AGENDA
GROTON ZONING COMMISSION
DECEMBER 7, 2016 - 6:30 P.M.
TOWN HALL ANNEX - 134 GROTON LONG POINT ROAD
COMMUNITY ROOM 2

I. ROLL CALL

II. PUBLIC HEARINGS

1. Special Permit #350, 39-41 West Main Street, Steamboat Wharf, PIN 261918309893 and 261918401742, WDD Zone. Proposal is to establish Argia Cruises at dock space at the north end of Steamboat Wharf and office space at 39-41 West Main Street. Review is per Sections 6.3 and 8.3 of the Zoning Regulations (Argia Cruises, LLC, Applicant) (Steamboat Wharf Co. LLC, Owner)(CAM)*

2. Special Permit #351, 15 Water Street, PIN 261918306108, WDD Zone. Proposal is to change the approved use of the basement level from retail to a restaurant. Review is per Sections 6.3 and 8.3 of the Zoning Regulations. (Gary Hobert, Applicant) (Mystic Museum of Art, Owner)*

III. CONSIDERATION OF PUBLIC HEARINGS

1. Special Permit #350, 39-41 West Main Street, Steamboat Wharf (Argia Cruises, LLC, Applicant) (Steamboat Wharf Co. LLC, Owner) (CAM)

2. Special Permit #351, 15 Water Street (Gary Hobert, Applicant) (Mystic Museum of Art, Owner)

IV. PUBLIC COMMUNICATIONS

1. Zell Steever comments*

2. James Furlong comments*

V. APPROVAL OF MINUTES

1. November 2, 2016*

VI. OLD BUSINESS

1. Zoning Regulations Update

VII. NEW BUSINESS

1. Report of Commission
2. Receipt of New Applications
   a. REGA #16-02 Water Resource Protection District (Section 6.12)*

VIII. REPORT OF CHAIRPERSON

IX. REPORT OF STAFF

X. ADJOURNMENT

* ENCLOSED

Next Regular Meeting: January 4, 2017

TOWN OF GROTON
PLANNING AND DEVELOPMENT SERVICES

DEBORAH G. JONES
ASSISTANT DIRECTOR
DJONES@GROTON-CT.GOV

134 GROTON LONG POINT ROAD, GROTON, CONNECTICUT 06340
TELEPHONE (860) 446-5972 FAX (860) 448-4094
WWW.GROTON-CT.GOV

November 4, 2016

VIA EMAIL
Attention: Legal Ads
The Day
P.O. Box 1231
New London, Connecticut 06320

Please publish the following legal ad on November 25, 2016 and December 2, 2016:

TOWN OF GROTON
ZONING COMMISSION
NOTICE OF PUBLIC HEARINGS

Notice is hereby given that the following public hearings will be held on December 7, 2016 at 6:30 p.m. in Community Room 2, Town Hall Annex, 134 Groton Long Point Road, in said Town, to consider the following:

Special Permit #350, 39-41 West Main Street, Steamboat Wharf, PIN 261918309893 and 261918401742, WDD Zone. Proposal is to establish Argia Cruises at dock space at the north end of Steamboat Wharf and office space at 39-41 West Main Street. Review is per Sections 6.3 and 8.3 of the Zoning Regulations (Argia Cruises, LLC, Applicant) (Steamboat Wharf Co. LLC, Owner)(CAM)

Special Permit #351, 15 Water Street, PIN 261918306108, WDD Zone. Proposal is to change the approved use of the basement level from retail to a restaurant. Review is per Sections 6.3 and 8.3 of the Zoning Regulations. (Gary Hobert, Applicant) (Mystic Museum of Art, Owner)

Application is on file and available for public inspection during normal business hours at the Planning Department, 134 Groton Long Point Road. Dated this 25th day of November 2016 at Groton, Connecticut. (*On second insertion please put "Dated this 2nd day of December 2016 at Groton, Connecticut".)*

Susan Sutherland, Chairperson

Account #30384, P. O. #16000391

If you have any questions, please do not hesitate to contact me at 446-5970.

Sincerely,

Deborah G. Jones
Assistant Director

Please note: this should run as a one-column ad fully justified without bolding or additional white space

"SUBMARINE CAPITAL OF THE WORLD"

E-MAILED
11/7/16
DLH

STAFF SUMMARY SHEET

PROJECT NAME/LOCATION: SPEC350 Argia Cruises, Steamboat Wharf	
CAM: Yes	
STAFF PLANNER: DGJ	***SUMMARY DATE:*** 11/29/16
TERMINAL ACTION DATE: 1/11/17	***PUBLIC HEARING CLOSED:*** N/A
EXISTING LAND USE/ZONING: Commercial, residential/WDD	***SITE AREA:*** ***AC***

SURROUNDING LAND USE/ZONING DISTRICT(S):

North: Mixed/WDD ***South:*** Museum/WDD ***East:*** Mystic River ***West:*** Mixed/WDD

HISTORY: The dock space just south of the drawbridge was used by the schooner Argia from 1986 – 2001. In December 2000, the Zoning Commission granted a special permit to the owners of Steamboat Wharf for the Valiant, a motor vessel that offered hotel staterooms and the Argia moved to Schooner's Wharf in Stonington.

PROJECT DESCRIPTION: The applicant proposes to offer day sails from May to October. The ticket office will be located in a storefront at Peacock Alley.

OUTSTANDING COMMENTS: [ ] [ ] [ ]

WAIVERS: None.

LAND USE/DEVELOPMENT ISSUES ANALYSIS:

- The Argia carries 49 people and requires 9 parking stalls which will be leased from the owners of Steamboat Wharf.
- The passengers will load along the brick wall of the Main Block Building, inside a rope work barrier so as not to impede the public coastal access.
- The use is water dependant.

ATTACH ANY RECOMMENDED ACTION, INCLUDING MODIFICATIONS AND/OR CONDITIONS AND TECHNICAL ITEMS.

Staff will have a recommendation at the meeting.

SPEC 350

Special Permit Checklist

Argia Cruises
12 Steamboat Wharf
Mystic CT 06355

8.3-2 A Project Description:

The dock space at the North end of Steamboat Wharf was previously used by the motor vessel VALIANT. The schooner ARGIA and her business used this dock for decades until the property owners of Steamboat Wharf decided to put in their own vessel, VALIANT, in 2001. In order to put VALIANT at the dock, the Steamboat Wharf Co. LLC applied for and received Special Permit #245 as VALIANT was offering hotel staterooms, a change from the previous use of the dock space. With ARGIA's return to this dock, we are applying for a special permit in order to use the dock for ARGIA's day sail business again.

ARGIA is a traditional sailing schooner designed and finished in Mystic CT. She is a United States Coast Guard inspected passenger vessel with a long history of carrying passengers out of Mystic. Her company has operated twelve of these vessels over the years since the 1970s, mostly from Steamboat Wharf. ARGIA is probably the most well-known of these, operating continuously out of Mystic for 30 years. She carries 49 people on couple hour day sails from May to October.

ARGIA's new office will be located at 12 Schooner Wharf (Peacock Alley) and ARGIA will be located at the North end of Steamboat Wharf, alongside the Main Block building near the Drawbridge. ARGIA is a long-standing tradition in Mystic. She is also a draw to the village, bringing tourists and locals to the downtown for sailing trips, followed by shopping and dining in our village businesses. She provides a continuation of water-dependent use and connection to the village's special maritime history, so important to the nature of Mystic.

8.3-2 B Special Permit Criteria from Section 8.3-8

A. Location: ARGIA is an 81-foot vessel and there is plenty of space at Steamboat Wharf for her to berth. The vessel will dock at the North end of the Wharf, so as not to interfere with the Steamboat Wharf Co.'s Steamboat Inn rooms or the condos much farther to the South. Passengers will load along the red brick wall of the Gilbert Building (Main Block building), so as not to inconvenience these Southern neighbors. Passengers will be lined up along the wall as they prepare to board, inside of a rope-work barrier so that they will not impede Coastal Public access along the Mystic River side of the dock.
B. Buildings: ARGIA's business office and storage area will be located within the Steamboat Wharf complex, at 12 Steamboat Wharf, on what is known as Peacock Alley. This building is currently a retail store and small office/storage.

SPEC 350

Revised parking

C. Neighborhood Compatibility: The history and feel of the village of Mystic is firmly rooted in our maritime heritage. This charming maritime feel is one of the major draws for tourists and property owners in Mystic. The schooner ARGIA is part of, and continues, that maritime heritage, connecting the residents and visitors to the water.

D. Parking and Access:
ARGIA carries 49 people. The parking ratio for this use is one parking stall per 3 customers, or 16 stalls.
The business space we are renting at 12 Steamboat Wharf is 926 sq. ft., of which 120 sq. ft. will be used as office space and the balance as storage for boat equipment. The parking ratio for this is 1 stall per 300 sq. ft. of office space and 1 stall per 1200 sq. ft. of storage space, or 1.07 stalls for our business space.
The total number of stalls we need is 17. In the WDD, we only need 50% so therefore 9 parking stalls are required for this use. These required parking stalls on site will be included in our lease.
Delivery of the small amount of supplies used on a regular basis by the company will be through the downtown pay lot and directly to our business office at 12 Steamboat Wharf.

E. Streets: Mystic Streetscape has assured that the sidewalks, lighting, and crosswalks that may be utilized by our customers are adequate and up to code.

F. Public Safety: Our passengers/customers will be utilizing sidewalks beautifully constructed during the recent Streetscape Project and the excellently maintained Steamboat Wharf dock.

G. Utilities: The existing electric, wastewater system and plumbing of the business office are sufficient. The existing electric, wastewater system and plumbing at the dock are sufficient for the vessel. ARGIA has a large holding tank onboard the vessel for storage of waste water. She also has an onboard waste pump. The tank will be pumped as necessary via a two-inch hose into the existing pump-out station already approved for the previous vessel, VALIANT. This station is located immediately adjacent to the Gilbert Building (Main Block). The pump out exits into an existing town sewerage line. This arrangement is storm proof, as there is no permanent or semi-permanent connection to shore. The pump-out station has a waterproof cover which is secured after every pump-out. ARGIA's wastewater handling is inspected by the U.S. Coast Guard. She does not pump waste water into the Mystic River or any other waterway. Garbage dumpsters are provided by the landlord, Steamboat Wharf Co.

H. Environmental Protection, Conservation, and Long Island Sound: The proposed use of Steamboat Wharf will not change the use of the Wharf in relation to the environment, conservation, or Long Island Sound. In fact, we will be continuing an existing business. Our business also has an Environmental Studies program taught aboard ARGIA and utilized by many local school groups.

SPEC 350

I. Consistent with Purpose: The use of this property for this business is an allowed use. This plan has no detrimental side effects to public health, safety, and welfare. It does not conflict with the purposes of these regulations. It does further the goals, objectives, and policies of the town's plan of conservation and development.

8.3-2 C For the use of this business, there are no applicable conditions listed in Section 7.1.

SPEC 35D

Application for Coastal Site Plan Review & Approval

Argia Cruises
12 Steamboat Wharf
Mystic CT 06355

A. Administration & General Information:

Title of Map: Argia

General Location of Site: Adjacent to existing docks on West side of the Mystic River immediately South of the Drawbridge in the village of Mystic CT.

Owner: Steamboat Wharf Co. LLC, Paul Conner, John McGee, & Wes Maxwell
73 Steamboat Wharf, Mystic CT 06355, Phone 860-536-8300

Applicant: Argia Cruises LLC, Amy Blumberg
12 Steamboat Wharf, Mystic CT 06355, Phone 860-536-0416

Date: October 28, 2016

Total Acreage: not applicable

Zoning of Surrounding Area: Waterfront Design District

B. Project Description:

~~Proposed Uses: ARGIA is a traditional sailing schooner designed and finished~~ in Mystic CT. She is a United States Coast Guard inspected passenger vessel with a long history of carrying passengers out of Mystic. Her company has operated twelve of these vessels over the years since the 1970s, mostly from Steamboat Wharf. ARGIA is probably the most well-known of these, operating continuously out of Mystic for 30 years. She carries 49 people on couple hour day sails from May to October. The vessel is supplied electric, water and sewer from the shore-side. This is a "zero" discharge vessel.

C. Description of Coastal Resources:

On site coastal resources include developed shorefront, coastal flood hazard area and waterfront access via existing woodpile dock. The shoreline of the site has been modified by the construction on the Gilbert Building in 1907 with concrete pile caps and grade beams poured over wood piles. The dock itself has been constructed on treated piles and decking. Coastal resources adjacent to the site include coastal hazard area, developed shorefront and the Mystic River

SPEC 350

which is classified as an estuarine embayment. The Mystic River provides recreational, ecological and social values.

D. Natural Features at and Adjacent to the Site:

The only immediate natural features include the Mystic River and the sedimentary river bottom. The river, which is fairly narrow at this point, sees the passage of many varieties of fish and aquatic life. Recreational fishing is a popular pastime at this spot. Fish caught include striped bass, flounder, and bluefish. There are no rare and endangered species to our knowledge.

E. Historical and Cultural Features:

The immediate site was at one time the home of Gilbert Transportation Co. Schooners active in the coastal trade were constructed and docked at the site. The Gilbert brothers eventually constructed the Gilbert Building in 1907 as a commercial speculative venture as well as their office headquarters. The first floor was retail and the upper three floors were offices and a two story "ballroom". After the demise of the Gilbert transportation company and a catastrophic fire in 1914, the Main family acquired the building in 1921. They changed the use of the upper floors to apartments. The ballroom was used as a movie theater and later a Masonic Temple. The building was renamed the Main Block and the name is still evident on the façade of the building. The present owners acquired the property in 1975 and did an extensive renovation subject to Historic District approval. There have been docks at this location since the 1700s.

F. Applicable Coastal Policies:

~~II-142 B. Water Dependent Uses-Policies to be followed by Municipal, State &~~ Federal Agencies

A. To give high priority and preference to uses and facilities which are dependent upon proximity to the water or the shore lands immediately adjacent to marine and tidal waters. The proposal is only feasible when the vessel can have access to navigable waterways. The location has traditionally been used for boat dockage and will continue to be so.

II-144 C. Ports and Harbors-Policies…

B. To disallow uses which unreasonably congest navigation channels, or unreasonably preclude boating support facilities elsewhere in a port or harbor. The proposal does not intrude on the channel nor does it preclude boating facilities elsewhere in the port or harbor. The dockage of the vessel will not congest the channel. The beam is 18 feet which is less than the beam of the previous vessel located there, "VALIANT."

II-152 F. Boating-Policies…

A. To encourage increased recreational boating use of coastal waters, where feasible, by (i) providing additional berthing space in existing

harbors. The vessel uses an existing berthing space and provides access to the public for boating and water-dependent use.

B. To protect and where feasible, upgrade facilities serving the commercial fishing and recreational boating industries. This vessel will not change the existing use of the docks other than to allow many persons access to the water on a commercial recreational vessel.

C. D.To maintain existing authorized commercial fishing and recreational boating harbor space unless the demand for these facilities no longer exists or adequate space has been provided. This proposal maintains existing dock space which will be utilized by a commercial recreational vessel.

SPEC 350

Steamboat Wharf Co.

November 9, 2016

Town of Groton
Zoning Commission
Groton, CT 06340

To Whom it May Concern:

We would like to register our support for the Argia to operate on the South side of the Mystic drawbridge at Steamboat Wharf.

The Argia has operated in Mystic for 30 years and continues to draw many visitors to the downtown Mystic area. In fact, the Argia operated at Steamboat Wharf from 1986 until 2001. When Steamboat Wharf Company brought in its own vessel, The Valiant, Argia moved to Schooner's Wharf and continued to run a very successful business there.

Since operating from Schooner's Wharf is no longer an option and the Valiant is no longer operating at Steamboat Wharf, it makes perfect sense for Argia to return to Steamboat Wharf. The Argia requires the access to the Mystic River that Steamboat Wharf offers and will continue to be a great enhancement to our community.

This is a unique attraction that brings many visitors to the Mystic shoreline community. Should the application be denied, the Argia will no longer be able to operate and that would be a huge blow to the entire community.

Best regards,

Steamboat Wharf Company

SPEC 350

73 Steamboat Wharf, Mystic, CT 06355 • 860-536-8300
E-mail: sbwharf@aol.com • Fax (860) 536-9528

Ancient Mariner Mystic
21 West Main Street
Mystic, CT 06355
Anthony and Deborah Torraca

November 27, 2016

Zoning Commission
Town Hall Annex
134 Groton Long Point Road
Groton, CT 06340

Re: Argia Cruises

To Whom It May Concern:
We have had the great pleasure of working directly with the Argia and Amy Blumberg. We have been notified she is applying to move the Argia south of the drawbridge. We think this would be a great addition to the area. Not only would it assist with downtown traffic and assist with the improvement of the downtown stores, but the ship would be a beautiful addition. We strongly support the move of the Argia to the Steamboat Wharf. This business is a wonderful business and would add a great deal to the area.

Sincerely,

Anthony and Deborah Torraca
Owners of the Ancient Mariner Mystic

SPEC 350

STAFF SUMMARY SHEET

PROJECT NAME/LOCATION: Special Permit #351, Mystic Emporium, 15 Water Street	
CAM: Exempt	
STAFF PLANNER: DJG	***SUMMARY DATE:*** 11/28/16
TERMINAL ACTION DATE:	***PUBLIC HEARING CLOSED:***
EXISTING LAND USE/ZONING: residential & retail/ WDD	***SITE AREA:*** .148 ***AC.*** ***SQ. FT.***

SURROUNDING LAND USE/ZONING DISTRICT(S):

North: restaurant/WDD ***South:*** multi-family/ WDD ***East:*** art museum/WDD ***West:*** residential/WDD

HISTORY:

The structure was built in 1859 and has housed commercial and residential uses. A special permit and site plan approval were granted in late 2013 to allow retail on the basement and first floors and to increase the number of residential units to three on the second and third floors. A Special Permit (SPEC 339) was approved in April 2014 to change from retail to a restaurant in the basement. Special Permit # 339 was valid for 2 years. The restaurant (Frizzante) has since gone out of business.

PROJECT DESCRIPTION:

The applicant proposes to use the basement as a restaurant with substantial the same restaurant seating area (325 sq.ft) and bar area (45 sq.ft.) as approved under SPEC 339.

LIST AGENCIES WITH OUTSTANDING COMMENTS: [ ] [ ]

[ ] [ ] [ ] [ ]

WAIVERS: None

LAND USE/DEVELOPMENT ISSUES ANALYSIS:

- The parking space requirements for the basement restaurant are reduced from 7 spaces to 6 spaces based on the recent changes to parking requirements in the WDD. There are a total of 11 onsite spaces for the restaurant, 1st floor retail, and the 3 apartments. The applicant proposes to use the validation program for the restaurant.
- The hours of operation are proposed as Sunday-Thursday no later than 1 AM and Friday –Saturday no later than 2 AM.
- There is no outside work proposed with this application and the project is exempt from CAM.
- The Planning Commission reviewed the application on 11/22/16 and had no comment.

ATTACH ANY RECOMMENDED ACTION, INCLUDING MODIFICATIONS AND/OR CONDITIONS AND TECHNICAL ITEMS.

Staff will have a recommendation at the meeting.

