



Stormwater Management: Best Practices in CT

A Report on the Roundtable Discussion

Wednesday, May, 13, 2009

Glastonbury, CT

Technical Presentation by Chris Stone

Chris Stone, a Stormwater Permit Engineer with the Department of Environmental Protection gave a technical presentation on the types of Stormwater General Permits in CT: Industrial, Construction, Commercial, and MS4 and highlighted some of the proposed changes.

Each of the stormwater permits expired and have been renewed “as is” until the new modifications are completed and approved. Environmental groups and, ultimately, the courts around the country and in CT have been influencing the EPA and the DEP to create more prescriptive permits. This report contains a brief summary of the presentation given on the Industrial and MS4 Permits.

Industrial Permit

The Industrial Permit expired in October of 2007, and has been renewed “as is” three times. The revisions are in process and the current permit expires on 9/30/2010.

Proposed Modifications to the Industrial Permit

In 1995, the EPA created a *Multi-Sector Permit* and decided to group similar industries together in one of 29 “sectors”, each with its own requirements. This multi-sector permit functions like 29 general permits rolled into one, and is 240 pages long. States were given the option to adopt the permit, and CT has chosen not to adopt it.

However, CT is in the process of creating a similar “Hybrid” Multi-Sector Permit which contains the basic general permit requirements for all industrial facilities plus additional or modified requirements for certain industrial facilities in 10 industry-specific sectors. Not every industrial facility is included in a sector. Public Works Departments and DOT in CT will be assigned their own sector, with several sub-sectors to address the various components within Public Works such as salt storage facilities, garages, landfills, etc. These various sectors have additional requirements to manage.

Authorization Requirements (Section 3)

Consolidate/clarify requirements:

- Aquifer Protection: More information added.
- Engineered Infiltration: CT will no longer cover engineered infiltration (to groundwater) in the permit.

- Effluent Limitations: Certain industries have effluent limitations determined by EPA; essentially that means that there are limits on what can be discharged.
- Impaired Waterways: There will be stringent requirements on new discharges into impaired waterways. TMDL: The Total Maximum Daily Load—is an analysis of a polluted waterway, to determine the load that the water body can take safely. TMDL’s will have a prominent place in the new permit.

There will still be a no exposure certification and it will be required to be renewed every five years. The review fee will be \$250.

There will be a new *Authorization Timeline* (which was proposed by environmental groups). Permits will no longer be approved automatically. Time will be allotted to allow the public to review and comment (to the DEP) on the applicant’s registration and Stormwater Pollution Prevention Plan (SWPPP); the registration will be posted to DEP’s website and the town may elect to post their SWPPP on the town’s website.

New Fees

Industrial permits will be \$1000 for agencies with over 50 employees and over \$5 Million in sales. Everyone else will pay \$500, although, by state statute, municipalities will pay half that amount.

Certain Discharges (Section 5a)

1” Retention Flexibility: There is a requirement in the current permit that says--if you are within 500 feet of a tidal wetland then you have to retain the first inch 1”of run-off. The DEP has modified that to allow for some flexibility--because in some cases it is not physically possible or environmentally desirable to do that.

New *anti-degradation language* has been added—it says that you can’t cause the degradation of a stream with your discharge and you can not exceed water quality standards in the stream. It does not mean that the water coming out of your pipe has to meet water quality standards; it means that the stream you are discharging to has to meet water quality standards.

Control Measures (New Section 5b)

Control Measures have been given a prominent role in the new permit; they now have their own independent section. In addition, the language is much more prescriptive. Control Measures are synonymous with BMP’s (Best Management Practices) and include practices such as storing waste materials correctly, keeping materials out of the rain, sweeping regularly, cleaning catch basins, etc.

A new term: *Technology Based Effluent Limitations* (or TBEL) has been incorporated into the new permit and is part of the guidance document. *Technology Based Effluent Limitations* are essentially BMP’s.

Agencies are required to “minimize” impacts caused by discharge or exposure to the extent that is “economically achievable and practical”.

