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MEMORANDUM

TO: Sarah Porter, City of New Bedford

FROM: Scott Turner, Nitsch Engineering ST

DATE: December 2, 2014

RE: Sassaquin Pond Watershed Stormwater Ordinance — Nitsch Project #9125.2

This memorandum is in regard to the Draft Sassaquin Pond Watershed Stormwater Ordinance (the Ordinance) prepared by the Buzzards Bay National Estuary Program. Rather than provide the Commission with mark-ups of the Draft Ordinance, I am offering some high level comments that impacts the overall approach to the Ordinance. Additional comments will likely be provided as the Ordinance further develops. Below are my comments based on review of other ordinances and regulations that have been developed in Massachusetts as well as outside of Massachusetts:

1. This Draft Ordinance was developed to address stormwater only. Although the water quality issues in Sassaquin Pond (the Pond) can be directly attributed to stormwater discharges, the New Bedford Conservation Commission (the Commission) needs to decide whether or not the Watershed Protection Ordinance will regulate stormwater only or will address other items such as fertilizer application, tree cutting, drain dumping, washing of vehicles, pet wastes, etc. Also, although this could be construed as a zoning item, there should be consideration given to dimensional standards such as lot setbacks, maximium impervious cover, maximum site clearing (in terms of gross area or percentage of lot size), etc. (Increased dimensional standards are included in the Town of Scituate Zoning Bylaws for properties located in the Watershed Protection District.) The Ordinance may also want to prohibit the installation of onsite septic systems.

2. The structure of the Ordinance may want to be considered. For instance, is this a separate Ordinance or is this an Overlay District that will reside in the City of New Bedford's Code of Ordinances? If this is a Zoning Overlay District, further consideration may want to be given to minimum lot sizes. However, if the minimum lot sizes are increased, many – if not all – of the existing lots would likely be considering non-conforming.

3. The Ordinance may want to prohibit the discharge of any wastes directly into the Pond or the municipal drainage system including sump pumps, paints, antifreeze, oil, gasoline, grease, commercial and household cleaners, soap, detergents, ammonia, food, and food waste, grass or yard waste, leaves, animal feces, or other pollutants.

4. The Town of Wellesley includes nutrient reduction targets such as total suspended solids (80%), oil and grease (less than 15mg/l of total petroleum hydrocarbons), phosphorus (50%), nitrogen (35%), bacteria (75%). The Ordinance may want to include similar requirements.

5. With regards to any proposed work in the buffer zone to the Pond, the Commission may want to include a requirement for restoration work in the buffer zone to a natural condition if applicable.

6. The Ordinance makes reference to Regulations but no regulations were developed. This Draft Ordinance seems to combine what is typically found in both ordinances and regulations, especially Section 7 with regards to Performance Standards. Section 7 relies on the Stormwater Management Guidelines but only refers to some of them. We assume that the Watershed Protection Bylaw will need to be included somewhere within the Code of Ordinances of the City of New Bedford and refer to

Regulations. This is more of a legal question regarding the format of the Ordinance and the Regulations.

7. The Regulations – if/when they are developed – should list submittal requirements for any permits issued by the Commission. An application form should be developed. A list of items to be submitted should be included in order to provide guidance for applicants including the number of copies of applications to be submitted. This would be similar to traditional submittals for a Notice of Intent (NOI) such as site survey, site plans stamped by an engineer, stormwater calculations, stornwater narrative, erosion and sedimentation control plans and details, operations and maintenance plan, etc. Depending on how stringent the Commission wants the Ordinance and Regulations to be, the requirements may be more stringent than a traditional filing. The Cook County Illinois Watershed Management Ordinance has a comprehensive list of possible submittal items.

8. The City of New Bedford is developing a Stormwater Management Ordinance and accompanying Rules and Regulations. This Ordinance effectively applies the design requirements of the Massachusetts Stormwater Management Guidelines to the entire City of New Bedford through the issuance of a Stormwater Permit that is granted from the Department of Public Infrastructure (DPI). The City of New Bedford's Rules and Regulations provide for a stormwater permit to be applied for and subsequently issued by the DPI. The Commission should decide whether these permits will be somehow linked, or whether applicants in the Sassaquin Pond Watershed will need to apply for two (2) permits, one (1) from DPI and one (1) from the Commission. Also, the recharge requirement in the two (2) sets of ordinances/regulations are different. The Draft Ordinance requires infiltrating up to 1.7 inches of rainfall onsite which is effectively the 95th percentile storm. The City of New Bedford's Rules and Regulations require infiltration as required by the current state standards but also contemplate possibly requiring up to 1 inch of rainfall to be recharged. Requirements for infiltration vary from municipality to municipality. For example, the Weston Bylaw requires infiltration of the first 1 inch of rainfall.

