



STATE OF DELAWARE  
EXECUTIVE DEPARTMENT  
OFFICE OF  
STATE PLANNING COORDINATION

September 15, 2004

Mr. Denis Hulme  
Woodin & Associates, LLC  
5177 West Woodmill Drive  
Wilmington, DE 19808

RE: PLUS review – PLUS 2004-08-13; Bush Farm

Dear Mr. Hulme:

Thank you for meeting with State agency planners on September 1, 2004 to discuss the proposed plans for the Bush Farm project to be located at the NW and NE intersection of West Denney's Road and McKee Road.

According to the information received, you are seeking annexation and rezoning from RS-1 to RM-1 for the purpose of building 305 units on 134 acres. According to information received, this property has been annexed into the City of Dover.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as the City of Dover is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the City.

This office has received the following comments from State agencies:

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

This project is located in Investment Level 2 according to the June 3 version of the 2004 State Strategies for Policies and Spending, which has been approved by the Cabinet Committee for State Planning Issues. This site is also located in the City of Dover.

Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. State investments will support growth in these areas. Our office has no objections to the proposed development of this project in accordance with the relevant City codes and ordinances.

**State Historic Preservation Office (SHPO) – Contact: Anne McCleave 739-5685**

There are known archaeological sites within this property. At one time, there was a large house and outbuildings on the property, which are no longer extant. The State Historic Preservation Office asks that you contact Anne McCleave at 302-739-5685 to schedule a time archaeologists from her office could meet at the site and provide advice on how best to design the development to lessen any effects to these sites. There is also a small church with headstones at the east corner of the subject property and another cemetery across the road from the church. While they realize the development is not near this area of the property, you should be aware of the Delaware Unmarked Human Remains Act (7 Del. Code 54) and if any unmarked human remains are discovered, they should contact Faye Stocum in the SHP office at 302-739-5685.

**Department of Transportation – Contact: Bill Brockenbrough 760-2109**

- 1) A traffic impact study (TIS) was scoped for this project on July 30, 2004. DelDOT commends the developer for coming to them early in their planning. Presently, the completion and review of an average TIS in Delaware takes over a year.
- 2) It is recommended that sidewalks be provided throughout the development to encourage walking.
- 3) It is also recommended that the City require the developer to provide a street connection to Tammie Drive, a stub street in the adjacent development of Carlisle Village, if one is feasible. At the PLUS meeting, the applicant said that there were wetlands at the end of Tammie Drive. If a street connection is not possible there, but a pedestrian connection is, then a pedestrian connection should be required.
- 4) By copy of this letter to the city, DelDOT is requesting that the City require the developer to provide a stub street to the lands of Saxton C & Mary Ann Aberson to the north.
- 5) The developer's site engineer should contact the DelDOT project manager for Kent County, Mr. Brad Herb of Johnson, Mirmiran & Thompson, regarding their requirements with regard to the design of the site entrances. Mr. Herb may be reached at (302) 266-9080.

**The Department of Natural Resources and Environmental Control – Contact:  
Kevin Coyle 739-3091**

**Soils**

According to the soil survey update, the following soils were found in the immediate vicinity of the proposed construction and grouped on the basis of drainage class:

- Well Drained – Sassafras
- Moderately well drained – Woodstown and Keyport
- Poorly drained (**hydric**) – Fallsington, Elkton, & Othello
- Very poorly drained (**hydric**) - Johnston (floodplain), Swamp, & Pocomoke

Sassafras is a well-drained upland soil with few limitations for development. Woodstown is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Fallsington, Elkton, and Othello are poorly-drained wetland associated (hydric) soils that have severe limitations for development. Johnston is a very poorly-drained wetland associated (**hydric**) floodplain soil that has severe limitations for development. Swamp and Pocomoke are very poorly-drained wetland associated (**hydric**) soil that has severe limitations for development.

**Wetlands**

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine forested, and palustrine emergent wetlands on this site. The site is also intersected by a tributary of Fork Branch.

Impacts to Palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process. Impacts to streams and associated riparian wetlands, including road crossings, are regulated by the DNREC Wetlands and Subaqueous Lands Section, and by the Corps of Engineers.

Because there is strong evidence that federally regulated wetlands exist on site, **a wetland delineation, in accordance with the methodology established by the Corps of Engineers Wetlands Delineation Manual, (Technical Report Y-87-1) should be conducted. Once complete, this delineation should be verified Corps of Engineers through the Jurisdictional Determination process.**

**To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting.** These meetings are held monthly and are

attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-4691 to schedule a meeting.