Stormwater Pollution Prevention Plan, SWPPP (Section 5c)

This section will now primarily explain what the SWPPP should include: If an action is required, then the action is probably a control measure or a BMP.

- Narrative Requirements-Will be required to describe the details of the SWPPP
- Plan gets recertified - Every five years the plan must be certified by a P.E.
- New requirements for impaired waters: To incorporate the new IW requirements into the SWPPP
- Document schedule and procedures-There are additional requirements to document testing, track and date actions, follow-up, etc.

Inspections (Section 5d)

The inspection requirements have been consolidated into one section. There will be in-depth semi-annual inspection and a routine monthly inspection. The monthly inspections will be a brief walk through to check for proper BMP's. The new permit will require more accountability: findings will have to be logged, tracked, and addressed appropriately.

Monitoring (Section 5e)

- *Quarterly Visual*: The new permit will require *quarterly visual monitoring*; it means that a sample must be taken four times a year, visually examined, and then the results must be logged.
- *Semi-annual for basic parameters*: The EPA's multi-sector permit requires quarterly monitoring. CT DEP pushed back on this requirement because the DEP can show (using sample data from their database) that there is no seasonal trend in stormwater (it does not vary a lot) and therefore there is no practical reason for quarterly monitoring. Facilities will need to take a sample, have it analyzed for the basic chemical parameters and submit the results twice a year.
- *Benchmarks* will replace target goals: Samples must be taken four times for two years (i.e. twice a year)—and then averaged for each parameter. If any single parameter exceeds the benchmark, then samples of that parameter must be re-taken every 6 months and BMP's must be implemented to get the four sample average below the benchmark.
- *Aquatic Toxicity* must be analyzed once a year for the first two years only.
- *Impaired waters/TMDL* (Total Maximum Daily Load): There are additional requirements when discharging to impaired waters. Some waterways will have numeric effluent limits designated in the permit.
- *Effluent Limitations Requirements*: There will be numeric limitations on some sectors and these values will be listed in the permit. If effluent limitations are exceeded, this constitutes a permit violation and action must be taken.

Impaired Waters (Section 5g)

CT's Impaired Waters are specified in the 303D List. One of the DEP's goals is to develop a TMDL (Total Maximum Daily Load) for each of these waterways. However, many impaired waters have not been determined yet. The new permit specifies requirements for impaired

waterways. In addition, there will be strict requirements for new discharges. The following resources have been added--Appendix A: SIC codes; Appendix B: a table containing Sample Requirements; Appendix C: Aquifer Protection Guidance.

MS4 Permit

The MS4 permit expired 1/8/09 and has been renewed “as-is” for two years. Towns must re-register by June 8, 2009. A prorated renewal fee of \$100 will be assessed.

MS4 Permit Requirements

There are six minimum control measures:

1. Public Education and outreach: Flyers, mailings*
2. Public Participation: Town meetings, educational sessions for citizens*
3. Illicit discharge: Detect and eliminate illicit (i.e. non-stormwater) discharges
4. Construction site runoff control
5. Post-construction stormwater management
6. Pollution prevention/good housekeeping: Street sweeping, catch basin cleaning, etc.

** The DEP is working to assist towns with 1&2 by creating brief public service announcements for TV.*

MS4 Renewal

MS4's are encouraged to use this additional time to complete and implement the current permit requirements such as: Finish outfall mapping, Implement IDDE program, Implement Ordinances, Continue Annual Reporting and sampling.

Storm Water Utility Pilot Update

Norwalk, New Haven, and New London have participated in a pilot program to develop a Stormwater Utility in CT. Each of the three towns developed their own approach to the project.

Many municipalities across the country have implemented a Stormwater utility and have been very successful. Citizens pay for the service at less than \$100 per year, per household. In February 2009 a report was submitted to the legislature, and is now waiting for legislative action.

Questions for DEP

Will mining/excavation companies be required to provide the town a copy of their license to operate?

