STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION

August 18, 2015

Jamie Sechler
Davis, Bowed & Friedel, Inc.
23 North Walnut Street
Milford, DE 19963

RE: PLUS review 2015-07-08; Carillion Square

Dear Jamie,

Thank you for meeting with State agency planners on July 22, 2015 to discuss the proposed plans for the Carillion Square. According to the information received, you are seeking review of a rezoning of 15.79 acres from AR-1 to HR-1 and a subdivision for 204 residential units on Indian Mission Road 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 2 according to the *Strategies for State Policies and Spending.* Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future.

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. The table below compares the trip generations of the previous use proposed on this site (125 townhouses) and the presently

proposed use (204 condominiums) with and without an age restriction, using the Institute of Transportation Engineers' (ITE) Trip Generation Manual.

Land Use	ITE Land Use Code	Weekday Average Daily Traffic	Weekday AM Peak Hour	Weekday PM Peak Hour
125 Townhouses	230	781	61	78
204 Condominiums	230	1196	91	105
204 Age-Restricted Condominiums	252	702	80	71

Based on any of these three sets of volumes, this project would warrant a TIS.

With that said, Section 2.2.2.2 of the Manual permits DelDOT to accept an Area Wide Study Fee in lieu of a TIS for developments generating less than 2,000 vehicle trip ands per day and less than 200 vehicle trip ends per hour. Recognizing that in 2013 DelDOT received and reviewed a TIS for a similar albeit smaller development on this site (125 townhouses) and a shopping center on adjacent commercial lands, DelDOT would be willing to accept the Fee in this case.

The Fee is calculated as $10 per daily trip and is payable when plans are submitted for the Initial Stage review. The Fee, if paid, would be banked for the funding of future traffic studies in Sussex County and does not reduce any contributions that might be assessed for off-site improvements or excuse the developer from making such contributions. Payment also does not excuse the developer from the need to conduct a Traffic Operational Analysis if DelDOT identifies the need for one in their review of an entrance plan.

Presently, the off-site improvements DelDOT foresees requiring are frontage improvements along Delaware Route 5 and a contribution toward DelDOT's planned safety improvements at the intersection of Routes 5 and 24, presently scheduled for construction in Fiscal Year 2018.

To obtain a scope of work for a TIS, the applicant may have their engineer contact Mr. Troy Brestel of the DelDOT Planning office. Mr. Brestel may be reached at (302) 760-2167.

- The site access on Route 5 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. While we appreciate that the road leading through the site to the adjoining shopping center has been built and is open to traffic, plan and field reviews will be necessary to determine whether what has been built both there and in the commercial portion of the development

is sufficient to handle the additional traffic from the residential development now proposed.

- 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 5. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the road centerline on Route 5. 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 Development Coordination Manual, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on Route 5. 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.**"

- Regardless of whether entrance and/or roadway improvements are required, 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:

    - Copy Initial Stage Fee Calculation Form
    - Copy Initial Stage Review Fee
    - Gate-Keeping Checklist – Site Plan
    - Record Plan Review Design Checklist
    - Auxiliary Lane
    - Sight Distance Spreadsheet
    - Site/Record Plan
    - Conceptual Entrance Plan
    - Submission of the Area-Wide Study Fee (If applicable)

- 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.

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

- If entrance and/or roadway improvements are warranted, then referring to Section 4.3 of the Development Coordination Manual, the Construction Stage review fee shall be assessed to this project.

- Again, if entrance and/or roadway improvements are warranted, then 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:

    - Copy of the Construction Stage Fee Calculation Form
    - Copy of the Construction Review Fee
    - Gate-Keeping Checklist – Entrance Plan
    - Entrance Plan Review Checklist
    - Entrance Design Checklist
    - Application for Commercial Entrance Permit
    - Pipe/Angle Spreadsheet (if applicable)
    - Entrance Photo
    - Entrance Plan
    - SWM Report, Calculations and DA Maps
    - Sediment & Stormwater Management Project Design & Review Checklist

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

Wetlands.

