The Coonamessett River Trust

Dedicated to Protecting and Restoring the Coonamessett River

March 14, 2024

Noreen Stockman
Falmouth Zoning Board of Appeals
59 Town Hall Square
Falmouth, MA 02540

RE: Saxon Partners Project Comments

Dear Members of the Zoning Board of Appeals:

The Coonamessett River Trust (CRT) was formed in May of 2006 to promote and preserve the natural heritage and ecological integrity of the Coonamessett River and surrounding lands. The Trust engages in scientific, educational and recreational activities focused on the Coonamessett River.

The CRT has significant concerns about the impact of the 300-unit housing project known as "The Easterly" planned for 375 Sandwich Road as proposed by Saxon Partners. This project would cause serious environmental degradation to the Coonamessett River and its downstream estuary, Great Pond. Additionally, the development would impact important open space land adjacent to the Coonamessett's sensitive riparian habitats. These parcels are buffers to the river and serve as a wildlife corridor linking wooded uplands to the wetlands bordering the river.

Significant amounts of time and money have been spent to make this restored open space a "jewel of the town." Nearly $8.5 million in grants from Federal, state and local agencies have funded the restoration of the Coonamessett River. This tally does not include the "in-kind" contributions by Falmouth town departments, nor the many, many volunteer hours from individuals, including many volunteers organized by CRT. More than 50 partners of government agencies, non-profits, science institutions and schools have contributed to the success of the river's restoration. Putting this stunning project at risk by allowing inappropriate development in adjacent parcels is against the Town of Falmouth's best interest.

The Coonamessett River restoration is contributing to the return of alewives, blueback herring, American eels, white perch and brook trout to the river. More than 180 species of native plants have returned to the area providing food and shelter for birds and animals. The Coonamessett Greenway Heritage Trail is a hugely popular walking path. More than 1,500 Falmouth and Cape Cod students have participated in the CRT's "Adopt-A-Herring" program and/or our very popular school field trips. Every Falmouth 4th and 5th grader now visits the river to learn about the value of restoring the river for fish and other animals.

We have the following specific comments about the project in three main areas.

Habitat

The project as proposed will degrade and fragment currently connected open space and wildlife habitat adjacent to the Coonamessett River**. The siting of nearly the entire development project on the eastern half of the 28.5-acre parcel will make the habitat fragmentation worse. Saxon Partners have not offered a compelling reason for this design.** The project should be scaled back to allow continued connectivity of woodland habitat from east to west and north to south across the property. Location of the project on the western side would preserve the existing relatively untouched forested areas nearer and more connected to existing important open space.

Retaining a greater area of the existing woodlands would retain the valuable carbon storage and carbon sink that the site's middle-aged, fast-growing forest now provide. Based on similar oak-pine forests in the region that store about 50 metric tons of C per hectare (20 mt/acre), the roughly 30 acres of forest on the site today provide at least 600 metric tons of carbon storage. Also based a conservative estimate of a rate of carbon sequestration of about 0.5 for similar forests in the region, **the site currently provides carbon sequestration of about 6 metric ton of carbon per year that will be lost because of the project**. This loss of carbon stocks and sequestration are critical functions because the Town of Falmouth and the Commonwealth of Massachusetts have set goals for using natural lands to mitigate climate change.

Retaining more natural woodlands would help to maintain groundwater quality and allow for natural water infiltration and groundwater recharge to the Sagamore Lens single-source aquifer that underlies the site and this entire portion of Cape Cod. Forests provide locations for groundwater recharge and nitrogen retention. Based on the scientific literature, forests on Cape Cod remove about 90% of the nitrogen deposited from the atmosphere. **Assuming a likely current rate of atmospheric deposition to the site of about 5 kg nitrogen/ha, the 28 acres of existing forest on the site currently prevent about 60 kg nitrogen from reaching the groundwater each year.** Much of this function will be lost if forest is cut and replaced by non-forest or impervious surfaces.

