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2005 Coastal Illicit Connection Identification and Elimination Grant Project

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A Final Report to

The New Hampshire Estuaries Project

Submitted by

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EXECUTIVE SUMMARY

The New Hampshire Department of Environmental Services (DES) received funds in 2005 from the New Hampshire Estuaries Project (NHEP) to administer grants to coastal municipalities to eliminate illicit discharges into their storm drainage systems. This final report describes the projects that were funded under this grant. Projects in Rye and Somersworth involved eliminating sewage discharges into storm drainage systems from houses. A project in Portsmouth involved developing a standard operating procedure manual and recommendations for future training for illicit discharge detection and elimination (IDDE). The removal of illicit discharges in Rye and Somersworth helped improve water quality in the coastal area by reducing pollution.

NHEP chose to fund IDDE projects for a number of reasons. Primarily, this grant was established in order to fulfill several water quality action plans identified in the NHEP Management Plan. In addition, the Coastal/Piscataqua watershed has been identified by DES as a priority watershed in need of restoration. DES has worked in the coastal watershed since 1996 to reduce bacteria inputs that cause the closure of shellfish beds. Finally, the communities that were awarded grants are regulated as small municipal separate storm sewer systems (MS4s) under the Phase II federal stormwater regulation. The financial assistance these municipalities received has helped them comply with one of the requirements of these regulations.

INTRODUCTION

This final report describes a grant program funded by NHEP and administered by DES. A memorandum of agreement (MOA) between NHEP and DES created a grant program to provide assistance to coastal communities to identify and eliminate illicit discharges into the storm drain system. A total of $60,000 was made available for assisting municipalities with illicit discharge correction and storm sewer mapping projects. DES issued a request for proposals (RFP), chose grant recipients, and managed the grant agreements. This report provides details on the illicit discharge detection and elimination projects completed by Rye, Somersworth, and Portsmouth. The deadline for completion of all grant projects was December 31, 2006.

PROJECT GOALS AND OBJECTIVES

The goal of the project was to provide financial and technical assistance to coastal municipalities to identify and eliminate illicit discharges into the storm drainage system. The project's objectives are derived from several Action Plans identified in the NHEP Management Plan relating to water quality and shellfish resources. One overall goal of the Management Plan is to ensure that New Hampshire's estuarine waters and tributaries will meet standards for pathogenic bacteria including fecal coliform, *E. coli*, and enterococci. Action WQ-4C aims to eliminate illicit connections in Seacoast communities, and Action WQ-7 aims to provide incentives to fix or eliminate illegal direct discharges such as grey water pipes, failing septic systems, and agricultural runoff. Lastly, Action SHL-2 is to identify sources of, and reduce or eliminate, contaminants in the estuaries watersheds. The grant program summarized in this report was established to help carry out these action plans.

METHODS

On June 22, 2005, the Governor and Executive Council approved an MOA between the University of New Hampshire and DES to implement several NHEP actions to improve the environmental quality of the state's estuaries, including funding for illicit discharge remediation projects.

DES issued a request for proposals (RFP) to all communities within the coastal watershed, announcing the availability of funding for illicit connection remediation. The requirements for the use of the NHEP funds were as follows:

1. The proposed project will eliminate an illicit discharge to a storm drainage system. Remedial activities can include:
   - Removing an illicit connection from the storm drainage system,
   - Reinstalling plumbing to a residence or commercial establishment, and/or
   - Rerouting pollutant discharge to an adequate treatment facility.
2. The proposed project meets the eligibility criteria (see below).
3. Funding must be matched by an equal local (non-federal) share in cash or in-kind services.
4. All projects must be completed by December 31, 2006.

Proposals were received from Portsmouth, Rye, and Somersworth. DES reviewed the proposals and assessed their merit based on the following criteria:

- Locations of illicit connections are known.
- Illicit connections discharge into a storm drainage system that discharges into state surface waters within the coastal watershed.
- Elimination of the identified illicit connections is supported by town/city officials.
- Property owners are likely to cooperate.
- Practical solutions can be implemented.
- Results can be achieved.

