CONSERVATION AND INLAND WETLANDS COMMISSION

TOWN OF DEEP RIVER, CONNECTICUT

Town Hall 174 Main Street Deep River, Connecticut 06417

A *public hearing* of the *Deep River Conservation and Inland Wetlands Commission* held on Thursday, December 14, 2017 at the Deep River Town Hall was called to order at 7:35 p.m. Members present: John Dube, Ron Larsen, Carol Libby, Tanner Steeves, Alternate Michael Tomlinson. Absent: George Atwood, Susan Board, Alan Miezejeski. Also present: Town Attorney Jane Marsh, WEO Mark Reyher, Nancy Howard (recording secretary); and approximately 12 audience of citizens. Present on behalf of Applicant: Michael Harkin, P.E., Soil Scientist David Lord, Mike Milano, Attorney Tom Crosby, and Jodie Chase.

Purpose: Continuation of Public Hearing on Application by BMC Land Development, LLC for the purpose of a twelve (12) lot single family residential subdivision on approximately 74 acres of land located at 67 Hoopole Hill Road (Assessors Map 19, Lot 16 and Map 26, Lots 14A, 14B & 15B).

Presentation by Applicant: Michael Harkin, P.E. presented a brief overview from the last meeting of the subdivision proposal for Cranberry Bog Estates. A revised plan set was presented with amendments since the last meeting.

David Lord, Certified Soil Scientist and Environmental Consultant of Soil Resource Consultants submitted a Wetland Impact Assessment Report on a lot by lot basis, a copy of which is attached hereto and made a part of these minutes. The report includes responses to the report of the Commission's third party consultant, Soil Scientist Richard Snarski. The Cranberry Bog Estates development proposes construction of 12 single family residential lots on 73.72 acres. The onsite wetlands totals 25.711 acres or 35% of the total site area. The 9.36 acres of proposed open space contains 3.39 acres of wetland and 5.87 of upland.

Questions raised during Mr. Lord's presentation: The barn and bridge crossing located on Lot 3 are not proposed for any repairs as part of the application. Any activity in the future would be required to come back before the Commission. In connection with the driveway crossings constructed with geo-textile fabric envelope filled with open graded stone, Mr. Lord stated that the envelope is constructed to shed anything that will build up. Water passes through debris against the face of the slope. Mr. Harkin stated that the first couple inches of muck will be taken out and may be stored on the site or trucked off. Mr. Dube noted that the drying spots need to be shown on the plan if it will be stored on the property. Mr. Lord noted that the borings indicate that there is a 6-9 inch layer of boulder size stone and enriched topsoil and not muck; the de-watering would be quick. They are attempting to create a smooth surface and stone and topsoil so that there is no settling of driveway cross sections. Mr. Larsen asked if they would be back to the commission with each lot. Mr. Harkin stated that not each lot, but the lots with crossings would and anything with 100 ft. of wetlands. Mr. Tomlinson asked when the determination is made if the dam is acceptable on Lot 6. Mr. Harkin noted that it would be after the local approval process. The owner of the property will be retaining ownership of Lot 6 and responsibility of the dam. When asked if the geo-textile fabric would tear when discussing Lot 7, Mr. Harkin noted that it might rip only under extreme stress. It would be strengthened and one inch of asphalt over top. Mr. Lord noted that it would be very permeable for water to cross through and the crossings are modified rip rap. Mr. Lord noted that the lining would be from wetland edge to wetland edge. Mike Milano noted that in the last three years he has put down the material and his experience with the material is incredible. The

members asked for the calculations for the curbed catch basin in the cul-de-sac. A member of the public asked if there would be a restriction of access to the state forest and Mr. Harkin stated that there will always be access to the state property. The cul-de-sac is to the right to Lot 5 to not prohibit traffic. Concern was expressed regarding the width of the road with the increased traffic.

Jodie Chase, a Wetland Ecologist, submitted a written response dated December 14, 2017 to public comments concerning plant and animal species on the property. Ms. Chase also submitted a Wildlife Habitat Survey of Cranberry Bog Estates. Ms. Chase reviewed the reports submitted. She noted that there are a variety of wetland habitats. She completed her review in November and December this year. The report includes all species, amphibians and mammals that could be on the site. Her opinion is that the wildlife habitat and value will not be adversely impacted by the project and the species will largely remain the same. The total square footage affected is modest on the total of 74 acres of land. Ms. Chase noted that she did not look at fisheries. Discussion took place regarding the trees and the number of trees that are going to be taken down for access to Lot 7. She did not feel that the development would endanger the environment. Mr. Larsen noted concern with homeowners chemicals on the lawns and how it can be prevented.

