

# Memorandum

To: ESIII LP

From: Erik Hetzel, AICP/PP, LEED AP

Date: July 30, 2013

Re: Lands of Ardrossan Farm - Statement of Ecological and Economic Impacts

Dennis F. Glackin, AICP, PP

Lisa L. Thomas, RLA, AICP, LEED AP

Bernard S. Panzak, Jr., RLA, LEED AP

Chris H. Garrity, RLA, LEED AP

Erik W. Hetzel, AICP, LEED AP

Associate

Cathy W. Jan, CLA, LEED AP

Glackin Thomas Panzak, Inc.

Paoli Executive Green 1  
Suite 300

41 Leopard Road  
Paoli, Pennsylvania 19301  
610.408.9011

Fax: 610.408.9477

E-mail: plans@glackinplan.com

---

Section 280-100.B(8) of the Zoning Ordinance of Radnor Township requires that any application for conditional use approval of a proposed density modification development include a *“statement which will show the ecological and economic impact of the development on the Township and especially as to the surrounding areas.”* Glackin Thomas Panzak was retained to ascertain the possible impacts associated with the proposed development concept for the property known as “Ardrossan” (“the Subject Property”). As outlined in this report, our analysis concludes that, compared to a permissible “by-right” conventional development that could be designed for the property under current AC District zoning provisions, the proposed development scenario using the Density Modification option would:

- Result in greater conservation of ecological resources and the preservation of environmental features, and hence will have much less impact to these natural systems;
- Impart more beneficial net fiscal impacts to the Township through increased revenues from sources such as the real estate tax and mercantile and business taxes, while utilizing fewer public services; and
- Provide significant real estate tax revenues to the Radnor Township School District with lesser increases in costs, due to the small number of school-aged children that are projected to reside there and attend the public schools.

## Ecological Impacts

Figure 1 is a map of the Subject Property depicting existing site conditions, with specified ecological features identified along with the development extent of the proposed site plan. The plan shows that site improvements will be directed to portions

of the property that are most suitable for development, in areas containing few, if any, environmentally sensitive features. These features, and any potential impacts, are described herein. It should be noted that the applicant will be required to demonstrate formal compliance with all applicable local, State, and Federal regulations pertaining to environmental features at the time of Subdivision and Land Development approval with the Township, and more detailed analyses will be undertaken and submitted during that process. This report intends to show that the proposed Density Modification option concept will not impose negative impacts to the ecological features of the property, and will in fact result in greater opportunities for conservation than would a conventional, by-right development.

*Steep Slopes.* Radnor Township regulates specified land disturbance activities on slopes 20% and steeper. As shown on Figure 1 the proposed development avoids areas containing slopes of 20% or greater, and hence, any potential negative environmental impacts associated with slope disturbance will be minimized.

*Surface Water Features.* Figure 1 shows two named tributaries to Darby Creek (Camp Run and Wigwam Run), as well as several small man-made ponds. Radnor Township requires a 35-foot riparian buffer be delineated around these features, and regulates development and disturbance activities that can occur within that area. Figure 1 demonstrates that proposed site improvements are situated well outside the delineated riparian buffer area, hence minimizing potential negative environmental impacts to surface water features on the Subject Property.

*Stormwater Management.* The report entitled "Stormwater Management Feasibility Narrative" by Momenee and Associates Inc. included as part of the Conditional Use Application describes in detail the stormwater management plan associated with the proposed development. Numerous strategies will be employed to properly manage stormwater runoff, including Low Impact Development (LID) techniques to reduce overall impervious coverage, the use of non-structural Best Management Practices (BMPs), and structural stormwater BMPs to control the rate and volume of runoff. Detailed testing and design will be required at the time of Subdivision and Land Development application with the Township, and the applicant will need to demonstrate compliance with numerous Township and State codes.

*Floodplains.* There are no delineated FEMA floodplains associated with any of the surface water features on the Subject Property. While it is inevitable that streams will overflow their banks during certain rain events and at certain times of the year, proposed site improvements and development areas are located away from the stream channels, and well outside of the required riparian buffers. Hence, impacts related to flooding and floodplains will be minimized due to the clustered nature of the design of the development and the use of numerous stormwater management techniques.

**Soils.** The majority of soils on the site are of the site are of the Glenelg Series, consisting of deep, well-drained soils characteristic of upland areas. These soils developed in material mainly from weathered granite, gneiss, and mica schist. The Glenelg soils have moderate available moisture capacity, moderate permeability, and are not classified as “hydric”, making these soils unlikely to exhibit wetland characteristics<sup>1</sup> and suitable for supporting land development. The majority of the proposed development is proposed within these Glenelg soils.