The applications from Portsmouth, Rye, and Somersworth were accepted using these criteria.

RESULTS AND DISCUSSION

The activities performed as part of each grant are discussed in this section.

Portsmouth Illicit Discharge Detection and Elimination (Training Manual)

This project helped fund the creation of a New Hampshire specific manual containing guidelines and Standard Operating Procedures (SOPs) which address illicit discharge detection and elimination and municipal pollution prevention and good housekeeping minimum measures as described in the federal Phase II stormwater regulations. The manual was written and edited with the assistance of the Seacoast Coalition, including representatives from the seacoast communities, NH Department of Transportation, DES and the consultants Edwards and Kelcey. Several meetings were conducted with all stakeholders involved in the illicit discharge detection and elimination procedures, and the manual was edited and modified based on the input of those stakeholders.

The manual will be used as a basis for future training programs, and as a reference guide

regarding the standard procedures to detect and remove illicit sanitary sewer connections. The manual was produced in an electronic version, and hardcopy versions will also be made available. The link to download the manual is located on the DES website at the following address: http://www.des.state.nh.us/StormWater/NH_IDDE_SOP.pdf. The total project cost was $20,717.75. This grant provided $10,000.00 and the city of Portsmouth documented $10,717.75 in cash and in-kind match.

Rye Illicit Discharge Detection

The town of Rye's IDDE project Grant Agreement was approved by the Governor and Executive Council on December 5, 2005. Rye reviewed all available information to prioritize areas of town for detection surveys. Recreational areas, sensitive marshlands, industrial areas, areas with older development, and areas with previous complaints were given priority over other areas. The Town followed the *Illicit Discharge Detection and Elimination Manual* procedures to perform dry-weather surveys to locate any non-stormwater related flows. Ten outfalls were found to be flowing in dry weather conditions. The samples were analyzed and one of the outfalls returned E. *coli* values that exceed the EPA recommended amount. Rye will work with DES staff to develop a remediation plan to pinpoint and correct the suspected discharge. Dry weather flows into the stormwater drainage system were also identified on the town's drainage system map. The total project cost was $6,000.00. This grant provided $3,000.00 and the town of Rye documented $3,000.00 in cash and in-kind match.

Somersworth Illicit Discharge Detection and Elimination

The project tasks included televising the sewage and storm drainage lines on Union, Ford, and School Streets in order to confirm locations of suspected illicit connections. Illicit connections at 18 Borque Street and 4 Grand Street were confirmed and then corrected utilizing grant funds and local matching funds. Follow-up sampling was conducted with the assistance of DES Watershed Assistance Section staff. Those sample results have shown low *E. coli* counts. Through the illicit discharge detection activities completed under this grant, an additional illicit connection was found at 99 Green Street. The Green Street illicit connection has also been corrected by re-plumbing the discharge to the sanitary sewer line. The total project cost was $10,117.51. This grant provided $5,058.76 and the city of Somersworth documented $5,058.75 in cash and in-kind match.

CONCLUSIONS AND RECOMMENDATIONS

Rye and Somersworth utilize the NHEP grant funding to pinpoint illicit discharge sources, remove illicit connections or make significant progress toward those goals during the project period. Additionally, a manual was created that will assist in the continuation of illicit discharge detection and elimination activities in the future. Although DES has not measured the changes in receiving waters, we are encouraged by the progress these municipalities have made towards improving water quality. The grants described in this final report complemented DES's efforts and helped foster a partnership between DES and municipalities in order to solve some of the water quality problems in the coastal watershed. The following table summarizes the final project costs under this grant.

Table 1: 2005 IDDE Project Costs

Project	Grant	Match	Total
Portsmouth SOP manual	$10,000.00	10,717.75	$20,717.75
Rye IDDE	$3,000.00	$3,000.00	$6,000.00
Somersworth IDDE	$5,058.76	$5,058.75	$10,117.51
Total	**$18,058.76**	**$18,776.50**	**$36,835.26**