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May 18, 2016

Constance C. Holland, AICP, Director
State of Delaware
Office of State Planning
122 Martin Luther King Jr. Boulevard South
Haslet Armory, Third Floor
Dover, Delaware 19901

RE: **Summit Circle**
New Castle County Application #2015-0247-S
Tax Parcel #11-058.00-007
Karins Project No. 1659.00

Dear Ms. Holland:

This letter is in response to the PLUS review report dated April 20, 2016 for the above-referenced project. The following items have been addressed in accordance with your comments:

Strategies for State Policies and Spending

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

Acknowledged.

Code Requirements/Agency Permitting Requirements

Department of Transportation - Contact Bill Brockenbrough 760-2109

- *The site access on Bethel Church Road and the internal subdivision streets 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>.*

Acknowledged.

- *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.*

Acknowledged.

- *We estimate that the proposed development would generate 172 vehicle trip ends per typical weekday and 19 vehicle trip ends per hour in the peak hour of that day. Per Section 2.2.2.3 of the Manual, new developments generating fewer than 500 vehicle trip ends per day and fewer than 50 vehicle trip ends per hour warrant Traffic Impact Studies (TIS) only if a TIS is required by the local jurisdiction based on their warrants. Our understanding is that New Castle County requires TIS only for developments generating more than 50 vehicle trip ends per hour. Therefore we do not anticipate requiring a TIS.*

Acknowledged.

- *Section 3.2.4.1 of the Manual addresses the placement of right-of-way monuments (markers) along subdivision streets. We will require that monuments be furnished and placed along the proposed streets in accordance with this section.*

Acknowledged.

- *Section 3.2.4.2 of the Manual addresses the placement of right-of-way monuments (markers) along the roads on which a property fronts, in this case Summit Bridge Road (Delaware Route 71) and Bethel Church Road. Monuments sufficient to re-establish the permanent rights-of-way after the dedication discussed below should be shown on the plan and provided in the field in accordance with this section.*

Acknowledged.

- *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 as necessary along the site's frontage on Bethel Church Road and Summit Bridge Road. The standard dedication on two-lane local roads is 30 feet from the road centerline and 30 feet from the outermost edge of the through lanes on divided highways. If a dedication is needed to achieve one of these distances, then the following right-of-way dedication note is required on the record plan, "An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat." The plan accompanying the PLUS application meets this requirement with respect to Bethel Church Road but it is not clear whether it meets it with respect to Summit Bridge Road.*

The note currently in place shall be revised, per DOT standard.

- *Section 3.2.5.1.1 of the Manual provides DelDOT's requirements regarding easements for signs and structures at neighborhood entrances. In accordance with this section, if this development is proposing a neighborhood sign or structure, then a permanent easement shall be established at the entrance on Lot 10 and/or the storm water management area. The easement*

shall be located outside of any existing and/or proposed right-of-way. It will also need to be verified that the sign or structure does not pose a sight distance and/or safety hazard.

Acknowledged.

• In addition to the right-of-way dedications just mentioned, and in accordance with Section 3.2.5.1.2 of the Manual, DelDOT will require the establishment of a 15-foot permanent easement for infrastructure along the property frontages. The following note should be added to the plan: "A 15-foot permanent easement is hereby established for the State of Delaware as per this plat." Presently the plan does not show this easement along Bethel Church Road or Summit Bridge Road.

A 15-foot permanent easement will be added.

• 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:

- o Initial Stage Fee Calculation Form*
- o Initial Stage Review Fee*
- o Gate-Keeping Checklist – Site Plan*
- o Design Checklist - Record Plan*
- o Sight Distance Spreadsheet*
- o Owners and Engineers' name and e-mail address*
- o Record Plan*
- o Conceptual Entrance Plan*
- o Submission of the Area-Wide Study Fee (If applicable)*

Acknowledged.

• Referring to Section 3.4.2.1 of the Manual, the following items, among other things, are required on the Record Plan:

- o A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.*

This will be added to the plan set.

- o Depiction of all existing entrances within 300 feet of the proposed entrances.*

Any entrances not currently shown, will be added.

- o Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.*

Acknowledged.

• Section 3.5 of the Manual provides DelDOT's requirements with regard to connectivity. The requirements in Sections 3.5.1 through 3.5.3 shall be followed for all development projects having access to state roads or proposing DelDOT maintained public road for subdivisions. We are aware of a plan pending with New Castle County for Summit Bridge Estates (Tax Parcel No.

11-055.00-019) immediately to the east. If possible, and we presently see no obstacles, the two plans should be coordinated to include a street connecting the two parcels.

Owner has been in contact with the adjacent landowner to discuss this.

