

TOWN OF EXETER, NEW HAMPSHIRE
TOTAL NITROGEN CONTROL PLAN ANNUAL REPORT FOR 2017

1. BACKGROUND

This 2017 Total Nitrogen Control Plan Annual Report was prepared for the Town of Exeter, New Hampshire in order to comply with the requirements of AOC 13-010, Article IV.E. The AOC stipulates that the following items be addressed:

- The pounds of total nitrogen discharged from the WWTF during the previous calendar year (*refer to Section 2.1 of this annual report*).
- A description of the WWTF operational changes that were implemented during the previous calendar year (*refer to Section 2.2 of this annual report*).
- The status of the development of a total nitrogen NPS and storm water point source accounting system (*refer to Section 2.3 of this annual report*).
- The status of the development of the non-point source and stormwater point source Nitrogen Control Plan (*refer to Section 2.4 of this annual report*).
- A description and accounting of the activities conducted by the Town as part of its Nitrogen Control Plan (*refer to Section 2.5 of this annual report*); and
- A description of all activities within the Town during the previous year that affect nitrogen loading to the Great Bay Estuary. The annual report shall include sufficient information such that the nitrogen loading change to the watershed associated with these activities can be quantified upon development of the non-point source/point source storm water accounting system (*refer to Section 2.6 of this annual report*).

In addition, this report is intended to support the future engineering evaluations due in September 2018 (Nitrogen Control Plan) and December 2023 (Engineering Evaluation), including: documenting total nitrogen, dissolved oxygen, *chlorophyll a* and macroalgae concentration trends in the Squamscott River and downstream waters; documenting non-point source and stormwater point source reduction trends towards allocation targets; and documenting that appropriate mechanisms are in place to ensure continued progress.

2. SUMMARY OF AOC STIPULATED ITEMS

2.1. Total Pounds of Nitrogen Discharged from the WWTF in Previous Calendar Year

Attachment 1 summarizes the total pounds and total tons of nitrogen discharged from the WWTF for the calendar year as well as the annual average total nitrogen value measured at the Squamscott River “GRBCL” sampling location, located just downstream of Newfields WWTF at Chapman’s Landing. Note that the Squamscott River Sampling data for 2017 will not be available from NHDES until March 2018.

2.2. Operational Changes at the WWTF

There are no operational changes which can be made at a lagoon facility, such as Exeter’s, which would reduce the amount of nitrogen discharged. The existing WWTF and Main Pump Station are currently undergoing comprehensive upgrades to convey more flow to the WWTF and to treat to low effluent nitrogen levels.

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In anticipation of major operational changes at the WWTF, the Town has been engaged in on-going planning, design and construction efforts for the full calendar year. Each is summarized below:

- The WWTF Upgrades (Contract No. 1)
 - Design Approval and Authorization to Bid were granted by NHDES in December 2016.
 - Bid opening occurred on February 27, 2017 and four bids were received.
 - After a bid evaluation, the Notice of Award was issued to Apex Construction, Inc. on March 28, 2017.
 - The Notice to Proceed was issued on April 26, 2017 and the Contract Times commenced on May 15, 2017.
 - Construction is approximately 36% completed through December 31, 2017. The project is currently on-schedule for timely substantial completion of Interim Milestone No. 3 (items regarding to meet the AOC Interim Limits).

- The Forcemain Upgrades (Contract No. 2)
 - The 90% Design Documents were submitted to the Town, NHDES and EPA in December 2016. The Town and NHDOT have been in communication since that time regarding permanent ownership of the road and funding related to drainage improvements. This is expected to be resolved in early 2018 so the project design can be completed and advertised for bidding.
 - Contracts No. 1 and No. 3 can be substantially completed and operational without Contract No. 2 being completed.

- The MPS Upgrades (Contract No. 3)
 - 100% Bidding Documents were submitted to NHDES and EPA for approval on April 5, 2017.
 - Design Approval and Authorization to Bid were granted by NHDES on June 1, 2017.
 - Bid Opening occurred on July 17, 2017 and three bids were received.
 - After a bid evaluation, the Notice of Award was issued to T-Buck Construction, Inc. on August 16, 2017.
 - The Notice to Proceed was issued on September 14, 2017 and the Contract Times commenced on September 22, 2017.
 - Construction is approximately 9% completed through December 31, 2017. The project is currently on-schedule for timely substantial completion.

2.3. Development of Total Nitrogen NPS & Stormwater Point Source Accounting

2.3.1. PTAPP Participation

The Town of Exeter is actively participating in the Great Bay Pollution Tracking and Accounting Pilot Program (PTAPP), which is led by NHDES and EPA. The purpose of PTAPP is to enable coordination on nitrogen tracking and accounting

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for the Great Bay region. PTAPP is intended to make progress towards developing shared approaches and tools within the participant Great Bay communities. The multi-year implementation framework is briefly described in the following four phases of PTAPP. The PTAPP Implementation Framework is included as **Attachment 2**. A summary of the phases is provided below.

Phase 1: Outcomes, Benefits and Rationale for Moving Forward. Phase 1 was completed in October 2015. During Phase 1 participants identified three key benefits to justify moving forward to further develop and implement a regional approach for pollution tracking and accounting. The three key benefits were Cost Savings, Regulatory Compliance and Coordination with other Regional Efforts.

Phase 2: Pilot Tracking Program and Conceptual Planning for Accounting Methods. Phase 2 began in January 2016 and is scheduled to conclude with the roll-out of the pilot tracking web-based tool in Spring 2017. The Tracking Program is anticipated to include a Local Tracking Efforts path and a Regional Tracking Efforts path. The Accounting Methods will include the development of regional accounting methods to quantify existing loads and load reductions achieved through implementation of tracked NPS management activities. NHDES and UNH agreed to collaborate to develop the pilot program database and on-line user interface. NHDES and UNH developed a scope of work and a contractual arrangement for UNH to complete this work and for UNH to serve as the data host for several years. NHDES and UNH began development of the database and interface in Spring 2016 and intend to complete the development and roll-out by Spring 2017. Three PTAPP meetings were held in 2016 – January 22, April 22 and November 17 and Exeter attended and participated in all meetings. The PTAPP communities conceptually agreed to a Memorandum of Understanding in 2016; however, the communities has not yet collectively concluded that the MOU is necessary or collectively signed the document.

Phase 3: Evaluate Pilot Tracking Program and Formalize Accounting Process. Phase 3 occurred in 2017, including meetings on May 4 and December 1. The participants focused on evaluating/utilizing the local and regional pilot tracking programs. Also, based on feedback from stakeholders' review of the conceptual framework, a formal process for developing accounting methods was established. UNH/NHDES prepared a web-based tracking tool for beta-testing by the member community. Exeter tasked Wright-Pierce with completing a beta-test for three recently completed projects. The Town and Wright-Pierce provided constructive comments to UNH/NHDES for integration into the web-based tool.

UNH/NHDES committed to accepting other public comments on the web-based tool through December 31, 2017; at which time, the comment period would close. UNH/NHDES committed to completing work on the web-based tool and making it ready for public use in February 2018. Exeter intends to implement use of the web-based tool once it is completed and available for public use.

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Phase 4 and Beyond: Implementation of Regional Tracking Program for Completing and Implementing Accounting System. Phase 4 is scheduled to begin in Spring 2018 and continue into the future. It is anticipated that technical and financial resources will be in place to implement the regional tracking program including additional communities. The process for developing accounting methods will also be implemented. This will likely include a series of expert panels, stakeholder meetings, comprehensive literature reviews and other steps that will be needed in what is likely to be a highly iterative, long term process. UNH/NHDES announced at the December 1 PTAPP meeting that they had secured funding to continue the PTAPP program through 2018 and will look to find a “permanent owner” for the web-based tool/database beginning in 2019.

2.3.2. Nitrogen Tracking Worksheet

The Town updated its “Land Use Development Tracking Worksheet” on November 29, 2017. This worksheet is intended for use on new development projects. A sample of this worksheet, and the instructions used to complete it, is included as **Attachment 3**. This new worksheet was used in the development of the non-point source nitrogen tracking in this 2017 TN Annual Report. The Town will require that project developers utilize this worksheet for all proposed projects submitted to the Exeter Planning Board and Exeter Engineering Department until such time as the PTAPP web-based tool is completed.

2.3.3. NPDES MS4

The Town submitted an NPDES Small MS4 General Permit Annual Report, which summarizes the activities taken to date for compliance with all permit conditions (**See Attachment 4**). In addition to the activities noted in the MS4 General Permit Annual Report, the Town has worked to progress the activities noted in Section 2.5.4. MS4 Permit Assistance through December 2017.

2.4. Status of NPS and Stormwater Point Source Nitrogen Control Plan

The Town authorized Wright-Pierce to begin work on Phase 1 of the Nitrogen Control Plan in Spring 2017. Phase 1 consisted of the following major tasks:

- **Establish Baseline Conditions:** The baseline conditions were established by adapting the results of three previous work products, as documented in the reports entitled “Great Bay Nitrogen Non-Point Source Study” (NHDES, June 2014), “Wastewater Facilities Plan” (WP, March 2015) and “Water Integration for Squamscott Exeter (WISE), Preliminary Integrated Plan Report” (Geosyntec, December 2015). The baseline conditions were established based on 2010 data in the prior work products and reconciled into a final Baseline Conditions for the Nitrogen Control Plan. The baseline conditions were estimated for each of the four watersheds in which the Town of Exeter is located (i.e., Exeter/Squamscott River, Lamprey River, Winnicut River, and Hampton Harbor/Coastal). Under Baseline Condition, total nitrogen loads from each of the following sources were estimated: NPS-Stormwater (includes atmospheric

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deposition, chemical fertilizer, and animal waste); NPS-Groundwater Non-septic (includes infiltrated stormwater); NPS-Groundwater Septic; and PS-WWTF Effluent

- Develop Planning-Level Cost Estimates to Remove 10,400 Pounds TN per Year from WWTF: Updated planning-level cost estimate to upgrade WWTF to achieve 3-mg/L effluent TN concentration, based on previous estimates provided to the Town. This approach would remove a point delivered load equal to 10,400 pounds TN removed per year below the estimated 5-mg/l expected from the on-going upgrade.
- Develop Planning-Level Cost Estimate to Remove TN via NPS Measures: Developed planning-level cost estimates associated with three scenarios:
 - 1) combination of NPS measures to remove 10,400 pounds of TN per year;
 - 2) combination of NPS measures to meet the MS4 permit requirements; and
 - 3) combination of NPS to meet the MS4 permit requirements plus an additional \$100,000 per year expenditures.

The Town is currently evaluating next steps for completion of the overall Nitrogen Control Plan by September 2018 in accordance with the AOC. The Nitrogen Control Plan will integrate and build upon the point source and non-point source content that was developed in the Wastewater Facilities Plan (WP, March 2015) and the WISE Report (Geosyntec, et.al., December 2015).

The Town collaborated with Waterstone Engineering and the Rockingham Planning Commission, who were awarded a Watershed Assistance grant through DES to further study nutrient control through the implementation of BMPs in the Lincoln Street subwatershed. The analysis conducted by Waterstone Engineering in 2017 recommended specific stormwater BMP projects to improve stormwater quality and reduce stormwater quantity to the Squamscott River. As a requirement of the grant, the Town and Waterstone presented to the Exeter Conservation Commission during the study phase and at the conclusion of the project.

Other Nitrogen Control Plan related activities that the Town completed this year include:

- On-going construction of the WWTF and Main Pump Station Upgrade project.
- Continued participation in the NHDES PTAPP project.
- Continued compliance with the requirements of the NPDES MS4 General Permit.
- Continued outreach and education to the residents of Exeter.
- Continued work with the Healthy Lawns Clean Water committee to address implementation with the Town's fertilizer prohibition regulations in the zoning ordinance for the Exeter Shoreland District and Aquifer Protection District.
- Recipient of the Gulf of Maine Council Sustainable Communities Award for the collaborative process to develop the fertilizer regulations (see **Attachment 5** for Award Letter).

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- In December, the Natural Resource Planner presented improvements at the Piscataqua Regions Estuary Partnership (PREP) State of Our Estuary Conference on the volunteer involvement with the Great Dam Removal project.
- Conservation Commission partnered with two Eagle Scouts on two interactive kiosks that highlights the importance of protecting two riverside conservation ponds – the McDonnell Conservation area along the north bank of the Exeter River between Linden and Court St. and the Morrissette Conservation Area along the south bank of the Little River between Linden and Court St (see **Attachment 6** for photos).
- Local public access TV station “TV98” created a video on the Great Dam Removal project.
- Continuing tracking efforts by Town departments.
- Continuing outreach to NHDES on Great Bay watershed strategies.
- Started and progressed Stormwater Ordinance revisions in 2017. The Town and Wright-Pierce are continuing to work on these revisions in 2018.
- Continuing to consider future initiatives outlining strategies to engage other communities within the Exeter River watershed. *[Note: As presented in the Wastewater Facilities Plan, Exeter is the source of 33% of the delivered load to the Great Bay from the Exeter/Squamscott River watershed; conversely, the other 14 communities represent 66% of the delivered load. Achieving the targeted water quality improvements will require the cooperation and participation of all the communities within the Exeter River watershed.]*

2.5. Description and Accounting of the Activities Conducted by the Town as part of its Nitrogen Control Plan

Some of the Town’s activities related to the development of the Nitrogen Control Plan are summarized on the preceding pages. Additional information is presented below.

2.5.1. Baseline Stormwater Total Nitrogen - Existing Loads

As noted above, this task was completed in 2017.

2.5.2. BMP Optimization and Costing for Nitrogen Management

As noted above, a comparative assessment of three approaches was completed in 2017. The Town is currently next steps for the Nitrogen Control Plan.

2.5.3. Water Quality Monitoring Plan

As noted above, a draft water quality monitoring plan has been developed for the WISE communities with input from the three towns, WISE, NHDES, and EPA. This Plan will be updated as a part of developing the Nitrogen Control Plan due in September 2018. In the interim, the Town has been monitoring the data collected by UNH/NHDES/PREP.

Town Planning Department staff regularly participate in the State’s Volunteer River Assessment Program (VRAP). Bi-monthly samples are taken at nine sites throughout Exeter as part of the state-wide effort to promote water quality efforts.

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Monitoring occurred in 2017 between June and August. The 2017 Exeter River Watershed VRAP data results are included in **Attachment 7**. The Town also purchased new water monitoring equipment to help with VRAP efforts.

2.5.4. MS4 Permit Assistance

- Wright-Pierce was retained to evaluate the existing Stormwater Regulations for compliance with the 2017 NH Small MS4 General Permit. Amendments to the Site Plan Review and Subdivision Regulations for the Town of Exeter were drafted and presented to the Planning Board for review and future adoption.
- Wright-Pierce was retained to assist in development of a written Stormwater Management Program (SWMP) and Illicit Discharge Detection and Elimination (IDDE) Plan for compliance with the 2017 NH Small MS4 General Permit. This work included assistance in development of outfall inspection procedures and preparation of an outfall inspection form, development of receiving water and outfall maps, initial catchment delineations, and initial priority ranking of catchments.

2.6. Description of activities conducted which affect nitrogen in the Great Bay Estuary

Numerous activities were conducted in Town which affects nitrogen in the Great Bay Estuary. The activities are described below and are organized by municipal department.

2.6.1. Coordination between Departments

As noted above, the Town is required to develop a total nitrogen tracking and accounting system as a part of the AOC. There are three departments that are responsible for managing, monitoring and/or approving activities which impact the total nitrogen load – either increasing or decreasing – to the Great Bay Estuary. The Planning Department is primarily responsible for new developments (e.g., buildings, private roads, etc.), the Building Department is primarily responsible for monitoring the status of construction of development (e.g., housing, commercial, etc.) and the Public Works Department is primarily responsible for public infrastructure (e.g., WWTF, public roads, sewers, storm drains, etc.). Over the past year, the Town has made progress in identifying areas of responsibility for the three departments and in identifying coordination procedures between departments. The table below summarizes the results of the initial discussions regarding the responsibility for tracking.

Status of “Primary Areas of Responsibility Tracking”

Public Works Department	Planning and Building Departments
WWTF activities and upgrades	New and modified septic systems
Changes in Infiltration/Inflow	New and modified private WWTFs
Changes in impervious cover (public)	New connections to the sewer system
Changes in stormwater BMPs (public)	Changes in stormwater BMPs (private)
Changes in turf management (public)	Changes in turf management (private)
Changes in ordinances (e.g., stormwater)	Changes in ordinances (e.g., zoning)

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Public Works Department	Planning and Building Departments
Maintenance and mapping of infrastructure	Conversion of existing landscape
Facilities Planning	Changes in impervious cover (development)
Industrial Pre-treatment program	
Grease trap program	

2.6.2. Planning and Building Departments

The Building Department issued a total of 49 building permits for parcels which had development/re-development that impacted total nitrogen. In summary, these parcels resulted in approximately 717,031 square feet of new impervious area, four new septic systems, and 11 new sewer connections. Of the 44 parcels with new impervious area, eight included at least one Best Management Practice (BMP) such as a rain garden or roof runoff infiltration system. The Nitrogen Tracking Summary is included as **Attachment 8**. In addition, the Building Department enacted regulation that will require all projects that are submitted to the Exeter Planning Board to include a BMP Operations & Maintenance manual to the Exeter Department of Public Works (DPW). The DPW will start tracking private CB cleanings and street sweeping.

The Planning and Building Departments hosted a Spring Rain Barrel event. Rain barrels were available for residents to purchase (16 sold in 2017).

2.6.3. Department of Public Works

The Department of Public Works has conducted a substantial amount of activities in 2017 which have affected nitrogen in Great Bay, including capital improvements, best management practices, training activities, outreach activities and planning efforts. These are summarized below.

- Continued outreach and education through the following efforts are included in **Attachment 9**.
 - “Think Blue Exeter” program website.
 - “Sump Pump Removal Program” – A letter was distributed to members of the town that gave 5 years warning for when all sump pumps must be removed.
 - “Septic Smart” program informative display in town offices and pamphlets.
 - “What’s Flushable?” NHDES program pamphlets.
- Expanded their “Pet Waste” initiative through purchasing \$1,500 of pet waste dispensers and bags, which were made available during 2017 pet registration at the Town Clerk’s office. There are 19 pet waste stations available throughout the Town for use by the public (see **Attachment 10**).
- Continued street sweeping and catch basin cleaning programs. Approximately 3,155 miles of streets were swept and a total of 550 catch basins were cleaned.
- Approximately 52,302 linear feet of sanitary sewer was jetted and 21,718 linear feet of sanitary sewer was televised. No root control was done in 2017.