9. The Commission should decide what rainfall curves they would like to use for analysis. The Cornell Rainfall Curves are more restrictive and include higher rainfall intensities. The general feeling is that the higher rainfall curves are more accurate and are based on most rainfall data. These curves also create a higher standard of compliance and will require larger onsite facilities.

10. The Commission should decide whether or not to have applicants meet stormwater requirements for both rate and volume or just rate. Mitigating for total volume of stormwater is much more stringent and difficult to achieve. Some municipalities, like the Town of Rockland, require mitigation of total volume offsite for all projects.

11. The Commission should decide how stringent they want the Ordinance to be. The stronger the ordinance the more restrictive controls there are on land development. The Commission may want to think about waivers. Other ordinances have them and give the permit issuing authority the ability to grant them. However, granting waivers can lead to precedents that will compel the Commission to grant more waivers.

12. The Devens Enterprise Commission has strict stormwater Guidelines which require a comparison of stormwater discharges between the proposed condition and the 'greenfield' condition as opposed to the pre-development condition. The Town of Paxton also has a similar requirement. When applied to currently developed sites, this will effectively require them to meet stormwater flows for the natural condition which helps to restore the natural hydrology of the watershed. It also requires a larger investment in stormwater facilities.

13. The Ordinance does not set a threshold for land disturbance and implies that any disturbance will require a permit. The Commission may want to consider a threshold for disturbance that would trigger requiring a permit. Newton has a trigger of 5,000 square feet of disturbance or 750 square feet of impervious surface. Other towns vary. Lots around the pond are generally around 10,000 square feet. The Commission may not want to see permits for small levels of land disturbance and may not want to regulate items such as installing gardens. One (1) example may be that a permit is required for additional impervious surface of 200 square feet, 500 square feet, etc. or total land disturbance of a specific size.

14. The Ordinance may want to have a description of what projects are reviewed. For instance, should the Commission be able to review administrative subdivisions that do not include the construction of roads or the disturbance of land. (See Windham, NH – Cobbett's Pond Watershed Protection Ordinance.)

15. The Ordinance may want to limit the amount of land disturbance or the amount of lawn. For example, the Cobbett's Pond Watershed Protection Ordinance limits total lawn to 10% of total upland area. The Chatham, North Carolina, Watershed Protection Ordinance limits 'built upon area' (i.e., impervious area) to 24% of total lot area in most areas but that limitation decreases to 12% of total lot area for others.

16. The Ordinance may want to consider credits or incentives for reducing impervious surface.

17. A map will be required to show the limits of jurisdiction for the Ordinance. This map should likely include individual parcels. Consideration should be given to how the Ordinance will be introduced, especially to residents that live in the watershed but do not necessarily consider that their property drains to the Pond.

18. A fee structure presumably will need to be developed. The Ordinance describes fees but falls short of prescribing a specific fee. In the event that Regulations are developed, the Regulations should include the fee structure. The Ordinance and Regulations require a $300 filing fee plus review fees to be paid by the applicant. Other towns have a fee structure that is related to the amount of clearing (Town of Westford).

19. A mechanism for issuing fines should be developed. Some type of fine schedule may be appropriate as described in the Weston Bylaws.

20. Will the Commission require public hearings regarding these permits. If so, will they require notification of abutters.

21. Will the plans require stamping by a Professional Engineer or a Certified Professional in Erosion and Sedimentation Control. This should be addressed in the Regulations in terms of submittal requirements for permits.

22. Will there be a timeframe for issuing permits.

23. The Ordinance should require the application to include an Operations and Maintenance (O&M) Plan as well as an Erosion and Sedimentation Control Plan. Erosion and Sedimentation Control Plans should be included as part of any submittal for a permit. Inspections of erosion and sedimentation control devices should be conducted when controls are in place. The Commission may want to consider requiring the applicants to submit proof of erosion and sedimentation inspections as well as O&M activities.

