

March 21, 2006

Mr. Mark Pierzchala
President, College Gardens Civic Association
816 Fordham Street
Rockville, Maryland 20850

Dear Mr. Pierzchala:

The Department of Public Works (DPW) staff have prepared answers to your list of questions from your February 2 email to Marylou Berg. I included your original question (shown in italics) and the City's response (in regular type) below. Many of these questions have been discussed in other forums such as the Watts Branch Watershed Study meetings in 2001 or the College Gardens Low Impact Development (LID) SWM Assessment Study meetings. I hope this information proves useful to you and your neighbors.

1. *What is the minimum amount of water the City would consider controlling with a SWM facility in the College Gardens Park in terms of acre-feet of water? This gives the community a way of judging the minimal impact on the park.*

The City has not yet determined a minimum storage requirement. The Watts Branch Watershed Study's first concept for this pond accounted for treating about 70% of the water quality target volume and 92% of the water quantity target volume. We will evaluate other combinations during the design phase this spring. Trade-offs between park features, pond expansion, tree preservation and open space will affect the pond size and depth.

2. *Any SWM facility in the park would seem to not address much of the storm water in the College Gardens Watershed. This would include storm water from Auburn Avenue, Baylor Avenue, College Parkway, Clemson Court, parts of Princeton Place, and even some from Plymouth Woods. Isn't the location of the proposed SWM facility too far up in the watershed to be effective?*

- a. *What percent of the storm water in the College Gardens Watershed would be treated by the SWM facility?*

Exact percentages of the target discharge rates and pond volumes will not be known until the engineering study determines a feasible size for the pond and SWM goals. Based on the College Gardens LID study's drainage analysis, the storm drain passing by the College Gardens Park pond contains runoff from about 71 acres in the community. This would be a very effective location for SWM control since it could intercept runoff from the townhouse developments, College Gardens Elementary School and several office sites in the sub-watershed. The storm drain outfall below Princeton Place has a drainage area of about 118 acres because it picks up drainage from sections of Princeton Place, Auburn Avenue and a few other streets as well as roughly a quarter of Plymouth Woods townhouses. A second SWM facility here to

control the additional 47 acres of residential lots between College Gardens Park and this point would be helpful, but we have to obtain the engineering studies to see if this site is feasible for a pond.

- b. *The purpose of any SWM facility in the park would be to mitigate water coming out of the pipe outlet just west of Princeton Place. What percent of the water coming out of that pipe outlet comes from the pipe that runs under the College Gardens Park? What percent of this water comes from the other pipes that feed into this pipe outlet? Have these percents ever been measured?*

The purpose of a SWM facility in the park would be to reduce downstream erosion and improve stream quality as much as possible. Although adding SWM below Princeton Place would increase the treated area, we still have to evaluate whether this is feasible and effective. The City follows standard engineering methods such as the Rational Formula or TR-20 hydrologic modeling data to predict flows from different sub-areas under different sized storms, so we have not directly measured outflows with flowmeters. Since storm drain flows are related directly to impervious acreage as well as rainfall, here is a comparison of impervious acreage contributing to different locations along the College Gardens storm drain network. Roughly 49% of the College Gardens tributary's land area and 72% of the impervious area could drain to the College Gardens Park pond location; an additional 33% of the land and 18% of the imperviousness could be captured at the Princeton Place outfall. Together, if full SWM was provided in both locations, it would treat a combined total of 82% of the tributary's drainage area and 91% of the imperviousness.

- c. *It appears that, at most, only about 50% of the water coming out of the pipe would be affected by a SWM facility in the park. While this would be an improvement, it would not in the end stop the kind of destruction to the streambed that we have seen. So why bother? It appears that the City would still have to treat the banks of the College Gardens Tributary.*

See the answer to item 2.b. above. Although only 49% of the land area is captured here, it would treat over 2/3 of the tributary's impervious area. SWM facilities can focus on quantity control that reduces downstream erosion, on quality control that improves aquatic habitat, or both. Upstream SWM quantity control is valuable because it lessens the force of stormflows against the erodible channel banks for frequent, smaller storms, and this reduces the sediment load in the stream caused by bank erosion. Also, stream stabilization for channels with upstream SWM quantity control (the channel protection volume) uses softer techniques, such as toe boulders and bank plantings, bank laybacks and grade control structures at key spots rather than wholesale

armorning with large boulders of the entire bank height for long reaches. Part of the engineering analysis will consider the trade-offs between SWM costs and benefits.