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- Rehabilitated one manhole (SMH-0244) at High Street/Gilman Lane intersection in October 2017.
- Approximately 763 linear feet of 18” pipe was relined, 254 linear feet of 15” pipe was relined, and 100 linear feet of new 18” SDR-35 PVC pipe was installed.
- Received EPA approval on the updated CSO LTCP Program Implementation Schedule provided on Table 14-1 (see **Attachment 11**).
- Five public works employees completed the NHDES educational class on “Fats, Oils, Grease”.
- Three public works employees completed the NEIWPCC educational class on “Instrumentation Measurement and Control with Use of SCADA for Process Efficiency”.
- Two public works employees completed the NHDES educational class on “Fundamentals of Secondary Treatment”.
- One public works employee completed the New England Regional Pretreatment Coordinators Association (NERPCA) workshop on “Pretreatment Coordinators Workshop”.
- 6 public works personnel were awarded Culvert Maintainer Certifications
- 3 DPW personnel and 3 town board members (volunteers) attended and participated in a seminar on “The State of Our Estuaries” sponsored by the Piscataqua Regions Estuary Partnership (PREP) in December 2017. The Director of Public Works presented at this seminar on the WWTF Upgrades, Great Dam Removal, and other infrastructure improvements.
- All Highway Department snow plow drivers received their “Green Pro Snow Certification”.
- Prior to first snow fall, all salt spreaders were calibrated.
- All catch basins/drains to the Squamscott River were stenciled or verified stenciled “Drains to River”.
- Each Town resident was permitted to have up to twelve bags of leaves picked up for free in the Spring and Fall of 2017, and they were able to drop leaves off at the Exeter transfer station. The leaves were composted and residents are allowed to use the compost for lawn/garden fertilization.
- Each Town resident was permitted to have one Christmas Tree picked up for free in the Winter of 2017.
- The Court Street Culvert Replacement Project was approved during Town Elections on March 14, 2017 and was constructed in 2017.
- The Exeter River Cooperative private sewer upgrade project (to replace all sanitary sewers) was approved in 2016 and was constructed in 2017.

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LIST OF ATTACHMENTS

- Attachment 1: Exeter WWTF Annual Total Nitrogen Load Table
- Attachment 2: PTAPP Implementation Framework
- Attachment 3: Land Use Development Tracking Worksheet
- Attachment 4: MS4 Annual Report
- Attachment 5: Gulf of Maine Council Sustainable Community Award Letter
- Attachment 6: Conservation Commission Eagle Scout Photos
- Attachment 7: 2017 VRAP Data
- Attachment 8: Nitrogen Tracking Summary
- Attachment 9: Education & Outreach Flyers
- Attachment 10: Pet Waste Station Location Map
- Attachment 11: Updated CSO LTCP Table 14-1 and EPA Approval Letter

Attachment 1
2017 Exeter Annual TN Load Table

EXETER WWTF - TOTAL ANNUAL NITROGEN LOAD TO SQUAMSCOTT RIVER															
WWTF EFFLUENT - TOTAL ANNUAL NITROGEN LOAD															GRBCL
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Load	Load	Squamscott R.
	(lbs/mn)	(lbs/mn)	(lbs/mn)	(lbs/mn)	(lbs/mn)	(lbs/mn)	(lbs/mn)	(lbs/mn)	(lbs/mn)	(lbs/mn)	(lbs/mn)	(lbs/mn)	(lbs/yr)	(tons/yr)	TN Conc.
															(mg/l)
Days per month	31	28	31	30	31	30	31	31	30	31	30	31			
Past Years															
2003-2008	-	-	-	-	-	-	-	-	-	-	-	-	85,400	42.7	0.77
2009-2011	-	-	-	-	-	-	-	-	-	-	-	-	83,600	41.8	0.71
2012	8,457	7,830	9,303	8,151	11,590	7,633	4,338	2,235	2,312	6,349	6,222	11,745	86,164	43.1	0.83
2013	10,700	9,082	13,913	8,681	9,029	12,500	10,852	7,165	3,971	5,203	8,611	11,270	110,976	55.5	0.82
2014	10,198	8,321	9,439	6,754	6,643	6,803	6,680	8,014	4,565	5,037	10,906	12,981	96,342	48.2	0.68
2015	10,441	8,630	13,638	12,249	7,454	12,009	10,911	9,024	6,667	6,980	6,644	8,713	113,359	56.7	0.88
2016	10,751	10,554	11,538	8,765	8,714	6,858	9,769	6,856	2,645	6,070	9,799	13,340	105,658	52.8	0.74
2017	15,725	11,922	10,346	13,973	12,885	11,578	12,042	10,431	7,350	10,082	11,141	10,989	138,465	69.2	Note 4
Previous Year (2015)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Monthly Avg Flow (mgd)	1.71	1.36	1.83	2.88	1.56	1.74	1.49	1.23	1.18	1.32	1.31	1.37	-	-	
Avg TN Conc. on Sample Day (mg/l)	24.5	27.0	29.0	17.5	18.2	28.0	27.5	27.3	23.2	21.0	20.3	25.2	-	-	
Avg TN Load on Sample Day (lb/d)	324	310	437	396	244	394	362	302	216	219	221	274	-	-	
Load - Flow Basis	10,838	8,580	13,729	12,618	7,345	12,197	10,600	8,687	6,854	7,171	6,658	8,931	-	-	
Load - Load Basis	10,044	8,680	13,547	11,880	7,564	11,820	11,222	9,362	6,480	6,789	6,630	8,494	-	-	
Load - Average	10,441	8,630	13,638	12,249	7,454	12,009	10,911	9,024	6,667	6,980	6,644	8,713	113,359	56.7	
Previous Year (2016)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Monthly Avg Flow (mgd)	1.72	1.84	1.99	1.69	1.36	1.21	1.12	1.11	1.08	1.22	1.32	1.45	-	-	
Avg TN Conc. on Sample Day (mg/l)	23.8	25.0	21.4	20.8	24.6	22.5	33.3	24.0	9.8	20.0	28.8	36.5	-	-	
Avg TN Load on Sample Day (lb/d)	352	370	389	291	283	230	319	220	88	188	336	419	-	-	
Load - Flow Basis	10,590	10,748	11,017	8,800	8,655	6,816	9,648	6,892	2,650	6,312	9,517	13,691	-	-	
Load - Load Basis	10,912	10,360	12,059	8,730	8,773	6,900	9,889	6,820	2,640	5,828	10,080	12,989	-	-	
Load - Average	10,751	10,554	11,538	8,765	8,714	6,858	9,769	6,856	2,645	6,070	9,799	13,340	105,658	52.8	
Current Year (2017)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Monthly Avg Flow (mgd)	1.94	1.87	2.13	3.06	2.59	2	1.64	1.46	1.36	1.05	1.24	1.24	-	-	
Avg TN Conc. on Sample Day (mg/l)	32.4	26.5	21.8	17.8	19.4	23.3	29.0	27.0	21.5	37.6	33.8	34.5	-	-	
Avg TN Load on Sample Day (lb/d)	490	438	280	477	412	383	380	344	246	321	393	352	-	-	
Load - Flow Basis	16,261	11,579	12,012	13,636	12,998	11,666	12,304	10,198	7,320	10,213	10,493	11,067	-	-	
Load - Load Basis	15,190	12,264	8,680	14,310	12,772	11,490	11,780	10,664	7,380	9,951	11,790	10,912	-	-	
Load - Average	15,725	11,922	10,346	13,973	12,885	11,578	12,042	10,431	7,350	10,082	11,141	10,989	138,465	69.2	

NOTES:

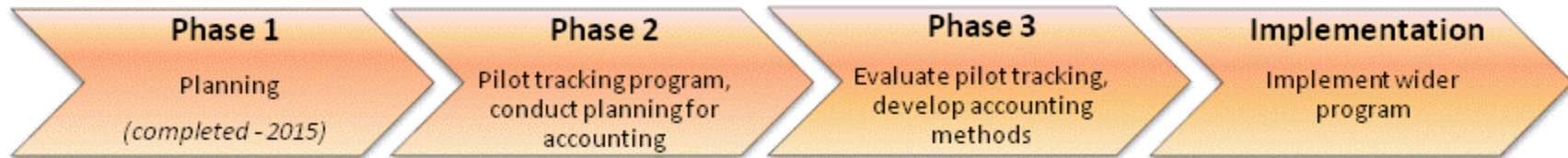
1. Red font indicates data from effluent composite sampler, TN measured directly. Multiple sampling days are averaged (2013 data to present)
2. Per the 2009 NHDES document, "Numeric Nutrient Criteria for the Great Bay Estuary," for days with multiple samples, the highest Squamscott River TN value was utilized.
3. Sample location is identified as GRBCL, located just downstream of the Newfields Wastewater Treatment Facility.
4. 2017 Data will not be available until early 2018.

SOURCES:

1. 2003-2011 WWTF TN Loading values are from the 2012 Environmental Data Report (PREP).
2. The 2003-2013 Squamscott River TN Concentration values are derived from the UNH Jackson Estuarine Laboratory Tidal Water Quality Monitoring Program.
3. The 2014 Squamscott River TN Concnetration value was derived from the UNH Tidal Water Quality Monitoring Program and samples were taken at the Chapmans Landing on the Squamscott River.
4. The 2015 Squamscott River TN Concentration values are derived from the 2015 Great Bay Watershed Quality Monitoring Program.

Attachment 2
PTAPP Implementation Framework

Great Bay Pollution Tracking and Accounting Pilot Project Implementation Framework



<ul style="list-style-type: none"> • Developed shared definition of tracking and accounting • Identified activities for tracking (Tracking Matrix) • Established regional dialogue and process • Identified key program drivers, needs, and barriers • Developed conceptual framework and costs for implementation 	<ul style="list-style-type: none"> • Create Memorandum of Understanding • Develop and test "beta" regional tracking database; use Tracking Matrix as foundation • Work with municipalities, GRANIT, RPCs, UNHSC, DES, PREP, GBNERR, etc. to input data and refine tracking methods • Identify accounting process to quantify load reductions for tracked activities • Develop business plan • Continue work group meetings 	<ul style="list-style-type: none"> • Refine database based on partner input - what worked and what didn't • Identify technical and financial resources to implement tracking beyond pilot communities • Implement process to develop accounting methods • Develop framework for broader implementation and identify funding and key roles/providers • Continue business plan development • Continue work group meetings 	<ul style="list-style-type: none"> • Implement tracking with additional communities • Continue process to develop accounting methods to quantify load reductions for tracked activities • Identify and implement tools and financial resources as program evolves • Convene advisory committee to aid in program assessment and development • Provide progress reports to partners
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Attachment 3
Land Use Development Tracking Worksheet

Town of Exeter, NH

Land Use Development Tracking Worksheet



1) Project Name			2) Project Address			3) Map / Lot No.		4) Zoning District(s)		5) Total Parcel(s) Area (sf)		6) Planning Board Case No.			
7) Construction Phase		8) Project Area for Phase (sf)		9) Total Project Area (sf)		10) Brief Project Description									
_____ of _____															
11) Impaired Water?		12) Name of Water Body		13) Distance from Water (ft)		14) GPS Latitude (N)		15) GPS Longitude (W)		16) Source Reference Material					
Yes _____ No _____															
Land Use / Cover Type	Lawn/Turf (sf)	Forest (sf)	Wetland (sf)	Impervious (sf)	Disconnected Impervious (sf)	Agriculture/Pasture (sf)	Other Land Use (sf)		19) Description of Agricultural/Pasture Use						
17) Existing	HSG A								20) Description of Other Land Use						
	HSG B														
	HSG C														
	HSG D								21) Wetland Areas Filled (sf)		22) Wetland Areas Restored (sf)				
18) Proposed	HSG A								23) Shoreland Buffer Removed (sf)		24) Shoreland Buffer Restored (sf)				
	HSG B														
	HSG C														
	HSG D														
25) Sanitary Sewer (Y/N)		26) Number of Bedrooms (Sewer)	27) Sewer Design Flow (gpd)	28) Septic System (Y/N)	29) New / Rebuilt (N/R)	30) Number of Bedrooms (Septic)	31) Septic System Design Flow (gpd)		32) Septic System Description		33) Other Sewage Treatment				
34) BMP ID	35) BMP Type (S/NS)	36) BMP Description	37) DIR (in/hr)	38) WQV (cf)	39) WQF (cfs)	40) GRV (cf)	41) DSV (cf)	42) Drainage Area Total (sf)	43) Drainage Area OnSite (sf)	44) Impervious Area (sf)	45) Disconnection Multiplier	46) DCIA (sf)	47) Underdrained (Y/N)	48) Hydrologic Soil Group	49) MIR (in/hr)
50) Completed By:					51) Date:			52) Approval Date			53) Certificate of Occupancy Date				

INSTRUCTIONS

Instructions for completing the Land Use Development Tracking Worksheet are provided below. For any boxes that are not applicable to a project, enter "n/a".

1. Project Name. Identify the project name.
2. Project Address. Identify the project address.
3. Map/Lot No. Identify the map/lot for the project parcel(s).
4. Zoning District(s). Identify the Zoning District(s) for the project parcels.
5. Total Parcel(s) Area (sf). Identify the total parcel area for all project parcels.
6. Planning Board Case No. Exeter Planning Board Case Number; for Town use only.
7. Construction Phase. Identify the current phase and the total number of construction phases for the project.
8. Project Area for Phase (sf). Identify the project area for the subject phase.
9. Total Project Area (sf). Identify the project area for total project (all phases). This value may be less than the Total Parcel Area.
10. Brief Project Description. Provide a brief description of the project; for example, 20 lot subdivision, 20,000 square foot commercial development, etc.
11. Impaired Water. If the subject parcel is within a watershed of an impaired water input "Yes". If not input "No" and skip to Box 14.
12. If Box 11 is "Yes", input the name of the impaired water body.
13. If Box 11 is "Yes", input the shortest distance from the water body to the edge of the disturbance on the subject parcel.
14. GPS Coordinates. Input the latitude of the site/centroid.
15. GPS Coordinates. Input the longitude of the site/centroid.
16. Source Reference Material. Identify the reference material used to obtain the information to fill out the Land Use Development Tracking Worksheet (e.g. Building Department File, NHDES Alteration of Terrain Application).
17. Input an estimate of each applicable existing cover type areas (square feet), for each underlying soil group(s) (A, B, C, D). If not applicable, input "n/a". For dual hydrologic soil groups (e.g., C/D), enter under the lower permeability group (e.g., D) and notate the dual group.
18. Input an estimate of each applicable proposed cover type areas (square feet), for each underlying soil group(s) (A, B, C, D). If not applicable, input "n/a". For dual hydrologic soil groups (e.g., C/D), enter under the lower permeability group (e.g., D) and notate the dual group.
19. Description of Agricultural/Pasture Use. Provide a description of the existing or proposed Agricultural/Pasture land use, if applicable.
20. Description of Other Land Use. If "Other Land Use" blocks are filled in, provide a brief description of that existing and proposed land use.
21. Wetlands Area Filled (sf). Identify the area of wetlands that are proposed to be filled.
22. Wetland Area Restored (sf). Identify the area of wetlands that are proposed to be restored.

23. Shoreland Buffer Removed (sf). Identify the shoreland buffer area (Exeter definitions) that is proposed to be lost.
24. Shoreland Buffer Restored (sf). Identify the shoreland buffer area (Exeter definitions) that is proposed to be restored.
25. Sanitary Sewer (Y/N). If the proposed project will be connected to the Exeter sanitary sewer system input Y, if not input N and go to Box 28.
26. Number of Bedrooms (Sewer). Input the number of bedrooms that the sanitary sewer connection will serve.
27. Sewer Design Flow (gpd). Input the design flow (annual average gallons per day) for the sewer connection.
28. Septic System (Y/N). If the proposed project will be served by a septic system input "Yes", if not input "No" and go to Box 33.
29. New/Rebuilt (N/R). If the septic system is a new installation input "N", and if the septic system is rebuilt input "R".
30. Number of Bedrooms (Septic). Input the number of bedrooms that the septic system will serve.
31. Septic System Design Flow (gpd). Input the design flow (subsurface disposal rate gallons per day) for the septic system.
32. Septic System Description. Describe the type of septic system (e.g. "conventional" or "nitrogen removing"), including manufacturer name and model.
33. Other Sewage Treatment. If the project does not connect to the sanitary sewer or have a septic system, provide a description in the box.
34. BMP ID. Input a unique identifier for each existing and proposed Best Management Practice as designated in the drainage analysis, permit drawings, etc.
35. BMP Type. Identify whether the BMP is a Structural BMP by entering "S" or a Non-Structural BMP by entering "NS".
36. BMP Description. Describe each BMP; for example, wet pond, dry ponds, wetland system, infiltration system, bioretention areas, etc.
37. DIR (in/hr). Input the Design Infiltration Rate (DIR) selected for the design of the infiltration BMP.
38. WQV (cf). Input the Water Quality Volume (WQV) used to design the BMP. If not applicable, enter "0".
39. WQF (cfs). Input the Water Quality Flow (WQF) used to design the BMP. If not applicable, enter "0".
40. GRV (cf). Input the Groundwater Recharge Volume (GRV) used to design the BMP. If not applicable, enter "0".
41. DSV (cf). Input the Design Storage Volume (DSV) used to design the BMP, as calculated per the 2017 NH Small MS4 General Permit, Appendix F.
42. Drainage Area Total (sf). Input the total drainage area which is directed to the specific BMP.
43. Drainage Area On-Site (sf). Input the on-site portion of the drainage area which is directed to the specific BMP (i.e., exclude off-site drainage areas).
44. Impervious Area (sf). Input the on-site impervious area that is directed to the BMP.

45. Disconnection Multiplier. Input the Disconnection Multiplier for the BMP.
46. DCIA (sf). Input the Directly Connected Impervious Area (DCIA) that is directed to the BMP.
47. Underdrained (Y/N). If the BMP has underdrains that reduce or eliminate infiltration, input "Yes". If not input "No".
48. Hydrologic Soil Group. Input the Hydrologic Soil Group (A, B, C, D or dual groups) under the BMP.
49. MIR (in/hr). Input the Measured Infiltration Rate (MIR) for the ground under the BMP.
50. Completed By. Identify the person that completed the Land Use Development Tracking Worksheet.
51. Date. Identify the date that the Land Use Development Tracking Worksheet was completed.
52. Approval Date. Planning Board approval date, for Town use.
53. Certificate of Occupancy Date. Date that the first certificate of occupancy was issued for this phase, for Town use.

