

Municipality/Organization: Orleans, MA

EPA NPDES Permit Number: MAR041146

MaDEP Transmittal Number: W- 035744

Annual Report Number
& Reporting Period: **No. 10: May 1, 2012-April 30, 2013**

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Mark Budnick

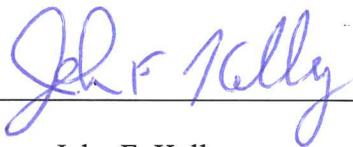
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Certification:

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: John F. Kelly

Title: Town Administrator

Date: 5/1/13

Part II. Self-Assessment

The Town of Orleans has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.

Notable Accomplishments in Permit Year 10:

Water Quality Task Force & Comprehensive Wastewater Management Plan

The Town of Orleans continues to develop significant ongoing programs to improve marine and fresh water quality and work towards the goals of the Phase II Permit and the final TMDLs for pathogens and nutrients. The efforts of the Marine and Fresh Water Quality Task Force, Orleans Pond Coalition, past and planned BMP construction projects and the development of the December 2010 Comprehensive Wastewater Management Plan (CWMP) have or will result in significant water quality and habitat improvements. The 2010 CWMP provides recommendations for wastewater treatment capital improvements to address failing septic systems and significantly reduce nitrogen loading to the local bays and impoundments, which represent the majority of the pollutant load. The CWMP received final approval from the MA DEP on February 14, 2012. The Town's consultant completed an evaluation of full lifecycle costs for the CWMP and for a small pipe (STE) collection system to provide further support for recommendations in the CWMP. Funding for design of Phase 1A (sewer for the downtown area) and preliminary design for the Meetinghouse Pond area will be sought at the May 2013 Town Meeting.

In addition to the efforts to reduce nitrogen loading from septic sources, the Town of Orleans continues to implement BMPs to reduce the use of fertilizers and pesticides. The Pleasant Bay Alliance developed a fertilizer and pesticide use policy for municipal properties and the Town approved the policy in April 2012. Building upon this effort, the Town developed a Fertilizer Nitrogen Control bylaw that will be presented at the May 2013 Town Meeting. The purpose of the bylaw is to restrict the use of nitrogen based fertilizers throughout Town and it includes the following provisions: no application of nitrogen between October 16 and April 14; no application before or during heavy rain; and no application within 100 feet of Resource Areas. In support of these efforts, the Town has a robust public education campaign to inform residents and businesses about the proper use of and alternatives to fertilizers.

Pleasant Bay Resource Management Plan Update

The Pleasant Bay Resource Management Plan was updated in 2013 and an article will be presented at the May 2013 Town meeting to adopt the updated plan. The purpose of the article is to vote to adopt the 2013 Plan and the inter-municipal agreement with the Towns of Chatham, Harwich and Brewster. This will continue the Town's ongoing effort to work collaboratively with neighboring Towns to promote the natural resource health and public enjoyment of Pleasant Bay.

Stormwater Management Planning

The Town and its consultant continued to evaluate program needs based on the pending Phase II permit for Interstate, Merrimack and

South Coastal Watersheds and the draft 2013 Phase II permit that was issued for New Hampshire MS4s. The Town anticipates using this information and the results from other activities (e.g., CWMP, BMP projects) to develop an appropriate strategy to address the requirements related to TMDLs and impaired water bodies, as part of the Stormwater Management Plan (SWMP) development under the final permit (once issued). The Town has prepared an article for the May 2013 Town Meeting requesting \$500,000 to fund a comprehensive SWMP to meet future regulatory requirements and water quality goals.

Public Education & Involvement Activities

The Town of Orleans conducted the following major events to promote awareness of water resources and engage the community:

- Orleans Green Week: the Town organized and conducted a week of activities from April 22nd to April 26, 2013 to promote land conservation and restoration. The activities engaged school groups and private citizens and included: educational sessions and walks on land conservation, habitat restoration and horticulture; removal of invasive species and planting of native plant and tree species; and the distribution of saplings to the public at multiple locations. Green Week was organized by the Barnstable County Extension, the Orleans Community Partnership, the Town of Orleans Highway and Tree Departments, Landline Design, the Orleans Conservation Trust and the Barnstable County AmeriCorps of Cape Cod. The event engaged community volunteers and students from both the Orleans Elementary School and the Nauset Regional Middle School, resulting in the removal of invasive species and the planting of over 400 native plants and 9 trees.
- Uncle Harvey's Pond: This project was the continuation of the Year 9 Operations Orleans project. In Year 10 the focus was on the restoration and stabilization of the stream leading to Harvey's Pond. The Town Tree Department, Highway Department, and the Barnstable County AmeriCorps of Cape Cod along with community volunteers, organized and conducted an invasive species removal restoration and stabilization of along the stream leading to Uncle Harvey's Pond. Approximately 20 cubic yards of invasive species were removed and 400 native species ground covers were planted.
- Celebrate Our Waters Event: the Orleans Pond Coalition hosted a "Celebrate Our Waters" event on September 22 and 23, 2012. The celebration was well attended with over 2,000 people and it expanded its geographic footprint to include events in Eastham. The Orleans Pond Coalition hopes to further expand the event into Brewster in 2013 to highlight the "shared waters".