- 3. It appears that the vast majority of the water that would be treated by a SWM facility in the College Gardens Park would come from commercial or institutional property such as apartment buildings. What is the quality of the water that would be coming from these parking lots? One of the parking lots hosts a fleet of service trucks. Won't storm water from these sources deposit a lot of dangerous chemicals into the ponds in the College Gardens Park? Has the City ever measured the quality of the water coming through the pipe that runs under College Gardens Park? What is the use of eliminating pollutants to the stream if they end up in College Gardens Park?*

Water quality from commercial parking lots is about the same as what comes from townhouse parking lots or residential streets and driveways. In your example of service vehicles parked in the lot, runoff would be expected to contain the same pollutants as runoff from a street such as College Parkway. Runoff from parking lots or streets typically carries higher loads of oils/grease, trace metals, and sediment; runoff from residential lots typically has higher concentrations of nitrogen, phosphorus, and bacteria.

The City has not measured chemical water quality in the College Gardens tributary or elsewhere in the City. Most chemical monitoring only provides a snapshot of conditions and does not fully show stream quality trends. For effective watershed management, physical and biologic indicators are typically used to assess long-term changes in the stream. In the Watts Branch Watershed Study, this tributary's general stream health was evaluated using indicators such as signs of channel erosion and expansion and channel bed materials. The value of capturing pollutants before they exit a storm drain pipe is that they can be trapped in a SWM pond and removed through wetland plant nutrient uptake or periodic dredging, rather than being transported into the Watts Branch stream system where they migrate through miles of stream into the Potomac River and eventually into the Chesapeake Bay. SWM quantity control facilities also allow the rate of runoff to be slowed down. The SWM facility's slower discharge lessens future erosion on the channel banks.

- 4. There is a pond on the Comcast property (West Gude Office Park). Is it an up-to-date SWM facility? Does it hold back storm water or reduce pollutants? If so how much?*

The West Gude Office Park property has a SWM wet pond that was built in the mid-1980s. It was originally designed to provide water quantity control under the City's 10/10 (10-year post development discharge attenuated to the 10-year pre-

development discharge) standards at that time. Since it was designed as an amenity to the site, the large permanent pool volume also provided water quality benefits, although this was not part of the City's SWM requirements in 1983. The pond functions properly under its original design.

The City's SWM regulations were updated in 2002. Under City SWM laws, older SWM facilities do not have to be upgraded to later standards unless new development or redevelopment triggers a new set of SWM obligations. Even though the pond has not been modernized, it meets the 2002 City water quality treatment goals (i.e. it reduces pollutants) and hold almost 150% of today's water quality treatment volume. It does not meet today's quantity control release rates (i.e., holds back water for SWM detention) because it was designed to control larger stormflows than we manage today. Although it controls the 10-year stormflow, it does not effectively manage the 1-year stormflows that help reduce downstream erosion. A retrofit to this facility was recommended in the 2001 Watts Branch Watershed Study to focus SWM quantity control on smaller, more frequent storms.

a. What has the City done, if anything, to talk to the owners of that property to get them to make the pond into a modern SWM facility?

In 2001, the City discussed a possible retrofit with the site's property manager and informed the owners of the watershed study's recommendations. No objections to modernizing the pond were raised by the owner representatives at that time. The retrofit is still an option if the property owners pursue redevelopment or if other funding sources become available.

b. If the Comcast pond is retrofitted to be a modern SWM facility, would it be able to handle adequately the 'quality' part of SWM, in addition to helping with quantity? Would it be able to filter dangerous chemicals before such water would get to a pond in College Gardens Park?

As previously stated, this pond already traps typical roadway pollutants, such as sediment, particulate phosphorus, trace metals and hydrocarbons. This pond currently meets the 2002 water quality requirements. A retrofit analysis for the pond would target improving the quantity control to reduce discharge rates from smaller storms. The analysis would have to choose how best to allocate the available storage between the water quality component and water quantity component, and also determine whether additional quantity control would actually benefit the overall watershed. It is important to note that Comcast does not own the West Gude Office Park; it is one of several tenants.

