



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION

January 19, 2016

Mr. Lawton Myrick
George, Miles & Buhr, LLC
206 Main Street
Salisbury, MD 21801

RE: PLUS review 2015-12-05; Melson Property

Dear Lawton:

Thank you for meeting with State agency planners on December 16, 2015 to discuss the proposed plans for the Melson Property project. According to the information received you are seeking review of a rezoning of 12.5 acres from AR-1 to MR-RPC to include 48 residential units and 5,000 square feet of commercial space, and a rezoning of 2.5 acres from AR-1 to B-1 to include 10,000 square feet of commercial space 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

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Per Section 2.2.2.1 of the Development Coordination Manual, Traffic Impact Studies (TIS) are warranted for developments generating more than 500 vehicle trip ends per day or 50 vehicle trip ends per hour in any hour of the day. Preliminarily, we estimate the trip generation at 839 vehicle trip ends per day and 162 trips per hour in the weekday evening peak hour. Based on these volumes, this project would warrant a TIS.
 - Per Section 2.2.2.2 of the Development Coordination Manual, for developments generating between fewer than 2,000 vehicle trip ends per day and fewer than 200 vehicle trip ends per hour in any hour of the day, DelDOT may accept an Area- Wide Study Fee in lieu of a TIS. Payment of the Fee does not excuse the developer from building or participating in off-site road improvements or from providing a Traffic Operational Analysis (TOA) for a site entrance if DelDOT identifies the need for one in their review of the site plan.
 - Presently we are willing to accept the Area-Wide Study Fee. While the need was not identified at the Pre-Submittal Meeting, we anticipate requiring a TOA to evaluate the need for turning lanes on Route 54 at West Sand Cove Road (Sussex Road 394) and at the proposed commercial entrance. We anticipate requiring improvements on West Sand Cove Road as part of the entrance construction for the residential development.

The consultant team has already met with DelDOT for pre-application meetings and neither a TIS nor a TIA is required. A submittal has been made for the Letter of No Objection for both the entrance at Route 54 and the entrance at West Sand Cove Road. The Letter of No Objection is forthcoming.

- The site accesses on Route 54 and West Sand Cove Road must be designed in accordance with DelDOT's Development Coordination Manual (formerly the Standards and Regulations for Subdivision Streets and State Highway Access), which is available at <http://www.deldot.gov/information/business/subdivisions/changes/index.shtml>.

We will design each site access in accordance with DelDOT's Standards.

- Section 3.2.4.2 of the Manual addresses the placement of right-of-way monuments (markers) along the roads on which a property fronts, in this case both Route 54 and West Sand Cove Road. Monuments sufficient to re-establish the permanent rights-of-way after the dedication discussed below should be shown on the plan and provided in the field in accordance with this section.

We will provide permanent Right-of-Way monuments per DelDOT's Standards.

- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Development Coordination Manual, DelDOT will require dedication of right-of-way along the site's frontage on Route 54 and West Sand Cove Road. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the road centerline on Route 54 and 30 feet of right-of-way from the road centerline on West Sand Cove Road. The following right-of-way dedication note is required, "**An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat.**"

We will provide the required distance for right-of-way dedication and include the note provided.

- In accordance with Section 3.2.5.1.2 of the Development Coordination Manual, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on both Route 54 and West Sand Cove 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 to the State of Delaware, as per this plat.**"

We will provide the required distance for permanent easement and include the note provided.

- Referring to Section 3.4.2 of the Development Coordination Manual, the Initial Stage review fee shall be assessed to this project.

We are accustomed to paying the Initial Stage review fee on projects involving DelDOT.

- In accordance with Section 3.4 of the Development Coordination Manual, 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:
 - Initial Stage Fee Calculation Form
 - Initial Stage Review Fee
 - Gate-Keeping Checklist – Site Plan
 - Design Checklist - Record Plan
 - Sight Distance Spreadsheet
 - Owners and Engineers' name and e-mail address
 - Record Plan
 - Conceptual Entrance Plan
 - Submission of the Area-Wide Study Fee (If applicable)

We are accustomed to these requirements on projects involving DelDOT.

- Referring to Section 3.4.1 of the Development Coordination Manual, because the proposed development would generate more than 200 vehicle trips per day, a Pre-Submittal Meeting is required before plans are submitted for review. The form needed to request this meeting is available http://www.deldot.gov/information/business/subdivisions/Meeting_Request_Form.pdf.

