



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION

July 20, 2016

Mr. Doug Liberman
Larson Engineering Group, Inc.
910 South Chapel Street, Suite 200
Newark, DE 19713

RE: PLUS review 2016-06-04; Sun Behavioral Health

Dear Doug,

Thank you for meeting with State agency planners on June 22, 2016 to discuss the proposed plans for the Sun Behavioral Health project. According to the information received, you are seeking review of a site plan for a 70,000 square foot behavioral health treatment facility on 6.9 acres along Biden Avenue in Georgetown.

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 1 according to the *Strategies for State Policies and Spending*. Investment Level 1 reflects areas that are already developed in an urban or suburban fashion, where infrastructure is existing or readily available, and where future redevelopment or infill projects are expected and encouraged by State policy.

Code Requirements/Agency Permitting Requirements

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Section P.4.2 of the Development Coordination Manual addresses DelDOT's plan approval process.
- The plan is consistent with discussions DelDOT has had with the property owner about relocating the right-of-way for University Drive and combining two of Delaware Technical and Community College's entrances to create a four-way intersection on Delaware Route 18/404.
- The University Drive intersection with Delaware Route 18/404 must be designed in accordance with DelDOT's Development Coordination Manual. A copy of the Manual is available at <http://www.deldot.gov/information/business/subdivisions/changes/index.shtml>.
- Pursuant to Section P.3 of the Manual, a Pre-Submittal Meeting is required before plans are submitted for review. The form needed to request this meeting and guidance on what will be covered there and how to prepare for it is located at http://www.deldot.gov/information/business/subdivisions/Meeting_Request_Form.pdf. This meeting was held on June 28, 2016.
- Section P.5 of the Manual addresses fees that are assessed for the review of development proposals. DelDOT anticipates collecting the Initial Stage Fee when the record plan is submitted for review and the Construction Stage Fee when construction plans are submitted for review.
- Per Section 2.2.2.1 of the 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. From the PLUS application, we see that the total daily trips are estimated at 1,100 vehicle trip ends per day, which would warrant a TIS.
- For developments generating less than 2,000 vehicle trip ends per day and less than 200 vehicle trip ends per hour, if the local government does not require a TIS, Section 2.2.2.2 of the Manual provides that DelDOT may accept an Area Wide Study Fee, calculated by multiplying the daily trip generation by \$10, in lieu of requiring a TIS.
- An Area Wide Study Fee, when accepted, is set aside for use in funding future traffic studies in the same county as the subject development. Payment of the Fee does not relieve the payer of responsibility for off-site improvements where DelDOT has identified a need for improvements.

- Section 3.2.4.2 of the Manual addresses the placement of right-of-way monuments (markers) along the road on which a property fronts, in this case Delaware Route 18/404. 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.
- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Manual, DelDOT will require dedication of right-of-way along the site's frontage on Delaware Route 18/404. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the road centerline. 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.”**
- In accordance with Section 3.2.5.1.2 of the Manual, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on Delaware Route 18/404. 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.”**
- In accordance with Section 3.4 of the 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
- Referring to Section 3.4.2.1 of the 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 entrance.
 - Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.

- Section 3.5.4.2 of the Manual addresses the need for shared-use paths and sidewalks. Because the proposed development is in a Level 1 Investment Area with respect to the Strategies for State Policies and Spending, DelDOT will require construction of a sidewalk along the site frontage on Delaware Route 18/404. Because Biden Avenue and University Avenue, respective, are and would be Town-maintained streets, the requirement of sidewalks along those streets would need to be determined by the Town of Georgetown.
- Section 3.5.5.3 of the Manual provides that mixed-use facilities, which College Park will be when complete, are required to designate and reserve locations for transit bus stop accommodations within and/or adjacent to the proposed development, as directed by DelDOT or the Delaware Transit Corporation (DTC). The proposed development is located on a DART Route which provides service along Delaware Route 18/404. The developer's engineer should contact Ms. Catherine Smith, Planning Manager in DTC's Service Development Section, to determine what transit-related facilities should be provided. Ms. Smith may be reached at (302) 576-6071.
- Referring to Section 4.3 of the 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)
- In accordance with Section 5.2.5.6 of the 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.
- In accordance with Section 5.2.9 of the 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.
- In accordance with Section 5.4 of the 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>.