- c. *We understand that there is no way to force a private property to handle storm water until there is major reconstruction needed. On the other hand there can be negotiations and incentives such as property tax breaks that could be tried to get such private properties to help out the community. Has any of this been tried?*

The City has not offered incentives to encourage owners to modernize their private SWM facilities. This would be a major public policy shift for the City. Also, current SWM funding sources cannot support this additional element. The City focuses its watershed improvement efforts on public SWM facility improvements and stream restoration.

5. *The Celera property would contribute to the storm water handled by a SWM facility in College Gardens Park.*

- a. *Has the City talked to the owners of this property to convince them to handle storm water on their own property, for example through negotiations and incentives including property tax incentives?*

The 24-acre Celera property splits between three sub-drainage areas. Roughly 20% of the total acreage (4.7 acres) drains into the College Gardens sub-watershed; the rest goes either to Watkins Pond (which is one of the City's regional SWM ponds at King Farm), or into the State's storm drain in Rte. 355. The Celera property already has some SWM facilities (infiltration pits) under parking lots in the College Gardens sub-drainage area.

The Celera site was originally approved for multiple phases of development, and has constructed one to date. The second phase is beginning the City development review process now and it will address the increased SWM obligations for the new construction. Although the new development is not within the College Gardens drainage area, the SWM obligations may be addressed through new controls or retrofits of their other outdated onsite controls in the College Gardens portion of the site.

- b. *Has the City considered pumping this Celera water to the existing SWM facilities in King Farm? These facilities are very large and could handle this additional amount of water.*

Part of the Celera site already drains to Watkins Pond (the City's regional SWM pond at King Farm). The City has not considered moving runoff from College Gardens' drainage area to Watkins Pond's drainage area. Watkins Pond was designed to full capacity based on conditions in 1996, including the development on Celera's property within that drainage area.

6. *If the College Gardens area were in its natural state, SWM would be taken care of through groundwater recharge because the area would be almost totally pervious. Why aren't techniques to recharge groundwater considered as part of the City's bag of tricks for SWM?*

An area in its natural state (i.e., either meadow or forest with no buildings, farms or paving) would have no need for SWM since there would be very little runoff from smaller storms. Groundwater recharge is not the only mechanism at work, though. In natural or pre-developed conditions, rainfall might be taken up by trees and shrubs (evapo-transpiration), soaked into the ground, held in small surface depressions, or diffused across many flowpaths on its way to nearby streams. Most storms still produce streamflows and contribute to bank erosion even in remote, undeveloped areas. Further, once this area develops, it then needs quality treatment and stream erosion mitigation. Impervious surfaces such as paving, rooftops and sidewalks concentrate runoff into efficient flowpaths; the runoff has less green space to soak into, fewer plants to take up the water, and gets to the streams faster through road gutters and storm drains. SWM in general is geared towards mimicking the natural flowrates of runoff from pre-developed conditions.

- a. *Has the City ever tried groundwater recharge?*

Yes. The City does use groundwater recharge in SWM systems where it is feasible. The City's SWM regulations, which are based on the State's SWM Design Manual and model SWM ordinance, treat groundwater recharge as a component of the water quality volume to be controlled. It is most feasible for single-family lots where the impervious to open area ratio is lowest. Recharge is also more effective in sandy soils such as those found on the Eastern Shore or in Prince Georges County. The State's SWM Design Manual limits the amount of runoff that can be processed through a single recharge feature, so multiple small recharge features are usually scattered throughout a development. The City tries to incorporate drainage 'escape valves' in recharge features to prevent permanent standing water in the facilities, since Rockville's soils tend to be less permeable due to higher clay content. For example, groundwater recharge sumps have been constructed below bioretention facilities for residential areas at Fallsgrove.

- b. *What kind of volume could this technique handle?*

The State SWM Manual allows about 13-26% of the water quality volume to be credited in recharge facilities, based on the State's recharge goals and county soils conditions. Recharge is required to be managed in numerous small open areas, and designed for typical drainage areas of 0.25 acres and smaller per location. Fallsgrove's recharge measures were designed as components to the

water quality treatment bioretention facilities scattered around the new development.

c. A resident suggested that water from the new school could be directed underground to recharge groundwater and feed into the pond through natural springs that used to feed the pond before all the buildup. What would it take to study this possibility?

The Montgomery County Public School engineering consultant is investigating how best to provide recharge in the proposed College Gardens Elementary School site.

7. If a SWM facility is put in College Gardens Park, how do we know that future building upstream would not increase the amount of water that has to be handled by such a facility? How do we know the quality of water coming into such a facility would not be worse in the future?

