

**AGENDA**  
Inland Wetland Agency  
Regular Meeting  
Monday, December 6, 2010  
Council Chambers, Audrey Beck Building

Call to Order:        7:00 PM

Review of Minutes of Previous Meetings and Action Thereon:

11.01.2010 - Regular Meeting

Communications:

Conservation Commission: (No referrals from last meeting.)  
GM monthly business memorandum

Old Business:

Agent approval:

W1464 - Boyle - Crane Hill Rd - tarp covered shed 75' from  
wetlands on adjacent property

New Business:

New Application:

W1465 - Carlson - Single Family House - Dunham Pond Road

Okay to proceed ?:

W1466 - Peter Rich - Fern Rd

Reports of Officers and Committees:

Other Communications and Bills:

11-3-10 Letter from CT DEP Re: School House Brook Park Phragmites  
Treatments - Exemption of IWA Permit pursuant to CGS 22a-39  
BEC letter to DEP re: Mirror Lake dredging.

Adjournment:

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**DRAFT MINUTES**  
MANSFIELD INLAND WETLANDS AGENCY  
Regular Meeting  
Monday, November 1, 2010  
Council Chambers, Audrey P. Beck Municipal Building

Members present: R. Favretti (Chairman), M. Beal, J. Goodwin, R. Hall, K. Holt, G. Lewis, P. Plante,  
B. Ryan  
Members absent: B. Pociask  
Alternates present: K. Rawn, V. Stearns  
Alternates absent: F. Loxsom  
Staff present: G. Meitzler (Wetlands Agent)

Chairman Favretti called the meeting to order at 7:00 p.m. and appointed alternates Stearns to act in Pociask's absence.

**Minutes:**

10-04-10 – Beal MOVED, Plante seconded, to approve the 10-4-10 minutes as written. MOTION PASSED with all in favor except Hall and Stearns who disqualified themselves.

**Communications:**

Wetlands Agent's Monthly Business report was noted. Meitzler stated that the Chernusheks are in the process of conveying part of their land to the adjacent property owner. He also stated that the tire pile at Mansfield Auto is slowly being removed.

**Old Business:**

None.

**New Business:**

None.

**Other Communications and Bills:**

Hall and Rawn borrowed the DEP training video noted in Communications.

**Adjournment:**

Favretti declared the meeting adjourned at 7:07 p.m.

Respectfully submitted,

Katherine Holt, Secretary

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Memorandum:

December 1, 2010

To: Inland Wetland Agency  
From: Grant Meitzler, Inland Wetland Agent  
Re: Monthly Business

**W1419 - Chernushek - hearing on Order**

- 3.10.09: The hearing on the Order remains open and should continue until the permit application under consideration is acted upon.  
(The Order was dropped on approval of the application required in the Order.)
- 4.30.09: Former rye grass seeding is beginning to show green. I spoke with Mr. Chernushek this afternoon who indicated health problems that delayed his starting but indicated he will be working this weekend. I will update on this Monday evening.
- 5.26.09: A light cover of grass growth has come in. Mr. Chernushek indicates health problems and two related deaths have delayed his start of work since the permit approval was granted. It appears that some light work has started. He has further indicated that he will start a vacation on June 22, 2009 to finish the work.
- 6.13.09: Work is underway.
- 6.21.09: Bulldozer work has been completed - finish work remains. The additional silt fencing has been placed along the northerly wetlands crossing, and the additional pipe under the southerly crossing has been installed. Remaining work includes finish grading along edges, spreading stockpiled topsoil, and establishing grass growth.
- 7.01.09: I spoke with Mr. Chernushek who indicated he expects work to be completed by September 1, 2009. (Site photo attached).
- 9.03.09: Mr. Chernushek has been working on levelling and grading. The formerly seeded areas have become fairly thick growth surrounding the central wet areas. He has further indicated that with the combination of weather and the slower moving of earth with the payloader compared to the earlier rented bulldozer has led him to contact contractors for earth moving estimates which have not yet been received. The site is not yet finished but has remained quite stable.
- 9.12.09: I met with Mr. Chernushek today and discussed again what his plans are for stabilizing this work site.
- 10.01.09: Mr. Chernushek indicated he has not heard back from the contractor he had spoken with about removing material, and is in progress of contacting others. In discussion is removal of material from the site either within the 100 cubic yard limit or obtaining a permit for such removal.
- 10.28.09: Mr. Chernushek has indicated he has made arrangements with DeSiato Sand & Gravel to remove 750 cubic yards of material. Staff is in the process of clarifying permit requirements.

**W1445 - Chernushek - application for gravel removal from site**

- 11.30.09: Packet of information representing submissions by Mr. Chernushek, Mr. DeSiato and myself is in this agenda packet as Mr. Chernushek's request for modification.
- 12.29.09: Preparation of required information for PZC special permit application is in progress. Tabling any action until the February 1, 2010 meeting is recommended.
- 1.12.10: 65 day extension of time received.

- 2.18.10: No new information has been received.
- 2.25.10: This application has been **withdrawn**.
- 6.30.10: As viewed from the adjacent property, the upstream and downstream areas have grown to a decent protected surface. I did not see indication of sediment movement.
- 10.26.10: A sale of the East portion of the Chernushek property has been in negotiation.