Further, it is recommended that the Farm Services Agency of the USDA be contacted to assess whether the farmed wetlands on subject parcel meet the recognized criteria for classification as “prior converted wetlands.” Prior converted wetlands are farmed wetlands that have drained or altered before December 23, 1985, and no longer meet the wetland criteria established under the 404 program. Such wetlands are considered exempt from regulatory protection provided that there is no proof of a continuous “fallow period” of five years or greater in that parcel’s cropping history. Parcels converted after said date regardless of cropping history are considered jurisdictional by the Army Corps of Engineers (ACOE). The contact person for assessing a parcel’s cropping history is Sally Griffin at the USDA – she can be reached at 678-4182.

It is important to note that both DNREC and Army Corps of Engineers discourage allowing lot lines to contain wetlands to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex and other waterbodies on site.

To minimize wetland impacts and impacts to forest resources, the lots within the forest block in the northern portion of the site (shown as sheet 3) should be eliminated in their entirety.

It should also be noted that this parcel contains sensitive headwater riparian wetlands associated with the Mudstone Branch. Headwater riparian wetlands and their associated streams are important for the protection of water quality and the maintenance/integrity of the ecological functions throughout the length of the stream, including the floodplain system downstream. Since headwater streams are a major avenue for nutrient-laden stormwater and sediment runoff, their protection deserves the highest priority. **In recognition of this concern, the Department strongly recommends that the applicant preserve the existing natural forested buffer adjacent to the Mudstone Branch in its entirety. Efforts to maximize or expand the existing natural buffer width via planting of native woody or herbaceous vegetation beyond previously referenced buffer-width minimum, is further recommended.**

### **TMDLs**

Although Total Maximum Daily Loads (TMDLs) as a “pollution runoff mitigation strategy” to reduce nutrient loading have not yet been developed for most of the tributaries or subwatersheds of the Delaware Bay watershed to date, work is continuing on their development. TMDLs for the St. Jones River subwatershed, of which this parcel is part, are scheduled for completion in 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 Supply**

The project information sheets state that City of Dover will be used to provide water for the proposed project. Our records indicate that the project is located within the public water service area granted to Tidewater Utilities under Certificate of Public Convenience and Necessity number PSC-1190. I recommend that the developer contact Tidewater Utilities to determine the availability of public water. Any questions concerning CPCNs should be directed to the Public Service Commission at 302-739-4247. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any well(s).

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-3665.

### **Drainage**

The Drainage Section is aware of existing drainage concerns on the south western portion of the proposed project. The Drainage Section does ask that all precautions are taken to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of on site storm water.

### **Habitat**

As the design phase of this project moves forward, we strongly encourage the landowner(s) to consider preservation of upland, riparian, and wetland forests on these parcels. Forests provide environmental services that benefit humans directly such as

water quality protection (erosion control and sediment, nutrient, biological and toxics removal), climate moderation, aesthetic value and recreational opportunities. In addition, forests provide habitat for many species of plants and animals. Forest fragmentation resulting from development separates wildlife populations, increases road mortality, and increases “edge effects” that leave many forest dwelling species, particularly songbirds, vulnerable to predation. We would gladly assist the landowner(s) in evaluating these parcels for wildlife habitat. Many new incentive-based programs for wildlife management are available to private landowners through our agency. Please contact our office if the landowner(s) is interested in more information.

### **Revegetation**

DNREC requests that no invasive species be used in the revegetation of disturbed areas. A list of species considered invasive in Delaware can be found on the DNHP web site, <[www.dnrec.state.de.us/fw/invasive.htm](http://www.dnrec.state.de.us/fw/invasive.htm)>. They further recommend the use of native plants and our Botanist, Bill McAvoy can be contacted at (302) 653-2880 to assist you in developing a plant list.

### **Open Space**

To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that the lots depicted on sheet three be eliminated and that all lot lines and other infrastructure be pulled out of the forested and wetland areas. Community open space should be designated along the riparian and/or forested areas. Doing so will accomplish two things: it will preserve the existing riparian buffers on site and its value for birds and wildlife and it will create recreational opportunities for residents by allowing them access to and views of the forest and stream.

In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type grasses. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces.

Open space containing forest and/or wetlands should be placed into a permanent conservation easement or other permanent protection mechanism. Conservation areas should also be demarked to avoid infringement by homeowners.