Future upstream development would be subject to the City's SWM regulations at the time of the development. The City's first choice for new development is onsite SWM.

8. How much maintenance has been deferred at the park because of City plans to put in a SWM facility in the park? Especially for the pond; shouldn't this be mucked out on occasion according to a regular schedule?

No scheduled Park maintenance has been deferred. Although the Parks Manager has filled the pond during droughts each summer with drinking water from a nearby fire hydrant, the pond does not need frequent mucking out since this pond does not receive routine sediment loads. The Parks Department dredged the College Gardens pond in 1988; the control structure was also replaced at that time.

9. Would it be possible to engineer a SWM facility in College Gardens Park that would handle only the runoff from College Gardens? That is, storm water from Yale Place, Yale Village, and the school?

Once water is commingled in a storm drain pipe, the runoff cannot be separated to distinguish between specific sites. To treat only specific properties such as you suggest, the City would have to build a parallel storm drain system and new inlets for these sites as well as the receiving SWM pond. This would be very costly, and perhaps impractical since the land is already graded to drain to the existing storm drain inlets.

10. Mosquitoes:

a. Any SWM solution would result in more surface area than the current College Gardens pond. What will be the increase in mosquito population?

A pond enlargement does not necessarily lead to an increase in the mosquito population. In a healthy, balanced pond ecosystem, the presence of other animal life (birds, frogs, fish, etc.) keeps the adult and larval mosquito

population in check. Thus an increase in overall pond surface area, if coupled with the provision of suitable habitat for natural mosquito predators, could have a negligible or even minimizing effect upon the local mosquito population.

Based on the City's experience over the past four years, we have not found that mosquito complaints are any higher in parks with SWM ponds than in parks with natural wetlands, streams, or other water bodies such as College Gardens Park pond.

b. How would an increase in mosquito population be mitigated?

The City follows Maryland Department of Agriculture (MDA) Mosquito Control Section's guidelines for control of mosquitoes. MDA advocates the use of biological controls to keep mosquito populations in check when possible, and the use of an approved larvicide (usually a biological rather than chemical larvicide) to control mosquito larvae in aquatic systems. The City of Rockville does not perform chemical spraying for adult mosquitoes, which has been shown to be of limited success, and often damages the environment (including the natural mosquito predators) well out of proportion to whatever positive effects may be gained from the adult mosquito suppression.

The City also strongly encourages residents to use the Mosquito Breeding Sites Checklist found on the City's web page to eliminate potential areas of stagnant water (and thus mosquitoes) on their own property. The two types of mosquitoes most commonly found in Rockville, *Culex pipiens* and the Asian Tiger Mosquito, do not generally venture far from their breeding area. Homeowner complaints about mosquitoes from nearby parks or open space areas are often the result of preventable mosquito breeding sites on their own or adjacent lots rather than from more distant streams or ponds.

c. Have there been mosquito problems at other SWM facilities in the City? If so, why and where?

The City has not experienced noticeable mosquito problems at other SWM ponds. As stated above, residents don't find that mosquitoes are any more prevalent at a SWM facility than at a stream, wetland or the current College Gardens Park pond. We have had mosquito complaints with some underground SWM facilities, especially ones with older designs in low-lying areas such as the infiltration trenches at Leverton Road. In these cases, DPW adds a biological mosquito control agent called a mosquito dunk that floats on the stagnant water and kills only mosquito larvae. As with our other public SWM facilities, DPW will routinely inspect any SWM pond to ensure it is draining properly and functioning as designed.

11. In the past decade, how many rain events exceeded the design capacity of such a pond? To answer this, use the capacity and design of the proposed College Gardens Park SWM pond from several years ago.

The previous SWM concept for the College Gardens Park pond proposed to treat about 92% of the Channel Protection Volume (CPv) which reduces downstream erosive forces, and about 70% of the water quality treatment volume. The State defines the CPv treatment to be detention of the runoff from a 1-year rainfall event so the runoff is released over a 24-hour period. The premise of this approach is that runoff will be stored and released gradually so that critical erosive velocities will seldom be exceeded in downstream channels. The State's water quality target for central and eastern Maryland is to treat the runoff from the first 1" of rainfall because it treats about 90% of the average annual rainfall runoff.