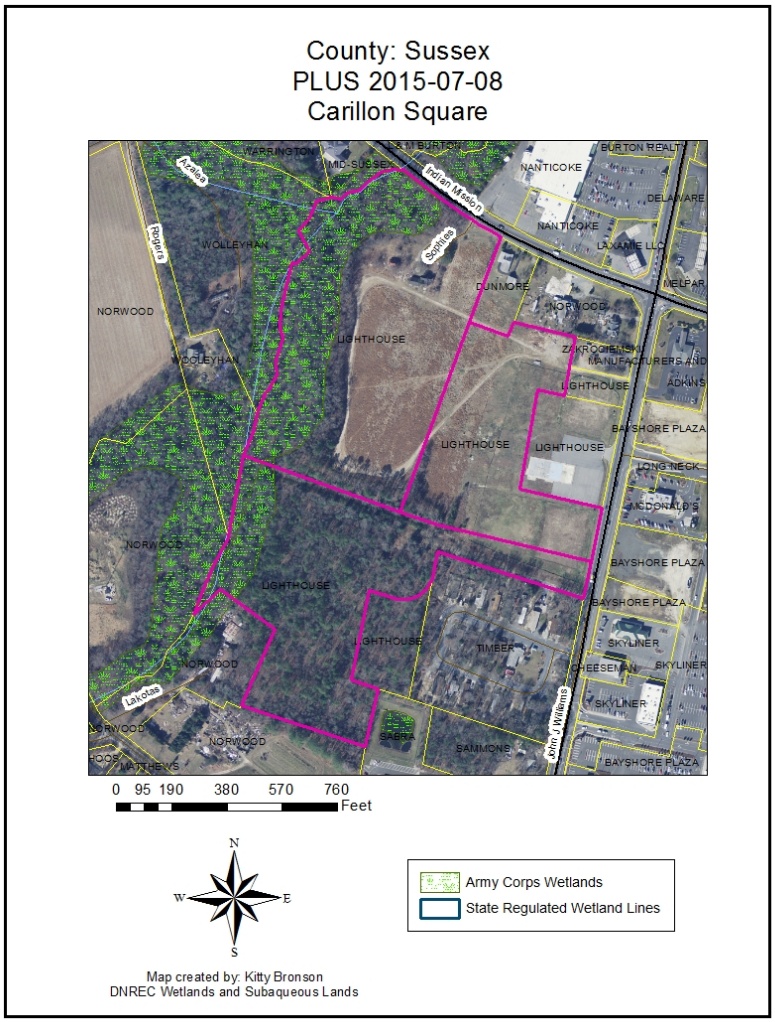
- State regulated wetlands are those wetlands identified on the State's official State Regulated Wetland Maps. State regulated wetlands ARE NOT located on this property based on a review of the State wetland maps. Any activity in State regulated wetlands may require a permit from DNREC's Wetlands and Subaqueous Lands Section. Additional information about State regulated wetlands is available by contacting the Wetlands and Subaqueous Lands Section at (302) 739-9943 or online at http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx.

- State subaqueous lands include all tidal waters (up to the mean high water line), most non-tidal rivers, streams, lakes, ponds, bays and inlets (up to the ordinary high water line), most perennial streams and ditches and many intermittent streams and ditches. State regulated subaqueous lands ARE likely to be located on or adjacent this property based on a review of aerial photographs, SWMP maps, Soil Surveys and USGS topographic maps. An on-site inspection by a representative of the Wetlands and Subaqueous Lands Section or an environmental consultant is recommended to determine the limits of jurisdictional State subaqueous lands. Upon review of the GIS layers, ***unnamed streams are on and/or adjacent to this property.*** Additional information about State regulated subaqueous lands is available by contacting the Wetlands and Subaqueous Lands Section at (302) 739-9943 or online at http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx.

- 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 USGS topographic maps. 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.

