

Green Valleys Watershed Association Comments on the Zoning Petition of Artisan Construction Group to East Vincent Township.

These comments are prepared ahead of the Public Hearing of August 19, 2020 at 7:00 p.m., at the East Vincent Township Building, 262 Ridge Road, Spring City, PA before the Board of Supervisors regarding the following:

A Petition of Artisan Construction Group, LLC, the legal or equitable owner of the properties located at 446 Stony Run Road (21-5-78; 21-5-79), 1235 W. Bridge Street (21-5-82; 21-5-83), 1241 W. Bridge Street (21-5-83.1) and 1605 Ellis Woods Road (21-5-83.1A), to amend the Codified Ordinances of East Vincent Township, Chapter 27 (Zoning) in order to add a new Part 29 entitled “AQ – Age-Qualified Overlay District” Two contexts

Overview—Stony Run

The Stony Run is classified as a Special Protection Watershed--High Quality-Trout Stocking (HQ-TSF)¹ and is subject to the Anti-Degradation requirements as implemented by Pennsylvania regulations. The Stony Run was listed on 8/15/2013 by Pa Department of Environmental Protection (PaDEP) as impaired for Aquatic Life Use^{2 3}, caused by siltation and habitat alteration from agriculture, and additionally, as impaired for Recreational Use⁴, excessive levels of fecal coliform, source unknown.

These impairments characterize the Stony Run as a watershed that is already heavily impacted by existing land use. The impairments will be addressed in the future by Total Maximum Daily Loads (TMDLs) plans that are designed to reduce pollutants entering the stream and reverse impairments. Restoring water quality in the Stony Run is required by the Clean Water Act and is implemented through Pennsylvania regulations. The process will be a long, difficult and potentially costly endeavor, but the outcomes will be clean water and a healthy watershed for all East Vincent citizens to enjoy and cherish.

Priorities in Protecting Water Quality and Quantity in the Stony Run

Areas in a watershed that are the most sensitive and, if degraded, will have the most negative impact on water quality and quantity are:

- First order streams and first order watersheds
- Wetlands and Hydric Soils
- Riparian corridors along second order and larger streams
- Areas with a high level of hydrological connectivity with streams and wetlands

Protecting and restoring these features will have the most beneficial impact on water quality, water quantity, stream biodiversity, and watershed health. These should be high priority conservation targets for any township in Chester County. In the context of the future restoration work required under Stony Run TMDLs, conserving these lands is much less expensive than restoring these or other lands in the future, representing a significant savings, some of which conceivably could be realized by township residents in the future.

¹ <http://www.pacodeandbulletin.gov/Display/pacode?file=/secure/pacode/data/025/chapter93/chap93toc.html&d=reduce>

² Macroinvertebrate testing which resulted in this listing occurred on 3/11/2008

³ https://www.depgis.state.pa.us/2020_Integrated_Report/

⁴ Fecal Coliform testing summer 2009

Proposed Zoning Location and Hydrology

The aggregated parcels subject to the petition are grouped around the main stem of the Stony Run—see Map 1 attached below. A GIS analysis of the aggregated parcels finds the following:

- There are at least three first order headwater streams
- Most of the land area contained within these parcels are composed of first order watersheds
- There are significant wetlands, some of which have received preliminary delineation in 2010, and some projected.
- Hydric soils make up 11% of the aggregated parcels, and partially hydric soils 36%.
- There are candidate intermittent streams indicated by topography and aerial imagery on parcel 21-5-79.

First Order Streams and Wetlands in Proposed Zoning Change Parcels See Map 1. The aggregated parcels are mainly composed of first order watersheds around the first order streams, and the remainder being second order watersheds along the mainstem. First order watersheds and wetlands have the highest ecological value in watersheds and are the most vulnerable to impacts⁵. They are the areas of greatest interaction between land and water. Preserving and restoring these features are of the highest priority in any watershed (absent point sources or other unusual circumstances).

Preliminary delineation of wetlands of parcel 21-5-79 was carried out in 2010 as part of the Stony Run Watershed Coldwater Conservation Plan, and this is shown on Map 1. Further delineation work will likely confirm the areas of anticipated wetlands, based on hydric soils, vegetation, and location.