- In accordance with Section 5.14 of the Manual, all existing utilities must be shown on the plan and a utility relocation plan will be required for any utilities that need to be relocated.
- 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.
- This project is located within the regulated airspace zones of the Sussex County Airport (GED), which is a public use facility. Federal Aviation Regulation (FAR) Part 77 imposes height restrictions on any structures within these zones. DelDOT requires that the applicant for this project submit a “Proposed Construction/Alteration in Airport Zones Notification Form” in accordance with Delaware Code (2 *Del. C.* § 602).
- This notification form can be submitted during the plan approval process with the local land use jurisdiction, but DelDOT’s Office of Aeronautics is willing to test hypothetical height numbers to prevent any future project complications. Please contact Josh Thomas with the Office of Aeronautics at (302) 760-4834 with any questions or concerns. A copy of the notification form can be found at this address:

http://www.deldot.gov/information/community_programs_and_services/airports/pdfs/aviation_obstruction_review_form.pdf

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

Executive Summary

The proposed development will result in increased impervious surface and new sources of greenhouse gas emissions. Opportunities exist to preserve natural resources while reducing the environmental impact on-site and providing additional energy efficiency alternatives to business owners and clients.

A portion of this project falls within an area of excellent ground-water recharge potential; therefore, land use within these areas has the potential to negatively impact water quality or quantity in the public drinking water system. The applicant should refer to the Town of Georgetown Code for regulations regarding development.

As discussed at the June 22nd PLUS meeting, DNREC has identified some concern associated with the groundwater table near the hydric soils mapped on the project site. There is a possibility that the wellhead associated with Delaware Technical and Community College campus has affected the water table; however, further field work would need to be completed by the developer in order to determine the extent of concern. DNREC recommends that the applicant contact a licensed soil scientist to clear up any concerns prior to construction.

The State of Delaware is threatened by climate change and has a goal of reducing greenhouse gas emissions by 30% by 2030. Appropriate development that provides access to public transportation, opportunities to walk and bike to shopping and recreation, and that employs energy efficient building standards are among key strategies to meet these goals. We encourage the use of high performance energy efficiency building standards (with consideration for alternative energy sources), and the use of green infrastructure to help protect air and water quality, and adapt to the effects of climate change. We also recommend an abundant use of native vegetation and shade trees throughout the landscape, and pedestrian connections to adjacent parcels.

The following pages provide applicable regulations and detailed recommendations associated with this project from various DNREC Divisions. We 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.

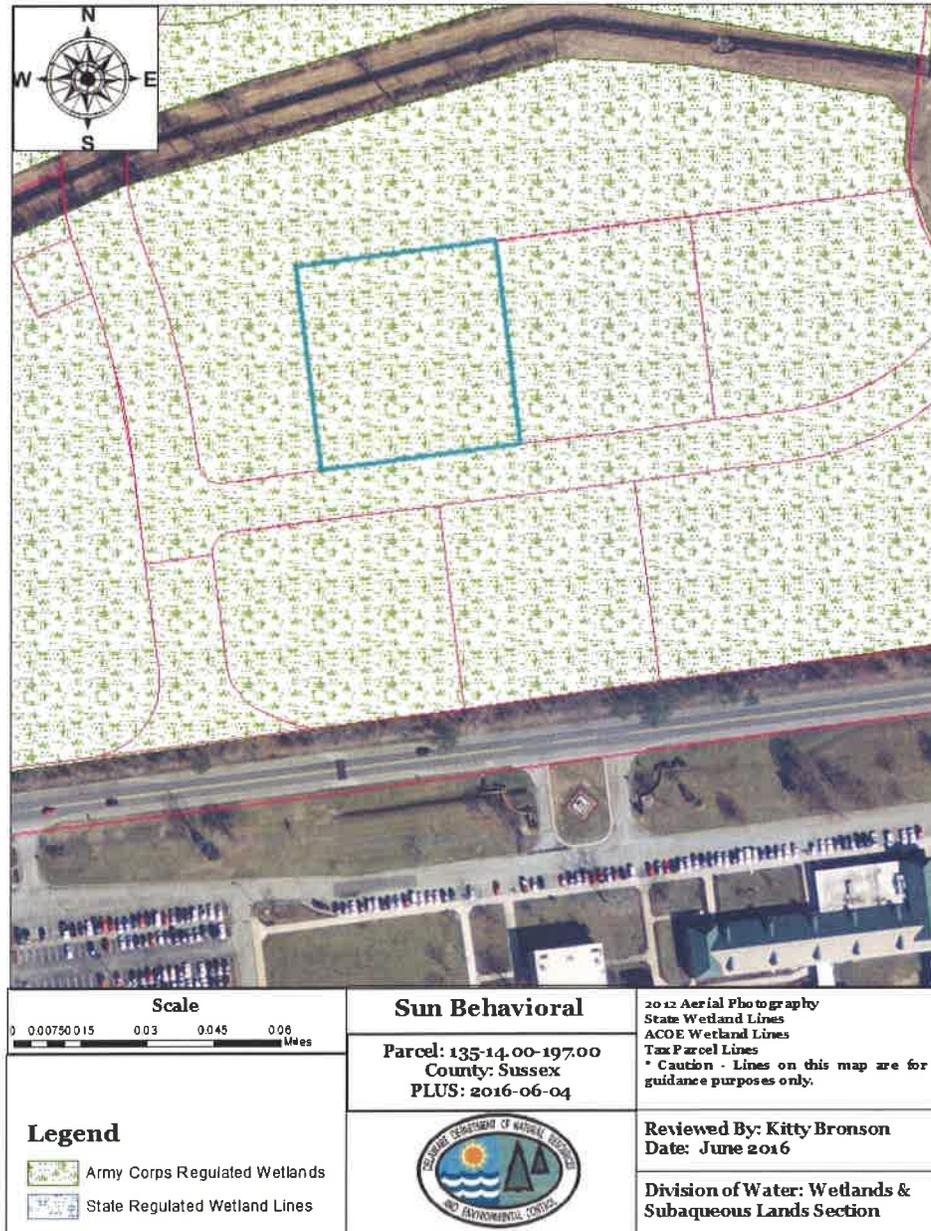
Code Requirements/Agency Permitting Requirements:

Wetlands.

- Waters of the U.S. regulated by the U.S. Army Corps of Engineers are likely to be located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps. According to DNREC's GIS SWMP maps, there is a high probability of wetlands regulated by the U.S. Army Corps of Engineers (USACE) on this parcel. The application states there are no wetlands on the parcel. A wetland jurisdictional determination by a consultant is recommended to be sure there is no impact to wetlands regulated by the U.S. Army Corps of Engineers.

Waters of the United States include the following: navigable waters of the United States; wetlands; tributaries to navigable waters of the United States, including adjacent wetlands and lakes and ponds; interstate waters and their tributaries, including adjacent wetlands; and all other waters of the United States not identified above, such as isolated wetlands, intermittent streams, and other waters that are not part of a tributary system to interstate waters or to navigable waters of the United States, where the use, degradation or destruction of these waters could affect interstate or foreign commerce.

The extent of Federal jurisdiction over Waters of the United States is determined by the U.S. Army Corps of Engineers and is based on site specific conditions. Therefore, an on-site inspection by an environmental consultant is recommended to determine if Waters of the U.S. are located on the property and the limits of Federal jurisdictional. The U.S. Army Corps of Engineers can be contacted at (215) 656-6728 or online at <http://www.nap.usace.army.mil/cenap-op/regulatory/regulatory.htm>.



TMDLs.

- The project is located in the greater Chesapeake Bay drainage area. In this watershed, the EPA and the State of Delaware have developed specific Total Maximum Daily Load (TMDL) pollutant reduction targets for nutrients (e.g., nitrogen & phosphorus), and bacteria (under the auspices of Section 303(d) of the Clean Water Act). The TMDL for nutrients and sediment in the Chesapeake Bay drainage area have recently been revised and made more stringent by the EPA. The TMDL by EPA now requires a 60 percent reduction in nutrients (previously was 30 and 50 percent in N & P) and sediment from baseline conditions. The TMDL also calls for a 2 percent reduction in bacteria from baseline conditions.

A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited waterbody” 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.

A nutrient management plan is required under the *Delaware Nutrient Management Law* (3 Del.C., 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 additional information here: <http://dda.delaware.gov/nutrients/index.shtml>

Water Supply.

- The project information sheets state that water will be provided to the project by the Town of Georgetown via a central water system. Our records indicate that the project is located within the public water service area granted to the Town of Georgetown under Certificate of Public Convenience and Necessity 01-CPCN-01.

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 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.

Source Water Protection.

- The southwestern portion of the project falls within an area of excellent ground-water recharge potential for the Town of Georgetown and is subject to their source water protection ordinance.

Excellent Ground-Water Recharge Areas are those areas mapped by the Delaware Geological Survey where the first 20 feet of subsurface soils and geologic materials are exceptionally sandy. These soils are able to transmit water very quickly from the land surface to the water table. This map category (excellent) is an indicator of how fast contaminants will move and how much water may become contaminated (Andres, 2004). Land use activities or impervious cover on areas of excellent ground-water recharge potential may adversely affect ground water in these areas.