Stormwater BMP Assessment, Design & Construction

The Town began designing a stormwater BMP project for the Barley Neck Road stormwater discharge to protect water quality in the Meeting House River. This project was put on hold in 2012 so the Town could conduct a more comprehensive assessment of stormwater improvement needs at key outfalls and priority water bodies. The Town's consultant began a Preliminary Town-wide Stormwater Assessment to identify and rank outfalls with the highest potential pollutant discharges. The Assessment will prioritize the outfalls for remediation and provide a course of action with cost estimates to reduce or eliminate pollutant discharges. The Assessment will also identify further actions necessary to evaluate and address all stormwater discharges in the anticipated next Phase of a Town-wide Stormwater Assessment. The Preliminary Assessment is expected to be completed by Summer 2013. Through this project the Town developed a Stormwater Task Force consisting of the Highway Manager, Town Planner, Health Agent, Conservation

Officer and the Chairperson of the Marine and Freshwater Quality Task Force.

The Town previously completed the design for stormwater BMPs to address a stormwater outfall off Tar Kiln Road. The BMPs will remediate a direct discharge to the upland marsh leading to Pleasant Bay through the use of new deep sump catch basins and modifications to drainage patterns to increase overland flow and decrease flow to the storm drain system. Construction is funded and scheduled to begin in Spring 2013.

The Town is designing stormwater improvements at Pochet Road to address flooding issues and remediate stormwater entering the adjacent resource area. The design is expected to be completed in Spring 2013 and construction is anticipated to begin in Summer 2013.

The Town began constructing septic and stormwater improvements at the Skaket Beach parking lot and construction is anticipated to be complete in Spring 2013. The parking lot previously had no stormwater controls with a direct discharge to Cape Cod Bay.

The Highway Department completed additional drainage improvements on Baker’s Pond Road, Bakers Pond Road Extension, Doane Road and Hinkle Road that resulted in a reduction or elimination of direct stormwater discharges to water bodies.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|----------|---|------------------------------------|---|---|--|
| A.1 | Develop and Broadcast Via PA CATV Storm Water Video | Mark Budnick, Public Works Manager | One per year – in conjunction with County Group | The video “After the Storm” is available through an internet media player on the Highway Department’s web page. | Continue broadcasting “After the Storm” video on local cable. Evaluate methods for tracking the number of video views/hits on website. Consider using local cable to broadcast pertinent presentations and Selectmen meetings relating to stormwater management. |
| Revised | | | # website hits/views for video | The video was broadcast on a regular basis on the Town’s cable channel during the permit year. The video is also available on-demand on the Highway Department’s webpage. | |

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|-----------------------------------|--------------------------------------|---|--|--|
| A.2 | Household Hazardous Waste Control | Mark Budnick, Public Works Manager | Annual HHW Collection | Collection days were held in Eastham on July 21 st and in Orleans on September 15, 2012. 173 Orleans households participated and a total of ~18,890 lbs and 4,345 gallons of household hazardous waste were collected from both communities. Event organizers tracked the effectiveness of the various advertisement methods and ~ 66% of participants heard of the events through the brochure, 18% heard of the event through the newspaper and the remainder through other methods | Continue reciprocal HHW collections with the Town of Eastham. Continue tracking resident participation and results. Consider promoting the HHW collection events using additional methods. |
| Revised | | | # residents participating | The Orleans Transfer station offers semi-annual paint collections and offers collection of waste gasoline, waste oil and waste antifreeze free to Transfer Station ticket holders. In 2012 the Transfer Station collected and disposed of ~ 600 gallons of paint products, 1,200 gallons of waste oil, 440 gallons of waste gasoline and 50 gallons of waste antifreeze. | |
| A.3 | Education Flyers | Mark Budnick, Public Works Manager | Distribute 2 per year at Transfer Station | Two different flyers were made available at the Transfer Station and Town Facilities. Using this method, approximately 150 flyers were distributed. | Continue to distribute educational flyers and/or other materials and track materials taken. |
| Revised | | | # flyers taken by residents | | Consider alternative methods to provide public education and outreach addressing HHW collection and stormwater management concepts. |