**Mansfield Auto Parts - Route 32**

- 6.10.09: Inspection - no vehicles are within 25' of wetlands.
- 7.16.09: Inspection - no vehicles are within 25' of wetlands.
- 8.12.09: Inspection - no vehicles are within 25' of wetlands.
- 9.14.09: Inspection - no vehicles are within 25' of wetlands.
- 10.27.09: Inspection - no vehicles are within 25' of wetlands.
- 11.30.09: Inspection - no vehicles are within 25' of wetlands.
- 12.28.09: There are two cars that need to be moved. Mr. Bednarczyk indicates their payloader is down for repairs and the cars will be moved as soon as it is repaired.
- 1.27.10: No change - the payloader is apart with parts on order to complete repairs. It is of 1986 vantage and finding parts is a major proposition.
- 2.18.10: Same - they are in the process of rebuilding the engine on the payloader.
- 3.30.10: Same - Mr. Bednarczyk indicates a continuing problem finding engine parts.
- 4.13.10: Owner indicates the payloader is operating again.
- 4.15.10: Owner indicates he will have the cars moved this week.
- 4.23.10: No vehicles are within 25' of wetlands.**
- 5.17.10: Inspection - no vehicles are within 25' of wetlands.
- 6.02.10: Inspection - no vehicles are within 25' of wetlands.
- 6.23.10: Inspection - no vehicles are within 25' of wetlands.
- 7.15.10: Inspection - no vehicles are within 25' of wetlands.
- 9.01.10: Inspection - no vehicles are within 25' of wetlands.  
Mr. Bednarczyk has started removing tires from the westerly part of his site using roll-off containers. With this arrangement a moderately steady rate of removal of the tires should be possible to maintain until the tires are completely removed.
- 9.28.10: Inspection - no vehicles are within 25' of wetlands.  
Tire removal is continuing with 1 to 2 roll-off containers being removed per month.
- 10.07.10: Inspection - no vehicles are within 25' of wetlands.  
Tire removal has been continuing.
- 11.29.10: Inspection - no vehicles are within 25' of wetlands.  
Owner has been trucking cars for crushing with 6 tires per vehicle. He indicates 3 cars per day or 18 tires per day. The actual number is probably lower than 18.

December 1, 2010  
~~October 4, 2010~~

Memorandum:

To: Inland Wetlands Agency  
From: Grant Meitzler, Inland Wetland Agent  
Re: W1464 - Boyle - 108 Crane Hill Rd - shed in regulated area

plan reference: dated 9-12-2007

This is an agent approval item. Copies of the zoning application, plan showing location, the required legal notice are attached.

This property is adjacent to the recent Highland Development subdivision on Crane Hill and Browns Roads. The subdivision mapping clearly locates the wetlands that are on the adjacent property. With a minor location change required by zoning regulations, the 75' distance requirement for agent approval is met.

The legal notice appeared in the Willimantic Chronicle on ~~July 19,~~ <sup>Oct 6,</sup> 2010.  
The time period for an appeal to be submitted expires ~~August 3,~~ <sup>Oct 21,</sup> 2010.



**LEGAL NOTICE**

The Mansfield Wetlands Agent has issued an administrative approval to Barry Boyle, 108 Crane Hill Road, for a 10'x 20' tarp covered storage building in the upland review area. Information on the application may be seen in the Planning Office at 4 South Eagleville Rd

Grant Meitzler, Wetlands Agent

TO BE PUBLISHED Wednesday, October 6, 2010

**\*\*PLEASE CHARGE TO THE MANSFIELD PZC/IWA ACCOUNT**

**Legal Notices**  
Legal Notice  
The Mansfield Wetlands Agent has issued an administrative approval to Barry Boyle, 108 Crane Hill Road, for a 10'x 20' tarp covered storage building in the upland review area. Information on the application may be seen in the Planning Office at 4 South Eagleville Rd.  
Grant Meitzler, Wetlands Agent

The Chronicle  
10-6-10

clear 15 days  
10-21-10

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Memorandum:

December 1, 2010

To: Inland Wetland Agency

From: Grant Meitzler, Inland Wetland Agent

Re: New Business for the December 6, 2010 meeting

**New Application:**

W1465 - Carlson - Dunham Pond Rd - Single Family house in buffer

	yes	no
	-----	-----
fee paid .....	x	
certified receipts .....	x	
map dated .....		revised 10.01.10

This application is for a single family house on an existing lot on Dunham Pond Rd. No work is proposed in wetlands. A portion of the driveway and grading around the septic reserve area are within 150' of wetlands located across the street.

Receipt and referral to the Conservation Commission is appropriate.

**Request to Proceed:**

W1466 - Rich - Fern Rd - garage addition and shed addition

The shed is about 65 feet from wetlands; the garage addition is at the west end of the existing garage and close to a seasonal brook. Both are on existing foundations so no earthwork is required.

Under the older regulations we have had a few similar situations - I can recall one on Bundy La, and one on Stearns Rd. On Bundy La it was a two story addition on an existing foundation; on Stearns Rd it was a second story addition over an existing first story.

I recommend that this work be allowed to proceed.

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**APPLICATION FOR PERMIT  
MANSFIELD INLAND WETLANDS AGENCY  
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268  
TEL: 860-429-3334 OR 429-3331  
FAX: 860-429-6863**

FOR OFFICE USE ONLY

File #  
W 1463  
Fee Paid \$185.00  
Official Date of Receipt 11-29-10

*Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact Grant Meitzler, Inland Wetlands Agent at the telephone numbers above.*

Please print or type or use similar format for computer; attach additional pages as necessary.

**Part A - Applicant**

Name Neal Carlson  
 Mailing Address 91 QUINCY DRIVE  
SOUTH DENNIS MA Zip 02660  
 Telephone-Home 508-694-6526 Telephone-Business \_\_\_\_\_

**Title and Brief Description of Project**

(Single family house on existing lot (letter attached))  
 Location of Project 1 acre lot on Dunham Pond Rd, map 0021-55-28 1  
 Intended Start Date 11/23/10 (to put on market for sale)

**Part B - Property Owner** (if applicant is the owner, just write "same")

Name The Eric W Carlson Revocable Trust  
 Mailing Address 77 Briarwood Circle  
WORCESTER MA Zip 01606  
 Telephone-Home 508-853-5059 Telephone-Business \_\_\_\_\_

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature Eric W. Carlson date Nov. 23, 2010

Applicant's interest in the land: (if other than owner) Neal is owners son

**Part C - Project Description (attach extra pages, if necessary)**

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application – page 6.)

