



**STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION**

October 23, 2013

Mr. Kevin Smith
Kercher Engineering Inc.
413 E Market Street
Georgetown, DE 19947

RE: PLUS review 2013-09-03, Marsh Homestead

Dear Mr. Smith:

Thank you for meeting with State agency planners on September 25, 2013 to discuss the proposed plans for the Marsh Homestead. According to the information received, you are seeking review of a subdivision of 44 acres for the development of an 83 unit residential community located in Sussex County.

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 Sussex County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.**

Strategies for State Policies and Spending

- This project is located in Investment Level 3 according to the Strategies for State Policies and Spending. . Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. State investments may support future growth in these areas, but please be advised that the State has other priorities for the near future. We encourage you to design the site with respect for the environmental features which are present.

Code Requirements/Agency Permitting Requirements

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There does not appear to be any known cultural or historic resources, such as a listed National Register property, Archaeological Site, or potential historic resource on this parcel. However, there is a potential historic dwelling (S-2938) near the parcel, towards Camp Arrowhead Road. Although there does not appear to be any known cultural or
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historic resources parcel, the developer should still be aware of the Delaware's Unmarked Human Burials and Human Skeletal Remains Law, which is outlined in Chapter 54 of Title 7 of the Delaware Code, before any development project proceeds.

Abandoned or unmarked family cemeteries are very common in the State of Delaware. They are usually in rural or open space areas, and sometimes near or within the boundary of an historic farm site. Even a marked cemetery can frequently have unmarked graves or burials outside of the known boundary line or limit. Disturbing unmarked graves or burials triggers the Delaware's Unmarked Human Burials and Human Skeletal Remains Law (Delaware Code Title 7, Chapter 54), and such remains or discoveries can result in substantial delays while the procedures required under this law are carried out. If there is a discovery of any unmarked graves, burials or a cemetery, it is very costly to have them archaeologically excavated and the burials moved. The Division of Historical & Cultural Affairs recommends that owners and/or developers have a qualified archaeological consultant investigate their project area, to the full extent, to see if there is any unmarked cemetery, graves, or burial sites. In the event of such a discovery, the Division of Historical & Cultural Affairs also recommends that the plans be re-drawn to leave the full extent of the cemeteries or any burials on its own parcel or in the open space area of the development, with the responsibility for its maintenance lying with the landowner association or development. If you would like to know more information that pertains to unmarked human remains or cemeteries, please check the following websites for additional information: www.history.delaware.gov/preservation/umhr.shtml and www.history.delaware.gov/preservation/cemeteries.shtml.

- Prior to any demolition, construction, or ground-disturbing activities, the developer should consider hiring an archaeological consultant to examine the parcel for potential historic or cultural resources, such as a potential archaeological site, a cemetery or unmarked human remains. Furthermore, if there is any federal involvement with the project, in the form of licenses, permits, or funds, the federal agency, often through its client, is responsible for complying with Section 106 of the National Historic Preservation Act (36 CFR 800) and must consider their project's effects on any known or potential cultural or historic resources. Owners and developers who may plan to apply for an Army Corps of Engineers permit or for federal funding, such as HUD or USDA grants, should be aware of the National Historic Preservation Act of 1966 (as amended). Regulations promulgated for Section 106 of this Act stipulate that no ground-disturbing or demolition activities should take place before the Corps or other involved federal agency determines the area of potential effect of the project undertaking. These stipulations are in place to allow for comment from the public, the Delaware State Historic Preservation Office, and the Advisory Council for Historic Preservation about the project's effects on historic properties. Furthermore, any preconstruction activities without adherence to these stipulations may jeopardize the issuance of any permit or funds. If you need further information or additional details pertaining to the Section 106 process and the Advisory Council's role, please review the Advisory Council's website at www.achp.gov.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Per Section 2.3.1 of the Standards and Regulations for Subdivision Streets and State Highway Access, Traffic Impact Studies (TIS) are warranted for developments generating more than 400 vehicle trip ends per day or 50 vehicle trip ends per hour. However, Section 2.3.2 provides that for developments generating less than 2,000 vehicle trip ends per day and less than 200 vehicle trip ends per hour, DelDOT may accept an Area Wide Study Fee of \$10 per daily trip in lieu of a TIS. To obtain a scope of work for a TIS, the developer may have their engineer contact Mr. Troy Brestel of the DelDOT Planning Office office. Mr. Brestel may be reached at (302) 760-2167.