SPEC 351

TOWN OF GROTON
LAND USE APPLICATION
PART ONE

RECEIVED
NOV - 2 2016
PLANNING DEPARTMENT
TOWN OF GROTON, CT

PLEASE CHECK THE APPROPRIATE LINE(S) AND ATTACH THE REQUIRED APPLICATION(S)

SUBDIVISION OR RESUBDIVISION	_____	COASTAL SITE PLAN REVIEW	_____
SITE PLAN	_____	SPECIAL PERMIT	X
ADMINISTRATIVE SITE PLAN	_____	ZONE CHANGE	_____
INLAND WETLANDS PERMIT	_____	REGULATION AMENDMENT	_____
INLAND WETLANDS PERMIT OR NON-REGULATED ACTIVITY	_____	VARIANCE/APPEAL	_____
		APPROVAL OF LOCATION	_____

PROJECT DESCRIPTION: Re-establish approval of use of basement level in the emporium building from retail to restaurant space

PROJECT NAME: Mystic ~~Aqu~~ Emporium

STREET ADDRESS OF PROPERTY: 15 WATER ST., Mystic, CT 06355

IF ADDRESS NOT AVAILABLE, LOCATION: _____

PARCEL IDENTIFICATION NUMBER: 261918306108 ACREAGE: 0.139 ZONING: WDD

CORRESPONDENCE WILL BE SENT TO PRIMARY APPLICANT AS CHECKED BELOW:

NAMES, ADDRESSES & TELEPHONE NUMBERS

☒ APPLICANT: GARY Hobert, 59 Sequin dr., Noank, CT 06340
gjhobert@gmail.com TELEPHONE: 850-251-7107 FAX: _____

☐ APPLICANT'S AGENT (IF ANY): _____
_____ TELEPHONE: _____ FAX: _____

☒ OWNER/TRUSTEE: Mystic museum of ART, 9 WATER ST., Mystic, CT 06355
_____ TELEPHONE: 860-536-7601 FAX: _____

☒ ENGINEER/SURVEY OR / ARCHITECT: MARK Comeau
11 Cottrell ST., Mystic, CT 06355 TELEPHONE: 860-215-9415 FAX: _____

Note:
1) TO BE ACCEPTED BY THE PLANNING DIVISION, THIS ENTIRE APPLICATION MUST BE COMPLETED, SIGNED, AND SUBMITTED WITH THE REQUIRED FEE(S) AND MAP(S) PREPARED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS.
2) THE SUBMITTAL OF THIS APPLICATION CONSTITUTES THE PROPERTY OWNER'S PERMISSION FOR THE COMMISSION OR ITS STAFF TO ENTER THE PROPERTY FOR THE PURPOSE OF INSPECTION.
3) I HEREBY, AGREE TO PAY ALL ADDITIONAL FEES AND/OR ADDRESS SUCH COSTS DEEMED NECESSARY BY THE OFFICE OF PLANNING AND DEVELOPMENT SERVICES AS DESCRIBED IN PART THREE OF THIS APPLICATION.

PAID 11-2-16

Gary J. Hobert — 10/28/16
SIGNATURE OF APPLICANT OR APPLICANT'S AGENT — DATE

GJH — 10.28.16
SIGNATURE OF RECORD OWNER — DATE
I HEREBY, CERTIFY THAT I AM THE OWNER OF THE PROPERTY STATED ABOVE.

Gary J. Hobert
PRINTED NAME OF APPLICANT

George G. King, Mystic Museum of Art
PRINTED NAME OF RECORD OWNER

SPEC 351

FOR OFFICE USE ONLY: (RS)

FEE RECEIVED: 430.00 WORK TYPE: Special Permit PROJECT # SPEC351 PLANNER: Diane Glembocki

TOWN OF GROTON
LAND USE APPLICATION – SPECIAL PERMIT

PART TWO
(Attach to Part One)

APPLICATION FOR SPECIAL PERMIT UNDER SECTION(S) _____
OF THE ZONING REGULATIONS.

PLEASE PROVIDE A WRITTEN DESCRIPTION ON HOW THE USE/MODIFICATION AFFECTS ALL SPECIAL PERMIT CRITERIA OF SECTION 8.3-8 OF THE ZONING REGULATIONS, PARTICULARLY WITH RESPECT TO THE PROPOSAL'S EFFECT ON THE APPROPRIATE AND ORDERLY DEVELOPMENT OF THE DISTRICT AND ADJACENT PROPERTIES, TRAFFIC CIRCULATION, AND IMPACT ON THE ENVIRONMENT. PROJECTS LOCATED IN DISTRICTS WITH SPECIAL DESIGN OBJECTIVES, OR SUBJECT TO PARTICULAR DESIGN REQUIREMENTS SHOULD ADDRESS POLICY CONSISTENCY ALSO.

the two modifications in this proposal is to Re-establish previous special Permit #339 Approval of retail use space in the basement level of the emporium into restaurant use space, and to modify hours of operation sunday - Thursday no later than 1 am, Friday and Saturday no later than 2 am. The first floor level will continue to be use as retail. The basement will be a nice restaurant for year round use with no outside dining.

PLEASE PROVIDE ALL INFORMATION AS LISTED ON THE SPECIAL PERMIT CHECKLIST:

IS PROPERTY WITHIN THE CAM BOUNDARY? ☒ Yes ☐ No
IF YES, A COASTAL SITE PLAN APPLICATION MAY BE REQUIRED.

ARE THERE REGULATED WETLANDS? ☐ Yes ☒ No
A WETLAND APPLICATION HAS BEEN SUBMITTED OR PERMIT OBTAINED? ☐ Yes ☒ No

FOR FILL/EXCAVATION APPLICATIONS:

FILLING _____ CUBIC YARDS EXCAVATION _____ CUBIC YARDS

FOR LODGING, INSTITUTIONAL, MIXED USE, APPLICATIONS:

NUMBER/TYPE OF NEW UNITS: _____

(PLEASE SPECIFY TYPE: DWELLING UNITS, ROOMS, BEDS, SEATS, PERSONS)

SPEC 351

Nov 1, 2016

Planning and Development
The Town of Groton
134 Groton Long Point Rd.
Groton, CT 06340

Re: Special Permit Design Objectives – Narrative
Emporium Change in Use
15 Water Street
Mystic, CT 06355

The proposed development within the WDD is consistent with the following objectives:

6.3-2

A. *Previously Approved Use*

The proposed use will be the same as the previously approved use as a restaurant under **Notice Of Grant Of Special Permit #339** dated April 4, 2014.

B. *Development in keeping with the Town's Plan of Development.*

The proposed use is consistent with the previously approved use. The previously approved use for restaurant space has run out.

C. *Viable commercial use which serves the needs of the residents of the immediate Mystic area.*

The proposed use will provide a year round restaurant in the heart of downtown. The already existing sidewalks provide easy access to the restaurant and to the Mystic Museum of Art parking lot.

D. *Restaurant Use is year round and servicing year round residents is primary role.*

The restaurant will operate year round and the year round residents are and extremely important part of the business plan to make the restaurant viable and successful long term. Hours of operation would be Sunday-Thursday no later than 1am and Friday and Saturday no later than 2am.

SPEC351

E. *High intensity and bulk uses do not encroach into surrounding residential districts.*

The use is proposed on Water Street and is in the heart of the WDD and other commercial uses.

F. *Coordinated patterns of land uses which allows safe access and movement of pedestrians, bicycles, and vehicles through the WDD.*

The main access to the restaurant is from a set of stairs off the sidewalk on Water Street and has excellent pedestrian access. There is also a ramp located adjacent to the parking on the south side of the building that leads down to the entrance.

G. *Preserve and enhance the historic and diverse qualities of the Mystic area.*

No changes are proposed to the exterior of the structure of the existing building.

H. *Architectural and site design which promote aesthetic qualities while sustaining and enhancing the unique qualities of the Mystic area.*

There were No changes and will not be any new changes to the exterior of the existing building.

I. *Circulation pattern and related facilities with the WDD which will give priority to pedestrian movement and bicycle travel.*

The completed Streetscape project on Water Street now provides excellent pedestrian access to the property; along with the access from 15 Water Street to the Mystic Museum of Art parking lot.

J. *Mystic River Access.*

The subject property does not have direct access to the Mystic River. Access will improve with the previously approved sidewalk connecting 15 Water Street and the Mystic Museum of Art parking lot. No exterior construction is proposed that will affect current and public viewing corridors.

Nov 1, 2016

Planning and Development
The Town of Groton
134 Groton Long Point Rd.
Groton, CT 06340

Re: Special Permit Criteria – 8.3-8 Narrative
Emporium Change in Use
15 Water Street
Mystic, CT 06355

A. Location

The development is located in the heart of downtown Mystic and an ideal location for a year round restaurant use.

B. Buildings

The proposed change in use is contained within the existing improvements. There is no physical expansion or changes proposed to the building as part of this proposal.

C. Neighborhood Compatibility

The development is in harmony with downtown Mystic. The use is consistent with current development in the immediate area and throughout the WDD.

D. Parking and Access

The site will rely on street parking, the Mystic Museum of Art validation program, the seven (7) spaces provided on-site, and pedestrian traffic. Four additional spaces have been added for the site and have been dedicated to the residential use on the second and third floors. Deliveries shall be made along the Randell's Wharf R.O.W. on the side (or south) of the building.

SPEC 351

Parking Calculations

There will be 325 square feet of dining space and 45 square feet of bar space.
The required calculations for dining are 325 divided by 100 = 3.25 x 3 = 9.75
The required calculations for bar are 45 divided by 30 = 1.5
The total required spaces is 11 divided by 2 = 5.5 spaces needed per the revised parking plan for the WDD 6.3-4 H (Rev. Eff: 5/16/2016)

E. Streets

Four parking spaces have been added for the residential use, therefore, freeing up additional spaces directly adjacent to the restaurant use. The previously approved sidewalk shall allow improved pedestrian circulation from 15 Water Street to the Mystic Museum of Art parking lot.

F. Public Safety

This proposal shall have no negative impact on public safety. The additional parking and previously approved pedestrian sidewalks shall provide safe means of circulation to and from Water Street and the Mystic Museum of Art parking lot. All modifications are up to code and have been reviewed by the appropriate agencies.

G. Utilities

There was stormwater, sewer, and water service upgrades that were previously approved and were coordinated with the Streetscape Phase 2 project.

H. Environmental Protection, Conservation, and Long Island Sound

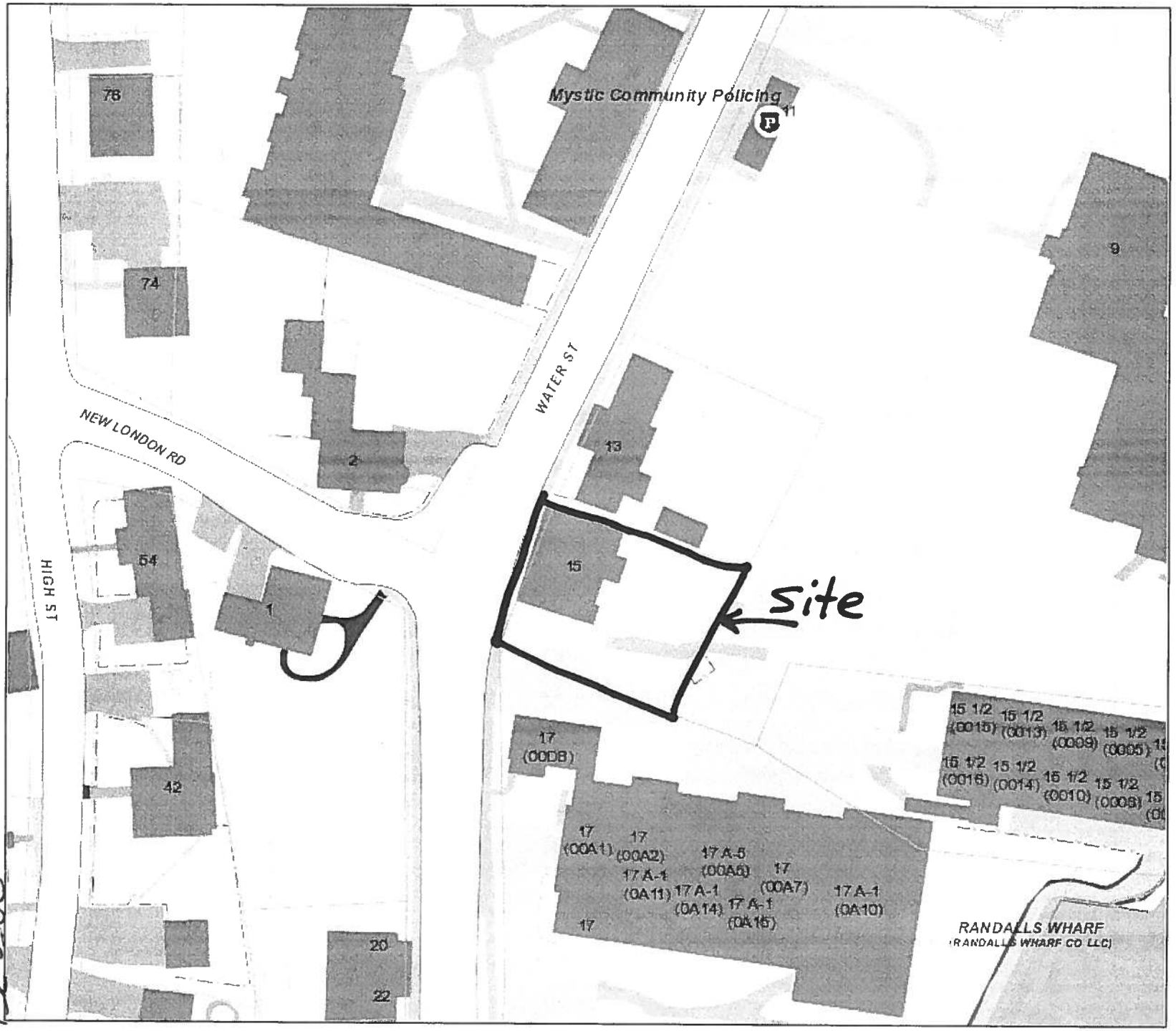
Proper erosion and sediment control had been employed during construction to ensure minimal erosion and zero sediment transport off-site. There is no exterior work as a part of the proposed change in use and, therefore potential impacts are minimal.

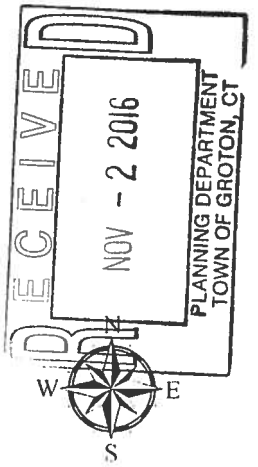
I. Consistent with Purpose

The proposed use will not negatively affect public health, safety, or welfare and will further the goals, objectives, and policies by drawing people to the downtown Mystic area.

Town of Groton

15 Water Street





Disclaimer

The planimetric and topographic information depicted on this map was compiled by The Sanborn Map Company based on an aerial flight performed in April 2009. The parcel and property line information depicted on this map has been compiled from recorded deeds, maps, assessor records, and other sources of information in the Town of Groton. The intent of this map is to depict a graphical representation of real property information relative to the planimetric features for the Town of Groton and is subject to change as a more accurate survey may disclose. The Town of Groton and the mapping companies assume no legal responsibility for the information contained in this data.
THIS MAP IS NOT TO BE USED FOR THE TRANSFER OF PROPERTY.

Horizontal Datum:
Connecticut State Plane Coordinates, North American Datum of 1983 (NAD83 Feet)

Vertical Datum:
North American Vertical Datum of 1988 (NAVD88)

Date: 11/1/2016

Map Created using GrotonGIS Silverlight Application

SPR-351

MEMORANDUM

TO: Zoning Commission

FROM: Deborah G. Jones, Assistant Director of Planning and Development

DATE: November 23, 2016

SUBJECT: Planning Commission Referral regarding Special Permit #351, Mystic Emporium, 15 Water Street

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At its meeting on November 22, 2016, the Planning Commission reviewed the referral listed below and made the following comment:

Zoning Commission Referral for December 7, 2016 Public Hearing regarding a Special Permit #351, Mystic Emporium, 15 Water Street

The Planning Commission had no comment.

DGJ:rms

SPEC 351

TO: Members of the Groton Zoning Commission and Town Planning Staff
FROM: Zell Steever
November 22, 2016

Re: Follow up to my comments at the Groton Zoning Commission meeting November 2, 2016. I will comment on: a) Buffers, b) Takings Issues, and c) A few critical changes needed in the proposed new regulations. I appreciate the opportunity to submit these comments to the Zoning Commission.

BUFFERS FOR DRIINKING WATER PROTECTION

First I want to say that the Groton Zoning Commission (ZC) is at a critical decision point on an issue that involves a sacred trust to the people of Groton—that is, the protection of our drinking water. The decisions you make related to our reservoirs, and the streams, wetlands and ground water that flow into them, will have enormous impact on the wellbeing of the citizens of Groton, for decades to come. We must consider that Groton will grow and develop. As that happens it will become more and more difficult to protect our excellent drinking water supply as property near it becomes developed. Now is the time to establish a system that guarantees our drinking water health well into the future. Failure to do so will set us on a course to require vastly expensive treatment systems in the future. We also have Long Island Sound and a growing oyster fishery to protect. The number that shows up over and over in the professional and scientific literature is 100 feet as the minimum buffer needed to protect reservoirs, streams and wetlands, with often a larger number required to do the job. "In general, the wider the buffer and the more complex the vegetation within it, the more effective it is in meeting those purposes" in protecting drinking water quality. (Berkshire 2003) Few characteristics will match the value of "clean drinking water" in attracting sustainable development to our community in the future.

When New York City faced this same situation a decade or so ago, it moved aggressively to purchase the lands needed to protect the reservoirs in the Catskills, because its leaders saw that the alternative was to deal with an impossibly expensive water treatment system that the city could ill afford. This is what Groton will face if it does not adequately protect its drinking water supply sources now. And 50-foot buffers will not do the job! The Zoning Commission surely does not want to unwittingly create a "water crisis in Groton's future.

In reading several memos from the Horsley Witten Group (HW) that have been shared with the ZC, I see that in December, 2015 HW informed Jon Reiner, town planner, that they believed the "minimum setback should be greater than the 150 feet set by (state statute --relating to how utilities can sell or lease land.) Due to the steep topography in many of these riparian areas, extending the setback to 200 feet or beyond will provide an important added level of protection." At the ZC meeting on January 6, 2016, minutes show that Nate Kelly of HW told the commission that a 200-foot minimum for streams is warranted, maybe 300 feet for the actual reservoirs. More recently, in a HW memo of September 28, 2016 to Jonathan Reiner outlining the comparative impacts on property owners of a 50- and 100-foot buffer, there is a big missing piece in this summary analysis—what is the likely impact on the reservoirs, streams and wetlands of a 100-foot and 50-foot buffer? The ZC's job is to balance the concerns of individuals against the greater need of protecting our drinking water supply in the public interest.

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WHAT DOES THE SCIENCE SAY?

There are dozens of books and hundreds of papers on stream buffers. HW has done a considerable amount of work in this area, as you know, and early in the year shared a fairly extensive bibliography with the Commission. They also shared with the commission an earlier joint recommendation to the US EPA Region 1 and the State of New Hampshire, when it was in the process of evaluating surface water protections for that state, "Protecting New Hampshire Surface Drinking Water Supplies," (May 17, 2007.) HW's proposal to NH, based on a broad review of the science, is for a 300-foot primary vegetated buffer for one mile up from water intakes and a 300-foot buffer around lakes and reservoirs as well as adjacent wetlands. In addition they recommend a 100-foot buffer around all streams above the one-mile mark.

The literature consistently recommends 100-300 feet and sometimes significantly greater. Horsley Witten also recommended 200-300 feet for Groton after reviewing an extensive bibliography on the subject. Because the science of buffers is complex, having to consider the soil composition, slopes, vegetation and many other factors, it is impossible to declare a one-size-fits-all buffer width, given all the variables involved. What you see in the literature is a consensus that it is far better to err on the side of caution if one is seriously committed to protecting drinking water.

THE BOTTOM LINE

The smaller the buffer zone(s), the greater the risk exists to water quality. In addition, the smaller the buffer zone the more intensive the regulatory structure needs to be, and it will generally require more regulatory staff to process, enforce and monitor development in the buffers and areas adjacent to the buffers within the Water Resource Protection District in order to protect water quality forever. This will likely both restrict interest in development of our community and be expensive for the community. Uncertainty is developers' least popular situation. Complex rules and regulations beyond 50 feet that may make projects more expensive may be more of a challenge than just having a larger no development zone.