Please include a description of all activity or construction or disturbance:

- a) *in* the wetland/watercourse - *nothing*
- (b) *in* the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

a) *nothing in wetland*

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b)

- 1) *First portion of driveway*
- 2) *Small portion of fill for grading around septic system*

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2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) *in* the wetland/watercourse - *nothing*
- (b) *in* the area **adjacent** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

1) *First 45' of driveway - 40 cu yds of excavation*

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2) *Tail end of septic system - 30 cu yds of fill*

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3) Describe the type of materials you are using for the project:

1) *Driveway - standard driveway construction, on site materials, gravel, paving*    2) *Septic system - as required*

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- a) include **type** of material used as fill or to be excavated *see above*
  - b) include **volume** of material to be filled or excavated *see above - Driveway 40 cu yds, Septic system 30 cu yds*
- 

4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

*Greater part of construction is more than 150 ft away from wetlands.*

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*Sediment trap will be used during construction*

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**Part D - Site Description**

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

*Gentle slope towards Dunham Pond Rd*

---

*Wooded, well drained.*

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**Part E - Alternatives**

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

We definitely considered the alternatives and feel we  
came up with the best plan.

**Part F - Map/Site Plan (all applications)**

2 maps provided

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application – page 6.)**

- 2) Applicant's map date and date of last revision 9/17/2010, Revised 10/01/2010
- 3) Zone Classification BAR 90, existing lot of record
- 4) Is your property in a flood zone? Yes (No) Don't Know

**Part G - Major Applications Requiring Full Review and a Public Hearing**

See Section 6 of the Mansfield Regulations for additional requirements. NA

**Part H - Notice to Abutting Property Owners**

1) List the names and addresses of abutting property owners

- | Name   | Address  |
|--|--|
| <u>Fischl, Richard Michael + Pamela Lynn</u> | <u>- 18 Dunham Pond Rd, Storrs</u><br><u>CT 06268</u>                        |
| <u>Gilliam, Dorothy</u>                      | <u>- 12 Dunham Pond Rd, Storrs CT 06268</u>                                  |
| <u>Whryol, Sam</u>                           | <u>- 77 Ball Hill Rd, Storrs CT 06268</u>                                    |
| <u>Dunham Pond Assoc Inc</u>                 | <u>- c/o Henry R Schwartz, 112 Dunham</u><br><u>Pond Rd, Storrs CT 06268</u> |

✓ 2) **Written Notice to Abutters** . You must notify abutting property owners by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** (This is not needed for exemptions).

**Part I - Additional Notices, if necessary**

NA ✓ Notice to Windham Water Works is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW of your project within 7 days of sending the application to Mansfield—sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

NA ✓ Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to

the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

- 3) The Statewide Reporting Form (attached) shall be part of the application and specified parts must be completed and returned with this application. *Wetlands agent will fill out.*

**NA Part J - Other Impacts To Adjoining Towns, if applicable**

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? \_\_\_ Yes \_\_\_ No \_\_\_ Don't Know
- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? \_\_\_ Yes \_\_\_ No \_\_\_ Don't Know
- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? \_\_\_ Yes \_\_\_ No \_\_\_ Don't Know

**Part K - Additional Information from the Applicant** *attached*

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

**Part L - Filing Fee**

Submit the appropriate filing fee. (Consult Wetlands Agent for the fee schedule available in the Mansfield Inland Wetlands and Watercourses Regulations.)

\_\_\_ \$365. \_\_\_ \$110. \_\_\_ \$60. \_\_\_ \$25. **\$185 -**

*Note: The Agency may require you to provide additional information about the regulated area which is the subject of the application, or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.*

***The undersigned applicant hereby consents to necessary and proper inspections of the above mentioned property by members and agents of the Inland Wetlands Agency, at reasonable times, both before and after the permit in question has been granted by the Agency.***