SWM facilities are designed for storm frequencies that re-occur, on average, once every year or once every ten years, or whatever the desired design period is. SWM facilities usually provide treatment for several different storm frequencies at once. A 1-year storm is the amount of rainfall that is exceeded only once every 12 months, on average. This statistical probability may not actually occur in a particular year – the City might have a year with smaller rain events and therefore not get a 1-year rainfall, or the City might have a year with two or more 1-year rain events as well as larger events such as the 10-year rainfall. That is why SWM hydrology is based on statistical averages of rainfall data, not on measured events over a relatively short period. Montgomery County's 1-year rainfall is about 2.6 inches in a 24-hour period.

The design consultant will evaluate the smaller, more frequent storms recommended by the State in designing SWM for the College Gardens area. When space is tight, modern SWM ponds are often designed to keep the larger storms in the storm drain pipe and not try to treat them in the pond.

12. Concerning the 54" pipe, would an opening in the park for pipe this huge be a safe thing to do? It is more than a matter of hiding it. How are you going to keep kids out of it?

a. What about the force of energy coming out of the pipe during a large storm. Isn't this a bit much for a smallish park and the kids who play in it?

The existing storm drain pipe through College Gardens Park is a 54" concrete pipe, which will remain underground. Any SWM design for College Gardens Park pond would have a connecting pipe running from the existing storm drain into the pond to shunt a portion of the storm drain's flow into the pond for treatment. This inflow pipe may be smaller than 54" since only the smaller,

more frequent storms would pass through the pond. There are many different features that we may consider for this inflow pipe, such as depressing the pipe below the pond's permanent water level or installing a rebar trash rack. These features will be discussed at a later stage in the concept design.

13. Please summarize City quantitative goals for SWM and how these apply to the College Gardens situation. What measures are used? Does the City ever measure the benefit of its SWM facilities? Is compliance with state and federal requirements based on direct measurements of benefit or on other bases?

The current SWM quantity control standards are based on Maryland Department of the Environment's 2000 overhaul of the State's SWM regulations. To reduce downstream channel erosion, State standards call for 1-year, 24-hour extended detention control – that is, holding back the stormflows from storms that occur, on average, once every year and releasing them over a 24-hour period at a slower rate. This control also attenuates storms smaller than the 1-year storm, so it effectively slows down the smaller, more frequent storms that have been found to do the most erosive damage within stream channels. The City is using the stream surveys done through our watershed studies to correlate the benefits of SWM with improvements to stream channel stability and aquatic habitat. State SWM regulations require the City to use the 1-year, 24-hour extended detention standard for new or modernized SWM quantity control facilities. Compliance with the City's National Pollutant Discharge Elimination System permit (NPDES) permit is not based on direct measurements of benefits. It is based on demonstrating implementation of the six required watershed management program elements (public education and outreach; public participation and involvement; illicit discharge detection and elimination; construction site runoff control; post-construction runoff control; and pollution prevention/good housekeeping practices).

14. Which laws force the City to implement SWM facilities?

The Code of Maryland Regulations Section 26.17.02.04 requires each jurisdiction to administer SWM regulations that, at a minimum, comply with Maryland Department of Environment's 2000 SWM Regulations. These regulations and the State's SWM Design Manual define which SWM measures meet State requirements for reducing stream erosion and trapping pollutants. They also include sizing criteria for SWM facilities, limits on drainage areas for specific types of SWM treatment, and guidance on design details and appropriate features for each type of SWM facilities. The City is also under a National Pollutant Discharge Elimination System, Phase II permit through the State of Maryland and the U.S. EPA. This permit requires the City to administer a comprehensive watershed protection program consisting of six separate components. One of the components is a post-construction SWM program that attempts to reduce or

mitigate pollutant sources. Chapter 19-37 of the City's SWM ordinance, enacted September 9, 2002, states:

“Development has occurred within the City for which no stormwater management has been provided. It is the legislative goal and policy of the City that eventually stormwater management shall be provided for all new and existing developed land within the City. To this end, no person shall engage in development activity covered by this chapter without providing for stormwater management for such development as required by this chapter and the Regulations.

Furthermore, the City recognizes the policies of the Chesapeake Bay Agreement, to which the State of Maryland is a signatory. The City supports effective and innovative stormwater management policies and practices to protect the Bay and its tributaries. Accordingly, the City shall seek opportunities to implement functional stormwater and watershed management in both existing communities and new development with input from the State, civic associations, residents, businesses and developers where appropriate.”