Sam Occhipinti noted concern for the existing pond and has seen pristine lakes shut down because of activity. He noted concern of the flow into the Deep River and any material to prevent the flow. Mr. Harkin noted that a conservation easement has been added to prevent any clear cutting to the pond.

Mr. Harkin reviewed the revised plan set prepared based on comments presented. The open space is approximately 9 acres. The house on Lot 5 has been moved out of the upland review zone; the driveway is at the smallest part of the wetlands. Lot 1 has a conservation easement with no clearing within 100 feet of pond. Lots 2 and 3 and existing. No changes were made on Lot 6 and Lot 7. A grass swale detail has been added. The erosion and sedimentation control blanket details were added to the plan. At the cul-de-sac the curb is a low point and the drainage goes to manhole, slow velocity and pipe coming out to flat level stone spreader about 30 ft. so water can disburse correctly.

Mr. Harkin pinned cut outs of the lots on the plan with no wetlands or no disturbance within 100 ft, leaving the lots showing that contained regulated activities. Lots 2 and 3 and open space will be untouched. There were four remaining lots. Lot 5 has the crossing at the smallest point. Access on Lot 4 was moved as far away as possible. Lot 7 is low quality and Lot 8 is in the upland review area. Mr. Lord noted that the area they are proposing to cross on Lot 7 does not have any hemlock or cedar trees. Some of the trees to be removed are in the upland review zone. Ron Larsen noted that if the drip edge of a tree is in the wetland area then the tree may be destroyed within five years because the roots will be disturbed.

Al Saubermann noted that there is engineering designed with higher flow, and inquired as to how much leeway there is for greater flows and change. Mr. Harkin noted that it is usually first one inch of rainfall. A state road is usually designed for 10 year up to 25 year storm. Dan Kollmer noted that a concern for tree cutting is for years down the road that someone does not clear cut to the pond. The owner of the property is going to retain Lot 6 and will maintain the property and dam.

Mike Milano, on behalf of the applicant, noted concern regarding citizens who have expressed concerns at the public hearing and have activities on their properties that have been possible regulated activities. He noted that one resident of Shailer Farm has his property cleared all the way down to the pond with a dock at the bottom. One photograph of Tom Knox's property shows a clear cut area now with green grass and fruit trees that are in the 100 ft. buffer. The property line for the adjacent BMC property goes through the area. Mr. Knox stated that the previous owner of the BMC land cleared the land, planted the grass and the saplings, while he has been maintaining it.

Mr. Lord noted that a mixture of trees could be proposed instead of the white pines, which grow fast. Mr. Harkin noted that the project will be phased, with the approval all at one time. If there is any additional activity with disturbance within 100 ft. of a wetlands, then they would return to the CIWC.

Mr. Harkin noted that the owner of the property asked him to prepare a revised plan which he submitted showing the removal of Lot 5 and adding the property to the open space. The applicant would propose that the revised plan be a condition of approval.

Chairman asked about the possibility of eliminating Lot 4. Mr. Harkin noted that they have already eliminated two lots. Mr. Harkin noted that the crossing on Lot 4 was moved to a better location.

The Commission will have Richard Snarski review the revised plan as submitted.

Public Comments: Tom Knox asked how close to the property line is the driveway on Lot 7 is to the neighbor. Mr. Harkin stated that it is 10 ft.

Mr. Harkin requested a recess of the public hearing to allow him to speak with the project team. A ten minute recess was taken. Upon return to the public hearing from the recess, Mr. Harkin asked that the public hearing be kept open to allow them to further comment on any report the commission may receive from Richard Snarski. The applicant's attorney will send a letter granting an extension to the next meeting.

The public hearing was continued to Thursday, January 11, 2018 at 7:30 p.m.

The hearing adjourned at 10:07 p.m.

