000
- ProMelt Ultra 2000

The Water Division does not recommend one product over another; this list is a resource to provide property owners with product options which comply with the sodium chloride prohibition of the Town of Wallingford's Zoning Regulations.

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Ice Control in Parking Lots in WPD

- ❑ Postcard sent to all residential addresses within the Wallingford Water Division watershed

Wallingford Water Division
377 South Cherry Street
Wallingford, CT 06492



SALT USE ON THE WATERSHED

You live in the Wallingford watershed. As such, your use of salt on your driveway and sidewalk can affect the quality of Wallingford's drinking water sources.

With the onset of the winter season this is a reminder that salt (sodium chloride) is not environmentally friendly. Calcium chloride, magnesium chloride, and unsalted sand are preferred alternatives. Please verify your product's ingredient contents to ensure that the product you plan to use does not contain sodium chloride.

Your cooperation in helping to ensure the quality of Wallingford's drinking water supply is greatly appreciated.

Should you have any questions, please feel free to contact us at 203-949-2666. Thank you.

Wallingford Water Division



Roadway Signed at WPD Borders

- ❑ The Wallingford Water Division installed signage along local roadways to alert residents and DPW staff of the WPD limits



WQ Sampling of Source Water

- ❑ Wallingford Water Division (WWD) staff conducts quarterly water quality sampling of raw water sources
 - ❑ Muddy River
 - ❑ Scard Brook
 - ❑ MacKenzie Reservoir
 - ❑ Ulbrich Reservoir
 - ❑ Pistapaug Reservoir
- ❑ Two (2) parameters that are analyzed are Chloride (Cl) and Sodium (Na)
 - ❑ Common ingredients in ice control products which negatively effect water quality via storm water runoff



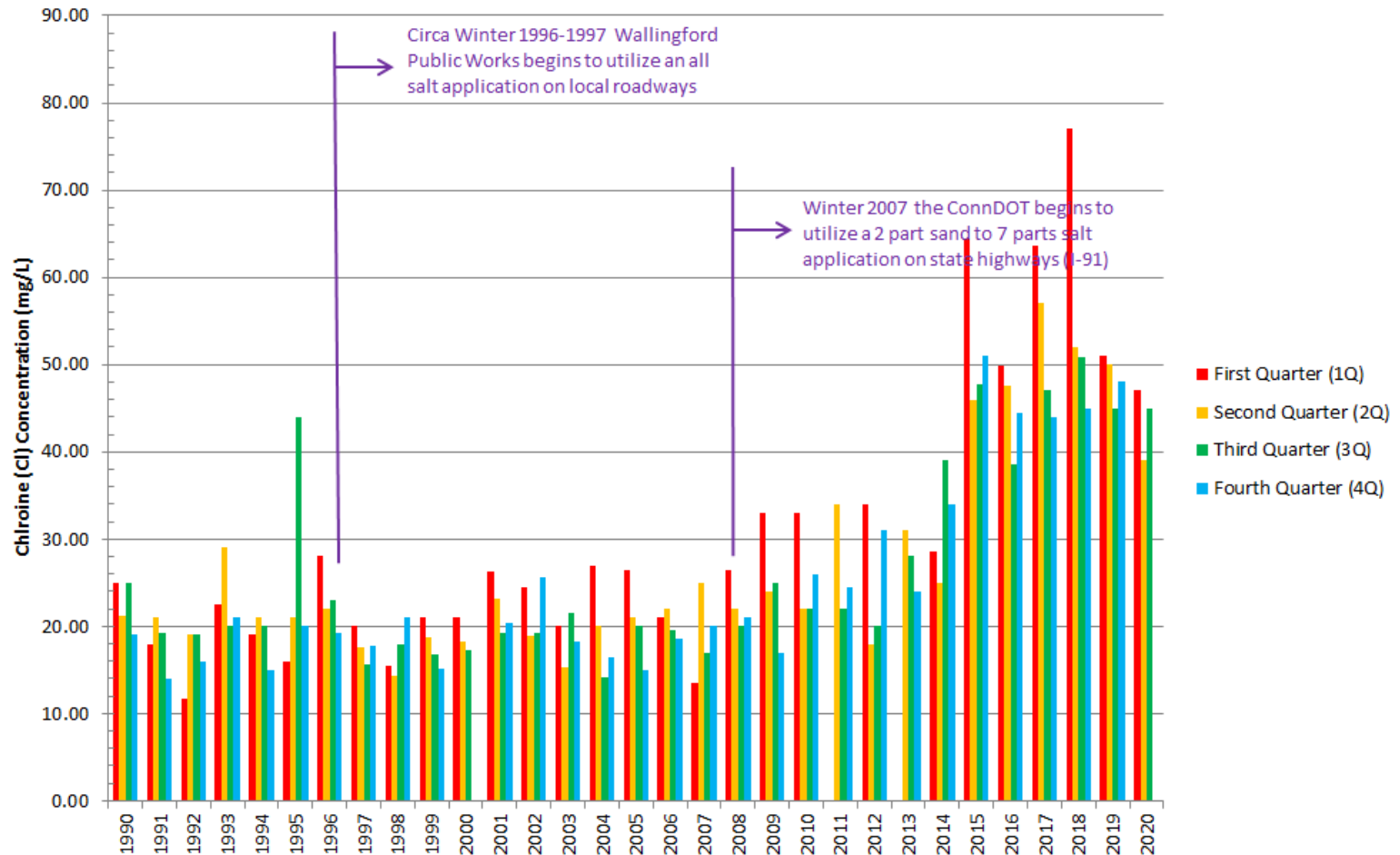
WQ Sampling of Source Water (continued)