Preliminarily, DelDOT believes that payment of the Area Wide Study Fee would be acceptable. If the developer chooses this option, payment would be due when the site plan is submitted for review. Payment of the fee would not relieve the developer of responsibility for making off-site improvements or contributing to DelDOT capital projects. In accordance with Section 3.10.2 of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access, needed off-site improvements or contributions would need to be shown on the record plan by illustration or note.

- Further regarding off-site improvements, in accordance with Section 2.15.2 (formerly 3.10.2) of the Standards and Regulations, DelDOT anticipates requiring improvement of Waterview Road (Sussex Road 279A) to meet State standards for local roads. Local road standards include 11-foot lanes and five-foot paved shoulders. Preliminarily, the limit of these improvements would be from Camp Arrowhead Road (Sussex Road 279) past the site entrance, a total of about 1,200 feet, although the improvements may need to extend farther to achieve adequate sight distance at the entrance.
- Because the site would generate more than 200 vehicle trip ends per day, a Traffic Operational Analysis may be required as part of the site plan review, in accordance with Section 2.14 (formerly 3.9) of the Standards and Regulations. If the developer performs a TIS, the work involved in a TOA would be included therein. Payment of the Area Wide Study Fee does not exempt the developer from providing a TOA if one is found to be necessary.
- The site entrance must be designed in accordance with DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access, which is available at http://www.deldot.gov/information/pubs_forms/manuals/subdivisions/pdf/Subdivision_Manual_Revision_1_proposed_060110.pdf. If the subdivision streets are to be built for State maintenance, they too must be designed in accordance with DelDOT's Standards and Regulations. We anticipate requiring a right turn lane into the site.
- Section 3.5.7.3 of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access provides that inter-connections be required to those properties that have the potential to be developed. Accordingly, DelDOT anticipates requiring provision

for a future connection to the Richard J and Helen M. Marsh property (Tax Parcel 2-34-12.00-17.00). Preliminarily, the best way to do this would be by extending Rhodes Lane through Lot#60 and converting the intersection of Rhodes Lane and Conley Lane to a T.

- Metes and bounds and total areas need to be shown for any drainage easements. Section 5.7.2.5 of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access requires, in part, a minimum 20-foot wide drainage easement for storm drainage systems that fall outside the existing right-of-way or the drainage/utility easement. These easements must be shown on the record plan, not referenced by a note.
- In accordance with Section 3.4.1.2 of the Standards and Regulations for Subdivision Streets and State Highway Access, the Record Plan should show all existing entrances (residential/commercial) within 400-feet of the proposed site entrance.
- In accordance with Section 3.10 of the Standards and Regulations for Subdivision Streets and State Highway Access, the required off-site improvements and when they are warranted will need to be shown on the Record plan by note or illustration.
- In accordance with Section 3.6.5 and Figure 3-3 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require dedication of right-of-way along the site's frontage on Waterview Road (Sussex Road 279A) to provide a minimum of 30 feet of right-of-way from the road centerline. The right-of-way dedication note should be revised to the following, "**A 30-foot wide strip of right-of-way from the centerline of right-of-way is hereby dedicated to the State of Delaware, as per this plat.**" Note that this is a change from the wording shown on the plan provided with the PLUS application.
- In accordance with Section 3.6.5 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on Waterview Road. The location of the easement shall be outside the limits of the ultimate right-of-way. The easement area can be used as part of the open space calculation for the site. The following note is required, "**A 15-foot wide permanent easement is hereby established, as per this plat.**"
- In accordance with Section 4.8 of the Standards and Regulations for Subdivision Streets and State Highway Access, a 20-foot wide buffer will be required from the edge of any stormwater management pond to the ultimate right-of-way of the nearest State-maintained road. The ultimate right-of-way is based on the functional classification of the road.
- As specified in Section 3.4.1.1 of the Standards and Regulations for Subdivision Streets and State Highway Access, a traffic generation diagram is required on the Record Plan. The following changes should be made to the diagram shown on the plan that accompanied the PLUS application:

- The total site ADT (Average Daily Traffic) and peak hour volumes should be revised 884 trips (70 trips AM Peak) [90 trips PM Peak] and the turning movements should be adjusted accordingly.
- The diagram should also show the Saturday and Sunday traffic volumes, respectively 854 trips (44 trips Saturday Peak) and 716 trips (76 trips Sunday Peak).
- The roadway AADT (Annual Average Daily Traffic) should be revised to 140 trips as per DelDOT's 2012 Traffic Summary and the volumes calculated therefrom should be adjusted accordingly.
- Refer to the Standards and Regulations for Subdivision Streets and State Highway Access, Appendix D – Plan Review Checklist, pages D-2 through D-39, for checklists associated with various types of plan submittal. For each plan submittal, submission of the appropriate checklist with the plan is required.
- Referring to the Standards and Regulations for Subdivision Streets and State Highway Access, Chapter 1 – Introduction, Section 1.4: Review Fees, page 1-8, the Initial Stage review fee shall be assessed to this project.
- In accordance with Section 3.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, a record plan shall be prepared prior to issuing “Letter of No Objection”. The following information will be required for the “Letter of No Objection” review:

- Copy of the Initial Stage Fee Calculation Form
- Copy of the Initial Stage Review Fee
- Gate-Keeping Checklist – Site Plan
- Design Checklist – Record Plan*
- Owners and Engineer's name and e-mail address
- Sight Distance Spreadsheet
- Three (3) paper sets of the Record Plan
- Conceptual Entrance Plan
- CD with a pdf of the Site Plan
- Submission of the Area-Wide Study Fee (if applicable)

*For the design checklist for the site plan, please refer to the Standards and Regulations for Subdivision Streets and State Highway Access, Appendix D, Plan Review Checklist, page D-2 and D-3.

- Referring to the Standards and Regulations for Subdivision Streets and State Highway Access, Chapter 1 – Introduction, Section 1.4: Review Fees, page 1-8, the Construction Stage review fee shall be assessed to this project.

- Referring to the Standards and Regulations for Subdivision Streets and State Highway Access, Chapter 4 – Construction Plans, Section 4.3: Subdivision Construction Plan Checklist or Section 4.4: Commercial Entrance Plan Checklist, an entrance plan shall be prepared prior to issuing entrance approval. The following information will be required for Subdivision/Entrance Plan review;

Copy of the Construction Stage Fee Calculation Form
Copy of the Construction Review Fee
Gate-Keeping Checklist – Entrance Plan
Design Checklist – Entrance Plan**
Auxiliary Lane Spreadsheet
Three (3) paper sets of the Entrance Plan
SWM Report and Calculations (If applicable)
Pipe Angle Spreadsheet (if applicable)
CD with a pdf of the Entrance Plan

**For the design checklist for the entrance plan, please refer to the Standards and Regulations for Subdivision Streets and State Highway Access, Appendix D, Plan Review Checklist, page D-9 and D-13.

