

DNREC comments on the Town of Wyoming Comprehensive Plan

Stormwater/Drainage comments

Dam Safety

The Town should add dam safety as a separate item or within the section on public safety to the comprehensive plan.

In 2008, DNREC completed a state-wide dam inventory to determine which dams would be regulated by the new Dam Safety Program. As part of that inventory, an “Estimated Zone of Risk” was mapped for each dam that was evaluated, including Wyoming Mill Dam, even though it was determined to be non-regulated, due to private ownership. The “Estimated Zone of Risk” is an estimate of the area inundated by a storm-event dam failure, and was used for preliminary hazard classification of dams in the inventory, until such time as hydrologic/hydraulic studies could be performed. The “Estimated Zone of Risk” for Wyoming Mill Dam indicates that in the event of a dam failure during a storm event, Route 15 would be overtopped, and multiple residential structures would be at risk of flooding. As a result of this information, Wyoming Mill Dam is currently classified by DNREC’s Dam Safety Program as a High hazard dam, meaning that loss of life is probable in the event of a dam failure.

Prior to any development downstream of Wyoming Mill Dam, the Town should require a detailed hydraulic/hydrologic study be performed to confirm the hazard classification of the dam, determine the design spillway flood, and map the inundation area that would result in a dam breach during the design flood. Development downstream of the dam should consider the effects and impacts of a dam failure caused by the design spillway flood. The Town should require an Emergency Action Plan be developed for the dam that considers existing and proposed development downstream. The Town should require an Operation and Maintenance Manual be developed that contains procedures for ensuring safe operation of the dam and maintaining the dam in good condition. Informal inspections of the dam should be performed at least quarterly by the owner, and an annual inspection should be performed by a licensed Delaware Professional Engineer.

Tax ditches

The Guytown Tax Ditch is partially within the current town boundary. The proposed annexation area would bring the Guytown Tax Ditch completely within the Town. Adequate drainage and the proper maintenance of drainage systems within and around the Town of Wyoming are vital to existing and proposed development, and the overall quality of life within the town. Along with the Guytown Tax Ditch, that has established rights-of-way, is a network of private ditches without right-of-way that convey surface water to the existing tax ditch. A well-organized and maintained tax ditch provides the drainage conveyance framework that enables the area to have productive farmland and desirable residences.

Future Land Use and Annexation

Existing tax ditch rights-of-way should be protected from development encroachment to allow for routine maintenance and periodic reconstruction. Routine maintenance primarily consists of mowing ditch bank vegetation and the removal of small blockages. Periodic tax ditch reconstruction involves the removal of sediment from the ditch bottom to reestablish the original design grade. The removed sediment, referred to as spoil, is typically disposed of by spreading within the tax ditch right-of-way. Therefore it is advantageous to having the tax ditch right-of-way contained within open space rather than a part of individual lots. The placement of permanent obstructions within tax ditch rights-of-way is prohibited. Any change to the location of the tax ditch, or the existing tax ditch rights-of-way, will require a change to the tax ditch court order.

All open channels within the Town boundary and future annexation areas should be identified as these channels may require maintenance in the future. Open channels tend to require periodic reconstruction at intervals dependent upon the sedimentation load from upstream. The Town should consider requiring future development to identify points of access for maintenance equipment, and designate spoil disposal areas, on the subdivision plans.

The Drainage Program recommends each parcel have a tax ditch right-of-way review conducted on the parcel prior to annexation by the Town. Please contact our Georgetown office at (302) 855-1930 to request a review tax ditch rights-of-way on a parcel.

Page 21, Community Services, Utilities, and Facilities, Section 3.2b, Stormwater Management

Stormwater management plans for new construction must be approved by the Kent Conservation District. However, there are existing drainage issues within the town and the future annexation areas that the Kent Conservation District does not address. Please incorporate discussion that reflects how the Town currently deals with stormwater management and how the Town would like to see it dealt with in the future as development occurs. The Town may want to consider surface water management (drainage, stormwater, flooding potential), in addition to wastewater and sewer capacities when reviewing annexation requests and plans.