1a. Additions

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|---|--|--|--|--|
| A.4 | Web Page Information | Mark Budnick, Public Works Manager & Peter VanDyck, IT Coordinator | Short Article – one per year | As discussed under BMP A.1, the video “After the Storm” is linked through the Highway Department’s webpage. The webpage also links to EPA’s NPDES Stormwater Program web page and the Town’s stormwater bylaws. | Continue to maintain existing web pages related to stormwater and water quality. Evaluate additional web page links and begin tracking the number of hits. Consider short articles or topics that can be posted annually on web pages. |
| Revised | | | # website hits | <p>Agendas, meeting minutes, and additional information are posted on a webpage for the Marine and Fresh Water Quality Task Force. The Town also maintains a webpage for reports, meeting minutes and other documents related to the CWMP.</p> <p>The Orleans Pond Coalition maintained and updated its website to continue to promote general awareness of water bodies in Orleans. The website integrates the Town’s efforts to protect and improve water quality through the implementation of the CWMP, fertilizer management programs and “Mutt Mitts” program for dog waste.</p> | Evaluate methods to integrate stormwater program information and educational opportunities between the Town web pages and the website maintained by the Orleans Pond Coalition. |
| A.5 | Other Public Education In Year 10 | Mark Budnick, Public Works Manager | | Copies of “The Orleans Blue Pages” water quality protection booklet (50+ pages) developed by the Orleans Pond Coalition were made available at no cost for residents at Town Hall. | Continue existing public awareness activities and evaluate methods to track materials taken, posters, displays and audience (number) reached. |
| Revised | Other Public Education Activities in Year 10 | | # copies of “Orleans Blue Pages” taken by residents # posters displayed & handouts | | |

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|------------------------|---|---|---|--|
| A.6 | Storm Drain Stenciling | Mark Budnick, Public Works Manager | Stencil storm drains leading to critical priority outfalls. | No storm drain stenciling occurred during the permit term. | Continue storm drain stenciling activities at highly visible areas and areas that drain directly to priority outfalls and waterways. More actively solicit volunteers through the Marine and Fresh Water Quality Task Force or with schools. |
| Revised | | Marine & Fresh Water Quality Task Force | # stenciled drains per year | | |

2. Public Involvement and Participation

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|-------------------------------------|---|---|---|---|
| B.1 | Water Quality Monitoring Program | Marine & Fresh Water Quality Task Force | Ongoing | Water quality monitoring was performed over the permit year for select estuaries and freshwater bodies. The Marine & Fresh Water Quality Task Force met once per month to review monitoring activities and results related to priority water bodies and potential improvement projects. | Evaluate priorities and continue monitoring water quality and tracking which program results were most effective. Use monitoring results to develop remediation plans for high priority areas. Continue to support Task Force and hold monthly meetings. |
| Revised | | Town Administrator & Board of Selectmen | # samples collected, water bodies assessed each year & water quality improvements | Implementation of remediation plans continued for the following high priority areas: Cedar Pond, Meetinghouse Pond, Meetinghouse River, Town Cove, and inland ponds and estuaries. | |

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|--|--------------------------------------|--|---|---|
| B.2 | Estuaries Program | Director of Planning and Development | Ongoing | <p>The Town’s Comprehensive Wastewater Management Plan (CWMP) received final approval from the MA DEP on February 14, 2012. The Town’s consultant completed an analysis of full lifecycle costs for the CWMP and for a small pipe (STE) collection system to support the recommendations of the CWMP.</p> <p>An article will be presented at the May 2013 Town Meeting to fund the design for Phase 1A to sewer the downtown area and begin preliminary design for the Meetinghouse Pond area.</p> <p>The goal of the program is to meet the TMDL for Pleasant Bay, the anticipated TMDLs for the Nauset system and Rock Harbor, and help protect 8 priority ponds. Multiple public hearings were held to review the program and provide input.</p> | <p>Funding for Phase 1A design will be sought at the May 2013 Town Meeting.</p> <p>Continue to promote the CWMP and implement recommendations and strategies. Continue to incorporate elements of the CWMP into the SWMP to meet the new permit requirements, as appropriate.</p> |
| Revised | Estuaries Program & Comprehensive Wastewater Management Plan | | <p>Regulatory review of CWMP.</p> <p>Assessment of potential cost-saving alternatives.</p> | | |

2a. Additions

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|------------------------|--------------------------------------|---|---|--|
| B.3 | Storm Drain Stenciling | Mark Budnick, Public Works Manager | Stencil storm drains in downtown area and other at systems leading to critical priority outfalls. | Refer to BMP A.6. | Refer to BMP A.6. |
| Revised | | Volunteers | # stenciled drains per year & # volunteers | | |