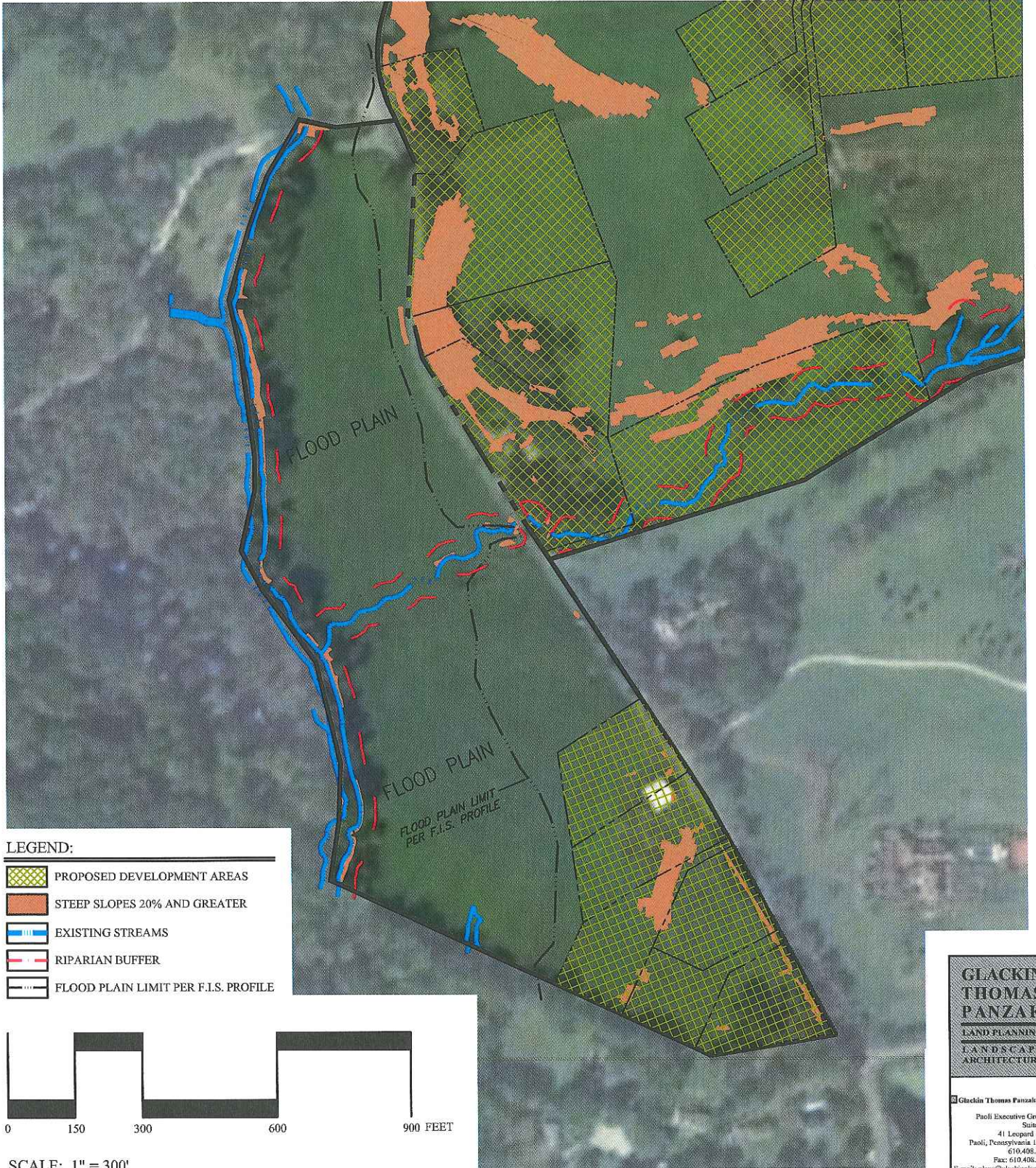
**Sensitive Species and/or Habitats.** There have been no detailed surveys or analyses performed on the Subject Property to determine the presence of sensitive species or habitats. However, the geographic extent of the property was entered in the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review System as an initial screening step to gauge potential regulatory requirements. No known impacts have been detected requiring review by the PA Game Commission, the PA Fish and Boat Commission, or the U.S. Fish and Wildlife Service. One potential plant Special Concern Species was detected that is subject to review by the PA Department of Conservation and Natural Resources. It is not currently known if this particular species in fact exists on the subject property, where it might exist, or if it would even be impacted by the proposed development. At the time of Subdivision and Land Development review, it will be necessary to submit additional materials to the PA Department of Conservation and Natural Resources to ascertain what steps may be required to detect the presence of any plant Special Concern Species, and if any mitigation measures would be necessary.

**Woodlands.** There are some wooded areas throughout the Subject Property located mostly along the stream valleys, in steeply sloped areas, around the historic mansion and other existing structures, and along Newtown Road. These wooded areas will be largely undisturbed, as the stream valleys and steep slope areas are not within the development area. Trees along Newtown Road and elsewhere within the property will be maintained to preserve the historic character of the property. New development will directed largely into open areas of the site, minimizing impacts to existing woodlands and individual trees.

