



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF
STATE PLANNING COORDINATION

July 14, 2005

Ms. Carol Ohm
Apex Engineering, Inc.
27 West Market Street
Newport, DE 19804

RE: PLUS 2005-06-11, Smyrna School District Additions

Dear Ms. Ohm,

Thank you for meeting with state agency planners on June 29, 2005 to discuss planned additions to Clayton Elementary School, North Smyrna Elementary School, and Smyrna Elementary School located in the Smyrna School District.

These comments reflect only issues that are the responsibility of the agencies represented at the PLUS review meeting. Please note that changes to the plans, other than those suggested in this letter, could result in additional comments from the State.

Office of State Planning Coordination – Contact David Edgell 739-3090

These projects are located in Investment Level 1 according to the *State Strategies for Policies and Spending*. These sites are also located in the Towns of Smyrna and Clayton, and are existing school facilities. Investment Level 1 reflects areas that are already developed in an urban or suburban fashion, where infrastructure is existing or readily available, and where future redevelopment or infill projects are expected and encouraged by State policy. Our office has no objections to the proposed construction of additions to the school facilities of this project in accordance with the relevant Town codes and ordinances.

State Historic Preservation Office (SHPO) – Contact Alice Guerrant 739-5685

Of the three schools to have additions, the Clayton Elementary School (K-5181) is the only one within a National Register-eligible historic district, the Clayton Historic District (K-6967). This school is across School Lane from the Dr. Gootee House (K-1333), also listed in the National Register of Historic Places. Changes to this school will be to the rear of the property and will not have any adverse effect on these historic properties.

The Smyrna Elementary School is adjacent to the National Register-listed Smyrna Historic District (K-302). The changes are fairly small in scale and mainly to the rear of

the property, so there will be no adverse effect on the district.

The North Smyrna Elementary School is adjacent to two historic cemeteries, but the boundaries of these cemeteries do not seem to have changed historically. While planned changes are far enough away for there to be little chance of encountering burials, the school district should avoid any ground disturbance immediately adjacent to these cemeteries in case unmarked burials exist beyond known boundaries.

This area has high potential for prehistoric-period archaeological sites. SHPO would appreciate an opportunity to test the area of parking lot expansion for prehistoric sites prior to any construction taking place.

Department of Transportation – Contact Bill Brockenbrough 760-2109

The Smyrna School District proposes additions to each of their three elementary schools. Clayton Elementary School (Tax Parcel 3-04-018.11-01-49.00-000), located in the town of Clayton on the southeast corner at the intersection of Delaware Route 6 (Main Street) and School Lane (Kent Road 40), presently covers 47,500 square feet and would be expanded by 7,220 square feet. North Smyrna Elementary School (Tax Parcel DC-17-010.13-01-01.00-000), located in the town of Smyrna on the west side of North Main Street (Kent Road 486), presently covers 48,000 square feet and would be expanded by 9,470 square feet. Smyrna Elementary School (Tax Parcel DC-17-019.05-01-28.00-000), located in the town of Smyrna between South Street and Kent Way and between School Lane and Ransom Lane, presently covers 49,500 square feet and would be expanded by 7,220 square feet. DeIDOT comments are as follows:

- 1) Because Clayton Elementary School has its access on School Lane, which is a State-maintained road, a new entrance plan and permit will be required. DeIDOT is not aware of any existing problems associated with the school entrance. While the possibility of minor road improvements being needed cannot be ruled out, the issuance of the permit should be straightforward. The District's site engineer should contact the project manager for Kent County, Mr. Brad Herb, (302) 266-9600, to begin that process.
- 2) Because North Smyrna Elementary School has its access on North Main Street, which is a State-maintained road, a new entrance plan and permit will be required. There is an existing congestion problem interior to the school site which causes traffic to back up on North Main Street at the school entrance during the morning peak hour. It is understood that the District is already working to improve this situation and DeIDOT anticipates requiring that that work be completed. The District's site engineer should contact the project manager for Kent County, Mr. Brad Herb, to determine what will be required.
- 3) Because Smyrna Elementary School has its access on Town streets, no plan approval or permit from DeIDOT will be required. Because the parking lot at Kent Way and School Lane would be reconfigured as part of the expansion, the District should explore the feasibility, costs and benefits of aligning the Kent Way access opposite Tyler Lane. It appears that realignment would improve both safety and traffic operations. It is recognized that realignment would involve some expense if the existing condition poses a

problem.