15. What is the role of the Army Corps of Engineers?

The Army Corps of Engineers (ACOE) is a federal agency charged with the responsibility of permitting disturbance in wetlands and ‘Waters of the United States’. ACOE operates through the Baltimore District office to regulate wetland permits for Maryland, including Montgomery County and the City of Rockville. The ACOE's authority is derived directly from the Federal Water Pollution Control Act of 1972 (amended as the Clean Water Act in 1977 and 1987). ACOE has a strict set of regulations governing what bodies of water and related wetland areas it takes jurisdiction over; what measures are considered acceptable within the wetland or waterway; what other options must be considered to justify wetland disturbance; and what mitigation should be required.

ACOE is authorized to issue permits for the discharge of dredged or fill material into waters of the United States at specified disposal sites. Selection of such sites must be in accordance with guidelines developed by the Environmental Protection Agency (EPA) in conjunction with the Secretary of the Army. Part of the guidelines provide for advance identification of areas generally unsuitable to disposal of dredged or fill materials. This is usually done in the planning stages to shorten permitting time and avoid costly engineering designs for projects likely to be denied permits.

The ACOE public interest review is used to evaluate applications under all authorities administered by the Corps. There are additional evaluation criteria used for specific authorities. For example, applications for fill in waters of the United States are also evaluated using, the Section 404(b)(1) Guidelines developed by EPA in conjunction

with the Department of the Army. These guidelines are heavily weighted towards preventing environmental degradation of waters of the United States and so place additional constraints on Section 404 discharges.

The public benefits and detriments of all factors relevant to each case are carefully evaluated and balanced. Relevant factors may include conservation, economics, aesthetics, wetlands, cultural values, navigation, fish and wildlife values, water supply, water quality, and any other factors judged important to the needs and welfare of the people. The following general criteria are considered in evaluating all applications:

1. the relevant extent of public and private needs;
2. where unresolved conflicts of resource use exist, the practicability of using reasonable alternative locations and methods to accomplish project purposes; and
3. the extent and permanence of the beneficial and/or detrimental effects the proposed project may have on public and private uses to which the area is suited. Individual state permitting and water quality certification requirements provide an additional form of objective safeguard to the Corps regulatory program. Section 401 of the Clean Water Act requires state certification or waiver of certification prior to issuance of a Section 404 permit.

ACOE will not grant the permit if the proposal is found to be contrary to the public interest. Regulatory program management and administration is focused at the district office level, with policy oversight at higher levels. Division and district engineers are authorized to issue conditioned permits (Part 325.4) and to modify, suspend, or revoke them (Part 325.7). If a district engineer has the authority under Part 325.8 to make a final decision on a permit application and he makes that decision in accordance with the procedures and authorities contained in the regulations, there is no formal administrative appeal of that decision nor is there a legal requirement to conduct a formal adjudicatory hearing. However, any member of the public may challenge, in court, a Corps decision to issue or deny a permit. Generally, such a challenge alleges failure to comply with procedural requirements, such as NEPA documentation, the 404(b)(1) Guidelines, or the procedures in the Corps permit regulations.

MDE regulates activities conducted in nontidal wetlands and their buffers, and nontidal waterways, including the 100-year floodplain. For the State's Nontidal Wetlands and Waterways permit, applicants are required to demonstrate that proposed impacts to nontidal wetlands are necessary and unavoidable. The application review process first looks for opportunities to eliminate, then reduce impacts through avoidance and minimization. A permit is also required from MDE in order to change the course,

current, or cross-section of a nontidal stream or body of water, including the 100-year floodplain. Activities are evaluated for impacts on the floodplain, public safety and welfare, and natural resources. An engineering analysis is required for bridges, culverts, filling, and other construction. In addition, environmental impacts associated with the proposed project, including impacts to nontidal wetlands, instream fisheries, wildlife, endangered species and their critical habitat, and alternatives to reduce or eliminate adverse impacts are required to be submitted with the application.

A State Water Quality Certification (WQC), which insures the protection of waters of the State, is necessary for activities requiring a U.S. Army Corps of Engineers Section 404 permit. When an activity is approved by a nontidal wetlands and waterways authorization, the WQC is incorporated into that authorization. When an activity is exempt from the requirement to obtain a nontidal wetlands and waterways authorization, an individual WQC is issued by the Department. The Chief of the Nontidal Wetlands and Waterways Division in the Water Management Administration shall render the decision to grant, deny, or condition a permit; any appeal is decided by the Director of the Department of the Environment.