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|---|--|---|--|--|
| B.4 | Outfall Monitoring | Mark Budnick, Public Works Manager | Perform dry weather outfall monitoring of all outfalls that were initially observed to have flow during the GIS locating. | Highway Department staff received training on data collection and illicit discharge detection during catch basin cleaning activities. Outfall inspection activities are discussed under BMP C.1. | Incorporate inspection results into the prioritization scheme for future improvement projects. |
| Revised | Volunteer Outfall Monitoring Program | Marine & Fresh Water Quality Task Force | # volunteer participants | The Orleans Pond Coalition received a grant for water quality monitoring the Cedar Pond and Rock Harbor estuarine system. The study will provide baseline water quality for this system. The results will also be used to increase the awareness and importance of preserving water quality. | Continue to support the efforts of the Marine & Fresh Water Quality Task Force and coordinate efforts with the Orleans Pond Coalition volunteers. |
| B.5 | Maintain Animal Waste Collection Bags in Key Areas of Concern | Orleans Pond Coalition | | “Mutt Mitts” animal waste collection bags were maintained by volunteers from the Orleans Pond Coalition at key areas of concern for residents to properly dispose of waste. Several new dispensers were also installed. Town Departments assisted with proper waste disposal. Approximately 36,000 bags were used at all of the collection stations. | Continue maintenance of “Mutt Mitts” program and ensure proper disposal of wastes. Continue to track the number of bags taken and evaluate if high occurrences of improper disposal warrant a targeted education campaign. |
| Revised | | Mark Budnick, Public Works Manager | | | |
| B.6 | Water Day Celebration | Orleans Pond Coalition | List of activities & participants | The Orleans Pond Coalition hosted a “Celebrate Our Waters” event on September 22 and 23, 2012. The event was well attended with over 2,000 people. This year the celebration expanded to include events in Eastham. | Organize another “Celebrate Our Waters” event with the Orleans Pond Coalition. Incorporate stormwater education topics and activities into the event. |
| Revised | | | | | |

2a. Additions (continued)

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|------------------------|---|-----------------------------------|--|--|
| B.7 | Operation Orleans | Orleans Tree Dept. & Conservation Trust | List of activities & participants | The Barnstable County Extension, the Orleans Community Partnership, the Town of Orleans Highway and Tree Departments, Landline Design, and the Orleans Conservation Trust hosted a week of activities from April 22nd to April 26, 2013 to promote land conservation and restoration. Refer to “Notable Accomplishments” for further description of the event. | |
| Revised | Orleans Green Week | | | | |

3. Illicit Discharge Detection and Elimination

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|---|--------------------------------------|--|--|--|
| C.1 | Storm Water System Mapping and Database Development | Mark Budnick, Public Works Manager | Comprehensive town-wide survey by year 2 – as funding allows | The Town hired a consultant to field verify the drainage system and update the GIS database. The mapping effort included outfall screening for illicit discharges (see BMP C.3 for screening results). The storm drain mapping project is anticipated to be completed by the end of 2013. The Town’s consultant began a Preliminary Assessment of stormwater outfalls and drainage areas to prioritize remediation efforts. | Continue to update the drainage system base map as needed. |
| Revised | | | | | |
| C.2 | Review Existing By-Laws | Director of Planning and Development | Review existing by-laws and adopt storm water ordinance FY06 | As discussed in previous reports, a Floor Drain Regulation went into effect on July 1, 2010. The Highway Department drafted an Illicit Discharge Bylaw that will be presented at the May 2013 Town Meeting. The Bylaw addresses all illicit discharges to the MS4 and water bodies in Orleans. | Adopt the Illicit Discharge Bylaw. Monitor and enforce the Illicit Discharge Bylaw and local requirements related to floor drains, dumping, and pet waste control. |
| Revised | | | | | |

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|--|--------------------------------------|---|--|--|
| C.3 | Identify and Document Illicit Connections | Mark Budnick, Public Works Manager | Review C.1 results, finalize database by Year 4 | The Highway Department inspects all catch basins during cleaning operations and completes a form to document the condition and any potential illicit discharges. No new unknown connections to the MS4 were identified. | Inspect outfalls with previous dry weather flows to verify that an illicit discharge is not present. |
| Revised | Identify & Remove Illicit Connections & Discharges | | # discharges identified, removed within 1 year of discovery | The Town's consultant mapped and screened 80 outfalls for potential illicit discharges and no evidence of illicit discharges was observed. Only 2 outfalls exhibited dry weather flow and visual observations did not indicate the presence of an illicit discharge. | Continue to review mapping results with catch basin, pipe cleaning and inspection information. Incorporate existing procedures into future IDDE procedures and the O&M Plan under Control Measure 6. |