Respectfully submitted,
Nancy Howard
Recording Secretary

SOIL RESOURCE CONSULTANTS

P.O. Box 752 Meriden, CT 06450

December 11, 2017

SRC Job No. 17-112

Frank Pellegrino
213 Sage Hollow Road
Guilford, CT 06437

Dear Mr. Pellegrino:

Re: **Wetland Impact Assessment - Cranberry Bog Estates - 67 Hoopole Hill Road - Deep River, CT**

At your request, I have completed an assessment of the wetland regulated activities proposed as part of the above development of this site. The assessment was conducted in response to issues raised in a 10-30-17 report prepared by Soil Scientist, Richard Snarksi, and to address the principle of whether proposed activities would "likely impact or affect the physical characteristics of wetlands or watercourses" listed in CT Public Act 04-209 copy attached

For my assessment, I utilized the site plan drawings dated November 28, 2017 that are currently before the Deep River Inland Wetland Commission. My assessment is based on more than 25 separate site visits during the period of August 2016 through November 2017. I have also reviewed and concur with the findings contained in the December 2017 *Wildlife Habitat Survey - Cranberry Bog Estates - Deep River Connecticut*, prepared by Jodie Chase, Wetland Ecologist.

The development of Cranberry Bog Estates proposes the construction of twelve (12) single family residential lots on 73.72 acres of land. Onsite wetlands total 25.711 acres or 35% of the total site area. An open space area totaling 9.36 acres (3.49 ac. of wetland & 5.87 ac. of upland) is proposed.

Onsite wetland boundaries were flagged in the field. The findings of the onsite delineation can be found in a soil report dated March 8, 2017. An additional small wetland area was found on Lot 8 during one of the site walks conducted by the Inland Wetlands and Watercourse Agency. This area identified by wetland flags WF-800 through WF-809 along with all of the other onsite wetland boundaries are shown on the site plan drawings.

The following is a lot by lot description of wetland regulated activities for each of the twelve proposed lots and the 9.36 acres proposed open space area.

Lot 1
Lot 1 consists of 3.12 acres of land of which 0.02 acres or 0.6% of the lot area is designated wetlands. No wetland regulated activities are proposed on this lot. All proposed development activities including the "Limit of Disturbance" boundary are outside the 100 foot Upland Review Zone.

Lot 2
Lot 2 contains of one of the two existing houses on 2.20 acres of land of which only 0.001 acre is designated inland wetland or watercourse. All proposed development related activities are outside the 100 foot URZ limits.

Lot 3
Lot 3 consists of 4.53 acres and contains the other existing house. This lot contains 1.70 acres (38% of the lot) of delineated wetlands and watercourses. Wetland regulated activities within the 11,361 s.f. of onsite Upland Review Zone consist of: (1) a new well; (2) repair/replacement of the existing septic system; and (3) the southwestern corner of the proposed house and a portion of the access drive.

These activities are located in currently level or smoothed disturbed areas presently used as side and rear yards for the existing house. All activities are located above and away from the strongly sloping areas of the URZ above the Deep River wetland watercourse resource area. Other than the disturbance/removal of what appear to be landscape specimen trees and shrubs no significant native tree and shrub vegetation would be altered.

Lot 4
This lot consists of 2.40 acres of land which contain 0.35 acres of inland wetlands. This lot proposes the filling of 2,443 s.f.(0.2% of the onsite wetlands) of wetlands/watercourses to provide an access drive off Hoopole Road. The proposed house and septic system are located outside the 100 foot URZ. Impacts to the URZ from the access drive total 28,282 s.f..

The driveway access has been relocated and designed to maximize the separation distance to the Deep River floodplain and minimize the amount of resource area directly impacted. This driveway provides access to over 2 acres of uplands with gently rolling topography.

The use of a very open graded stone wrapped by permeable geo-textile fabric would be appropriate for use in this crossing. The open stone, geo-textile fabric and culvert pipe would allow for surface flows of excess water to pass through the entire width of the wetland watercourse area post construction. This mimicking of existing somewhat dispersed flow patterns would minimize and localize overall impacts to the area under the driveway crossing footprint while preserving long term wetland watercourse functioning at present levels both above and below the crossing location.