Maryland has established a joint permitting process between ACOE and Maryland Department of the Environment (MDE), where representatives from both agencies review a permit, conduct a field visit and determine the acceptability of the proposed project together. Both of these agencies must agree to any proposed disturbance to a stream or wetland area in the City. If disturbance is proposed outside of wetlands but within the 100-year floodplain, MDE issues permits by itself. Obtaining a joint wetlands/waterway permit usually takes 9 -18 months.

More information is available from the ACOE website at <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/index.html>
MDE's website also contains background information found at <http://www.mde.state.md.us/Permits/WaterManagementPermits/index.asp>

- a. *One technical possibility for a SWM pond is an in-stream solution at the end of the pipe outlet feeding into the College Gardens Tributary. Apparently the Army Corps of Engineers says this is not a possibility due to an alternative location for such a facility that is the park. However, this is not a full alternative and it would dump pollutants into the park. Has the City tried formally, shoulder to shoulder with the College Gardens Civic Association, to request a waiver to their rules?*

No. In 2001, the City asked ACOE and MDE representatives to advise us on the feasibility of obtaining federal and state permits for a pond below Princeton Place.

ACOE, MDE and the City met with CGCA representatives at College Gardens Park and walked the stream from Princeton Place to the gas line easement. The federal and state agency representatives stated that a pond below Princeton Place would not qualify under the ACOE standards to avoid wetland impacts, given a practicable alternative upstream. They also noted that any pond in this area would require extensive disturbance, tree clearing and potential dam safety problems for the houses along College Parkway.

The City has not made a formal permit application to ACOE/MDE, so there has not been a 'formal' request to ask the agencies to reconsider their position. Since their charge is to protect the natural environment, both agencies may consider issues of cost, parks usage and need for watershed or stormwater management in permit decisions, but these do not override their mandate to protect wetlands and waterways from permanent changes, especially when there are feasible alternatives.

16. Is the effort to implement a SWM facility in College Gardens related to state and federal requirements or to voluntary goals by the City of Rockville?

Both. State and City laws already specify SWM requirements for new development and redevelopment. For communities with storm drain systems, the U.S. Environmental Protection Agency (US EPA) also requires a stormwater management program designed to prevent harmful pollutants from being washed by stormwater runoff into the storm drains and then discharged into local waterbodies. US EPA oversees the National Pollutant Discharge Elimination System (NPDES) Permitting Program and works through state agencies to approve the permits and enforce the conditions. Communities subject to NPDES permits must, at a minimum, provide a watershed management program with the following measures: public education and outreach; public participation and involvement; illicit discharge detection and elimination; construction site runoff control; post-construction runoff control; and pollution prevention/good housekeeping practices. US EPA adopted NPDES Phase II regulations in 1999, with implementation by the states required by 2002. The City obtained coverage under MDE's General NPDES Phase II permit in April, 2003.

NPDES municipalities need to evaluate the effectiveness of their chosen Best Management Practices (BMPs) to determine whether the BMPs are reducing the discharge of pollutants from their systems to the "maximum extent practicable" and to determine if the BMP mix is satisfying the water quality requirements of the Clean Water Act. Permittees also are required to assess their progress in achieving their program's measurable goals. While monitoring is not required under the rule, the NPDES permitting authority has the discretion to require monitoring if deemed necessary. The City annually submits our Capital Improvement Program (CIP) for SWM retrofits and stream restoration to support our NPDES permit conditions. The

NPDES permit must be reauthorized every 5 years, and therefore, we must show progress in our annual report to indicate compliance.

Rockville had an advanced SWM program long in advance of federal mandates, however. The City made a commitment in 2001 to implement the Watts Branch Watershed Study recommendations through its CIP in order to reduce stream erosion in Watts Branch, reduce pollutants, and improve aquatic habitat quality. The Mayor and Council have long-standing goals and policies to protect, preserve and enhance Rockville's streams. Because much of Rockville developed prior to the City's first SWM ordinance in 1978, a regional SWM retrofit program has made significant advances to cleaning up our streams. The SWM retrofit program and stream restoration is as essential as providing SWM for new development or redevelopment.