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.



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 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. 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. Please view the following web link for further information on the regulatory requirements and technical analysis involved in the development of the specific TMDLs:
http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessmentTMDLs.aspx

- The Inland Bays Pollution Control Strategy (PCS) and the accompanying regulations were finalized by order of the DNREC Secretary on October 2008. The PCS regulations can be reviewed at http://regulations.delaware.gov/documents/November2008c.pdf. Background information about the PCS with guidance documents and mapping tools can be retrieved from
http://www.dnrec.state.de.us/water2000/Sections/Watershed/ws/ib_pcs.htm

- 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

Water Supply.

- The project information sheets state water will be provided to the project by Tidewater Utilities via a central water system. DNREC records indicate that the project is located within the public water service area granted to Public Water Supply (a.k.a. Tidewater Utilities) under Certificate of Public Convenience and Necessity 87-WR-04.

- 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.

- Potential Contamination Sources exist in the area, and any well permit applications will undergo a detailed review that may increase turnaround time and may require site specific conditions/recommendations. In this case there is an Underground Storage Tank associated with Kohlers located within 1000 feet of the proposed project.

Source Water Protection Areas.

- The DNREC Water Supply Section, Groundwater Protection Branch (GPB) has determined that the parcel falls partially within a wellhead protection areas for Sussex County (see map). The wellhead protection areas protect well owned by Tidewater Utilities Inc. (TUI) Meadows District.

  Wellhead protection areas are surface and subsurface areas surrounding a public water supply well where land use activities or impervious cover may adversely affect the quantity and quality of ground water moving toward such wells.

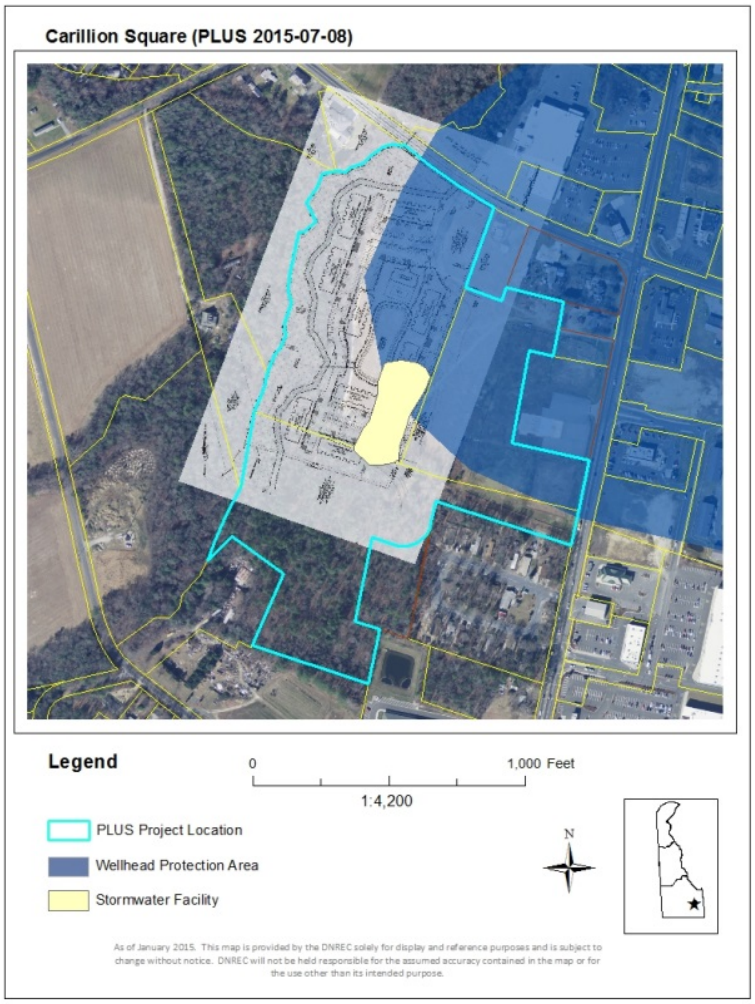
  The site plan shows infiltration ponds for the management of stormwater (see map below). While these systems address the particulate and nutrient components of stormwater runoff, they do not address pathogens, petroleum hydrocarbons, pesticides, other organic compounds, and other inorganic compounds associated with residential land use (DNREC, 1999). Because this is wellhead protection area, there exists the potential for these constituents to enter the aquifer and compromise water quality.