DEFINITIONS

- A. Best Management Practice (BMP): A structural or non-structural device designed to temporarily store and treat urban stormwater runoff in order to mitigate flooding, and reduce pollution.
- B. Design Infiltration Rate (DIR): The infiltration rate that was selected to design the infiltration BMP (See NHDES Stormwater Manual: Volume 2, current version).
- C. Design Storage Volume (DSV): The design storage volume for estimating the cumulative pollutant reductions under the 2017 NH Small MS4 General Permit.
- D. Directly Connected Impervious Area (DCIA): Portion of impervious areas with a direct hydraulic connection to the drainage conveyance system or a water body via continuous paved surfaces, gutters, drain pipes, or other conventional conveyance and detention structures that do not reduce runoff volumes [DCIA = IA * Disconnection Multiplier].
- E. Disconnected Impervious Area (DIA): Impervious cover that does not contribute directly to stormwater runoff from a site but directs stormwater runoff to on-site pervious cover to infiltrate into the soil or be filtered overland flow so that the net rate and volume of stormwater runoff from the disconnected impervious cover is not greater than the rate and volume from undisturbed cover of equal area.
- F. Disconnection Multiplier: Percentage of Impervious Area (IA) that can be discounted based on EPA BMP design guidance in EPA document "Estimating Change in Impervious Area (IA) and Directly Connected Impervious Area (DCIA) for New Hampshire Small MS4 Permit", dated April 2011, revised April 2014.
- G. Drainage Area: Surface area upstream of a designated discharge point or BMP where runoff from rain, snowmelt or irrigation, which is not infiltrated into the ground, flows over the ground to reach the designated point.
- H. Groundwater Recharge Volume (GRV): The volume of stormwater runoff required to maintain pre-development annual groundwater recharge volumes by capturing and infiltrating a portion of the

runoff from the post-development impervious surfaces for each individual storm event (See NHDES Stormwater Manual: Volume 2, current version).

- I. Impaired Water: Those waters that are not attaining designated uses as listed on the NHDES 303(d) list and the NHDES watershed report card.
- J. Impervious Area (IA): Those surfaces that cannot infiltrate rainfall (e.g. building rooftops, sidewalks, driveways, parking lots, pavement and compacted gravel). Total impervious area (IA) is the sum of directly connected impervious area (DCIA) and disconnected impervious area (DIA), [IA = DCIA + DIA].
- K. Non-Structural BMP: Land use or maintenance practices that improve water quality. Eligible items consist of: BMP operation and maintenance; catch basin cleaning; driveway sweeping; and voluntary fertilizer controls
- L. Structural BMP: Constructed measures that are designed to reduce pollutant loads in stormwater runoff such as bio-filtration, dry ponds, gravel wetlands, infiltration systems, porous pavement, sand filters, water quality swales with detention and wet ponds. Refer to the definitions in the NHDES Stormwater Manual: Volume 2, current version).
- M. Water Quality Volume (WQV): The amount of stormwater runoff from a rainfall event that should be captured and treated to remove the majority of stormwater pollutants on an average annual basis. (See NHDES Stormwater Manual: Volume 2, current version).
- N. Water Quality Flow (WQF): The flowrate associated with the WQV for sizing flow-based treatment and pre-treatment practices (e.g. Treatment Swales, Pre-treatment Swales, Flow-Through-Devices, etc.). (See NHDES Stormwater Manual: Volume 2, current version).

REFERENCES

1. Estimating Change in Impervious Area (IA) and Directly Connected Impervious Area (DCIA) for New Hampshire Small MS4 Permit, Small MS4 Permit Technical Support Document, April 2011, Revised April 2014, *Environmental Protection Agency*.
2. Model Stormwater Standards for Coastal Watershed Communities, December 2012, *UNH Stormwater Center and the Rockingham Planning Commission*.
3. New Hampshire Stormwater Manual, Volume 2 Post-Construction Best Management Practices Selection and Design, December 2008 Revision 1.0, *New Hampshire Department of Environmental Services*.
4. 2017 NH Small MS4 General Permit, *Environmental Protection Agency*.

Attachment 4
2017 MS4 Annual Report

Municipality/Organization: Town of Exeter, NH

EPA NPDES Permit Number: NHR041007

Annual Report Number & Reporting Period: Year 14
April 1, 2016 – March 31, 2017

**NPDES PII Small MS4 General Permit
Annual Report
(Due: May 1, 2017)**

Part I. General Information


Contact Person: Jennifer Mates, P.E. **Title:** Assistant Town Engineer

Telephone #: (603) 418-6431 **Email:** jmates@exeternh.gov

Mailing Address: 13 Newfields Rd, Exeter, NH 03833

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: 

Printed Name: Russell Dean

Title: Town Manager

Date: 4/28/17

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Part II. Self-Assessment

The Town of Exeter has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions, with the possible exception of the following provisions:

Part 1 C. Discharges to Water Quality Impaired Waters

1. The permittee must determine whether stormwater discharges from any part of the MS4 contribute; either directly or indirectly, to a 303(d) listed water body.
2. The storm water management program must include a section describing how the program will control the discharge of the pollutants of concern and ensure that the discharges will not cause an instream exceedance of the water quality standards. This discussion must specifically identify control measures and BMPs that will collectively control the discharge of the pollutant(s) of concern. Pollutant(s) of concern refer to the pollutant identified as causing the impairment.

The Exeter wastewater treatment facility (WWTF) permit imposed stringent discharge limits on nitrogen. The permit requires: development of total nitrogen non-point source (NPS) and point source accounting system; a nitrogen control plan be developed by 2018; a description and accounting of the activities by the town as part of its nitrogen control plan; and description of activities conducted which affect nitrogen in these rivers.

The town participated in a Water Integration for the Squamscott and Exeter Rivers (WISE) study over the past several years, which addresses some of the issues required by the WWTF permit. Officials from the Towns of Exeter, Stratham, and Newfields worked with a team from Geosyntec Consultants, the University of New Hampshire (UNH), Rockingham Planning Commission, Consensus Building Institute and the Great Bay National Estuarine Research Reserve to develop the study.

Information presented in the final WISE report (December 2015) is currently being used to develop water quality improvement strategies for the largest urbanized watershed in the town. Waterstone Engineering was awarded a contract to perform work under an NH Department of Environmental Services (NHDES) 319 Nonpoint Source Grant to evaluate the Lincoln Street watershed and provide recommendations for water quality improvements.

The WISE project:

- Estimated baseline stormwater nitrogen loads for the town
- Determined the most cost-effective BMP's for load reductions
- Established continuing water quality monitoring plans for the river
- Analyzed and mapped septic systems within 200 meters of major streams
- Estimated substantial budget increases to the town for implementation
- Obtained tentative approval for fulfilling the required 2018 Nitrogen Control Plan

The town is also participating in the Great Bay Pollution Tracking and Accounting Pilot Program (PTAPP) coordinated by NHDES. The purpose of PTAPP is to enable coordination on nitrogen tracking and accounting for

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the Great Bay region. The Town developed an accounting worksheet to track land use, which is being incorporated into the PTAPP program. The PTAPP program is expected to publish the first draft of their tracking and accounting program in spring of 2017.

The Town retained Wright-Pierce, Inc. to evaluate the Stormwater Management Program, Town Ordinances, Town Regulations, and IDDE program and provide recommendations to meet the 2017 MS4 permit. Several memoranda were prepared which identified recommended actions for short- and long-term stormwater program improvements. The Town also worked with Wright-Pierce to develop a presentation that compared the 2003 permit requirements to the 2017 permit requirements and the WWTF permit requirements. This presentation will be made to the Board of Selectmen in April 2017.

The Exeter River had an impounded reach within the town that is listed on the 2012 303(d) list of impaired waters. The dam was removed in the summer of 2016 and the river was restored to fully support designated uses of Aquatic Life Use support and Primary Contact Recreation. Additionally, without the impoundment, the river will be free of water quality impediments to fish migration and will be allowed to return to a state of geomorphic equilibrium. Ultimately, the river within Exeter will have dissolved oxygen concentrations sufficient for maintaining aquatic life and chlorophyll a, and bacteria concentrations that do not pose a risk for primary contact recreation. A monitoring plan was developed with the NH Fish and Game (NHFG), NH Department of Environmental Services (NHDES), and National Oceanic and Atmospheric Administration (NOAA) that will monitor river conditions and fish passage for up to five years.

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PUBLIC EDUCATION & OUTREACH

BMP #1 DISPLAY AT ALEWIFE FESTIVAL

The festival no longer takes place.

ADDITIONS

The Exeter Conservation Commission (ECC) led volunteers in a clean up of the Exeter River in July 2016 after water levels were lowered for removal of the Great Dam. Approximately 20 people participated in the event which removed debris from the riverbed and banks. (attachment)

BMP #2 STENCIL STORM DRAINS

All catch basins in town were stenciled or touched up with the message “Attention – Drains to Local Waterway” as needed.

BMP #3 STORMWATER VIDEO ON LOCAL PUBLIC STATION

No videos were played on the local public station; however, the Town has the following educational videos on the town website: “Stormwater Rubber Duck” PSA; “Devil Duck Lawn Care” PSA; “Rain Storm” Radio Ad; and, “Car Wash” Radio Ad.

The Conservation Commission and River Study Committee meetings provide information regarding the local stormwater program and are televised. The stormwater education program “Think Blue Exeter” is a subcommittee of the River Study Committee, so their activities are presented during these televised meetings. Also, the Board of Selectman’s televised meetings included presentations about the Draft 2013/2015 MS4 Phase II permit.

BMP #4 DISPLAY AT TOWN BUILDING

Permanent educational signs: Stream buffer at a popular local park. This display is located adjacent to the Squamscott/Exeter Rivers and highlights how rain garden and stream buffers functions can improve water quality.

During the month of September, a “Smart Septic” display was located at the town office, along with handouts. The display addressed proper septic system construction and maintenance. (attachment)

ADDITIONS-

Town Website and Facebook pages –

- Think Blue Exeter – general stormwater education, water quality in Exeter’s streams & rivers, simple changes to reduce stormwater pollution. (attachment)
- Drug Take Back Day – Exeter Police Department participates in National Drug Take Back Day, which allows residents to drop off household and prescription drugs at the police department to prevent improper disposal.

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- Drug Drop-Off Box – Exeter Police Department – The Exeter Police Department has taken a step further to help protect our waterways by providing a safe, sustainable and secure method to dispose of unwanted and/or expired household and prescription medications by installing a secure container in the lobby of the Police Department. (attachment)
- Household Hazardous Waste Collection Day – Exeter continues to host the once per year collection of household hazardous waste. The collection is coordinated by the Rockingham Planning Commission and includes Exeter and six other communities. (attachment)
- Announcements for Spring 2016 and Fall 2016 leaf collection, and January 2017 Christmas tree pickup. Each Town resident was permitted to have twelve bags of leaves picked up for free in the spring and fall 2016. The leaves were distributed to a compost pile and residents are allowed to use the compost. (attachment)

Newspaper Articles –

- Announcements for Spring 2016 and Fall 2016 leaf collection and January 2017 Christmas tree pickup.
- Announcements for Household Hazardous Waste Collection Day and Drug Take-Back Day.

PUBLIC PARTICIPATION

BMP #5 PUBLIC NOTICE

Completed 1st year

BMP #6 REVIEW NEED FOR STORMWATER COMMITTEE

No additional review for a stormwater committee; however, the education program “Think Blue Exeter” is a subcommittee of the Exeter River Study Committee. Information on activities of the subcommittee is presented at various meetings, which are televised and open to the public. The majority of committee members are local residents.

The Exeter River Study Committee conducted many outreach presentations dealing with the removal of the Great Dam which returned the lower Exeter River to its natural state to improve water quality and native fish populations.

BMP #7 STENCIL STORM DRAINS

All catch basins in town were stenciled with the message “Attention – Drains to Local Waterway” by town employees and the stencils are repainted as needed.

ADDITIONS-

- Exeter Rain Barrel Program – Exeter Conservation Commission offered reduced rates on rain barrels during the month of May 2016 (8 sold in 2016) (attachment)
- Volunteer River Assessment Program (VRAP), which monitors 11 sites on the Exeter River and Little River, between April and August (3 to 5 times each). The Exeter Conservation Commission and Town staff conduct the annual sampling for dissolved oxygen, conductance, pH, turbidity, and temperature.

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This is a part of the NHDES state-wide river monitoring program. Additional sampling equipment was purchased for use by the Town staff to continue the VRAP monitoring. (attachment)

- Exeter-Squamscott River Local Advisory Committee (ESRLAC) – volunteers representing the twelve communities in the Exeter-Squamscott River watershed celebrated its 20th year of stewardship of the river and its watershed in 2016. Work by ESRLAC included discussions with municipalities and state and federal agencies about water quality in the river and its impact on water quality in Great Bay, the review of development proposals along the river corridor, and assisting with stormwater management projects. Several ESRLAC members participated in Project WISE. (attachment)
- Annual Fish Ladder Tour – May 2015. Presented by NH Fish and Game Department, targeted at the importance of fish ladders. The annual tour of the fish ladder located next to the Great Dam in downtown Exeter. As always, this event attracted a large crowd interested in learning about the annual fish migration from the salt water of the Squamscott River to the fresh water of the Exeter River. (attachment)

ILLICIT DISCHARGE DETECTION AND ELIMINATION

BMP #8 SURVEY OUTFALLS

The Town retained Wright-Pierce, in December 2015, to perform dry-weather outfall inspections and water quality screenings at a selected group of MS4 outfalls. As part of this effort, eleven (11) outfall locations were visited, inspected, and photographed. The inspection forms and photos for each of these outfalls are on record with the Town in paper and electronic formats.

BMP #9 MAP/UPDATE OUTFALLS

The Town retained Wright-Pierce, in December 2015, to perform dry-weather outfall inspections and water quality screenings at a selected group of MS4 outfalls. As part of this effort, eleven (11) outfall locations were verified in the field and revisions were made to the Town's GIS mapping system as necessary.

BMP #10 ORDINANCE TO PROHIBIT NON-STORMWATER DISCHARGES

Existing Storm Drainage Ordinance prevents illegal discharges to the drainage system, with fines. The ordinance will be reviewed and updated as needed after the new Small MS4 Permit for New Hampshire is issued final.

BMP #11 CREATE EDUCATION FOR BUSINESSES

"Think Blue Exeter" – General Stormwater Education.

A pamphlet describing proper deicing chemical (salt) use during winter maintenance operations was created. This will be distributed to businesses with parking lots and snow removal contractors.

BMP #12 HOTLINE

Police Dispatch and Exeter Department of Public Works

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BMP #13 SAMPLE SUSPECT OUTFALLS

The Town retained Wright-Pierce, in December 2015, to perform dry-weather outfall inspections and water quality screenings at a selected group of MS4 outfalls. Eleven (11) outfalls, a tributary to the Little River, Exeter River, Squamscott River and Norris Brook were inspected and sampled in December 2015. The inspection consisted of verification of the outfall location, completion of dry weather screening, water quality field testing (when flow was present), reconnaissance of potential nearby pollution sources and a photograph log.

Flow was present during these dry-weather inspections at five (5) of the 11 outfalls. Water quality screening was conducted at those 5 outfalls. Six (6) of the 11 outfalls were flagged for follow-up water quality sampling based on either physical condition, water quality observation and field test results, inability to field locate or further questions regarding outfall identification. Follow-up work has not yet been performed for these systems.

BMP #14 TEST SUSPECT CONNECTIONS

Infiltration/inflow investigations were performed in several locations throughout town, including manhole inspections, dye testing, smoke testing, building inspections and flow evaluations.

Approximately 3800 feet of stormwater lines were cleaned and inspected via CCTV camera on Water Street, Lincoln Street, Center Street and 300 feet of Front St.

BMP #15 CORRECT ILLICIT CONNECTIONS

No corrective actions were taken to remove illicit connections to the stormwater collection pipelines.

ADDITIONS –

- The Town maintains 19 “pet waste station” (bags and disposal container) located around Town. A map showing the location of the waste stations and the town walking/hiking trails was created and posted on the Town website.
- The CAPE (Climate Adaptation Plan for Exeter) study included a stormwater collection system mapping component. The study estimated the effects of climate change within the Town. The study included: modeling/technical team focused on creating three models for Exeter’s river and stormwater systems; evaluating water quality, flooding, and stormwater aspects of watershed systems; delineating stormwater catchments in the central urbanized areas of Town. This CAPE study was completed in the winter of 2015. Geosyntec, Inc. was contracted to use the hydraulic models created for the CAPE study to evaluate the existing drainage system during a 10-year storm event. The results of this are being used by the Department of Public Works to develop capital improvement projects to address stormwater quantity and quality.

CONSTRUCTION SITE RUNOFF CONTROL

BMP #16 UPDATE SITE REGULATION

Completed – The Town will review and update the stormwater regulations as needed for the 2017 Small MS4 Permit for New Hampshire.

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BMP #17 SITE PLAN REVIEW FOR ALL CONSTRUCTION PROJECTS GREATER THAN 1 ACRE

The Technical Review Committee (TRC) reviews all development greater than 1 acre, with a focus on construction and post-construction erosion controls and stormwater Best Management Practices (BMPs).

BMP #18 SITE INSPECTIONS

Projects are inspected throughout construction for all development greater than one acre to monitor stormwater management and erosion controls.

BMP #19 DEVELOP AND IMPLEMENT CONSTRUCTION SITE INFORMATION AND REPORTING PROGRAM

Town construction projects are posted on the town website and social media sites with contact information.

An emergency contact list for all privately owned construction projects is updated regularly and distributed to emergency response personnel.

POST CONSTRUCTION RUNOFF CONTROL

BMP #20 IMPLEMENT SITE APPROPRIATE NON-STRUCTURAL, STRUCTURAL, INFILTRATION, AND VEGETATIVE PRACTICES

BMPs are in place as per Planning Board approved plans. Six (6) of the development/redevelopment projects, reviewed by the Planning Board in 2016, included at least one Best Management Practice (BMP) such as a rain garden or tree box filter.

Addition - Stormwater BMP's are being incorporated into town projects. Two water quality tree filters were installed in the downtown area in 2016.