DANGER OF GROWING IMPERVIOUS SURFACE

Certainly, one of the enemies here is impervious surface. Studies over the last 20 years or so have shown that streams start to become impaired with just 10 to 25% impervious cover (IC) of the watershed. (Scheuler, et al, "Is Impervious Cover Still Important? Review of Recent Literature", Center for Watershed Protection, 2009). Has Groton mapped its impervious surface area to see where and how much IC exists in its subwatersheds now and how much can occur in a full build-out? Once IC has occurred, of course, it is almost always impossible to reverse. This is why it is critical to expand the buffer areas, especially around the reservoirs and contributing streams and wetlands.

THE TAKINGS ISSUE

I surmise that in light of the vast science on the importance of significant buffers to protect drinking water supplies and streams in general, that the Zoning Commission's reluctance to embrace larger buffers is based, in part, on the concern about possible takings actions. This is a very understandable concern. There is considerable information available on takings decisions, some of which have been unfriendly to municipal

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regulatory efforts. I encourage the ZC to educate itself on the takings issue, if it has not, with a view to incorporate regulatory flexibility on a case-by-case basis. In fact our own Inlands Wetland Commission has never had a takings action against it, in part, because it has the flexibility built into its regulatory process.

I would encourage the ZC and staff to contact John Echeverria, a professor at Vermont Law School, who has spent his entire career in the specialty of takings law, as both a scholar and litigant in defense of municipalities. He would be willing to provide informal advice to the town on how to design flexibility into the proposed new regulation.

OTHER PROBLEMS IN THE DRAFT REVISED REGS OF 11/16:

The minimum buffer of 50 feet that the ZC is considering is going to fail in several key places in the proposed draft zoning regulations:

6.12-5.B Exempt Uses.

3. Activities exclusively limited to municipal maintenance, improvements or expansions to public roads should not be exempt and should be reviewed. (p.9)

6. Exemption for one to two-family units. Such units can greatly expand the amount of impervious surface that will abut a 50-foot buffer. Water flowing from roofs and driveways can have a very significant impact on water quality, not mention lawn run-off. . A 100-200 foot minimum is essential. (p. 9)

Site Design

612-8.A. Impervious Surfaces. Allowance of impervious surface of up to 70 % on new construction of commercial areas, right up to the 50-foot buffer is a recipe for contaminated waste water to find its way into the buffer zone, or streams or wetlands, especially on large properties. The regs should step up the required pervious % as properties get larger. The regs should consider several tiers, not just the two (50% IC for larger commercial tracts). These regs do not do enough to encourage property owners to reduce the amount of impervious surface. (p. 18)

6.12-8.B Vegetated Areas

Is it realistic that Groton is going to enforce a requirement for 20% of properties in the WRPD to be vegetated? And where should that vegetated area be? Little chunks all over the property? One big chunk or two, but where? Wouldn't it be much simpler to require a larger buffer adjacent to streams wetlands and the reservoirs? (p. 18)

6.12-8C Non-disturbance area. This is the critical section requiring only 50 feet of buffer. It needs to be increased as discussed above. Buffers should in all cases be between all watercourses, waterbodies and wetlands and the developed land area, throughout the Regs. Protection should not be limited to perennial streams. (p. 19)

1. This section allows modifications to reduce the 50 ft. buffer if there are "extreme irregularities" in the topography. Extreme irregularities should probably trigger *expanding* the buffer, not reducing it. (p. 20)

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6.12-9.C Hazardous Materials

Underground Storage Tanks
2. Existing fuel dispensing stations may retain underground tanks and may replace them. The goal should be to get underground tanks out of the ground within at least 100 feet (preferably 300 feet) from the water body, to require replacement tanks to be above ground, and not to expand the placement of fuel stations in the WRPD. The goal should be to gradually eliminate them, and at the very least to get them 100-200 feet from water bodies. (p. 25)

6.12-10.A Agriculture, Commercial Farms, Kennels, Nurseries, and Greenhouses, etc

Agriculture is very problematic in the WRPD because agriculture is basically unregulated. It is pretty much exempt from the federal Clean Water Act, for instance. We already have a huge loophole that property owners are marching through, which enables anyone engaged in "agriculture" to be exempt from wetlands regulations. (p. 26)

1.c Let us not encourage this loophole by asking farmers to go around scooping up cow, goat or sheep poop on their properties. The only way to make our drinking water safe from animal contamination is to have a clear and significant buffer and a required fence. (p. 27)

6.12-10.D.Vehicle and Heavy Equipment

2. Fuel Dealers

As mentioned above, 50 feet is not adequate to protect water bodies from the toxic pollutants that run off of fuel stations. Enforcement and monitoring of the well-intended regs in this area will be extremely difficult and costly for the taxpayer. (p. 30)

3. Marine Craft: Vehicle Dealers and Repair and Service Stations, minor

Service stations are notoriously dirty places and extremely difficult to keep clean. Again, a 50-foot buffer simply will not protect our water bodies from their toxic run-off. Also, do the definitions give adequate definition to what constitutes a "minor" station compared to a "major" one? (p. 30-31)

**We need to add new sections relating these regs to flood hazard zones, wetland regulations, and ground water resources in both Definitions and the Regulations.

Sources of Further Information on Buffers and Watershed Protection

An excellent source of information on buffers and other techniques for watershed protection is the Center for Watershed Protection, a non-profit composed of scientists who have been collecting, disseminating and training in methods of watershed protection for over 25 years. (Also referenced by HW) In their series of monographs on various strategies and techniques published as *Watershed Protection Techniques* is Article 39 (1(4): 155-63). Article 39, "The Architecture of Urban Stream Buffers," summarizes the scientific recommendations for considering buffers. "Urban stream buffers range from 20 to 200 feet in width on each side of the stream according to a national survey of 36 local buffer programs, with a median of 100 feet (Heraty , 1993.) "In general a minimum base width of at least 100 feet is recommended to provide adequate stream protection."

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The ultimate vegetative target for the buffer is the pre-development riparian plant community—usually mature forest, or whatever was the natural vegetative community in the floodplain. In summary, CWP says, the buffer should include the full 100-yr floodplain, all undevelopable steep slopes of >25%, adjacent wetlands and critical habitats.

I commend to you also the *Science of Setting Buffers for Wetlands and OWTS: a Literature Review,* by the Rhode Island Planning Dept. for a Legislative Task Force, 8/14. Among the more than a dozen papers described:

Berkshire Regional Planning Comm. 2003. *The Massachusetts Buffer Manual: Using Vegetated Buffers to Protect Our Lakes and Rivers.* Massachusetts Department of Environmental Protection. Appendix A.111pp. "In general, the wider the buffer and the more complex the vegetation within it, the more effective it is in meeting those purposes."

Chase, V., L. Deming, F. Latawiec. 1997, *Buffers for wetlands and surface waters: A guidebook for New Hampshire Municipalities*. Audubon Society of New Hampshire. 80 pp. "The manual's authors and working group recommended that 100 feet is generally a minimum required buffer width for water quality purposes. A 100-foot buffer provides some habitat needs for some species."

Boyd, L. 2001, *Buffer zones and beyond: wildlife use of wetland buffer zones and their protection under the MA Wetland Protection Act.* University of Massachusetts. 33 pp. and Appendices. "The report concludes that the need for buffer protection is understood; however, an appropriate distance is difficult to define. It acknowledges a need to establish more than a 100-foot buffer, because of the number of wetland species that rely on the area greater than 100 and 200 feet from wetland edges."

RI Low Impact Development Site Planning and Design Manual. RI Department of Environmental Management and Coastal Resources Management Council, 2011. Paper summarizes a range of buffers from 50-300 feet. The recommended distances based on research by US Army Corps of Engineers (Fischer, R.A. and Fischenich, J.C, 2000) are:

Stream stabilization	50 feet
Water quality protection	100 feet
Flood Attenuation	100-year floodplain plus 25 feet
Riparian wildlife	300 feet
Cold water fisheries	150 feet

An important paper was produced for the National Academy of Sciences, *Watershed Management for Potable Water Supply: Assessing the New York City Strategy,* 2000, also referenced by HW. In reviewing the literature on rates of transport of different pollutants and consulting with an expert panel, the authors concluded that many quite conservative setbacks in use are probably not adequate for protecting the water bodies potentially affected. (p. 53). These included 100 and 500 ft for hazardous wastes, 100 and 500 ft for petroleum underground storage tanks,100 and 500 ft for heating oil and 250 and 1,000 ft for landfills.

This paper also included a useful summary of what to watch out for in the takings area.

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Is Impervious Cover Still Important? Review of Recent Research

Thomas R. Schueler[1]; Lisa Fraley-McNeal[2]; and Karen Cappiella[3]

Abstract: The impervious cover model (ICM) has attracted considerable attention in recent years, with nearly 250 research studies testing its basic hypothesis that the behavior of urban stream indicators can be predicted on the basis of the percent impervious cover in their contributing subwatershed. The writers conducted a meta-analysis of 65 new research studies that bear on the ICM to determine the degree to which they met the assumptions of the ICM and supported or did not support its primary predictions. Results show that the majority of research published since 2003 has confirmed or reinforced the basic premise of the ICM, but has also revealed important caveats and limitations to its application. A reformulated conceptual impervious cover model is presented in this paper that is strengthened to reflect the most recent science and simplify it for watershed managers and policy makers. A future challenge is to test the hypothesis that widespread application of multiple management practices at the catchment level can improve the urban stream degradation gradient that has been repeatedly observed by researchers across the country.

DOI: 10.1061/(ASCE)1084-0699(2009)14:4(309)

CE Database subject headings: Streams; Urban areas; Urban development; Watersheds.

Introduction

Impervious cover (IC) has unique properties as a watershed metric in that it can be measured, tracked, forecasted, managed, priced, regulated, mitigated, and, in some cases, even traded. In addition, IC is a common currency that is understood and applied by watershed planners, storm-water engineers, water quality regulators, economists, and stream ecologists alike. IC can be accurately measured using either remote sensing or aerial photography (Goetz et al. 2003; Jantz et al. 2005). IC is also strongly correlated with individual land use and zoning categories (Cappiella and Brown 2001; Sloneckcr and Tilley 2004), which allows planners to reliably forecast how it changes over time in response to future development. Consequently, watershed planners rely on IC (and other metrics) to predict changes in stream health as a consequence of future development (CWP 1998).

Schueler (2004) has utilized IC to classify and manage urban streams, and economists routinely use IC to set rates for storm-water utilities and off-site mitigation (Parikh et al. 2005). Engineers utilize IC as a key input variable to predict future downstream hydrology and design storm-water management practices (MSSC 2005). A number of localities have modified their zoning to establish site-based or watershed-based IC caps to protect streams or drinking water supplies. In recent years, IC has been used as a surrogate measure to ensure compliance with water quality standards in impaired urban waters (Bellucci 2007).

Another noteworthy aspect of IC has been its use as an index of the rapid growth in land development or sprawl at the watershed, regional, and national scale. For example, Jantz et al. (2005) found that IC increased at a rate five times faster than population growth between 1990 and 2000 in the Chesapeake Bay watershed. At a national level, several recent estimates of IC creation underscore the dramatic changes in many of our nation's watersheds as a result of recent or future growth. Elvidge et al. (2004) estimated that about 112,665 km^2 (43,500 mi^2) of IC had been created in the lower 48 states as of 2000. Forecasts by Beach (2002) indicate that IC may nearly double by the year 2025 to about 213,837 km^2 (82,563 mi^2), given current development trends. Although care must be taken when extrapolating from national estimates, it is clear that several hundred thousand stream miles are potentially at risk. For example, a detailed GIS analysis by Exum et al. (2006) indicates that 14% of the total watershed area in eight southeastern states had exceeded 5% IC as of 2000.

Given growth in IC, watershed managers are keenly interested in the relationship between subwatershed IC and various indicators of stream quality. The impervious cover model (ICM) was first proposed by Schueler (1994) as a management tool to diagnose the severity of future stream problems in urban subwatersheds. The ICM projects that hydrological, habitat, water quality, and biotic indicators of stream health decline at around 10% total IC in small (i.e., 5 to 50 km^2) subwatersheds (CWP 2003). The ICM defines four categories of urban streams based on how much IC exists in their contributing subwatershed: *sensitive, impacted, nonsupporting,* and *urban drainage* (Schueler 1994) (Fig. 1). The ICM also outlines specific quantitative or narrative predictions for stream indicators within each stream category to define the severity of current stream impacts and the prospects for their future restoration (Schueler 2004).

The general predictions of the ICM are as follows: streams with less than 10% subwatershed IC continue to function as *sensitive streams*, and are generally able to retain their hydrologic

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Note. Discussion open until September 1, 2009. Separate discussions must be submitted for individual papers. The manuscript for this paper was submitted for review and possible publication on January 30, 2008; approved on October 4, 2008. This paper is part of the ***Journal of Hydrologic Engineering***, Vol. 14, No. 4, April 1, 2009. ©ASCE, ISSN 1084-0699/2009/4-309–315/$25.00.

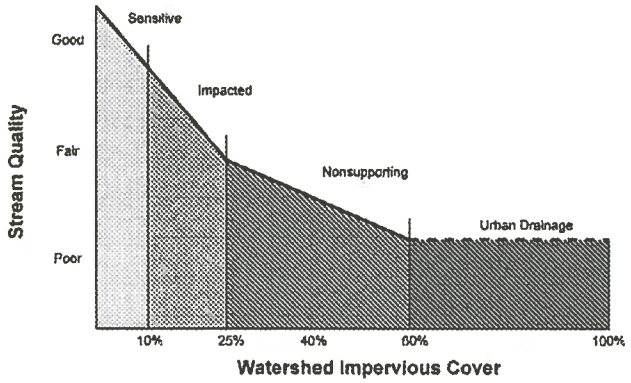

Fig. 1. Impervious cover model [adapted from CWP (1998)]

function and support good to excellent aquatic diversity. Streams with 10 to 25% subwatershed IC behave as *impacted streams* and show clear signs of declining stream health. Most stream health indicators fall in the fair range, although some reaches with extensive riparian cover may score higher. Streams that possess between 25 and 60% subwatershed IC are classified as *nonsupporting*, as they no longer support their designated uses in terms of hydrology, channel stability, habitat, water quality, or biological diversity. Nonsupporting streams become so degraded that it may be difficult or impossible to fully recover predevelopment stream function and diversity. Streams within subwatersheds exceeding 60% IC are often so extensively modified that they merely function as a conduit for flood waters. These streams are classified as *urban drainage* and consistently have poor water quality, highly unstable channels, and very poor habitat and biodiversity scores. In many cases, these urban streams are eliminated altogether by earthworks and/or storm drain enclosure.

The ICM has been extensively tested in ecoregions around the U.S. and elsewhere with more than 250 different reports reinforcing the basic model for single stream indicators or groups of stream indicators (CWP 2003; Schueler 2004). It should be noted, however, that only a third of these reports were published in peer-reviewed journals. For the purposes of this paper, we reviewed new research efforts that have further explored the ICM relationship. The methods used to conduct this review are described in the following section.

Methods

The writers conducted a meta-analysis of 65 new research studies that bear on the ICM and were not included in the papers and reports originally analyzed by CWP (2003). Each paper was reviewed to determine the number of streams, average drainage area, range in urbanization of study subwatersheds, and the receiving water indicator(s) sampled. A database was created to compile this information and four criteria were used to determine whether a paper was suitable for inclusion. First, a minimum of 10 individual subwatersheds must have been sampled. Second, riverine studies that sampled several stations in a progressive downstream direction in the same watershed were omitted. Third, only studies that directly measured impervious cover or an autocorrelated metric, such as % urban land or an urban intensity index (Meador et al. 2005), were included in the database. Fourth, the study must have been published in a peer-reviewed, reliable source, such as a scientific journal article or federal report.

Based on these criteria, 30 studies were excluded from the analysis, which yielded a total of 35 papers: 25 from peer-reviewed journals, four from the U.S. Geological Survey, five from peer-reviewed conference proceedings, and one from a state research institute. When researchers sampled multiple indicators, these were considered as separate entries only if they measured more than one major indicator group (e.g., water quality, biological diversity, geomorphology, hydrology, habitat). Multiple measures within the same indicator group were considered a single entry (i.e., sediment, nitrogen, and chloride within the water quality group). As a result, the final ICM database contained 61 individual entries. The complete database is maintained by CWP and is available upon request.

Each paper was then evaluated to determine the degree to which it met the assumptions of the ICM and supported or did not support its primary predictions, resulting in entries being sorted into four categories:

1. *Confirming papers* met the following criteria:
   a. Primarily sampled small subwatersheds (5 to 50 km^2);
   b. Directly estimated impervious cover;
   c. Tested subwatersheds over a broad range of IC;
   d. Reported a strong linear negative relationship for the indicator with increasing IC; and
   e. Showed an initial detectable shift in indicator quality in the 5 to 15% IC range.
2. *Reinforcing papers* either did not meet criteria 1a and 1c described above OR relied on percent urban land or an urban index in lieu of IC. These studies demonstrated a strong linear negative relationship between the indicator and the metric used to describe urbanization.
3. *Inconclusive papers* were defined as studies that met most of criteria 1a though 1c described for confirming papers but reported a mixed, weak, or inconsistent relationship between indicator quality and the metric used to describe urbanization.
4. *Contradicting* papers met most of criteria 1a through 1c described for confirming papers but did not show a negative or detectable relationship between urbanization and the indicator category analyzed.

General Findings from the Database

The geographic scope and intensity of recent research related to the ICM model has been impressive. Sampling has been conducted in more than 2,500 subwatersheds located in 25 states for more than 35 different indicators of environmental quality. Most studies focused on various indicators of freshwater stream quality (75%), but an increasing number explored the ICM relationship in tidal waters (25%). The majority of research has been conducted on the East Coast, with a strong emphasis on the piedmont and coastal plain regions. Much less attention has been focused along the Northern Tier, Rocky Mountains, and arid Southwest, although the Pacific Northwest was well represented.

Three additional factors complicated the comparison of individual studies. First, researchers relied on many different metrics to characterize urbanization including IC, % urban land, % developed land, and an urban intensity index, among others. Although most of these metrics are autocorrelated, some are less accurate or more variable than others (e.g., % urban land or developed land). Second, researchers applied a wide range of different statistical methods and transformations to analyze their watershed data. While it is outside the scope of this paper to critically evaluate

Table 1. Overall Summary of Recent ICM Research Included in ICM Database[a]

Confirming	Reinforcing	Inconclusive	Contradicting	Total
19	23	9	10	61

[a]For definitions, see "Methods" section.

these methods, we acknowledge that this may have caused researchers to draw different statistical inferences from the same data. Third, the geographic scale at which subwatersheds were sampled varied greatly. While most studies conformed to headwater ICM assumptions (e.g., subwatershed area ranging from 5 to 50 km^2), several regional studies had a mean subwatershed area as large as 75 to 150 km^2, which lies beyond the predictive power of the ICM (CWP 2003). An overall summary of the ICM research is provided in Table 1, and more specific results for individual indicators in freshwater and tidal ecosystems are provided in Tables 2 and 3.

The following general findings were drawn from the ICM research review, with the caveat that they may not fully apply to every ecoregion or watershed condition. Nearly 69% (this number was not tested for statistical significance due to the limited number of studies in the database) of studies confirm or reinforce the ICM, which suggests it is a robust indicator of stream quality when applied properly. On the other hand, IC does not appear to be the best metric to predict stream quality indicators below 10% subwatershed IC. Other metrics, such as subwatershed forest cover, riparian forest cover, road density, or crop cover may be more useful in explaining the variability within sensitive subwatersheds.