*Eric W. Carlson*  
Applicant's Signature

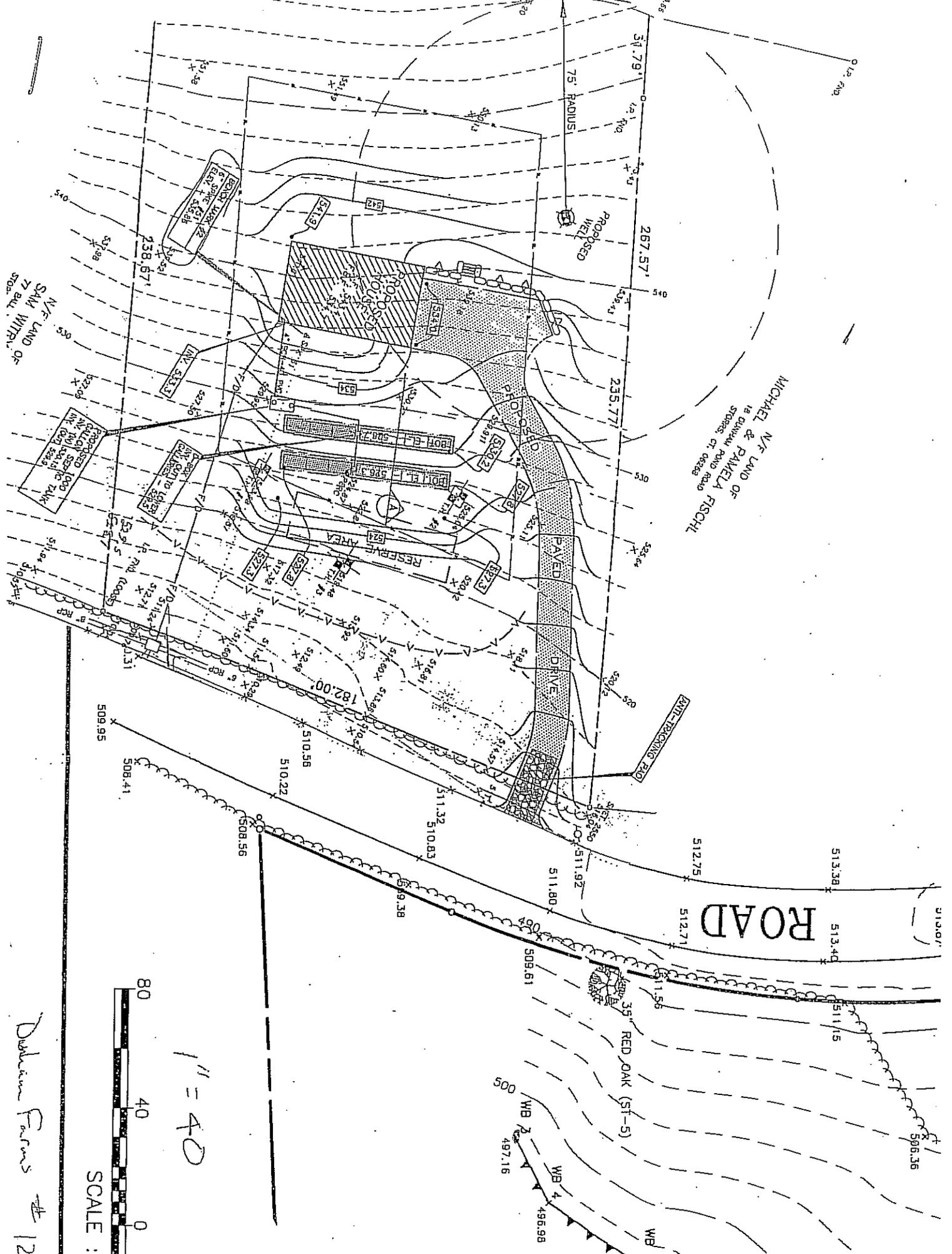
*Nov. 23, 2010*  
Date

To:  
Mansfield Inland Wetlands Agency  
4 South Eagleville Road  
Storrs CT 06268

Application for Permit for Lot 0021-55-28 1  
Part K – Additional information

We would like to put this lot up for sale as an “approved building lot” for a single family dwelling. We are making this application for a Wetlands License, not so that we can build a house ourselves, but in order to sell the lot.

Neal Carlson  
for Eric Carlson



N/F LAND OF  
MICHAEL & PAMELA FISCHL  
1/2 CUMULATIVE ROAD RADIUS  
STORAGE OF 08222

N/F LAND OF  
SAIN WITHRA  
77 PULL  
5705

80  
40  
0  
SCALE :  
1" = 40'

Dobson Farms # 12

Town of Mansfield, Connecticut



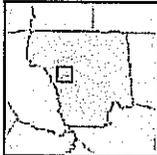
- A Address No.
- A Parcel ID
- A Parcel Area
- A Lot Dimensions
- A Road Names
- Zoning
- Roadway
- Roads
- Streams
- Water
- Parcels



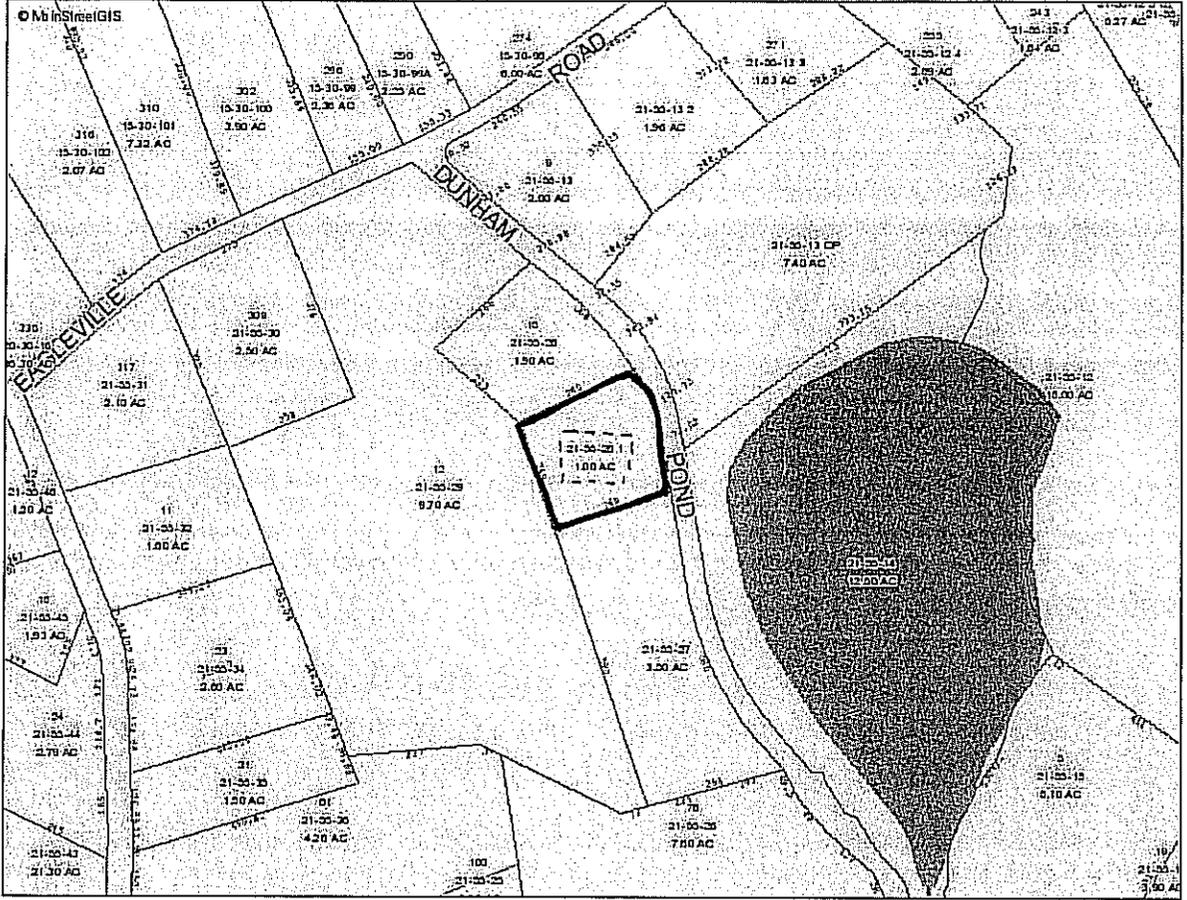
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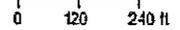
1 in = 281.36 ft



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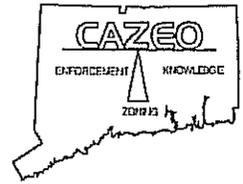