- ❑ Note the upward trend of both Chloride (Cl) and Sodium (Na) in the raw surface water sources for the Wallingford Water Division
- ❑ Note the height of the **1Q sampling results (red column)** during the winter ice control season as compared to the other quarterly analytical results
- ❑ Once in the raw surface water sources, both Chloride (Cl) and Sodium (Na) remain in the water
 - ❑ Evaporation of the surface water will only increase the concentrations in the respective reservoirs



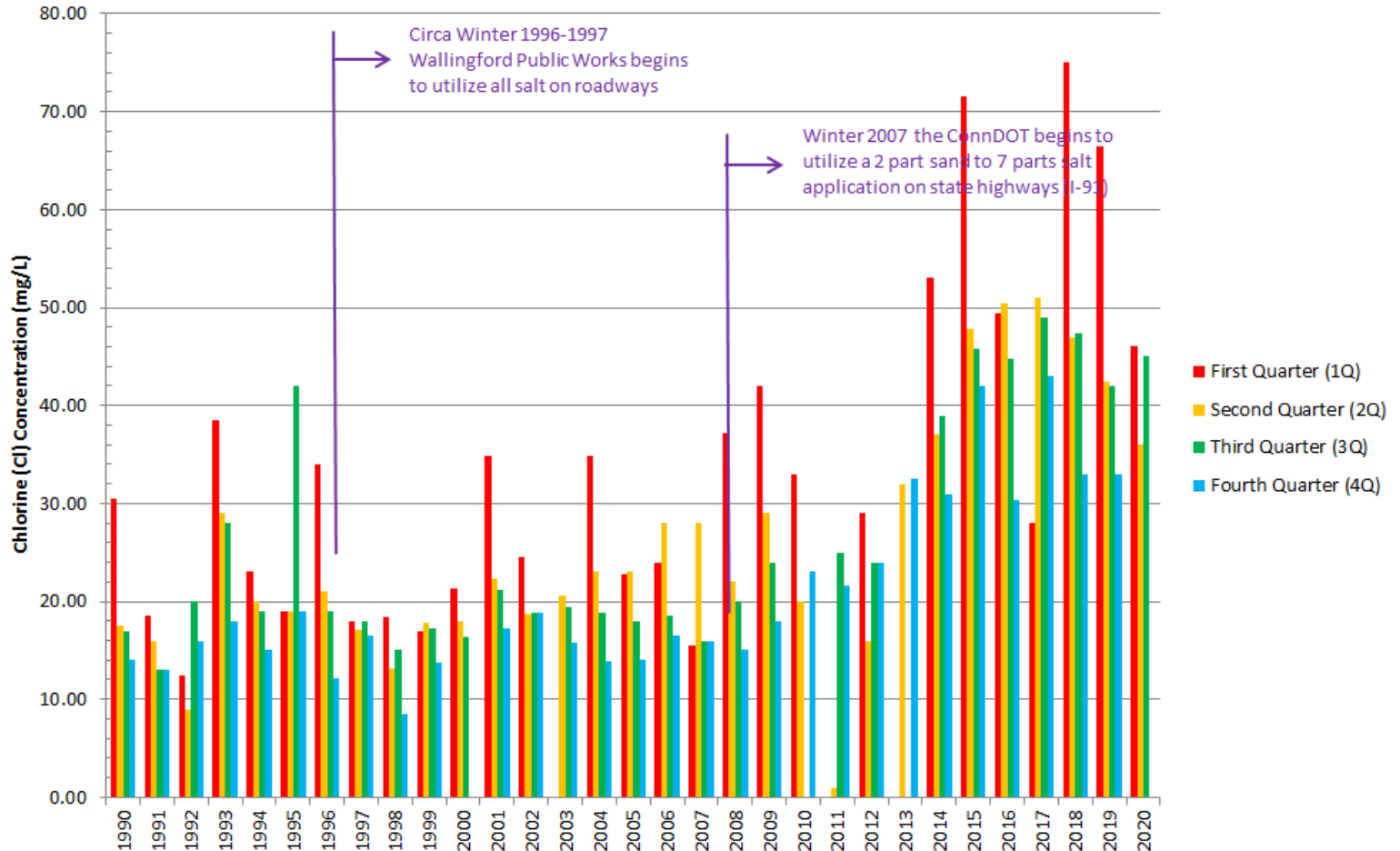
Chloride (Cl) in Raw Water Sources

❑ Muddy River: Cl levels have increased **2x** ± since early '90's