The average IC at which stream degradation was first detected was about 7% (range of 2–15%), depending on the indicator and ecoregion. There appears to be some evidence that lower IC thresholds are associated with extensive predevelopment forest or natural vegetative cover present in the subwatershed (Ourso and Frenzel 2003). By contrast, higher initial thresholds appear to be associated with extensive prior cultivation or range management in a subwatershed or region (Cuffney et al. 2005). Researchers who evaluated a second threshold concluded that many stream indicators consistently shifted to a poor condition at about 20 to 25% subwatershed IC. Each study was reviewed to identify the maximum subwatershed IC that was sampled. However, many of the studies focused on suburban or urbanizing subwatersheds, and did not sample the full range of possible IC within the study area.

Table 2. Distribution of Database Entries with regard to Freshwater Streams

Indicator	Total	Confirming	Reinforcing	Inconclusive	Contradicting
Hydrology[a]	4	0	0	1 (Poff et al. 2006)	3 (Coles et al. 2004; Fitzpatrick et al. 2005; Sprague et al. 2006)
Geomorphology	3	2 (Cianfrani et al. 2006; Coleman et al. 2005)	0	1 (Short et al. 2005)	0
Habitat	6	2 (Ourso et al. 2003; Schiff and Benoit 2007)	1 (Snyder et al. 2003)	0	3 (Coles et al. 2004; Fitzpatrick et al. 2005; Sprague et al. 2006)
Water quality[b]	6	3 (Ourso et al. 2003; Schiff and Benoit 2007; Schoonover and Lockaby 2006)	0	2 (Coles et al. 2004; Sprague et al. 2007)	1 (Sprague et al. 2006)
Benthic macros	10	4 (Alberti et al. 2006; Ourso et al. 2003; Schiff and Benoit 2007; Walsh 2004)	5 (Coles et al. 2004; Cuffney et al.2005; Kratzer et al. 2006; Walsh et al.2001; Moore and Palmer 2005)	0	1 (Sprague et al. 2006)
Fish	9	0	7 (Fitzpatrick et al. 2005; Meador et al.2005; Miltner et al. 2004; Moore and Plamer 2005; Roy et al.2006a,b; Snyder et al. 2003)	1 (Coles et al. 2004)	1 (Sprague et al. 2006)
Composite[c]	1	1 (Goetz et al. 2003)	0	0	0
Other[d]	5	1 (Ourso and Frenzel 2003)	1 (Riley et al. 2005)	2 (Coles et al. 2004; Potapova et al. 2005)	1 (Sprague et al. 2006)

Note: $n=44$.

[a]Primarily baseflow.

[b]Primarily water quality parameters sampled during dry weather; no studies evaluated storm-flow quality.

[c]Combined index measuring habitat, benthic macroinvertebrates, and fish.

[d]Other includes sediment quality, algae, and amphibian abundance.

Table 3. Distribution of Database Entries with regard to Small Estuaries

Indicator	Total	Confirming	Reinforcing	Inconclusive	Contradicting
Water quality[a]	4	1 (Holland et al. 2004)	2 (Deacon et al. 2005; Xian et al. 2007)	1 (King et al. 2005)	0
Sediment quality	3	1 (Holland et al. 2004)	1 (Paul et al. 2002)	1 (Comeleo et al. 1996)	0
Benthic macros	5	1 (Holland et al. 2004)	4 (Bilkovic et al. 2006; Deacon et al. 2005; Hale et al. 2004; King et al. 2005)	0	0
Fish	3	1 (Holland et al. 2004)	2 (Hale et al. 2004; King et al. 2004)	0	0
Other[b]	2	2 (Holland et al. 2004)[c]	0	0	0

Note: $n=17$.

[a]Ambient water quality usually measured in dry weather.

[b]Other includes hydrology and shrimp.

[c]Both confirming entries were for the reference Holland et al. (2004); one was for hydrology and the other for shrimp.

Further testing is required to identify the IC% at which natural stream channels disappear from the urban landscape and are replaced by pipes, channels, and other forms of storm-water infrastructure.

Three papers accounted for the majority of contradicting entries (Sprague et al. 2006; Fitzpatrick et al. 2005; Coles et al. 2004). It should be noted that each study had a mean subwatershed drainage area ranging from 75 to 100 km^2. In each case, the authors also cited a "legacy effect," including historical stream corridor disturbance and current water regulation in the front range watersheds; dams, impoundments, and wetland complexes in the New Hampshire seacoast region; and watershed and soil effects of glaciation on midwest watersheds.

Few studies examined hydrological indicators, and the results were generally contradicting or ambiguous (Table 2). In particular, the inverse relationship between subwatershed IC and stream baseflow was not found to be universal, as nontarget irrigation and leakage from existing water infrastructure appeared to increase baseflow in many urban watersheds, regardless of IC. None of the studies reviewed directly measured the relationship between IC and increased storm-water runoff, although a recent review by Shuster et al. (2005) provides numerous case studies where this relationship was very strong. Researchers that have relied on existing USGS hydrologic gages are often hindered by the generally large subwatershed areas they serve [mean 90 km^2—Poff et al. (2006)].

In general, researchers found the ICM to be an initial but not final predictor of individual stream geomorphology variables, when drainage area and stream slope were properly controlled for [Table 2 and Cianfrani et al. (2006)]. IC was frequently found to be related to aggregate measures of stream habitat, although instream and riparian habitat components may behave differently within the same stream reach. Most habitat metrics were initially sensitive to IC in the 5 to 20% range but exhibited a nonlinear habitat response thereafter (which suggests that habitat metrics may not be well calibrated for highly urban streams).

Researchers also reported inconsistent relationships between IC and dry weather water quality. While differences between urban and nonurban sites were frequently noted, there was seldom a linear trend with increasing subwatershed IC. The relationship between IC and storm-water quality would be expected to be strong, but no researchers in this review had simultaneously sampled a large population of storms and subwatersheds. A national review of nearly 8,000 urban storm events compiled by Pitt et al. (2004) indicates event mean concentrations of 20 storm-water pollutants statistically were more closely related to urban land use and regional and first flush effects than impervious cover per se. One study of various pollutants in the Tampa Bay watershed found that the load of storm-water pollutants delivered, however, is still strongly dominated by subwatershed IC (Xian et al. 2007).

Benthic macroinvertebrates appeared to conform to the ICM more than any other stream indicator (Table 2). More than 90% of the studies directly supported or generally reinforced the ICM. Researchers generally found a strong negative relationship between fish IBI scores and subwatershed IC, but there were also confounding effects due to differences in stream slope, type, or subwatershed size (Walters et al. 2003; Wang et al. 2003) or the degree of prior headwater stream alteration (Morgan and Cushman 2005).

Several researchers have recently examined whether the ICM applies to tidal coves and small estuaries (see Table 3). Holland et al. (2004) indicate that adverse changes in physical, sediment, and water quality variables can be detected at 10 to 20% subwatershed IC, with stronger biological responses observed between 20 and 30% IC. The primary physical changes involve greater salinity fluctuations, sedimentation, and sediment contamination. The biological response includes declines in benthic macroinvertebrates, shrimp, and finfish diversity. Although none of the studies in the database examined algal blooms as an indicator in tidal coves and small estuaries, a study by Mallin et al. (2004) found that algal blooms and anoxia resulting from nutrient enrichment by storm-water runoff also are routinely noted at about 10 to 20% subwatershed IC.

Approximately 25% of the papers reviewed explored the effect of riparian conditions on the ICM. The studies that evaluated this relationship showed a consistent riparian effect, generally manifested as (1) a decline in the quality and extent of cover in the riparian network as subwatershed IC increases; (2) little or no statistical difference in the proportion of forest cover found in the

riparian zone and the subwatershed as a whole; and (3) generally higher habitat and biological scores for streams with extensive riparian cover or palustrine wetland complexes. Riparian forest cover appears to be an important factor in maintaining stream geomorphology and various indexes of biotic integrity. As a group, the studies suggest that stream indicator values increase when riparian forest cover is retained over at least 50 to 75% of the length of the upstream network (Moore and Palmer 2005; Goetz et al. 2003; Wang et al. 2003).

The beneficial impact of riparian forest cover appears to diminish as subwatershed IC increases (Roy et al. 2005, 2006a; Walsh et al. 2007; Goetz et al. 2003). At a certain point [15% urban land as identified by Roy et al. (2006a) or 10% IC as identified by Goetz et al. (2003)], the degradation caused by upland storm-water runoff shortcutting the buffer overwhelms the more localized benefits of riparian canopy cover. A study by McBride and Booth (2005) was not included in the database, but found that downstream improvements in some stream quality indicators may still be observed when an unforested stream segment flows into a long segment of extensive riparian forest or wetland cover.

The issue as to whether watershed treatment (i.e., storm-water treatment practices, buffers, land conservation) can prevent the stream impacts forecasted by the ICM is largely unresolved. The recent literature is largely silent on this topic, with the exception of the riparian buffer research noted earlier. It is worth noting that most regions where the ICM has been tested have had some degree of storm water, buffer, or land development regulations in place for several decades (e.g., MD, VA, NC, WA, GA), although the extent or effectiveness of watershed treatment has seldom been measured and is often incomplete.

Discussion: Reformulated ICM

While this review has found that 69% of peer-reviewed papers generally support or reinforce the original ICM, it has also revealed ways the ICM can be strengthened to reflect the most recent science and simplify it for watershed managers and policy makers. A reformulated version of the ICM is presented in Fig. 2. Fig. 2 is a conceptual model that illustrates the relationship between watershed impervious cover and the stream hydrologic, physical, chemical, and biological responses to this disturbance. The model is intended to predict the average behavior of this group of indicator responses over a range of IC, rather than predicting the precise score of an individual indicator. Based on the response, streams fall into the sensitive, impacted, nonsupporting, or urban drainage management categories, whose boundaries represent a compilation of different approaches to interpret stream condition (e.g., research studies that evaluate the same stream quality indicator may have similar quantitative outcomes that represent different qualitative conditions depending on the approach used).

The reformulated ICM includes three important changes to the original conceptual model proposed by Schueler (1994). First, the IC/stream quality relationship is no longer expressed as a straight line, but rather as a "cone" that is widest at lower levels of IC and progressively narrows at higher IC. The cone represents the observed variability in the response of stream indicators to urban disturbance and also the typical range in expected improvement that could be attributed to subwatershed treatment. In addition, the use of a cone rather than a line is consistent with the findings that exact, sharply defined IC thresholds are rare, and that most

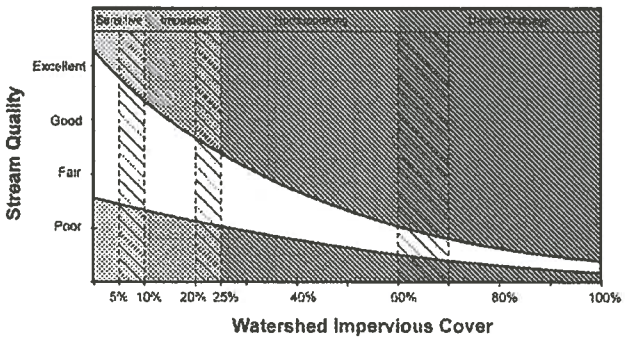

Fig. 2. Reformulated impervious cover model

regions show a generally continuous but variable gradient of stream degradation as IC increases.

Second, the cone width is greatest for IC values less than 10%, which reflects the wide variability in stream indicator scores observed for this range of streams. This modification prevents the misperception that streams with low subwatershed IC will automatically possess good or excellent quality. As noted earlier, the expected quality of streams in this range of IC is generally influenced more by other watershed metrics such as forest cover, road density, riparian continuity, and cropping practices. This modification suggests that IC should not be the sole metric used to predict stream quality when subwatershed IC is very low.

Third, the reformulated ICM now expresses the transition between stream quality classifications as a band rather than a fixed line (e.g., 5 to 10% IC for the transition from sensitive to impacted, 20 to 25% IC for the transition from impacted to nonsupporting, and 60 to 70% IC for the transition from nonsupporting to urban drainage). The band reflects the variability in the relationship between stream hydrologic, physical, chemical, and biological responses and the qualitative endpoints that determine stream quality classifications. It also suggests a watershed manager's choice for a specific threshold value to discriminate among stream categories should be based on actual monitoring data for their ecoregion, the stream indicators of greatest concern and the predominant predevelopment regional land cover (e.g., crops or forest).

The ICM is similar to other models that describe ecological response to stressors from urbanization in that the stream quality classifications are value judgments relative to some endpoint defined by society (e.g., water quality criteria). The ICM differs from most other models in that it provides a broader focus on a group of stream responses, yet focuses on only one stressor, impervious cover. The focus on IC allows watershed managers to use the ICM both to predict stream response and to manage future impacts by measuring and managing IC.

This review also has identified several important caveats to keep in mind to properly apply and interpret the ICM in a watershed context. The first caveat is that watershed scale matters, and that use of the ICM should generally be restricted to first to third order alluvial streams. The second caveat is that the ICM may not work well in subwatersheds with major point sources of pollutant discharge, or extensive impoundments or dams located within the stream network. The third caveat is that the ICM is best applied to subwatersheds located within the same physiographic region. In particular, stream slope, as measured from the top to the bottom of the subwatershed, should be in the same general range for all subwatersheds (Morgan and Cushman 2005; Snyder et al. 2003; Fitzpatrick et al. 2005). The last caveat is that the ICM is unreli-

able when subwatershed management practices are poor, particularly when IC levels are low (e.g., deforestation, acid mine drainage, intensive row crops, denudation of riparian cover). When these caveats are applied, the available science generally reinforces the validity of the ICM as a watershed planning tool to forecast the general response of freshwater and tidal streams as a result of future land development.

Conclusions

The reformulated ICM organizes and simplifies a great deal of complex stream science into a model that can be readily understood by watershed planners, storm-water engineers, water quality regulators, economists, and policy makers. More information is needed to extend the ICM as a method to classify and manage small urban watersheds and organize the optimum combination of best management practices to protect or restore streams within each subwatershed classification.

The challenge for scientists and watershed managers is no longer proving the hypothesis that increasing levels of land development will degrade stream quality along a reasonably predictable gradient—the majority of studies now support the ICM. Rather, researchers may shift to testing a hypothesis that widespread application of multiple management practices at the catchment level can improve the urban stream degradation gradient that has been repeatedly observed. The urgency for testing the catchment effect of implementing best management practices is underscored by the rapid and inexorable growth in IC across the country.

Appendix

The following references, Alberti et al. (2006), Bilkovic et al. (2006), Cianfrani et al. (2006), Coleman et al. (2005), Coles et al. (2004), Comelo et al. (1996), Cuffney et al. (2005), Deacon et al. (2005), Fitzpatrick et al. (2005), Goetz et al. (2003), Hale et al. (2004), Holland et al. (2004), King et al. (2004, 2005), Kratzer et al. (2006), Meador et al. (2005), Miltner et al. (2004), Moore and Palmer (2005), Morgan and Cushman (2005), Ourso and Frenzel (2003), Paul et al. (2002), Poff et al. (2006), Potapova et al. (2005), Riley et al. (2005), Roy et al. (2006a,b), Schiff and Benoit (2007), Schoonover et al. (2006), Short et al. (2005), Snyder et al. (2003), Sprague et al. (2006, 2007), Walsh (2004), Walsh et al. (2001), and Xian et al. (2007), denote research papers that were included in the ICM database. A list of additional papers that were reviewed, but did not meet the criteria for inclusion in the ICM database, is available upon request from the Center for Watershed Protection.

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81 Main Street
Noank, CT 06340

Bio

Zell Steever has worked for over 40 years in environmental and water resources at the local, state, national and international levels. Steever has worked for the President's Council on Environmental Quality, the U. S. Environmental Protection Agency, U.S. Department of the Interior, Bureau of Reclamation, and the U. S. Army Corps of Engineers. He was the Director of Water and Related Resources for the Connecticut Department of Environmental Protection in the early 1970s.

Steever was a Member of the U.S. Delegation to the Earth Summit held in Rio de Janeiro in 1992, and was responsible for negotiating, on behalf of the United States, five chapters of Agenda 21 including the Freshwater, Science, and Capacity Building Chapters.

Steever was President of the DC Chapter of the Association for Conflict Resolution in 2003-04. He was on the Board of the Thousand Island Land Trust in Clayton, NY for 8 years.

Steever was the Chairman of the Groton Conservation Commission from 1969-71, and a member of the Noank Park Commission during the late 1960s. He was a member of the advisor board for the Groton Utility Drinking Water Quality Management Plan in 2007-08.

More recently, Steever was the Chairman of the Groton Town Council's Climate Change and Sustainable Community Task Force from 2008-12. He wrote the final report of the Task Force with recommendations on how Groton could improve energy efficiency and prepare for climate change. He was a member of the Groton Energy Efficiency and Conservation Committee from 2013-16.

A native of Connecticut, he is a graduate of the University of Connecticut in agricultural engineering and received a masters degree in botany from Connecticut College with his research in wetland plant ecology.

STEEVER

SUBMITTED 11/2/16

Nov. 2, 2016

To the Town of Groton Zoning Commission:

My name is Jim Furlong, and my address is 57 Fishtown Lane, Mystic.

I'd like to offer three thoughts about buffering in the Water Resource Protection District.

First, a decision to pretty much stand pat on the current 50-foot buffer around water bodies in the WRPD would be a mistake, I believe.

When Horsley Witten, our consultants, began this project more than a year ago, they envisioned buffers of 200 feet up to 300 feet. They said Oregon has a 200 foot regulated buffer. A Horsley Witten 2007 memo prepared for the New Hampshire Department of Environmental Services recommends a system of 300-foot primary setbacks and 100-foot secondary setbacks to protect rivers and lakes involved in drinking water. The system is described in material that HW put in the package for Groton's September 2015 joint Zoning and Planning meeting.

I am including with my memo a Horsley Witten map that outlines a system for Groton placing buffers of 200 to 250 feet around the reservoir, streams and ponds in the WRPD. You probably have copies, but this one is a reminder of how the vision began—it accorded with the consultant's recommendations—and where it is now. Are we in Groton paying enough attention to the fresh advice we got earlier?

Looking on my own at some outside literature on buffers, I read a bit about the great Quabbin Reservoir in central Massachusetts, which serves Boston. The state owns tens of thousands of acres for watershed protection around the reservoir, including 368 acres purchased from 1995 to 2004. That's a measure of how deeply the state values this vital basic resource. I hope Groton feels the same kind of appreciation for our own essential and beautiful reservoir system.