We are accustomed to attending the Pre-Submittal Meeting on projects involving DelDOT.

- Referring to Section 3.4.2.1 of the Development Coordination Manual, the following items, among other things, are required on the Record Plan:
 - A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.
 - Depiction of all existing entrances within 600 feet of the proposed entrances.
 - Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.

We will comply with DelDOT's requirements.

- Section 3.5 of the Development Coordination Manual provides DelDOT's requirements with regard to connectivity. The requirements in Sections 3.5.1 through 3.5.3 shall be followed for all development projects having access to state roads or proposing DelDOT maintained public road for subdivisions. Private or municipal streets should follow the local land use agency's requirements for connectivity.

Comment noted.

- Section 3.5.4.2 of the Development Coordination Manual addresses requirements for shared-use paths and sidewalks. Projects located in Level 3 Investment Areas are required to install a shared-use path or sidewalk along the State-maintained road frontage if the project abuts an existing facility. The Subdivision Engineer may waive the requirement where there is no facility on an abutting parcel. From Google Earth photography, no such facilities are apparent.
 - According to the Investment Area Map, the parcel is in Level 3. Therefore we will require path construction along the Route 54 frontage. Because of the lack of usable frontage on West Sand Cove Road between the site entrance and Route 54, it was discussed at the Pre-Submittal Meeting that the Applicant would provide a Shared Use Path more or less parallel to West Sand Cove Road from the residential development through the commercial development to the required path along Route 54 in lieu of a path closer to the road. DelDOT understands

from the discussion at the PLUS meeting that a path parallel to the road may be difficult to provide and are flexible with regard to the location.

- DelDOT appreciates the developer's intention to provide a path along West Sand Cove Road east of the site entrance to tie into the Americana Bayside pedestrian network.

We agree that a sidewalk, where possible, will provide connectivity for the residents of the Melson property to the amenities of Sunridge Pool and Tennis Club as well as Bayside in general. We will provide a multi-modal path parallel to West Sand Cove Road interior to the site along the Melson Property. We endeavor to work with the two adjacent properties along Sand Cove Road to provide connectivity to the Bayside sidewalk and multi-modal trail system.

- In accordance with Section 3.8 of the Development Coordination Manual, storm water facilities, excluding filter strips and bioswales, shall be located a minimum of 20 feet from the ultimate State right-of-way along both Route 54 and West Sand Cove Road.

We will comply with DelDOT's requirements.

- Referring to Section 4.3 of the Development Coordination Manual, the Construction Stage review fee shall be assessed to this project.

We will comply with DelDOT's requirements.

- Referring to Section 4.3 of the Development Coordination Manual, an entrance plan shall be prepared prior to issuing entrance approval. The following information will be required for Entrance Plan review:

- Construction Stage Fee Calculation Form
- Construction Review Fee
- Gate-Keeping Checklist – Entrance Plan
- Design Checklist - Entrance Plan
- Auxiliary Lane Spreadsheet
- Entrance Plan
- Pipe/Angle Spreadsheet (If applicable)
- SWM Report and Calculations (If applicable)

We will comply with DelDOT's requirements.

- In accordance with Section 5.2.5.6 of the Development Coordination Manual, Turning Movement Diagrams shall be provided to verify vehicles can safely enter and exit the site entrance. As per Section 5.2.3 of the Manual, the entrance shall be designed for the largest vehicle using the entrance.

We will comply with DelDOT's requirements.

- In accordance with Section 5.2.9 of the Development Coordination Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrance and how long those lanes should be. The worksheet can be found at http://www.deldot.gov/information/business/subdivisions/auxiliary_lane_worksheet.xls.

We will comply with DelDOT's requirements.

- In accordance with Section 5.4 of the Development Coordination Manual, sight distance triangles are required and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at <http://www.deldot.gov/information/business/subdivisions/Intersection-Sight-Distance.xls>.

We will comply with DelDOT's requirements.

- Section 7.7.2 of the Manual addresses the need to provide 20-foot wide drainage easements for all storm drainage systems, open or closed, that fall outside the existing right-of-way or the drainage/utility easement. In accordance with this section, metes and bounds and total areas need to be shown for any drainage easements. The easements should be shown and noted on the record plan.

We will comply with DelDOT's requirements.

Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352

The proposed development will result in increased impervious surface, a change to the Perch Creek Tax Ditch and new sources of greenhouse gas emissions. Opportunities exist to preserve natural resources while reducing the environmental impact on-site, and provide additional energy efficiency alternatives to homeowners.

DNREC has identified the Perch Creek Tax Ditch/ROW running along the Southern border of this property. Any change to the location of the tax ditch or existing tax ditch rights-of-way will require a change to the Perch Creek Tax Ditch court order and placement of permanent obstructions within tax ditch rights-of-ways is prohibited. DNREC's recommendation, first offered during the December 16th, 2015, PLUS meeting, is to focus development away from the Tax Ditch Right-of-Way (ROW).

DNREC further recommends maintaining the woodlands, which help in the overall reduction of greenhouse gasses present in our atmosphere and can aid in meeting water quality standards. The presence of a wetland resource and the associated buffer recommendations in support of wildlife

and water quality concerns, reinforce the need for preservation. We also support the inclusion of a pedestrian connection between the residential and commercial areas of the project.

DNREC generally recommends high energy efficiency building standards (with consideration for alternative energy sources), and the use of green infrastructure, wherever practicable, to protect water quality, in all development. DNREC further recommends an abundant use of native vegetation and shade trees throughout the landscape.

The following pages provide applicable regulations and detailed recommendations associated with this project, from various DNREC Divisions. DNREC would like to be a partner in creating appropriate development that highlights the environment as a natural amenity of the landscape.

The Department has resources and expertise that are available to help make this a reality, often at no expense to the landowner.

TMDLs

- The project is located in the Assawoman watershed which is currently not listed for TMDL nutrient and bacterial reductions in the State of Delaware. Although TMDLs reductions have not been assigned for Delaware's portion of the watershed, much of this watershed lies within the State of Maryland which may have a TMDL regulating nutrient and bacterial discharges. Therefore, DNREC strongly recommends the applicant contact the Maryland Department of the Environment, at (410) 537-3939 to ensure compliance with their regulatory requirements.

We will utilize State approved Best Management Practices to reduce Nutrients and Total Suspended Solids (TSS).

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 (302) 739-4811 for further information concerning compliance requirements, or view the following web link for additional information:

<http://dda.delaware.gov/nutrients/index.shtml>

Comment Noted.

Water Supply

- The project information sheets state water will be provided to the project by Artesian Water Company via a public water system. Records indicate that the project is located within the public water service area granted to Artesian Water Company under Certificate of Public Convenience and Necessity 00-CPCN-07.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the DNREC 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) 739-9944.

We will work with DNREC in regards to all water connection and dewatering issues.

Sediment and Stormwater Management

- 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 Sussex Conservation District. Contact Jessica Watson at the Sussex Conservation District at (302) 856-2105 for details regarding submittal requirements and fees. (Delaware Code: Title 7 Chapter 40) (Delaware Regulations: Administrative Code: Title 7: 5101)

We will coordinate our Erosion and Sediment control efforts as well as our Stormwater Management designs with Sussex Conservation District.