### **Natural Areas**

This project contains land currently listed on Delaware’s Natural Areas Inventory. Natural Areas contain lands of statewide significance identified by the Natural Area Advisory Council as the highest quality and most important natural lands remaining in Delaware. Consideration should be given to protecting these resources during design and

construction of this project. The developer should investigate dedicating the Natural Area as a Nature Preserve through a conservation easement or donation of land. For more information, please contact the Office of Nature Preserves at 739-3423.

### **Recreation**

It is recommended that sidewalks be built fronting every residence, stub streets and along McKee and Denny's Roads. A complete system of sidewalks will: 1) fulfill the recreation need for walking and biking facilities 2) provide opportunities for neighbors to interact in the community and 3) facilitate safe, convenient off-road access to neighboring communities, public mass transit stops, schools, stores, work etc.

If a trail system is planned, it is recommended that a series of stacking trail loops be designed with access points in each subdivision "pod" and connections to adjacent communities. Community trail systems with long continuous trails, perimeter-only trails, and systems with few access points, often go unused and neglected. For trail design/construction specifications, contact Susan Moerschel at (302) 739-5285.

### **Air Quality**

Air pollution threatens the health of human beings and other living things on our planet. While often invisible, pollutants in the air create smog and acid rain, cause cancer or other serious health effects, diminish the protective ozone layer in the upper atmosphere, and contribute to the potential for world climate change. Breathing polluted air can have numerous effects on human health, including respiratory problems, hospitalization for heart or lung disease, and even premature death. Some can also have effects on aquatic life, vegetation, and animals.

Once complete, vehicle emissions associated with this project are estimated to be 23.4 tons (46,814.3 pounds) per year of VOC (volatile organic compounds), 19.4 tons (38,759.1 pounds) per year of NO<sub>x</sub> (nitrogen oxides), 14.3 tons (28,597.2 pounds) per year of SO<sub>2</sub> (sulfur dioxide), 1.3 ton (2,545.6 pounds) per year of fine particulates and 1,958.0 tons (3,915,958.0 pounds) per year of CO<sub>2</sub> (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 3.7 tons (7,483.6 pounds) per year of NO<sub>x</sub> (nitrogen oxides), 13.0 tons (26,029.9 pounds) per year of SO<sub>2</sub> (sulfur dioxide) and 1,919.7 tons (3,839,413.2 pounds) per year of CO<sub>2</sub> (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 9.4 tons (18,882.3 pounds) per year of VOC (volatile organic compounds), 1.0 ton (2,077.6 pounds) per year of NO<sub>x</sub> (nitrogen oxides), 0.9 ton (1,724.1 pounds) per year of SO<sub>2</sub> (sulfur dioxide), 1.1 ton (2,224.9 pounds) per year of fine particulates and 38.3 tons (76,544.8 pounds) per year of CO<sub>2</sub> (carbon dioxide).

	VOC	NOx	SO <sub>2</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
Mobile	23.4	19.4	14.3	1.3	1958.0
Residential	9.4	1.0	0.9	1.1	38.3
Electrical Power		3.7	13.0		1919.7
<b>TOTAL</b>	<b>32.8</b>	<b>24.1</b>	<b>28.2</b>	<b>2.4</b>	<b>3916.0</b>

The Department of Natural Resources and Environmental Control is asking that local jurisdictions consider mitigation to help resolve this issue. Mitigation might involve limiting large new developments to growth zones, focusing development to urban areas capable of providing mass transit services, requiring more energy efficient homes which would lessen air quality impacts, and promoting walkability and bikability within and between developments and town centers.

### **Underground Storage Tanks**

There are two inactive and one active LUST located near the proposed project:

Del Tech, Facility # 1-000059, Project # K8703045

Dover Products, Facility # 1-000320, Project # K9703023

Carlisle Village Pump Station, Facility # 1-000670, Project # K9902031

No environmental impact is expected from the above inactive/active LUST site(s). However, should any underground storage tank or petroleum contaminated soil be discovered during construction, the Tank Management Branch must be notified as soon as possible. It is not anticipated that any construction specifications would be need to be changed due to petroleum contamination. However, should any unanticipated contamination be encountered and PVC pipe is being utilized it will need to be changed to ductile steel in the contaminated areas.