FURLONG

Second, I still see discord between the proposed 50-foot Zoning Commission buffer for the WRPD and the 100-150-200 foot Inland Wetlands Agency regulated activity areas:

Yes, the 50-foot WRPD zone is a prohibition on building while the IWA's regulated-activity zones can be built on if you can get a special permit. Permit requests are expensive in terms of lawyers and time and may well result in denial. They form a bright line and strong protection along our major waterbodies. ***A reference to them should appear in the Zoning Commission regulations, if only to prevent developers from getting the wrong idea about Groton's water protections by reading only the Zoning regs.***

On that same point: My hope is that worries about possible legal action against these regulated activity zones do not weaken them in the future. I get anxious about that because, as HW commented in its first draft revision of the WRPD rules:

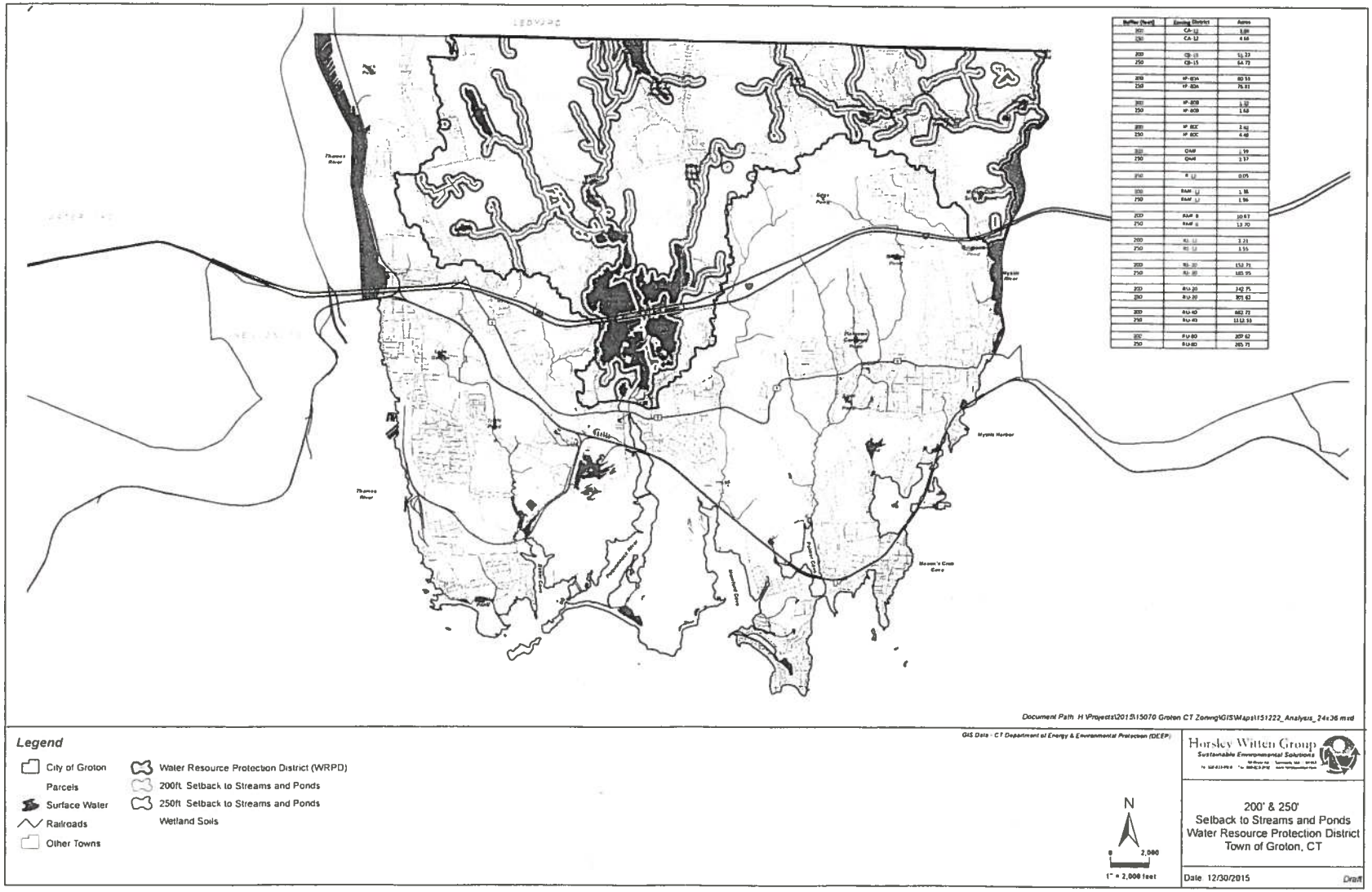
[Quote] "HW removed the language that allowed the Town to increase the buffer size at its discretion. That type of zoning language is at risk for being challenged as arbitrary." [Unquote]

I'd say that such language is perfectly defensible when a town is protecting public drinking water. By the way, the new suggested language (P.14 of the Oct. 18 revision) on this matter allows for reducing the non-disturbance area under certain circumstances but is vague about the town enlarging it.

Third, I come to the buildout analysis that Chairman Sutherland recommended. This has been dismissed as unnecessary because, staff said, the new regs would if anything reduce density. What about the proposed Airport Development Zone, which would reach well into the WRPD? Won't the desired development produce greater density? Can this factor be excluded? Thank you.

1 enc.

FURLONG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GIS Data - CT Department of Energy & Environmental Protection (DEEP)
Legend
City of Groton
Parcels
Surface Water
Railroads
Other Towns
Water Resource Protection District (WRPD)
200ft Setback to Streams and Ponds
250ft Setback to Streams and Ponds
Wetland Soils
N
0
2,000
1" = 2,000 feet
Horsley Witten Group
Sustainable Environmental Solutions
200' & 250'
Setback to Streams and Ponds
Water Resource Protection District
Town of Groton, CT
Date 12/30/2015
Draft

FURLONG

MINUTES
TOWN OF GROTON
ZONING COMMISSION
NOVEMBER 2, 2016 – 6:30 P.M.
TOWN HALL ANNEX – 134 GROTON LONG POINT ROAD
COMMUNITY ROOM 2

I. ROLL CALL

Regular members present:	Marquardt, Sayer, Hudecek
Alternate members present:	Archer, Edgerton, Merrow
Absent:	Smith, Sutherland
Staff present:	Glemboski, Jones, Gilot

Acting Chairperson Hudecek called the meeting to order at 6:30 p.m. and seated Archer for Sutherland.

II. PUBLIC COMMUNICATIONS

James Furlong, 57 Fishtown Lane, Mystic, addressed the commission regarding the 50 ft. no-disturbance zone for the WRPD. He said he felt that the commission's decision to recommend a 50 ft. buffer around water bodies in the WRPD would be a mistake, and supported Horsley Witten's initial vision of buffers of 200 – 300 ft. Mr. Furlong submitted a map created by Horsley Witten showing buffers of 200 – 250 ft. around water bodies in the WRPD. He said he still sees discord between the 50 ft. WRPD buffer and the inland wetlands regulated activity areas of 100, 150, 200 ft., in which a permit may be required. He felt that a reference to the IWA regulations should appear in the zoning regulations to prevent developers from only reading the zoning regulations. He said the new language allows reducing the buffer in certain areas but is vague about enlarging it. He also stated that there should be a buildout analysis with the effects of the new Airport Development Zone considered.

Zell Steever, 81 Main Street, Noank, told the commission his background in regulating activities in water resources. He said he had addressed the commission in the spring about considering the 100 year floodplain and the wetlands act (coastal and inland). He spoke about the job of the Zoning Commission and the history of the reservoir. He said the consultant's review originally was a 200-300 ft. buffer which has been significantly reduced. While the new regulations will be easier for developers, the commission needs to maintain the high quality of water. He also believes this would require more staff for managing this district. He said that the new regulations would allow all agriculture in this area but he would suggest that agriculture is not ok in the WRPD, and that the proposed conditions would be difficult to enforce. He also addressed Section 6.12.4 B-3 - road maintenance and expansion as exempt. He said these activities should not be exempt.

Lynn Marshall, 118 Pearl Street, spoke to the commission about the pollution of water, and would recommend being more conservative. She is concerned with the hydrology within the area rather than just the 50 ft. non-disturbance zone. She felt the non-disturbance area needs to be greater, and exceptions granted on a case by case with standards for exceptions.

Acting Chair Hudecek appointed Merrow to sit for Smith.

APPROVAL OF MINUTES

1. October 5, 2016

MOTION: To approve the minutes of the October 5, 2016 meeting as amended.

Motion made by Sayer, seconded by Marquardt. Motion passed unanimously.

III. OLD BUSINESS

1. Zoning Regulations Update

a. WRPD Permitted Uses

Staff said the October 28th draft has been sent to the Town Attorney for review. Hudecek said he would like to ultimately see the WRPD in the table of uses. Staff explained that the new definitions in this section have not yet been incorporated into Section 2 (Definitions). They are temporarily included in Section 6.12, but when the entire document is completed, the definitions will be pulled out and incorporated into Section 2. The WRPD is an important component, and staff believes it would be beneficial to bring this section to public hearing as a stand-alone to the regulations. In order to do that, the definitions, etc., must be included. The commission asked if it could it be simplified by developing appendices to the WRPD. Staff said legally, some of these items may or may not be able to be moved to an appendix.

Sayer said she is very comfortable with the decisions they have made thus far, but asked for an explanation on the exemption of public road areas. Staff said this would be for public improvements and maintenance in the town rights-of-way, which are all connected. The town is regulated under the state stormwater permit and limited to routine maintenance; the town rarely constructs new roads. The commission discussed the 50 ft. buffer, which means no disturbance at all, and the balance between water quality and taking the rights of property owners. Another advantage to approving the WRPD before the rest of the regulations would be that staff has time to see if it is working or if more changes need to be made.

The commission and staff reviewed the following outstanding items in the draft WRPD.

Page 18 – Section 6.12-8A: Total impervious surface. The commission concurred to leave it at 70% and remove 50% for larger lots.

Page 25 – Section 6.12-9C: Underground storage tanks standards-different for propane tanks. Currently, underground propane tanks are allowed in the WRPD. Staff asked the commission if they should still be allowed, allowed with standards, or not allowed. Discussion of whether there is hazardous residue settled in the bottom of a propane tank after 10 years. Staff said Groton Utilities has no problems with propane tanks. Hudecek preferred to find another term for "anode" bag. The commission agreed to allow underground propane tanks with standards.

Staff said some of these items (e.g., design for fuel stations) will probably be put in the regular sections when the entire document is revised. The consensus was to

keep with the standards in the WRPD and earmark for future incorporation into the overall design standards.

Page 28 – Section 6.12-10B: No outdoor storage of hazardous materials is allowed.

Page 30 – Section 6.12-10D.2: Fuel Dealer – no fuel dealers with storage of propane allowed.

Page 32 – Section 6.12-11.A: Expansion of Prohibited Uses - Those sites that have already taken advantage of 50% could take an additional 10% in the proposed regulations. The commission concurred to not allow the additional 10%.

The commission discussed whether there were conflicts with definitions from the old regulations and the new definitions included in the draft WRPD. They asked staff to include a comment in the WRPD that "if conflicts occur, this section/newer definition takes precedence".

The commission discussed Plain Language and the use of "shall" and "must". All federal documents will now replace "shall" with "must". Staff will need to discuss this with the Town Attorney. The recommendation from Plain Language was to talk more directly to applicant, so it should be considered to have "When you apply..." rather than "When an applicant files...". Staff felt that was more appropriate for the general public, as opposed to a legal document such as the zoning regulations. Staff said the development guide may be more "personalized".

Staff discussed the schedule. They expect to have an application ready for the December meeting, and a public hearing could be scheduled for February.

Staff asked the commission if they were still comfortable with the 50 ft. non-disturbance area for the WRPD. The commission agreed to move forward with 50 feet. Staff said the consultants will be present for the public hearing. Hudecek requested that Groton Utilities also be present at the public hearing.

b. Definitions/Table of Permitted Uses

Staff has no new information at this time.

IV. NEW BUSINESS

1. Report of Commission - None

2. Receipt of New Applications

SPEC #350 - Establish Argia Cruises at dock space at the north end of Steamboat Wharf and office space at 39-41 West Main Street

SPEC #351 - Change the approved use of the basement level of the Emporium building from retail to a restaurant.

Public hearings were scheduled for December 7, 2016.

3. Approval of 2017 Meeting Schedule

MOTION: To adopt the 2017 Zoning Commission meeting schedule as presented.

Motion made by Archer, seconded by Sayer. Motion passed unanimously.

V. REPORT OF CHAIRPERSON

Acting Chair Hudecek welcomed the three new alternates to the Zoning Commission.

VI. REPORT OF STAFF

Staff distributed the quarterly CFPZA to commissioners.

Staff advised the new commissioners that they will receive their agenda packets by email, it is also available on the website, and said they should advise staff if they want a printed copy of the packet.

VII. ADJOURNMENT

Motion to adjourn at 8:18 p.m. was made by Sayer, seconded by Marquardt, so voted unanimously.

_____

Susan Marquardt, Secretary
Zoning Commission

Prepared by Debra Gilot
Office Assistant III

MEMORANDUM

TO: Zoning Commission

FROM: Deborah Jones, Assistant Director Planning and Development

DATE: December 1, 2016

SUBJECT: Water Resource Protection District Amendments

An application to amend section 6.12 of the Zoning Regulations, Water Resource Protection District (WRPD), has been submitted and it is anticipated that the Commission will schedule a public hearing for their February 1, 2017 regular meeting. A copy of the amendments are included in this agenda packet. Minor revisions have been made to the draft reviewed by the Commission at their November 2, 2016 meeting based on Commission comments and public input. Staff has also worked with Horsley Witten to clarify the definitions.

Also included in this agenda packet are comments from Zell Steever and James Furlong regarding the WRPD amendments. Because an application has been submitted, these comments should be discussed only at the public hearing when all parties and the public will have an opportunity to participate.

Feel free to contact me at djones@groton-ct.gov or 860.446.5972 if you have any questions.

Memorandum

Suisman, Shapiro, Wool, Brennan, Gray & Greenberg, P.C.

To: Diane Glemboski (via email)

Cc: Deb Jones (via email)
Jon Reiner (via email)
Mark Oefinger (via email)
Eileen Duggan (via email)

From: Michael P. Carey

Date: November 4, 2016

Subject: "Shall" v. "Must" in Zoning Regulations

Ms. Glemboski:

You asked for my thoughts on the relative merits of the terms "shall" and "must" as they might be used in the zoning regulations. My position until earlier this afternoon was that I thought that the Zoning Commission could use either word, with equal benefit, provided that it defined the word it chooses in the "Definitions" section of the regulations, and includes in the definition a statement that the term is intended to be mandatory unless the regulations clearly state otherwise.

But this afternoon I came across the attached article from the September/October 2016 issue of the Connecticut Bar Association's "Connecticut Lawyer." The article is entitled "You should, I must, We shall," and is authored by Attorneys Charles D. Ray and Matthew A. Weiner. You might remember Attorney Ray, who represented the co-defendants in an appeal from I believe a special permit issued by the Zoning Commission several years ago. Attorneys Ray and Weiner write an article dealing with recent Connecticut Supreme and Appellate Court decisions for every issue of the Connecticut Lawyer.

By sheer coincidence, the article in the September/October 2016 issue deals with the very question that you asked me to consider. Attorneys Ray and Weiner cite to some of the same sources that you directed me to yesterday, and, perhaps more important, they appear to come to the conclusion that it is time to discontinue the use of the word "shall" in legislation, regulations, and I suppose, contracts and other legal documents.

I continue to think that the question whether the Zoning Commission should stop using the word "shall" is not essentially a legal one; it is one of policy and preference for the Commission to decide. But the article by Attorneys Ray and Weiner, the materials they cite, and the other materials that you provided me cause me to tend to think that the Commission ought to give serious consideration to replacing the word "shall" in the regulations, or at least to not using it in new regulations as they are written. In any event, I repeat the suggestion that whatever word the Commission chooses should be defined in the "Definitions" chapter of the regulations and include a clear statement that it is to be mandatory unless the regulations clearly say otherwise.

Thank you for asking me to look into this interesting issue. If you or the Commission have further questions or concerns, please let me know.

T.A. memo

You should, I must, We shall

By Charles D. Ray and Matthew A. Weiner

Charles D. Ray is a partner at McCarter & English LLP, in Hartford. He clerked for Justice David M. Shea during the Supreme Court's 1989-1990 term and appears before the Court on a regular basis. Matthew A. Weiner is Assistant State's Attorney in the Appellate Bureau of the Office of the Chief State's Attorney. ASA Weiner clerked for Justice Richard N. Palmer during the Supreme Court's 2006–2007 term and litigates appellate matters on behalf of the State.

Any views expressed herein are the personal views of DASA Weiner and do not necessarily reflect the views of the Office of the Chief State's Attorney and/or the Division of Criminal Justice.

Time to put on the thinking caps. When was the last time you used the word "shall" in something that you wrote? Better yet, when was the last time you used "shall" in a conversation? Our guess is that "I don't remember" is a pretty good answer to both questions. The reason for this, we believe, is that "shall" is not a particularly useful word. It is old, stuffy at best and, more importantly, is not at all precise in meaning.

The Oxford Dictionaries website tells us that "shall" is a modal verb and can be used in a number of contexts. First, in the first person, to express the future tense ("I shall ignore the questions that do not apply to a particular item."). Second, as a strong assertion or intention ("One shall be a Warrior, strong and oft silent, though charitable and kind underneath."). Third, as an expression of an instruction or command ("Under your command shall be the battleships Loyalty and Honour, and the frigates Hope and Truth.") Fourth, used in a question to indicate offers or suggestions ("The question here is where shall we go for this data and what data will we need next?"). Adding to the confusion is the voluminous body of writings attempting to explain the difference between "shall" and "will" and how they each should be used: "shall" goes with "I" and "we" and "will" goes with "you," "he," "she," "it," or "they" ("I shall be late; she will not be there."), except that these roles are evidently reversed when expressing a strong determination to do something ("I will not tolerate this, you shall go to school.").

It is in the legal context, however, where the obtuse nature of "shall" really shines. Wikipedia (the source of all that is true) tells us that "[s]hall is widely used in bureaucratic documents, especially documents written by lawyers. Due to heavy misuse, its meaning is vague and the US Government's Plain Language group advises writers not to use the word." Wandering on over to the Plain Language group's website – plainlanguage.gov – we discover that the use of "shall:" 1) has become so corrupted by misuse that it has no meaning; 2) breeds litigation; and 3) is never a part of common speech. Noting that "shall" is not plain English, Bryan Garner tells us that "legal drafters use 'shall' incessantly. They learn it by osmosis in law school, and the lesson is fortified in law practice."

The solution, according to like-minded commentators, is to ban "shall" from legal usage and, instead, use "must," "may," or "should," depending on the context and the intent of the drafter. The Federal Rules of Civil and Appellate Procedure have already taken this step. The Connecticut Legislature has not. Thus, there are any number of statutes in which the legislature uses the word "shall" without being clear as to what it intended by its use of that word. On top of this, there are a number of statutes in which "shall" clearly means "must," but the legislature has neglected to proscribe any consequence for a party's failure to comply with the statutory requirement. Much litigation has ensued.

Take, for example, the Supreme Court's recent decision in *State v. Banks*, 321 Conn. 821 (2016). The principal issue in *Banks* was whether the version of General Statutes § 54-102g that existed in 2011 permitted the Commissioner of Corrections to use reasonable physical force to obtain a DNA sample from a prisoner who chose not to voluntarily supply one. In order to answer that question, the Court first paused to consider whether Mr. Banks was required to submit a DNA sample to the Commissioner. The statute provided in part that any person "who has been convicted of a . . . felony . . . **shall**, prior to release from custody . . . submit to the taking of a blood or other biological sample for DNA . . . analysis . . . ." (Emphasis added).

T.A. memo
Visit www.ctbar.org

Let's pause here and have a show of hands. How many of you think that the legislature intended the word "shall" to mean "must" in this instance? We're seeing quite a few hands out there. Now, how about a show of hands for those of you who think that the legislature intended "shall" to mean "should" in this instance. We're not seeing many. And you won't see any hands for "should" on the Court either. But the curious part of *Banks* is why the Court would even stop to consider this issue. As we learn from Justice Espinosa's majority opinion, the reason for this detour is that the legislature's use of the word "shall" is not necessarily "dispositive on the issue of whether a statute is mandatory." Instead, according to the majority, "the proper question in determining whether a statute is mandatory is 'whether the prescribed mode of action is the essence of the thing to be accomplished, or in other words, whether it relates to a matter of substance or a matter of convenience.'"

But where it is plain as day that the legislature intended "shall" to mean "must" in a particular context, why should a court still be required to engage in some convoluted analysis to reach that conclusion? Where did that come from? As Chief Justice Rogers points out in her concurrence, it can all be traced back to the "much litigation" that has ensued over the years and of which she and Justice Zarella have apparently had their fill. According to the Chief Justice, "the time has come to attempt to clarify our jurisprudence regarding the distinction between mandatory and directory statutes, and specifically the use of the term 'shall' in statutory language." Turns out there's a lot to sort through.

The Chief Justice first notes that "the distinction between mandatory and directory requirements first arose in cases involving statutes vesting power or jurisdiction in a public officer or body." For support, the Chief Justice cites *Gallup v. Smith*, 59 Conn. 354 (1890), a case in which the Court arguably did not need to go down the mandatory/directory rabbit hole. The issue in *Gallup* centered on a statute that provided that "the clerk of the court of probate . . . shall cite in the judge of probate of an adjoining district" whenever a judge of the original district "shall decline or be disqualified to act . . . ." The problem in *Gallup* was that the judge of the adjoining district in that case had been cited in by the probate judge from the original district rather than by the clerk.