Tax Ditch/ROW

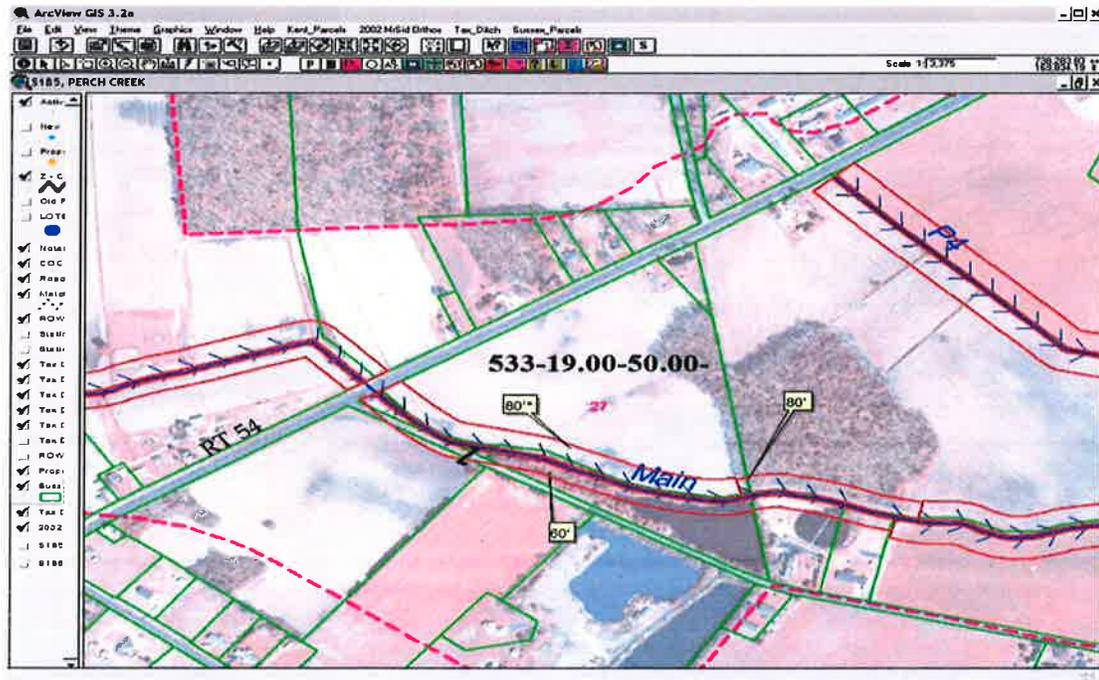
- The DNREC Drainage Program has identified that this parcel is located in the **Perch Creek Tax Ditch** and is affected by the following rights-of-way:

	Left	Right
Perch Creek Tax Ditch	60'	80'
Main		80'*

Please note that the above rights-of-way are measured from the centerline of the ditch, with the exception of the ones noted with an asterisk, which are measured from the top of the ditch bank. The designation of Left and Right side are based upon looking upstream.

Any change to the location of the tax ditch or existing tax ditch rights-of-way will require a change to the Perch Creek Tax Ditch court order. The placement of permanent obstructions within tax ditch rights-of-ways is prohibited. Using the drawing from the PLUS application, it appears there is a proposed street, a parking lot and stormwater management ponds within the tax ditch rights-of-way. Please contact Matthew Grabowski, Environmental Program Manager with the Drainage Program in Georgetown, at (302) 855-1930 to resolve any issues with the tax ditch rights-of-way for this project.

We have met with the DNREC Drainage Section and Tax Ditch Managers on site. A court order change of the Tax Ditch Right of Way from 80' to 30' is in process. Any improvements or grading within the tax ditch Right of Way (ROW) will be submitted for review by the Drainage Section in order to ensure adequate access for long term tax ditch maintenance.



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:

Table 1: Potential Regulatory Requirements	
Regulation	Requirements
7 DE Admin. Code 1106 - Particulate Emissions from Construction and Materials Handling	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 Consume and Commercial Products	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Ensure that emissions of nitrogen oxides (NO_x), non-methane hydrocarbons (NMHC), particulate matter (PM), sulfur dioxide (SO₂), carbon monoxide (CO), and carbon dioxide (CO₂) from emergency generators meet the emissions limits established. (See section 3.2).

	<ul style="list-style-type: none"> • Maintain recordkeeping and reporting requirements.
7 DE Admin. Code 1145 – Excessive Idling of Heavy Duty Vehicles	<ul style="list-style-type: none"> • 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>.

We will adhere to all air quality regulations to the best of our ability.

Tank Management

- No environmental impacts are anticipated; however, per the UST Regulations: Part E, § 1. Reporting Requirements:
 - Any indication of a Release of a Regulated Substance that is discovered by any Person, including but not limited to environmental consultants, contractors, utility companies, financial institutions, real estate transfer companies, UST Owners or Operators, or Responsible Parties shall be reported within 24 hours to:
 - The Department’s 24-hour Release Hot Line by calling (800) 662-8802; and
 - The DNREC Tank Management Section by calling (302) 395-2500.

A Phase 1 Environmental Assessment was completed and no underground storage tanks were discovered. If any underground storage tanks are discovered, we will contact the agency hotlines provided.

State Historic Preservation Office – Contact Terrence Burns 736-7404

- This property contains the sites of two known early 20th-c. houses, now demolished (S02069 and S02070). There may be archaeological resources associated with these properties. Drum Creek runs through this parcel, and therefore the potential for prehistoric archaeological resources is high.

