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Date: Monday, October 13, 2008 05:41PM

Subject: RE: Tentative 10/14 Stakeholder Meeting - Worcester Draft MS4 Permit

Dear All,

As I cannot attend the meeting because of a scheduling conflict please allow me the opportunity to make written statements. I have both general and overall recommendations combined.

First, Best Management Practices will indicate that Watershed Management should begin with Water Level Control. This obvious and important aspect of watershed management is often overlooked and underestimated for it's importance.

We will now shift from Supply Side Economics to Demand Side Economics, reflected in the world's most abundant resource (Water) will now become it's most precious resource. The Blackstone National Heritage River Corridor System is currently used to demonstrate how Worcester and the Blackstone Valley was first in the Industrial Revolution. We can become first in the Energy Revolution by demonstrating how the expanding renewable energy resources , solar, wind and hydro-electric can be combined to reduce our dependence on fossil fuels permanently. The United Nations Intergovernmental Panel on Climate Change(UN IPCC) indicates that different geographical areas will be affected and indicates that New England is wet area that will see larger increases in precipitation. The wet regions are experiencing an increase that is both measureable and usable. Extreme weather conditions will become more common. Tropical storms will be more intense and frequent. UN IPCC has been excellent in providing this information. Public policy and decision makers should use all this information to develop long range plans that incorporate these changes from a negative impact to a positive one.

In effect my thesis in energy studies is that the best way to understand climate change is to build a "Worcester Project" that takes into account those predicable changes and uses the effects of climate change to "permanenantly improve our standards of living by improving the environment that we live in" . Much too much energy is being used to argue over the causes of climate change and far too little energy is spent discussing the "effects of climate change" and how they then can be used to solve the problem. Combining alternative energy resources like hydro and wind, both created from solar power changes solar from a sunny day activity to one

that works at night and rainy days. Wind and hydro are both solar power products. We can provide energy 24 hours a day, 365 days a year and reduce the cost of doing business permanently. The multi-tiered, multi-layered approach systematically improves water quality and can become the model for all wet regions. I have an alternative plan for the dry climate regions and it too uses the laws of science correctly and progressively but is outside of the scope of this project and therefore, will not be included. I will be glad to share this information with the EPA at a later time.

Second, I would recommend that the proposed storm water monitoring program use an entire headwater system, specifically the Tatnuck Brook Watershed system because it can be used as a tool to demonstrate excellent watershed management practices. The most important of these practices is the Perpetual Power Plant (PPP) operating system. Second, is of course best management practices that uses water level control to help control flooding, and improve both water quality and canal operation (newly proposed Blackstone Canal District).

Specifically, using "Water level control" as the preferred method to further improve the Blackstone River. The water level control method is included in the Blackstone River National Heritage Corridors Action Plan, approved by Congress and signed into law by the President. I refer everyone to the City of Worcester Climate Action Plan (City of Worcester Web site) to install hydro-electric heads at the City's Reservoir System. In the addendum to the climate action plan, Wind turbines are added to the higher reservoir systems, and then used to pump the water from the lower systems back to the higher systems. In effect creating a Perpetual Power Plant (PPP).

This perpetual power plant design can be used to improve water quality problems caused by the Nitrogen and phosphates which is Non-toxic and is primarily they create lower levels of dissolved oxygen. By pumping the water continuously we can use aeration the method to solve the "Save the Bays" greatest threat, the lower oxygen levels. The more these renewable expanding energy resources are used the more you reduce Toxic waste such as carbon is removed and is accurately and well documented citations in the City of Worcester's climate action plan report. A collection of best watershed management practices should be adopted by the EPA and first goals and objectives should be removing Toxic threats with last being the Non-toxic ones (phosphates and nitrates). Another huge benefit from the perpetual power plant design is the reduction of infectious deadly diseases carried by and transferred by mosquitos. The larvae cannot survive in moving water and the more we increase movement of water in our water systems the better, healthier, and safer our entire watershed systems will become.

Third, a specific change I would recommend for to the City of Worcester the "Authority" to implement the plan as needed and not rely on "policy" which is the current method.

Fourth, track DCIA for municipal property use the EPA resources like the GIS mapping to provide DCIA estimates to the City.

Fifth, Low-Impact Development techniques will have a much greater chance of actually being implemented if the EPA changes the City's requirements from a policy being implemented to an "Authority". This could be extremely important where developments are completed incorrectly, not to agreed upon specifications, and the City needs to correct the problem immediately but clearly should not and cannot afford the cost of repairing the problems.

In summation, I disagree with the EPA's plan that one size fits all works in different watershed areas as was indicated when setting standards around drought conditions. Building a system around "drought conditions" is insane when you consider that the greatest threat for this particular watershed is flooding. Best management practices can and should be required allowing the City of Worcester to implement its climate action plan, and addendum. We should not

add the added burden of changing the current standards to meet new phosphate and nitrate standards. Let the implementation of the alternative methods of meeting these new standards may by allowing the work proposed in the City's Climate Action plan for the front end of the watershed system. Setting priorities to do the most effective parts of a plan first and least effective is a key criteria in any best management practices application.

We should implement best practice standards when ever possible. The Blackstone River can be used as a historical tool, past, present and future. I would like everyone to consider that we are at a "watershed monument" and our very existance on this planet is in peril. End of the pipe treatment systems are the least effective and most costly. Watershed management can use water level control as a major contributing factor and can reduce the parts per million of both toxic and non-toxic waste when done correctly, scientifically with clearly measureable milestones and objectives planned for. We did not create these problems overnight. It will take several years to effectively implement an effective plan and Milestone Completions, not unreasonable Time Frames should be the Major Criteria in assessing where we are, we are going and when we have actually completed all the objectives set out in the permit. The "rolling wave" of project management should be utilized. To do this successfully year four should require all original measurements to be taken again, providing the necessary documentation of the success and failures of the plan. Changes for the next permit can then be planned based on scientific data with new milestones developed continuously allowing the Best Management Practices to be implemented.

By managing our storage capacity we will also need to enlist the assistance of the Army Corp. of Engineers to better manage water levels. NASA under a new President can resume the world wide water mapping program. The national riverways programs water monitoring program should be added as a reference tool. An energy czar should be appointed by our next President that can coordinate and bring all the different governmental agencies together and put together a global stabilization plan using the knowledge developed from projects like the "Worcester Project". Think globally, plan regionally (adding the second layer of planning), and act locally. Lloyd's of London "Risk Project 360 documents the economic and environmental threats to our planet. Climate changes can be used to be as an economic and environmental asset. How we adjust to these changes will determine if we increase our standard of living or continue to see a very rapid and sudden decrease. Let the City of Worcester continue with it's climate action plan. Spend money where it is most effective and avoid wasting money where it is least effective.

I salute the EPA again publicly for being an agency that implements Best Management Strategies. In reviewing your case studies on your Web Site, it appears that the most successful projects have been when the EPA and the projects owners have worked cooperatively together to solve complex problems. It is my hope that this will be the same for the final storm water permit.