  GPB recommends, moving the stormwater infiltration pond to an area outside the wellhead protection area.

- Chapter 115 Zoning Article IV §115-19 Of the County's Code states in part that agricultural districts are also intended for protection of water resources. The parcel under review is zoned as agricultural district and it would afford more protection to the drinking water for the consumers of the TUI Meadows District if it remained agricultural.

- In addition, because the wellhead protection area is an existing source of public drinking water and the excellent ground-water recharge area so readily affects the underlying aquifer, the storage of hazardous substances or wastes should not be allowed within these areas unless specific approval is obtained from the relevant state, federal, or local program.

Reference: Delaware Department of Natural Resources and Environmental Control, 1999, The State of Delaware Source Water Assessment Plan: Dover, DE, p. 301.



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.

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.
Regulation 21 Section 10 – Emission Standards for Hazardous Air Pollutants, Asbestos	• Ensure no visible residue of asbestos materials remains in the work area after all asbestos materials are removed in accordance with NESHAP. • Display DANGER signs whenever airborne asbestos may be present in accordance with NESHAP and OSHA • Use wet removal techniques. • Dispose of all asbestos containing waste in clearly labeled sealed containers and store in a secure location awaiting transport to an authorized disposal facility, not to exceed a period of 45 days.

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

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There are no known cultural or historic resources such as an archaeological site or National Register-listed property, on this parcel. However, there is an early to mid-20th-century house (S-9845) nearby, at the corner of Indian Mission Rd. and the John J. Williams Hwy. According to the Pomeroy and Beers Atlas of 1868 (a 19thcentury map), there was a dwelling associated with a W. Lingo near the bend close to Indian Mission Road, and there may archaeological resources associated with as well.

- If there will any development, on this parcel, the developer should still be aware of the Unmarked Human Burials and Human Skeletal Remains Law of 1987 (Delaware Code: Title 7, Chapter 54), which pertains to the discovery and disposition process of such remains.

  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 check the following websites for additional information: www.history.delaware.gov/preservation/umhr.shtml and www.history.delaware.gov/preservation/cemeteries.shtml.

  Therefore, prior to any demolition or ground-disturbing activities, the developer may want to hire an archaeological consultant to examine the parcel for any potential archaeological site or archaeological resources, such as cemetery, burial site, or unmarked human remains.

- 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.

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 (DSFPR):

- Fire Protection Water Requirements:
  - Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
  - Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

- Fire Protection Features:
  - All structures over 10,000 sq. ft. aggregate will require automatic sprinkler protection installed.
  - Buildings greater than 10,000 sq. ft. 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements
  - Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
  - Show Fire Lanes and Sign Detail as shown in DSFPR

- 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 building must be constructed so fire department apparatus may negotiate it.
  - Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
  - 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"
  - Proposed Use
  - Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
  - Square footage of each structure (Total of all Floors)
  - National Fire Protection Association (NFPA) Construction Type
  - Maximum Height of Buildings (including number of stories)
  - Note indicating if building is to be sprinklered
  - Name of Water Provider
  - Letter from Water Provider approving the system layout
  - Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
  - Provide Road Names, even for County Roads

Additionally, at the time of formal submittal, the applicant shall provide completed application, fee, and three sets of plans depicting the layout and arrangement of the automotive fuel dispensing tanks and equipment in accordance with the Delaware State Fire Prevention Regulation (DSFPR)

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 be advised that as of August 1, 2015, all new plan submittals and re-submittals, including major, minor and commercial plans, shall 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/.

