

May 10, 2017
Floodwater Pumping Discharge Guidance
 Department of Environmental Quality
 Division of Water Resources
 Water Quality Regional Operations Section

*Division of Water Resources
 Water Quality Regional Operations Section
 Overview*

- Provides permit coverage for:
 - Well Construction & Injection Well Activities
 - Wetland and Stream Impacts
 - Certain Waste Management Systems
 - Conducts Facility & Site Inspections
 - Investigates Complaints & Incidents

Department of Environmental Quality

Storms Happen

Department of Environmental Quality

*Division of Water Resources
 Water Quality Regional Operations Section
 Overview*

Who approves Floodwater Pumping requests (where floodwaters are pumped to surface waters)?

DWR WQROS – Regional Office

- with coordination from
 - Division of Coastal Management
 - Division of Marine Fisheries
 - Local Health Departments

Department of Environmental Quality

Be Prepared

"Mother nature may be forgiving this year, or next year, but eventually she's going to come around and whack you. You've got to be prepared." *Carole Rivers*

Department of Environmental Quality

Regional Offices


Washington Regional Office
 943 Washington Square Mall
 Washington, NC 27889
 252-946-6481

WQROS Web Link
<https://deq.nc.gov/about/divisions/water-resources/water-quality-regional-operations>

Department of Environmental Quality


First Things First
 Long Term Stormwater Management Practices vs Short Term Relief

- Are there areas of your community that are vulnerable to routine flooding?
- Do weak to moderate storm systems result in significant flooding impacts?
- Are flood conditions persistent after storm events with prolonged recovery times?
- If so, local drainage or stormwater management improvements may minimize chronic flooding issues

Department of Environmental Quality 


Floodwater Pumping Approval Process
 Components and Highlights

- Not intended to address chronic/routine flooding
- Non-Discharge alternatives are preferable when such options are available (direct water to an area where it can infiltrate into ground)
- Intended to address flooding events occurring from a single weather event or storm system which creates:
 - Emergency Conditions
 - Flooding creates conditions where public health and safety are endangered

Department of Environmental Quality 


Stormwater Management Improvements
 Action Items

- Assess viability of existing stormwater management practices
- Evaluate options for improvement (may also include feasibility study regarding zoning restrictions, intended to better address stormwater issues through different methods such as impervious surface limitations)
- Select best option to meet local needs and resources
- Obtain necessary approvals and/or permits from all appropriate agencies (DEQ Division of Energy, Mineral and Land Resources or delegated local government agency are lead contacts)
- Implement approved plan

Department of Environmental Quality 

Required Conditions to Support Proposals


- Approval to allow discharge of pumped stormwater to surface waters contingent upon:
 - Request made by local public entity
 - Documentation and/or information to support that emergency conditions are present
 - Development of a Floodwater Management Pumping Plan outlining how project will be implemented and managed
 - To expedite approval of pumping requests, it is best to have a general pumping plan established with the region prior to a storm event. General pumping plans may be later updated and customized to meet specific incident needs as they occur

Department of Environmental Quality 

Floodwater Pumping Approval Process
 Components and Highlights


Floodwater Pumping Discharge Guidelines (October 14, 2016)

- Establishes process and protocols
- Replaces 2003 Policy Memo
- Proposals are evaluated on a case by case basis
- Pumping proposals must be made by a public entity that will function as project lead and be considered responsible for project implementation
 - Municipalities
 - Counties
 - Other state and/or local government agencies
- Property Owner/Homeowner Associations should coordinate requests through local government

Department of Environmental Quality 

Required Conditions to Support Proposals


- Approval to allow discharge of pumped stormwater to surface waters contingent upon:
 - **Best Management Practices** shall be implemented at discharge to prevent erosion which scours dangerous holes or creates turbidity in receiving waters
 - Project oversight by an on-site official
 - Monitors project to determine
 - When emergency conditions have been addressed
 - Pump discharge is not causing erosion and scour
 - Appropriate advisory signs are being maintained

Department of Environmental Quality 

Obligations of DWR


(if emergency stormwater discharging is approved)

- Activities completed by Regional Office if pumping project approval is granted
 - Notify Division of Coastal Management (to allow dune integrity and outfall locations to be monitored as determined appropriate by DCM)
 - Notify Shellfish Sanitation and Recreational Water Quality Section of Division of Marine Fisheries (so advisory signs can be posted and other program interests are addressed);
 - local entity may also be required to provide and maintain advisory signs on a case by case basis (in addition to or in place of signage provided by DMF)
 - Coordinate with Local Health Departments