Abandoned and unmarked family cemeteries are common on farms in Delaware. Burials have also been found associated with prehistoric-period archaeological sites. Disturbing unmarked burials triggers Delaware’s Unmarked Human Burials and Human Skeletal Remains Law of 1987 (7 Del. Code Ch. 54). Such discoveries can result in substantial delays while the procedures required under this law are carried out. DHCA recommends that owners and/or developers have a qualified archaeological consultant investigate their project area for the presence of such a cemetery. If one is discovered and delineated, it is very costly to have it archaeologically excavated and the burials moved. DHCA recommends that in the event of such a discovery, the plans be redrawn to leave the cemetery on its own parcel or in the open space area of the development, with the responsibility for its maintenance lying with a homeowners association or development owner. (For further information, see <http://history.delaware.gov/preservation/umhr.shtml>)

and <http://history.delaware.gov/preservation/cemeteries.shtml>)

We are aware of these requirements. In the event any cemeteries or unmarked human remains are encountered, we will contact and coordinate with the State Historic Preservation Office (SHPO).

- 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. Any preconstruction activities without adherence to these stipulations may jeopardize the issuance of a permit or receipt of funding if it is determined that such opportunity to comment has been foreclosed. (For further information on Section 106 and the Advisory Council's role, please review the Advisory Council's website at: www.achp.gov)

It is unlikely development of this project will require an Army Corps of Engineers Permit or other federal permit or funding. In the event a federal action is required, consultation with that agency will be conducted in accordance with the National Historic Preservation Act of 1966.

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 the suggestions can benefit the project.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- The applicant should expect a requirement that any substation and/or wastewater facilities will be required to have access from the internal subdivision street with no direct access to Route 54 or West Sand Cove Road.
- Section 3.2.4.1 of the Manual addresses the placement of right-of-way monuments (markers) along subdivision streets. DelDOT recommends that monuments be furnished and placed along the proposed streets in accordance with this section.
- Please be advised that as of August 1, 2015, all new plan submittals and re-submittals, including major, minor and commercial plans, shall now be uploaded via the PDCA (Planning Development Coordination Application) with any review fee paid online via credit card or electronic check. Guidance on how to do this is available on our website at <http://www.deldot.gov/information/business/subdivisions/>

- Be advised that the Standard General Notes have been updated and posted to the DelDOT website. Please begin using the new versions and look for the revision date of July 31, 2015. The notes can be found at http://www.deldot.gov/information/business/subdivisions/DelDOT_Development_Coordination_Plan_Sheet_Notes.doc

Please check to determine whether any utilities will need to be relocated as part of this project.

Comments noted. We will take each of these advisements under consideration.

Department of Natural Resources and Environmental Control – Michael Tholstrup 735-3352

Soils Assessment

- Based on soils survey mapping update, Hammonton (HmA), Runclint (RuA), and Hurlock (HuA) soil mapping units were mapped in the immediate vicinity of the proposed construction. Hammonton and Runclint are moderately to excessively well-drained soil mapping units that have moderate limitations for development. Hurlock is a poorly-drained wetland associated (hydric) soil that has severe limitations for development and should be avoided (Figure 1).

DNREC strongly discourages building on hydric soils because they are functionally important source of water storage (functions as a “natural sponge”); the loss of water storage through excavation, filling, or grading of intact native hydric soils increases the probability for more frequent and destructive flooding events. The probability for flooding is further compounded by increases in surface imperviousness as building density in the area increases over time. Moreover, destruction of hydric soils increases the amount of pollutant runoff (i.e., hydric soils sequester and detoxify pollutants) which contributes to lower observed water quality in regional waterbodies and wetlands. DNREC strongly recommends the applicant contact a licensed (Delaware Class D) soil scientist to make a site specific assessment (i.e., soil survey mapping) of the soils on this site. A list of licensed soil scientists can be obtained from the DNREC Ground Water Discharges Branch at (302) 739-9947.

No hydric soils will be developed by this project.

Onsite soil investigations conducted by Environmental Resources, Inc. (ERI) determined the Hurlock soil series noted above is less extensive than the United States Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS) soil survey. The extent of wetlands and hydric soils found to occur on the property is minimal, and are only associated and adjacent to the waters of the Perch Creek Tax Ditch.