Lot 5
Lot 5 consists of 3.19 acres of land which include 0.74 acres of inland wetlands and watercourses. This lot proposes the filling of 1,150 s.f.(3.5% of the onsite wetlands) of wetlands/watercourses to provide an access drive off Hoopole Road.

The driveway crossing should be constructed using a permeable geo-textile fabric envelope filled with open graded stone. The open stone, geo-textile fabric and culvert pipe would allow for surface flows of excess water to pass through the wetland watercourse area post construction. This mimicking of existing dispersed flow patterns would minimize and localize overall impacts to the area under the driveway crossing footprint while preserving long term wetland/watercourse functioning both above and below the crossing at present levels.

The proposed septic system is located outside the 100 foot URZ in an upland soil area of more than 2.45 acres in size. Impacts to the URZ from the access drive and a portion of the house total 25,154 s.f.. The impacts to the URZ from this driveway can be minimized by utilizing short retaining walls along the eastern side. Reverse benching of the driveway itself to direct surface water runoff will prevent uncontrolled flows along the driveway length. Constructed stormwater runoff infiltration measures can also be incorporated to safely infiltrate storm water and prevent URZ erosion and sedimentation issues. Such measures are commonly included with site specific site plans once the house designs are finalized.

Lot 6

Lot 6 consists of 27.45 acres of land which include 17.11 acres of inland wetlands and watercourses. No direct impacts to inland wetlands or watercourses are proposed for this lot. The proposed house and septic system are located outside the 100 foot URZ limits. Impacts to the URZ from the well and access drive off Hoopole Road total 18,928 s.f..

The access driveway design while not directly impacting wetlands can be enhanced to protect long term wetland health and functioning by the use of erosion control blankets along both sides of the drive slopes. The erosion control blankets will provide immediate soil stabilization and promote quick revegetation to disturbed soil areas.

Lot 7

Lot 7 consists of 4.92 acres of land which include 0.77 acres of inland wetlands and watercourses. This lot proposes the filling of 2,720 s.f.(8% of the onsite wetlands) of wetlands/watercourses to provide an access drive off Hoopole Road. The driveway allows access to more than 4.15 acres of upland soils. The proposed house, well, and septic system are located outside the 100 foot URZ. Impacts to the URZ from the access drive total 10,386 s.f..

The driveway crossing will pass through a wetland area that is very flat with no well defined channel to concentrate surface flows. Existing water movement is very slow and non-erosive. To preserve this existing flow pattern, the driveway crossing should be constructed using a permeable geo-textile fabric envelope filled with open graded stone. The open stone, geo-textile fabric and culvert pipe would allow for surface flows of excess water to pass through the wetland watercourse area post construction. This mimicking of existing flow patterns would minimize and localize overall impacts to the area under the driveway crossing footprint while preserving long term wetland/watercourse functioning both above and below the crossing at present levels.

Lot 8

Lot 8 consists of 4.96 acres of land which include 0.44 acres of inland wetlands and watercourses. No direct impacts to inland wetlands or watercourses are proposed for this lot. The proposed house, well, and septic system are outside the URZ limits. The access drive will impact 19,435 s.f. of the 100 foot URZ.

The access driveway while not directly impacting wetlands can be designed to enhance long term wetland health and functioning by the use of erosion control blankets along southern side slopes of the drive. The erosion control blankets will provide immediate soil stabilization and promote quick revegetation to disturbed soil areas.

Lot 9
Lot 9 consists of 2.64 acres of land with no designated wetlands or watercourses. All proposed development activities are outside the small extent of onsite Upland Review Zone.

Lot 10
Lot 10 consists of 2.44 acres of land with no designated wetlands or watercourses. Impacts to the URZ from the access drive total 2,309 s.f.. All other proposed development activities are outside the limits of the onsite Upland Review Zone which extend across the front of this lot parallel to Hoopole Road.

Lot 11
Lot11 consists of 2.06 acres of land with no designated wetlands or watercourses. All proposed development activities are outside the very small extent of onsite Upland Review Zone located in the northeastern corner.

Lot 12
Lot 12 consists of 3.44 acres of land which include 1.09 acres of inland wetlands and watercourses. No direct impacts to inland wetlands or watercourses are proposed for this lot. The proposed access drive, house, well, and septic system are located outside the 100 foot URZ limits.