- DelDOT recommends that a five-foot sidewalk, separated from the road by a three-foot grass buffer strip be provided along the road where the complex will take access to encourage walking both to the adjoining commercial development along Route 24 and to the Food Lion shopping center.

- If space permits, DelDOT recommends the construction of a walking trail around the perimeter of the complex, or at least a continuous sidewalk network along the perimeter of the parking lot.

- Again if space permits, DelDOT recommends that additional islands be provided and a few parking spaces be eliminated in the parking areas near Buildings C and D and Buildings F and G to provide for better traffic flow.

- DelDOT also recommends the use of parking bumpers, bollards or planters to prevent vehicles from overhanging, or potentially driving onto, the sidewalks. As necessary, see Figure 3.5.4.3-c in the Development Coordination Manual for guidance in this regard.

- The applicant should expect a requirement that all PLUS and/or TAC comments be addressed prior to submitting record, subdivision or entrance plans for review.

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

- The applicant should expect a requirement that any substation, wastewater facility or other utility parcels serving the site have access from an internal driveway or subdivision street with no direct access to Route 5.

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

Soils Assessment

- Based on soils NRCS survey mapping update, the soil mapping unit with the most limitations for development is the Longmarsh and Indiantown soil mapping unit (Figure 1).

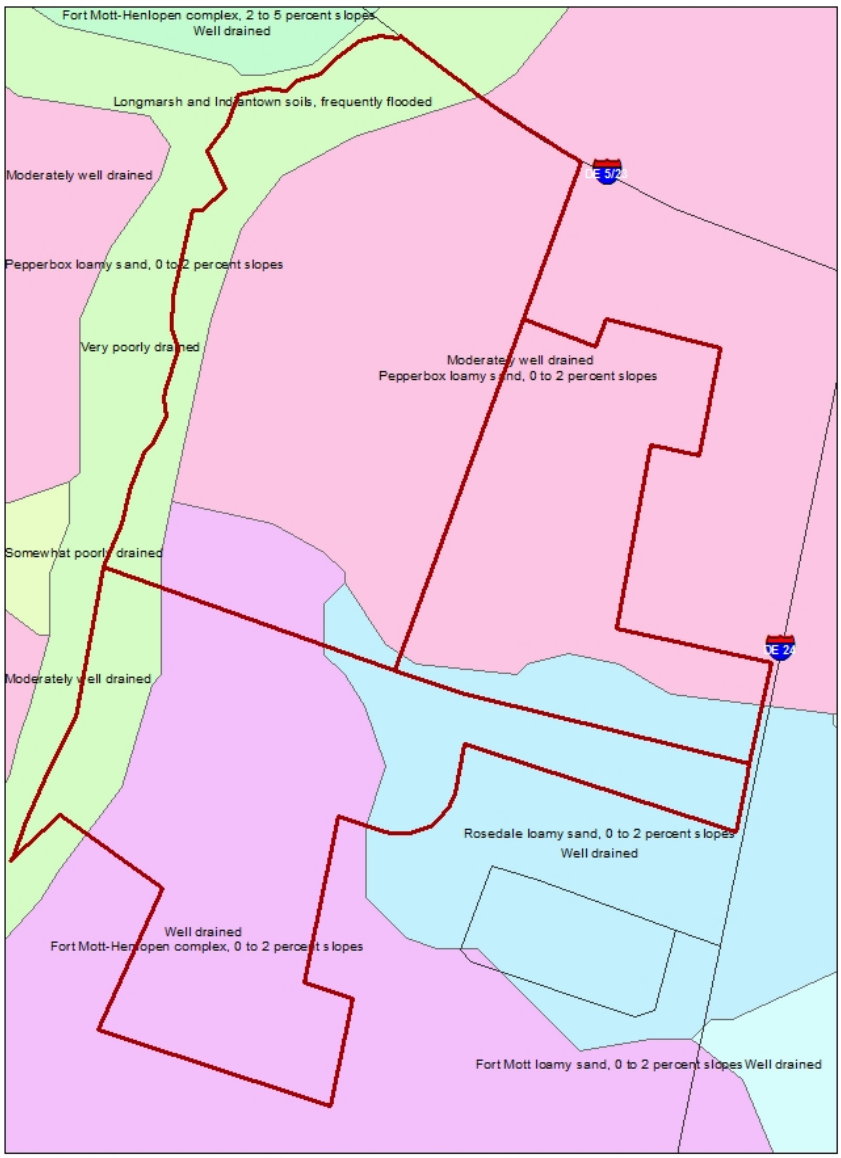


Figure 1: Soil survey mapping update in the immediate vicinity of the proposed project

Site Visit Request

- DNREC scientists have not surveyed this project area; therefore, they are unable to provide information pertaining to the existence of state-rare or federally listed plants, animals or natural communities at this project site. In order to provide informed comments, DNREC scientists request the opportunity to conduct a survey of the property to evaluate habitat and determine the potential for species of conservation concern. Please note that DNREC scientists have extensive knowledge of the flora and fauna of the state.

The survey will be conducted at no expense to the landowner. Recommendations resulting from the survey would allow the applicant the opportunity to reduce potential impacts to rare species and unique habitats and to ensure that the project is environmentally sensitive. Please contact Kate Fleming at (302) 735-8658 or Kate.Fleming@state.de.us to grant a site visit.

Forest Preservation