The Division has been seeing more small construction projects without an approved Sediment and Stormwater Plan. Sediment and Stormwater Regulations require a Sediment and Stormwater Plan for land disturbing activity 5,000 square feet or greater. Land disturbing activity may be more than the building footprint. Land disturbing activity means a land change or construction activity for residential, commercial, industrial, and institutional land use which may result in soil erosion from water or wind or movement of sediments or pollutants into State waters or onto lands in the State, or which may result in accelerated stormwater runoff, including but not limited to clearing, grading, excavating, transporting, and filling land. As the Town of Wyoming updates any land use or subdivision codes, the Sediment and Stormwater Program requests the Town make a note of the Sediment and Stormwater requirements on any construction - related project application checklists, etc.

Lines and grades: If the Town does not have a lines and grades requirement for new construction, the Division recommends this be considered to help resolve drainage issues arising from new construction during and post construction. County/municipal building inspectors would be able to use approved lines and grades requirement to field verify prior to issuance of Certificate of Occupancy or building permit, as appropriate.

The Town should pursue drainage easements along waterways, ditches, and storm drains where currently there is none. This would give the Town the ability to hire contractors to remove blockages without the time consuming task of the State obtaining permission to trespass on the property.

The Town should consider identifying any problem drainage areas, and tax or public ditch systems within the Town's boundaries. Contact Brooks Cahall at the DNREC Drainage Office located in Georgetown, (302) 855-1930, to obtain a GIS layer showing existing tax ditch channels and/or public ditch systems. As annexation occurs, any drainage ways within those areas may become the responsibility of the Town to maintain. The Town may want to consider developing a Drainage Code or Drainage Management Plan.

Plan Recommendations: Community Services, Utilities, and Facilities, Recommendation 6

In pursuance of your recommendation the Town should consider the addition of the following concepts to the combined land-use ordinance.

Existing woodland provides valuable wildlife habitat as well as soil erosion protection and water quality filtering. The Town can adopt ordinances that are more stringent than the current State of Delaware Sediment and Stormwater regulations and protect woodland, riparian buffers, and wetlands by not allow the clearing of woodland, riparian buffers, and wetlands for the creation of stormwater management areas.

Existing drainage ways should be incorporated into the green infrastructure. However, a maintenance plan needs to be in place should blockages from storm debris, beaver, or other sources occur. The Town should identify existing open channels within the Town boundary as these channels may require maintenance in the future. Most of the channels have trees and wetlands adjacent to the channel and the riparian buffer provide a multitude of benefits for water quality and wildlife. There must be a balance between preserving the riparian buffer and having the capability to access the channel to perform maintenance. A recommended easement width of 50 feet from edge of existing tree line, wetland, or top of bank whichever is greater would allow such access. By identifying such areas now, future development would incorporate the easement into community open space thereby preserving the riparian buffer while allowing for channel maintenance access.

Designate all wetland buffers as un-subdivided open space. No portion of any building lot should be within the buffers. During prolonged wet periods, the wetland buffers may become too wet for normal

residential use. Designation as open space will aid in the prevention of decks, sheds, fences, kennels, and backyards being placed within the buffers thereby reducing nuisance drainage complaints.

Fish and Wildlife

Page 36, Section 5-2c, Plan Goals and Recommendations: Future Land Use and Annexation

Goal 5: *“Preserve the environmental features, including mature vegetation with an emphasis on preserving quality tree stands, stream valleys, steep slopes, floodplains, and other wetlands”* (page 36)

The Town does not have a clear plan in place to achieve this goal. Without an overarching plan with specific action items, it is unclear how the Town can protect valuable natural resources on a case by case basis as parcels are annexed or proposed for development.

- 1) Most of the forested areas within the Town and within future growth and annexation areas occur along water courses or are wetlands. In addition to water quality protection and providing habitat, these forested areas provide a corridor for wildlife as they travel across the landscape. These areas provide sources of food and water, protective cover from predators and shelter from harsh weather.