3a. Additions

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|--|--------------------------------------|-------------------------------|---|---|
| C.4 | Comprehensive Wastewater Management Plan | Director of Planning and Development | Progress towards a final CWMP | The Town's consultant completed an analysis of full lifecycle costs for the CWMP and for a small pipe (STE) collection system to support the recommendations of the CWMP. An article will be presented at the May 2013 Town Meeting to fund the design for Phase 1A to sewer the downtown area and begin preliminary design for the Meetinghouse Pond area. | Continue to monitor how elements from the CWMP and SWMP overlap to identify any practices that could satisfy requirements of both. |
| Revised | | | | The Town anticipates incorporating the results of the CWMP into the SWMP update based on new permit requirements. | |
| C.5 | Public Education for Illicit Discharges | Mark Budnick, Public Works Manager | | As outlined in BMPs A.1 through A.6 and B.5, various entities have incorporated information regarding illicit discharges into existing public education and public involvement activities. | Continue to incorporate illicit discharge information into existing public education and involvement activities and evaluate results. |
| Revised | | | | | |

4. Construction Site Stormwater Runoff Control

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|----------|---|--------------------------------------|--|---|--|
| D.1 | Review Existing By-Laws | Director of Planning and Development | Review existing by-laws and adopt construction ordinance | As discussed in the Year 6 Annual Report, the Town adopted the Drainage and Erosion and Sediment control bylaw at Town meeting in May 2008. | Continue to enforce bylaws and document actions. |
| Revised | | | | The Highway Department continued to inspect sites throughout Town for potential erosion issues and no significant issues were identified. | |
| D.2 | Propose amendments and articles at Town Meeting | Director of Planning and Development | Spring 06 | As discussed in the Year 6 Annual Report, the Town adopted the Drainage and Erosion and Sediment control bylaw at Town meeting in May 2008. No amendments were deemed necessary at this time. | Continue to evaluate effectiveness of bylaws and amend if necessary. |
| Revised | | | Ongoing | | |

4a. Additions

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|----------|--|------------------------------------|---|---|--|
| D.3 | Establish a Procedure for Receipt of Information by Public | Mark Budnick, Public Works Manager | # calls received & record of corrective actions | The Highway Department received one call related to a construction site and Town staff worked with the contractor to address the issue. | Continue to respond to calls regarding construction site erosion and sediment issues. Improve recordkeeping and documenting calls and actions by all departments by standardizing forms and improved sharing of information. |
| Revised | | | | | |

5. Post-Construction Stormwater Management in New Development and Redevelopment

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|----------|---|--|--|---|--|
| E.1 | Review Existing By-Laws | George Meservey, Director of Planning and Development | Review existing by-laws and adopt Runoff Control Ordinance | As discussed in the Year 6 Annual Report, the Town adopted the Drainage and Erosion and Sediment control bylaw at Town meeting in May 2008. | Continue to enforce bylaw and review plans through Site Plan Review committee. |
| Revised | | | | Any plans for significant development are reviewed for compliance through the Site Plan Review committee. | |
| E.2 | Propose amendments and articles at Town Meeting | George Meservey, Director of Planning and Development | | Refer to BMP E.1. No amendments were deemed necessary at this time. | Continue to evaluate effectiveness of bylaws and amend if necessary. |
| Revised | | | Ongoing | | |

5a. Additions (none at this time)

6. Pollution Prevention and Good Housekeeping in Municipal Operations

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|----------|-----------------|--|--|---|--|
| F.1 | Street Sweeping | Mark Budnick, Public Works Manager | Sweep as part of annual winter cleanup and as needed | There are 54 miles of street in the Town and all streets were swept at least once during the permit year. Additional streets are swept 2-3 times during the year including known areas of high sediment/sand accumulation, downtown areas, and paved areas that discharge to environmentally sensitive areas. | Continue annual street sweeping program and focus additional sweeping efforts on needed and environmentally sensitive areas. |
| Revised | | | | Approximately 767 tons of street sweepings were collected during the year and reused in accordance with the existing BUD. | |

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|--|--|--|--|---|
| F.2 | Catch Basin Cleaning | Mark Budnick, Public Works Manager | Clean all basins in town on yearly rotating schedule | All 900+ basins were cleaned or inspected once and some were cleaned more than once. Approximately 196 tons of catch basin cleanings were collected during the year. In addition, all existing stormwater BMPs were inspected and if necessary cleaned of sediment. Approximately 2,000 feet of storm drain pipes were cleaned and an additional 1,000 feet of pipe were camera inspected. Materials were reused in accordance with the existing BUD. | Continue annual catch basin cleaning Program. Consider evaluating drainage areas to prioritize cleaning efforts as appropriate. |
| Revised | | | | | |
| F.3 | Develop Drainage System Improvement Plan | Mark Budnick, Public Works Manager | Prepare Capital Plan Article for FY10 | The Ongoing Capital Plan includes an allotment of \$157,580 for water quality related drainage improvements. A construction plan for water quality improvements projects is updated annually based on the results and input from the Marine and Fresh Water Quality Task Force. | Continue funding the drainage system components of the Capital Plan to remediate outfalls and construct stormwater BMPs. |
| Revised | | | Update Capital Plan Annually | See “Notable Accomplishments” for a more detailed description of activities and projects related to this BMP. | Consider adding improvements to the Capital Plan that specifically address the Town’s TMDL responsibilities. |