In addition, because the excellent ground water recharge area can readily affect the underlying aquifer if contaminants are spilled or discharged across the area, the storage of hazardous substances or wastes should not be allowed within the area unless specific approval is obtained from the relevant state, federal, or local program.

References:

Andres, A. Scott, 2004, Ground-Water Recharge Potential Mapping in Kent and Sussex Counties, Delaware: Delaware Geological Survey Report of Investigations No. 66, p. 14. <http://www.udel.edu/dgs/Publications/pubform.html#investigations>

Sediment and Erosion Control/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 pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact the Sussex Conservation District at (302) 856-7219 for details regarding submittal requirements and fees.

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	<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 Consumer 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). • 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 see our website:
<http://www.awm.delaware.gov/AQM/Pages/AirRegulations.aspx>.

Tank Management.

- The following Leaking Underground Storage Tank (LUST) project is located within a quarter mile of the proposed project area:
 - DTCC - Del Tech Owens Campus Facility ID: 5-000407, Project: S0006074, (Inactive)

- 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.

For more information, please visit: <http://www.dnrec.delaware.gov/tanks/Pages/default.aspx> or contact Ross D. Elliott at DNREC-TMS with further questions at (302) 395-2500.

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There are no known archaeological sites or National Register-listed properties on this parcel. However, it is still important that the developer be aware of the Unmarked Human Burials and Skeletal Remains Law, in Chapter 54, of Title 7, of the Delaware Code.

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 (7 Del. C. Ch. 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 pertaining to unmarked human remains or cemeteries, please go to 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 or ground-disturbing activities, the developer should hire an archaeological consultant, to examine the parcel for archaeological resources, especially 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.

Recommendations/Additional Information

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Please be advised that DelDOT adopted an update of the Development Coordination Manual effective April 11, 2016. While in most respects, the changes are incremental, they are located throughout the Manual and could have some effect on the entrance designs.
- 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 January 28, 2016. The notes can be found at http://www.deldot.gov/information/business/subdivisions/Sheet_Notes.doc?012816.

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

Soils Assessment.

- Based on soils survey mapping update, Hurlock (HuA), Askecksy (AsA), and Mullica (MmA) are the primary soil mapping units mapped in the immediate vicinity of the proposed project area (Figure 1). These soil mapping units are poorly to very poorly-

drained wetland associated (hydic) soils that have severe limitations for development due to the presence of an elevated seasonal high water table.

- DNREC strongly discourages building on hydric soils because they are a functionally important natural source of water storage (functions as a “natural sponge”) in an undisturbed landscape. In contrast, a hydric soil that has been subjected to severe disturbances (e.g., excavation, filling or grading) decreases that soil’s ability to store water while increasing the probability for more frequent and destructive future flooding events in the area of development and the surrounding landscape. Moreover, the increased probability of future flooding is further compounded by increases in surface imperviousness (from soil compaction and/or paved surfaces/ roofs) as building density in the surrounding landscape increases over time. Finally, the destruction of hydric soils increases the amount pollutant runoff (i.e., hydric soils sequester and detoxify pollutants) - ultimately contributing to observances of lower water quality in regional waterbodies and wetlands. Therefore, we strongly recommend that 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 to verify the presence of hydric soils before commencing any construction activities. A list of licensed soil scientists can be obtained from the Ground Water Discharges Branch at (302) 739-9947. Alternatively, a list of licensed Class D soil scientists can also be obtained here:
<http://www.dnrec.delaware.gov/wr/Information/GWDInfo/Pages/GroundWaterDischargesLicensesandLicensees.aspx>

Additional information on TMDLs and water quality.

- The applicant should be aware that the EPA is requiring the State of Delaware to develop a Watershed Implementation Plan (WIP) and 2-year progress milestones for purposes of accelerating efforts to improve and restore waters of the Chesapeake Bay.
- The WIP and milestones will identify specific pollution reduction practices and programs to reduce nitrogen, phosphorus, and sediment from a variety of sources in the Chesapeake Bay drainage. Moreover, efforts to develop the documents and assist in developing the required reductions will be provided through meetings and discussions with an interagency workgroup and various subcommittees recently convened by the State of Delaware. Included in the meetings and discussions are onsite wastewater disposal systems which are a known source of nutrient pollutants to groundwater.
- The WIP is a multiphase process consisting of 3 phases. Phase I has been completed and was used by the EPA to develop the nutrient and sediment TMDLs (completed in 2010). This phase required all jurisdictions in the Chesapeake Bay drainage area to demonstrate reasonable assurance that nutrient (nitrogen and phosphorus) and sediment reductions will be achieved and maintained. Phase II identified the partner organizations who will implement the actions necessary for attainment of the goals defined in Phase I. The Phase II WIP also required a 60 percent reduction in nutrients and sediment from baseline