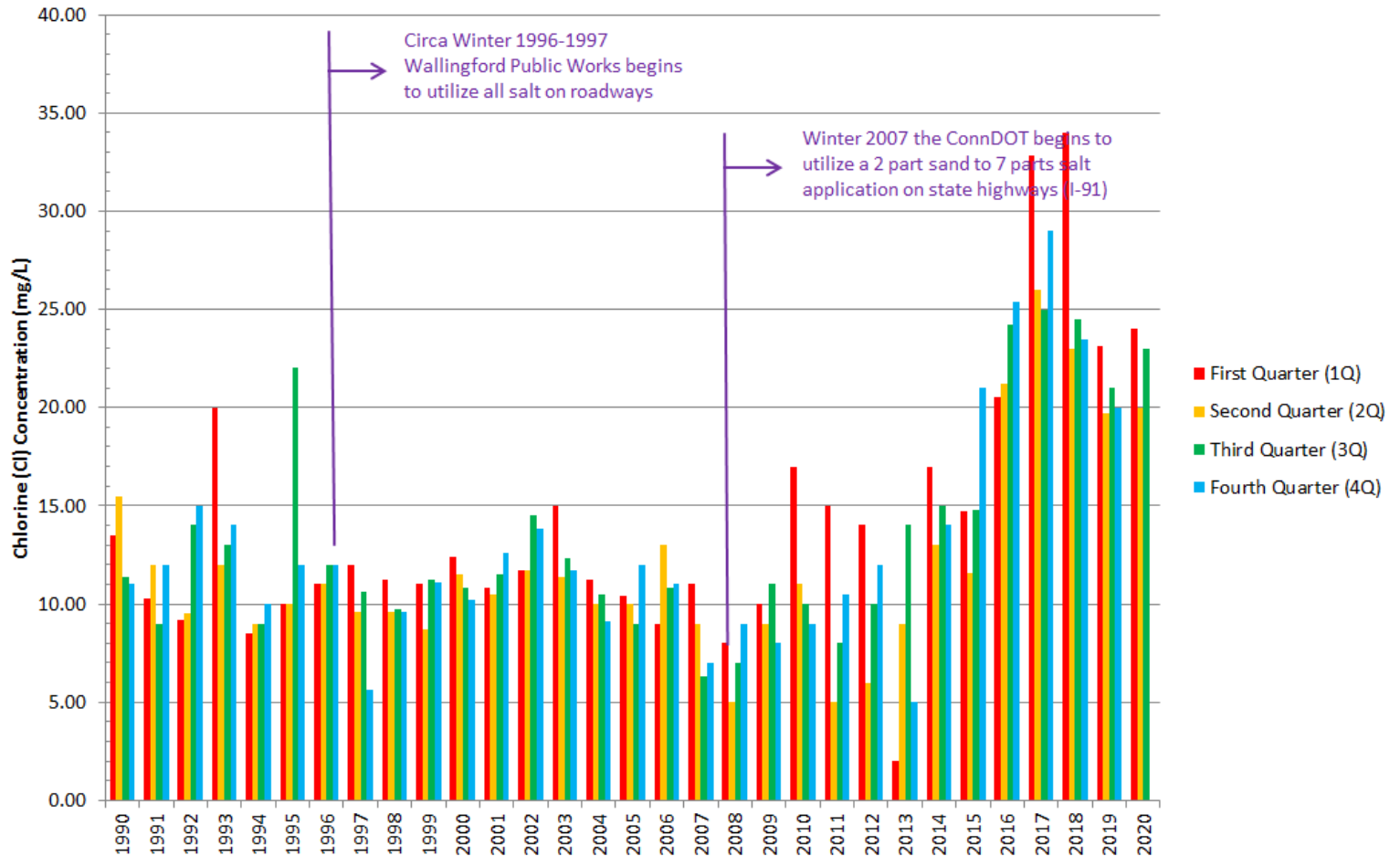
Chloride (Cl) in Raw Water Sources

❑ MacKenzie Reservoir: Note the height of 1Q red columns



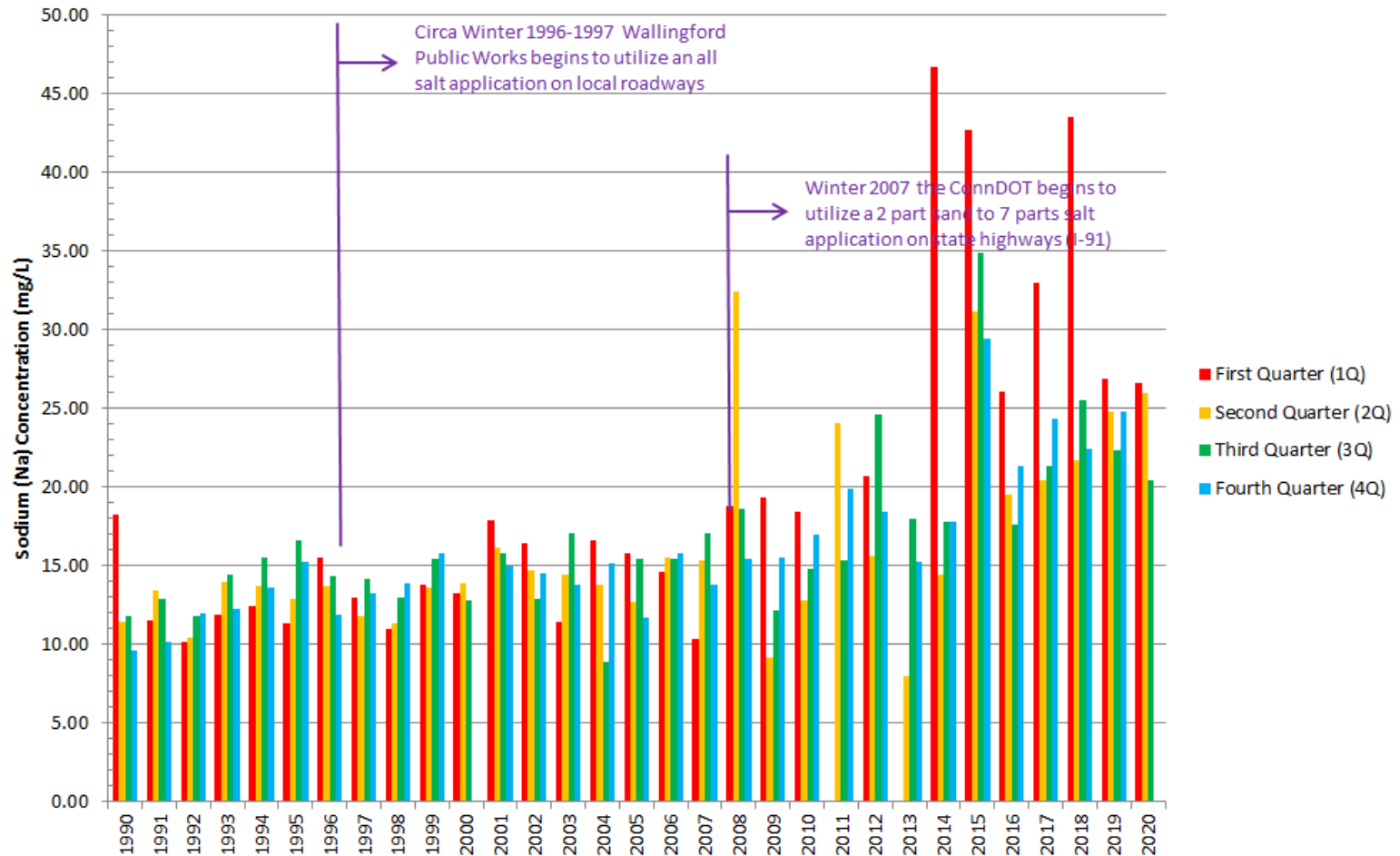
Chloride (Cl) in Raw Water Sources

❑ Pistapaug Reservoir: Cl levels have increased **2x ±**



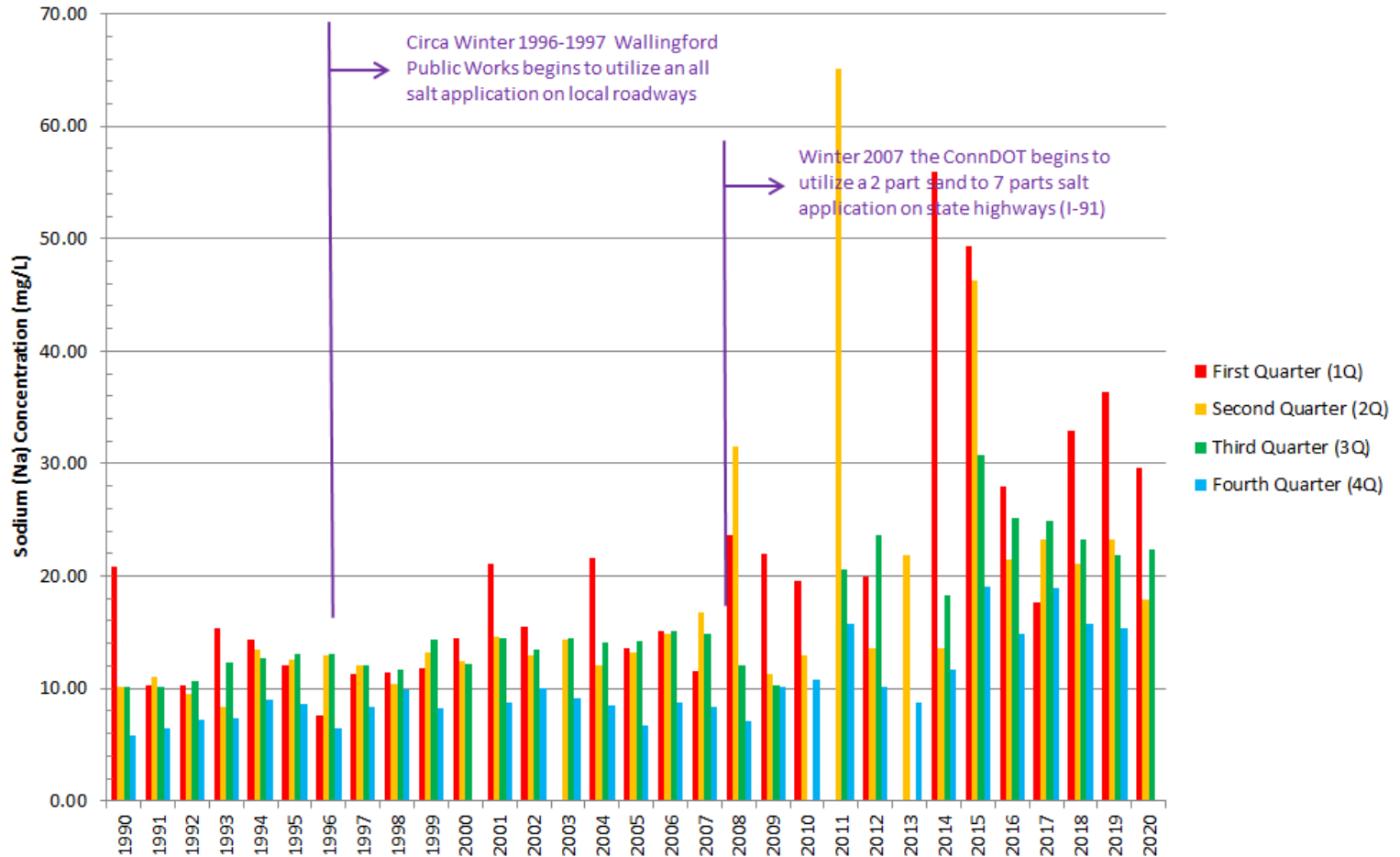