Recommendation: The town should consider preserving the existing forest blocks and those forested areas associated with Isaac Branch, Almshouse Branch and other unnamed tributaries that flow into Wyoming Mill Pond. This could be accomplished by developing a riparian buffer ordinance or tree preservation ordinance that would be specific to protecting those areas.

- 2) It will be difficult for the Town to develop a plan to preserve “environmental features” if it is unknown what those elements are and where they are located. The Natural Heritage and Endangered Species Program (NHESP) has not surveyed many of the parcels being considered for annexation or future growth; therefore, it is largely unknown if state-rare, or federally listed plants, animals or natural communities would be impacted by development of these parcels. Limited surveys have revealed a few Species of Greatest Conservation Need (SGCN¹) associated with forested open space along Isaac Branch in areas designated for short-term and long-term growth. These species occur in forested areas both upstream and downstream of Wyoming Mill Pond.

¹ Species of greatest conservation need (SGCN) are indicative of the overall diversity and health of the State’s wildlife resources. Some may be rare or declining, others may be vital components of certain habitats, and still others may have a significant portion of their population in Delaware. SGCN are identified in the Delaware Wildlife Action Plan (DEWAP) which is a comprehensive strategy for conserving the full array of native wildlife and habitats-common and uncommon- as vital components of the state’s natural resources. This document can be viewed via our program website at <http://www.dnrec.state.de.us/nhp>. This document also contains a list of Species of Greatest Conservation Need, Key Wildlife Habitat, and species-habitat associations.

Recommendation: Because many species of concern (and wildlife in general) are associated with forest, wetland, and riparian areas, these types of habitat should be a priority for preservation.

Recommendation: The Town should considering requiring applicants of development projects to contact the Natural Heritage and Endangered Species Program to determine if their project activities will impact a state-rare or federally listed species. In some cases a site visit may be requested in order to provide the necessary information. The Town should then carefully consider implementation of those recommendations prior to final approval of site plans:

Contact information:

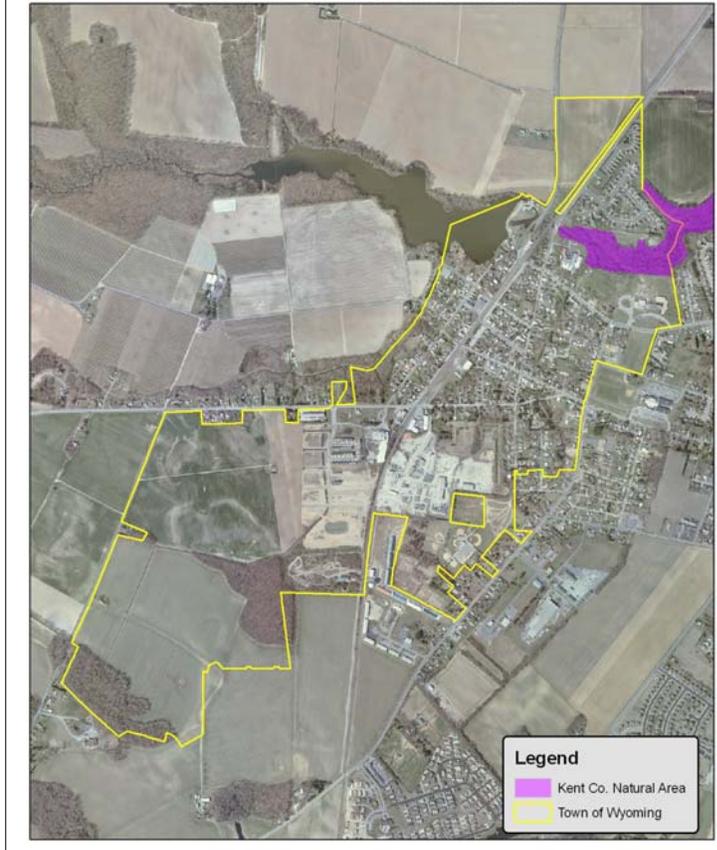
Environmental Review Coordinator
Natural Heritage and Endangered Species Program
DNREC-Division of Fish and Wildlife
4876 Hay Point Landing Rd
Smyrna, DE 1997
(302) 735-8654
Edna.Stetzar@state.de.us