One might argue, as a matter of interpretation, that the "shall" in the statute was directed to the replacement of the judge and not so much to the question of who had to do the citing. And one might also argue, as appears to have been the case, that the issue could have been resolved on the basis of a call of "no harm, no foul," because the citing was done on the record with full knowledge of everyone concerned, including the clerk. The Court chose, however, a different route to determine whether the statute was mandatory or directory in terms of the clerk doing the actual citing. The test, as recited by the *Banks* majority, "is whether the prescribed mode of action is of the essence of the thing to be accomplished, or, in other words, whether it relates to matter material or immaterial — to matter of convenience or of substance." And while the Chief Justice puts that rule on the chopping block, she also notes that "[w]hether the reasons for applying the mandatory/directory distinction in cases involving statutes directed at public officials continue to be convincing is not at issue in the present case."

Instead, the Chief Justice laments the fact that "the mandatory/directory distinction has been applied to statutes that impose substantive requirements on private parties." In regard to these types of statutes, the Chief Justice and Justice Zarella "would conclude that any substantive statute that requires a private party to perform or to refrain from some act in order to assert his or her own rights or to protect the substantive rights of other persons is mandatory, at least in the absence of clear legislative intent to the contrary." Thus, the statute at issue in *Banks* "is mandatory because it uses the term 'shall' and is directed at a private party." And "[w]hen a party has failed to comply with a mandatory statute, the only questions that the court should address are whether the mandatory requirement is subject to waiver and, if so, whether it has been waived."

Is this a much more straight-forward approach to the whole "shall" conundrum? We think so, but we're also guessing that it takes a while to sort the issue to conclusion. In the meantime, the best course might be for the legislature to deep-six the use of "shall" in the General Statutes. Shall we suggest it? CL

T.A. memo

TOWN OF GROTON

LAND USE APPLICATION
Part One

RECEIVED
NOV 30 2016
PLANNING DEPARTMENT
TOWN OF GROTON, CT

PLEASE CHECK THE APPROPRIATE BOX(ES) AND ATTACH THE REQUIRED APPLICATION(S):

- ☐ SUBDIVISION OR RESUBDIVISION
- ☐ SITE PLAN
- ☐ ADMINISTRATIVE SITE PLAN
- ☐ INLAND WETLANDS PERMIT
- ☐ INLAND WETLANDS PERMIT OR NON-REGULATED ACTIVITY
- ☐ COASTAL SITE PLAN REVIEW (CAM)
- ☐ SPECIAL PERMIT
- ☐ ZONE CHANGE
- ☒ REGULATION AMENDMENT
- ☐ VARIANCE/APPEAL

PROJECT NAME: Water Resource Protection District (WRPD) Regulation Amendment

STREET ADDRESS OF PROPERTY: N/A

IF ADDRESS NOT AVAILABLE, LOCATION: Town -Wide

PARCEL IDENTIFICATION NUMBER: N/A ACREAGE: N/A ZONE: N/A

PROJECT DESCRIPTION: Proposed Zone Text Amendment to Section 6.12 : Water Resource Protection District (WRPD). Deleting existing Section 6.12 text and replacing with new attached text.

CORRESPONDENCE WILL BE SENT TO THE PRIMARY APPLICANT AS CHECKED BELOW:
(NAME, ADDRESS, TELEPHONE AND FAX NUMBER)

APPLICANT: Town of Groton – Office of Planning and Development Services (OPDS)

EMAIL: _____ TELEPHONE: 860-446-5970 FAX: 860-446-4094

APPLICANT'S AGENT (if any): _____

EMAIL: _____ TELEPHONE: _____ FAX: _____

OWNER/TRUSTEE: _____

EMAIL: _____ TELEPHONE: _____ FAX: _____

ENGINEER/SURVEYOR/ARCHITECT: _____

_____ TELEPHONE: _____ FAX: _____

Note: 1) To be accepted by the Planning Division, this entire application must be completed, signed, and submitted with the required fee(s) and map(s) prepared in accordance with the applicable regulations.
2) The submittal of this application constitutes the property owner's permission for the commission or its staff to enter the property for the purpose of inspection.
3) The applicant hereby agrees to pay all additional fees and/or address such costs deemed necessary by the Office of Planning and Development Services as described in Part Three of this application.

_____ 12/1/16
SIGNATURE OF APPLICANT OR APPLICANT'S AGENT — DATE

_____
SIGNATURE OF RECORD OWNER — DATE
I HEREBY, CERTIFY THAT I AM THE OWNER OF THE PROPERTY STATED ABOVE

Jonathan J Reiner
PRINTED NAME OF APPLICANT

_____
PRINTED NAME OF OWNER

Project #: REGA 16-02 *Work Type:* _____ *Fee Received:* _____ *Init.* _____ *Planner:* _____

6.12 Water Resource Protection District

6.12-1 Statement of Intent

Creation of this district is essential to protect drinking water supply sources in the Town and is supported by the following Connecticut General Statutes: 8-2 and 8-23(d). As groundwaters and surface waters have been shown to be easily, and in many cases, irrevocably contaminated by many common land uses, it is imperative that all reasonable controls over land use, waste disposal, and material storage be exercised within this district. This district is designed to protect the following existing and future water supply resources: extensive stratified drift aquifers, surface water reservoirs, and areas of future water supply.

If there is a conflict between Section 6.12 and any other Section of the Zoning Regulations, Section 6.12 takes precedence for land within the Water Resource Protection District (WRPD).

6.12-2 Establishment of District

The Water Resource Protection District (WRPD) is established as an overlay district. The boundaries of this district are those shown on the map entitled Town of Groton Zoning on file with the Town Clerk and the Office of Planning and Development Services. The district includes all land over and upgradient of the current and future water supply resources as defined by the watershed drainage boundaries.

6.12-3 Definitions

For Purposes of the WRPD Only:

- The definitions in Section 6.12-3 take precedence over the definitions in Section 2.
- Definitions in Section 2 still apply for all definitions not mentioned in Section 6.12-3.

For Purposes of All Other Sections of these Zoning Regulations:

- The definitions in Section 6.12-3 shall not be applied.
- Definitions in Section 2 shall be applied.

6.12-3.A AGRICULTURAL, ANIMAL AND FOOD.

AGRICULTURE, COMMERCIAL: The production principally for the wholesale of plants, animals, or their products including, but not limited to: forage and sod crops, dairy animals and dairy products, livestock,

including dairy, beef cattle, poultry, sheep, swine, horses and goats; including the breeding and grazing of all such animals; bees and apiary products; fruits and vegetables; and nursery, trees, and floral products. Commercial agriculture may be conducted indoors or outdoors, and shall not include animal feedlots operations, aquaculture, forestry and/or timber production.

KENNEL: Any lot on which 4 or more pets, six months old or older, are available for sale or boarded for compensation.

LIVESTOCK: Any apian, avian, bovine, equine, caprine, ovine, camelid, porcine, poultry, leporine, or other animal that is raised for production of food or fiber, or is used primarily for work, commerce, or exhibition. Such animals that are kept simply for companionship or enjoyment but that do not meet the definition of "pet" herein shall still be considered livestock. This definition also does not include wild animals.

NURSERIES AND GREENHOUSES, COMMERCIAL: A business involved primarily in the sale of nursery products including living tree, plant or other flora, whether or not grown on site, and products or materials ordinarily and necessarily associated with the growing of said tree, plant or other flora, including, but not limited to, soil, mulch, fertilizer, containers and water delivery systems. It may include ancillary sale of decorative materials such as paving stones and lawn ornaments, but may not include machinery or equipment such as tractors or lawn mowers.

PET: A domesticated animal such as a dog, cat, common cage bird, rodent, rabbit, ferret, or aquarium-kept fish, reptile, or amphibian, which is traditionally kept in the home for companionship or enjoyment rather than for utility or commercial purposes. Does not include livestock and wild animals.

PET GROOMING ESTABLISHMENT: Any commercial establishment engaged in the washing, brushing, trimming of fur or nails, or other such cosmetic services for domestic pets. Such establishments may not perform medical services, nor allow overnight kenneling of animals.

RIDING OR BOARDING STABLE: A facility for boarding, riding, and training of equines and/or camelids; including riding instruction and fields or arenas used for events.

VETERINARY SERVICE: An establishment of a licensed practitioner engaged in veterinary medicine, dentistry, or surgery for animals such as horses, rabbits, dogs, cats, and birds and other pets, and may include overnight keeping of animals for medical attention.

WILD ANIMAL: Any member of the animal kingdom, other than humans, that is capable of sustaining itself in its native habitat, was not born in captivity, and is not domesticated. Does not include livestock or pets.

6.12-3.B HEALTH FACILITIES.

HOSPITAL/EMERGENCY TREATMENT CENTER: A facility for health maintenance, diagnosis or treatment of human diseases, pain, injury, deformity, or physical condition. Such facility may include overnight accommodations for patients, ancillary services such as pharmacies, cafeterias and gift shops, and emergency room facilities with accommodations for ambulance traffic.

MEDICAL/HEALTH CARE PROFESSIONAL OFFICE/CLINIC: A facility where human patients, who are not lodged overnight, are treated by physicians, dentists, other health care professionals, or similar professions. Such facility may include ancillary laboratory, rehabilitation, and pharmacy services.

MEDICAL LABORATORY: A facility for the analysis of blood, tissue, or other human medical products.

6.12-3.C INDUSTRIAL.

ALCOHOLIC BEVERAGE PRODUCTION: A facility used for the commercial purpose of processing grapes, other fruit products, grains or vegetables to produce wine, beer or spirits. Processing includes wholesale sales, crushing, brewing, distilling, fermenting, blending, aging, storage, bottling, administrative office functions, and warehousing. Retail sales and tasting facilities of wine, beer, spirits and related promotional items, as well as a café with limited food service, may be permitted as part of any winery, brewery or distillery operations.

HEAVY INDUSTRIAL: Uses engaged in the basic processing and manufacturing of materials or products predominately from extracted or raw materials, or a use engaged in storage of, or manufacturing processes using flammable or explosive materials, or storage or manufacturing processes that potentially involve hazardous conditions.

LAUNDRY, COMMERCIAL: A facility used for the commercial-scale cleaning of fabrics, textiles, wearing apparel, or articles of any sort, without the use of dry cleaning chemicals.

LIGHT INDUSTRIAL: A facility engaged in the manufacture, predominately from previously prepared materials, of finished products or parts, including processing, fabrication, assembly, treatment, packaging, incidental storage, sales, and distribution of such products.

OUTDOOR STORAGE YARD: An outdoor area for storing or displaying materials, goods, or equipment.

WAREHOUSE AND DISTRIBUTION: A facility where goods are received and/or stored for delivery to the ultimate customer at remote locations. This definition includes parking lots for overnight truck, railcar or shipping container storage, and such establishments as commercial distribution services, freight forwarding services, and freight agencies. May include intermodal distribution facilities for a mix of truck, rail, or shipping transport.

6.12-3.D RETAIL.

RETAIL: A commercial enterprise that provides goods and/or services directly to the consumer, where such goods are available for immediate purchase and removal from the premises by the purchaser.

RETAIL, LARGE-SCALE: A single user commercial building, having a gross floor area of 40,000 square feet or greater, generally serving local, Town and regional consumer needs.

6.12-3.E SERVICES.

CEMETERY: Land used or intended to be used for the burial of the dead and dedicated for cemetery purposes including columbariums, crematoriums, mausoleums, and funeral establishments, when operated in conjunction with and within the boundary of such cemetery.

FUNERAL AND CREMATORY SERVICES: An establishment providing services such as preparing the human dead for burial and arranging and managing funerals, and may include limited caretaker facilities. This classification excludes cemeteries, columbariums, and other permanent storage of human remains. The facility may include an indoor space for

the conduct of funeral services and other spaces for funeral services and informal gatherings or display of funeral equipment.

6.12-3.F TRANSPORTATION, COMMUNICATIONS, AND UTILITIES.

TRANSIT STATIONS AND HUBS: Any property, equipment and improvements used, maintained and operated to provide public or private mass transportation for passengers and their luggage, including bus, rail, air, and ferry services, as well as associated passenger parking. May also include related ticketing sales, offices, and accessory retail sales of food and sundries. This definition does not include curbside bus stops, with or without shelters.

UTILITY INFRASTRUCTURE: The structures necessary to deliver services essential to the health, safety, and general welfare of the public, which may be provided by a public or a private entity.

6.12-3.G VEHICLE & HEAVY EQUIPMENT.

BUS AND LIMOUSINE GARAGE AND MAINTENANCE: Any lot or land area used for the storage, layover, maintenance, or repair of limousines, passenger buses or motor coaches.

CONSTRUCTION, FARM, AND HEAVY EQUIPMENT RENTALS: The use of any building, land area, or other premises or portion thereof, for the display and rental or lease of tractors or construction and heavy equipment, including incidental parking and servicing of associated vehicles and equipment.

CONSTRUCTION, FARM, AND HEAVY EQUIPMENT SALES: The use of any building, land area, or other premises or portion thereof, for the display and sale of tractors or construction and heavy equipment, including incidental parking and servicing of associated vehicles and equipment.

CONTRACTOR VEHICLE PARKING AND CONSTRUCTION EQUIPMENT STORAGE: The storage of a contractor's construction equipment and the parking of a contractor's commercial vehicle(s), as a primary, industrial use.

CONTRACTOR VEHICLE PARKING, RESIDENTIAL: The parking of a contractor's commercial vehicle as accessory to a primary residential use.

FUEL DEALER WITH STORAGE: A business that sells and delivers fuel to residences, institutions, and businesses and may also provide ancillary services such as equipment repair, cleaning, and maintenance. May include indoor office, truck storage, and fuel storage facilities.

FUEL DEALER WITHOUT STORAGE: A business that sells and delivers fuel to residences, institutions and, businesses and may also provide ancillary services such as equipment repair, cleaning, and maintenance. May include indoor office and storage space for one fuel delivery truck, but no other fuel storage facilities.

FUEL DISPENSING STATION: Any lot or parcel of land or portion thereof used partly or entirely for dispensing flammable liquids, combustible liquids, liquefied flammable gas, or flammable gas into the fuel tanks of vehicles. This does not include bulk storage and wholesale of liquid fuels. May also include, separately or in conjunction, electric fuel stations for electric and hybrid plug-in vehicles.

MARINE CRAFT AND EQUIPMENT SALES AND RENTALS: A marine-oriented retail sales, rental and service facility.

VEHICLE DEALERS (NEW): The use of any building, land area, or other premises or portion thereof, for the display, sale, lease, or service of new automobiles and/or other vehicles.

VEHICLE DEALERS (USED): The use of any building, land area, or other premises or portion thereof, for the display, sale, lease, or service of used automobiles and/or other vehicles.

VEHICLE REPAIR AND SERVICE, MAJOR: Repair of construction equipment, commercial trucks, agricultural implements, and similar heavy equipment, including automobiles, where major engine and transmission repairs are conducted. Typical uses include automobile and truck repair garages, transmission shops, radiator shops, body and fender shops, equipment service centers, machine shops, and other similar uses where major repair activities are conducted.

VEHICLE REPAIR AND SERVICE, MINOR: The business of minor repairs to any vehicle, including repairs and replacement of cooling, electrical, fuel and exhaust systems, brake adjustments, relining and repairs, wheel alignment and balancing, and repair and replacement of shock absorbers, ignition systems, and mufflers.

VEHICLE WASHING FACILITY: A commercial establishment for washing, polishing and/or detailing vehicles.

6.12-3.H OTHER DEFINITIONS.

HAZARDOUS MATERIAL: Hazardous Material means (A) any hazardous substance as defined by 40 CFR 302.4 and listed therein in Table 302.4, excluding mixtures with a total concentration of less than 1% hazardous substances based on volume, (B) any hazardous waste as defined by Section 22a-449(c)-101 of the Regulations of Connecticut State Agencies, (C) any pesticide defined by Section 22a-47 of the Connecticut General Statutes, or (D) any oil or petroleum as defined in Section 22a-448 of the Connecticut General Statutes.

NON-DISTURBANCE AREA: An area adjacent to a waterbody, watercourse, or wetland for which the natural state must be maintained and on which no development or construction activity may take place. Such area will be measured from the top edge of a watercourse or waterbody bank or from the edge of a wetland, whichever provides a greater area.

OVERLAY DISTRICT: A special zoning district which addresses special land use circumstances or environmental safeguards and is superimposed over the underlying existing zoning district(s). Permitted uses in the underlying zoning district(s) may continue subject to compliance with the regulations of the overlay district.

PERENNIAL WATERCOURSE: A stream or river that has continuous flow in parts of its stream bed all year round during years of normal rainfall.

STORM BUILDING DRAIN: A building drain that conducts storm water and is connected at its upstream end to a leader, sump or catch basin, and at its downstream end to a building sewer or a designated storm water disposal location.

WATERBODIES: Any body of water, including any creek, canal, river, lake or bay, or any other body of water, natural or artificial, except a swimming pool or ornamental pool located on a single lot.

WATERCOURSE: A channel in which a flow of water occurs, either continuously or intermittently, and in the latter, with some degree of regularity. Such flow must be in a definite direction and cover a

prescribed area. Watercourses may be either natural or artificial, and both may occur either on the surface or underground.

6.12-4 Divided Lots and Determination of Applicability

6.12-4.A. Applicability

If the boundary line of the WRPD divides a lot or parcel, the requirements established by this regulation apply only to the portion of the lot or parcel located within the WRPD.

6.12-4.B Separation

Where a lot is divided by the WRPD boundary line, applicants must demonstrate, through the use of site plans, that development activity outside of the boundary will not be connected to land within the boundary in such a way that could lead to the contamination of groundwater, wetlands, or surface waters within the WRPD.

6.12-4.C Determination of Applicability

If an applicant questions the accuracy of the WRPD boundary as shown on the Zoning Map, the applicant may request an interpretation of the map from the Zoning Official per section 3.4-4 or may amend the zoning map per section 8.2 of these regulations.

6.12-4.D Application

Where an applicant files for a zoning map change to move the WRPD boundary, the burden of proof shall be upon the applicant to demonstrate an error or omission on the zoning map. An application shall be submitted in accordance with the process for Zoning Amendments in Section 8.2, and must include a plan signed by a professional engineer or State of Connecticut registered Land Surveyor. The plan(s) will be used to accurately determine the boundaries of the district with respect to individual parcels of land and must include the following information.

1. General Plan Information

   a) Name and address of the applicant and current owner as listed on the Town's tax rolls.

   b) Date, north arrow, and numerical and graphical scale on each map.

   c) The property address and/or parcel identification number.

d) Location Map.

2. Vicinity Map – Applications must include an accurate scale vicinity map showing the subject property and all property and streets within 1,000 feet of any part of the subject property, and the following information:

   a) All lots and lot lines.

   b) All zoning district boundaries including the WRPD.

   c) All existing streets and roads with associated names.

3. Proposed WRPD Boundary Plan

   a) Plan(s) shown at the extent and scale required to demonstrate the justification for a determination of applicability and shows information within 200 feet from the boundary of the subject property.

   b) Existing and proposed WRPD boundary lines.

   c) Topography field survey information shown with a minimum of two-foot contours and with details necessary to support requested modification.

   d) Arrows indicating the direction of overland flow that demonstrate the need to adjust the applicability of the WRPD on the subject site.

   e) All existing drainage structures and direction of stormwater flow.

6.12-5 Use Regulations

6.12-5.A. Allowed Uses

Allowable uses within the WRPD are all those listed as allowed in the underlying zone in the Land Use Table per Section 5.1-3 of these regulations that do NOT have any WRPD prohibitions or specific conditions associated with the use.

Allowable uses within the WRPD are required to meet the General Performance Standards for:

- Erosion and Sediment Control (6.12-6)
- Stormwater Management (6.12-7)
- Site Design (6.12-8)
- Hazardous Materials (6.12-9)

6.12-5.B. Exempt Uses and Activities

The following uses and activities are specifically exempt from the General Performance Standards related to the WRPD overlay district.