Department of Environmental Quality 


General Comments

- Ocean Discharge locations are approvable (with satisfaction of required criteria)
- Soundside or inland surface water discharge locations may be considered on a limited basis
 - Predevelopment and approval of a general Floodwater Management Discharge Plan for soundside or inland surface water discharge plans is highly encouraged
 - Higher level of coordination with Local Health Department, Marine Fisheries, and other agencies
 - Current status of whether any SA classified waters are open for shell fishing
 - Outlook for any waters classified as SB or other designated recreational areas to be used for recreational activities during or immediately following pumping activities
 - Implementing agency may be asked to collect water samples and monitor water quality as condition for approval

Department of Environmental Quality 


Project Completion

- Once pumping project is suspended, local municipality or entity must submit a post event report to the Regional Office to include the following information at a minimum:
 - Name and title of on-site official
 - Map depicting area targeted for flood relief and location of discharge points
 - Time, location, and duration of each discharge event
 - Approximate total flow from each discharge point
 - Incorporation of photos to document site conditions are recommended to be included

Department of Environmental Quality 

General Comments


- Project scope as a whole should address public health and safety needs of communities (with local government supporting project)
 - Not intended to address access to development amenities, limited flooding on personal lots, etc.
 - Golf courses, swimming pools, flower beds, minimal flooding in driveway, etc.
- Pumping plans that propose to pump all floodwater away from project areas are beyond the scope of what is considered approvable. Once emergency public health and safety concerns have been addressed, pumping should be suspended.

Department of Environmental Quality 

Floodwater Management Discharge Plans Components


Prior development of a general Floodwater Management Discharge Plan is recommended. Pre-developed plans may be amended as needed to adapt to specific flooding events and project goals/needs. Plan components include

- Background information providing basis to support the need for emergency pumping approval
- Conceptual design of the pumping systems and/or structures
- Establishment of water levels that constitute emergency flood levels that endanger public health and safety
- Pump operation protocol and discharge protocol (oversight, inspections, etc)
- BMPs used to prevent erosion, scour, and/or turbidity at discharge location

Department of Environmental Quality 


General Comments

- Regions can only approve emergency pumping for "Stormwater"
 - Stormwater commingled with wastewater is considered wastewater
 - Stormwater commingled with "other" water having water quality characteristics different than what is expected for typical stormwater may not be viewed as stormwater

Department of Environmental Quality 


General Comments

- Regions can only approve emergency pumping for "Stormwater"
 - Is project area served by a community sewer system?
 - Have sanitary sewer overflows occurred?
 - Has a sanitary sewer overflow survey been completed to document whether sewer overflows may be commingled with stormwater?
 - Projects should be implemented ASAP once approval is granted
 - The longer stagnant water stands around, the less it becomes representative of stormwater (and stormwater water quality characteristics), potential limited duration of pumping timeframe)

Department of Environmental Quality 


General Comments

- Any project where a pipe or hose may cross a state maintained road or right-of-way must be coordinated with the NC DOT
- Immediately report any issues that arise during pumping
- Be aware of general public's concern over emergency pumping of stormwater to surface waters.
 - Potential for submittal of complaints
 - Third party liability
 - Media coverage
- Be ready to implement your response plan once conditions are safe

Department of Environmental Quality 


General Comments

- Regions can only approve emergency pumping for "Stormwater"
 - Floodwaters interconnected with groundwater (through ponds, basins, or depressions) may have limited pumping opportunities and timeframes; pre-approval of a Floodwater Management Discharge Plan for such projects is recommended (timeframe to initiate pumping and stop-pump flood level stage is critical)
 - o Evaluation of long term stormwater management options recommended

Department of Environmental Quality 


General Comments

- Regional Staff may conduct a site inspection to verify site status, conditions, and conformity with any approval
- Based on feedback from any other agency during implementation of a project or site observations, the regional office may conditionally modify the scope of any prior approval to mitigate and/or address any identified issue. Such action may include suspension of any prior approval based compliance matters or any new information that may become available to support such position.
- Regions may update Department of Environmental Quality Public Information Officers regarding the status of pumping projects (especially during significant storm events)