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|---|--------------------------------------|--|---|---|
| F.4 | Propose Amendments and Articles at Town Meeting | Mark Budnick, Public Works Manager | Spring 06 | <p>Consistent with the efforts under BMP F.3, The Town continued to appropriate \$157,580 for the design and construction of stormwater BMPs throughout the year. This funding is now available for stormwater planning efforts to evaluate the most appropriate locations for stormwater remediation projects. The Town focused on evaluating priority stormwater remediation projects during Permit Year 10.</p> <p>See “Notable Accomplishments” for a description of articles that will be presented at the May 2013 Town Meeting to support stormwater planning.</p> | Continue to fund water quality improvement planning and construction projects annually. |
| Revised | | | Prepare Capital Plan Articles Annually | | |

6a. Additions

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|---|--------------------------------------|---------------------------|--|--|
| F.5 | Maintain Animal Waste Collection Bags in Key Areas of Concern | Orleans Pond Coalition | | <p>“Mutt Mitts” animal waste collection bags were maintained by volunteers from the Orleans Pond Coalition at key areas of concern for residents to properly dispose of waste.</p> <p>Town Departments assisted with proper waste disposal and more than 36,000 bags were used at all of the collection stations. The Orleans Pond Coalition maintains dispensers at 49 locations.</p> | Continue maintenance of “Mutt Mitts” program and ensure proper disposal of wastes. Continue to track the number of bags taken and evaluate if high occurrences of improper disposal warrant a targeted education campaign. |
| Revised | | | | | |

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|-----------------------------|--|---|--|---|
| F.6 | Nutrient Loading Reductions | Mark Budnick Public Works Manager | Implement Organic Based Land Management Program | <p>As discussed under “Notable Accomplishments”, the Pleasant Bay Alliance developed a fertilizer and pesticide use policy for municipal properties and the Town approved the policy in April 2012. Building upon this effort, the Town developed a Fertilizer Nitrogen Control bylaw that will be presented at the May 2013 Town Meeting. The purpose of the bylaw is to restrict the use of nitrogen based fertilizers throughout Town.</p> <p>The Organic Based Land Management Program continued for Town properties, consistent with NOFA guidelines. The program focuses on reducing nutrient loads through the use of cultural land management practices and organic enhancements for healthy turf and native vegetation. Compost from the Transfer Station was used for turf enhancement.</p> <p>Modified mowing practices continued at the Town Cove conservation viewing areas to reduce the need for rigorous turf management. The Town has used limited organic-based pesticides for the last 6 years.</p> | <p>Adopt and enforce the Fertilizer Nitrogen Control bylaw.</p> <p>Continue organic based land management program to minimize nutrient loading. Evaluate methods to estimate the quantity of nutrients reduced through this program.</p> <p>Continue turf and pesticide management practices at Town Cove and other locations to reduce the need for chemical applications.</p> <p>Continue implementation of the fertilizer and pesticide use policy for municipal properties.</p> |
| Revised | | | | | |
| F.7 | Trash Management | Mark Budnick, Public Works Manager & Dawson Farber, Harbormaster and Natural Resources Manager | Maintain a proactive trash collection program | <p>Town Departments maintained the active Trash collection program at appropriate town properties with waste receptacles.</p> <p>A dumpster is also maintained by the Harbor Master for fishing fleet waste at the Town harbor. The program provides a means of waste disposal at public areas to discourage littering.</p> | <p>Continue to service litter receptacles at appropriate locations around the Town.</p> <p>Evaluate whether a “carry in/carry out” policy would reduce improper waste disposal.</p> |
| Revised | | | | | |