Parks and Recreation Facilities

In Chapter 3, Community Character, Section 3.1, Natural Features, we recommend that you identify the St. Jones River Natural Area. A portion of the St. Jones River Natural Area is located at the upper northern portion of the municipality and incorporates the Isaac Branch to the St. Jones River. Because this area is made up mostly of the 100 year floodplain, stream, wetlands and marsh area it is likely the Natural Area will not be developed. However, there are adjacent uplands that are currently forested in the Natural Area and although language in the Comprehensive Plan acknowledge that the floodplain, wetlands, and marshland areas perform valuable ecological functions for area wildlife and are best left undisturbed, there is no language regarding protection levels when these areas are considered for development. For example, are there any restrictions associated with forest removal? Are there any buffers afforded wetlands and marshlands? Efforts should be made to preserve the remaining riparian forested areas, especially those within the St. Jones Natural Area in the Town's Environmental Protection Plan.

Further, it is recommended that State designated Natural Areas be identified in Comprehensive Plan map #5 which illustrates natural resources within the Town's municipal boundaries.

PLUS 2010-04-07 Town of Wyoming
St. Jones River Natural Area



Page 22, Community Services and Facilities, Section 3-2b, Recreation and Open Space

There are three park/open space areas that are management by the Town of Wyoming:

- Wyoming Town Park- A six acre park overlooking Wyoming Lake. Amenities include a playground, tot lot, picnic area, pavilion, boat ramp, and fishing access.
- Johnson Memorial Park- Open space located at the intersection of Layton Avenue and New Burton Road.
- Town Square- Open space surrounding the train station located at the junction of Railroad Avenue and Camden-Wyoming Avenue.

Page 28, Section 4-3, Opportunities for Physical Activity- Open Space: We are in support of the planning for public access on the Mill Property. The following is an overview of updated information to keep in mind when planning various park facilities.

In May and June 2008, the Delaware Division of Parks and Recreation conducted a telephone survey of Delaware residents to gather information and trends on outdoor recreation patterns and preferences as well as other information on their landscape perception. These findings are the foundation of the 2008-2011 Statewide Comprehensive Outdoor Recreation Plan (SCORP) providing guidance for investments in needed outdoor recreation facilities. The SCORP can be a useful document when addressing parks and recreation facilities and needs within county and municipal comprehensive plans. For the purpose of refining data and research findings, Delaware was divided into five planning regions. The Town of Wyoming is located within SCORP Planning Region 3.

Outdoor Recreation Needs/Priorities

Based on the public opinion survey, the most needed outdoor recreation facilities in Wyoming include:
High Facility needs:

- Walking/Jogging Paths
- Swimming Pools
- Bike Paths
- Access to Historic Sites
- Open Space/Passive Recreation Areas
- Fishing Areas
- Playgrounds
- Picnic Areas
- Hiking Trails
- Nature Programs

Moderate Facility Needs:

- Golf Courses
- Basketball Courts
- Baseball/Softball Fields
- Kayak/Canoe Access
- Powerboat Access
- Soccer Fields
- Football Fields
- Tennis Courts
- Volleyball Courts
- Hunting Areas
- Skate Parks
- Equestrian Trails

The Town of Wyoming is encouraged to work toward incorporating and/or continuing to offer some of these opportunities in the development of their Comprehensive Plan.