Data Currency: Property Records 10/8/2009 GIS Parcel Lines 10/1/2009





# Town of Mansfield



CURT B. HIRSCH  
ZONING AGENT  
HIRSCHCB@MANSFIELDCT.ORG

AUDREY P. BECK BUILDING  
4 SOUTH EAGLEVILLE ROAD  
MANSFIELD, CT 06268-2599  
(860) 429-3341

November 18, 2010

Peter Millman  
Four Corners Real Estate 1733 Storrs Road  
Storrs, CT 06268

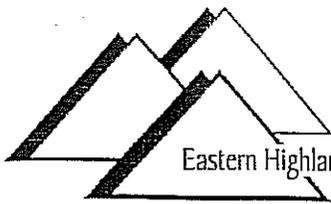
**Re: Carlson lot, Dunham Pond Rd., Mansfield, CT**  
**Assessor's map 21, Block 55, Lot 28-1**  
**Plan reference: 10/1/10 plan prepared by Datum for Eric Carlson**

Dear Mr. Millman:

You have requested a status letter regarding the undeveloped lot owned by Carlson and located on Dunham Pond Road. The subject lot is about one-acre in area with deeded frontage of 182 feet and is located in a RAR-90 zone. It is a non-conforming lot-of-record with respect to lot frontage and lot area. The conceptual development plan referenced above has been approved by the Eastern Highlands Health District for septic system design. The plan is also in compliance with the applicable items in the Schedule of Dimensional Requirements of the zoning regulations. Lot development may also be subject to the Inland Wetland Regulations as it appears that a small amount of the site activity will fall within the regulated area requiring a Wetlands License. There will also be a Public Works Permit required for connecting the driveway to a town road. With respect to the referenced plan, these are routine applications that should not affect the proposed activity. The receipt of these two approvals would complete the permitting process and this would be an approved building lot pending of course the approval of specific house construction plans.

Sincerely,

Curt Hirsch  
Zoning Agent



Eastern Highlands Health District

4 South Eagleville Road • Mansfield CT 06268 • Tel: (860) 429-3325 • Fax: (860) 429-3321

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## PLAN APPROVAL MEMO

October 26, 2010

Edward Pelletier  
Datum Engineering & Surveying, LLC  
132 Conantville Rd  
Mansfield Center, CT 06250

**Re: Subsurface Sewage Disposal System Plan for:** Engineered septic design for new 3-bedroom single family dwelling

**Address:** Dunham Pond Rd Mansfield CT

**Plan Designed by:** Gerald Hardisty, PE

**Plan Date:** 9/17/2010, **Latest Revision Date:** 10/1/2010

Dear Edward Pelletier:

The above referenced plan has been reviewed for compliance with the Connecticut Public Health Code and Technical Standards. **The plan is approved with the following conditions:**

1. The plan is approved for a single-family dwelling with 3 bedrooms.
2. The system must be field staked by a licensed surveyor prior to installation, and the field staking must be supervised by the engineer.
3. The supervising engineer must submit a completed and signed "Staking Verification Memo" (EHHD form) to the health district.
4. A minimum of 5 feet of select fill is required around the leaching structures, which include the surrounding crushed stone, and a minimum of 5 feet of common fill to surround that.

Please note that this plan approval is not an approval to construct the sewage disposal system.

If not already done, a completed application and fee for the Permit to Construct the Sewage Disposal System must be submitted to the health district for review and approval. The permit will be approved when all above noted conditions of approval have been met.

If you have any questions, please call the health district office at 860-429-3325.

Sincerely,

Geoffrey W. Havens  
Sanitarian II

Cc:

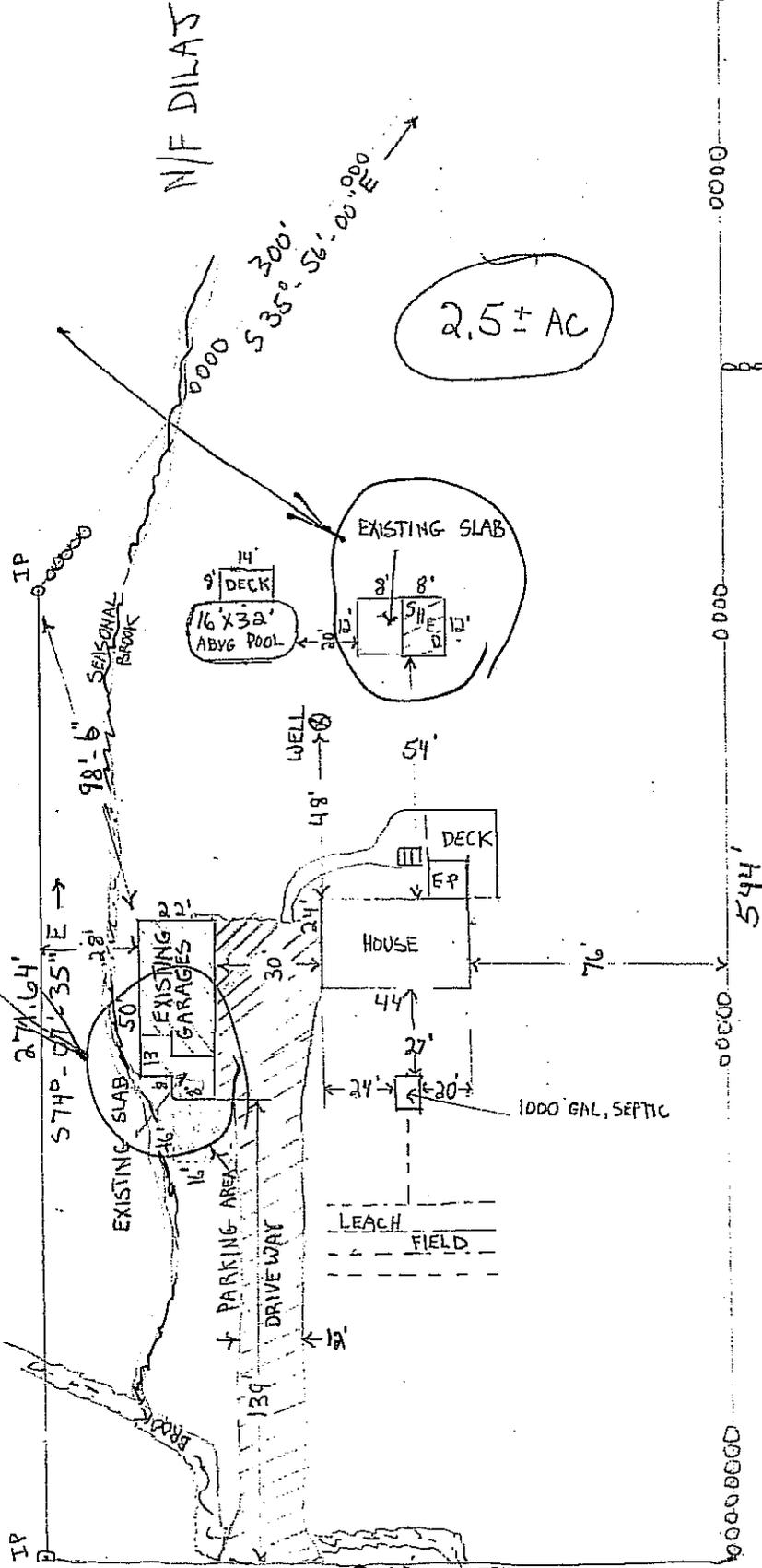
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SCALE 1" = 50'