- Most of the forest on this site is forming an upland buffer to the creek. Not only does this buffer protect on-site water quality, but also protects downstream water quality. There are numerous rare species of plants and animals documented downstream and water quality plays a role in their continued persistence. In addition, forested buffers along water bodies support wildlife by providing a source of food and water, protective cover from predators, and shelter from harsh weather as wildlife move between habitats during migratory and daily activities. Research studies show a great number of songbirds, game birds, small mammals, reptiles and amphibians, and other wildlife use corridors as a regular part of their life cycles.

    - Consideration should be made to change the site plan to avoid affecting the existing forest on this site.

    - Although the site plans refer to a 20-foot voluntary wetlands buffer, these are actually set-backs, which do not provide protection for wetlands because they are not vegetated. True buffers should remain forested and undisturbed. Lot lines, roadways, and infrastructure should not be placed within buffer zones.

      It should also be noted that a 20-foot forested buffer is inadequate to protect the function and integrity of adjacent forested wetlands or for providing an adequate upland buffer for wetland-dependent wildlife species. We recommend leaving at least a 100-foot upland buffer along the creek given the large scale of this development and potential to impact water quality. Again, this buffer should not include impervious surfaces, mowed lawn, parking lots, roadways, structures, or stormwater facilities. This recommendation is based on research that shows an adequately-sized buffer that effectively protects wetlands and streams is usually about 100 feet in width.

    - To reduce impacts to nesting birds and other wildlife species that utilize forests for breeding, we recommend that clearing not occur April 1st to July 31st. This clearing recommendation would only protect those species during one breeding season; because once trees are cleared the result is an overall loss of habitat.

Nuisance Waterfowl

- Wet ponds created for stormwater management purposes may attract resident Canada geese and mute swans that will create a nuisance for community residents. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured lawns surrounding ponds provide attractive habitat for these species.

- To deter waterfowl from taking up residence in these ponds, we recommend planting the surrounding open space with a mix of native wildflower plantings (to be planted in accordance with the Sediment and Stormwater Plan approval agency requirements). It is best to mow the open space area surrounding the pond only once a year, either in February or March. If mowing must occur more often, it would be helpful to leave a minimum buffer of 15-30 feet in width to be mowed annually. This area would be necessary to adequately deter the waterfowl from inhabiting the area (when the view of the surrounding area from the pond is blocked, geese can't scan for predators and are less likely to reside and nest in the area of the pond). In addition to deterring nuisance waterfowl, the native wildflower mix will also serve to attract bees, butterflies, and other pollinators, and reduce run-off.