BMP #21 DEVELOP AND IMPLEMENT LONG TERM OPERATION AND MAINTENANCE PROGRAM FOR BMPs

Maintenance Agreements and Maintenance Plans are implemented during planning and construction process

ADDITIONS –

- Stormwater inspections were performed at several private developments with deficiencies identified.
- A downtown sidewalk replacement project on Water Street was completed in 2016. The downtown area has a high percentage of the impervious area. This project incorporated 2 retrofitted sidewalk tree box filters.
- The Great Dam on the Exeter River was removed during the summer of 2016. When the water level of the river was lowered for this project, the Town spent over \$8,000 on native, wetland seed mix to stabilize the river banks.

POLLUTION PREVENTION AND MUNICIPAL GOOD HOUSEKEEPING

BMP #22 CREATE POLLUTION PREVENTION & GOOD HOUSEKEEPING PROGRAM FOR MUNICIPAL EMPLOYEES

The following training was completed within the last year:

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- Several of the highway department employees hold NH-DES solid waste certification and train annually for best management practices to operate the transfer station.
- All town Highway Department employees involved in snow plowing were trained on equipment calibration, attended UNH T2 Green SnowPro training course, and received NHDES Salt Applicator Certification.
- Wright-Pierce prepared guidance for Town staff to address work performed in watersheds of impaired water bodies.
- The Town's Natural Resource Planner worked with the "Soak Up the Rain NH" group to identify an area in Exeter for a project. Representatives from SoakNH, NHDES, and ECC constructed a rain garden on LaPerle Avenue in July 2016. (attachment)
- The Town Clerk's office handed out 1,500 rolls of dog waste bags and dispensers to residents when they purchased their dog licenses.

The Town Engineer attended the following classes in 2016: Low Impact Development; Municipal Stormwater Technical Assistance-MS4 sponsored by the Central MA Regional Stormwater Coalition; Stormwater BMP Workshop; and a Stormwater Finance Forum. The Assistant Town Engineer attended a 3-day conference on Low Impact Development.

The Exeter DPW Director is a member of the WISE program and the Exeter Town Engineer is a member of the PTAPP program.

The Town is a member of the Seacoast Stormwater Coalition and the Town Engineer attends regular meetings. The Town contributed \$2,000 toward a consultant to assist the Coalition members in developing a collaborative approach to meet MS4 requirements.

BMP #23 SWEEP STREETS

All Town streets were swept twice (once in spring and once in fall). The streets located within the downtown area were swept bi-weekly during the warm months of the year. In 2011, new tracking equipment was installed on the street sweeper to track the number of miles swept. A total of 1,290 miles were swept in 2016.

BMP #24 INSPECT CATCH BASINS

A total of 586 catch basins were documented with individual inspection forms to be entered into the Town's GIS database.

BMP #25 CLEAN CATCH BASINS

A total of 586 catch basins were cleaned in this year.

NPDES General Permit - Small Municipal Separate Storm Sewer Systems (MS4s)

Permit #NHR041007 Town of Exeter, NH

ANNUAL REPORT 2016 – 2017

LIST OF ATTACHMENTS

1. Exeter River Cleanup flyer (BMP #1)
2. Exeter River Cleanup photos (BMP #1)
3. Exeter River Cleanup newspaper article (BMP #1)
4. Think Blue Exeter website (BMP #3, 4 & 6)
5. Police Department Drug Drop-off (BMP #4)
6. Household Hazardous Waste Day announcement (BMP #4)
7. Septic Week announcement (BMP #4)
8. Rain barrel sale announcement (BMP #7)
9. VRAP data summary (BMP #7)
10. ESRLAC annual report (BMP #7)
11. Fish Ladder Tour announcement (BMP #7)
12. Pet Waste Station map (BMP #15)
13. Rain Garden installation volunteer flyer (BMP #22)

Volunteers Wanted for River Clean Up

Be a Part of the Squamscott-Exeter River Restoration Project

River drawdown to prepare for dam removal will expose trash and debris along our riverbanks. Volunteers will gather at the Park and spread out along the river by foot or boat to clean these areas up.

Come prepared for a wet muddy adventure!
Bring 5 gallon buckets and plastic toboggan sleds

Gilman Park
July 16th from 9:00 am – 12 pm

Questions?

Contact the Town's Natural Resource Planner,
Kristen Murphy, for more information
kmurphy@exeternh.gov; 603.418.6452

**RIVER
DEBRIS
PICK-UP**



By Lisa Tetrault-Zhe
newsletter@seacoastonline.co

July 16, 2016 1:14PM

Exeter River cleanup yields unusual finds

EXETER – About 20 people who spent Saturday morning covered in mud turned up all kinds of treasure for their efforts, including the cement base and post to a basketball hoop, piping, bottles, golf balls and even a lost wader.

The group, ranging from infants to seniors, donated three hours of time for the Exeter River Cleanup, hosted by the Exeter Conservation Commission.

“I’m so impressed with the attendees,” said conservation commission member Ginny Raub. “It shows that people do care and are willing to take the time to help; they’re invested in it. It’s not the same group of volunteers that show up every time, so we get to see faces we haven’t seen before.”

Raub helped organize the three-hour long event with support from the Exeter River Study Committee, which she serves on as a conservation commission representative.

The cleanup is part of the project to remove the historic Great Dam, according to earlier reports in Seacoastonline.com. On July 1, workers started to draw down the waters.

In 2014, voters agreed to spend \$1.8 million to remove the dam in an effort to restore the river to its original condition. The results will be twofold: Protecting the town from flooding and helping to facilitate fish migration.

The banks of the river were mucky, and volunteers sank into the mud with every step they took. The pungent smell of mud lingered in the warm summer air.

“Eventually, all of the sediments will go down to Great Bay,” said conservation commission chairman Carlos Guindon. “Now there will be more natural filtering of the sediments. The sediments are needed in the bay; this is key to the ecosystem. It will mostly occur during heavy rains in the spring and fall.”

Earlier this month the Exeter Department of Public Works seeded the sides of the bank. The new vegetation will help with the filtering process, according to Guindon.

“It was interesting to watch them seed the banks,” said Exeter natural resource planner Kristen Murphy. “The DPW modified leaf blowers. They taped plastic bottles to the sides of the blowers, filled them with seed, and blew the seeds onto the banks while canoeing down the river.”

One family participated as a way to support their town.

“It’s not often you get to walk the river, and it’s for a good cause,” said Alex Fritz of Exeter.

“We walk downtown a lot, and we saw a bicycle and a computer monitor in the river,” said his wife, Caitlin Lamb. “We wondered how they’ll get that out.

“I’m on the email updates list from the conservation commission and heard about today’s cleanup. We thought it would be fun with the kids,” she continued.

Their children, Susanna, 7, and Sam, 3, seemed excited about their haul.

“I had a piece of plastic get stuck in the bottom of my boot,” said Susanna Fritz. “We wanted to help the earth.”

“We found a golf ball,” said Sam, holding up the muddy ball. “We’ll wash it off when we get home.”

In addition to the commission members, Murphy and the local volunteers, a University of New Hampshire employee and two National Oceanic and Atmospheric Administration employees also volunteered their time, according to Murphy.

A statue of a fish greeted people as they entered Gilman Park. Happy Fish is on loan from World Fish Migration Day organization. The icon is being loaned out to groups that promote fish migration.

At the end of the day, the DPW was tasked with picking up all of the debris recovered from the cleanup.



Susanna Fritz (7), Alex Fritz, Caitlin Lamb and Sam Fritz (3) of Exeter spent some family time cleaning up the Exeter River. Lisa Zhe photo



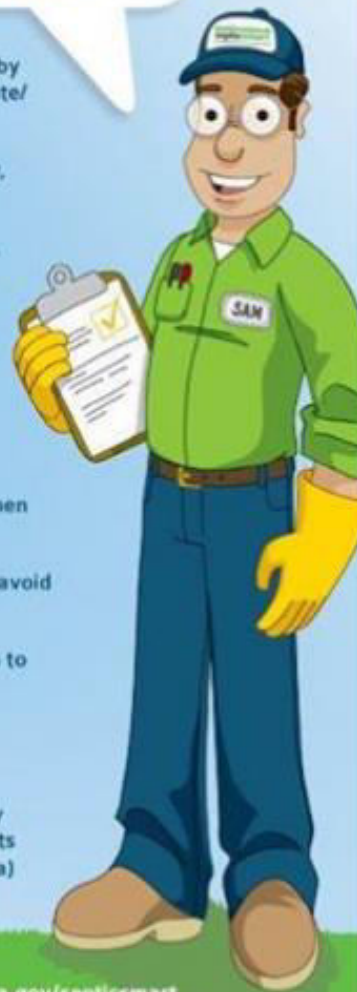
Exeter, NH Public Works


September 20, 2016 · 🌐

It's Septic Smart Week! Here are 10 tips to be a good septic owner!
<https://www.epa.gov/septic/top-10-ways-be-good-septic-owner>

Top 10 Ways to Be a Good Septic Owner

- ✓ Have your system inspected every three years by a qualified professional or according to your state/local health department's recommendations
- ✓ Have your septic tank pumped, when necessary, generally every three to five years
- ✓ Avoid pouring harsh products (e.g., oils, grease, chemicals, paint, medications) down the drain
- ✓ Discard non-degradable products in the trash (e.g., floss, disposable wipes, cat litter) instead of flushing them
- ✓ Keep cars and heavy vehicles parked away from the drainfield and tank
- ✓ Follow the system manufacturer's directions when using septic tank cleaners and additives
- ✓ Repair leaks and use water efficient fixtures to avoid overloading the system
- ✓ Maintain plants and vegetation near the system to ensure roots do not block drains
- ✓ Use soaps and detergents that are low-suds, biodegradable, and low- or phosphate-free
- ✓ Prevent system freezing during cold weather by inspecting and insulating vulnerable system parts (e.g., the inspection pipe and soil treatment area)




septicSMART
U.S. Environmental Protection Agency

For more SepticSmart tips, visit www.epa.gov/septicSMART

 EPA-633-M-16-010 July 2016

Think Blue Exeter



As rain and snow-melt, also known as stormwater, flows across streets, parking lots, and other surfaces it collects dirt, debris, and chemicals carrying them directly to our rivers and streams. This polluted run-off is called Stormwater Pollution. Our habits play a major role in this type of pollution.

Click the Homeowners category below to learn ways you can help reduce Stormwater Pollution because...**CLEAN WATER STARTS WITH YOU!!!**

What is Stormwater Pollution?

As stormwater (or rain and snow-melt) flows across buildings, streets, parking lots, and other surfaces it collects dirt, debris, and chemicals and carries them directly to our rivers and streams. Collectively, these surfaces which do not allow water to penetrate are called impervious surfaces. The polluted run-off that flows across them and into our streams is called Stormwater Pollution.

What's the Water Quality Status of Exeter's Streams and Rivers?

As a result of water testing, NH Department of Environmental Services has designated the majority of Exeter's streams and rivers as "impaired" for one or more uses. This means the water contains pollutants which can be harmful to aquatic life, fish consumption, or humans during either direct or indirect contact.

To view how widespread this designation is, click [HERE](#) [2] [2] to view Exeter's "impaired rivers". As you look at this map remember, **BLUE** means the water course meets standards, **RED** means it does not. With the majority of Exeter's waterways in red on this map, you may be starting to understand the purpose of the THINK BLUE program.

How Can You Help?

Our habits play a major role in this type of pollution. To find out what simple changes you can make to reduce the amount of pollutants entering our rivers, explore the links below and be sure to check out our "Ducky Ads" at the bottom of the page. You may have seen or heard them on Channel 98 or WXEX.

We need more people to THINK BLUE because **CLEAN WATER STARTS WITH YOU!!!**

ink Blue Exe



[Think Blue: About Us](#) [3]



[4]

[Think Blue: Homeowners](#) [4]



[5]

[Think Blue: Kids Page](#) [5]

Click any thumbnail image to view a slideshow



[6]



[7]

Supporting Documents

- [Stormwater Rubber Duck PSA](#) [8] (587 KB)
- [Devil Ducky Lawncare PSA](#) [9] (4 MB)
- [Rainstorm Radio Ad](#) [10] (1 MB)
- [Car Wash Radio Ad](#) [11] (896 KB)
- [Healthy Lawns Clean Water - Lawn Care](#) [12] (66 MB)

Source URL: <http://exetermh.gov/bcc/think-blue-exeter>

Links:

- [1] http://exetermh.gov/sites/default/files/styles/gallery500/public/imageattachments/bcc/page/11641/thinkblueexeter_web.gif?itok=H67__eRE
- [2] http://www3.epa.gov/region1/npdes/stormwater/nh/305bMaps/Exeter_NH.pdf
- [3] <http://exetermh.gov/bcc/think-blue-about-us>
- [4] <http://exetermh.gov/bcc/think-blue-homeowners>
- [5] <http://exetermh.gov/bcc/think-blue-kids-page>
- [6] http://exetermh.gov/sites/default/files/styles/gallery500/public/imageattachments/bcc/page/11641/runoffreturns_small.gif?itok=Rf4wvByq
- [7] http://exetermh.gov/sites/default/files/styles/gallery500/public/imageattachments/bcc/page/11641/thinkblue_cleanwater_gif?itok=UiiL7VWs
- [8] http://exetermh.gov/sites/default/files/fileattachments/boards_committees_and_commissions/page/11641/thinkblueexeter_psa.wmv
- [9] http://exetermh.gov/sites/default/files/fileattachments/boards_committees_and_commissions/page/11641/thinkbluelawncare_final.wmv
- [10] http://exetermh.gov/sites/default/files/fileattachments/boards_committees_and_commissions/page/11641/rainstorm_exeter.mp3
- [11] http://exetermh.gov/sites/default/files/fileattachments/boards_committees_and_commissions/page/11641/carwash_exeter.mp3
- [12] http://exetermh.gov/sites/default/files/fileattachments/boards_committees_and_commissions/page/11641/exeter_healthy_lawns_clean_water_duckman_2016_psa.wmv

Drug Drop-Off Box



[1]

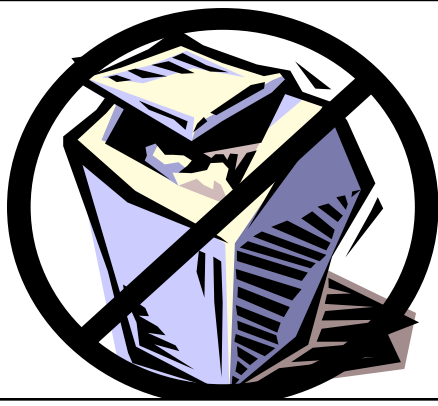
The Exeter Police Department has taken a step further to help keep harmful, unused medications out of the hands of children as well as out of the environment. Open Source Research shows that every day 2,500 kids abuse prescription drugs for the first time. Seventy percent of people who abuse prescription pain relievers say they got them from friends or relatives.

Currently, many unwanted or expired household and prescription medications are improperly disposed of. The harmful methods being used include flushing the drugs down toilets or putting them into the garbage. Both of these methods have damaging effects on our environment and contaminate our water supply. Therefore, The Exeter Police saw the need for a unit that would provide a source for proper disposal of unwanted or expired household and prescription medications, and placed a secured container in the lobby of the Police Department.

The Exeter Police Department's MedReturn Drug Collection Unit provides a safe, sustainable and secure method to dispose of unwanted or expired household medicines or prescription medication. There has been a great response from the Exeter community during our Drug Take Back events that have been coordinated with the D.E.A. The Exeter Police is committed to continuing to offer these services as well as now providing a 24hr 7 day a week- no questions asked-disposal option.

Links:

[1] http://exeternh.gov/sites/default/files/styles/gallery500/public/imageattachments/police/page/11381/drug_box.jpg?itok=JF_oWihN



Hazardous Waste in *Your* Home??

Hazardous Waste is not just an industrial problem.
Many household products contain hazardous
chemicals. We are all hazardous waste generators!

2016 HOUSEHOLD HAZARDOUS WASTE COLLECTION EXETER, STRATHAM, NEWFIELDS, EAST KINGSTON, EPPING, SEABROOK & SOUTH HAMPTON

SATURDAY, OCTOBER 15, 2016

8:00 am—1:00 pm

Exeter Public Works Garage, Newfields Road (Route 85), Exeter

FROM THE YARD

Pesticides
Insect Sprays
Rodent Killers
Pool Chemicals
Muriatic Acid
No-Pest Strips
Lead sinkers, flashing
Creosote

FROM THE GARAGE

Motor Oil
Auto Batteries
Antifreeze
Brake Fluid
Wax & Polish
Engine Degreasers
Carburetor Cleaner
Asbestos (wetted and double bagged)

FROM THE HOUSE

Rechargeable Batteries
Drain & Oven Cleaners
Furniture Polish
Metal Polish
Fluorescent Light bulbs
Photo Chemicals
Mercury Thermometers
Fire Extinguishers

FROM THE WORKBENCH

Rust Remover
Wood Preservatives
Paint Thinners
Oil Based Paints
Solvents
Degreasers
Mercury

LIMIT PER HOUSEHOLD: 10 GALLONS or Equivalent
LATEX Paint and Alkaline Batteries not Accepted (not hazardous)

NOTE: Electronic Recycling will not be held at HHW day.

IMPORTANT NOTE:

The following wastes **cannot be accepted**:
Gas Cylinders, Explosive Materials, Ammunition,
Radioactive Materials, Infectious and Biological
Wastes, Prescription Medicines/Syringes,
Esters, and Unknown Materials.

Please don't bring them!



**COLLECTION IS FOR EXETER, STRATHAM, NEWFIELDS, EAST KINGSTON,
EPPING, SEABROOK & SOUTH HAMPTON RESIDENTS ONLY**

Sponsored by the Towns of Exeter, Stratham, Newfields, East Kingston, Epping, Seabrook & South Hampton.
Organized by Rockingham Planning Commission—778-0885.

For more information: Exeter: 778-0591; Stratham: 772-4741; Newfields: 772-5070;
East Kingston: 642-8406; Epping: 679-5441; Seabrook: 474-9771; and South Hampton: 394-7696

*** **A DONATION OF \$5 PER HOUSEHOLD IS REQUESTED TO HELP OFFSET COSTS.** ***

PLEASE

WE WILL NOT BE COLLECTING ELECTRONICS AT THE 2016 HOUSEHOLD HAZARDOUS WASTE

TIPS ON TOXICS

PURCHASE

- ⇒ **Read the label.** Look for the words “non-toxic” and compare products;
- ⇒ **Use non-toxic alternatives.** Many times a general household cleaner is just as effective as a specialized product;
- ⇒ **Buy only what you need;**
- ⇒ **Buy products with child-proof packaging;**
- ⇒ **Buy non-aerosol products.** Aerosols produce a fine mist which, when breathed, can settle deep in the lungs. Chemicals are then quickly absorbed into the bloodstream. Aerosol cans can explode if stored near heat or flame.