Proposed Fire Tank
A fire water tank is proposed to be installed along Hoopole Hill Road across from Lot 3. No inland wetlands or watercourses would be impacted by this installation. Approximately 1,300 s.f. of URZ would be altered for the installation.

Cul-de-Sac and Improvements to Hoopole Road
A Cul-de-Sac is proposed to be constructed at the existing terminus of pavement opposite proposed Lots 2 and 3. Hoopole Road in this area would be relocated to the east to provide proper road alignment between the new roadway R.O.W. easement and the unimproved section of Hoopole Road to the north.

No inland wetlands or watercourses would be directly impacted by this construction work. 18,338 s.f. of URZ area would be altered for the construction of the relocated roadway, Cul-de-Sac and associated grading.

Erosion control blankets should also be used on all disturbed slopes leading down to the adjacent wetlands.

Reponses to R. Snarski Review/Report

1. Lot 8 has been redesigned and reconfigured. The house, well, septic system, and associated parking area haven been relocated outside the 100 foot URZ limits.

2. The lot lines associated with Lots 11 & 12 have been redesigned to move the driveway on Lot 12 completely outside the 100 foot Upland Review Zone.

3. Approximately 25 White Pines will be planted along the slopes of the proposed Cul-de-Sac to provide a buffer screening of the adjacent wetland.

4. Lots 4 & 5 have been significantly redesigned to: (1) move the driveway location on Lot 4 to approx.100 feet from the Deep River floodplain; (2) utilize an open stone type driveway crossing structure on both lots to promote long term diffuse water movement through the crossings; and (3) use erosion control blankets on all disturbed soil areas within the 100 ft. URZ on both Lots.

5. Wetland placards will be placed on each lots to inform land owners and reduce the potential for clearing of the URZ limits without a permit.

Conclusions

1. The current design represents a balanced approach to overall site development. Of the 12 lots shown only 3 propose direct impacts to inland wetlands and watercourses. The total impact of the three crossing is 5,760 s.f. which represent 0.5% of the total onsite wetlands.

2. The three driveway crossings provide access to large buildable upland soil areas. Lot 4 has 2.05 acres of upland with the proposed house and septic system outside the 100 foot URZ limits. Lot 5 has 2.45 acres of uplands with the proposed house and septic system located outside the URZ limits. Lot 7 has 4.15 acres of uplands with the proposed house and septic system completely outside the 100 foot URZ limits.

3. The designs for the three driveway crossings will utilize a permeable geo-textile fabric envelope filled with open graded stone. The open stone, geo-textile fabric and culvert pipe would allow for surface flows of excess water to pass through the wetland watercourse area post construction. This mimicking of existing flow patterns will minimize and localize overall impacts to the area under the driveway crossing footprint while preserving long term wetland/watercourse functioning both above and below the crossing at present levels.

4. Impacts to the 100 foot Upland Review Zone limits on Lots 3-8 and 10 are generally either associated with the three driveway crossings or are located at the outer edges of the URZ boundaries. Design considerations were incorporated to maximize the extent of URZ preservation on each Lot.

5. Infiltration units have been included with each lot to promote the infiltration of roof leader water into the ground.

6. Detailed soil erosion and sediment control plans will be prepared and submitted as part of the individual site plans for each lot.

7. I am in complete agreement with the Wildlife Habitat Survey prepared by Jodie Chase, Wetland Ecologist. The "development of the site will not alter the wildlife composition or use of this property. It will have no greater impact than does the existing residential development abutting the pond."

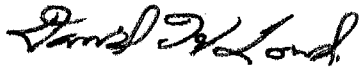
8. Proposed separation distances between house sites and the onsite wetland resources will preserve long term overall wetland vigor and functioning.

9. The large open space of over 9 acres of wetlands and uplands provides for the preservation of the riparian corridor of the Deep River along the south side of Hoopole Road. Cranberry Pond being placed almost entirely on Lot 6 will help to preserve its existing character, functioning, and legal means of access.

In my professional opinion, the proposed development of Cranberry Bog Estates does not represent a likely potential for adverse environmental impacts to the physical characteristics or long term functioning of the onsite wetland and watercourse resources at present levels.

If you have any questions regarding this report, please contact me.

Sincerely,



David H. Lord
Certified Soil Scientist
& Environmental Consultant