Department of Environmental Quality 

General Comments

- Regional expectation for daily reports to be submitted from local entity (project manager)
- NC DOT managed projects (HWY 12, US Route 158, etc.)
 - Coordinate with Regional Office as needed for project approvals
- Discharging without a permit or emergency approval may result in enforcement actions taken against the entity responsible for pumping
- Operating outside of the scope of any approval may result in enforcement actions taken against the entity responsible for pumping


Department of Environmental Quality 

Lessons Learned




- Advisory Signs must be posted
- A single sign may not be adequate to provide sufficient advertisement to public
- Signage / postings expectations should be clarified in pre-approved Floodwater Management Discharge Plans through Regional Office

Lessons Learned




- Signs may vary in style or content
- Advisory Signs must be posted
- A single sign may not be adequate to provide sufficient advertisement to public
- Signage / postings expectations should be clarified in pre-approved Floodwater Management Discharge Plans through Regional Office
- Signage should be restored if washed or blown away

Lessons Learned




- A single sign may not be adequate to provide sufficient advertisement to public
- Work to identify the extent of any "mixing zone" when establishing signage locations
- Signage / postings expectations should be clarified in pre-approved Floodwater Management Discharge Plans as approved by Regional Office

Lessons Learned




- Signs may vary in style or content, but critical information needs to be conveyed (contact number, stormwater discharge activity, etc.)
- Advisory Signs must be posted
- A single sign may not be adequate to provide sufficient advertisement to public
- Signage / postings expectations should be clarified in pre-approved Floodwater Management Discharge Plans through Regional Office

Lessons Learned




- Address any safety concerns with activity

Lessons Learned




- A single sign may not be adequate to provide sufficient advertisement to public
- Work to identify the extent of any "mixing zone" when establishing signage locations
- Signage / postings expectations should be clarified in pre-approved Floodwater Management Discharge Plans as approved by Regional Office

Lessons Learned




- Discharge point should be kept as close to shoreline as possible to prevent or minimize beach erosion
 - May require project managers to relocate discharge point as tide moves in and out
 - May require discharge point to be "anchored" by some means

Lessons Learned




- BMPs
- Keep discharge by shoreline
- Postings
- Protect Dune Integrity

Lessons Learned




- Ensure Dunes are protected, front and back side

Lessons Learned




- BMPs to prevent and/or minimize erosion and scour must be implemented

Lessons Learned




- Ensure Dunes are protected, front and back side

Lessons Learned



- BMPs to prevent and/or minimize erosion and scour must be implemented

Lessons Learned



- Implement Non-Discharge alternatives to the extent feasible

Lessons Learned



- Implement Non-Discharge alternatives to the extent feasible

Lessons Learned



- Public Health and Safety concerns need to be documented.

Lessons Learned



- Implement Non-Discharge alternatives to the extent feasible

Lessons Learned



- Public Health and Safety concerns need to be documented.

Lessons Learned




- Public Health and Safety concerns need to be documented.

Lessons Learned




- Stop pump water levels need to be established and agreed upon with regional office
- Pumping all floodwaters out may not be required to address public health and safety concerns

Lessons Learned




- Stop pump water levels need to be established and agreed upon with regional office
- Pumping all floodwaters out may not be required to address public health and safety concerns

Lessons Learned




Department of Environmental Quality

Lessons Learned




- Know your problem sites ahead of time

Lessons Learned




Department of Environmental Quality

Lessons Learned




Department of Environmental Quality

Lessons Learned



Department of Environmental Quality

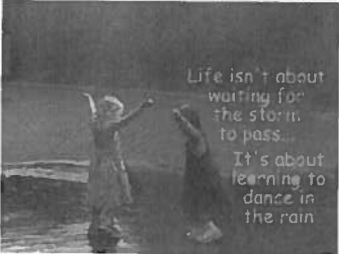
Lessons Learned



Department of Environmental Quality

Questions? Comments?

Questions?
David May
Robert Tankard
Scott Vinson
NC Division of Water Resources
943 Washington Square Mall
Washington, NC 27889
252-946-6481
david.may@ncdenr.gov
robert.tankard@ncdenr.gov
scott.vinson@ncdenr.gov



Life isn't about
waiting for
the storm
to pass...
It's about
learning to
dance in
the rain

NC

Department of Environmental Quality