USE

- ⇒ **Use products in a well ventilated room and avoid breathing fumes.** Take breaks and work outside whenever possible;
 - ⇒ **Wear protective clothing;**
 - ⇒ **NEVER mix products.** Combining ammonia and chlorine bleach produces deadly chlorine fumes. Mixing chemicals can even cause explosions;
 - ⇒ **Use only the recommended amount.** Twice as much is not twice as good and may be twice as toxic.
- IF PREGNANT, avoid exposure to toxics;**
- ⇒ **In case of poisoning call Poison Control at (1-800-562-8236).**

STORAGE

- ⇒ **Store in a safe place.** Keep all toxics away from children;
- ⇒ **Close containers securely.** Some products like gasoline, oil-based paint & thinner can evaporate & pollute the air where they are stored.
- ⇒ **Keep all products in their original containers.**

DISPOSAL

- ⇒ **Use up a product to there is nothing left to dispose;** — the simplest of all disposal solutions!
- ⇒ **Donate leftover paints and other products to a service organization.** Make sure the product is securely packaged and well labeled;
- ⇒ **Take motor oil to a recycling center in your area.** Some service stations accept used motor oil; many Towns do at their public works garages, including Exeter and Stratham;
- ⇒ **Never pour harmful chemicals down the drain or on the ground.** These chemicals include pesticides, paints, preservatives, automotive products, home hobby chemicals and cleaning fluids;
- ⇒ **Take your household toxics to the household hazardous waste collection.** Individuals can take left-over chemicals to a central collection point and the chemicals are disposed of at licensed treatment and disposal facilities;
- ⇒ **Take advantage of New Statewide programs for LEAD SINKER AND NiCd BATTERY ⇒ disposal — available year round.** For the location of disposal sites in the area contact the NHDES or the Rockingham Planning Commission at the numbers shown below.

FOR MORE INFORMATION CALL...

NH Poison Control —	1-800-562-8236
NH Dept of Environmental Services —	271-2047
Rockingham County/UNH Coop. Ext.—	679-5616
Rockingham Planning Commission —	778-0885

WHEN MAKING PURCHASES, AVOID PRODUCTS CONTAINING:
***Benzine, Toluene, Naphthalene, Trichloroethylene, Tetrachloroethylene,
Methylene, Chloride, Carbon Tetrachloride***

2016 Spring Rain Barrel Sale - Order by May 31st



[1]

The Exeter Conservation Commission and Exeter Healthy Lawns Clean Water Committee is pleased to announce our partnership with The Great American Rain Barrel Company. We are offering Exeter residents an opportunity to purchase rain barrels at the discounted rate of \$79!!!
The first 10 orders receive an additional \$20 off!

Orders must be placed by **May 31st** and will be distributed on **June 4th from 9am-11am** at the Department of Public Works. For more information and to place your order click the link below.

Why pay to water your garden when nature provides what you need for free?

Web Links

[Exeter Rain Barrel Program](#) [2]

Source URL: <http://exeternh.gov/bcc/2016-spring-rain-barrel-sale-order-may-31st>

Links:

[1] <http://exeternh.gov/sites/default/files/styles/gallery500/public/imageattachments/bcc/page/13141/rainbarrel.jpg?itok=U8QWIOqo>

[2] <https://www.greatamericanrainbarrel.com/c-178-exeter-nh.aspx>

2016 EXETER RIVER WATERSHED VRAP DATA

	Measurements not meeting New Hampshire surface water quality standards
	Measurements not meeting NHDES quality assurance/quality control standards

^A Specific conductance > 835 $\mu\text{S}/\text{cm}$ indicate exceedance of chronic chloride standard of 230 mg/L

^B Chronic water quality standard

^C Calculated using 1/2 of the 0.25 mg/L detection limit of TKN (0.125 mg/L)

15-EXT, Exeter River, Haigh Road, Exeter - NHDES Trend Station

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Water Temp. ($^{\circ}\text{C}$)	Chloride (mg/L)	<i>E. coli</i> (CTS/100mL)	<i>E. coli</i> Geometric Mean
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 $\mu\text{S}/\text{cm}$ ^A	NA	230 ^B	>406	<126
06/22/2016	12:15	5.99	67.3	6.95	1.44	248.4	21.0	53	110	
07/13/2016	13:00	6.92	80.5	6.98	1.28	273.4	22.9	47	20	
08/17/2016	14:10	6.41	76.4	6.97	0.81	285.4	24.2	67	10	28
10/20/2016	13:30	6.90	64.5	6.68	0.40	286.3	12.3	48		

Date	Time of Sample	Total Phosphorus (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Nitrite (NO ₂)+ Nitrate(NO ₃) (mg/L)	Total Nitrogen (mg/L)
Standard	NA	Narrative	Narrative	Narrative	Narrative
06/22/2016	12:15	0.0220	0.45	0.17	0.62
07/13/2016	13:00	0.0155	0.33	0.15	0.48
08/17/2016	14:10	0.0128	< 0.25	0.10	0.22 ^C

14-EXT, Exeter River, Pickpocket Dam/Cross Road Bridge, Exeter

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Water Temp. ($^{\circ}\text{C}$)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 $\mu\text{S}/\text{cm}^{\text{A}}$	NA
07/05/2016	08:51	6.23	74.0	6.96	1.69		24.0
07/19/2016	08:49	5.54	66.9	7.02	0.90		24.8
08/09/2016	08:57	5.06	59.3	6.76	0.54	261.9	23.4
08/23/2016	09:00	5.56	63.8	6.98	0.71	263.5	22.1

13-EXT, Exeter River, Kingston Road (Route 111) Bridge, Exeter

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Water Temp. ($^{\circ}\text{C}$)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 $\mu\text{S}/\text{cm}^{\text{A}}$	NA
07/05/2016	09:17	4.07	47.7	6.80	1.20		23.2
07/19/2016	09:20	3.97	47.4	6.81	0.95		24.3
08/09/2016	09:14	3.97	47.3	6.75	1.19	146.7	22.0
08/23/2016	09:25	4.56	51.3	6.79	0.97	278.3	21.1

12A-EXT, Exeter River, Linden Street Bridge, Exeter

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Water Temp. ($^{\circ}\text{C}$)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 $\mu\text{S}/\text{cm}^{\text{A}}$	NA
07/05/2016	09:44	5.38	62.8	6.96	2.53		23.2
07/19/2016	09:43	3.15	37.7	6.51	2.47		24.3
08/09/2016	09:34	6.10	70.5	6.93	1.69	303.4	22.2
08/23/2016	09:43	3.88	44.0	6.57	3.51	167.4	21.5

12-EXT, Exeter River, Court Street/Route 108 Bridge, Exeter

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Water Temp. ($^{\circ}\text{C}$)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 $\mu\text{S}/\text{cm}^{\text{A}}$	NA
07/05/2016	10:20	3.28	38.5	6.56	5.53		23.2
07/19/2016	10:01	2.67	31.9	6.62	3.02		24.5
08/09/2016	09:48	3.15	36.7	6.54	2.04	145.5	22.8
08/23/2016	09:59	3.34	37.7	6.59	4.03	132.7	21.3

05-LTE, Little River, Garrison Road Bridge, Exeter

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Water Temp. ($^{\circ}\text{C}$)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 $\mu\text{S}/\text{cm}^{\text{A}}$	NA
06/28/2016	09:20	6.39	72.9	6.97	4.68		21.9
07/12/2016	08:58	4.96	54.6	6.99	3.96		20.1
08/02/2016	09:15	4.64	51.7	7.03	2.72		21.6
08/16/2016	08:55	4.31	50.4	6.84	1.92	125	23.3

02-LTE, Little River, Linden Street Bridge, Exeter

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Water Temp. ($^{\circ}\text{C}$)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 $\mu\text{S}/\text{cm}^{\text{A}}$	NA
06/28/2016	09:54	3.63	41.6	6.60	6.19		22.2
07/12/2016	09:31	6.03	67.5	6.76	3.96		20.9
08/02/2016	09:56	5.22	59.4	6.46	6.87	325.1	21.6
08/16/2016	09:30	2.61	30.3	6.68	3.60	294.3	22.6

00-LTE, Little River, Gilman Street Bridge, Exeter

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Water Temp. ($^{\circ}\text{C}$)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 $\mu\text{S}/\text{cm}^{\text{A}}$	NA
06/28/2016	10:38	5.74	66.6	6.67	4.83		22.7
07/12/2016	10:03	7.27	82.9	6.78	9.84		21.9
07/12/2016	10:12	7.16	82.0	6.73	9.06		21.8
08/02/2016	10:41	6.48	74.2	6.77	4.37	177.4	22.1
08/16/2016	09:55	5.45	63.6	6.70	5.40	312.2	22.3

09-EXT, Exeter River, High Street Bridge, Exeter

Date	Time of Sample	DO (mg/L)	DO (% sat.)	pH	Turbidity (NTUs)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Water Temp. ($^{\circ}\text{C}$)
Standard	NA	>5.0	>75% Daily Average	6.5-8.0	<10 NTU above background	835 $\mu\text{S}/\text{cm}^{\text{A}}$	NA
07/19/2016	10:20	5.48	66.9	7.01	2.43		25.5

Volunteers Needed for the Water Quality Monitoring



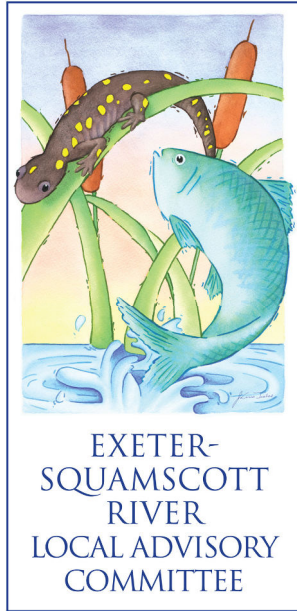
Help the Exeter Conservation Commission collect water quality data in support of the state wide Volunteer River Assessment Program (VRAP). Training Provided.

SAMPLING OCCURRS JULY – AUG, TUESDAYS AT 8:30 AM
Meet in the Municipal Lot Behind 10 Front Street

Interested?

Contact the Town's Natural Resource Planner
Kristen Murphy, for more information
kmurphy@exeternh.gov; 603.418.6452





2016 Annual Report Exeter-Squamscott River Local Advisory Committee 20th Anniversary

The Exeter-Squamscott River is enrolled in the New Hampshire Rivers Management and Protection Program, a unique partnership between citizens, towns, and state government designed to promote and protect the river's outstanding natural and cultural resources. The Exeter-Squamscott River Local Advisory Committee (ESRLAC) is comprised of citizen volunteers living in towns along the river, vested in working together to protect water quality, water quantity, wildlife habitat and recreational opportunities. The Exeter-Squamscott River is one river with two names, reflecting the fresh water (Exeter River) and salt water (Squamscott River) portions of this major tributary to Great Bay.

ESRLAC Representatives:

Brentwood:	Emily Schmalzer Eric Turer
Chester:	Vacant
Danville:	Vacant
East Kingston:	Vacant
Exeter:	Donald Clement David O'Hearn
Fremont:	Ellen Douglas John Roderick
Kensington:	Vacant
Kingston:	Evelyn Nathan
Newfields:	William Meserve
Raymond:	Vacant
Sandown:	Mark Traeger
Stratham:	Donna Jensen Nathan Merrill

ESRLAC celebrated its 20th year of stewardship of the river in 2016. The year was marked by communal discussion and review of significant projects along the river – the removal of Great Dam in downtown Exeter, the construction of a new arts complex at Phillips Exeter Academy in Exeter, and the construction of a new wastewater treatment plant on the Squamscott River in Exeter. ESRLAC reviewed these development proposals and provided comments to local boards and state agencies. ESRLAC also reviewed smaller scale development proposals in several towns for work along the river, including expansion of commercial buildings and installation of septic systems. ESRLAC reviews all plans closely to identify and recommend ways in which water quality in the river may be protected through stormwater management and other conservation minded development practices. ESRLAC lost a long-term and valued member in 2016, Peter Richardson of Exeter.

In 2017, ESRLAC will release a new and improved website, designed to communicate important river related information. In addition, the Committee will continue working with residents, towns, developers, state agencies and other groups involved in land development and land conservation along the river.

ESRLAC seeks members from all communities in the watershed. If you are a resident of Chester, Raymond, Fremont, Sandown, Danville, Kingston, East Kingston, Brentwood, Kensington, Exeter, Stratham, or Newfields and are interested in joining ESRLAC, please call the Rockingham Planning Commission at 603 778 0885 for more information.

May 05, 2016 1:23PM

Print Page

You are invited to dam day

EXETER — Adults and children are invited to view the New Hampshire Fish and Game Department's fish ladder in downtown Exeter on Saturday, May 14 from 11:30 a.m. to 12:30 p.m. to see fish making their annual spring journey around Great Dam from salt water in the Squamscott River to fresh water in the Exeter River.

Public access to the fish ladder is available next to 11 Water Street Restaurant in downtown Exeter. Staff from Fish and Game will be on hand to explain the purpose of the fish ladder, describe the types of fish using the ladder, and the department's extensive habitat restoration efforts.

Migratory fish such as smelt, alewife, blueblack herring, American shad, American Eel, and sea lamprey all migrate between freshwater and saltwater. These fish face significant challenges on route, including dams such as Great Dam and degrading water quality upstream. On-going efforts to improve and sustain the ecological health of the Exeter and Squamscott Rivers, as well as other tributaries to Great Bay, are important for maintaining diverse fish stocks in the watershed.

This free event is presented by the Exeter-Squamscott River Local Advisory Committee and the Exeter Conservation Commission in partnership with the NH Fish and Game Department. For more information call ESRLAC at 778-0885.

Print Page

Help Build a Rain Garden and Help Great Bay



When: Monday, July 25, 2016, 9:00 a.m.-12:30 p.m.

Where: # 2 La Perle Ave., Exeter

What: Join the Great Bay Stewards and Soak Up the Rain New Hampshire to plant a rain garden and contribute to cleaning up the Great Bay watershed. **Dirt is already excavated.**

Lunch and equipment provided

To volunteer: call or e-mail Laura Byergo

Cell: (301) 928-0647; E-mail: Laura.Byergo@greatbaystewards.org

Attachment 5
Gulf of Maine Council Sustainable Community Award Letter



May 5, 2017

Maine

Department of Agriculture,
Conservation and Forestry
W. Donald Hudson, Jr.,
The Chewonki Foundation

Massachusetts

Office of Coastal Zone Management
Priscilla Brooks, Conservation
Law Foundation
Jack Wiggin, Urban Harbors Institute,
UMass Boston

New Brunswick

Department of Environment and
Local Government
Department of Agriculture, Aquaculture,
and Fisheries
Lee Sochasky, International Resource
Planner

New Hampshire

Department of Environmental Services
Ru Morrison, Northeastern Regional
Association of Coastal and Ocean
Observing Systems

Nova Scotia

Department of Fisheries and Aquaculture

Senior Science Advisors

Judith Pederson, MIT Sea Grant
Robert Stephenson, St. Andrews
Biological Station

First Nations / Tribal

Asha Ajmani, Passamaquoddy at Sipayik -
New England Tribal Environmental Leaders

Federal Partners

Environment and Climate Change Canada
Fisheries and Oceans Canada
National Oceanic and Atmospheric
Administration
US Department of Interior
US Environmental Protection Agency

Council Coordinator

Joan LeBlanc
jleblanc@gulfofmaine.org

Town Manager Russell Dean
Town of Exeter
10 Front Street
Exeter, NH 03833

Dear Mr. Dean:

On behalf of the Gulf of Maine Council on the Marine Environment, I am pleased to inform you that the Town of Exeter, NH has been selected to receive a *Gulf of Maine Council 2017 Sustainable Communities Award*. This award is presented to a community or group within one of the five Gulf of Maine jurisdictions of Massachusetts, New Hampshire, Maine, New Brunswick, and Nova Scotia. The Award recognizes community-based innovation and leadership in efforts to promote sustainable outcomes for the Gulf of Maine ecosystem and the communities that call it home.

The Gulf of Maine Council is pleased to recognize the Town of Exeter for your outstanding efforts to protect water quality in the Great Bay watershed. We are particularly appreciative of the Town's leadership and proactive environmental protection efforts led by your *Healthy Lawns, Clean Water* initiative. Your success in engaging all 52 Great Bay watershed communities in educational programs to promote sustainable lawn care, and passage of a fertilizer prohibition ordinance will have a significant positive impact on water quality and natural resources in the Great Bay Estuary and the Gulf of Maine.

We are pleased to invite you (and your guests) to the Reception and Awards Ceremony which will be held Wednesday, June 7th 2017 at the Gulf of Maine Research Institute, 350 Commercial Street in Portland, Maine. The reception begins at 5:30 PM followed by the awards ceremony at approximately 6:00 PM. To RSVP, please send your list of attendees to jleblanc@gulfofmaine.org. We hope to see you in June.

Congratulations!