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|-----------------|---------------------------------------|--------------------------------------|--|--|---|
| F.8 | Inventory of BMP Locations & Needs | Mark Budnick, Highway Manager | Ongoing inventory of BMP locations and needs to address water quality issues | The locations of stormwater BMPs are maintained to develop projects for water quality improvement. This BMP supports BMPs F.3 and F.4. As discussed under “Notable Accomplishments”, the Town’s consultant began a Preliminary Town-wide Stormwater Assessment to identify and rank outfalls with the highest potential pollutant discharges. No stormwater BMP projects were added at discharge locations during the permit year since the focus turned to planning, as discussed above. However, construction began for stormwater BMPs at Pochet Road, Tar Kiln Road and Skaket Beach. | Complete the Preliminary Town-wide Stormwater Assessment and prioritize future BMP projects for funding. Continue to maintain and update the BMP inventory and develop projects with the Marine & Fresh Water Quality Task Force. |
| Revised | | | | | |
| F.9 | Stormwater Training for Highway Staff | Mark Budnick, Highway Manager | Annual training on various topics, record of training attendance & materials | Highway Department staff are trained annually for the inspection and maintenance of the drainage system, including how to identify potential illicit discharges. | Continue to train staff annually and begin maintaining copies of curriculum and attendance sheets. Review the stormwater training for Highway staff to determine if targeted educational topics could more effectively address current stormwater management needs. |
| Revised | | | | | |
| F.10 | Municipal Facilities Evaluation | Mark Budnick, Highway Manager | Inventory of municipal facilities & report | The Town hired a consultant to inventory and evaluate municipal facilities for pollution prevention and good housekeeping practices to determine if any improvements are needed. Facility inspections were conducted and work began on the report. | Finalize the report and implement recommendations based on the availability of funding. |
| | | | | | |

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 10 | Planned Activities – Next Permit Term |
|----------|-----------------|-------------------------------|--------------------|--------------------------------------|---------------------------------------|
| Revised | | | | | |

7a. Additions (none at this time)

7b. WLA Assessment

As discussed in this annual report, the Town of Orleans continues to develop significant ongoing programs that improve marine and fresh water quality and meet compliance responsibilities with the Phase II Permit and the pathogen and nutrient TMDLs. The efforts of the Marine and Fresh Water Quality Task Force, Orleans Pond Coalition, past and planned BMP construction projects and the planned work under the approved Comprehensive Wastewater Management Plan (CWMP) have or will result in significant water quality and habitat improvements. As part of the development of the CWMP, the necessary waste load reduction and environmental impact related to structural wastewater improvements and non-structural BMPs have been assessed. In 2012, the Town’s consultant completed an evaluation of full lifecycle costs for the CWMP and for a small pipe (STE) collection system to support the recommendations of the CWMP. Funding for the Phase 1A design and preliminary design of the Meetinghouse Pond area will be sought at the May 2013 Town Meeting.

The Town and its consultant continued to evaluate program needs based on the pending Phase II permit for Interstate, Merrimack and South Coastal Watersheds and the draft 2013 Phase II permit that was issued for New Hampshire MS4s. The Town’s consultant began a Preliminary Town-wide Stormwater Assessment to identify and rank outfalls with the highest potential pollutant discharges. The Assessment will prioritize the outfalls for remediation and provide a course of action with cost estimates to reduce or eliminate pollutant discharges. The Town anticipates using this information and the results from other activities (e.g., CWMP, BMP projects) to develop an appropriate strategy to address the requirements related to TMDLs and impaired water bodies, as part of the Stormwater Management Plan (SWMP) development under the final permit (once issued). The Town has prepared an article for the May 2013 Town Meeting requesting \$500,000 to fund a comprehensive SWMP to meet future regulatory requirements and water quality goals.

The Pleasant Bay Resource Management Plan was updated in 2013 and an article will be presented at the May 2013 Town meeting to adopt the updated plan. The purpose of the article is to vote to adopt the 2013 Plan and the inter-municipal agreement with the Towns of Chatham, Harwich and Brewster. This will continue the Town’s ongoing effort to work collaboratively with neighboring Towns to promote the natural resource health and public enjoyment of Pleasant Bay.

Part IV. Summary of Information Collected and Analyzed

Beach monitoring was performed by the Town of Orleans Health Department in Permit Year 10. Additional water quality data was collected for various water bodies in Permit Year 10. The Orleans Pond Coalition received a grant for water quality monitoring the Cedar Pond and Rock Harbor estuarine system. The study will provide baseline water quality for this system. The results will also be used to increase the awareness and importance of preserving water quality. This data is available upon request through the Marine & Fresh Water Quality Task Force, the Town Planner and the Orleans Pond Coalition.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

| | | |
|--|-------|-----------|
| Stormwater management position created/staffed | (y/n) | N |
| Annual program budget/expenditures | (\$) | \$177,580 |
| | | |
| | | |

Education, Involvement, and Training

| | | |
|--|---------------|---------------|
| Estimated number of residents reached by education program(s) | (# or %) | 100% |
| Stormwater management committee established | (y/n) | N |
| Stream teams established or supported | (# or y/n) | N |
| Shoreline clean-up participation or quantity of shoreline miles cleaned | (y/n or mi.) | |
| Household Hazardous Waste Collection Days | | |
| ▪ days sponsored | (#) | 2 |
| ▪ community participation | (%) | 173 homes |
| ▪ material collected | (tons or gal) | 9.4T, 4,345 G |
| School curricula implemented | (y/n) | |
| Note: *The Town also collected waste oil, gasoline, antifreeze and paint products at the Transfer Station that resulted in a total of 2,290 gallons. | | |