PROPERTY OF PBR INVESTMENTS  
PETER RICH

12-01-2010

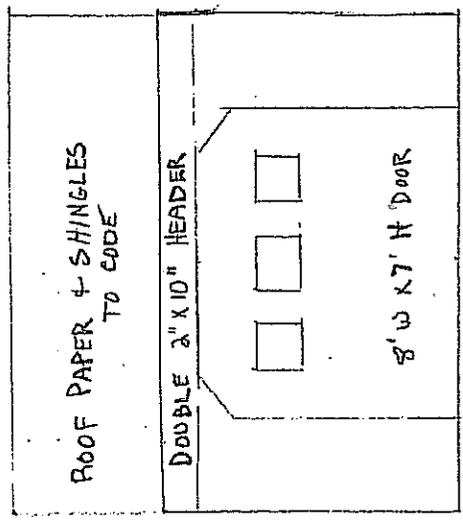
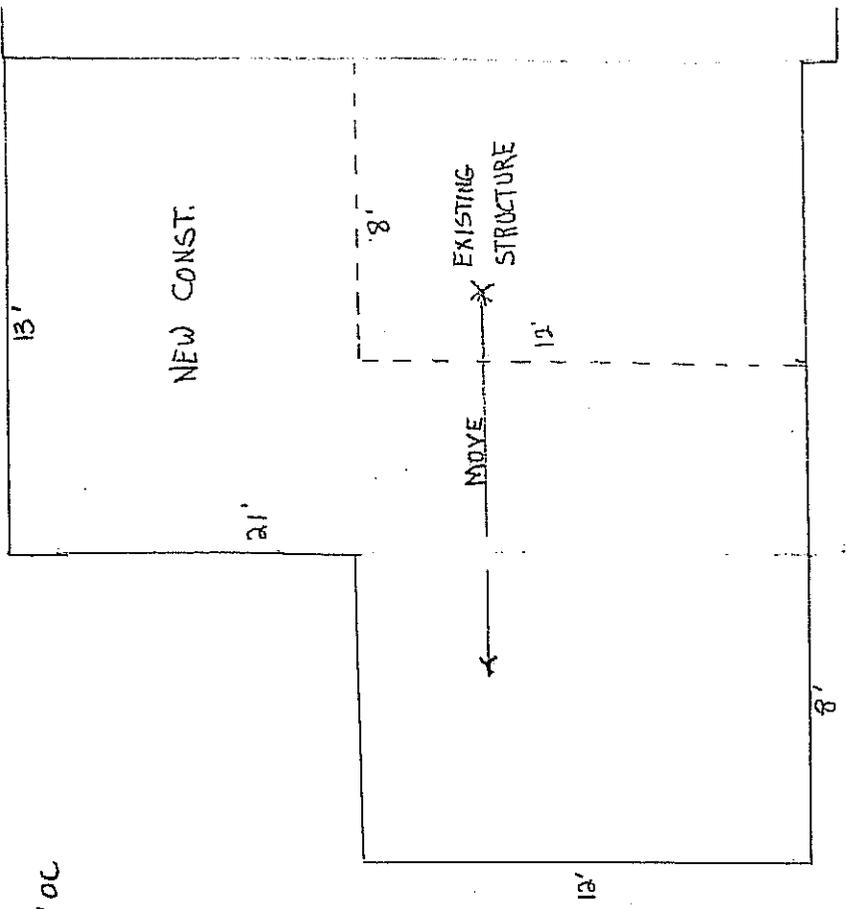
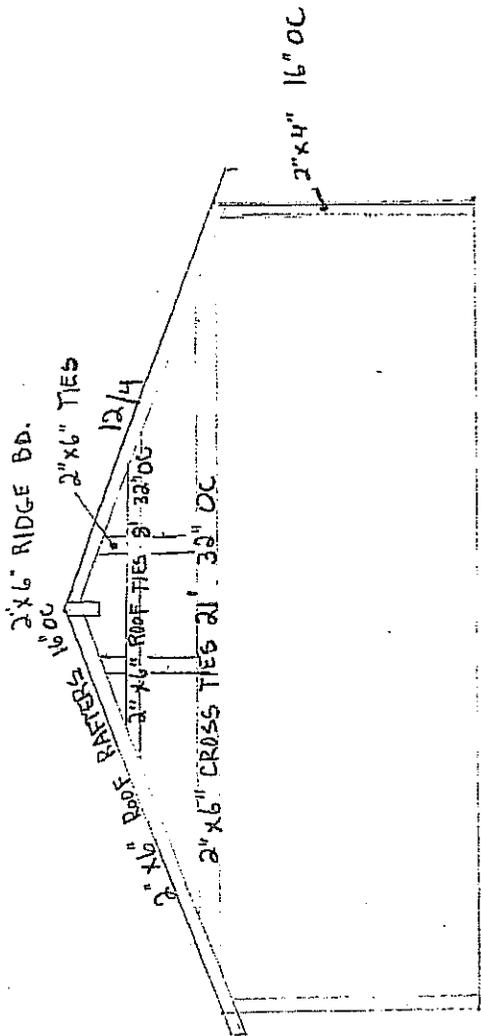
N/F CLAUSON