Joan LeBlanc
Council Coordinator

Cc: Kristen Murphy, Natural Resource Planner, Exeter, NH

The mission of the Council is to maintain and enhance environmental quality in the Gulf of Maine and to allow for sustainable resource use by existing and future generations

New Brunswick Department of Environment and Local Government • 2016-2018 Secretariat
www.gulfofmaine.org

Attachment 6
Conservation Commission Eagle Scout Photos

Figure 1: Morrissette Conservation Area



Figure 2: McDonnell Conservation Area



Attachment 7
2017 VRAP Data



17
2016 Field Data Sheet
NH Volunteer River Assessment Program



RSA487-38

VRAP Group: Exeter Date: 8/29/2016 Start Time: 9:33 End Time: 12:14

Volunteer Monitors (First & Last Name): Kristen Murphy

Initial 1.0 NTU Turbidity Meter Check Value: 1.02

Initial Conductivity Meter Check Value: 1828

(+/- 20% of 2,000 std: 1,600-2,400 µS)

Time Dissolved Oxygen Meter Turned On: 9:20

Time of 1st Dissolved Oxygen Calibration: 9:49

NHDES Station ID	Station Name Or Description	Time Sampled (HHMM)	Turbidity (NTU)	pH Calibration Slope (95-105%)	pH (Units)	Dissolved Oxygen (Calibration Value)	Dissolved Oxygen (% saturation chamber reading)	Water Temp (°C)	Dissolved Oxygen (% Sat)	Dissolved Oxygen (mg/L)	Specific Conductance (µS)
14EXT	Polepocket	0938	1.86	101.0	6.37	100.2	100.2	18.7	89.9	8.41	231.7
13EXT	111 Bridge	0956	1.52	99.3	6.54	100.2	100.2	18.3	84.9	8.01	235.3
12AEXT	Linden St	1011	2.25	99.4	6.52	100.2	100.2	18.1	87.2	8.26	242.4
12EXT	Court	1041	2.93	100.0	6.47	100.3	100.4	18.2	79.5	7.51	242.3
05LITE	Garrison	11:01	1.08	98.9	6.85	100.2	100.2	17.0	92.5	8.95	258.3
02LITE	Linden	11:26	3.23	99.6	6.61	100.3	100.3	17.9	75.6	7.16	256.5
00LITE	Gilman	11:43	6.11	99.5	6.39	100.3	100.3	18.4	93.2	8.75	278.4
09EXT	High	11:59	3.78	98.9	6.78	100.3	100.2	19.5	96.8	8.71	266.1
05LITE	Garrison	11:09	1.04	101.9	6.86	100.2	100.2	17.1	90.5	8.75	257.5

QA/QC METER CHECK

6.0 pH Reading (5.8 - 6.3) 6.01

DI Turbidity Blank Reading: 0.04

Station: 02LITE Time: 11:31

END OF DAY METER CHECK

Conductivity (2,000 µS std.): 1825

Turbidity (1.0 std.): 1.10

Did you collect Laboratory Samples today? Yes No If yes, which lab were the samples relinquished to? NHDES PSU UNH Other

2016-02-29

Please elaborate on the back,

<http://des.nh.gov/> (603) 271-3503

Weather Conditions: (Check all that apply)

- Weather: Clear Cloudy w/o Rain Cloudy w/Intermittent Rain Cloudy w/Rain
 Rain in Past 3 Days Snow Snowmelt | Calm Breeze Wind
 Air Temperature (°F): Below 30 30s 40s 50s 60s 70s 80s 90s

Comments: (Water level, Color, Odor, Observed Use) Please indicate NHDES Station ID.

Laboratory Samples: (Please indicate parameters taken (if any) at each station. If the same parameter was taken at each location indicate 'all' in the station ID)

Station ID	# of Bottles	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Parameter 5

Office Use ONLY:

Date Entered: _____ By: _____
 Date Proofed: _____ By: _____
 Date QA/QC: _____ By: _____

End of Day Checklist: (Check if Completed)

- All Meters:**
 Dry and powered off _____
- Turbidity:**
 Rinse sample vial and fill with DI water _____
- pH:**
 Rinse probe with DI water and blot dry _____
 Return probe to storage solution _____
- Dissolved Oxygen:**
 Rinse probe with DI water _____
 Return probe in chamber w/ wet sponge _____
- Specific Conductance:**
 Rinse probe with DI water _____
 Return probe to chamber _____
- Equipment Kit:**
 Remove used Kimwipes _____
 Clean off dirt, dust and moisture _____

Please return data sheets to: Ted Walsh
NH Volunteer River Assessment Program
 29 Hazen Drive – PO Box 95
 Concord, NH 03302-0095
 p - (603) 271-2083 f – (603) 271-7894



2016 Field Data Sheet

NH Volunteer River Assessment Program



RSA487:38

VRAP Group: Exeter Date: 7/26/2016 Start Time: 8:53 End Time: 10:36

Volunteer Monitors (First & Last Name): _____

Initial 1.0 NTU Turbidity Meter Check Value: 1.01

Initial Conductivity Meter Check Value: 1.866

(+/- 20% of 2,000 std.; 1,600-2,400 uS)

Time Dissolved Oxygen Meter Turned On: 8:35

Time of 1st Dissolved Oxygen Calibration: 8:53

NHDES Station ID	Station Name Or Description	Time Sampled (HHMM)	Turbidity (NTU)	pH Calibration Slope (95-105%)	pH (Units)	Dissolved Oxygen (Calibration Value)	Dissolved Oxygen (% saturation chamber reading)	Water Temp (°C)	Dissolved Oxygen (% Sat)	Dissolved Oxygen (mg/L)	Specific Conductance (µS)
14 ext	Pickpocket	0853	2.13	101.0	6.74	8.59 101.1	97.7 101.1	20.6	92.7 101.1	8.34 101.1	240.7
13 ext	111 Bridge	0912	1.63	100.7	6.43	101.2	101.1	20.2	58.3	8.00	239.9
12A ext	Linden	0935	3.25	100.8	6.89	101.2	101.2	19.9	81.8	7.44	246.7
12 ext	Court	1014	3.40	101.2	6.59	101.2	101.2	20.0	83.0	7.53	242.7
09 ext	High 5	1025	5.54	91.4	6.49	101.2	100.2	20.3	86.1	7.78	241.5
REPLICATE											
12A ext	Linden	0941	3.08	98.4	6.97	101.3	101.1	19.8	80.6	7.36	245.6

QA/QC METER CHECK

6.0 pH Reading (5.8 - 6.3) 5.98

DI Turbidity Blank Reading: 0.03

END OF DAY METER CHECK

Turbidity (1.0 std.): 1.83

Conductivity (2,000 µS std.): 182.7

Did you collect Laboratory Samples today? Yes No If yes, which lab were the samples relinquished to? NHDES PSU UNH Other

Weather Conditions: (Check all that apply)

Weather: Clear Cloudy w/o Rain Cloudy w/Intermittent Rain Cloudy w/Rain
 Rain in Past 3 Days Snow Snowmelt Calm Breeze Wind
Air Temperature (°F): Below 30 30s 40s 50s 60s 70s 80s 90s

Comments: (Water level, Color, Odor, Observed Use) Please indicate NHDES Station ID.

Laboratory Samples: (Please indicate parameters taken (if any) at each station. If the same parameter was taken at each location indicate 'all' in the station ID)

Station ID	# of Bottles	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Parameter 5

Office Use ONLY:

Date Entered: _____ By: _____
Date Proofed: _____ By: _____
Date QA/QC: _____ By: _____

End of Day Checklist: (Check if Completed)

- All Meters: _____
- Dry and powered off _____
- Turbidity: _____
- Rinse sample vial and fill with DI water _____
- pH: _____
- Rinse probe with DI water and blot dry _____
- Return probe to storage solution _____
- Dissolved Oxygen: _____
- Rinse probe with DI water _____
- Return probe in chamber w/ wet sponge _____
- Specific Conductance: _____
- Rinse probe with DI water _____
- Return probe to chamber _____
- Equipment Kit: _____
- Remove used Kimwipes _____
- Clean off dirt, dust and moisture _____

Please return data sheets to: Ted Walsh
NH Volunteer River Assessment Program
29 Hazen Drive – PO Box 95
Concord, NH 03302-0095
p - (603) 271-2083 f – (603) 271-7894



2016 Field Data Sheet

NH Volunteer River Assessment Program



VRAP Group: Exeter Date: 7/19/2016 Start Time: 8:51 End Time: _____

Volunteer Monitors (First & Last Name): Kristen Murphy, Ginny Raab

Initial 1.0 NTU Turbidity Meter Check Value: 1.02
 Initial Conductivity Meter Check Value: 1885
(± 20% of 2,000 std.: 1,600-2,400 uS)

Time Dissolved Oxygen Meter Turned On: 0835
 Time of 1st Dissolved Oxygen Calibration: 0853

NHDES Station ID	Station Name Or Description	Time Sampled (HH:MM)	Turbidity (NTU)	pH Calibration Slope (95-105%)	pH (Units)	Dissolved Oxygen (Calibration Value)	Dissolved Oxygen (% saturation chamber reading)	Water Temp (°C)	Dissolved Oxygen (% Sat)	Dissolved Oxygen (mg/L)	Specific Conductance (µS)
05LTE	Garrison	08:50	198	101.0	6.65	100.4	100.4	22.9	81.4	7.00	244.7
02LTE	Linden	09:25	4.14	105.6	6.50	100.5	100.5	23.5	71.1	6.97	276.2
00LTE	Gilman	09:58	5.13	100.4	6.35	100.5	100.5	23.5	75.8	6.44	286.4
REPLICATE											
05LTE	Garrison	09:05	1.93	101.5	6.74	100.4	100.5	23.1	80.2	6.90	245.3

Station: 02LTE Time: 9:45
 6.0 pH Reading (5.8 - 6.3) 6.02
 QA/QC METER CHECK
 DI Turbidity Blank Reading: 0.00

Conductivity (2,000 µS std.): 1849
 END OF DAY METER CHECK
 Turbidity (1.0 std.): 1.01

Did you collect Laboratory Samples today? Yes No If yes, which lab were the samples relinquished to? NHDES PSU UNH Other

Weather Conditions: (Check all that apply)

Weather: Clear Cloudy w/o Rain Cloudy w/Intermittent Rain Cloudy w/Rain
 Rain in Past 3 Days Snow Snowmelt | Calm Breeze Wind
 Air Temperature (°F): Below 30 30s 40s 50s 60s 70s 80s 90s

Comments: (Water level, Color, Odor, Observed Use) Please indicate NHDES Station ID.

Cormorant and muskrat at OSITE

Laboratory Samples: (Please indicate parameters taken (if any) at each station. If the same parameter was taken at each location indicate 'all' in the station ID)

Station ID	# of Bottles	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Parameter 5

Office Use ONLY:

Date Entered: _____ By: _____
 Date Proofed: _____ By: _____
 Date QA/QC: _____ By: _____

End of Day Checklist: (Check if Completed)

- All Meters:**
 Dry and powered off _____
Turbidity:
 Rinse sample vial and fill with DI water _____
pH:
 Rinse probe with DI water and blot dry _____
 Return probe to storage solution _____
Dissolved Oxygen:
 Rinse probe with DI water _____
 Return probe in chamber w/ wet sponge _____
Specific Conductance:
 Rinse probe with DI water _____
 Return probe to chamber _____
Equipment Kit:
 Remove used Kimwipes _____
 Clean off dirt, dust and moisture _____

Please return data sheets to: Ted Walsh
NH Volunteer River Assessment Program
 29 Hazen Drive – PO Box 95
 Concord, NH 03302-0095
 p - (603) 271-2083 f – (603) 271-7894



2016 Field Data Sheet

NH Volunteer River Assessment Program



VRAP Group: Exeter Date: 7/5/2016 Start Time: 8:31 End Time: 9:40

Volunteer Monitors (First & Last Name): Ginny Raab Krister Murphy

Initial 1.0 NTU Turbidity Meter Check Value: 1.03
 Initial Conductivity Meter Check Value: 19.40
(+/- 20% of 2,000 std.; 1,600-2,400 μ S)

Time Dissolved Oxygen Meter Turned On: 8:31
 Time of 1st Dissolved Oxygen Calibration: 8:55

NHDES Station ID	Station Name Or Description	Time Sampled (HH:MM)	Turbidity (NTU)	pH Calibration Slope (95-105%)	pH (Units)	Dissolved Oxygen (Calibration Value)	Dissolved Oxygen (% saturation chamber reading)	Water Temp (°C)	Dissolved Oxygen (% Sat)	Dissolved Oxygen (mg/L)	Specific Conductance (μ S)
14EXT	Rick pocket	8:48	2.03	101.3	6.65	101.1	101.1	23.4	91.9	7.83	216.3
13EXT	W Bridge	9:04	1.92	101.0	6.47	101.1	101.1	23.0	86.2	7.39	216.9
11A EXT	Linden	9:28	3.81	101.2	6.57	101.3	101.3	22.4	80.5	6.99	215.4
12 EXT	Court	9:42	5.30	101.2	6.41	101.3	* 101.0	23.1	79.8	6.76	232.0
09 EXT	High St	10:13	5.28	101.3	6.67	101.2	101.2	23.6	70.6	5.99	225.6
REPLICATE											
12AE	Linden	9:29	3.34	101.1	6.58	101.3	101.3	22.6	82.2	7.10	207.1

Station: 13 EXT Time: 9:14 QA/QC METER CHECK 6.0 pH Reading (5.8 - 6.3) 4.00 DI Turbidity Blank Reading: 0.03

Conductivity (2,000 μ S std.): 183 END OF DAY METER CHECK Turbidity (1.0 std.): 1.04

Did you collect Laboratory Samples today? Yes No If yes, which lab were the samples relinquished to? NHDES PSU UNH Other

Weather Conditions: (Check all that apply)

Weather: Clear Cloudy w/o Rain Cloudy w/Intermittent Rain Cloudy w/Rain
 Rain in Past 3 Days Snow Snowmelt | Calm Breeze Wind
 Air Temperature (°F): Below 30 30s 40s 50s 60s 70s 80s 90s

Comments: (Water level, Color, Odor, Observed Use) Please indicate NHDES Station ID.

Laboratory Samples: (Please indicate parameters taken (if any) at each station. If the same parameter was taken at each location indicate 'all' in the station ID)

Station ID	# of Bottles	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Parameter 5

Office Use ONLY:

Date Entered: _____ By: _____
 Date Proofed: _____ By: _____
 Date QA/QC: _____ By: _____

End of Day Checklist: (Check if Completed)

- All Meters:**
- Dry and powered off _____
- Turbidity:**
- Rinse sample vial and fill with DI water _____
- pH:**
- Rinse probe with DI water and blot dry _____
- Return probe to storage solution _____
- Dissolved Oxygen:**
- Rinse probe with DI water _____
- Return probe in chamber w/ wet sponge _____
- Specific Conductance:**
- Rinse probe with DI water _____
- Return probe to chamber _____
- Equipment Kit:**
- Remove used Kimwipes _____
- Clean off dirt, dust and moisture _____

Please return data sheets to: Ted Walsh
NH Volunteer River Assessment Program
 29 Hazen Drive – PO Box 95
 Concord, NH 03302-0095
 p - (603) 271-2083 f – (603) 271-7894



2016 Field Data Sheet NH Volunteer River Assessment Program



RSA487:38

VRAP Group: EXETER Date: 06/28/2016 Start Time: 0846 End Time: _____

Volunteer Monitors (First & Last Name): Marilyn Unger, William Unger, Kristen Murphy

Initial 1.0 NTU Turbidity Meter Check Value: 1.02
Initial Conductivity Meter Check Value: 1849
(+/- 20% of 2,000 std.: 1,600-2,400 uS)

Time Dissolved Oxygen Meter Turned On: 846
Time of 1st Dissolved Oxygen Calibration: 0901

NHDES Station ID	Station Name Or Description	Time Sampled (HHMM)	Turbidity (NTU)	pH Calibration Slope (95-105%)	pH (Units)	Dissolved Oxygen (Calibration Value)	Dissolved Oxygen (% saturation chamber reading)	Water Temp (°C)	Dissolved Oxygen (% Sat)	Dissolved Oxygen (mg/L)	Specific Conductance (µS)
05-LTE	GARRISON	0850	4.19	101.1	6.71	100.3	100.3	17.7	72.8	6.83	245.5
02-LTE	LINDEN	0928	5.73	100.8	6.63	100.4	100.4	18.8	70.5	6.57	256.9
00-LTE	GILMAN	0950	6.73	101.1	6.52	100.4	100.4	18.5	74.9	7.01	288.9

REPLICATE

00-LTE	GILMAN	0957	6.66	101.1	6.60	100.3	100.4	18.5	69.6	6.52	295.4
--------	--------	------	------	-------	------	-------	-------	------	------	------	-------

Station: 02-LTE Time: 0930 6.0 pH Reading (5.8 - 6.3) 6.07 QA/QC METER CHECK
DI Turbidity Blank Reading: 0.04

Conductivity (2,000 µS std.): 1841 END OF DAY METER CHECK
Turbidity (1.0 std.): 1.04

Did you collect Laboratory Samples today? Yes No If yes, which lab were the samples relinquished to? NHDES PSU UNH Other



2016 Field Data Sheet
NH Volunteer River Assessment Program



VRAP Group: Exeter Date: 6/23/2016 Start Time: 8:43 End Time: 10:51
 Volunteer Monitors (First & Last Name): William Unger, Marilyn Unger, Kristen Murphy

Initial 1.0 NTU Turbidity Meter Check Value: 1.01 Time Dissolved Oxygen Meter Turned On: 8:34
 Initial Conductivity Meter Check Value: 1924 Time of 1st Dissolved Oxygen Calibration: 9:08
 (+/- 20% of 2,000 std.; 1,600-2,400 uS)

NHDES Station ID	Station Name Or Description	Time Sampled (HHMM)	Turbidity (NTU)	pH Calibration Slope (95-105%)	pH (Units)	Dissolved Oxygen (Calibration Value)	Dissolved Oxygen (% saturation chamber reading)	Water Temp (°C)	Dissolved Oxygen (% Sat)	Dissolved Oxygen (mg/L)	Specific Conductance (µS)
14EXT	Pickpocket	0900	2.14	101.6	6.72	99.6	104.4 103.2	22.7	91.1	7.84	217.4
13EXT	111 Bridge	0926	1.80	100.6	6.45	99.6	102.2	23.5	87.4	7.44	215.2
12AEXT	LINDEN	0952	2.42	101.3	6.38	99.7	99.7	22.3	79.4	6.90	216.3
12AEXT	COURT	1020	2.95	101.0	6.52	99.7	99.6	22.7	73.4	6.34	213.0
09EXT	HIGH ST.	1041	4.01	101.1	6.31	99.6	99.6	22.9	66.3	5.68	215.1
REPLICATE											
12AEXT	LINDEN	10:03	2.25	101.0	6.44	99.6	99.7	22.4	76.2	6.62	219.9

Station: 12EXT Time: 1027 QA/QC METER CHECK
 6.0 pH Reading (5.8 - 6.3) 5.98 DI Turbidity Blank Reading: 0.04
 COURT
 Conductivity (2,000 µS std.): 1824 END OF DAY METER CHECK
 Turbidity (1.0 std.): 1.06

Did you collect Laboratory Samples today? Yes No If yes, which lab were the samples relinquished to? NHDES PSU UNH Other

Weather Conditions: (Check all that apply)

- Weather: Clear Cloudy w/o Rain Cloudy w/Intermittent Rain Cloudy w/Rain
 Rain in Past 3 Days Snow Snowmelt | Calm Breeze Wind
 Air Temperature (°F): Below 30 30s 40s 50s 60s 70s 80s 90s

Comments: (Water level, Color, Odor, Observed Use) Please indicate NHDES Station ID.