The Department of Natural Resources and Environmental Control

Contact Kevin Coyle 739-3091

Impervious Cover

The Watershed Assessment Section feels that the applicant should attempt to reduce amount of projected imperviousness (approx. 30% averaged over the three sites) is excessive and should be reduced. Since large-scale construction projects often generate large amounts of impervious cover - often leading to large volumes of contaminant-laden runoff which ultimately drains into streams or waterways - the applicant is strongly urged to pursue both natural and constructed Best Management Practices (BMPs) that reduce such impacts. Reducing the amount of impervious surfaces and/or using pervious pavers in lieu of asphalt or concrete (where practicable), are ways to reduce such impacts. Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline.

TMDLs

Although Total Maximum Daily Loads (TMDLs) as a “pollution runoff mitigation strategy” to reduce nutrient loading have not yet been developed for Smyrna River, work is continuing on their development. A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited water body” can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although TMDLs are authorized under federal code, states are charged with developing and implementing standards to support those desired use goals. The Jurisdictional authority for attaining these use goals will fall under the auspices of Section 11.5 of the State of Delaware’s Surface Water Quality Standards (as amended August 11, 1999), and will be achieved via nutrient reductions referred to as “pollution control strategies.” TMDLs for the Smyrna River subwatershed, of which this parcel is part, are scheduled for completion by December 2006.

Therefore, until the specified TMDL reductions and pollution control strategies are adopted, it shall be incumbent upon the developer to employ best available technologies (BATS) and/or best management practices (BMPs) as “methodological mitigative strategies” to reduce degradative impacts associated with development.

Water Resource Protection Areas

According to the State law that created the Source Water Protection Program, county and municipal governments with more than 2,000 residents will be required to enact ordinances to protect Water Resource Protection Areas. Municipalities with fewer than 2,000 residents are encouraged to enact such ordinances. The following language has been excerpted from the Source Water Protection Guidance Manual for Local Governments, Supplement 1 - Ground-Water Recharge Design Methodology. While the local ordinances may not yet be in place, the developer may find the language useful in modifying the site plan to protect water resources.

Water Resource Protection Areas (WRPAs) are defined as (1) surface water areas such as floodplains, limestone aquifers, and reservoir watersheds, (2) wellhead areas, or (3) excellent recharge areas. The purpose of an impervious cover threshold is to minimize loss of recharge and protect the quality and quantity of ground and surface water supplies in WRPAs.

New development in WRPAs may exceed the 20 % impervious cover threshold, but be no more than 50 % impervious, provided the applicant submits an environmental assessment report recommending a climatic water budget and facilities to augment recharge. The environmental assessment must document that post-development recharge will be no less than predevelopment recharge when computed on an annual basis.

Commonly, the applicant offsets the loss of recharge due to impervious cover by constructing recharge basins that convey relatively pure rooftop runoff for infiltration to ground water.

The DNREC Water Supply Section has reviewed the above referenced PLUS project and determined that each site has its own unique characteristics. The Clayton Elementary School addition does not impact an excellent recharge area or wellhead area. The North Smyrna Elementary School addition impacts an excellent recharge area. The Smyrna Elementary School is entirely within the wellhead protection area for Smyrna Water.

The DNREC Water Supply Section recommends that that portion of the new development within the excellent recharge area not exceed 20% impervious cover. The Smyrna Elementary School impervious cover is proposed to change from 30% to 33%. The North Smyrna Elementary School impervious cover is proposed to change from 20% to 26%. The current levels of impervious cover are at the threshold values for augmenting ground-water recharge.

The North Smyrna Elementary School expansion building does not directly overlay the excellent recharge area. The impact to the excellent recharge area in increasing the impervious cover should be negligible.

Due to the increase in impervious cover at the Smyrna Elementary School expansion, some allowance for augmenting ground-water recharge should be considered since the impervious cover exceeds 20% in the wellhead area but is still less than 50% of that portion of the parcel within this area. The purpose of an impervious cover threshold is to minimize loss of recharge (and associated increases in storm water) and protect the quality and quantity of ground water and surface water supplies. This can be achieved by using a rooftop runoff system for each of the structures constructed.

