

To: Conservation Commission, Town of Waterford
From: Arlene Sherman *119 Clark Lane*
Date: 2/23/23

C-22-14
109R & 131 CLARK LANE
PUBLIC HEARING 01-26-23
EXHIBIT #63

The proposed Kingston clearing and trailer park development, located adjacent to a pristine head watershed and Fenger Brook wetland stream, will cause adverse impact and undo harm including wetland destruction to this watershed in a short time. Activity scheduled to be done outside the wetland and in the buffer will adversely impact this wetland complex.

The proposed activity will increase sediment accumulation in lowland wetlands by increasing sedimentation in upland areas, alter hydrologic and chemical changes by changing the natural input of nutrients, stream channelization forming due to retention basin activity and flooding therefore promoting sedimentation of Brook, uncontrollable runoff from Bio and retention basin activity especially during large rain storms (2 " and greater), changes in the flood regime of the area bringing too much or too little water, nutrients, metals and hydrocarbons changes to the Fenger Brook water quality leading to a major changes in plant and animal habitat. In general these changes will alter the present balance of the wetland, changing the plant and animal habitats, alter the present wetland chemistry and promote unexpected die off of plants and animals.

This activity in conjunction with present climate change that is promoting intense rain fall in short durations, increase the vulnerability of the proposed housing development activity and potentially destroying this present pristine area. There has been no activity on this area for over 100 years. It has been allowed to balance the climate changes and still promote a thriving animal and plant wetland. The severe changes expected to occur due to the construction activity, addition of over 50 % impervious surface and enormous bio and detention basins will adversely impact this area forever. The following are some, not all, problems and the adverse impacts on the wetlands.

Problem:

1. Soil diversion ditch of 3 feet behind Clark Lane houses for 2000 ' will undercut present mature tree roots killing them; will move water from upland review area to bio retention basins.

Adverse Impact to Wetlands:

Moving water from upland review area will create drought in upland review area. The excess water to lowland review will change wetland plant habitat

and cause die off of plants remaining; 35 foot buffer in northern part of development is too close to development (requires a 50 ft. buffer); steep slopes created by ditch diversion (moving soil from west to east) will promote a steep slope (6'-8' on west side) which is subject to erosion and sediment fill creating death to upland review and wetland buffer leading into wetland ; function of wetland is altered forever and wetland will eventually fill in. Moving water to bio retention basins forces water into one 60 area versus being spread out over greater surface area, as it has in the past and naturally watering the entire wetland. It will eventually find its way to Fenger Brook (300 feet away) but the force of the water during various intense climate events will create erosion, gully's, rivulets and sediment along the 300' to Fenger Brook; sediment will be created as well and into Fenger Brook. Some of the soil is fine in this area and vulnerable to moving through bio retention basin quickly, with nutrients, phosphorous and metals attached and will go directly into Fenger Brook missing the filtering process of the basin.

Problem:

2. Clark Lane water should remain draining into present 3 locations off Clark Lane. The proposed ditch water, the 44 trailer roofs, the street runoff and catch basins, sidewalk runoff will go into bio and detention basins and directed with a 60 foot spreader in one direction to Fenger Brook. A different path than the water has taken in over 100 years.

Adverse impact on Wetlands:

This is too much water diverted out of wetland area that's present hydrology has balanced and thrived with the present water it receives. This is proven in the thriving plant and animal species living in the habitat and the present clean quality of Fenger Brook. There is natural absorption and retention that the area has used to balance all plant and animal species successfully. addition of these water forces and gallons of water in an over 2" rain storm will create water logging, tree mortality , micro nutrient over load or not enough nutrient. Any huge change and disruption such as expected and predicted will alter this balance' causing die off, excessive nutrient load and excessive metal and hydrocarbon load.

Problem:

3. Any major storm: 100 year, 50 year or 2" or greater rainfall or lasting for many days will adversely impact this wetland. The present rain storms are intense producing a lot of rain in a small amount of time that overwhelms present catch basins, gutters and ponds.