Accurate wetlands mapping for the entire Stony Run is not available, but it is very likely that these aggregated parcels have a relatively much higher percentage of wetlands than typical parcels.

Hydric Soils in Proposed Zoning Change Parcels See Map 2. Hydric (11%) and partially hydric soils (36%) make up almost half of the soils in the aggregated parcels. There is strong correlation between the hydric soils mapping and the delineated/anticipated wetlands. Hydric soils are the result of flooding and high water tables, and are areas of high priority for conservation.

Candidate Intermittent Streams on Parcel 21-5-79 See Map 3. There are two potential intermittent streams above the mapped first order streams. One would be in the Stony Run watershed, the other in the Pigeon Run. Evidence for this are as follows:

- There are persistent channel features visible in aerial photography dating back over 80 years in the agricultural field⁶. The features have not migrated in that time despite constant tilling from agricultural activities, indicating underlying persistent features which are causing the channel. Intermittent flow of water into the channel from an intermittently higher water table is a likely cause.
- These channels are located above and descend to mapped first order perennial streams; this is the typical configuration for intermittent streams
- Both of the channels are above springhouses. Springhouses are built to capture ground water where the water table intersect the surface, demonstrating water table level at or near ground level below these channels

⁵ Stony Run WAP, <https://www.chesco.org/DocumentCenter/View/7973/Stony?bidId=>

⁶ Aerial imagery vintages include 1928, 1937, 1947, 1958, 1971, 1981, 1993, 2004, 2005, 2008, 2010, then annually

- The two channels appear wet in some of the aerial images, and always in contrast to dry soils around them in the same images.
- The two channels are frequently excluded from tillage patterns, indicating conditions in the channel that would make tilling difficult; this would be the case if the channels were intermittently wet/muddy.

Further information is needed to determine if the water table intermittently rises to the level of these channels, and qualifies them as intermittent streams. Intermittent streams receive the same protections as first order streams under the Clean Water Act. These features may have been tilled or piped many years ago as well. Even if these are not intermittent streams, the topography and persistent channels show that these are, at a minimum, ephemeral streams with a high level of hydrological connectivity with first order streams below them and should receive similar protections.

GVWA Comments on Proposed Zoning Changes:

The proposed zoning changes would provide for high-density development in parcels that are highly vulnerable to development of any type due to streams and wetlands. The negative consequences for water quality in the Stony Run from this development would be:

- Altered hydrology with reduced infiltration of precipitation in developed areas. This will affect not only groundwater recharge, but also most importantly the shallow aquifer flow into the first order streams and wetlands. Loss or reduction of the first order streams and wetlands areas will remove the water quality benefits (nitrogen removal, sediment trapping, habitat, etc) that these areas are currently providing to the Stony Run.
- Potential stormwater discharges from stormwater controls. Stormwater facilities are currently only required to handle an inch or two of precipitation in 24 hours, while in recent years much larger precipitation events have occurred locally. These heavy precipitation events are overwhelming even properly designed facilities, sending runoff from impervious surface directly into streams, causing increased stream bank erosion, channel scouring, and flooding downstream.
- NPS pollution from a variety of on land sources, including waste water treatment facilities.
- An overall increase in the factors that are causing the listed stream impairments.

GVWA Recommendations

- 1) The proposed zoning changes should be declined in favor of permanently conserving these parcels. These parcels hold important and irreplaceable streams and wetlands that are currently an integral part of maintaining existing water quality and quantity in the Stony Run and in East Vincent Township.
- 2) In the future, when the Stony Run TMDLs are being designed, incorporate these parcels as key assets in the plan. These are ideal locations to implement forested riparian buffers, wetland enhancements and other Best Management Practices (BMPs).
- 3) Engage with area land conservation organizations to find funding for these and similar priority parcels.
- 4) Engage with area watershed organizations to plan and implement a proactive approach to developing the required TMDLs. GVWA would be pleased to assist with this.
- 5) Work with partners to implement forested riparian buffers on streams and wetlands.

These comments were developed by GVWA Board and staff members, and organized by Mike Bullard, GVWA Watershed Science Coordinator. Contact: mikeb@greenvalleys.org