(This area is currently blank for handwritten notes.)

Laboratory Samples: (Please indicate parameters taken (if any) at each station. If the same parameter was taken at each location indicate 'all' in the station ID)

Station ID	# of Bottles	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Parameter 5

Office Use ONLY:

Date Entered: _____ By: _____
 Date Proofed: _____ By: _____
 Date QA/QC: _____ By: _____

End of Day Checklist: (Check if Completed)

All Meters:

Dry and powered off

Turbidity:

Rinse sample vial and fill with DI water

pH:

Rinse probe with DI water and blot dry
 Return probe to storage solution

Dissolved Oxygen:

Rinse probe with DI water
 Return probe in chamber w/ wet sponge

Specific Conductance:

Rinse probe with DI water
 Return probe to chamber

Equipment Kit:

Remove used Kimwipes
 Clean off dirt, dust and moisture

*Please return data sheets to: Ted Walsh
 NH Volunteer River Assessment Program*

29 Hazen Drive – PO Box 95
 Concord, NH 03302-0095

p - (603) 271-2083 f – (603) 271-7894



2016 Field Data Sheet

NH Volunteer River Assessment Program



RSA487:38 VRAP Group: Exeter Date: 6/14/2017 Start Time: 8:49 End Time: _____
 Volunteer Monitors (First & Last Name): Kristen Murphy Drew Koff

Initial 1.0 NTU Turbidity Meter Check Value: 1.04 Time Dissolved Oxygen Meter Turned On: 8:49
 Initial Conductivity Meter Check Value: 1863 Time of 1st Dissolved Oxygen Calibration: 9:08
(+/- 20% of 2,000 std.; 1,600-2,400 uS)

NHDES Station ID	Station Name Or Description	Time Sampled (HHMM)	Turbidity (NTU)	pH Calibration Slope (95-105%)	pH (Units)	Dissolved Oxygen (Calibration Value)	Dissolved Oxygen (% saturation chamber reading)	Water Temp (°C)	Dissolved Oxygen (% Sat)	Dissolved Oxygen (mg/L)	Specific Conductance (µS)
05LTE	Garrison	0900	2.47	101.4	6.52	100.2%	100.3%	21.8	76.1	6.70	206.3
02LTE	Linden	0943	3.47	99.2	6.51	100.3%	100.3%	23.0	70.5	6.06	203.1
00LTE	Gulman	0959	4.63	100.9	6.35	100.3	100.4	22.7	79.5	6.88	231.3
REPLICATE											
05LTE	Garrison	0915	2.36	100.8	6.51	99.7%	100.2%	21.4	76.9	6.78	207.6

Station: 05LTE Time: 915 6.0 pH Reading (5.8 - 6.3) 5.97 QA/QC METER CHECK
 DI Turbidity Blank Reading: 0.03

Conductivity (2,000 µS std.): 1883 END OF DAY METER CHECK Turbidity (1.0 std.): 1.00

Did you collect Laboratory Samples today? Yes No If yes, which lab were the samples relinquished to? NHDES PSU UNH Other

Weather Conditions: (Check all that apply)

- Weather: Clear Cloudy w/o Rain Cloudy w/Intermittent Rain Cloudy w/Rain
 Rain in Past 3 Days Snow Snowmelt | Calm Breeze Wind
 Air Temperature (°F): Below 30 30s 40s 50s 60s 70s 80s 90s

Comments: (Water level, Color, Odor, Observed Use) Please indicate NHDES Station ID.

Activities visible at Linden Site

Laboratory Samples: (Please indicate parameters taken (if any) at each station. If the same parameter was taken at each location indicate 'all' in the station ID)

Station ID	# of Bottles	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Parameter 5

Office Use ONLY:

Date Entered: _____ By: _____
 Date Proofed: _____ By: _____
 Date QA/QC: _____ By: _____

End of Day Checklist: (Check if Completed)

- All Meters:**
 Dry and powered off _____
 Turbidity: _____
 Rinse sample vial and fill with DI water _____
 pH: _____
 Rinse probe with DI water and blot dry _____
 Return probe to storage solution _____
Dissolved Oxygen:
 Rinse probe with DI water _____
 Return probe in chamber w/ wet sponge _____
Specific Conductance:
 Rinse probe with DI water _____
 Return probe to chamber _____
Equipment Kit:
 Remove used Kimwipes _____
 Clean off dirt, dust and moisture _____

*Please return data sheets to: Ted Walsh
 NH Volunteer River Assessment Program
 29 Hazen Drive – PO Box 95
 Concord, NH 03302-0095
 p - (603) 271-2083 f – (603) 271-7894*

Attachment 8
2017 Nitrogen Tracking
Summary

ATTACHMENT 8 - PRELIMINARY NITROGEN TRACKING SUMMARY TABLE
TOTAL NITROGEN CONTROL PLAN ANNUAL REPORT FOR 2017
Wright-Pierce, 17 January 2018

Category	Parcel	Address	Wastewater								Stormwater		Land Use							
			Zoning District	Residential, Commercial or Industrial	Sewered Parcel	Septic System Type	Septic System <200m from Surface Water	Septic System Install Year	Rebuilt, New or No Change?	Permitted Bedrooms for Septic System	Design Flow (GPD)	Structural BMPs Installed	Non-Structural BMPs Installed	Land Converted to Turf/Grass (SF)	Forest Removed (SF)	Wetlands Filled (SF)	Existing Impervious Cover Removed (SF)	New Impervious Cover Created (SF)	Amount of New Impervious Cover that is Disconnected (SF)	Land Converted to Agriculture / Pastures (SF)
061-028-0000	1 Garrison Lane	R-1	Residential	No	Conventional	Yes	2017	New	4	600	-	-	37,292	40,000	-	-	2,708	2,708	-	
061-029-0000	7 Garrison Lane	R-1	Residential	No	Conventional	No	2017	New	4	600	-	-	112,083	116,305	-	-	4,222	4,222	-	
061-031-0000	15 Garrison Lane	R-1	Residential	No	Conventional	No	2017	New	4	600	-	-	83,904	89,298	-	-	5,394	5,394	-	
072-209-0000	PEA Tan Lane Parking	R-2	Residential	No	-	-	-	-	-	-	1	-	-	5,511	239	-	7,405	-	-	
083-001-0000	PEA Center T&D	R-2	Residential	Yes	See Note 2 below table					-	840	5	-	-	-	-	-	77,407	77,407	-
083-001-0000	PEA Fieldhouse Project	R-2	Residential	Yes	See Note 2 below table					-	-	2	-	-	-	-	-	566	-	-
083-001-0000	PEA Tennis Court Relocation P1	R-2	Residential	No	-	-	-	-	-	-	1	-	-	-	-	-	36,490	-	-	
072-209-0001	PEA Music Bldg. Addition	R-2	Residential	Yes	-	-	-	-	-	-	2	-	-	-	-	-	9,696	-	-	
071-119-0000	PEA Athletic Field	R-2	Residential	Yes	-	-	-	-	-	-	1	-	-	-	-	-	132,465	-	-	
026-013-0000	84 Watson Road	RU	Residential	No	Conventional	No	2016	No Change	-	-	-	-	-	239	-	-	4,657	-	-	
070-107-0000	201A High Street	R-2	Residential	Yes	-	-	-	-	-	360	-	-	-	-	-	-	1,540	1,540	-	
032-006-0002	3 Stella Way	R-1	Residential	No	Conventional	No	2016	No Change	-	-	-	-	6,854	11,344	-	-	4,490	3,367	-	
070-145-0000	7 Rosewood Court	R-2	Residential	Yes	-	-	-	-	-	120	-	-	-	-	-	-	5,850	-	-	
055-003-0000	41 & 44 McKay Drive	R-4	Residential	Yes	-	-	-	-	-	17,640	4	-	-	43,391	-	-	86,555	86,555	-	
062-067-0000	7 Millstream Drive	R-1	Residential	No	-	-	-	-	-	-	-	-	-	-	-	-	132	-	-	
046-001-0000	60 Gourmet Place	CT-1	Commercial	Yes	-	-	-	-	-	2,200	-	-	105,333	320,510	6,178	-	200,692	150,879	-	
061-016-0000	8 Greenleaf Drive Unit A	R-1	Residential	No	-	-	-	-	-	-	-	-	-	-	-	-	660	-	-	
095-064-0343	45 Alder Street	M	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	196	-	-	
102-007-0000	19 Powder Mill Road	R-1	Residential	No	Conventional	No	2016	No Change	-	-	-	-	17,614	26,741	5,500	-	14,627	14,627	-	
055-050-0000	1 Allard Street	MS	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	576	-	-	
112-015-0000	123 Linden Street	R-1	Residential	No	-	-	-	-	-	-	-	-	-	-	-	-	500	-	-	
095-064-0311	32 Hilton Avenue	M	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	312	-	-	
064-105-0080	80 Hayes MH Park	R-2	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	234	-	-	
087-008-0000	40 Hampton Road (C4)	R-2	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	108	108	-	
048-003-0000	8 Commerce Way	I	Industrial	Yes	-	-	-	-	-	200	2	-	31,535	65,340	5,183	-	35,488	30,305	-	
052-052-0000	108 Portsmouth Avenue	C-2 HW	Commercial	Yes	-	-	-	-	-	1,674	2	-	-	-	-	-	17,816	-	-	
095-062-0000	93 Linden Street	M	Commercial	Yes	-	-	-	-	-	-	-	-	-	-	-	-	616	-	-	
052-022-0000	3 Webster Avenue	R-3	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	300	300	-	
052-029-0000	6 Ridgcrest Drive	R-3	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	80	-	-	
101-004-0000	1 Powder Mill Road	R-1	Residential	No	-	-	-	-	-	-	-	-	-	-	-	-	676	-	-	
063-159-0000	6 Oak Street	R-2	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	425	-	-	
053-007-0000	1 Newfields Road	R-1	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	230	-	-	
104-079-020	20 Sir Lancelot Drive	M	Residential	Yes	-	-	-	-	-	-	-	-	96	348	-	-	252	252	-	
069-003-0000	16 Windsor Lane	N.P	Commercial	Yes	-	-	-	-	-	1,050	-	-	101,822	110,316	-	-	10,494	5,351	-	
069-003-0000	Windsor Lane -- Bldg. 3	R-2	Residential	Yes	-	-	-	-	-	1,200	-	-	-	-	-	-	10,320	6,502	-	
069-003-0000	Windsor Lane -- Bldg 1	R-2	Residential	Yes	constructed in 2016, but omitted from 2016 TN Report					1,200	4	-	-	-	-	-	-	-	-	-
069-003-0000	Windsor Lane -- Bldg 2	R-2	Residential	Yes	constructed in 2016, but omitted from 2016 TN Report					1,200	-	-	-	-	-	-	-	See Note 1 below table	50,066	-
069-003-0000	Windsor Lane -- Bldg 4	R-2	Residential	Yes	constructed in 2016, but omitted from 2016 TN Report					1,200	-	-	-	-	-	-	-	-	-	-
069-003-0000	Windsor Lane -- Bldg 5	R-2	Residential	Yes	constructed in 2016, but omitted from 2016 TN Report					1,200	-	-	-	-	-	-	-	-	-	-
055-075-0004	3 Meeting Place Drive	R-4	Residential	Yes	-	-	-	-	-	6,480	-	-	-	30,944	-	-	38,680	-	-	
018-002-0000	62 Beech Hill Road	R-1	Residential	No	-	-	-	-	-	-	-	-	-	384	-	-	384	-	-	
104-052-0000	5 Marilyn Avenue	R-2	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	280	-	-	
011-018-0015	28 Wood Ridge Lane	RU	Residential	No	-	-	-	-	-	-	-	-	-	-	-	-	140	-	-	
101-048-0000	4 Juniper Ridge Road	R-1	Residential	No	-	-	-	-	-	-	-	-	-	-	-	-	384	-	-	
072-152-0000	11 Maple Street	C-1	Commercial	Yes	-	-	-	-	-	-	-	-	-	120	-	-	120	-	-	
095-064-0000	5 Pecan Street	M	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	240	-	-	
104-079-0000	105 Robinhood Drive	M	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	672	-	-	
104-079-0000	307 Friar Tuck Drive	M	Residential	Yes	-	-	-	-	-	-	-	-	-	784	-	-	1,568	-	-	
086-018-0000	16 Hampton Falls Road	R-2	Residential	Yes	-	-	-	-	-	-	-	-	-	-	-	-	384	-	-	
Totals									12	38,364	24	0	496,533	861,336	17,339	0	717,031	439,583	0	

Note 1: Total impervious cover was reported for these properties in 2016, however the new impervious disconnected cover was not.
Note 2: PEA project Tennis Court Relocation P.2 was accounted for in the drainage analysis from the PEA Center T&D and the PEA Fieldhouse Project.

Attachment 9
Education & Outreach Flyers

THINK BLUE EXETER

TOWN OF EXETER, NH

DO YOUR PART, BE SEPTIC SMART

It's Septic Smart Week: September 19-23, 2016

During Septic Smart Week, the EPA and the Town of Exeter encourage homeowners to get Septic Smart and take action. Proper Care and Maintenance of your septic system can prevent costly repairs and protect the environment. Malfunctioning septic systems release pollutants into the ground which eventually enter local waterways.

SEPTEMBER 2016

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19 <i>Protect & Inspect</i>	20 <i>Think at the Sink</i>	21 <i>Don't Overload</i>	22 <i>Don't Strain the Drain</i>	23 <i>Shield your Field</i>	24
25	26	27	28	29	30	

Day 1 - September 19: *Protect & Inspect*

Homeowners can save more than \$10,000 in repair and replacement costs if they have their septic system inspected at an average cost of \$200-\$350 at least every 3 to 5 years by a septic service professional.

Day 2 - September 20: *Think at the Sink*

Whether you flush down the toilet, grind it in the garbage disposal, or pour it down the sink, shower, or bath...what goes down the drain can have a major impact on how well your septic system works.

Day 3 - September 21: *Don't Overload*

Only put things in the drain or toilet that belong there. Things that DON'T belong in the drain include: coffee grounds, dental floss, disposable diapers or wipes, feminine hygiene products, cigarette butts and cat litter. These items can clog or damage septic systems.

Day 4 - September 22: *Don't Strain the Drain*

Efficient use of water and staggering water use can not only improve the operation of your septic system but also reduce the risk of failure as well.

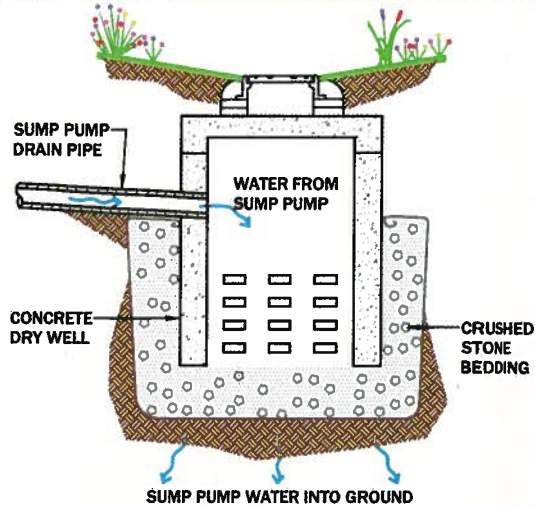
Day 5- September 23: *Shield your Field*

What is placed on or around your drainfield—a component of your septic system that removes contaminants—matters.



U.S. Environmental Protection Agency

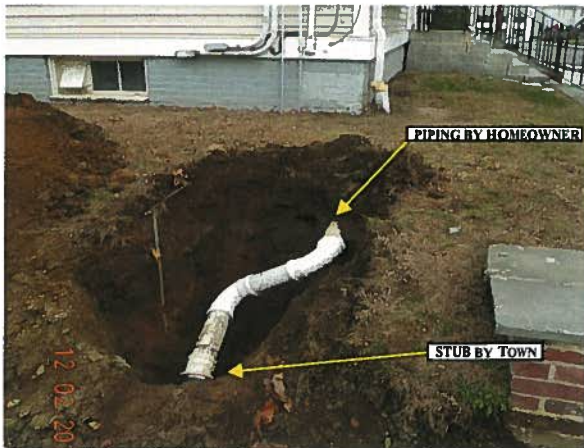
SUMP PUMP DISCHARGE OPTIONS



INFILTRATION BASINS



RAIN GARDENS



MUNICIPAL DRAIN SERVICES

TOWN ORDINANCE

Chapter 15 – Sewer Regulations

Article 1507.3C

No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, roof runoff, subsurface drainage, uncontaminated cooling water, or unpolluted industrial process waters to any sanitary sewer

Section 1501.8, Paragraph 6

No person shall make connection of roof downspouts, foundation drains, area drains, or other surface runoff or groundwater to a building sewer

WHAT YOU CAN DO TO HELP

Check to see if your home contributes I/I:

- Look for I/I connections yourself in your basement and on the outside of your house.
- Look for additional information that will be provided by the Town.
- Contact the Town by calling Matt Berube at 773-6157 to set up an appointment and check for I/I connections to the sewer or for more information.