There is clear evidence that woodlands such as those that occur on the site serve as habitat for eastern box turtles. Eastern box turtles occur in the adjoining Coonamessett River lands and have been documented in the yards of homeowners in the surrounding neighborhood. The sand pit on the northern portion of the northern parcel is highly likely to be an excellent box turtle egg-laying location. Eastern box turtles are classified as a species of *Special Concern* because further habitat loss and degradation are likely to cause population declines that would put the species at risk in Massachusetts**. A full plant wildlife inventory of the property should be conducted by an expert in plant, wildlife, and rare species habitat and by an appropriate biologist from the Massachusetts Natural Heritage and Endangered Species Program. This should include an assessment of the site as habitat for box turtles. <u>We urge the ZBA to require such a survey be conducted promptly.</u>**

This project should receive a full Massachusetts Environmental Policy Act (MEPA) review. This development exceeds the threshold of 10 acres of new impervious surface that triggers MEPA review. This review should include effects on habitat on the site, effects on habitat connectivity, effects on important plant and animal species, and effects on carbon storage and future carbon sequestration that will be lost as a result of the project. It should also include the effects resulting from stormwater and wastewater potentially discharged from the site (see below).

The project does not include an environmentally sound plan for planting and landscaping. The landscaping plan should require the following elements. **The plan should include a requirement to plant only native species**.

(The "jolly green giants", or western red cedars, *Thuja plicata* mentioned in Saxon Partners' presentations are not a Cape Cod native plant.) The plan should require drought-resistant plants that do not require irrigation. The landscaping plan should stipulate no herbicide and no lawn fertilizer applications because it is a sensitive area near the Coonamessett River.

Stormwater

Stormwater discharged from this project could have a large and negative impact on the Coonamessett River. Stormwater runoff from roads and compacted surfaces that carries eroded soil particles is a major source of phosphorus pollution to fresh water streams, lakes, and rivers in the United States and by far the largest source of phosphorus to fresh waters on Cape Cod. Studies of the chemistry of the Coonamessett River conducted by the CRT and our scientific partners show clearly that the growth of algae in the Coonamessett River is very sensitive to the availability of phosphorus. **Therefore, delivery of any new phosphorus has the potential to cause a large and immediate increase in the growth of algae in the river itself. This would threaten the submersed aquatic plants and gravel beds that now make up newly-restored river channel habitat.**

The large amount of impervious surfaces of roofs and parking lots proposed in this project increase the potential for stormwater runoff. **Although infiltration basins for stormwater retention are proposed, a long-term plan for long-term maintenance of these basins to insure their continued function is needed but not specified.** Infiltration basins have been shown to accumulate fine sediments and organic matter that reduce their infiltration rates and effectiveness. The intensity of precipitation events caused by climate change is increasing faster in the Northeast than anywhere else in the United States. Stormwater will therefore become harder to manage in the future. There needs to be a clear plan for handling this larger amount of future stormwater.

Wastewater

Wastewater generated from the project will negatively impact the impaired Great Pond estuary.

Saxon Partners propose an on-site wastewater treatment plant for this project. Their proposed plan is inadequate and not legal under current Massachusetts Department of Environmental Protection (Mass DEP) regulations.

Wastewater generated by this project and released on site will flow to the Coonamessett River and to the Great Pond estuary with little attenuation. Water quality in the Great Pond estuary is currently highly degraded by excess nitrogen. This degradation is extremely well documented. Great Pond has been on the Massachusetts DEP 303(d) list of impaired waters since at least 2004. Great Pond had a Massachusetts Estuaries Report completed in 2005. It has an established and approved Total Maximum Daily Load (TMDL) issued by DEP.

Massachusetts DEP regulations require that projects in a watershed with impaired waters and TMDLs cause no net increase in nitrogen delivery to those waters.

MGL c.21 §§26 through 53, states that Mass DEP has a duty and responsibility to protect the public health and enhance the quality and value of the water resources of the Commonwealth. It directs MassDEP to take all action necessary or appropriate to secure to the Commonwealth the benefits of the Clean Water Act.