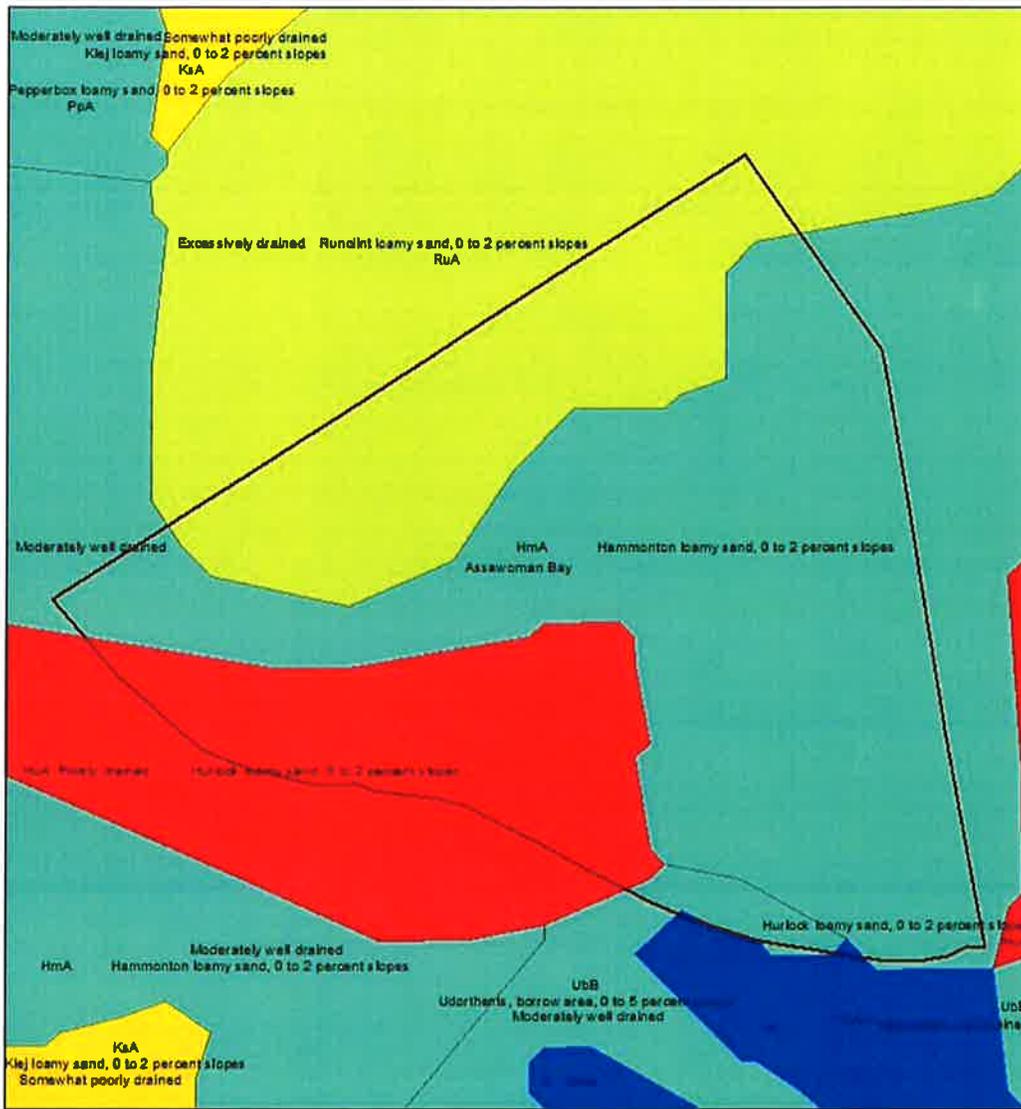
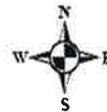
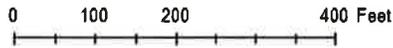


Figure 1: NRCS soil survey mapping update in the immediate vicinity of the proposed construction



Wetland buffers

- To protect the function and integrity of wetlands, it is strongly recommended that a minimum 100-foot buffer is left intact around the perimeter. This recommendation is based on peer reviewed scientific literature that shows an adequately-sized buffer which effectively protects wetlands and streams - in most circumstances - is about 100 feet in

width. Upland buffers also serve as habitat for many terrestrial species that are dependent on aquatic and wetland habitats for a portion of their annual life cycle. Lot lines, roadways, and infrastructure should not be placed within this buffer zone. Buffers are an integral component of aquatic and wetland habitats, reducing the amount of sediments, pollutants, and other non-point source material which may affect the function and integrity of habitat, and the condition and survivability of aquatic organisms.