Currently there is not a requirement written in the new industrial permit, but that if this was a need of town's --a comment should be submitted. I am not sure if the DEP has the authority to do that, but I will look into it.

Will the effluent limitations for the new industrial permit also reflect if you have another permit on-site that uses those parameters or limits?

No, the effluent limitations for stormwater are just that. The effluent limitations are very specific. (Chris gave examples of types of effluent limits.)

For MS4 outfall mapping, are we required to map a state outfall, or that of another town, and private developments?

You do not have to map the DOT or private outfall sites. If the town finds an illicit discharge, you must ask the violator to correct it. (The illicit discharge ordinance gives the town the authority) The DEP is working to get the authority to increase fines (on behalf of towns). Towns are currently limited in their ability to increase fines, and if the fines were higher, the results would likely be better.

We do not want to be responsible for dealing out the legal (ramifications) to violators. We would like to locate the violations and then turn them over to you. Why is it our responsibility?

As part of the MS4 permit, the Congress and EPA assign towns the responsibility of addressing minor violations. However, if the violation requires in-depth clean-up, then the town should contact the DEP. All smaller violations should be handled by the town. If an industry in town refuses to comply with regulations, then ask the DEP to address it. Some towns use stormwater hotlines so that residents can report what they see.

What should be done about the large piles of leaves collected by homeowners and left on curbs/streets? (After the town has done the pick-up.)

I understand the difficulty: citizens do not want the leaves in their yard. However, towns should encourage citizens to keep the leaf piles out of the street. The DEP has not addressed the issue in the new permit, and homeowners will not be fined if they put the leaves in the street.

Is there was any concern about water utilities discharging water into the stormwater system with chlorine in it?

Yes, there is some concern—(emergency services are exempt). Example: The Planning Division developed a guidance document and in it there is guidance for fire departments on how to perform hydrant flushing: by providing as much overland flow as possible before it gets in a

drain and not dropping it directly into catch basins. Managing the how, where, and when chlorinated water is added to the system is important.

Who do the new training requirements apply to and what topics should be covered?

Anyone who has an impact on the stormwater system must be trained. Topics to include: the permit and what it is, why the permit is important, the plan they are to follow, how and why stormwater management is an issue, and how individuals can reduce impact on the system. Training staff on the town's pollution prevention plan would be a great place to start and it would also be helpful to create a chart for each area of concern (garage, transfer station, etc.)

Technical Presentation by Center for Land Use Education and Research

Chet Arnold, from CLEAR spoke briefly on CLEAR and NEMO (Nonpoint Education for Municipal Officials) to share information on the services they offer and resources they have available for Connecticut's towns and cities.

Chet Arnold, the Associate Director of CLEAR (The Center for Land Use Education and Research) at UConn spoke about some of the center's outreach programs and resources that are available to municipalities. CLEAR's website is: <http://clear.uconn.edu/default.htm>

One of CLEAR's programs is called NEMO (**Nonpoint Education for Municipal Officials**). <http://nemo.uconn.edu/> NEMO assists municipalities and local land use decision makers in the implementation of land use practices that protect water resources.

NEMO takes an active role in stormwater management education, and offers many in-house workshops. NEMO's workshops are listed here: <http://nemo.uconn.edu/training/workshops.htm>

In addition, NEMO works with individual towns to deal with specific concerns. Examples: NEMO worked with East Haddam on their parking regulations and specifications for roads, and assisted Torrington in creating their new Stormwater Management Regulations.

Electronic Tools Available through CLEAR/NEMO

Planning for Stormwater: This website focuses on the site planning concepts presented in Connecticut's Stormwater Quality Manual. The Planning for Stormwater website also provides site specific review considerations for LID in both residential and commercial settings. <http://nemo.uconn.edu/tools/stormwater/index.htm>

CT LID Regulations: This website allows you to explore some Connecticut town and city regulations that have introduced innovative solutions to stormwater management. http://www.clear.uconn.edu/tools/lid_reg/index.htm

CT LID Inventory: This site allows you to locate examples of LID projects state wide. <http://www.clear.uconn.edu/tools/lid/index.htm>

Community Resource Inventory On-line: This site will enable you to develop a CRI for your town using available statewide information.