• Section 3.5.4.2 of the Manual addresses requirements for shared-use paths and sidewalks. Projects located in Level 3 Investment Areas are required to install a shared-use path or sidewalk along the State-maintained road frontage if the project abuts an existing facility. The Subdivision Engineer may waive the requirement where there is no facility on an abutting parcel. From Google Earth photography, no such facilities are apparent.

o According to the 2010 Investment Area Map, the parcel is in Level 3. Given that most of the land in the surrounding area is developed or developing, we anticipate requiring sidewalks or shared used paths along the property frontage, but a decision has not been made in this regard.

Acknowledged.

• Section 3.6 of the Manual provides DelDOT's requirements with regard to noise analysis. Because the development is adjacent to Summit Bridge Road, which in this area is classified as a Principal Arterial road, we will require a noise analysis in accordance with this section.

Acknowledged.

• In accordance with Section 3.8 of the Manual, storm water facilities, excluding filter strips and bioswales, shall be located a minimum of 20 feet from the ultimate State right-of-way along Summit Bridge Road, Old Summit Bridge Road and Bethel Church Road. This requirement will affect the proposed basin at the north corner of the property.

The location of that SWM facility will be moved.

• 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:

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

Acknowledged.

• 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.xlsm?111215. We do not anticipate requiring auxiliary lanes for this development.

Acknowledged.

• *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>.*

This shall be added to the plan and the spreadsheet will be submitted.

• *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.*

Acknowledged.

• *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.*

Acknowledged.

• *This project is located within the regulated airspace zones of Summit Airport (EVY), 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 submits a "Proposed Construction/Alteration in Airport Zones Notification Form" in accordance with Delaware Code (2 Del. C. § 602).*

o 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

We have met with Josh Thomas of the DelDOT-Aeronautical office and will continue to work with him in this vein.

Department of Natural Resources and Environmental Control – Contact 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 homeowners.

Because the project falls entirely within a Water Resource Protection Area (WRPA) which naturally filters water and contaminants into the underlying water table aquifer, the Department recommends using innovative/alternative technology wastewater treatment and disposal systems (I/A Systems) to protect the WRA.

DNREC further recommends the use of high performance energy efficiency building standards (with consideration for alternative energy sources), and the use of green infrastructure to protect 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.

Acknowledged.

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.

TMDLs & Nutrient Management.

• The project is located in the greater Delaware River and Bay drainage area, specifically within the C & D Canal East watershed. The State of Delaware has 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 Federal Clean Water Act). 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 C & D Canal East watershed calls for a 40 percent reduction in nitrogen and phosphorus from baseline conditions. A TMDL for bacteria, however, has not been developed in this watershed to date. The TMDL reduction requirements, supporting documents, and technical analysis can viewed here:

<http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessmentTMDLs.aspx>

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>

Acknowledged.

Water Supply.

- *The project information sheets state that water will be provided to the project by Artesian Water Company via a public water system. Our records indicate that the project is located within the public water service area granted to Artesian Water Company under Certificate of Public Convenience and Necessity 07-CPCN-25.*

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 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.

Acknowledged.

Source Water Protection.

- *The DNREC Water Supply Section, Groundwater Protection Branch (GPB) has determined that the project falls entirely within a Water Resource Protection Area (WRA) for New Castle County.*

New Castle County refers to excellent ground-water recharge potential areas as 'recharge areas'. Recharge areas are characterized as deposits of coarser grained material that have the best ability to transmit water vertically through the unsaturated zone to the water table. The NCC recharge areas were mapped using the methods described in the Delaware Geological Survey Open File Report No. 34, "Methodology for Mapping Ground-Water Recharge Areas in Delaware's Coastal Plain" (Andres, 1991), and depicted in a series of maps prepared by the Delaware Geological Survey (Butoryak and Talley, 1993).

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.

Acknowledged.

References:

Andres, A. S., 1991, Methodology for Mapping Ground-Water Recharge Areas in Delaware's Coastal Plain: Delaware Geological Survey Open File Report No. 34, p. 18.

----, 2004, Ground-Water Recharge Potential Mapping in Kent and Sussex Counties, Delaware, Delaware Geological Survey Report of Investigations No. 66, p. 14.

Butoryak, K. R., and Talley, J. H., 1993, Delineation of Ground-Water Recharge Resource Protection Areas in the Coastal Plain of New Castle County, Delaware: Delaware Geological Survey Project Report for the Water Resources Agency for New Castle County, p. 26.

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 New Castle County Department of Land Use Engineering Section. Contact the Department of Land Use at (302) 395-5470 for details regarding submittal requirements and fees.*

We met with NCC on December 10, 2015.

Hazardous Waste.

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

There is one SIRS site within a ½ mile radius of the property in question: 4200 Summit Bridge Road (DE-1478) is located adjacent, to the south of the project property.