- The DNREC program botanist, Bill McAvoy would gladly assist in drafting a list of plants suitable for this site. Bill can be contacted at (302) 735-8668 or William.McAvoy@state.de.us.

Additional information on TMDLs and water quality

- Compliance with the specified TMDL nutrient and bacterial reduction requirements specified for the Inland Bays watershed can be facilitated by adherence to the strategies and requirements described in the Inland Bays PCS, and the implementation of the following recommended best management practices (BMPs):

- Maintain as much of the existing forest cover as possible. DNREC further suggests additional native tree and native herbaceous plantings - wherever possible –create additional environmentally-friendly open space.

- DNREC strongly recommends a United States Army Corps of Engineers (USACE) approved wetlands delineation. According to information submitted by the applicant in the PLUS application, a USACE approved wetland delineation has not been conducted to date.

- 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 a minimum 100-foot upland buffer (maintaining the existing forested buffer and planting additional native vegetation to maintain this 100-foot buffer) from all waterbodies (including ditches) and wetlands (as determined by USACE approved wetlands delineation).

- Use 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 increases that often track post-development increases in surface imperviousness.

Please contact Lara Allison at (302) 739-9939 for further information about the possibility for installing a rain garden(s) on this parcel.

- 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 associated environmental impacts. Thus omission any of the above-stated forms of surface imperviousness is not considered an acceptable BMP.

- Since this project will create additional surface imperviousness that will increase the probability for increased flooding and increased pollutant load runoff impacts to adjoining streams and wetlands in the greater Inland Bays watershed - we strongly encourage the applicant mitigate these said impacts through the employ of pervious paving materials – wherever practicable - instead of conventional asphalt and concrete. DNREC particularly recommends the applicant consider pervious paving materials for all designated parking areas.

- 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 with the Division of Watershed Stewardship at (302) 739-9939 for more information on the protocol.

Additional information on air quality

- The overall 3-parcel scope includes 31.23 acres, with at least 60 percent of that in forested land. The site plan shows that a little over one parcel is being developed at this time: the northernmost parcel, which is 14.24 acres by itself. The site area per the plan is 15.79 acres, with about 4.18 acres of that remaining "open." Developed space would then be 11.61 acres (15.79 - 4.18).

- DNREC notes that some of this information appears to conflict with what is provided in the application. First, the applicant states that the forested area is only 8.60 acres and that the project plans to clear 4.70 acres of that; perhaps, this is referring only to that which is within the site area per the plan. Second, the applicant states that 11.60 acres of "open space" will remain after the project is complete. However, it appears that the applicant is referring to the common space that is listed on the site plan. As drafted, this common space includes everything that is *not*: active open space, stormwater management, or wetlands. Therefore, the common space includes everything developed, such as: paved

parking lots, the condominiums, the clubhouse, and the pool. The DAQ does not consider this "open space." The US EPA defines open space as "any open piece of land that is undeveloped (has no buildings or other built structures) and is accessible to the public." Furthermore, the application does not indicate what the intent is for the remaining 15.44 acres of property outside this project's footprint (31.23 – 15.79). As the remaining property is heavily forested and provides air quality benefits, the DAQ encourages the applicant to confirm whether this land will remain undisturbed.

- The existing property lacks both sidewalks and bike paths. There are some shoulders along Indian Mission Road, but they quickly terminate into turn lanes approaching the intersection at John J Williams Highway. The applicant indicates that sidewalks will be added as part of this project, but bike paths will not be added.

- DNREC encourages developers and builders to consider all sustainable growth practices in their design, and they believe that the air quality impacts associated with the project should be completely considered. New homes 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; Delaware currently violates federal health-based 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 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 Carillon Square may have on air quality.