Roundtable Discussion

The discussion started with a few towns explaining their programs and opened up into general discussion on some of the topics raised during the technical session.

Stonington has an established program and used GPS's to locate every outlet. They created outlet cards which show the condition at the outlet, the type and size of the pipe, where it is located, and the view from the road. They also created drainage maps, numbered each of the catch basins, and mapped the pipe network and sizes. *Public Education:* Stonington uses hands-on models to teach children in grades 3-11 where run-off goes, and the effects caused by pollutants added to the stream. The group Clean-up Stonington Harbor (CUSH) has been very helpful to the town in terms of public outreach and public education. The local movie theater has agreed to play a brief slide show about stormwater to educate the public. **Stonington's biggest issue/concern is creating ordinances for illicit discharge fines.** They do not have ordinances in place because they are unable to determine what the enforceable limits are—what levels are acceptable and which are not.

Several of the other towns agreed that creating the illicit discharge ordinance has been the biggest difficulty for their towns as well. Knowing what to test for, understanding what the acceptable range is, and being given the authority to enter private property are a few of the challenges mentioned.

The DEP is working to get more authority through legislation, including the ability to enter private property. We hope that environmentalists will support the DEP's efforts.

There is some concern about what to include in the ordinance language. Chris Stone responded that a town's ordinance should simply state that "you are not allowed to discharge *anything*" into the town's system: what to test for and what methods will be used do not have to be part of the ordinance. Further, illicit discharge is *any* substance that is not rainwater or an allowable material.

Resources for Illicit Discharge Ordinances

There is an illicit discharge guidance document posted on CWP's (Center for Watershed Protection) website:

http://www.cwp.org/Resource_Library/Controlling_Runoff_and_Discharges/idde.htm

The DEP's Stormwater Quality Manual is a *Model Illicit Discharge Ordinance* and can be used as a draft, omitting sections that are not needed.

Waterford has been working on their program. The MS4 requirements are going well: outfall mapping is completed; pipes have been identified; monitoring is fine; and the highway personnel have been trained in sampling. Our detention basins are 5-6 years old now, and we are beginning to have some problems accessing them. The street sweeping and catch basin guidance document does not tell towns what to do—only what not to do; we clean our catch basins as needed. What to do with the sediment has become an issue and we are looking into designing a drying bed.

LID developments in Waterford are working well, however we are seeing new issues: such as when roads are re-paved they are not as porous as they were initially, so we have to figure out how to clean them. Our town's biggest concern is handling illicit discharge.

General Discussion:

Are the requirements going to be different in the new permit for catch basin cleaning, since a lot of towns aren't going to be using sand any more? Do they still have to be cleaned annually?

Chris/DEP stated that the new MS4 permit has not been drafted yet, but when we do, we will add a provision about levels—such as if it's less than a half or a third full, then you don't have to clean it that year. Hopefully this will pass.

The Town of Waterford sent samples of catch basin cleanings to the DEP for testing; the results were good.

Chris/DEP: Testing catch basin cleanings is a good idea because then the town is aware of what's actually in there and has more options about what to do with the material. The DEP is pushing the waste bureau to develop more user friendly guidance on what to do. Upper Northwest CT is considering buying a filtration system for road sand. Since the DOT began the use of de-icing products sand use has been decreased by 90%, and there has been no increase in salt use.

Which minimizes environmental impact—using sand or using salt?

Sand causes more *visible* environmental damage; the evidence is the sand bars in water bodies. We do not know what the effect of using salt will be years from now.

Will the new permit address how to handle the decant water from our trucks?

The new permit will need to specify where decant water should go: to sanitary or to get hauled. How are other towns dealing with decant water?

While New Haven and Stonington indicated that they are decanting at their landfills, most towns indicated that they are dumping the water back into the catch basin because they do not have the equipment and funding to separate everything out and handle the liquid and solids separately. They all have different types and styles of equipment that can accommodate different amounts of material.