Department of Natural Resources and Environmental Control – Contact Kevin Coyle 735-3495
TMDLs

- The project is located in the *low nutrient reduction* zone of the greater Inland Bays watershed. In this watershed, Total Maximum Daily Load (TMDL) pollutant reduction targets have been developed by the State of Delaware (under the auspices of Section 303(d) of the 1972 Federal Clean Water Act) for nutrients (e.g., nitrogen, phosphorus), and bacteria. 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 State water quality standards (e.g., dissolved oxygen, nutrients, and bacteria; *State of Delaware Surface Water Quality Standards, as amended July 11, 2004*) to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. The TMDL for the *low reduction* zone of the Inland Bays watershed calls for 40 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 40 percent reduction (17 percent for marine waters) in bacteria from baseline conditions.
- A nutrient management plan is required under the *Delaware Nutrient Management law (3 Del. Chapter 22)* for all persons or entities who apply nutrients to lands or areas of open space in excess of 10 acres. This project’s open space may exceed this 10-acre threshold. Please contact the Delaware Nutrient Management Program at 739-4811 for further information concerning compliance requirement or view the following web link for additional information:
<http://dda.delaware.gov/nutrients/index.shtml>

- The Inland Bays Pollution Control Strategy (PCS) and the accompanying regulations were finalized by order of the DNREC Secretary on October 2008. The Inland Bays PCS regulations and background information about the PCS can be reviewed in the following web link:
<http://www.dnrec.delaware.gov/swc/wa/Pages/InlandBaysPCS.aspx>

Water Supply

- The project information sheets state water will be provided to the project by Tidewater Utilities via a public water system. DNREC records indicate that the project is located within the public water service area granted to Tidewater Utilities under Certificate of Public Convenience and Necessity 83-W-15.
- 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.

Sediment and Stormwater Program

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. Contact the reviewing agency to schedule a project application meeting to discuss the sediment and erosion control and stormwater management components of the plan as soon as practicable. 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 plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson at the Sussex Conservation District at (302) 856-2105 for details regarding submittal requirements and fees. (Title 7, Delaware Code, Chapter 40 and Delaware Regulations, Title 7, Administrative Code, 5101)
- The application states stormwater will be discharge into White's Pond. Please contact the Sussex Conservation District as soon as possible to determine what information will be required in order to discharge into the pond.

Flood Management

- The 1% annual chance floodplain boundary should not be depicted along the site topography that corresponds with the base flood elevation. The floodplain boundary must be depicted as it is shown on the FEMA Flood Insurance Rate Map (FIRM). The only way the floodplain boundary can be placed in a different location is if information is sent to FEMA and they approve the change by way of a Letter of Map Revision (LOMR). If the developer shifts the boundary on the site plan, locating lots outside of the floodplain, it will negatively impact the property owner that purchases the lot. When a home is purchased and a flood determination is done by the mortgage company they will find the structure to be in the floodplain as the FEMA FIRM map depicts. Flood insurance will be required for the life of the mortgage. It will be up to the homeowner to hire a surveyor and obtain an elevation certificate to get the insurance rated correctly. All of this hardship and cost to the homeowner can be avoided by correctly placing the floodplain boundary on the site plan. If you have questions concerning this, please contact the State NFIP Coordinator’s office at 302-739-9921.

Hazardous Waste Sites

- If it is determined by the Department that there was a release of a hazardous substance on the property in question and the Department requires remediation pursuant to the Hazardous Substance Cleanup Act, the provisions of 7 Del.C. Chapter 91, Delaware Hazardous Substance Cleanup Act and the Delaware Regulations Governing Hazardous Substance Cleanup shall be followed.”

There are no SIRS sites or salvage yards found within a ½-mile radius of the proposed project.