**Open Space.** Under by-right AC District provisions, there is no minimum open space requirement. The proposed Density Modification scenario provides 15.4% of the overall tract in open space, as defined by the Township. However, the actual area undeveloped lands will be much more, as the clustered development form of the Density Modification plan will result in significant areas of the tract being placed under conservation that would otherwise be included in individual residential lots under the by-right AC zoning.

---

<sup>1</sup> No wetlands survey has been conducted on the Subject Property as yet, but such investigations will be undertaken along with other detailed analyses at the time of Subdivision and Land Development application to the Township.



SHEET:  
Figure 2

PROJECT #: 13-047  
DATE: 08/05/13  
REV.:

# Wheeler Field at Ardrossan Farm

RADNOR TOWNSHIP, DELAWARE COUNTY, PA



### Economic Impacts

Economic impacts from new land developments can be measured in terms of the revenues they generate in new taxes and fees, against the costs they incur to public jurisdictions to provide essential services such as general government, public safety, public works, and public education. Revenues from real estate taxes are easily estimated based on anticipated market (and hence, assessed) values for the proposed development, and costs are determined on a per capita basis based on local population factors and annually budgeted expenditures required to provide public services.

In most conventional new developments, price points for market values are determined based on estimated construction and sales values, and drive the revenue side of the calculation by providing a basis for estimating an assessed value upon which real estate taxes are levied. The Subject Property is exceptional in many respects, and contains unique attributes that will ensure its future marketability and sustained real estate value. The tract is well-located both regionally and locally to provide easy access to jobs, shopping, and entertainment; it has a significant historical and architectural legacy; and its landscape affords unique opportunities for a well-designed development to capitalize on beautiful views and scenic vistas. Most importantly from a value standpoint, it is geographically situated in a real estate market area that exhibits relatively high market values within the region, and has been less affected overall by economic conditions that have negatively impacted housing values regionally and nationally. This characteristic is evident in the values of properties located on former portions of Ardrossan in the area north of Newtown Road and West of Abraham Lane, where current assessed values are in excess of \$1.7 to \$2 million (Source: Delaware County Board of Assessment). Value assumptions are further bolstered by the overall strength of property values throughout the Township, with numerous comparable properties exhibiting values that are similar to the properties located nearby on former portions of Ardrossan, according to recent (July, 2013) real estate sales information (Source: [http://www.realtor.com/soldhomeprices/Radnor\\_PA](http://www.realtor.com/soldhomeprices/Radnor_PA)).

The special circumstances under which each individual lot would be developed under the proposed scenario makes it difficult to establish a "typical" market value for the proposed development. However, we believe it is reasonable to expect that residences developed on the Subject Property, under the proposed design scenario, would exhibit value characteristics that are comparable, if not higher, than those of neighboring properties and elsewhere in Radnor Township. Therefore, instead of projecting revenues over costs for the proposed development, we based our analysis on an evaluation of the cost profile that a "typical" 4-bedroom single-family detached home in a conventional development could be expected to exhibit, based on the per capita cost factors and population projections determined using the methodology

published in the *Development Impact Assessment Handbook*<sup>2</sup>. We then relate this cost per 4-bedroom home to the revenues required to be raised by real estate taxes to the Township and School District to offset the costs. Our conclusion, as outlined in the final summary Table 1 at the end of this report, is that each unit in the proposed development will exhibit higher value characteristics than is required to offset the projected costs to both the Township and School District, and will provide significant net-positive economic benefits to both jurisdictions on an annual basis.

### **Population Projections**

For this analysis, we utilized demographic multipliers published by the Rutgers University Center for Urban Policy Research<sup>3</sup>. This source uses information derived from U.S. Census data to establish population multipliers for every state in the United States, categorized by household type (i.e., single-family detached, single-family attached, apartments, etc.), and by the number of bedrooms per household. We are not aware of any other source that is able to offer data as to household size and number of school-aged children by *housing type*. This information is critical in obtaining the best projections as to future population conditions, and estimates that a typical 4-bedroom single-family detached home in Pennsylvania contains on average 3.5 people, including 1.02 school-aged children.

However, these demographic multipliers do not account for children attending non-public schools (i.e., private or parochial schools). According to the Philadelphia Inquirer feature section entitled "Report Card on the Schools" (last published in 2010), it was estimated that approximately 23% of school-aged children residing in Radnor Township attend private schools. Hence, in calculating cost impacts to the public schools, it is appropriate to reduce the multiplier for school-aged children by at least 23%, from 1.02 *total* school-aged children per 4-bedroom single-family detached house to 0.7854 *public* school-aged children. In all likelihood, we expect this number to be even lower, based on anecdotal evidence from similar types of homes in terms of household demographics, occupation patterns, and geographic location within the Township. Many of these homes will generally contain fewer school-aged children overall as compared to more conventional development types regionally, and of those that do, more children will likely attend private schools than the average single-family home in the region. Furthermore, some of these homes will be unoccupied by "empty nesters" with no children for portions of the year, as their owners may be only seasonal residents in Radnor and choose to spend the winter months elsewhere.