Massachusetts Groundwater Discharge regulations say that MassDEP "shall not issue a permit pursuant to 314 CMR 5.00 when the discharge will cause or contribute to a violation of 314 CMR 4.00: "*Massachusetts Surface Water Quality Standards"* (MSWQS). 314 CMR 5.06(1). These regulations provide that all permits shall contain limits that "are adequate to protect surface waters for their existing and designated uses and to assure the

attainment and maintenance of the [water quality standards]. The regulations require that MassDEP consider natural background conditions and any TMDLs established by Mass DEP. They require DEP to protect existing uses of hydrologically connected downgradient ground waters and surface waters, and not interfere with the maintenance and attainment of beneficial uses in hydrologically connected downgradient waters [314 CMR 5.10(3)].

The water quality standards state that MassDEP "will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained or attained." [314 CMR 4.03(1)(a)]. The Massachusetts Surface Water Quality regulations make clear that "discharges shall be limited or prohibited to protect existing uses and not interfere with the attainment of designated uses in downstream and adjacent segments. Further, Mass DEP will provide a reasonable margin of safety to account for any lack of knowledge concerning the relationship between the pollutants being discharged and their impact on water quality.

The Massachusetts water quality standards require Mass DEP to apply additional minimum nutrient criteria requiring that all surface waters "shall not exceed the site-specific criteria developed in a TMDL [314 CMR 4.05(c)].

Because Great Pond is an officially-listed 303(d) impaired water with a TMDL, <u>any</u> increase in nitrogen will exceed the TMDL criteria. No additional nitrogen releases are therefore allowed by this project.

Falmouth's Wastewater Superintendent Amy Lowell calculated that this project would contribute 714 kg of nitrogen per year to the Great Pond watershed. Any plan for wastewater treatment in this project must include nitrogen offsets. **This offset should include: (1) the 714 kg of nitrogen per year generated, (2) a margin of safety to account for lack of exact knowledge of the amount of nitrogen generated and/or the effects of the impact of that nitrogen (as required by Mass DEP), and (3) accounting for the additional nitrogen that will reach groundwater from this project because of the loss of forest area (and corresponding forest nitrogen uptake).** Requiring appropriate nitrogen offsets would help ensure that this project does not further degrade the water quality in Great Pond.

The new nitrogen that will be added to the Coonamessett River and to Great Pond directly contradicts two vital and expensive wastewater improvement projects being undertaken by the Town of Falmouth.

First, the Town recently spent almost $30 million for the Little Pond sewer project, which also removed 1,000 kg/year of nitrogen from the Great Pond watershed. If no offsets are required, this project could potentially negate most of that improvement. Falmouth's November 13, 2024 Fall Town Meeting also voted to appropriate $3.8 million for the engineering, design and permitting of the wastewater collection system for the northeastern part of the Maravista peninsula and the Teaticket Path peninsula in the Great Pond watershed. To **protect the Town's recent large investment to increase water quality, the Zoning Board of Appeals should require a wastewater plan that offsets all of the nitrogen that will be added by this project.**

By the issuance of new regulations on August 4, 2023 (314 CMR 21.00), the Mass DEP now requires towns to develop watershed management plans that describe how the watershed will meet Massachusetts Surface Water Standards within 20 years. The Falmouth Water Quality Management Committee voted to move ahead with preparation of watershed plans. These will involve combinations of: (1) expanded areas served by municipal sewering, (2) conversion of current Title V septic systems to denitrifying systems, and (3) potentially some other technologies such as urine diversion. These plans will involve asking Falmouth residents to contribute large amounts of money to limit the amount of nitrogen their septic system is currently releasing to a watershed. **It is both unfair and unsound to allow new nitrogen releases into impaired watersheds. It is unfair to ask**

homeowners to shoulder a greater burden to remove nitrogen than will be required of this project. It is unsound to allow an increase of nitrogen releases that in the near future will require the Town to request more taxpayer monies for additional nitrogen clean-up.

The Coonamessett River and its connected lands and waters are jewels in Falmouth and they have long historical and cultural significance to the Town. These areas are some of the Town's most valuable open space for wildlife and people. These values would be degraded by this inappropriately-sized and designed project. Plans are finally moving forward to clean up Great Pond. Please do not allow these important natural resources in Falmouth to be degraded by The Easterly.

Sincerely,

Wendi Buesseler

President