Air Quality

- The applicant shall comply with all applicable Delaware air quality regulations. Please note that the following regulations in Table 1 – Potential Regulatory Requirements may apply to your project:

Table 1: Potential Regulatory Requirements	
Regulation	Requirements
7 DE Admin. Code 1106 - Particulate Emissions from Construction and Materials Handling	Use dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. Use covers on trucks that transport material to and from site to prevent visible emissions.
7 DE Admin. Code 1113 – Open Burning	Prohibit open burns statewide during the Ozone Season from May 1-Sept. 30 each year. Prohibit the burning of land clearing debris. Prohibit the burning of trash or building

	materials/debris.
7 DE Admin. Code 1135 – Conformity of General Federal Actions to the State Implementation Plan	Require, for any “federal action,” a conformity determination for each pollutant where the total of direct and indirect emissions would equal or exceed any of the de minimus levels (See Section 3.2.1)
7 DE Admin. Code 1141 – Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products	Use structural/ paint coatings that are low in Volatile Organic Compounds. Use covers on paint containers when paint containers are not in use.
7 DE Admin. Code 1144 – Control of Stationary Generator Emissions	Ensure that emissions of nitrogen oxides (NO _x), non-methane hydrocarbons (NMHC), particulate matter (PM), sulfur dioxide (SO ₂), carbon monoxide (CO), and carbon dioxide (CO ₂) from emergency generators meet the emissions limits established. (See section 3.2). Maintain recordkeeping and reporting requirements.
7 DE Admin. Code 1145 – Excessive Idling of Heavy Duty Vehicles	Restrict idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.

For a complete listing of all Delaware applicable regulations, please look at our website:
<http://www.awm.delaware.gov/AQM/Pages/AirRegulations.aspx>.

Delaware State Fire Marshall’s Office – Contact Duane Fox 739-4394

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:

- **Fire Protection Water Requirements:**
 - Where a water distribution system is proposed for single-family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required.
 - Where a water distribution system is proposed for townhouse type dwellings it shall be capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 800 feet spacing on centers are required.
 - The infrastructure for fire protection water shall be provided, including the size of water mains.

- **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 must be constructed so fire department apparatus may negotiate it. If a “center island” is placed at an entrance into the subdivision, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision.
 - 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.

- **Gas Piping and System Information:**
 - Provide type of fuel proposed, and show locations of bulk containers on plan.

- **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”
 - Name of Water Supplier
 - Proposed Use
 - National Fire Protection Association (NFPA) Construction Type
 - Maximum Height of Buildings (including number of stories)
 - Provide Road Names, even for County Roads

Recommendations/Additional Information

This section includes a list of site specific suggestions that are intended to enhance the project. These suggestions have been generated by the State Agencies based on their expertise and subject area knowledge. **These suggestions do not represent State code requirements.** They are offered here in order to provide proactive ideas to help the applicant enhance the site

design, and it is hoped (**but in no way required**) that the applicant will open a dialogue with the relevant agencies to discuss how these suggestions can benefit the project.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Please refer to the DelDOT website for guidance as to whether a pre-submittal meeting is required and how to prepare for one. That guidance is available at <http://www.deldot.gov/information/business>.
- Be advised that the standard general notes have been updated and posted to the DelDOT website. Begin using the new versions and look for the revision date of June 28, 2013 for the Record/Site Plan and Construction Plan general notes. The Temporary Traffic Control Notes (TTCN) still have the revision date of August 14, 2012. The notes can be found at http://www.deldot.gov/information/business/subdivisions/DelDOT_Development_Coordination_Plan_Sheet_Notes.doc
- In accordance with Section 3.6.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, we recommend that right-of-way monuments be placed along the subdivision streets.
- Please check to determine if any utilities will need to be relocated as part of this project.
- The developer should anticipate a requirement that any sub-station and/or wastewater facilities have access from the internal subdivision streets with no direct access to the State-maintained highway. Preliminarily, that requirement will extend to the proposed clubhouse.
- The developer's engineer should anticipate a requirement that the sight distance triangles for the site entrance be shown on the record plan.
- The developer's engineer should anticipate a requirement that a turning template plan be provided to verify that vehicles can enter and exit the development safely. The minimum design vehicle that should be used for this development is SU30.
- The developer's engineer should anticipate a requirement that a label should be added within the right-of-way for each street, reading "Privately Maintained."
- On June 27, 2012, DelDOT announced changes in the way that we receive checks. A letter in this regard can be found at <http://www.deldot.gov/information/business/subdivisions/PaymentProcedure.pdf>
- The proposed development is located in a Level 3 Investment Area relative to the Strategies for State Policies and Spending. DelDOT's Shared Use Path/Sidewalk Process requires that developments in Level 3 areas install a shared use path or sidewalk if the development abuts an existing facility. As there are no existing shared use paths or