Delaware Land and Water Conservation Trust Fund (DTF)

The Division of Parks and Recreation provides matching grant assistance through the Delaware Land and Water Conservation Trust Fund (DTF) to local governments for land acquisition and for park development. Lands that have received DTF assistance must remain as open space for conservation or recreation purposes in perpetuity. Wyoming Town Park is the only park in the municipality that has received funding through the DTF program. The Town of Wyoming could further benefit from this program when incorporating new outdoor recreational facilities (particularly when planning or developing the Mill Property) or adding amenities to existing parks. For more information on the Delaware Land and Water Conservation Trust Fund, please contact Robert Ehemann @ 302.739.9235.

Section 5-2c, Plan Goals and Recommendations: Future Land Use and Annexations, Goal 3: Require the development of open space and parkland as part of the subdivision process that will be integrated into an overall town park system.

More often than not, new developments designate stormwater management ponds/structures and land that is deemed “undevelopable” as their open space. These areas have very little wildlife, habitat or recreation value for the residents of the community. The Town of Wyoming should adopt town ordinance(s) to ensure new development provides *appropriate* open space and park land as part of their subdivision process.

Map 4, Existing Land Use: Johnson Memorial Park is shown in orange as (Vacant Land). This parcel should be shown as either blue (Community Use) or green (Open Space).

Potential Brownfield sites

DNREC's Site Investigation and Restoration Branch (SIRB) encourages the development of Brownfields and can provide assistance when investigating and remediating Brownfield sites. Although SIRB has no specific comments regarding the proposed comprehensive plan at this time, if any future development occurs on sites with previous manufacturing, industrial, or agricultural use, SIRB recommends that a Phase I Environmental Site Assessment be conducted prior to development, due to the potential for a release of hazardous substances. If a release or imminent threat of a release of hazardous substances is discovered during the course of future 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). In addition, SIRB should be contacted as soon as possible at 302-395-2600 for further instructions.

Water Resources comments

A St. Jones River Watershed Implementation plan, completed by Duffield Associates in 2009, included several suggestions for specific water quality improvement projects in the Town of Wyoming, as well as overall recommendations for addressing water quality in the St. Jones Watershed. DNREC would welcome the opportunity to make a presentation to the town. Please call Lyle Jones or Lara Allison at 739-9939.

Page 15, Section 3-1b, Soils: Please revise the soils information in the narrative using the revised soil survey update. The soil survey update is available via web (Web Soil Survey) at the following web link: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

Page 15, Section 3-1c, Watersheds and Total Maximum Daily Loads (TMDLs): Please replace the existing narrative section under said section with the following:

Under Section 303(d) of the 1972 Federal Clean Water Act (CWA), states are required to identify all impaired waters and establish total maximum daily loads to restore their beneficial uses (e.g., swimming, fishing, drinking water, and shellfish harvesting). A TMDL defines the amount a given pollutant (i.e., or the pollutant loading rate reduction for a given pollutant) that may be discharged to a water body from all point, nonpoint, and natural background sources; thus enabling that water body to meet or attain all applicable narrative and numerical water quality criterion (e.g., nutrient/bacteria concentrations, dissolved oxygen, and temperature) in the State of Delaware’s Water Quality Standards. A TMDL may also include a reasonable margin of safety (MOS) to account for uncertainties regarding the relationship between mass loading and resulting water quality.

In simplistic terms, a TMDL matches the strength, location and timing of pollution sources within a watershed with the inherent ability of the receiving water to assimilate that pollutant without adverse impact. The realization of these TMDL pollutant load reductions will be through a pollution control strategy (PCS). A Pollution Control Strategy (PCS) is the regulatory directive that identifies what specific actions (e.g., best management practices) are necessary for reducing pollutants in a given water body (or watershed); thus realizing the water quality criterion or standards set forth in the State of Delaware’s Water Quality Standards – ultimately leading to the restoration of a given water body’s (or watersheds) designated beneficial use(s). The PCS will also include some voluntary or non-regulatory components as well.