### **Site Investigation and Restoration**

There are 5 SIRB sites located within a 1-mile radius of the potential property:

1. Cheswold Landfill/Cokers #4 DE-0002: This site is an inactive landfill on the grounds of Reichold Chemicals, Inc. A Site Inspection (SI) was completed in 1980. Results indicated that wells on-site showed contamination with phenol and trichloroethene (TCE). Resampling was conducted the following year which verified the presence of TCE. No long-term adverse (noncarcinogenic) effects would be expected to result if water from the TCE contaminated well were to be consumed over an extended period of time. Manganese was reported above the recommended Secondary Maximum Contaminant Level, which has no toxicological significance. DNREC does not foresee any adverse effects of this site to impact Bush Farm.

2. Reichold Chemical, Inc DE-0245: This site is adjacent to the proposed Bush Farm site. It encompasses 110 acres, of which 32 are developed. There were 2 types of polymers produced onsite as of 1996: styrene butadiene and polyvinyl acetate emulsion. A Site Investigation was completed in October 1992. A Remedial Investigation was completed in June 1999, which delineated several areas for remediation. One of these areas was the Southwest Corner, which is closest to the potential Bush Farm site. The Southwest Corner took the No Action Alternative for impacted subsurface soils in the southwest corner, since all constituents detected were below the remediation standards. A DNREC representative has talked the project officer about this site, and it is now in the Operation and Management (O&M) phase, and he said that there are no groundwater contamination issues that they foresee having an adverse effect on the Bush Farm.
3. Paradee Oil: DE-0231: This site is currently a bulk storage/distribution facility for heating oil and motor fuel. Previously, the property was an experimental chicken research center with an unknown owner. At least 2 domestic wells have been tested (including one on Denneys Road) and found to contain high levels of synthetic organic chemicals (petroleum products and a solvent). Homeowners have been advised (as of 3/4/1997) not to use the water for human consumption. An SI was conducted in July 1990. Groundwater samples from on-site monitoring wells and domestic potable wells were collected. Results revealed elevated levels of volatiles, semi-volatiles, polynuclear aromatic hydrocarbons (PAHs), pesticides, along with various inorganic contaminants. A hydrogeologic investigation was performed for the UST Branch in 1991, and groundwater analyses showed some BTEX and TPH in samples. At this time, it appeared that the contamination had not migrated off-site. However, if the contamination did migrate off-site, the potential exists for contamination of downgradient domestic wells. Should the Bush Farm developers decide not to use public water for the site (i.e. if they should intend to produce potable wells), SIRB recommends testing the groundwater to ensure that none of the potential contamination issues have affected the drinking water.
4. Blue Hen Auto Body DE-0243: This site underwent an OSHA site visit, and all was found to be in order.
5. McClements Farm: DE-1029: This site was formerly a latex dump. A site visit and document review was performed, and it was determined that the waste material was not a hazardous substance, and the environmental impact of the dump was minimal. SIRB recommended No Further Action (NFA).

**Department of Agriculture - Contact: Mark Davis 739-4811**

A forested buffer should be maintained between the proposed subdivision and all adjacent properties in active agricultural use. In addition, a forest buffer should be

maintained for those pre-existing residential properties and along all streams, wetlands, and river that border the proposed subdivision.

The developer should consider a diverse landscape plan that uses Delaware native tree and shrub species and encourages the “Right Tree for the Right Place” concept.

**Public Service Commission - Contact: Andrea Maucher 739-4247**

The property is in a Tidewater certificated area. This issue will need to be worked out between the City and Tidewater.

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

If not already completed, the City will need to notify the commission of the areas to which it is providing wastewater services.

**Delaware State Housing Authority – Contact Karen Horton 739-4263**

The State Housing Authority supports this proposal because the applicant is proposing a diversity of housing options for renters, first time homebuyers, and move up buyers. The proposal is also located in the City of Dover where future residents would have access to existing services and markets.

**Delaware Emergency Management Agency – Contact: Don Knox 659-3362**

A significant impact to public safety is foreseen by implementation of this project, due to the large number of residential units being constructed. The developer should notify the police, fire service, and emergency medical response organization serving the City of Dover, to keep them apprised of all development activities.

Portions of this property are located in the Special Flood Hazard Area inundated by the 100-year flood. Routes 8 and 13 are both coastal storm evacuation routes and this development will add to the traffic volume on these routes during a coastal storm event.

**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.**

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

Sincerely,

A handwritten signature in cursive script that reads "Constance C. Holland". The signature is written in black ink and is positioned to the right of the word "Sincerely,".

Constance C. Holland, AICP  
Director

CC: City of Dover