- In addition to the use of green-technology storm water management structures, we strongly recommend the use of rain gardens to mitigate or reduce nutrient and bacterial pollutant runoff impacts emanating from impervious surfaces.
- Calculate post-construction surface imperviousness with all forms of created (or constructed) surface imperviousness (e.g., rooftops, driveways, parking lots, sidewalks, open-water storm water management structures, ponds, and roads) included in the calculation.
- Wherever practicable, use pervious paving materials (instead of conventional asphalt and concrete) as a BMP(s) to reduce the impacts from all forms of created surface imperviousness.
- The applicant should voluntarily assess nutrient and bacterial pollutant loading at the preliminary project design phase. To this end, the Watershed Assessment Section has developed a methodology known as the “Nutrient Load Assessment protocol.” The protocol is a tool used to assess changes in nutrient loading (e.g., nitrogen and phosphorus) resulting from the conversion of individual or combined land parcels to a changed land use(s); thus providing applicants and governmental entities with quantitative information about the project’s impact(s) on baseline water quality. DNREC strongly encourages the applicant/developer use this protocol to help them design and implement the most effective BMPs. Please contact Jen Walls or John Martin at (Division of Watershed Stewardship) at 302-739-9939 for more information on the protocol.

Species of Concern

- DNREC’s Wildlife Species Conservation and Research Program (WSCR) scientists have not surveyed this project area; therefore, we are unable to provide information pertaining to the existence of state-rare or federally listed plants, animals or natural communities at this project site. It is not likely that these species would be supported by habitat in those areas that have been actively used for agriculture; however, the forested portion of the parcel could support an array of plant and animal species especially if there are wetlands present.

Sea-level Fen

- The proposed project is just to the north of Cherry Walk Creek. Although WSCR has not surveyed the parcel in question, WSCR has done extensive surveys on the south side of Cherry Walk Creek. These lands are on the Angola Neck Nature Preserve and host Cherry Walk Fen, which is a sea-level fen. Sea-level fens are globally rare and are classified as Category 1 Wetlands of Priority Conservation Concern by DNREC’s Wetland Assessment Program.

Although the proposed project will not directly impact Cherry Walk Fen, changes in hydrology and tree cover on the project site may impact the fen. WSCR strongly recommends that the site design be altered such that no trees on the south side of the

project are removed. The site plans suggest that some trees are slated to be removed to accommodate stormwater management facilities. It would seem counter-intuitive to remove trees, which serve to protect water quality, in order to build facilities that are designed to protect water quality.

Additional information on hazardous waste sites

- DNREC strongly recommends that the land owner perform environmental due diligence of the property by performing a Phase I Environmental Site Assessment (including a title search to identify environmental covenants) in accordance to Section 9105(c) (2) of the Delaware Hazardous Substance Cleanup Act (HSCA). While this is not a requirement under HSCA, it is good business practice and failure to do so will prevent a person from being able to qualify for a potential affirmative defense under Section 9105(c) (2) of HSCA.
- Additional remediation may be required if the project property or site is re-zoned by the county.
- Should a release or imminent threat of a release of hazardous substances be discovered during the course of development (e.g., contaminated water or soil), construction activities should be discontinued immediately and DNREC should be notified at the 24-hour emergency number (800-662-8802). SIRS should also be contacted as soon as possible at 302-395-2600 for further instructions.