- o *The Site is an active airport that tends to corporate and government aircraft.*
- o *Paint stripping and other general maintenance of aircraft occurs on site.*
- o *Above and underground storage tanks were located on site also and removed in 2008.*
- o *Impacted soil from the USTs was removed and the site was monitored.*
- o *The site was given a Certificate of Completion of Remedy in February 2015.*

Acknowledged.

Tank Management.

- *No environmental impacts are anticipated by the DNREC Tank Management Section (TMS); however, per the UST Regulations: Part E, § 1. Reporting Requirements:*

Any indication of a Release of a Regulated Substance that is discovered by any Person, including but not limited to environmental consultants, contractors, utility companies, financial institutions, real estate transfer companies, UST Owners or Operators, or Responsible Parties shall be reported within 24 hours to:

- o *The Department's 24-hour Release Hot Line by calling (800) 662-8802; and*
- o *The DNREC Tank Management Section by calling (302) 395-2500.*

Acknowledged.

Air Quality.

• *DNREC encourages developers and builders to consider all sustainable growth practices in their design, but we believe, however, that the air quality impacts associated with the project should be completely considered. The applicant shall comply with all applicable Delaware air quality regulations.*

For a complete listing of all Delaware applicable regulations, please look at our website: <http://www.dnrec.delaware.gov/Air/Pages/Air-Regulations.aspx>.

Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) for this project were quantified. Table 2 – Projected Air Quality Emissions represents the actual impact the Summit Circle may have on air quality.

DNREC encourages sustainable growth practices that:

- o Control sprawl;*
- o Preserve rural and forested areas;*
- o Identify conflicting land use priorities;*
- o Encourage growth on previously developed sites and denser communities while at the same time protect our diminishing land base;*
- o Coordinate transportation, housing, environment, and climate protection plans with land use plans; and*
- o 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.*

Acknowledged.

State Historic Preservation Office – Contact Terrence Burns 736-7404

• *There are no known archaeological sites or National Register-listed properties on this parcel. If any development or construction project proceeds, the developer should be aware of the Unmarked Human Burials and Human Skeletal Remains Law, in Chapter 54, of Title 7, of the Delaware Code.*

Acknowledged.

• *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.*

Therefore, 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.

Acknowledged.

Delaware State Fire Marshall's Office – Contact John Rudd 739-4394

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation:

- *Fire Protection Water Requirements:*

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

- *Accessibility:*

- o 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.*

- o 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.*

- o Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.*

- o Additionally, when there is an island proposed to be situated in the center of the cul-de-sac, extra attention should be directed to verify that fire apparatus will be able to freely negotiate through the cul-de-sac without impediment. Generally, the width between the property lines and the edge of the island is a minimum of 24 feet or more.*

- o The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.*

- o 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:*

- o Provide type of fuel proposed, and show locations of bulk containers on plan.*

- *Required Notes:*

- o 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”*

- o Name of Water Supplier*

- o Proposed Use*

- o National Fire Protection Association (NFPA) Construction Type*

- o Maximum Height of Buildings (including number of stories)*

- o Provide Road Names, even for County Roads*

Acknowledged, all.

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

- *As part of the larger project development effort associated with US Route 301, DelDOT is developing plans for a future SR 896 / Bethel Church Road Interchange. This work, which is presently unfunded for design or construction, will improve the existing sharp curve on SR 896 at the intersection and will eliminate the traffic signal there. As part of that work, the west leg of Bethel Church Road would be realigned to the south and tied into northbound Summit Bridge Road by means of a flyover ramp. Based on the current concept plans, no lots will be directly affected but rights-of-way and construction easements will be needed from the planned open space. More information about the proposed interchange is available here:
<http://www.deldot.gov/information/projects/us301/us301Archive/pages/maps.shtml>.*
- *Please be advised that DelDOT is about to advertise for adoption, in the April Register of Regulations, an update of the Development Coordination Manual. The effective date will be 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 and subdivision street designs.*
- *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/>.*
- *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/DelDOT_Development_Coordination_Plan_Sheet_Notes.pdf.*

Acknowledged, all.

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

Soils Assessment.

- *Based on NRCS soils survey mapping update, Reybold (ReB) is the primary soil mapping unit mapped on subject parcel. Reybold is a well-drained upland soil that, generally, has few limitations for development. (Figure 1).*

Acknowledged.

Source Water Protection.

- *The application shows that each residence will utilize an individual on-site wastewater treatment system. DNREC recommends that these systems be constructed using innovative/alternate technology wastewater treatment and disposal systems (I/A Systems) to protect the WRA.*

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.

Acknowledged.

C&D Canal Wildlife Area.