24. The Commission should decide on inspections including the number, frequency, who performs them, etc.

25. The Ordinance refers to inspection and maintenance for commercial sites. Given the low number of commercial sites, some additional focus should be placed on residential sites.

26. The Ordinance does not substantially address erosion and sedimentation control.

27. The Commission should consider requiring final as-built plans for stormwater facilities and lot development in general. The Draft Ordinance includes an as-built of the Stormwater Management System only. Presumably a Certificate of Compliance, or some sort of final approval mechanism, will be developed.

28. The Ordinance may want to include a prohibition of certain types of uses within the watershed such as dry cleaners, automotive uses, industrial uses, landfills, storage of salt and de-icing chemicals, storage of fertilizers, dumping of snow containing de-icing chemicals, disposal of hazardous materials or solid wastes, any businesses that use hazardous material, disposal of septage or sludge, septic systems, etc.

29. The Ordinance may want to include prohibiting structures within 50 feet of the Pond or pavement or parking areas within 50 feet of the Pond.

30. The Ordinance exempts work performed by the City of New Bedford. We recommend that work performed by other departments within the City of New Bedford also be required to meet these requirements.

31. The Ordinance should specifically encourage the use of Low Impact Development (LID) techniques.

32. The Ordinance may want to include timing for beginning or finishing any work authorized under the Permit.

33. Definitions are important. More space should be spent on developing the definitions. For example, the limit of the regulated area is the Sassaquin Pond Watershed. Watershed should be better defined. Other ordinances have more robust definitions. (See Windham, NH – Cobbett's Pond Watershed Protection Ordinance.)

34. The Ordinance may need a grandfathering condition. For instance, if any facility or use that is prohibited by the Ordinance already exists at the time the Ordinance is enacted, it should be allowed to remain. However, any alteration or change in use or alteration to the property should require full compliance with the Ordinance.

35. The Ordinance should prohibit illicit discharges to the storm drain system or discharges directly to the Pond. Illicit discharges should be defined in the definitions. For example, Albermarle County defines an illicit discharge as any discharge that is not a stormwater discharge with the exception of firefighting water. An illicit connection is defined as any sanitary sewage connections, water from floor drains, washing machines, etc.

36. The Chatham County, North Carolina, Jordan Reservoir Ordinance and Creedmoor, North Carolina, Ordinance regulates water quality on a nutrient loading basis. This type of regulatory mechanism is different than most ordinances in Massachusetts but could be applied here. This approach estimates the annual loading of pollutants – such as nitrogen and phosphorous – and sets targets for future

annual loading rates. Since much of the nutrient loading is from the road network which is under control of DPI, much of the nutrient reductions would need to come from improvements to DPI roads.

37. Some ordinances have sections that discuss preliminary meetings prior to filing for permits. The Commission may want to consider writing this option into the Ordinance.

38. The City of Creedmoor, North Carolina, has specific standards for pets. These standards make it illegal for pets to be off the property. Pet owners are required to clean up after their pets.

As part of this review we also considered the following Ordinances and Bylaws:

- Town of Groveland Stormwater Management and Land Disturbance Bylaw
- City of Gloucester Watershed Protection Overlay District
- Town of Medfield Watershed Protection District
- Town of Paxton Stormwater Bylaw and Regulations
- Town of Scituate Watershed Protection District section of the Zoning Bylaws
- Town of Wellesley Stormwater Bylaw
- Town of Westford Stormwater Bylaw and Regulations
- Town of Weston Stormwater and Erosion Control Regulations
- Town of Weston Zoning Bylaws
- Town of Windham, New Hampshire – Cobbett's Pond Watershed Protection Ordinance
- Albermarle County, Virginia, Watershed Protection Ordinance
- Chatham County, North Carolina, Jordan Reservoir Water Supply Nutrient Rules
- Chatham County, North Carolina, Watershed Protection Ordinance
- Draft Cook County, Illinois, Watershed Management Ordinance
- City of Creedmoor, North Carolina, Watershed Protection Ordinance
- Town of Midland, North Carolina, Watershed Protection Ordinance
- Watauga County, North Carolina, Watershed Protection Ordinance for Pond Creek
- Draft Pulaski County, Arkansas, Lake Maumelle Watershed Zoning Code

My recommendation is to have a meeting with some members of the Commission and possibly members of the local neighborhood group to discuss this ordinance. Please call if you have any questions.