Additional information on air quality

- New homes and businesses may emit, or cause to be emitted, air contaminants into Delaware's air, which will negatively impact public health, safety and welfare. These negative impacts are attributable to:
 - Emissions that form ozone and fine particulate matter; two pollutants relative to which Delaware currently violates federal health-based air quality standards,
 - The emission of greenhouse gases which are associated with climate change, and
 - The emission of air toxics.
- Air emissions generated from new homes include emissions from the following activities:
 - Area sources such as painting, maintenance equipment and the use of consumer products like roof coatings and roof primers.
 - The generation of electricity needed to support the new homes, and
 - All transportation activity.
- Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) for the development were quantified. Table 2 represents the actual impact the Marsh Homestead development may have on air quality.

Table 2: Projected Air Quality Emissions for Marsh Homestead					
Emissions Attributable to Marsh Homestead (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Mobile	4.0	4.2	0.1	0.0	2,600.8
Electric Power	*	1.1	3.8	*	553.9
Area Source	2.7	0.3	0.2	0.3	11.0
Total	6.7	5.6	4.1	0.3	3,165.7

(*) Indicates data is not available.

Note that emissions associated with the actual construction of the homes and retail space, including automobile and truck traffic from working in, or delivering products to the site, as well as site preparation, earth moving activities, road paving and other miscellaneous air emissions, are not reflected in the table above.

- DNREC encourages sustainable growth practices that:
 - Control sprawl;
 - Preserve rural and forested areas;
 - Identify conflicting land use priorities;
 - Encourage growth on previously developed sites and denser communities while at the same time protect our diminishing land base;
 - Coordinate transportation, housing, environment, and climate protection plans with land use plans; and
 - Demonstrate that communities can achieve the qualities of privacy, community, and contact with nature without degrading the natural environment or generating unacceptable environmental costs in terms of congestion, use of natural resources, or pollution.
- Additional measures may be taken to substantially reduce the air emissions identified above. These measures include:
 - **Constructing with only energy efficient products.** Energy Star qualified products are up to 30% more energy efficient. Savings come from building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment. Every percentage of energy efficiency translates into a percent reduction in pollution. The Energy Star Program is excellent way to save on energy costs and reduce air pollution.
 - **Offering geothermal and/or photo voltaic energy options.** These systems can significantly reduce emissions from electrical generation, and from the use of oil or gas heating equipment.

- **Providing tie-ins to the nearest bike paths and links to any nearby mass transport system.** These measures can significantly reduce mobile source emissions. **For every vehicle trip that is replaced by the use of a sidewalk, a bike path or mass transit, 7 pounds of VOC and 11.5 pounds of NOx are reduced each year.**
- **Using retrofitted diesel engines during construction.** This includes equipment that are on-site as well as equipment used to transport materials to and from site.
- **Using pre-painted/pre-coated flooring, cabinets, fencing, etc.** These measures can significantly reduce the emission of VOCs from typical architectural coating operations.
- **Planting trees in vegetative buffer areas.** Trees reduce energy emissions by cooling during the summer and by providing wind breaks in the winter, thereby reducing air conditioning needs by up to 30 percent and saving 20 to 50 percent on fuel costs.

This is a partial list, and there are additional things that can be done to reduce the impact of the development. The applicant should submit a plan to the DNREC DAQ which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into this project.

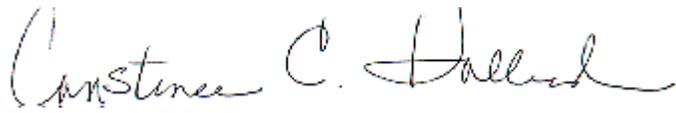
Delaware State Fire Marshall's Office – Contact Duane Fox 739-4394

- Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.statefiremarshal.delaware.gov, technical services link, plan review, applications or brochures.

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,

A handwritten signature in cursive script that reads "Constance C. Holland". The signature is written in black ink on a white background.

Constance C. Holland, AICP
Director, Office of State Planning Coordination