The Town of Wyoming is located within the greater Delaware River and Basin drainage, specifically within the St. Jones River watershed. The St. Jones River has assigned (nitrogen and phosphorus) and bacterial TMDL load reduction requirements (See table 1). Currently the PCS for the St. Jones watershed is pending review or has not been completed and/or adopted to date.

Delaware River and Bay Drainage	N	P	Bacteria
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St. Jones	40%	40%	90%
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Table 1: TMDL reduction requirements for the St. Jones River watershed

Source Water Protection

DNREC Water Supply Section, Ground-Water Protection Branch (GPB) has reviewed the Draft Comprehensive Plan Update for the Town of Wyoming for content and form. The review found wellhead protection areas and excellent ground-water recharge potential areas within the municipal boundary of the Town (see map). An area of excellent ground-water recharge potential is located within the long-term growth area (see map).

GPB applauds the Town for incorporating our comments to their PLUS 2008-08-05 review into this Draft and into their Source Water Protection Ordinance.

Plan Implementation

The Plan should offer more specific “actionable” environmental protection strategies than currently offered. We recommend that the following ordinance or ordinances (unless current Town ordinances address these concerns) which would:

- a) Require all applicants to submit to the Town a copy of the development site plan showing the extent of State-regulated wetlands (as depicted by the State Wetland Regulatory Maps), and a United States Army Corps of Engineers (USACE) approved wetlands delineation as conditional approval for any new commercial and/or residential development. Additionally, the site plan should depict all streams and ditches which are jurisdictional pursuant to the Subaqueous Act (7 Del. C., Chapter 72) as determined by DNREC.
- b) Help protect freshwater wetlands where regulatory gaps exist between federal and State jurisdictions (i.e., isolated wetlands and headwater wetlands).
- c) Require a 100-foot upland buffer width from all wetlands or water bodies (including ditches).

Based on a review of existing buffer research by Castelle et al. (1994), 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 (planted in native vegetation) from the landward edge of all wetlands and water bodies (including all ditches).

- d) Require an impervious surface mitigation plan for all residential and commercial developments exceeding 20% imperviousness. In commercial developments, it is strongly recommended that pervious paving materials be required on at least 50% of the total paved surface area(s).
- e) Require the calculation for surface imperviousness (for both commercial and residential development) take in to account all constructed forms of surface imperviousness, including all paved surfaces (roads, parking lots, and sidewalks), rooftops, and open-water stormwater management structures.
- f) Require the assessment of a project's TMDL nutrient loading rate through use of the Department's nutrient budget protocol. The applicant should be further required to use any combination of approved Best Management Practices (BMPs) to meet the required TMDLs for the affected watershed(s) in question.
- g) Exclude structural Best Management Practices (BMPs) such as community wastewater treatment areas, open-water stormwater treatment structures and natural areas containing regulated wetlands from consideration as open space.
- h) Prohibit development on hydric soil mapping units. Proof or evidence of hydric soil mapping units should be provided through the submission of the most recent NRCS soil survey mapping of the parcel, or through the submission of a field soil survey of the parcel by a licensed soil scientist.
- i) Require the applicant to use "green-technology" stormwater management in lieu of "open-water" stormwater management ponds whenever practicable.
- j) All open space land uses should be designed and managed in a manner that mitigates or reduces nutrient pollutant loading and its' damaging impacts to water quality. Since changes in land use often increase runoff of nutrient pollutants into nearby waterways (including wetlands) draining a common watershed, these nutrient pollutant loading impacts should be assessed at the preliminary project design phase. To this end, the Watershed Assessment Section has developed a methodology known as the "Nutrient Load Assessment Protocol" to assess such impacts. The protocol is a tool used to assess changes in nutrient loading that result from the conversion of individual or combined land parcels to a different land use(s), and serves as a "benchmark indicator" of that project's likely impacts to water quality. It is the intention of this protocol to inform those relevant governmental entities (i.e., State, county, and municipal) how a given project will affect water quality in their jurisdictions, while informing/encouraging developers of the need to incorporate better conservation practices (i.e., BMPs) in their project designs to help improve water quality.