WAYNE GLEN
(the Richter Property)
A model Low Impact Development (LID) community.

Conditional Use
Tredyffrin Township Planning Commission
August 21, 2014
Contention Lane
Walker Road

Photo credit: Laurie Elliot
A decade-long Township response to flooding.

- 2003 stormwater ordinance
- 2004 Watershed Restoration and Protection Plan
- 2009 stormwater ordinance update
- Designed improvements for Teegarden Park
- 2010 Watershed Study
- 2012 Trout Creek Overlay Ordinance adopted.
- 2014 - First implementation of ordinance – Wayne Glen.
Flooding on Walker Rd. eliminated up to 100 yr storm.

<table>
<thead>
<tr>
<th>Storm event</th>
<th>Probability of occurrence in any given year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year storm</td>
<td>100%</td>
</tr>
<tr>
<td>2 year storm</td>
<td>50%</td>
</tr>
<tr>
<td>5 year storm</td>
<td>20%</td>
</tr>
<tr>
<td>10 year storm</td>
<td>10%</td>
</tr>
<tr>
<td>25 year storm</td>
<td>4%</td>
</tr>
<tr>
<td>50 year storm</td>
<td>2%</td>
</tr>
<tr>
<td>100 year storm</td>
<td>1%</td>
</tr>
</tbody>
</table>

The system has been designed to eliminate overtopping of Walker Rd. for all storms up to and including the 100-yr storm.

Walker Road currently floods around the 2-yr. storm event.

Photo by Laurie Elliott (March 2010)
Existing Flooding of Walker Road through intersection

Existing 100 yr storm
Future: No flooding of Walker Road or intersection.
Regional basin will hold up to a 100 yr storm and control the release of flow downstream.
Reduce property damage and improve safety downstream.

PROPERTY DAMAGE
- Reduce the erosion of the stream banks (e.g. Young Property and Glenhardie Golf Course property)
- Reduce stream bank damage
  - currently an impaired stream.
- Reduce private property loss as a result of erosion

SAFETY
- Reduce flooding hazards.
- Reduce flash flooding events which can result in loss of life and property.
Wayne Glen facilities will help downstream.

- The first and biggest step towards implementing the 2010 Trout Creek study.

- Ex: Richards Road
  - **Six tributaries** -- Wayne Glen handles **two** of them.
  - Flow reduction benefit: ~20% of that at Walker Road – about ½ mile away.*

*2010 Trout Creek Study.
Public infrastructure with private dollars.

Public stormwater infrastructure
- 2010 estimated costs: up to $2.1MM*
- 2014 estimated cost: ~$3.5MM**
- Positive fiscal impact – 2012 est. $1.3MM per year
- Less demand on Twp public works / police
- Reduced flooding will benefit property values in area.

PUBLIC STORMWATER IMPROVEMENTS:
- a) Regional Basin
- b) Berm along Walker Road
- c) New Culvert under Walker Road
- d) Stream restoration

*2010 Trout Creek Study, with associated capital cost, no land
**2014 Arcadia analysis, with all improvements to comply, no land included
The conditional use criteria for Wayne Glen have been satisfied.

<table>
<thead>
<tr>
<th></th>
<th>Present proposed layout, including the project-specific and public stormwater improvements…</th>
<th>✔</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Demonstrate consistency with the 2010 Trout Creek Watershed Study and Stormwater Best Management Practice Analysis;</td>
<td>✔</td>
</tr>
<tr>
<td>C</td>
<td>Demonstrate how the public stormwater improvements are consistent with the purpose and meet the standards of Chapter 174, Stormwater Management;</td>
<td>✔</td>
</tr>
<tr>
<td>D</td>
<td>Demonstrate the applicant's ability to achieve the proposed public stormwater improvements;</td>
<td>✔</td>
</tr>
<tr>
<td>E</td>
<td>Present a long-term operations and maintenance plan consistent with the requirements of Chapter 174, Stormwater Management;</td>
<td>✔</td>
</tr>
<tr>
<td>F</td>
<td>Confirm that all necessary repairs and maintenance to the public stormwater improvements are conducted within a ninety-day time frame;</td>
<td>✔</td>
</tr>
<tr>
<td>G</td>
<td>Commit to conduct annual inspection and maintenance of the public stormwater improvements;</td>
<td>✔</td>
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<tr>
<td>H</td>
<td>Measurement data to be collected, where applicable;</td>
<td>✔</td>
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<tr>
<td>I</td>
<td>Provide other information and supporting documentation showing how the improvements serve the best interests of the Township.</td>
<td>✔</td>
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</table>
No infiltration facilities within 100’ of existing karst features.
Summary: reduced flood hazards at private expense.

• Implementation of decade-long effort by Township

• Benefits include:
  – Eliminate flooding on Walker Road
  – Improved safety for downstream residents
  – Reduced property damage for downstream residents
  – Reduced stream bank erosion and stream impairment
  – Attractive development with $1.3MM annual fiscal benefit
  – ~$3.5MM of stormwater infrastructure with public benefits

• All nine conditional use criteria have been satisfied.

• We seek a recommendation for Conditional Use approval.