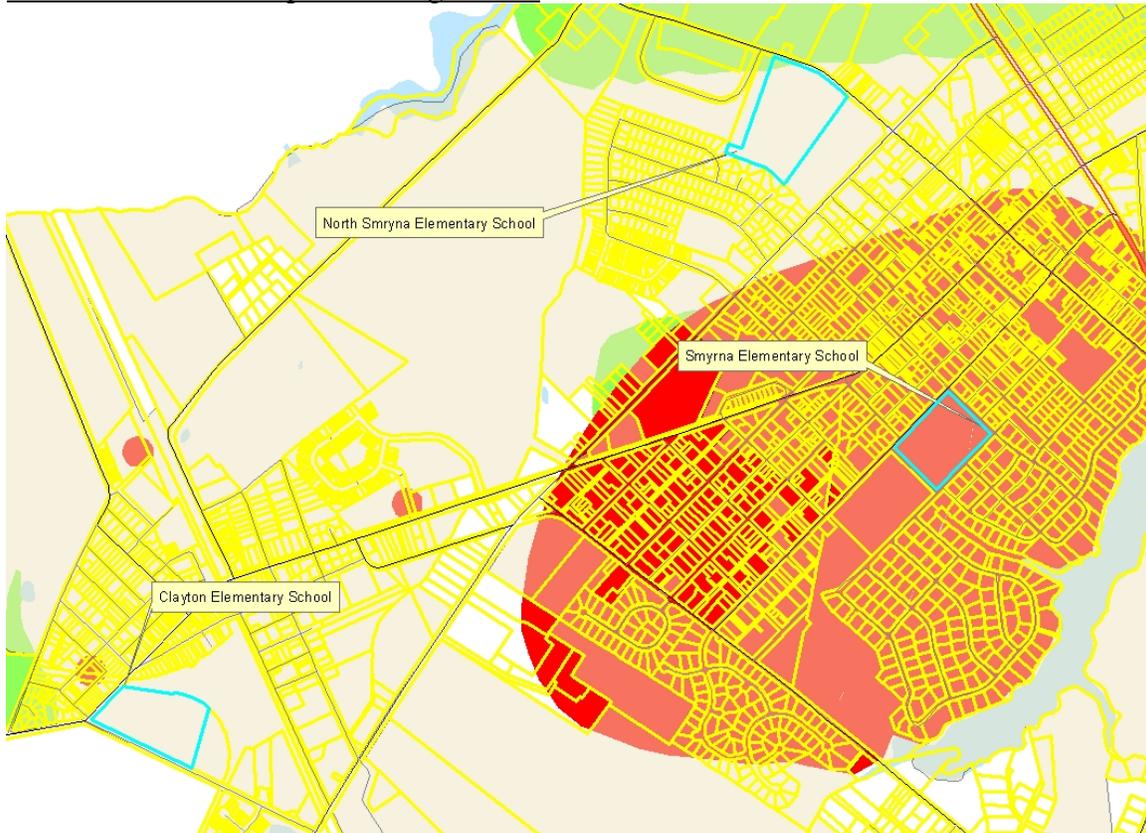
Engineered roof-top run-off systems can achieve results that preserve similar characteristics to the current state of recharge and protection without redoing the plan.

For more information refer to the March 2004 Final:

Source Water Protection Guidance Manual for the Local Governments of Delaware

<http://www.wr.udel.edu/swaphome/phase2/SWPguidancemanual.html> and
Ground-Water Recharge Design Methodology
http://www.wr.udel.edu/swaphome/phase2/Publications/swapp_manual_final/swapp_guidance_manual_supp_1_2005_05_02.pdf

Map of Smyrna School Expansions showing excellent recharge in green, wellhead areas in red and the sites impacted in light blue.



Sediment and Erosion Control/Stormwater Management

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on any of the sites. The plan review and approval as well as construction inspection will be coordinated through DNREC Sediment and Stormwater Program. Projects submitted after July 1, 2005 will require a two-step submittal process unless specifically waived by the Sediment and Stormwater Program. It is strongly recommended that you contact DNREC Sediment and Stormwater Program to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre and post development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The first consideration in permanent stormwater management should be practices to mimic the pre development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance on structural stormwater components.

A Notice of Intent (NOI) for Stormwater Discharges Associated with Construction

Activity must be submitted to DNREC Division of Soil and Water Conservation along with the \$195 NOI fee prior to plan approval for each of the sites.

Each stormwater management facility should have an adequate outlet for release of stormwater. Any drainage conveyed onto a site from neighboring properties must be adequately conveyed through the site to the discharge point without interruption.

A Certified Construction Reviewer (CCR) will be required during construction.

Site Investigation and Restoration

North Smyrna Elementary School: There are 3 DNREC-SIRB sites located within a ½ mile of the proposed project. They are:

1. Duck Creek Pond (DE-0080) is west of the site in question. A low priority Site Inspection (SI) that was conducted in 1985 revealed PCB, iron, manganese and zinc in an onsite soil sample. A Facility Evaluation (FE) conducted in 1993 also revealed PCB and benzo(a)pyrene in soil samples. No wide contamination was detected and contaminants detected do not appear to be a significant threat to the environment or that public. No further action was taken.
2. Litton Industries (DE-0110) is located across the street from the site in question. A preliminary assessment (PA) was conducted by SIRB in 1985. The result of the assessment showed that the site was a major source of TCE. A Site Inspection (SI) that was conducted revealed elevated levels of 1,2-dichlorobenzene and pentachloro-phenol as well as notable levels of cadmium and cyanide. Ground water sampling revealed lead, 1,1,1-trichloroethane and manganese. The department considers this to be low priority and has no major issues with this site. No further action was taken.
3. Metal Master (DE-0043) is far south of the site in question. This site has been a source of TCE and TCA since 1977. The EPA preliminary assessment (PA) conducted revealed levels of Toluene, 1,1-dichloroethane and TCE. Ground water sample also revealed TCE and volatile organic compound (VOC) pollution in the water. A ground water management zone (GMZ) was created in 1996 and no further action was taken. The department implemented the GMZ at EPA's request.