Adverse impact on Wetlands:

This area has a higher than normal ground water level. The huge amount of water from any storm will quickly fill up the bio and detention basins and surrounding ground with little or no ground infiltration depending on the season or past rainfall. This will immediately create gulley formation and due to the fine silt soil will create sediment into Fenger Brook. It is imperative to do a summer infiltration study of the area to see the ground water level during the driest times of the year. The north area of the development with the smallest buffer of 36 feet will likely be washed out leaving severe erosion, sediment and gulleys. In addition, with an overload of water, the bio retention basin will only be emptying with little opportunity to remove toxins, pollutants, nutrients from the runoff water as the basins will be overloaded with water. In a large rain event only the first flush will remove the pollutant material with the remaining rushing into the wetland missing the filtering of the basins. The basins will also be overloaded with sediment and silt brought along with the intense water and will clog the filter systems of the basins quickly.

Problem:

4. Per the Jordan Brook Watershed document the wetland buffer should be a buffer to the wetland and not used. The potential for dumping of hazard waste (car oil, paint cans, insecticide, and rodent control), furniture, moving debris, food, domestic animal usage and children playing is a hazard. There is no bulky waste area and tenants move throughout the year. Animal use of the buffer area including regular defecating, hunting and usage.

Adverse impact on Wetlands:

There is no accountability or monitoring of this activity scheduled. There are shared sheds which most likely will not hold enough extra storage for a family of four which the developer is promoting as his tenant. There are severe slopes into the wetland buffer off the back of these units. Four of the units have a 36 foot buffer and the remaining have a 50 foot buffer. The wrong toxic material, the continual use by domestic animals, no maintenance of these areas regulated by the owner, could be havoc for an area that has not had this type of pollutant exposure in over 100 years. It will change the wetland buffer forever with the continual abuse of the area as there are no green spaces for children, no dumpsters for bulky items, no proper animal area, no snow storage planned in the development.

Problem:

5. Too much density for the area they are building. This area does not support 47 families, activities, shared storage sheds, shared driveways, driving, vehicles, green areas, snow storage.

Adverse Impact on Wetlands:

This is a narrow flag lot that is too small to accommodate 47 houses, 47 families of 4 and the necessary infrastructure for the complex. In order to make room for the developers' road, entrances, shared driveways and houses there is a sacrifice of green areas for water absorption, trees for shade and cooling, play areas for children. There is 50% of the development impervious surface and is detrimental for the wetland. There are better design solutions for housing developments that have affordable housing options and that will not impact a watershed as severely as this housing design will. At minimum this development could have fewer houses and located on one side of the road leaving open areas for passive living. That design will do much less harm.

Problem:

6. Bio retention Basins will diminish efficiency and effectiveness of removing pollutants, metals, toxins, nutrients, hydrocarbons, PH, N over time.

Adverse Impact on Wetlands:

The Bio retention basins are effective during first flush of storm water of a 2" rain event or in the early days of the basin operation for pollutant removal. Over time the silt will clog the medium, the spreader will not be effective, the intense rains coupled with the water from so much impervious surface will not be handled effectively. The developer will not maintain the basins effectively and they will be clogged and growing weeds. The bio retention basins need the medium replaced regularly. This area should be monitored monthly and especially after a large weather event for erosion and gully formation and repaired (pictures taken). If the water is running through these mechanisms and they are not maintained properly, gulley will be forming, erosion occurring and the developer will not have experts handling the basins or the damage immediately causing repeated pollution going into the wetland and Fenger Brook. The potential for increased accumulation of sediment will alter the chemical and hydrologic regime of these wetlands in short time. The result will be tree die off and Fenger Brook filling up with nutrient and sediment. Certain sediment (like fine silt) attaches itself to metals and is difficult to manage.

Developer could handle this more effectively by having several rain gardens and small meadow basins in housing area versus so much impervious surface.