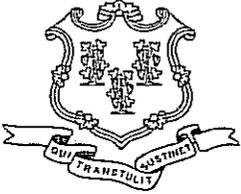


N/F NUMACK

N/F COCHRAN

W1466-Rich





STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



November 3, 2010

John C. Clausen, Professor  
UCONN College of Agriculture and Natural Resources  
RM 228 YNG  
1376 Storrs Rd. Unit 4087  
Storrs, CT 06269-4087

RE: Physiological Responses of *Phragmites australis* to the Timing of Plastic Covering Treatments  
Schoolhouse Brook Park  
Mansfield, CT

Dear Dr. Clausen:

The Inland Water Resources Division has reviewed the information provided at the October 4, 2010 meeting with Inland Water Resources Division staff including a May 26, 2010 research prospectus regarding the testing of the effect of plastic covering treatments on the growth and physiology of *Phragmites australis* in a freshwater wetland at Schoolhouse Brook Park, Mansfield, Connecticut

Based on the information provided, the proposed project qualifies as a nonregulated use in wetlands and watercourses pursuant to CGS section 22a-40(b)(1) for the conservation of vegetation. Therefore, an inland wetlands and watercourses permit pursuant to CGS section 22a-39 is not required.

If you have any questions, please call Bob Gilmore at the Inland Water Resources Division at 860-424-3866.

Sincerely,

Denise Ruzicka, Director  
Inland Water Resources Division

DR:BMG

cc: Bruce G. Gregoire, UCONN, College of Agriculture and Natural Resources, Dept. of Natural Resources and the Environment, 1376 Storrs Rd. Unit 4087, Storrs, CT 06269-4087

\* Mansfield Inland Wetlands Agency

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Bloomfield, CT 06002  
Tel (860) 286-8900  
Fax (860) 243-9055

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November 18, 2010

Ms. Ewa Wozniak  
CT Department of Environmental Protection  
Bureau of Materials Management and Compliance Assurance  
Water Permitting and Enforcement Division  
79 Elm Street  
Hartford, CT 06106

RE: Mirror Lake Dredging  
Discharge Toxicity Evaluation (DTE) Exemption Request  
Wastewater Discharge Permit  
Application No. 200903959

Dear Ms. Wozniak:

On behalf of The University of Connecticut, GZA GeoEnvironmental, Inc. (GZA) is hereby requesting an exemption from the requirement for a Discharge Toxicity Evaluation (DTE) for the Permit Application for Wastewater Discharges for the proposed Mirror Lake hydraulic dredging project on the University of Connecticut Storrs Campus.

An application for a permit for proposed wastewater discharges was submitted to CT DEP for the proposed project in December 2009. The University received a letter dated July 20, 2010, from CT DEP instructing the University to provide a revised and completed Attachment O. A revised and completed Attachment O was submitted to CT DEP on October 13, 2010. This letter supplements the submitted application and Attachment O by requesting the variance for the DTE information otherwise required in Part B, Table 6 of Attachment O.

**BACKGROUND**

Mirror Lake water and soft sediment samples were collected to run bench scale processing tests using geotextile fabric dewatering tubes. The tests were performed in the labs of Mineral Processing Services, LLC (MPS) of South Portland, Maine in July and August 2010, to simulate the larger scale dredging, dewatering, and discharge process proposed for the Mirror Lake Dredging project. Characterization of the dredged material was made for consolidation and dewatering properties and for the determination of a suitable polymer flocculant. Laboratory testing of the chemical and toxicological characteristics of the simulated dewatering discharge (filtrate) was performed by Connecticut-certified laboratories to assess the discharge from the dredging and dewatering process. Results of laboratory testing are attached to this letter. Data related to methodology of processing, sampling, sample handling, and specific parameters is included in the formal permit application.

The dredging of Mirror Lake is anticipated to take approximately four to six months. As such, the dewatering discharge is anticipated to occur only during this timeframe and, therefore, will be a temporary discharge only.



## DISCHARGE TOXICITY EVALUATION

A Discharge Toxicity Evaluation (DTE) for process water discharges is required under Section 22a-430-4(c)(21) of the Regulations of Connecticut State Agencies (RCSA), at the discretion of the Commissioner of DEP. An exemption from the DTE may be made at the written request of the Applicant if accompanied by an estimate of the toxicity of the discharge, an expected dilution and mixing concentration of the discharge within the receiving waters, and a discussion of any anticipated impact of the discharge on the receiving waters.

The University of Connecticut is hereby requesting an exemption from the requirement for a DTE based upon the information submitted and because the proposed discharge will be a limited activity resulting in a temporary discharge for four to six months. The following information is submitted in support of the DTE Exemption Request.

### Estimate of Discharge Toxicity and Review of Potential Impact Based on Conformance with Standards

Acute aquatic toxicity tests were run on the two separate samples of the filtrate generated during the bench scale process testing. The aquatic toxicity tests for the first filtrate sample (MLS-1) resulted in LC50 values for both species to be >100% concentration of the sample. The No Observable Adverse Effect Level (NOAEL) values were 50% concentration of the sample for the *Daphnia pulex* and 100% concentration of the sample for the *Pimephales promelas*. Elevated mortality was only observed in the 100% concentration for the *Daphnia pulex*, and very minimal mortality was observed in the *Pimephales promelas*. For the second sample (MLS-2), the LC50 concentration was 92.5% for the *Daphnia pulex* and was >100% for the *Pimephales promelas*. The NOAEL concentrations of the sample for the two species were 25% and 6.25%, respectively. For the *Daphnia*, mortality was elevated only in the 100% concentration. For the *Pimephales*, no significant mortality was observed in any of the tested concentrations. Only the 6.25% concentration showed elevated mortality. This inconsistent result was reviewed with the laboratory staff, who indicated that this result is a probable anomaly since there were little to no reported mortalities in the higher concentrations of the sample. Laboratory reports of the toxicity testing results are enclosed. Overall, the aquatic toxicity test results indicate little to no toxic effect of the filtrate, even in its undiluted form.