Sodium (Na) in Raw Water Sources

❑ Muddy River: Notice winter time spikes in Na levels



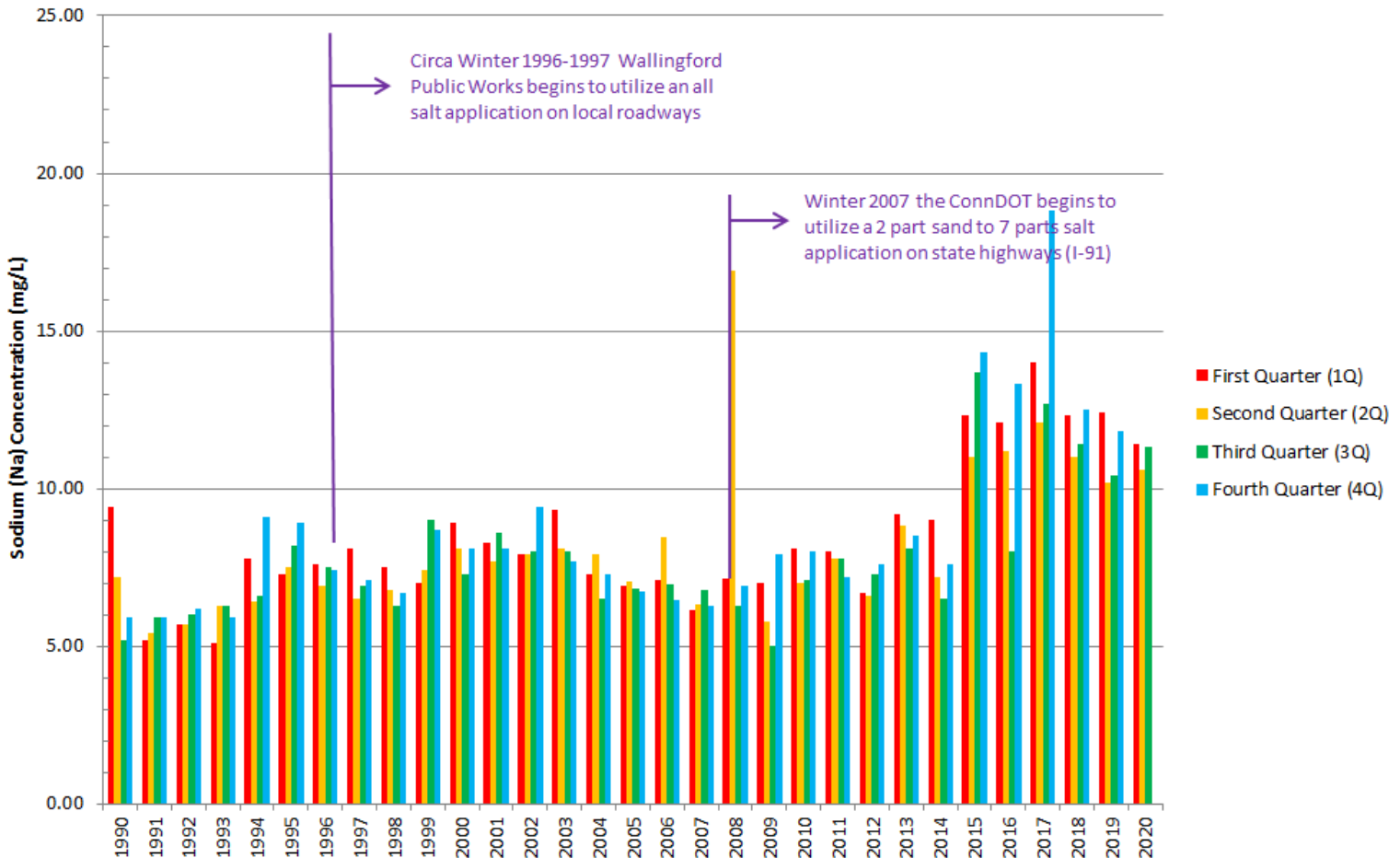
Sodium (Na) in Raw Water Sources

MacKenzie Reservoir



Sodium (Na) in Raw Water Sources

❑ Pistapaug Reservoir: Levels now consistently > 10 mg/L



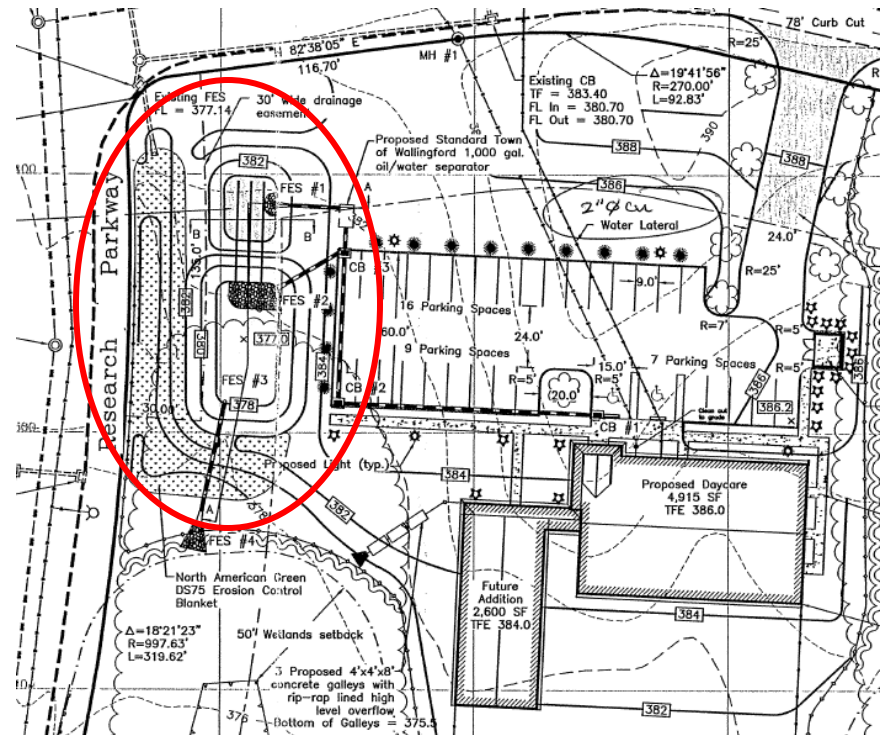