17. Isn't College Gardens being picked on because the City has no other place to put such a facility?

The need for SWM occurs all over the City, not just in College Gardens. Since so much of the City developed without SWM facilities, DPW constantly seeks ways to extend this infrastructure into underserved areas. We have management plans for all three of the City's watersheds and have worked for the past 25 years to implement both new and modernized SWM facilities across the city. Since the most recently completed watershed study was for the Watts Branch, the retrofits for this part of the City are just now being implemented. Some examples of SWM facilities in residential neighborhoods in other parts of the city include Aintree Pond near Woottons Mill Park, Stoneridge Pond at the end of Cabin John Parkway, Mount Vernon Pond near Richard Montgomery High School, and Northeast Park on Gude Drive. A retrofit to the Carnation Drive pond in Woodley Gardens is expected to be constructed in the summer of 2006.

18. What is the City plan for SWM in areas where a park is not available? After all these SWM facilities go in, what percent of the city area will be under control?

SWM facilities can be physically placed wherever the essentials of topography, hydrology and space allow. They have to be in low-lying areas that receive concentrated runoff. Ideally, these locations would not have wetlands, forests, streams, buildings, playing fields, gas lines or other features that conflict with a surface or underground SWM facilities. They would also be cost-effective so that the City could afford to treat most developed areas.

The reality is that these locations are almost impossible to find in Rockville. Many older communities were built directly over streams that were encased in storm drains, and have virtually no open space in public ownership. Some parks are developed with buildings and high-use ball fields; others are covered in forests and wetlands. The City

has worked towards a balanced approach of fitting SWM into available open space in older neighborhoods since the program's inception. In most cases, the City can achieve this by retrofitting outdated public SWM ponds originally built in the 1970s or '80s, such as the Horizon Hills facilities or the dry pond at Carnation Drive. In other areas that never had centralized SWM facilities, the City considers constructing a new pond to manage the large areas.

Many communities began with regional SWM ponds in their midst, such as Horizon Hills, King Farm, and North Farm. Others had a regional SWM pond come after the houses were in, such as the Carnation Drive facility in Woodley Gardens. In many cases, the City acquired land specifically because it contained a SWM facility built by the developer; the land then was listed as City park land, but it was always intended to serve a SWM function in addition to providing open space for the community. Examples of these land acquisitions include Aintree Pond, Stoneridge Pond, and Rose Hill Falls ponds. Today, the City needs to consider all of its land not only for what it can do for open space or recreational value, but for how it can contribute to the essential and underserved needs for stream protection and SWM. Since the City owns most of the stream valleys throughout the City, we must look at how to best use City properties to protect our downstream park lands, meet our obligations to the Chesapeake Bay Program, and fulfill our NPDES permit.

The Watts Branch Watershed Study's goal was to achieve SWM quantity control for 50% of the overall 4,000+ acres of watershed within the City. This included about 25% of the total watershed that is already controlled through modern onsite SWM, such as King Farm, Falls Grove, Rose Hill, and Rose Hill Falls. The rest of the goal would be met if all of the Watts Branch Watershed Study's recommended SWM improvements were constructed, which would total about 1,000 acres of additional developed area treated, or another 24% of the total watershed acreage. Achieving modern SWM for 50% of the watershed would be worthwhile, especially since SWM treatment tends to occur in headwater areas.

19. What will the City do if something goes wrong with the SWM facility? How quickly and to what extent will the City ameliorate any problem?

The City has a SWM facilities inspector who checks all public facilities on a scheduled basis for blockages, excessive trash or debris, or other problems. Wet ponds are typically checked every 3 weeks to 6 months, depending on their rate of accruing debris and trash. A contractor is then sent out to provide routine maintenance such as trash or sediment removal. If a problem occurs between inspections, the inspector can have a contractor respond within two days. If immediate action is needed, the inspector may coordinate with DPW's Maintenance Division to make emergency repairs.

Mr. Mark Pierzchala
March 21, 2006
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Please call Lise Soukup, Civil Engineer II, of my staff at (240) 314-8515 or email her at Lsoukup@rockvillemd.gov if you have further questions.

Sincerely,

Craig L. Simoneau, P.E.
Director of Public Works

Cc: Catherine Tuck Parrish, Assistant City Manager
Burt Hall, Director of Recreation and Parks
Susan Straus, Chief Engineer/Environment
Lise Soukup, Civil Engineer II
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