• The proposed project is within ½ mile of the boundary of C&D Canal Wildlife Area, a Wildlife Area managed by the Division of Fish and Wildlife, DNREC. The developer should consult with the Regional Wildlife Biologist, Eric Ludwig, to minimize potential negative impacts of the proposed project on State Wildlife Area lands. He can be reached at (302) 834-8433. Additionally, the developer should be aware that people using the property in question could be subject to the effects of legal hunting activities in the Wildlife Area, such as firearm noise or barking dogs pursuing game.

Acknowledged.

Additional information on TMDLs and the PCS.

• A Pollution Control Strategy (PCS) to achieve the required TMDL nutrient and bacterial load reduction requirements has not been established for the C&D Canal East. Nonetheless, we still strongly encourage the applicant to take responsibility for reducing nutrient and bacterial pollutants through voluntary implementation of the following recommended BMPs:

o Preserve and/or maintain as much of the existing open space as possible; we suggest additional native tree, shrub and/or native herbaceous vegetation plantings, wherever possible.

o 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.

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

o 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.

o 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 uses; thus providing applicants and governmental entities with quantitative information about the project's impact(s) on baseline water quality. We strongly encourage 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.

Acknowledged, all.

Additional information on tank management.

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

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

For more information, please visit online:

<http://www.dnrec.delaware.gov/tanks/Pages/default.aspx> or contact Ross D. Elliott at TMS with further questions, at (302) 395-2500 or Ross.Elliott@state.de.us.

Acknowledged.

Additional information on hazardous waste sites.

- *DNREC strongly recommends that the land owner perform environmental due diligence of the property by performing a Phase I Environmental Site Assessment (including a title search to identify environmental covenants) in accordance with Section 9105(c) (2) of the Delaware Hazardous Substance Cleanup Act (HSCA). While this is not a requirement under HSCA, it is good business practice and failure to do so will prevent a person from being able to qualify for a potential affirmative defense under Section 9105(c) (2) of HSCA.*

Additional remediation may be required if the project property or site is re-zoned by the county.

Should a release or imminent threat of a release of hazardous substances be discovered during the course of development (e.g., contaminated water or soil), construction activities should be discontinued immediately and DNREC should be notified at the 24-hour emergency number (800) 662-8802). SIRS should also be contacted as soon as possible at (302) 395-2600 for further instructions.

Acknowledged.

Additional information on air quality.

- *New homes may emit, or cause to be emitted, air contaminants into Delaware's air, which will negatively impact public health, safety and welfare. These negative impacts are attributable to:*

o Emissions that form ozone and fine particulate matter; two pollutants relative to which Delaware currently violates federal health-based air quality standards,

o The emission of greenhouse gases which are associated with climate change, and

o The emission of air toxics.

Air emissions generated from new homes include emissions from the following activities:

- o Area sources such as painting, maintenance equipment and the use of consumer products like roof coatings and roof primers.*
- o The generation of electricity needed to support the new homes, and*
- o All transportation activity.*

Additional measures may be taken to substantially reduce the air emissions identified above. These measures include:

- o 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.*
- o 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.*
- o 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.*
- o Providing infrastructure for plug-in vehicles. Such measure may entice a potential community center guest to purchase an electric vehicle if the electrical outlets are available as this will help minimize vehicle emissions.*
- o Providing shade for parking lot areas. Approaches may include architectural devices, vegetation, or solar panels. Providing shade for parking areas helps to reduce heat island impacts, and, by extension, helps to minimize the potential for localized ground-level ozone formation. Such measures can also have the additional benefit of channeling or infiltrating stormwater.*
- o 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.*
- o 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.*
- o Using pre-painted/pre-coated flooring, cabinets, fencing, etc. These measures can significantly reduce the emission of VOCs from typical architectural coating operations.*

o 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 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 Summit Circle. The DAQ point of contact is Deanna Cuccinello; she may be reached at (302) 739-9402.

Acknowledged, all.

Delaware State Fire Marshall's Office – Contact John Rudd 739-4394

• Although not a requirement of the State Fire Prevention Regulations, the Office of the State Fire Marshal encourages home builders to consider the benefits of home sprinkler protection in dwellings. The Office of the State Fire Marshal also reminds home builders of the requirements of Subchapter III of Chapter 36 of Title 6 of the Delaware Code which can be found at the following website: <http://delcode.delaware.gov/title6/c036/sc03/index.shtml>

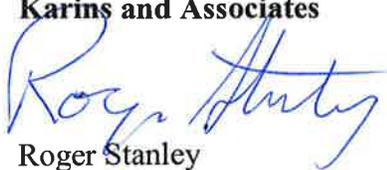
Owner has been notified of this.

• 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.

Acknowledged.

If you have any questions or require any additional information, please do not hesitate to call or email.

Sincerely yours,
Karins and Associates



Roger Stanley
Project Manager

enc.

cc: Michael Simeone (via email)