---

<sup>2</sup> Burchell, Robert W., David Listokin, et al., *Development Impact Assessment Handbook*. Washington D.C.: ULI-the Urban Land Institute, 1994.

<sup>3</sup> Burchell, Robert W., David Listokin, et al. *Residential Demographic Multipliers (Pennsylvania)*. New Brunswick, New Jersey: Center for Urban Policy Research, Edward J. Bloustein School of Planning and Public Policy - Rutgers, the State University of New Jersey, 2006.

### Per Capita Cost Calculation

The per capita cost method in our analysis is sensitive to different cost implications associated with providing services to residents versus non-residents in a taxing jurisdiction, and calculates separate per capita cost figures accordingly. For the school district, per-student costs are estimated by dividing the total budgeted school district expenditures by the total student population. Using these methods, the per capita costs used in our analysis are approximately \$962 per resident for the Township calculations, and \$22,735 per student for school district calculations. With 3.5 residents projected to reside in such a home, the per-household cost to the Township is estimated at \$3,367 annually (3.5 residents x \$962 cost-per-resident/year = \$3,367). Accounting for 23% of school-aged children attending private schools, the per-household cost to the School District is estimated at \$17,856 (1.02 school-aged children x 77% attending public schools = 0.7854 public-school aged children per household; 0.7854 public-school aged students per household x \$22,735 cost per student/year = \$17,856).

### Conclusion

Table 1 on the last page of this report is a summary of the population characteristics and resulting annualized cost-per-household implications to Radnor Township and the Radnor Township School District for a typical 4-bedroom single-family detached home located in the Township. It also includes a calculation of the assessed value that a property would be required to have in order to offset the estimated cost-per-household, and the implied market value, which is calculated using the Delaware County Board of Assessments' 2013 common-level ratio of 1.39 (this ratio estimates that, in Delaware County, a property's market value is equal to approximately 1.39 times its assessed value).

Table 1 shows that a typical 4-bedroom single-family detached house would require an assessed value of \$897,603 in order to offset the \$3,367 in annual Township costs using real estate tax revenues alone. This figure exceeds the estimated assessment of \$822,409 required to offset the annual costs to the School District. Using the higher assessment, and applying the common-level ratio of 1.39, we estimate that a residence with a market value of \$1,247,669 would essentially pay for its costs to both the Township and the School District with real estate taxes (\$897,603 assessed value x 1.39 common-level ratio = \$1,247,669 market value).

As noted previously in this report, we expect that the proposed homes at Ardrossan would exhibit higher value characteristics than the "break-even" scenario described in Table 1, and would likely also be higher than a conventional by-right development. Hence, the proposed development would result in positive net fiscal

benefits to both the Township and School District on an annual basis. The amount of this net positive number would depend on the actual assessments, and could be significantly higher; furthermore, in the interest of providing a conservative revenue estimate, we have not included likely revenues from other sources resulting from the proposed development, such as business and mercantile taxes, service fees, and other miscellaneous sources. Ultimately, the development of the property under the proposed density modification scenario would work to promote conservation goals of the Township in a fiscally responsible manner from the perspective of public administration.

**Table 1**  
**Cost vs. Revenue Profile of a**  
**Typical 4-Bedroom, Single-Family Detached Residence**  
**Radnor Township and Radnor Township School District**

		Radnor Township	Radnor Township School District
<b>A</b>	New residents per unit	3.5	-
<b>B</b>	New public school-aged children per unit	-	0.7854
<b>C</b>	Per capita cost per resident	\$962	-
<b>D</b>	Per capita cost per public school-aged child	-	\$22,735
<b>E</b>	Estimated Annual Cost to Township (A x C)	\$3,367	-
<b>F</b>	Estimated Annual Cost to School District (B x D)	-	\$17,856
<b>G</b>	Tax rate	0.0037511 (3.7511 mills)	0.0217122 (21.7122 mills)
<b>H</b>	Assessed value per unit needed to offset cost (E ÷ G)	\$897,603	\$822,409
<b>I</b>	Common-level ratio (from Delaware Co.)	1.39	1.39
<b>J</b>	Market value per unit needed to offset cost (H x I)	<b>\$1,247,669</b>	<b>\$1,143,148</b>
<b>K</b>	Estimated market value per unit under proposed Density Modification scenario	> \$1,247,669	> 1,143,148