MPS indicated in their report, dated October 12, 2010, that the aquatic toxicity of the polymer flocculant selected, DrewFloc<sup>®</sup> 2421 Flocculant by Ashland, has in past projects met the "EPA Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms", when used in conjunction with "Smartfeed<sup>™</sup>" condition management", a proprietary dosing control system. An updated Materials Safety Data Sheet (MSDS, attached) for the flocculant including aquatic toxicity data was recently provided following the release of MPS's report. According to the updated MSDS, the 96 hour LC50 data for *Pimephales promelas* indicates possible toxicity to fish at a concentration of 6.81 mg/l and the 48 hour EC50 concentration for the water flea (*Daphnia magna*) is 0.95 mg/l.

Based on their bench scale process testing, MPS reports an anticipated flocculant dosage rate of 433.3 mg/l in the dredge discharge to the geotextile fabric dewatering tubes. Additional technical data from Ashland (see attached memorandum entitled "Filtrate Polymer Residual Expectations") submit that, under proper operating conditions, the flocculant is 99.5% consumed by particulate reaction to flocc formation. This suggests that the dosage rate of the flocculant is reduced to a concentration 2.16 mg/l, less than the manufacturer's reported LC50 concentration. The Smartfeed<sup>™</sup> condition management



system is designed to provide the operator with the means for real time evaluation and control of polymer dosage. Furthermore, any residual flocculent in the discharge will be available for floc formation during the ongoing dredging operation.

The filtrate was tested for four metals: Arsenic, barium, copper, lead, and zinc due to their documented presence in the sediments to levels exceeding the Residential Direct Exposure Criteria of the CT DEP Remediation Standard Regulations. Detectable levels of copper and lead in the filtrate were reported by the lab and these results were compared to numerical values for Aquatic Life Criteria published in the CT Water Quality Standards. The filtrate analysis results met these standards for acute toxicity; however, the total copper and total lead concentrations detected in the filtrate samples appear to exceed the CT standards for chronic toxicity to freshwater organisms. The numerical standards, however, apply to the dissolved fraction only, yet the testing methodology utilized tests for the total. Also, chronic toxicity criteria apply to a long term exposure anticipated from an indefinite discharge, which will not be the case with the temporary discharge proposed.

#### Anticipated Concentration of Discharge in Downstream Receiving Waters

Mirror Lake, an impoundment of Roberts Brook, is the receiving water of the discharge. Flows to and discharges from Mirror Lake within Roberts Brook vary widely in response to hydrologic conditions. Roberts Brook is un-gauged and historic data is not readily available to estimate the 7Q10 low flow conditions at Mirror Lake. However, Mirror Lake and its predominantly impervious sub watershed are at the extreme headwaters of Roberts Brook, therefore, a seven day period of no rainfall will result in a 7Q10 flow rate of zero. In this sense, Mirror Lake acts as a detention basin for a mostly urbanized watershed. The concentration of the discharge within Mirror Lake, the receiving waters, under this condition could be anticipated to be 100% after a few days of dredging. With zero flow through of Roberts Brook, the dredge/dewatering discharge would be completely contained within the lake.

Based on bathymetric survey information collected by GZA in July 2009, the existing and post-dredged water volumes of Mirror Lake are approximately 4.2 million gallons and 7.7 million gallons, respectively. The average dredge/dewatering discharge flow rate is estimated to be 1.08 million gallons per day (MGD). One day of discharge represents approximately 25% of the lake volume at the beginning of dredging and approximately 14% by the completion of dredging. Under low flow conditions (assumed zero), this translates into a lake volume turnover rate by the dredge/discharge process of approximately 4 to 7 days, the point at which the lake volume constitutes 100% discharge from the dewatering process. At this point the dredge slurry is comprised of sediment and previously-treated discharge water collected within the lake.

Under less than extreme hydrologic conditions, rainfall and some base flow will provide dilution within Mirror Lake and a discharge over the spillway into Roberts Brook. It is expected that summer rain storms will generate dilution flows during low flow periods with peak flows that could result in a complete turnover of the lake volume within a 24 hour period.

In conclusion, the acute aquatic toxicity testing of Mirror Lake bench scale test (discharge water) resulted in little to no toxicity in the two samples tested. Two metals, copper and lead, are known to exist in the sediments and, therefore, were among four metals tested for in the filtrate samples. The copper and lead concentrations detected in the filtrate are below the Aquatic Life Criteria for Acute Toxicity published in the CT Water Quality Standards. The flocculent determined in the bench scale testing performed by MPS



has a utilization rate of 99.5% when applied under proper operating conditions. The toxic concentration reported by the flocculent manufacturer exceeds the concentration of any residual flocculent that may be released in the discharge. Finally, dilution and mixing of the discharge will occur within Mirror Lake. Under extreme low flow conditions, no discharge to Roberts Brook will occur and the discharge will be contained within the lake until hydrologic conditions change and inflow waters can provide dilution and mixing within Mirror Lake.

We appreciate your review of this request for an exemption to the Discharge Toxicity Evaluation for Mirror Lake and hope that the information provided is sufficient for the Commissioner to make the determination on this request. Please feel free to contact our office should you have questions or require additional information.

Sincerely,  
GZA GeoEnvironmental, Inc.

A handwritten signature in black ink, appearing to read 'Nathaniel Y. Arai'.

Nathaniel Y. Arai, P.E.  
Project Manager

A handwritten signature in black ink, appearing to read 'Harry R. Jones'.

Harry R. Jones, P.E.  
Principal In Charge

A handwritten signature in black ink, appearing to read 'Thomas E. Jenkins'.

Thomas E. Jenkins, P.E.  
Consultant Reviewer

Attachments:

- Alpha Analytical Laboratory Report
- GZA Laboratory Report
- MPS Bench Scale Testing Report
- Flocculent Manufacturer's Data

cc: Jason Coite – University of Connecticut  
Gregory Padick – Director of Planning, Town of Mansfield  
James Hooper – Superintendent, Windham Waterworks