Storm Water Quality Basins

- ❑ 2A Research Parkway
 - ❑ Adequately maintained



Storm Water Quality Basins

- 3 Technology Drive
 - No maintenance



Storm Water Quality Basins

- ❑ 8 Research Parkway
 - ❑ Marginal to no maintenance



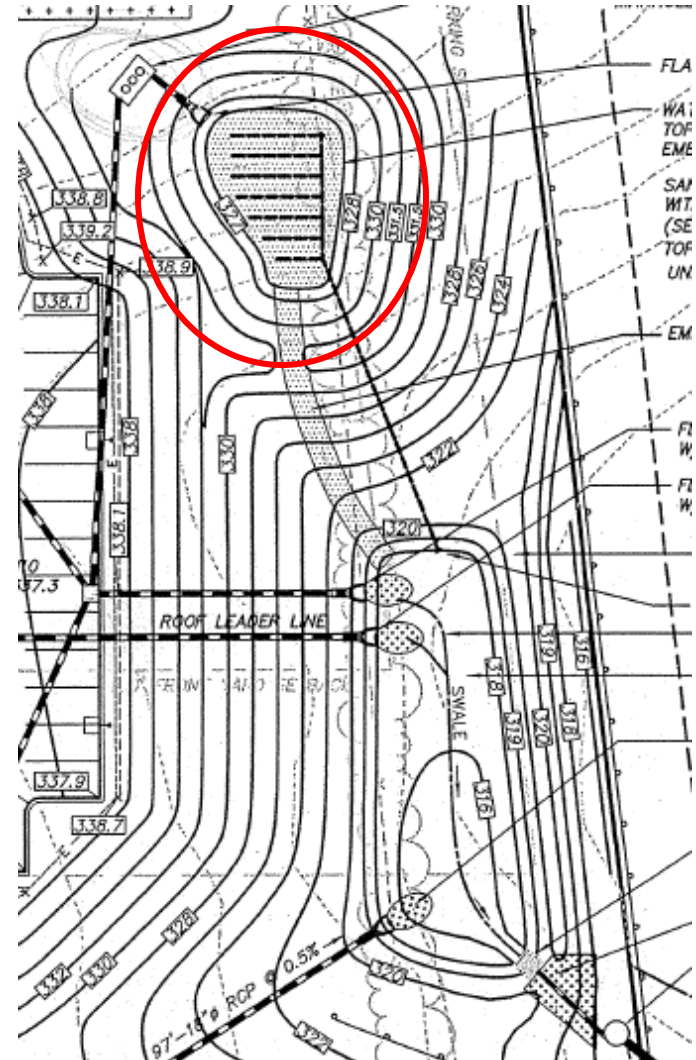
Storm Water Quality Basins

- ❑ 10 Research Parkway
 - ❑ Poor maintenance



Storm Water Quality Basins

- ❑ 90 Miles Drive
 - ❑ No maintenance



§4.9.E.3 (Industrial Expansion District)

Keep the following text:


“In properties located within the Watershed Protection District, additional parking provisions as noted in §4.13.D shall apply.”