1. Pollution treatment facilities exclusively designed for the temporary treatment of contaminated ground or surface water.

2. Repair and replacement of existing drainage structures and pipe.

3. Activities exclusively limited to municipal maintenance, improvements, or expansions to public roads.

4. Normal operation and maintenance by water companies (as defined by CGS 16-1) of existing water bodies and dams, and other water control, supply and conservation devices related to reservoirs and public drinking water supply.

5. Construction, maintenance, repair, and enlargement of ancillary drinking water supply related facilities such as, but not limited to, wells, pipelines, aqueducts, and tunnels. This exemption does not include new or expanded buildings, parking lots, or facility site construction activities.

6. The construction of one-family or two-family dwellings, either within a subdivision or on lots not subject to subdivision review.

6.12-5.C Prohibited Uses and Activities

1. Categorical Prohibited Activities – The following activities are ***prohibited*** in the WRPD across any and all use categories:

   a) The establishment of any industrial, commercial, or other enterprise in which the manufacture, use, storage, transport, process or disposal of hazardous material is a principal activity.

b) Discharge to the ground of non-sanitary wastewater including industrial and commercial process wastewater, unless specifically exempt.

c) Establishment of septic lagoons.

d) Stockpiling of sodium chloride, calcium chloride, chemically treated abrasives or other chemicals used for the removal of snow or ice on roads.

e) Stockpiling or disposal of snow or ice containing sodium chloride, calcium chloride, chemically treated abrasives or other chemicals used for the removal of snow or ice on roads which has been removed from highways and streets located outside of the WRPD.

2. Prohibited Uses - Uses specifically prohibited in the WRPD are listed in Table 6.12-1.

6.12-5.D Conditional Uses

Table 6.12-1 shows uses that are only allowed in the WRPD if on sewers and other conditional uses that are allowed if specific conditions in Section 6.12-10 for each use can be met.

These uses within the WRPD are also required to meet the General Performance Standards for:

- Erosion and Sediment Control (6.12-6)
- Stormwater Management (6.12-7)
- Site Design (6.12-8)
- Hazardous Materials (6.12-9)

Table 6.12-1: WRPD Prohibited Uses and Uses with Specific Conditions

Key: S = Use Allowed if on Sewer
C = Use Allowed with Specific Conditions (See Section 6.12-10 for Conditions)
X = Use Prohibited
A = Permitted as an Accessory for an Allowed Use (Conditions Still Apply)

USE	ALLOWANCE & LOCATION OF CONDITIONS		CONCERNS
AGRICULTURAL, ANIMAL AND FOOD			
Agriculture, Commercial	C	6.12-10.A.1	Pesticides, animal waste, fuel storage, hazards associated with heavy equipment.
Kennel, Commercial	C	6.12-10.A.2	Animal waste
Nurseries and Greenhouses, Commercial	C	6.12-10.A.3	Pesticides, fuel storage and related hazards associated with heavy equipment.
Riding or Boarding Stable	C	6.12-10.A.4	Animal waste
Veterinary Services	C S	6.12-10.A.5	Animal waste, medical waste, hazardous chemicals.
Pet Grooming Establishment	S		Hazardous chemicals, ancillary animal waste.
HEALTH FACILITIES			
Hospital/Emergency Treatment Center	S		Hazardous chemicals, bodily fluids, medical waste.
Medical/Health Care Professional Office/Clinic	S		Hazardous chemicals, bodily fluids, medical waste.
INDUSTRIAL			
Alcoholic Beverage Production	S		
Heavy Industrial	X		Storage, use & production of chemicals, equipment cleaning and maintenance, hazardous waste generation, machine shops. Organic and inorganic chemicals, heavy metals, chlorinated solvents, strong acids and alkalis, dyes, paint and thinner wastes, waste oils, phenols, PCBs, cyanides, metals, hydrocarbons.

USE	ALLOWANCE & LOCATION OF CONDITIONS		CONCERNS
Light Industrial (*except for the specific activities below, which have further restrictions*)	C S	6.12-10.B.1	Storage and use of ink chemicals, equipment cleaning, engraving Chlorinated solvents, phenols, hydrocarbon compounds.
▪ Furniture Strippers	X		General use of cleaning solvents, hazardous materials. Chlorinated solvents.
▪ Screen Printing of Clothing	C	6.12-10.B.1	Ink waste, parts cleaning, screen disposal, chemicals and solvents.
Outdoor Storage Yard	C A	6.12-10.B.2	Spills, leaks, possible leachate, and runoff during rainstorms, from storage of anything hazardous.
Warehouse and Distribution	C	6.12-10.B.3	Spills, leaks, possible leachate from storage of anything hazardous.
RETAIL			
Retail Establishment			
▪ Retail use with any outdoor storage or display of hazardous materials as defined in 40 CFR 302.4 and herein. (Indoor storage of hazardous materials will follow the standards for Section 6.12-9.) ▪ Retail Garden Supply Stores	X C	6.12-10.B.2	Large amounts of materials and products handled, stored and distributed that might contaminate groundwater as a result of accidents, poor management practices, flooding or fires. Solvents, organic and inorganic chemicals, and hydrocarbon contamination threats.
SERVICES			
Cemetery (new)	X		Embalming fluids, varnishes, sealers and preservatives for wood coffins, mercury from medical implants in the deceased.
Beauty & Barber Services and Day Spas	S		Various chemicals, including solvents, formaldehyde, biocides, and acrylates. Dyes, bleaching agents, polish, etc.
Funeral and Crematory Services (with onsite embalming)	X		Embalming fluids, bodily fluids, medical waste

USE	ALLOWANCE & LOCATION OF CONDITIONS		CONCERNS
Laundry, Commercial	S		Cleaning agents and solvents.
Pest Control Services	X		Storage & mixing of pesticides, chemicals, equipment cleaning, equipment fueling and maintenance.
Other Services			
▪ Any other service with outdoor storage or display of hazardous materials as defined in 40 CFR 302.4 and herein. (Indoor storage of hazardous materials will follow the standards for Section 6.12-9.)	X		Materials and products handled and stored that might contaminate groundwater due to accidents, poor management practices, flooding or fires. Solvents, organic/inorganic chemicals & hydrocarbon threats.
TRANSPORTATION, COMMUNICATIONS, AND UTILITIES			
Airport	X		Fuel storage, leaks and drips of various solvents, brake and transmission fluids.
Transit Stations and Hubs	C	6.12-10.C.1	Fuel storage, leaks and drips of various solvents, brake and transmission fluids.
Utility Infrastructure			
▪ Power Plants	X		Risks associated with fuel storage /use, large quantities of waste generation, machine shops, equipment maintenance.
▪ Sewer Treatment Plants	X		Human waste, treatment chemicals, storm water runoff.
VEHICLE & HEAVY EQUIPMENT			
Bus & Limousine Garage and Maintenance	X		Fuel storage, use/storage of oils, paints, thinners, solvents, brake and transmission fluids. Hydrocarbons, solvents, benzene
Construction, Farm & Heavy Equipment Rentals	X		Fuel storage, use/storage of oils, paints, thinners, solvents, brake and transmission fluids. Hydrocarbons, solvents, benzene
Construction, Farm & Heavy Equipment Sales	C S	6.12-10.D.1	Fuel storage, use/storage of oils, paints, thinners, solvents, brake and transmission fluids. Hydrocarbons, solvents, benzene

USE	ALLOWANCE & LOCATION OF CONDITIONS		CONCERNS
Contractor Vehicle Parking and Construction Equipment Storage (does not include Contractor Vehicle Parking and Construction Equipment Storage, Residential)	X		Fuel storage, use/storage of oils, paints, thinners, solvents, brake and transmission fluids. Hydrocarbons, solvents, benzene
Fuel Dealer	C	6.12-10.D.2	Leaks, drips, ruptures of tanks, pipelines or joints. Hydrocarbons, benzenes and other contaminants. Liquid fuel hazardous material.
Fuel Dispensing Station	C S	6.12-10.D.3	Leaks, drips, ruptures of tanks, pipelines or joints. Hydrocarbons, benzenes and other contaminants. Liquid fuel hazardous material.
Marine Craft & Equipment Display and Sales	C S	6.12-10.D.4	Fuel storage, use & storage of oils, paints, thinners, various solvents, brake and transmission fluids. Hydrocarbons, solvents, benzene
Vehicle Dealers (New)	C S	6.12-10.D.5	Fuel storage, leaks and drips of various solvents, brake and transmission fluids.
Vehicle Dealers (Used)	X		Fuel storage, leaks and drips of various solvents, brake and transmission fluids.
Vehicle Repair & Service, Major	X		Fuel storage, use & storage of oils, paints, thinners, various solvents, brake and transmission fluids. Hydrocarbons, solvents, benzene
Vehicle Repair & Service, Minor	C S	6.12-10.D.6	Fuel storage, use & storage of oils, paints, thinners, various solvents, brake and transmission fluids. Hydrocarbons, solvents, benzene
Vehicle Washing Facility	C S	6.12-10.D.7	Wastewater discharge, acid based wheel cleaner, other cleansers and solvents.

6.12-6 Erosion and Sediment Control Performance Standards

All uses and activities within the WRPD must comply with the following performance standards unless specifically exempt under Section 6.12-5.B.

6.12-6.A. Large Scale Disturbances

The requirements of Section 6.11 Erosion and Sediment (E&S) Control Plan apply to any proposed construction activity that will disturb more than 2,000 square feet of a site.

6.12-6.B. Small Scale Disturbances

If an applicant proposes to disturb 2,000 square feet of land or less, the applicant must specify the manner in which E&S controls will be used during construction through Site Plan Review. The Town will approve these measures where site plans show E&S control measures located appropriately and where the selection of best management practices is consistent with the Measure Selection Matrix provided in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (as amended). (See Appendix A)

6.12-7 Stormwater Management

All uses and activities within the WRPD must comply with the following performance standards unless specifically exempt under Section 6.12-5.B.

6.12-7.A. Stormwater Management Objectives

The Town of Groton herein requires stormwater management practices for the WRPD specifically designed and maintained to achieve the following objectives:

1. To achieve the pre-construction hydrologic conditions on-site through the use of stormwater Best Management Practices (BMPs) to the maximum extent practicable.

2. To minimize impacts to the quality of surface water streams, ponds, and wetlands within the WRPD.

3. To minimize impacts to the quality of groundwater within the WRPD.

6.12-7.B. New Development and Redevelopment/Expansion

1. New Development - All new development must conform in its entirety with the standards and requirements provided in Subsections 6.12-7.C, 6.12-7.D and 6.12-7.E, below.

2. Redevelopment or Expansion - The redevelopment or expansion of an existing site must comply with the following:

   a) New Impervious Cover - Must meet the standards and requirements for new development in Subsections 6.12-7.C, 6.12-7.D and 6.12-7.E.

   b) Existing Impervious Cover - Must comply with all standards and requirements in Subsection 6.12-7.C. Must also comply with Subsection 6.12-7.D by meeting at least one of the following standards and requirements:
      - Reduce the total impervious cover by 40% from existing conditions; or
      - If site conditions prevent a reduction in impervious cover, implement stormwater controls that reduce runoff or improve water quality for at least 40% of the site's existing impervious cover; or
      - Implement a combination of impervious cover reduction and area treated with stormwater controls that shall equal or exceed 40% of the site's existing impervious cover.

6.12-7.C. Runoff Discharge

1. Stormwater management systems must be designed to ensure there is no net increase in the peak rate of runoff over pre-developed conditions for the 1, 2, 5, 10, 25, and 100-year storms.

2. The use of underground drywells or leaching trenches for stormwater from all areas is prohibited except from rooftops in conformance with Section 6.12-8.D.

3. Stormwater discharges from rooftops must not be directed to impervious surfaces. The stormwater must discharge to the ground or to other stormwater facilities in compliance with section 6.12-8.D.

4. Site Plans must identify the water body and/or wetlands that directly receive stormwater runoff from the site predevelopment. All stormwater must be directed to the same wetland or watercourse system that received the stormwater in predevelopment conditions to the greatest extent practicable.

5. Stormwater discharges must terminate at least 100' from all perennial watercourses, waterbodies, and the directly adjacent

wetlands in the watershed, unless a modification is approved by the Planning Commission due to the geometry of the lot, topographic conditions, or other physical constraints and where the applicant can clearly demonstrate that this reduction complies with other stormwater management standards and is consistent with the stormwater management objectives of the WRPD.

6.12-7.D. Water Quality Treatment

1. Stormwater discharges to wetlands or watercourses must be treated first by a sequence of Best Management Practices (BMPs) and/or Best Available Technologies (BATs) designed to remove 85% of total suspended solids, 60% of pathogens, 30% of phosphorous and 30% of nitrogen from runoff generated from the first inch of rainfall. Pollutant removal efficiencies will be determined using Appendix B of the Zoning Regulations and compliance information must be submitted with the application. Where proprietary structural BMPs are proposed, performance data for those BMPs must be submitted as part of an application and must be approved by the Town.

2. Grease, oil, and other floating liquid/solid separators must be incorporated into the stormwater management system for all parking lots and for any other areas of the site that has a piped stormwater system and the potential for such pollution.

3. Pervious pavement, porous asphalt, gravel surfaces, or other similar practices must not be used except for areas used exclusively for pedestrian traffic or activities, or for non-motorized vehicles.

4. Unless otherwise specified in Section 6.12-10 (Conditions for Specific Uses), the drainage design must maximize overland flow of stormwater prior to discharge to wetlands or watercourses. This may be accomplished by the elimination of curbing, provision of leak-offs, the use of grassed swales and/or use of other best management practices to promote stormwater renovation, reduce point discharges, and reduce the discharge of heavy metals and nutrients. Vegetated stormwater best management practices shall be integrated into the treatment sequence to the maximum extent practicable.

6.12-7.E. Selection of BMPs

Stormwater management facilities must be selected to meet the Stormwater Management Objectives listed in Subsection 6.12-7.A above, and to achieve compliance with Subsections 6.12-7.B through 6.12-7.D. The selection and

design of stormwater management practices must be consistent with the guidance provided in the 2004 Connecticut Stormwater Quality Manual, as amended, particularly including all criteria for water supply aquifers. The project narrative must explain how and why the BMPs were selected and evaluate consistency with the following sections of the 2004 Connecticut Stormwater Quality Manual (Appendix C):

1. Stormwater Management Effectiveness (Table 8-1, Pg 8-3)
2. Land Use Selection (Table 8-2, Pg 8-4)
3. Physical Feasibility (Table 8-3, Pg 8-7)
4. Downstream Resource (Table 8-4, Pgs 8-8 & 8-9)

6.12-8 Site Design

All lots within the WRPD are subject to the following site design standards unless the use is specifically exempt under Section 6.12-5.B. Specifically for this subsection, in the instances where the underlying zone requirements are different, the more stringent shall apply.

6.12-8.A. Impervious Surface

Total impervious surface area must not exceed 70% of total lot area.

6.12-8.B. Vegetated Area

1. New Development: On newly developed sites, a minimum of 20% of total lot area must be retained in its natural state with no more than minor removal of existing trees and vegetation.

   a) Disturbance of Vegetated Area: Areas within this 20% minimum that should not be disturbed include 100-year flood plains, slopes in excess of 25 percent, and non-disturbance areas for wetlands and surface water bodies. An applicant may propose a minor disturbance or removal of existing vegetation where damaged or dead vegetation is present in significant quantity, or where the removal/management of invasive or otherwise harmful plant species is proposed. A revegetation plan that specifies native, to the extent practicable, and non-invasive plants is required.

   b) Landscape and Buffer Requirements: All lots must comply with the landscaping, screening, and buffer standards of Section 7.4. Areas used for the buffering required by Section 7.4-4 may count

toward the 20% vegetated minimum required within the WRPD so long as they are left in their natural state, as described above, and meet Section 7.4-4.C. Areas used to meet the requirements of Section 7.4-3 for front yards and Section 7.4-5 for parking areas, including all lawns, manicured plantings, new trees, planter boxes, and other such landscaping, may NOT count toward the 20% vegetated minimum.

c) Restoration: On those sites where previous land disturbance has occurred, this 20% minimum may include restored land that is re-vegetated with non-invasive plant species appropriate for the site and soil conditions in keeping with the intent of this regulation.

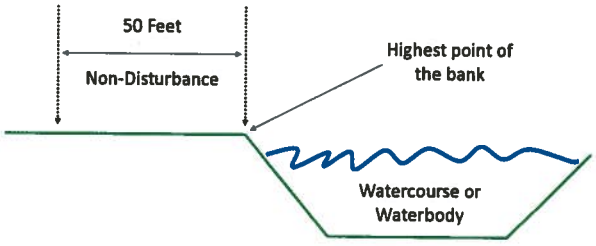
2. Existing Development:

a) Sites with existing development where at least 20% of the area is in a natural state or suitable for restoration must comply with the requirements for vegetated area for new development above.

b) Sites with existing development where currently less than 20 % of the area is in a natural state or suitable for restoration must comply with the following:
- There must be no decrease in the amount of landscaped or naturally vegetated area currently on the site.
- A restoration and landscape plan must be submitted that addresses removal of invasive species and re-vegetation with native species, to the extent practicable, and enhancement of all existing landscaped areas and natural areas with additional plantings and with best management and technology practices that use site stormwater for enrichment of these areas.

6.12-8.C. Non-Disturbance Area

A minimum 50-foot non-disturbance area must be maintained between perennial watercourses, waterbodies, and directly adjacent wetlands and the developed land area. This non-disturbance area shall be measured from the top edge of the watercourse or waterbody bank or from the edge of the wetland, whichever provides a greater area.



1. Modification or Reduction: In those areas where extreme topographic or landscape irregularity exists along water resource boundaries, the non-disturbance area may be modified or reduced by the Planning Commission. In these instances, the applicant must identify and justify specific site design measures that will mitigate impacts of a modified or reduced non-disturbance area such as:

   a) Directing site drainage away from these areas through the use of grading, berms, under drains, swales or other conveyance structures, as long as compliance with Section 6.12-7.C.4 is maintained,

   b) Increasing the non-disturbance area in other areas along the water resource boundary, or

   c) Enhancing the proposed non-disturbance area with native and non-invasive plantings.

2. Septic System: All components of on-site septic systems, including septic reserve areas, must be located 100 feet from the edge of any perennial watercourse, waterbody, and directly adjacent wetlands.

3. Agriculture and Animal Uses: All commercial agriculture and riding or boarding stable uses, as well as any outdoor runs or recreation areas for commercial kennel uses, must be located 100 feet from the edge of any perennial watercourse, waterbody, and directly adjacent wetlands.

4. Pre-Existing Access Ways or Structures

   a) Access Ways: The required non-disturbance area may be encroached upon where pre-existing access ways will remain in use and/or require maintenance and/or improvements to meet or maintain the minimum road safety standards for the type of road (private, local, state or federal).

   b) Structures: Pre-existing structures are allowed to remain and be maintained in the required non-disturbance area. Enlargement of the structures is not allowed.

4. Inland Wetlands and Watercourses: Nothing in this Section diminishes an applicant's separate responsibility for addressing CGS Sections 22a-36 to 22a-45 for inland wetlands and watercourses.

6.12-8.D. Equipment

Where equipment for heating, ventilation, air conditioning or similar functions are installed and periodically serviced, these structures must include containment or be surrounded by containment barriers to allow for safe cleanup of any hazardous materials and minimize contamination of runoff.

6.12-8.E. Solid Waste Storage, Non-Hazardous

Accessory storage of solid waste (including but not limited to dumpsters), must be done according to the following standards:

1. Design of Storage Containers: Solid waste storage must occur in a building/structure or within a container with an impermeable cover and designed to prevent the generation of contaminated runoff or leachate. All dumpsters must be leak-tight with tight fitting lids and doors. Kitchen and restaurant wastes (e.g. fats, oils, and grease) must be disposed of in special recycling containers that prevent contents from coming into contact with stormwater runoff.