ERI performed a delineation of the waters of the United States including wetlands subject to the Army Corps of Engineers Regulatory Program. Hydrology, vegetation and soil parameters as outlined in the 1987 Army Corps of Engineers Wetlands Delineation Manual and associated guidance was utilized. In accordance with Delaware Department of Natural Resources and Environmental Control (DNREC) wetlands maps, no State regulated wetlands occur on or in the vicinity of the Melson property.

In regard to state and federally regulated wetlands or waters subject to the Army Corps of Engineer's Regulatory Program, approximately 0.106 acres of the 15.21 acre property were identified and area associated with the Perch Creek Tax Ditch. Man-made drainage ditches found along and bordering the south property lines are regulated waters of the United States. The presence of these drainage features will not be impacted by development of the property.

ERI has submitted a Jurisdictional Determination (JD) request and report to the Philadelphia District Corps of Engineers regarding the regulated waters and wetlands identified on the property. Current development plans do not anticipate filling, excavating or otherwise modifying these areas. In the event any regulated activities are proposed within these areas, the developer will consult with the DNREC Wetlands and Subaqueous Lands Section (WSLS) and the Army Corps of Engineers.

On-site wetlands are limited to minimal areas adjacent to the Perch Creek Tax Ditch. The waters of the Perch Creek Tax Ditch will be buffered by the future 30 feet wide Tax Ditch easement. Development will be a minimum of 25 to 30 feet from any regulated water or wetland.

Additional information on TMDLs

- A Pollution Control Strategy (PCS) to achieve the required TMDL nutrient and bacterial load reduction requirements has not been established for the Assawoman watershed. However, DNREC strongly encourages the applicant to take responsibility for reducing nutrient and bacterial pollutants through voluntary implementation of the following recommended BMPs, which would:
 - Preserve and/or maintain as much of the existing forested area as possible. DNREC further suggests additional native tree, shrub and/or native herbaceous vegetation plantings, wherever possible.

The disturbance to existing vegetation is minimized and we will specify native species at every opportunity within the proposed planting plan.

- Maintain a vegetated buffer of at least 100 feet from the adjoining wetlands and waterbodies. Based on a review of existing buffer research by Castelle et al. (Castelle, A. J., A. W. Johnson and C. Conolly. 1994. Wetland and Stream Buffer Requirements – A Review. J. Environ. Qual. 23: 878-882.), an adequately-sized buffer which effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. In recognition of this research and the need to protect water quality, the DNREC Watershed Assessment Section recommends that the applicant maintain/establish this aforementioned 100-foot buffer (planted in native vegetation) from all waterbodies (including all ponds) and all non-tidal and tidal wetlands (i.e., a USACE approved field wetlands delineation for non-tidal wetlands and State approved wetlands delineation for tidal wetlands). The applicant's proposed 25-foot buffer is insufficiently protective of water quality and should be increased to the recommended 100-foot buffer width.

On-site wetlands are limited to minimal areas adjacent to the Perch Creek Tax Ditch. The waters of the Perch Creek Tax Ditch will be buffered by the future 30 feet wide Tax Ditch easement. Development will be a minimum of 25 to 30 feet from any regulated water or wetland.

- Ensure that wetlands and water quality are not impacted by having a site specific evaluation/delineation of the soils on this site by a Licensed Class D soil scientist. A list of licensed soil scientists can be obtained from the DNREC Ground Water Discharges Branch, at (302) 739-9947.

The proposed project will be serviced by public sewer and water. No soils evaluation for in-ground wastewater disposal is required. An evaluation was performed by Environmental Resources, Inc. (ERI) which found that wetlands are absent from portions of this property proposed for development.

- 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. Omission of any of the above-stated forms of surface imperviousness will result in an underestimate of the actual post-development surface imperviousness and the associated environmental impacts.

We will calculate pervious vs impervious areas for both existing and post construction conditions.

- Employ green-technology storm water management and rain gardens (in lieu of open-water management structures) as BMPs to mitigate or reduce nutrient and bacterial pollutant runoff. Please contact Lara Allison at (302) 739-9939 for further information about the possibility of installing rain gardens on this parcel.

We will utilize green-technology BMPs as part of our stormwater management design.

- Use pervious paving materials instead of conventional paving materials (e.g., asphalt or concrete) to help reduce the amount of water and pollutant runoff draining to adjoining streams and wetlands. Pervious pavers are especially recommended for areas designated for parking.