DNREC-SIRB does not foresee any negative impacts to affect the proposed project, especially considering that the project will be using public water.

Smyrna Elementary School: There are 2 DNREC-SIRB sites located within a ½ mile of the proposed project. They are:

1. Smyrna Coal Gas (DE-0189) is located north east of site. A preliminary assessment (PA) was conducted in 1989. A recommended Site Inspection (SI) that was conducted revealed elevated levels of heavy metals and PAHs in onsite soils.

Levels of mercury and aluminum exceeding AWQC were found in water samples. Chesapeake Utilities conducted a Remedial Investigation/Remedial Action (RI/RA). A Facility Evaluation (FE) that was conducted found no evidence of VOC or PAHs on the site. No further action was taken.

2. Metal Master (DE-0043) is located south–west of the site in question. See above for history.

DNREC-SIRB does not foresee any negative impacts to affect the proposed project, especially considering that the project will be using public water.

Clayton Elementary School: There are 2 DNREC-SIRB sites located within a ½ mile of the proposed project. They are:

1. Borden Chemical (DE-0022). In 1968, Borden Chemical buried 2 50-lb bags of heptachlor onsite. In 1984, a Preliminary Assessment (PA) was conducted. EPA completed a Tentative Disposition that recommended that the heptachlor remain intact. A Site Inspection (SI) was conducted in 2002.
2. Delacote/Eastwind (DE-0290): A Preliminary Assessment (PA) was conducted onsite in 2000, and a Site Inspection (SI) was conducted in 2003 due to the perceived historical solvent contamination. The SI revealed no soil or groundwater contamination, and no further action was recommended.

DNREC-SIRB does not foresee any negative impacts to affect the proposed project, especially considering that the project will be using public water.

If there are any questions about these sites, please contact Kristen Slijepcevic or Tunde Asere at 302-395-2600.

State Fire Marshal’s Office – Contact Duane Fox 856-5298
Clayton Elementary School

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

1. Fire Protection Water Requirements
 - Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
 - Where a water distribution system is proposed for (Educational) sites, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.
2. Fire Protection Features
 - Buildings greater than 10,000 sq.ft., 3-stories or more or over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements.

- Show Fire Lanes and Sign Detail as shown in DSFPR
3. Accessibility
 - All premises which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from School Lane must be constructed so fire department apparatus may negotiate it.
 - Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
 - Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
 - The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
 - The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.
 4. Gas Piping and System Information
 - Provide type of fuel proposed, and show locations of bulk containers on plan.
 5. Required Notes
 - Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
 - Proposed Use
 - Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
 - Square footage of each structure (Total of all Floors)
 - National Fire Protection Association (NFPA) Construction Type
 - Maximum Height of Buildings (including number of stories)
 - Note indicating if building is to be sprinklered
 - Name of Water Provider
 - Letter from Water Provider approving the system layout
 - Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
 - Provide Road Names, even for County Roads

North Smyrna Elementary School

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

1. Fire Protection Water Requirements
 - Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
 - Where a water distribution system is proposed for (Educational) sites, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.
2. Fire Protection Features
 - All structures over 10,000 Sq. Ft. aggregate will require automatic sprinkler protection installed.
 - Buildings greater than 10,000 sq.ft., 3-stories of more or over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements.
 - Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
 - Show Fire Lanes and Sign Detail as shown in DSFPR
3. Accessibility
 - All premises which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from North Main Street must be constructed so fire department apparatus may negotiate it.
 - Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
 - Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
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 - Proposed Use
 - Alpha or Numerical Labels for each building/unit for sites with multiple

buildings/units

- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Note indicating if building is to be sprinklered
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Smyrna Elementary School

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 - Show Fire Lanes and Sign Detail as shown in DSFPR
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4. Gas Piping and System Information
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 - Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
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 - Letter from Water Provider approving the system layout
 - Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
 - Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from www.delawarestatefiremarshal.com.

Department of Agriculture - Contact Milton Melendez 739-4811

The Delaware Department of Agriculture has no objections to the Smyrna School District Additions. The *Strategies for State Policies and Spending* promote growth in the location proposed by this application.

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

Sincerely,



Constance C. Holland, AICP
Director

CC: Town of Smyrna
Department of Education