Problem:

7. Excess sediment

Adverse Impact to Wetlands:

Re suspension of fine sediments and especially with the finer soils that this area has will not settle out in the basins. This limits the effectiveness of this large basin removing the sediment (the attached metals, phosphorous and nitrogen). There will be limited sediment removal creating a permanent damage to the wetland and Fenger Brook. Also there are metals, and carbons that attach to the fine sediments that will not be removed causing more irreparable issues in the wetlands. All dense wetland grasses, trees, shrubs will be stressed and heavy die off will occur. Too much water shifting will be hard on plants and the diversity of the present wetland will suffer and die. These retention basins are too large, there is too much volume of water going through them into the down gradient which will cause destruction and death of too many plants, animals and scouring of Fenger Brook. Any 100 year storm or hurricane will destroy this area beyond repair and benefit to Long Island Sound

Problem:

8. Climate change and high intensity storms

Lack of inspection, repair, accountability, management of basins

Adverse Impact on Wetlands:

This proposed development is, in part, theoretical. We do not know the future large rain/storm events. There is no proof that these 'predictions' coupled with the extreme weather and rain events will do the job they claim. Human error and delay in action to remedy problems will play heavily in this proposed wetland activity. The owner must be responsible, remain flush with cash for repairs and replacement of basin material when clogged, needs to have gulley fill workers available after all large storms and monitor the development.

If the work is not done and money not spent this project will do harm to the wetlands. Who will monitor this project? Will it be bonded and for how many years? If developer isn't liquid then what? Wetland is left to be polluted and the once pristine area another wetland casualty? It is a lot of runoff, impervious surface and a possibly inexperienced developer to let a wetland be the loss so he collects rents. The wetland belongs to everyone

and this project could expose it to certain death (we know there will be mature forest tree die off). Does the developer care enough about the environment or will the wetland suffer so the developer makes money?

Problem:

9. Clear cutting all trees is the loss of approximately 250 trees

Adverse Impact on Wetlands:

The cutting of all trees behind the present Clark Lane houses and the trees in the basin areas will affect the hydrology and cycle of nutrient necessary for a thriving wetland area. The trees provide shade, cooling and uptake and transpiration of hundreds of gallons of water per day. Due to the overload of water from the bio retention basins there will definitely be a tree die off coupled with the clear cutting of trees. The removal of this many trees changes chemistry of the wetland. A developer taking this number of mature trees should be required to note the trees 18" width and specimen on this property and should be required to replant with new trees.

Problem:

10. Turtle habitat

Adverse Impact on Wetlands:

Both the SLR engineer and the Thoreau forester and Carya Ecologic Services noted that the area the developer is planning to locate the retention basins is potential for turtle hibernating, feeding, housing and nesting area. There should be a turtle study done starting in May of this area to monitor if this activity exists.

In addition there should be a vernal pond study done in both Waterford and New London land areas attached to this development as significant plant and animal species inhabit and use these vital natural areas and are significant to the wetland complex.

Problem:

11. Pileated Woodpecker habitat:

Adverse Impact on Wetlands:

The Pileated Woodpecker is a 'protected species' in CT and has been sighted and heard in the back yards of Clark Lane residents (photo attached). They are a keystone specie and play an important role by excavating nesting and roosting cavities that are subsequently used by many other non-drilling

birds, small mammals and invertebrates therefore creating habitats suited to other woodland wildlife. They are important to control varied populations of insect pests in trees and stumps throughout the forest and wetland. They require large territories of mature woodland forest year round. De foresting the large trees on this land will severely damage the habitat of this magnificent bird.

In conclusion, market rate and affordable housing could be developed on this property. The design this developer presently has puts multiple aspects of this watershed at risk. At this time the Commission should deny this application without prejudice and ask the developer to come back to the Commission with a wetland sensitive design. The present design causes too much harm to the watershed.



Pileated Woodpecker photo taken August 2022 at 121 Creek Lane backyard