We agree there are opportunities for pervious pavers, considering how much parking is proposed for the site. We will incorporate pervious pavers into our stormwater management design, where appropriate.

- Assess nutrient and bacterial pollutant loading at the preliminary project design phase. To this end, the DNREC 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; 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 design and implement the most effective BMPs. Please contact John Martin or Jen Walls of the Division of Watershed Stewardship, at (302) 739-9939 for more information on the protocol.

Comment noted.

Hazardous waste.

- 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. SIRB should also be contacted as soon as possible at (302) 395-2600 for further instructions.

A Phase 1 Environmental Site Assessment was performed.

Additional information on tank management

- When contamination is encountered, PVC pipe materials should be replaced with ductile steel and nitrile rubber gaskets in the contaminated areas.

If any aboveground storage tanks (ASTs) less than 12,500 gallons are installed, they must be registered with the DNREC Tank Management Section (TMS). If any ASTs greater than 12,500 gallons are installed, they are also subject to installation approval by the TMS.

Comment noted.

Additional information on air quality

- DNREC encourages developers and builders to consider all sustainable growth practices in their design, but they believe, however, that the air quality impacts associated with the project should be completely considered. New homes 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 this project were quantified. Table 2 – Projected Air Quality Emissions represents the actual impact the Melson Property may have on air quality.

Emissions Attributable to Melson Property (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Area Source	1.5	0.2	0.1	0.2	6.0
Electric Power Generation	*	0.6	2.0	*	302.1
Mobile Source	2.2	2.3	0.1	*	1418.6
Total Emissions	3.7	3.1	2.2	0.2	1726.7

(*) Indicates data is not available.

Note that emissions associated with the actual construction of the road, 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.

Comments noted.

- 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.

Because the infrastructure and services are already available at Bayside, we believe the Melson property is appropriate for infill development. In addition, the goal is to provide pedestrian connectivity to the miles of sidewalk, multi-modal path and Nature trails throughout Bayside, as well as the multiple amenity features the Bayside Community currently offers.

- 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 percent 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 an excellent way to save on energy costs and reduce air pollution.

Comments noted.

- 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.

Comments noted.

- Constructing with high albedo, high solar reflectance materials. This includes roofing and hardscape. These materials help to reduce heat island impacts and, by extension, help to minimize the potential for localized ground-level ozone formation. These materials also help reduce demands on air conditioning systems and save on energy costs.

Comments noted.

- Providing shade for parking lot areas. Approaches may include architectural devices, vegetation, or solar panels. Providing shade for parking areas helps to reduce heat island impacts, and, by extension, helps to minimize the potential for localized ground-level ozone formation. Such measures can also have the additional benefit of channeling or infiltrating stormwater.

We will utilize shade trees in parking islands as well as architectural devices to reduce the heat island effect.

- Encouraging the use of safe multimodal transportation. This measure can significantly reduce mobile source emissions. For every vehicle trip that is replaced by the use of a sidewalk or bike path, 7 pounds of VOC and 11.5 pounds of NOx are reduced each year.

Comments noted. The goal is to connect this development by sidewalk to Bayside, which will allow for integration with Bayside's overall sidewalk, multi-modal trail, and nature trail system and pedestrian / bike access to all amenities.

- Using retrofitted diesel engines during construction. This includes equipment that is on-site as well as equipment used to transport materials to and from site.

Comments noted.

- Using pre-painted/pre-coated flooring, cabinets, fencing, etc. These measures can significantly reduce the emission of VOCs from typical architectural coating operations.

Comments noted.

- Planting trees in vegetative buffer areas. Native trees reduce emissions by trapping dust particles and replenishing oxygen. Trees also reduce energy emissions by cooling during the summer and by providing wind breaks in the winter, whereby reducing air conditioning needs by up to 30 percent and saving 20 to 50 percent on fuel costs.

We will specify native species whenever possible, throughout the planting plan.

This is a partial list, and there are additional things that can be done to reduce the impact of the project. The applicant should submit a plan to the DNREC Division of Air Quality (DAQ) which addresses the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Melson Property. The DAQ point of contact is Deanna Cuccinello and may be reached at (302) 739-9402 or Deanna.Morozowich@state.de.us.

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, Office of State Planning Coordination

CC: Sussex County