§4.9.F.5 (IX District)

Revise text to read as follows:

“Wherever feasible, open space shall be larger areas contiguous in both on-site and off-site open space areas. Open space shall promote natural and native landscaping rather than regularly mowed and maintained lawns **in an effort to limit the application of fertilizers and pesticides.**”



§4.9.F.6 (IX District)

Revise (reorganize) text to read as follows:

“At least 75% of the minimum required Open Space located on properties within the Watershed Protection District shall consist of undisturbed, natural and native land, or other land areas that will be returned to a native or natural state.”



§4.10.C.6 (Interchange District)

Revise text to read as follows:

“Manufacturing, compounding, packaging and assembling materials and products, in a building containing a minimum GFA of 60,000 sq. ft. ... except for those types of manufacturing listed in §4.8.B.9 **except that any such use on properties located in the Watershed Protection District shall not be permitted.**”



§4.10.C.6 (I-5 District)

Greater clarification requested:

It is requested that “appropriate parking ... to support the specific accessory uses” **be defined and contain a maximum limit** on the size of the parking area (number of parking spaces) associated with these uses.



§4.10.C.8 (I-5 District)

Greater clarification requested and recommendation of uses not allowed:

Indoor and outdoor recreational facilities should **be more specifically defined**, and the following uses **shall not be allowed**:

- ❑ Golf courses
- ❑ Amusement parks



§4.10.E.3.b (I-5 District)

Covered parking recommendation:

The Planning and Zoning Commission may wish to consider keeping or revising the paragraph on covered parking and underground parking in the regulations as it encourages covered parking, and **covered parking in the Watershed Protection District is better than surface parking lots in regards to storm water runoff quality.**



§4.10.G.2.b (I-5 District)

Consider the following text **similar to the IX zone**:

“Open space shall promote natural and native landscaping rather than regularly mowed and maintained lawns in an effort to limit the application of fertilizers and pesticides. At least 75% of the minimum required Open Space located on properties within the Watershed Protection District shall consist of undisturbed, natural and native land, or other land areas that will be returned to a native and natural state.”



§4.10.A Interchange District Purpose

4.10 Interchange District (I-5)

Purpose – To utilize the key location of lands with accessibility to Route I-91 while **protecting** the Town's Public Water Supply Watershed by requiring high standards for development.

- ❑ The intent of the permitted uses in the Interchange District (I-5) is the relationship to the adjacent highway
 - ❑ The permitted uses of the Interchange District (I-5) are **separate and distinct from the permitted uses of the Industrial Expansion (I-X) District**



Watershed Protection District Intent

- ❑ Protection of the watershed is one – if not the – highest priorities when it comes to maintaining the source water quality necessary for the Town’s public drinking water supply.
- ❑ Zoning regulations play a significant role in influencing whether the watershed is adequately protected by limiting the use of the land in the watershed to those which do not have a negative effect on water quality.



WPD Intent (continued)

- ❑ The proposed revisions to the Planning and Zoning regulations, in general, were designed to allow for additional permitted uses and greater building (and associated parking coverage) in the IX and I-5 zones.
 - ❑ Since a significant portion of the Industrial Expansion (IX) zone and a majority of the Interchange District (I-5) are within the Watershed Protection District the proposed zoning regulations will cause an adverse impact on water quality in the public drinking water supply.
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WPD Intent (continued)

- ❑ As with any permitted use that may be detrimental to water quality in the public drinking water supply, limiting the expansion of permitted uses is better than allowing more parcels to be developed with an undesirable use.
- ❑ The Wallingford Water Division feels that a balance can be established between the needs to protect the public drinking water supply and responsible development.
- ❑ The revisions requested by the WWD to the proposed regulation changes are made in an attempt to strike this balance.



Questions and Discussions

- ❑ Water and Sewer Divisions Office
 - ❑ 203-949-2660