Table 2: Projected Air Quality Emissions for Carillon Square

Emissions Attributable to Carillon 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)
Area source emissions	6.3	0.7	0.6	0.7	25.6
Power emissions	*	2.5	8.7	*	1,284.0
Mobile emissions	9.3	9.8	0.3	0.1	6,029.2
Total emissions	15.6	13.0	9.6	0.8	7,338.8

(*) *Indicates data is not available.*

Note that emissions associated with the actual construction of the condominium 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, 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 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 already exist in nearby Rehoboth Beach and Lewes.

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 the development. 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 Carillon Square project. The DAQ point of contact is Rachel Yocum, and she may be reached at (302) 739-9402 or Rachel.yocum@state.de.us

Delaware State Housing Authority – Contact Karen Horton 739-4263

- DSHA supports the request to rezone 15.79 acres, located at the intersection of Route 5 and Route 24 in Sussex County, from an Agriculture Residential District (AR-1) to a High Density Residential District (HR-1) to allow 204 residential units for the following reasons:

    - While the application does not identify the market segment, except as being condominium, it is a higher density proposal which is typically less expensive to construct and located in the coastal resort area. As such, this proposal provides an excellent opportunity to support the local workforce in an area that lacks affordable homes. In addition, this site is in close proximity to existing services, markets, and employment opportunities.

- While large suburban homes have dominated development in Delaware for several decades, a growing body of research indicates that we are in the midst of a significant market shift. The baby boomers that once drove suburban development are now aging and are looking to downsize into something more manageable. The Delaware Population Consortium (DPC) projections for the next ten years indicate that not only will there be a large amount of suburban homes placed on the market by baby boomers, but that there will be a decline in households in age ranges that typically seek large homes. These same DPC projections show growth in the younger age ranges most likely at stages in their life and income to support apartments, condominiums and entry level homes.

- The combination of excess suburban housing supply currently on the market, additional supply being added by aging baby boomers, more stringent lending standards, along with a changing market indicate that it is critical that communities move away from large lot single family-detached housing and proactively provide a variety of housing options to meet market demand.

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.

Sussex County – Contact: Janelle Cornwell 855-7878

- The property is surrounded by AR-1, GR and MR zoning districts. There are no lands zoned HR-1 in the area. If the rezoning is successful a Site Plan would be required to be reviewed and approved by the Sussex County Planning Commission. It was suggested prior to submission of the Site Plan that the applicant meet with the Planning Office to discuss the application. It was also noted that a sidewalk connection from the residences to the commercial should be considered.

- The project proposes to connect to the Long Neck Sanitary District, but it is currently located outside the District boundary. The property may be annexed into the sewer district service when the developer completes certain administrative procedures. The project is within a sewer planning area and connection to the County sewer system is mandatory.

- County sewer planning allocated up to 4.0 EDU per acre for this site as AR zoned parcels, so sewer capacity is available for a project not to exceed 4.0 EDUs per acre (less State of Delaware regulated wetlands). The proposed 204 total units on 15.79 total acres (proposed density of 12.92 units per acre) exceeds sewer planning assumptions and it is likely that downstream upgrades or an alternative transmission system will be required for the project to proceed. Said upgrade or transmission system construction would be at the developer's expense.

- All sewer infrastructure shall be designed and installed in accordance with Sussex County standard requirements and procedures. The Sussex County Engineer must approve the connection point. The Sussex County Engineering Department requires that a Sewer Conceptual Plan be submitted for review and approval prior to requesting annexation. Attached is a listing of steps to be completed for extending district boundaries. Also attached is a checklist for preparing conceptual plans.
- One-time system connection charges will apply. Please contact Mrs. Stephanie Lynch at 302 854-5087 for additional information for sewer-related charges.
- For questions regarding these comments, contact Rob Davis, Sussex County Engineering Department at (302) 855-7820

In addition to these comments, a letter from Brandy Nauman, Sussex County Housing Coordinator & Fair Housing Compliance Officer is attached to this letter.

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

Attachment