Legal/Regulatory

| | In place prior to Phase II | Under Review | Drafted | Adopted |
|---|----------------------------|--------------|---------|---------|
| Regulatory Mechanism Status (indicate with "X") | | | | |
| ▪ Illicit Discharge Detection & Elimination | | | X* | |
| ▪ Erosion & Sediment Control | | | | X |
| ▪ Post-Development Stormwater Management | | | | X |
| Accompanying Regulation Status (indicate with "X") | | | | |
| ▪ Illicit Discharge Detection & Elimination | | | X* | |
| ▪ Erosion & Sediment Control | | | | X |
| ▪ Post-Development Stormwater Management | | | | X |
| Note: *The Highway Department developed an Illicit Discharge Bylaw that will be presented at the May 2013 Town Meeting. The Floor Drain Regulation to prohibit improper connections and discharges to the MS4 was adopted by the Board of Health on February 4, 2010 and went into effect on July 1, 2010. The Town also has requirements to prohibit dumping and improper pet waste disposal that are enforced by the Board of Health. | | | | |

Mapping and Illicit Discharges

| | | |
|--|-------------------|-----|
| Outfall mapping complete | (%) | 95% |
| Estimated or actual number of outfalls | (#) | 80 |
| System-Wide mapping complete | (%) | 75% |
| Mapping method(s) | | |
| ▪ Paper/Mylar | (%) | 40% |
| ▪ CADD | (%) | |
| ▪ GIS | (%) | 60% |
| Outfalls inspected/screened | (# or %) | 95% |
| Illicit discharges identified | (#) | 0 |
| Illicit connections removed | (#) (est. gpd) | |
| % of population on sewer | (%) | 0 |
| % of population on septic systems | (%) | 100 |

Construction

| | | |
|---|------------|---|
| Number of construction starts (>1-acre) | (#) | |
| Estimated percentage of construction starts adequately regulated for erosion and sediment control | (%) | |
| Site inspections completed | (# or %) | |
| Tickets/Stop work orders issued | (# or %) | |
| Fines collected | (# and \$) | |
| Complaints/concerns received from public | (#) | 1 |

Post-Development Stormwater Management

| | | |
|--|----------|--|
| Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control | (%) | |
| Site inspections completed | (# or %) | |
| Estimated volume of stormwater recharged | (gpy) | |

Operations and Maintenance

| | | |
|--|----------------|----------|
| Average frequency of catch basin cleaning (non-commercial/non-arterial streets) | (times/yr) | 1-2 |
| Average frequency of catch basin cleaning (commercial/arterial or other critical streets) | (times/yr) | 1 |
| Total number of structures cleaned /inspected | (#) | 900 |
| Storm drain cleaned | (LF or mi.) | 2,000 LF |
| Qty. of screenings/debris removed from storm sewer infrastructure | (lbs. or tons) | 196 tons |
| Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.) | | BUD |
| Cost of screenings disposal | (\$) | ~\$3,000 |

| | | |
|--|----------------|----------|
| Average frequency of street sweeping (non-commercial/non-arterial streets) | (times/yr) | 1 |
| Average frequency of street sweeping (commercial/arterial or other critical streets) | (times/yr) | 2-3 |
| Qty. of sand/debris collected by sweeping | (lbs. or tons) | 767 tons |
| Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) | (location) | BUD |
| Cost of sweepings disposal | (\$) | ~\$3,000 |
| Vacuum street sweepers purchased/leased | (#) | |
| Vacuum street sweepers specified in contracts | (y/n) | |

| | | |
|--|-------------|------|
| Reduction in application on public land of: (“N/A” = never used; “100%” = elimination) | | |
| ▪ Fertilizers | (lbs. or %) | 100% |
| ▪ Herbicides | (lbs. or %) | 100% |
| ▪ Pesticides | (lbs. or %) | 100% |

| | | |
|--|------------------|------------|
| Anti-/De-Icing products and ratios | % NaCl % Sand | 50% 50% |
| Pre-wetting techniques utilized | (y/n) | N |
| Manual control spreaders used | (y/n) | Y |
| Automatic or Zero-velocity spreaders used | (y/n) | N |
| Estimated net reduction in typical year salt application | (lbs. or %) | Unknown |
| Salt pile(s) covered in storage shed(s) | (y/n) | Y |
| Storage shed(s) in design or under construction | (y/n) | N |