conditions to meet the TMDL; attainment of the TMDL nutrient and sediment reductions is part of the Phase II and was completed in 2011 and 2012. The final phase (Phase III) is scheduled for 2017, and will allow for any mid-course adjustments and needed refinements to the existing Bay TMDL allocations. Phase I and II WIPs are currently available for review here:

http://www.wr.dnrec.delaware.gov/Information/Pages/Chesapeake_WIP.aspx.

- Compliance with the TMDL nutrient and bacterial reduction requirements specified for the Chesapeake Bay drainage watershed can be facilitated through implementation of the following recommended BMPs:
- Provide additional plantings of native tree, shrub and/or native herbaceous vegetation in areas of open space, wherever possible. Also, maintain as much of existing native vegetation as possible.
- Conduct a field-based delineation of the hydric soils and/or wetlands on this site by hiring a licensed soil scientist (Delaware Class D licensed with experience in the delineation of wetlands). A list of licensed soil scientists can be obtained from the Ground Water Discharges Branch at (302) 739-9947. We further suggest that the applicant have their wetland delineation approved by the United States Army Corps of Engineers (USACE).
- 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 that 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 Watershed Assessment Section recommends that the applicant maintain/establish this aforementioned 100-foot buffer width (planted in native vegetation) from all waterbodies (including 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). Based on information presented in the PLUS application, it is apparent that the developer has proposed little or no buffer to mitigate environmental impacts from this 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.
- Employ green-technology storm water management and a 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.

- 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.
- 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; thus providing applicants and governmental entities with quantitative information about the project’s impact on baseline water quality. DNREC strongly encourages the applicant/developer to 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.

Additional information on tank management.

- If a release of a Regulated Substance occurs at the proposed project site, compliance with 7 Del.C., Chapter 60; 7 Del.C., Chapter 74; and DE Admin. Code 1351, State of Delaware Regulations Governing Underground Storage Tank Systems (the UST Regulations) is required.

Information on 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 Town.
- 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.

- The applicant proposed open space in the development plan but did not indicate how much. It was also mentioned in the application that although there are no bike paths or sidewalks along the north side of Route 404, there are proposed sidewalks included in the development plan. However, the applicant also stated that there is not an opportunity to connect to a larger bicycle/pedestrian or transit network. Therefore, it is recommended that both DelDOT and the applicant pursue the opportunity to connect any “broken links” in the existing bicycle/pedestrian and sidewalk network, in order to promote alternative travel methods in the area that reduce dependence on vehicular travel and encourage multi-modal transportation efforts.

- DNREC encourages developers and builders to consider all sustainable growth practices in their design, and believes that the air quality impacts associated with the project should be completely considered. New homes and businesses may emit, or cause to be emitted, additional 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; Sussex County currently violates federal health-based 2008 air quality standards for ozone.
 - The emission of greenhouse gases which are associated with climate change, and
 - The emission of air toxics.

- Air emissions generated from new homes and businesses 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, and
 - All transportation activity.

Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) were quantified. Table 2 – Projected Air Quality Emissions represents the actual impact the Sun Behavioral Health treatment facility may have on air quality.

Table 2: Projected Air Quality Emissions for Sun Behavioral Health treatment facility (Based on projected estimate of 1,100 trips during peak season)

Emissions Attributable to Peninsula Square (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 emissions	3.7	4.8	*	*	*

(*) Indicates data is not available.

Note that emissions associated with the actual construction of the apartment community, 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 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.

- **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.
- **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.
- **Providing shade for parking 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.
- **Providing charging stations for plug-in electric vehicles.** This measure helps to reduce localized air pollution by supporting the use of non-gasoline powered vehicles. Please refer to the US Department of Energy's website for electric vehicle readiness information:
http://www1.eere.energy.gov/cleancities/electric_vehicle_projects.html. Several charging stations exist nearby in Millsboro, Lewes, and Rehoboth Beach.
- **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.
- **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.
- **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.** 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.

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

mitigation measures that will be incorporated into the Sun Behavioral Health facility project. The DAQ point of contact is Lauren DeVore, and she may be reached at (302) 739-9437 or lauren.devore@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 PLUS 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, appearing to read "Constance C. Holland".

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

CC: Sussex County
Town of Georgetown