Chris/DEP: Recognizing that towns will not be allowed to continue dumping untreated decant water back in stormwater sewers. Do you guys have any ideas?

One town asked why they should move the regulated waste out of the catch basin instead of putting it back where it came out of.

Chris/DEP: The difference is that it is sitting in sump. And its going to stay in that sump until the next storm comes along where at least it will have some dilution. If you clean it out and then dump the 2,000-5,000 gallons of concentrated decant water going back in...

Waterford tries to do catch basin cleanings during the dry season—August. We figure about 50 gallons a night.

What if the decant water is clean? Can you put it back where you got it?

Chris/DEP: If you test it first.

Waterford: We took two samples from each of our 5 fire districts to get a pretty good representative sample of the town—one sample from residential, commercial, industrial. We took the water out prior to cleaning the basin. We sampled the water, got a uniform sample, then we took the actual sediment to our wash bay which has an oil grit separator—we decanted it, and then we took representative samples of the dry sediment. Our water came up clean—there wasn't very much guidance in the guidelines so we looked at New Hampshire's guidance.

New Hampshire has very good guidelines for catch basin cleanings and street sweepings. They have different testing categories, and depending on what your results are—they tell you what you can do with the sediment. If there is 6" or more, we clean it out. The sediment finally went to our landfill; that's the problem we don't have anything else to do with it now that it is covered.

Chris/DEP: This has been the single toughest issue to address in the new permit. Has anyone heard of any new types of technology...such as a filtration basket or silk sock used before discharging the decant water? Does any one have any ideas? Is there a way to use a septic tank truck to pull out the decant water, and then they make the run while the **vector** truck continues cleaning out the catch basins?

Coventry: The cost is a factor too. How much did you spend?

Waterford: The real expense was the testing. We are considering building a basin on pavement. We would be able to dump the water into the basin, and then run the water out to a septic tank or an oil grit separator, and then send it to the sanitary sewer. However, the cost is an issue.

Chris/DEP: The proposed Stormwater Utility would help solve the economic problems, because the money would be set aside to address these kinds of problems.

How will the new permits address Low Impact Development?

Chris/DEP: The LID section has already been added to the industrial permit. LID will have a significant role in the Construction Permit and we are also going to be adding LID into the construction and post construction sections of the MS4 permit.

The new LID sections will help with new construction and re-construction. There are limited opportunities to do retro-fit work. We can't go back and require everyone to switch to LID. These efforts will help down the line—and at the very least it will help keep the problem from getting worse.

What do you tell the town environmentalist that says our detention pond has now become a wetland?

Chris/DEP: Many other states, through their wetland section- have defined the maintenance of a stormwater management structure—and I am advocating for that in CT. Since detention basins are part of your storm water management system, you should be able to maintain it. The DEP will understand that and the environmentalists may not. We want to educate the wetland commissions on this issue and perhaps get NEMO involved.

Meriden: We have it set-up where the associations in new subdivisions own the detention pond - not the city - and the association is required to maintain it. So far, it's been working very well for us.

Why is the material that we collect out of catch basins considered hazardous?

Chris/DEP: The material is not hazardous, but it is regulated (because oil, grease, metals, and brake dust get bound up in the sand.) This issue has everyone's attention—the DEP, right up to the commissioner. I like the idea of a basin---if its in a non-sensitive area (not near a well, not in an aquifer protection area). Someone mentioned the grass—that's fine because soil is a really good filter. If there are ways that we can figure out how to do that, and create some guidelines-- to do that appropriately, then that might be the way we go.

New Haven: So basically we can dump it at the site of my facility and let it filter through the ground...if the soil is a good filter?

Chris/DEP: I can't make that decision for the DEP. If you take reasonable precautions—you are not near a residential well, you are not near a town well, or near an aquifer protection area-- as a short term measure, I'd say go for it. But as something we will put down on paper, we have to do a lot more to look into it.

--End of Discussion--