Brochure produced by:
Public Works Department
13 Newfields Rd
603-773-6157

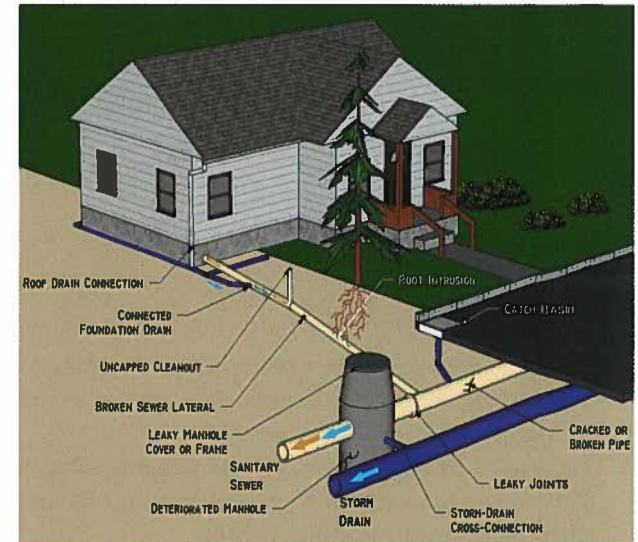


SUMP PUMP

REMOVAL

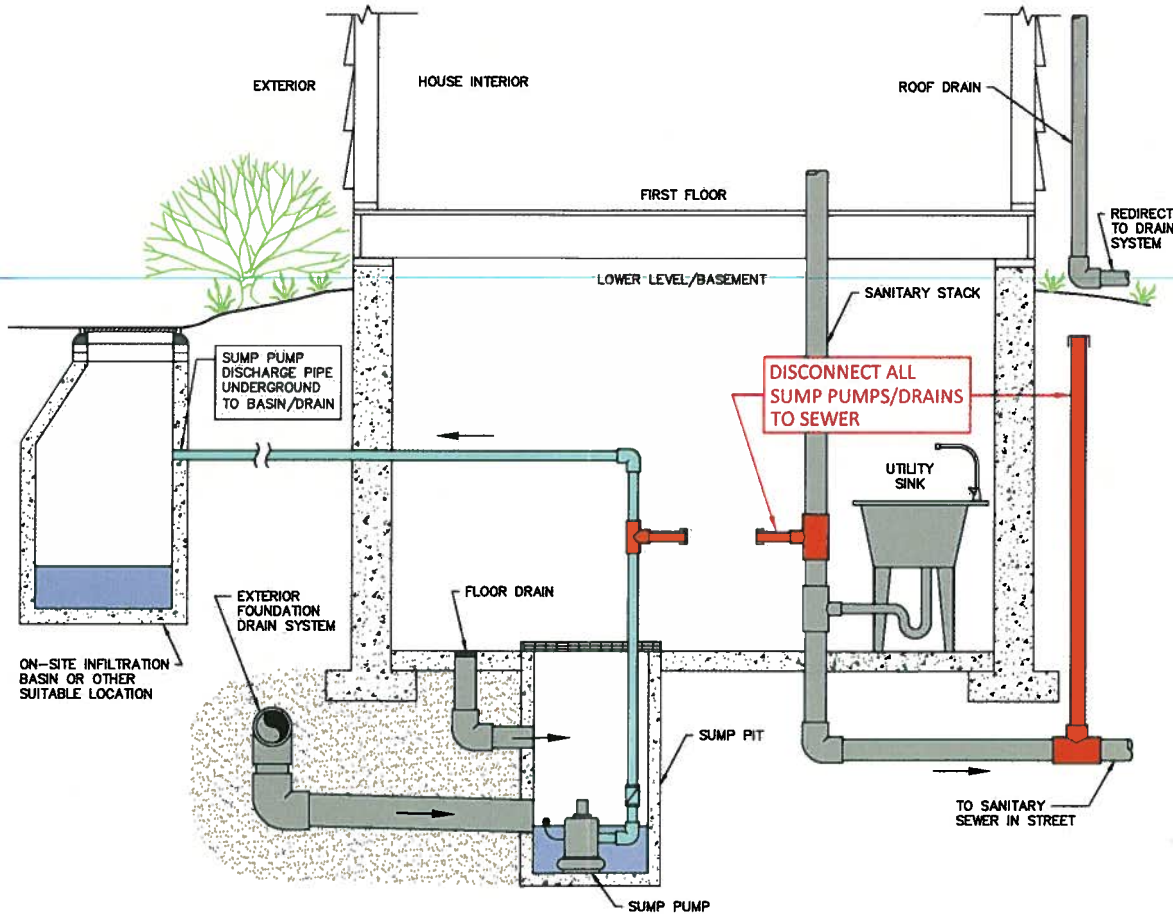
PROGRAM*

*Includes roof leaders, floor drains, foundation drains and other illicit connections



What is Infiltration and Inflow (I/I)?

I/I is clean water that gets into the sewer system and is treated at the wastewater treatment facility. Since the water is clean, it doesn't really need to be treated like sewage ("dirty" water) does. However, because it gets into the sewer system it is processed like sewage and treated. Treatment costs money (from ratepayers) and treating clean water is a waste of money and energy. Removing the clean water from the sewer system will reduce the costs of treatment and provides other benefits to the Town. *This brochure summarizes some of the important points you should know about I/I in your house and how you can help!*



Remove clean water connections to the sewer:

Disconnect any sump pumps or roof leaders from the sewer and discharge to a proper location.

Please Don't Direct Sump Pumps or Roof Leaders to the Street!



This can lead to icing and other maintenance issues

Preferred Discharge Locations include:

- On-site Infiltration Basin
- Rain Gardens
- Municipal Drain Service Lateral (if applicable)
- Surface Drainage Courses
(see reverse side for examples)

WHY IT'S A BIG DEAL

- Ratepayers pay to treat wastewater. It is estimated that 50% of the flow at the treatment facility is I/I and much of this I/I from private property.
- Too much I/I can overwhelm the sewer system and cause dirty water to overflow to the Squamscott River (called a combined sewer overflow (CSO)).
- Treating I/I at the wastewater treatment facility leaves less space for treating sewage and requires capital improvements to treat these higher flows.
- I/I from private property violates The Town's Sewer Use Ordinance. For more info go to www.town.exeter.nh.us/sewer.

**Also...spread the word
Tell a neighbor or a friend
about the Sump Pump Program.**

The Hidden COST



A recent survey shows that towns have spent an average of **\$40,500** dealing with unflushable items in sewer systems.



The replacement cost of a typical residential leach field is **\$6,000-15,000**



29 Hazen Drive, Concord, NH 03301
des.nh.gov
(603) 271-3571

What's FLUSHABLE?



What's FLUSHABLE?

The DO NOT FLUSH List:

A toddler will tell you that *everything* is flushable... but what you *think* is flushable could be costing you money!

Product labels can be misleading. Some items that claim to be "flushable" can clog sewer and septic systems and can end up costing you a pretty penny.

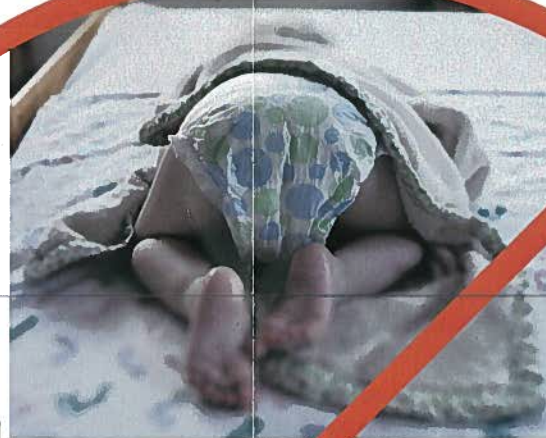
"Flushable" does NOT mean it is SAFE for your septic system or sewer.

"Disposable" items ARE NOT flushable and should be placed in the trash.

The bottom *line*:
ONLY

Human waste and toilet paper
ARE FLUSHABLE

Diapers
Cigarettes
Paper Towels
Cotton Swabs
Tampons



Condoms
Dental Floss
Facial Tissues
Wipes

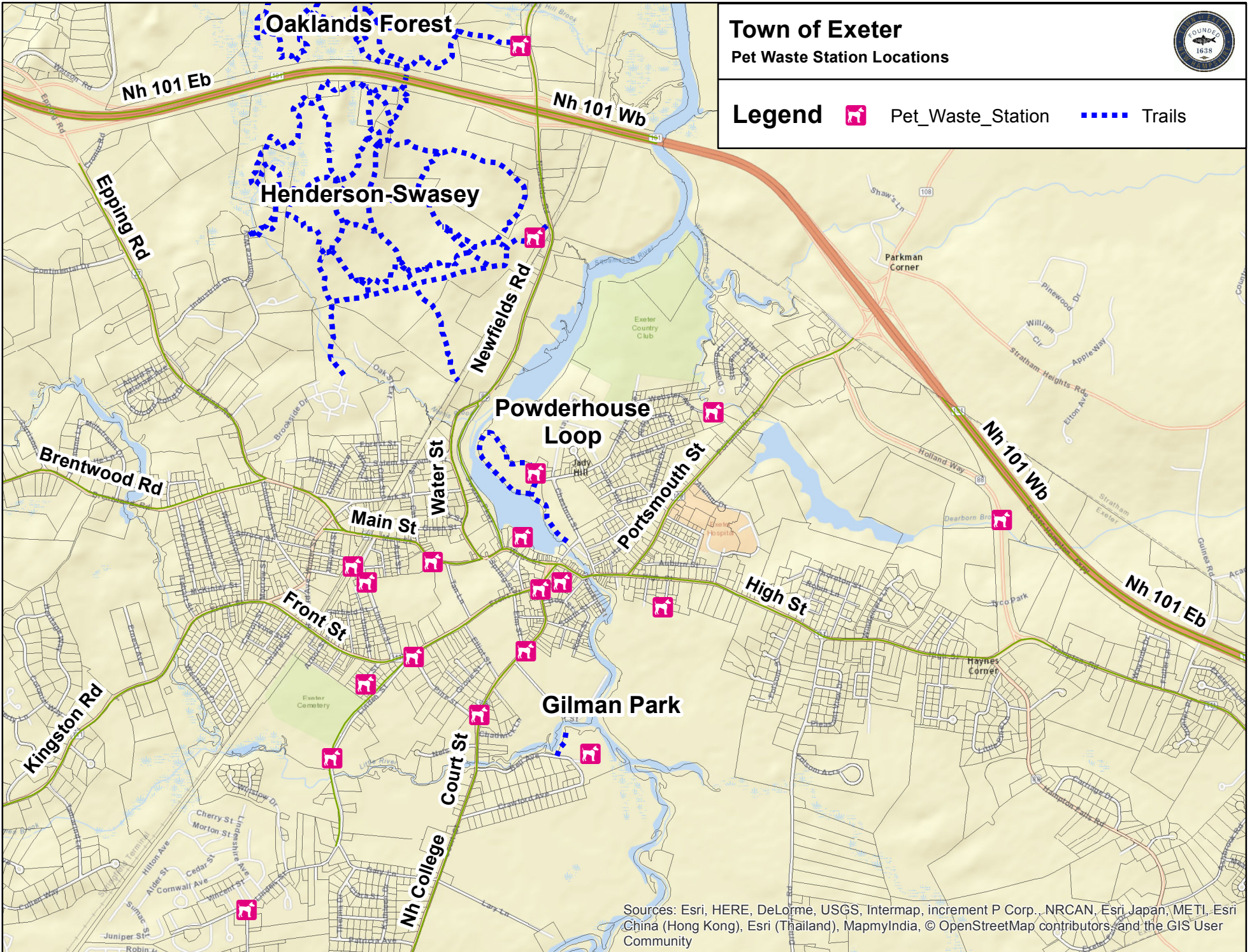
Attachment 10
Pet Waste Station Location Map

Town of Exeter

Pet Waste Station Locations



Legend Pet_Waste_Station Trails



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Attachment 11
Updated CSO LTCP Table 14-1 and EPA Approval Letter



TOWN OF EXETER, NEW HAMPSHIRE

10 FRONT STREET • EXETER, NH • 03833-3792 • (603) 778-0591 • FAX 772-4709

www.exeternh.gov

November 29, 2017

US Environmental Protection Agency-Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912
Mail Code: OES04-3
Attn: Joy Hilton

RE: NPDES Permit No. NH0100871; Administrative Order Docket No. 10-024
Wastewater Collection System Capacity, Management, Operation and Maintenance (CMOM)
Program Update December 2017

Dear Ms. Hilton,

The Town of Exeter has made great efforts to reduce the frequency of Sanitary Sewer Overflows (SSOs) & Combined Sewer Overflows (CSOs) according to Administrative Order Docket No. 10-024. Investments over the previous 5 years have included private I/I identification in residential neighborhoods and commercial businesses, private I/I removal from the sanitary sewer, public & private sewer lines replacement in Jady Hill Inflow Pilot residential neighborhood, new sewer line replacement on Portsmouth Avenue, and sewer pipe re-lining & manhole rehabilitation. The Town has also refined and redeveloped the sewer line cleaning and televising programs, so all sewer lines are reviewed for conditions assessment every 5 years. The data will be reviewed periodically to determine degradation ratings, decide the best rehabilitation methods, and prioritize the repair schedule.

The Town of Exeter has also invested \$53.5 million dollars, to construct a new Wastewater Treatment Facility (WWTF), a new Main Sewer Pump Station, and install two new 16" Sewer Force mains to connect the two facilities to help reduce CSOs. The planned improvements to the Main Pump Station and the force mains to achieve a 10 MGD pumping capacity will reduce CSO discharges and should continue to be included as part of the CSO LTCP. The Town will also continue its I/I mitigation program including Pilot Areas, but will defer the majority of the \$26M gravity sewer rehabilitation/replacement projects. The Town agrees with the CSO LTCP recommendation to defer some projects until pilot area work is completed and focus on the private I/I mitigation program in the near term until the Main Pump Station project is complete and additional reliable CSO flow information becomes available to evaluate the improvements.

Please find suggested updates to the Town's CSO LTCP Program Implementation Scheduled provided on Table 14-1. The Town feels this approach is consistent with the submitted CSO LTCP Update on January 13, 2017. Expenditures are focused on the WWTP and Main Pump Station improvements over the next few years, and continued I/I through public education, outreach, and sump pump ordinance enforcement.

If you have any questions, please contact me at (603) 773-6157.

Sincerely,

Jennifer Perry, P.E.
Public Works Director

Table 14-1 (2017 UPDATE)
Suggested CSO LTCP Sewer Implementation Schedule and Cash Flow - 3-Year Plan
November 2017

Sewer Improvement Project/Program	Total Cost ^{3,4,5}	Project Year															
		ACTUAL				RECOMMENDED											
		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
WWTF Improvements ²																	
Facility Plan	\$375,000	\$375,000															
WWTF and Main Pumping Station Design	\$0			\$3,211,300													
WWTF Construction	\$43,760,000					\$43,760,000											
Main Pumping Station & Force Main Construction	\$3,552,402						\$6,240,000	*									
Non-point Nitrogen Evaluations and Controls ⁹	TBD					TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	
Phase II On-Line (5 mg/L)- If Necessary, TBD ⁹	TBD																
<i>Subtotal Additional I/I Projects AO Driven</i>	\$47,687,402	\$375,000	\$0	\$3,211,300	\$0	\$43,760,000	\$6,240,000	\$0									
Long Term CSO Control Plan																	
Submit Report and/or update tech memo		*				*			*								
Jady Hill Project ^{1,6}																	
Construction	\$3,436,000	\$3,436,000															
Evaluation/Assessment	\$20,000		\$20,000														
Additional Evaluations/Private Inflow Mitigation ¹⁰			\$41,000	\$73,400	\$29,300	\$20,000	\$20,000	\$20,000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	
Manhole Rehabilitation		\$30,000	\$60,000	\$60,000	\$60,000	\$60,000	\$30,000										
Downing Ct./Westside Drive Private Inflow Pilot Areas																	
Design	\$80,000								TBD								
Construction/Implementation ^{1,8}	\$1,000,000								TBD	TBD							
Evaluation/Assessment	\$40,000																
<i>Subtotal Additional I/I Projects LTCP Driven</i>		\$3,466,000	\$121,000	\$133,400	\$89,300	\$80,000	\$50,000	\$20,000									
Wastewater Collection CIP ⁷																	
Portsmouth Avenue Sewer	\$900,448	\$900,448															
Lincoln Street Sewer	\$865,000					\$75,000	\$790,000										
Washington St. Sewer							\$40,000	TBD									
Pipe Lining																	
Sewer Line Rehabilitation/Replacement Program	TBD					TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	
<i>Subtotal Existing CIP Sewer Projects</i>		\$900,448	\$0	\$0	\$0	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	
ANNUAL TOTAL LTCP AND EXISTING SEWER CIP (WWTF COSTS NOT INCLUDED)		\$4,741,448	\$121,000	\$3,344,700	\$89,300	\$TBD	\$TBD	\$TBD	\$TBD	\$TBD	\$TBD	\$TBD	\$TBD	\$TBD	\$TBD	\$TBD	
		Actual CSO LTCP Costs				Planned CSO LTCP Budgets			8-YEAR PHASE II LTCP								
		\$3,809,700				\$6,390,000			Costs TBD if needed								

Notes:

- 1 Pilot areas should be done initially to further refine private I/I approach.
- 2 WWTF expenditures and budgets provided by Town.
- 3 All recommended expenditures and projects indicated above may require Town authorization through voting.
- 4 Reassessment of affordability and approach of the program should be performed during critical milestones such as pilot area implementation, WWTF upgrade, and main pumping station improvements.
- 5 Budgetary project costs are present day and have not been escalated for the time value of money.
- 6 Jady Hill Project costs includes sewer related expenses only.
- 7 Wastewater collection system CIP based on actual sewer expenditures and construction phase engineering for the Portsmouth Ave. sewer and estimates for the Lincoln St. Sewer.
- 8 Assumes sump pump mitigation project in Westside Drive Pilot Area and sewer rehabilitation program in Downing Court Pilot Area.
- 9 Schedule is based on US Environmental Protection Agency (EPA) draft Administrative Compliance Order (ACO).
- 10 Actual expenditures based on UE engineering contracts for private I/I identification, public education and mitigation program.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

DEC 11 2017

Russell Dean
Town Manager
Town of Exeter
10 Front Street
Exeter, NH 03833-2792

Re: NPDES Permit No. NH0100871
Administrative Order Docket No. 10-024

Dear Mr. Dean:

EPA and the New Hampshire Department of Environmental Services have received and reviewed Exeter's January 30, 2017 *Combined Sewer Overflow Long-Term Control Plan ("LTCP") Update* prepared by Underwood Engineers, and the subsequent update to LTCP Table 14-2. By this letter, the proposed CSO LTCP Implementation Schedule in the November 29, 2017 Update of Table 14-1 for Project Years 2017 through 2019 (see enclosure) is incorporated into the Order and is enforceable pursuant to Paragraph IV.3 of the Order.

Please telephone Joy Hilton of my staff at (617) 918-1877 or have your attorney contact Jeff Kopf at (617) 918-1796 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Karen McGuire".

Karen McGuire, Acting Director
Office of Environmental Stewardship

Enclosure

cc: Jennifer Perry, Public Works Director
Matthew Berube, Acting Water & Sewer Managing Engineer ✓
Paul Vlasich, PE, Town Engineer
Tracy Wood, NHDES