2. Design of Environment around Storage Containers: Containers must be on an impervious surface such as a concrete pad and located away from the stormwater system catch basins. A locked fence around the dumpster is also recommended, when practical. Rainwater surface runoff near the dumpster must not flow toward any stormwater system catch basins.

3. Maintenance of Storage Containers: Dumpsters or other waste receptacles must not be washed or hosed out, unless a diversion drain is installed to divert dumpster wash water into a sanitary sewer. Lids, doors, and drain plugs must be kept closed and locked to prevent access by rainwater, animals and unauthorized users as well as discharge from the container.

6.12-9. Hazardous Materials

6.12-9.A. Hazardous Materials – Incidental

1. Materials: The following use of hazardous materials is considered incidental in the WRPD:

   a) Cleaning Agents: household hazardous materials in prepackaged original containers used for cleaning and maintenance of the site

and not used in any processing or manufacturing or for any other uses on the site.

b) Retail Sales: household hazardous materials that are for retail sale and are kept in prepackaged original containers of a typical size for household use.

2. Requirements: The incidental use of hazardous materials in the WRPD must meet the following requirements:

a) Hazardous Materials must be sold and/or stored within an enclosed building on an impermeable surface.

b) The area where hazardous materials are sold and/or stored must meet the requirements of Section 6.12-9.B.4 for floor drains.

c) A spill containment kit(s), sign(s), and information for spill procedures must be provided within the retail areas and storage areas where hazardous materials are located. Information for typical spill containment kits, signs, and spill procedures may be found in Appendix D.

d) A Large-Scale Retail use must also meet the requirements of Section 6.12-9.B.6 for Loading/Transfer Areas.

6.12-9.B. Hazardous Materials – Non-Incidental

Any other use, storage, or production of Hazardous Materials in the WRPD is considered non-incidental and must comply with the following standards:

1. Enclosed Building: Hazardous materials must be used and stored within an enclosed building.
(Exception: See Outdoor Storage Yards for Nurseries, Greenhouses and Garden Supply Stores in Section 6.12-10.B.2)

2. Floor Surface: The floor where hazardous materials and/or waste are used or stored must be impermeable and constructed or treated to protect the surface of the floor from deterioration due to spillage of any such material.

3. Containment: Hazardous materials must be stored within an impermeable containment area which is capable of containing at least 110 % of the volume of the largest container of hazardous material present in such an area or 10% of the total volume of all such

containers in such area, whichever is larger, without overflow of released hazardous material from the containment area. Containment measures may include dikes, sumps, or doorway lips or similar structures to inhibit the ability of spilled material to pass through the opening.

4. Floor Drains: Floor drains are not allowed in areas where hazardous materials are sold, used, or stored unless the site design shows specific compliance with the following:

   a) Floor drains must connect to the sanitary sewer system or to an on-site holding tank or tanks when the discharge contains petroleum-based oil, grease or other harmful or hazardous substances. Such tanks must have a 1,000 gallon minimum capacity and be installed in accordance with RCSA §22a-449(d)-1.

   b) Interceptors and separators must be provided when floor drains connect to the sanitary sewer system.

   c) Floor drains must not be connected to a storm sewer, a storm drainage system or a storm building drain.

   d) Floor drains must have trap seals.

   e) Floor drains that only accept animal fecal waste and first discharge into a settling tank prior to release into a septic system may be allowed.

   f) Floor drains allowed by CT DEEP (in accordance with the "Non-Stormwater Discharges" section of a General Permit for the Discharge of Stormwater Associated with Industrial Activity) shall be allowed.

5. Discharge: Discharge of production wastewater or any wastewater that may contain hazardous materials must meet the following requirements:

   a) All wastewater generated by the use is lawfully disposed through a municipal sewer system.

   b) If there is no sewer system the following must be met:

- A zero discharge/closed loop system must be employed where possible and where required by Section 6.12-10.B.1 related to Screen Printing.
- Where such a system is not possible, liquid hazardous materials or waste must be collected in tight tanks and removed periodically by a licensed professional. The tanks must be above ground and comply with design and containment standards of this section.

6. Loading/Transfer Areas: Any area that may be used for transfer of hazardous materials must be designed to prevent contaminated storm water runoff and ground water intrusion. Such loading docks (excluding those that allow a vehicle to enter the building) must be protected with a permanent roof or other structure that protects the loading dock from direct rainfall.

   Depressed loading docks or other sub-grade facilities must be designed to ensure that hazardous materials are properly collected and disposed of, using appropriate technology such as oil-water separators, subsurface tight tanks, or equivalent. Such tanks must have a 1,000 gallon minimum capacity and be installed in accordance with RCSA §22a-449(d)-1.

7. Security: Hazardous materials must be stored in an area that is secured against unauthorized entry by the public.

8. Fire Protection: Where a use containing hazardous materials poses a significant threat to water quality due to total structure loss because of fire, fire protection measures are required including, but not limited to, public water, sprinklers, or chemical extinguishers.

9. Materials Management Plan: All facilities must submit to the Town and maintain a Materials Management Plan that clearly describes the location and methods for the use, storage, recycling and disposal of any hazardous materials on the site. Where any hazardous materials are hauled off-site by a contractor, the facility shall maintain the name and contact information for that contractor. Examples of issues to address in materials management plan may be found in Appendix E.

10. Spill Preventions and Response Plan: All facilities must submit to the Town and maintain a Spill Prevention and Response Plan detailing the measures taken to avoid the unintentional spilling of any hazardous

materials and, in the event a spill does occur, the measures that will be taken to adequately respond. Examples of issues to address in materials management and spill prevention and response plans may be found in Appendix E.

A spill containment kit(s) and signs for spill notification must be provided within areas where hazardous materials are used and stored (Appendix D).

11. Sewer Lines: Where potential exists for sewers to be used for wastes other than domestic sewerage, or where the sewer line passes through or adjacent to a sensitive resource area including a watercourse, wetland or stratified drift aquifer, the sewer line shall be constructed to a higher class standard to prevent pollution from sewer line failure. Standards shall be determined by the Public Works Department.

12. Other Requirements: Requirements for hazardous materials are intended to supplement and not to supersede any other applicable requirements of federal, state or local law, including applicable requirements of the Resource Conservation and Recovery Act of 1976.

6.12-9.C. Hazardous Materials: Underground Storage Tanks

Underground Storage Tanks (USTs) are not allowed in the WRPD with the exception of the following:

1. Propane Tank: Propane tanks are encouraged to be located above ground, but are allowed to be placed underground within the WRPD with the following conditions:

   a) Underground propane tanks must be designed for underground use and be installed and maintained according to manufacturer specifications.

   b) Underground tanks must be designed with cathodic protection or another method to help prevent tank corrosion.

   c) The outer surface of the underground tank must have a protective coating and be covered with a material that will not be harmful to the shell of the tank.

2. Fuel Dispensing Station: Underground tanks for an approved Fuel Dispensing Station are allowed if design standards in Subsection 6.12-9.C.4 are met.

3. Replacement Tank: For all other uses, no new USTs are allowed, however, the replacement of existing USTs with the same capacity tank is allowed if the design standards in Subsection 6.12-9.C.4 are met.

4. Design Standards: All new USTs must meet the following design standards:

   a) The facility must have an appropriate method of leak detection;

   b) Fill-pipes on tanks must have means to collect spills from delivery hoses;

   c) The tanks must have overfill protection, such as automatic shutoff devices which activate at 90% UST capacity and restrict flow during deliveries;

   d) Tanks and/or piping installed must be double-walled with continuous interstitial monitoring;

   e) These requirements for USTs are intended to supplement and not to supersede any other applicable requirements of CT's Underground Storage Tank Regulations, inclusive of Sec. 22a-449 (d)-1 (e) (1) and Sec. 22a-449 (d)-104 (d).

6.12-10 Conditions for Specific Uses

6.12-10.A. AGRICULTURAL, ANIMAL AND FOOD

1. Commercial Agriculture

   a) All Commercial Agriculture uses must meet the 100 foot non-disturbance area requirements of Section 6.12-8.C.3 for all crop fields and animal structures/fields/pastures, especially where runoff enters or leaves the field.

   b) All outdoor pasture/recreation areas must provide fencing along the non-disturbance area border to prevent the escape of the animals into neighboring water bodies or wetlands.

c) All animal excrement must be properly stored and disposed of, so as not to contaminate nearby water bodies and wetlands (e.g., composting in enclosed bins or transporting offsite).

2. Kennel, Commercial

a) Dipping is prohibited outside of the building.

b) Outside runs must be roofed. Outside runs and fenced recreation areas are not allowed in flood zones and must meet the 100 foot non-disturbance area requirements of Section 6.12-8.C.3.

c) Excrement must be removed from each run and recreation area at least once daily.

d) Swales or drains are required to direct stormwater away from runs.

e) A list of chemicals and cleaning agents to be used must be provided. Handling of these chemicals and cleaning agents shall be managed in accordance with Sec. 6-12.9 for hazardous materials.

3. Nurseries and Greenhouses, Commercial
(*See Outdoor Storage Yards in Section 6.12-10.B.2*)

4. Riding or Boarding Stable

a) All aspects of such uses must meet the 100 foot non-disturbance area requirements of Section 6.12-8.C.3.

b) Manure must be collected daily then contained and covered. Such manure, temporarily stored prior to removal off-site, must be covered with a waterproof cover on an impermeable surface to prevent liquid waste runoff and discharge to the ground. Manure storage areas must be designed to hold all manure collected prior to disposal and must be located outside of the non-disturbance area.

c) Roof water must be directed away from stable areas.

d) Uncontaminated surface runoff must be directed away from stables, riding arenas, manure storage areas, and exercise areas.

e) Fencing must be used to prevent horses from congregating in poorly drained areas.

f) Wash-down and runoff from stables must be directed to adequately designed septic tank systems or connected to a sewer system.

5. Veterinary Services

a) Should any activities with animals be conducted outside, they must follow the conditions for Commercial Kennels under Sec. 6.12-10.A.2.

b) Any interior activities producing hazardous or sanitary waste must discharge to sanitary sewers or, if floor drains are used, must follow the conditions for floor drains found in Section 6.12-9.B.4.

6.12-10.B. INDUSTRIAL

1. Light Industrial

a) All stormwater runoff must be pre-treated before any overland flow over pervious surfaces.

b) For Screen Printing uses, a zero discharge/closed loop system must be employed.

2. Outdoor Storage Yards

a) Outdoor Storage Yards as a primary use are prohibited.

b) Allowed uses in the WRPD may include outdoor storage of their products and supplies as an accessory use, per all other stipulations of these Regulations. Such storage must not include dismantling, shredding, compressing, or salvaging.

c) Outdoor storage of any hazardous materials, other than as described in Subsection 6.12-10.B.2.d) below, is prohibited.

d) Outdoor storage accessory to nurseries, greenhouses, retail garden supply stores and similar uses or activities must comply with the following:

- All stormwater runoff must be pre-treated before any overland flow over pervious surfaces.
- Runoff from areas where plants are regularly watered must be recaptured and recycled or directed to areas where the water will be pre-treated before disposal to mitigate impacts from pesticides, fertilizers, or other harmful constituents.
- Where such runoff is directed to outdoor stormwater management facilities, the applicant must demonstrate that the runoff volume and pollutant removal calculations account for the addition of this source.
- Outdoor storage of hazardous materials is only allowed for bulk storage of fertilizers, pesticides, herbicides and other typical products. These products must remain in their original package, and must be stored in a contained area, under permanent cover, and on an impermeable surface with no floor drains. The storage area must be designed so that any drainage from the area does not enter the storm drainage system or any wetlands or watercourses.

3. Warehouse and Distribution

a) No outdoor storage of any kind is allowed.

b) All stormwater runoff must be pre-treated before any overland flow over pervious surfaces.

6.12-10.C. TRANSPORTATION, COMMUNICATIONS, AND UTILITIES

1. Transit Stations and Hubs

a) Passenger train stations are allowed so long as there is no outdoor storage or maintenance of vehicles, trains, and other equipment.

b) All stormwater runoff must be pre-treated before any overland flow over pervious surfaces.

6.12-10.D. VEHICLE & HEAVY EQUIPMENT

1. Construction, Farm & Heavy Equipment Sales

a) Repair work or changing of fluids must take place inside on non-pervious floors, and is prohibited outside. Such uses should pay particular attention to Section 6.12-9.B.4 related to floor drains and hazardous materials.

b) Washing of vehicles or equipment must take place inside with all wash water collected and recycled onsite, and is prohibited outside.

c) No washing or rinsing of vehicles is allowed that would allow wash or rinse waters to enter any storm drainage system or surface waters.

d) No more than 10% of inventory may consist of used vehicles or equipment.

e) All stormwater runoff must be pre-treated before any overland flow over pervious surfaces.

2. Fuel Dealer

a) All fuel dealers are prohibited with the exception of those that meet the definition of "Fuel Dealer without Storage."

b) All stormwater runoff must be pre-treated before any overland flow over pervious surfaces.

3. Fuel Dispensing Station

a) Concrete pads at fuel dispensing stations must have containment grooves that can trap and facilitate the recovery of spilled gasoline or other hazardous materials.

b) Fueling areas must be covered with a roof or canopy to prevent stormwater runoff from washing away pollutants. The cover must not drain into the fueling area.

c) The area around the fueling island must be graded or curbing installed to prevent stormwater from flowing onto the area and becoming contaminated.

d) Fueling areas must not be cleaned with water, but with dry methods such as such as spot cleaning with absorbents or mechanical sweepers.

e) All stormwater runoff must be pre-treated before any overland flow over pervious surfaces.

f) Any Fuel Dispensing Station that also includes Vehicle Service and Repair, Minor must follow the conditions for that use in addition to these conditions.

4. Marine Craft & Equipment Display and Sales; Vehicle Dealers (New); and Vehicle Repair & Service, Minor

a) The facility must be tied in to and use a sewer system.

b) All stormwater runoff must be pre-treated before any overland flow over pervious surfaces.

c) Repair work or changing of fluids must take place inside on non-pervious floors, and is prohibited outside. Such uses should pay particular attention to Section 6.12-9.B.4 related to floor drains and hazardous materials.

d) Washing of vehicles or equipment must take place inside with all wash water collected and recycled onsite, and is prohibited outside.

e) No washing or rinsing of vehicles is allowed that would allow wash or rinse waters to enter any storm drainage system or surface waters.

f) No more than 10% of inventory may consist of used vehicles or equipment.

5. Vehicle Dealers (New)
(See Marine Craft & Equipment Display and Sales; Vehicle Dealers (New); and Vehicle Repair & Service, Minor)

6. Vehicle Repair & Service, Minor
(See Marine Craft & Equipment Display and Sales; Vehicle Dealers (New); and Vehicle Repair & Service, Minor)

7. Vehicle Washing Facility

   a) The facility must be tied in to and use a sewer system.

   b) Washing of vehicles must take place inside with all wash water collected and recycled onsite, and is prohibited outside.

   c) No washing or rinsing of vehicles is allowed that would allow wash or rinse waters to enter any storm drainage system, surface waters or groundwaters.

   d) All stormwater runoff must be pre-treated before any overland flow over pervious surfaces.

6.12-11 Nonconforming Uses

6.12-11.A. Expansion of Prohibited Uses.
Any lawfully established use that was made prohibited by the adoption or subsequent amendment of the WRPD is allowed to expand subject to approval of a special permit by the Zoning Commission and a site plan approval by the Planning Commission, or administrative site plan approval by the Office of Planning and Development Services (OPDS) staff, whichever is appropriate, and the following conditions:

1. The proposed expansion must not exceed an increase of more than 50% of the developed area of the parcel previously dedicated to the prohibited use, whether indoor gross floor area, outdoor developed area, or both.

2. The proposed expansion must not create any new dimensional non-conformity nor increase an existing dimensional non-conformity.

3. The applicant must demonstrate that the proposed expansion does not pose more of a threat to the existing or future water supply source than does the existing nonconforming use.

4. All other requirements contained in the general and/or specific performance standards of these WRPD regulations must be met by the proposed expansion applied for under this provision, and pose the same or less of a threat to the existing or future water supply source than does the existing prohibited use due to enhanced employment of best management practices.

6.12-11.B. Relocation of Non-Permitted Uses.

Any lawfully established use that was made prohibited by the adoption or subsequent amendment of the WRPD is allowed to relocate to other sites in the WRPD which have access to municipal sewer subject to approval of a special permit from the Zoning Commission, and a site plan approval by the Planning Commission, or administrative site plan approval by OPDS staff, whichever is appropriate, and the following conditions:

1. The proposed relocation must not result in an increase of more than 50% of the developed area of the parcel previously dedicated to the prohibited use, whether indoor gross floor area, outdoor developed area, or both.

2. The applicant must demonstrate that the proposed relocation poses less of a threat to the existing or future water supply source than does the existing prohibited use due to the new site's physical characteristics, location, and employment of best management practices.

3. All other general and specific performance standards of the WRPD must be met by the proposed relocation applied for under this provision. Once the non-permitted use is relocated, prior to the issuance of a Certificate of Occupancy at the new site, the non-permitted use at the old site must cease. In no way must this regulation result in the establishment of or the continued maintenance of a prohibited use at the old site.

4. After grant of special permit and prior to approval of the site plan by the Planning Commission or staff, soils at the old site must be tested by a state certified laboratory and test results reported to the Town and DEEP.

5. The old site must be cleaned of any soil contamination found, and debris and other old underground tanks must be removed, prior to the issuance of a Certificate of Occupancy at the new site. If the removal operation is under way but not completed at the time the use is ready to open for business at the new site, a bond may be posted for the remaining cleanup effort prior to issuance of a Certificate of Occupancy subject to Planning Commission approval.

6. Upon recording of the special permit in Land Records, a statement must be recorded in Land Records, indexed by the address of the old

site, stating that during the time the WRPD overlays the site, the old site cannot be converted back to a prohibited use.

7. The application must include a statement from the owner of the property where the old use is located noting the owner's understanding that once the use is relocated to the new site, the old site cannot be converted back to a prohibited use while overlain by the WRPD.

6.12-11.C. Alteration of Prohibited Uses.

Alteration includes any repair or replacement of an existing site element that will change provisions for hazardous materials storage (without increasing the amount of storage), or trigger the need for additional erosion and sediment control measures per Section 6.12-6, and/or stormwater management measures per Section 6.12-7 (without increasing the footprint or intensity of the use). Alteration does not include the expansion of a prohibited use as regulated in 6.12-11.A.

1. Any lawfully established use that was made prohibited by the adoption or subsequent amendment of the WRPD is allowed to alter specific site elements subject to Site Plan Approval from the Planning Commission.

2. The alteration must be performed in a manner that brings that part of the site into greater conformity with the applicable general and/or specific performance standards related to the WRPD.

3. The proposed alteration must not create any new dimensional non-conformity nor increase an existing dimensional non-conformity.

APPENDIX A

CT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, 2002

MEASURE SELECTION MATRIX

APPENDIX B

NEW HAMPSHIRE STORMWATER MANUAL

BMP POLLUTANT REMOVAL EFFICIENCY

APPENDIX C

2004 Connecticut Stormwater Quality Manual

Stormwater Management Effectiveness (Table 8-1, Pg 8-3)

Land Use Selection (Table 8-2, Pg 8-4)

Physical Feasibility (Table 8-3, Pg 8-7)

Downstream Resource (Table 8-4, Pgs 8-8 & 8-9)

APPENDIX D

Information for Spill Kits, Signs, and Spill Procedures

APPENDIX E

EXAMPLES OF ISSUES TO ADDRESS IN

SPILL PREVENTION & RESPONSE AND MATERIALS MANAGEMENT PLANS

HOLIDAY GATHERING

The Groton Planning Commission invites all Land Use Commissioners to the annual holiday gathering!

DATE: Monday, December 12, 2016

PLACE: The Seahorse Restaurant, 65 Marsh Road, Noank

TIME: 6:30 p.m.

(Cash bar will be available)