

**BOARD OF COMMISSIONERS**  
**AGENDA**  
**Monday, June 13, 2016 - 6:30 PM**

Pledge of Allegiance

Notice of Executive Session on June 13, 2016

1. Consent Agenda

- a) Disbursement Review and Approval: 2016-05C, 2016-05-D, 2016-05E, 2016-06A
- b) Approval of Minutes of the Board of Commissioners meeting of May 9, 2016 and May 23, 2016
- c) Staff Traffic Committee Meeting Minutes – May 18, 2016
- d) Resolution #2016-68 – Authorizing the sale of surplus parking meters in accordance with Ordinance #2012-04
- e) Motion authorizing capital lease financing RFP's for certain Public Works vehicles (as included in the capital plan)
- f) Motion Authorizing the Receipt of Sealed Bids for the Annual Pruning & Tree Removal Contract
- g) Resolution #2016-67 – 227-229 Plant Avenue – Sewage Facilities Planning Module

2. Public Participation

3. Committee Reports

**FINANCE & AUDIT**

- A. Resolution #2016-73 - Board acceptance of 2015 Comprehensive Annual Financial Report and Independent Audit's Report
- B. Discussion and Consideration by the Board for the Execution of a Grant Application to the Pennsylvania Department of Community and Economic Development for the Radnor Township TAP Trail

**PERSONNEL & ADMINISTRATION**

- C. Discussion from the Board of Commissioners on the Willows RFP
- D. Resolution #2016-70 – Authorization to engage Avison Young to represent the Township to lease the Willows Mansion
- E. Discussion and Possible Motion to receive bids for painting, plastering and exterior repairs at the Willows Mansion and Cottage

**COMMUNITY DEVELOPMENT**

F. Discussion of PLO Ordinance Amendments

- Penn Medicine version
- RETTEW version
- Don Curley version

- G. Motion to authorize execution of Memo of Understanding with Radnor Crossing Apartments to allow temporary parking on the tennis courts at the property
- H. Appeal of DRB Decision 2016-27 by the owner/applicant, Five Below, Inc.

***PUBLIC WORKS & ENGINEERING***

- I. 223 Radnor Chester Road– Requesting a waiver from §245-22, §245-23, and §245-25 of the Stormwater Management Requirements
- J. 663 Conestoga Road – Requesting a waiver from §245-22 of the Stormwater Management Ordinance for infiltration
- K. Resolution #2016-71 - Award of the Design Contract for the Stormwater Management Facility at Banbury & Francis Avenue

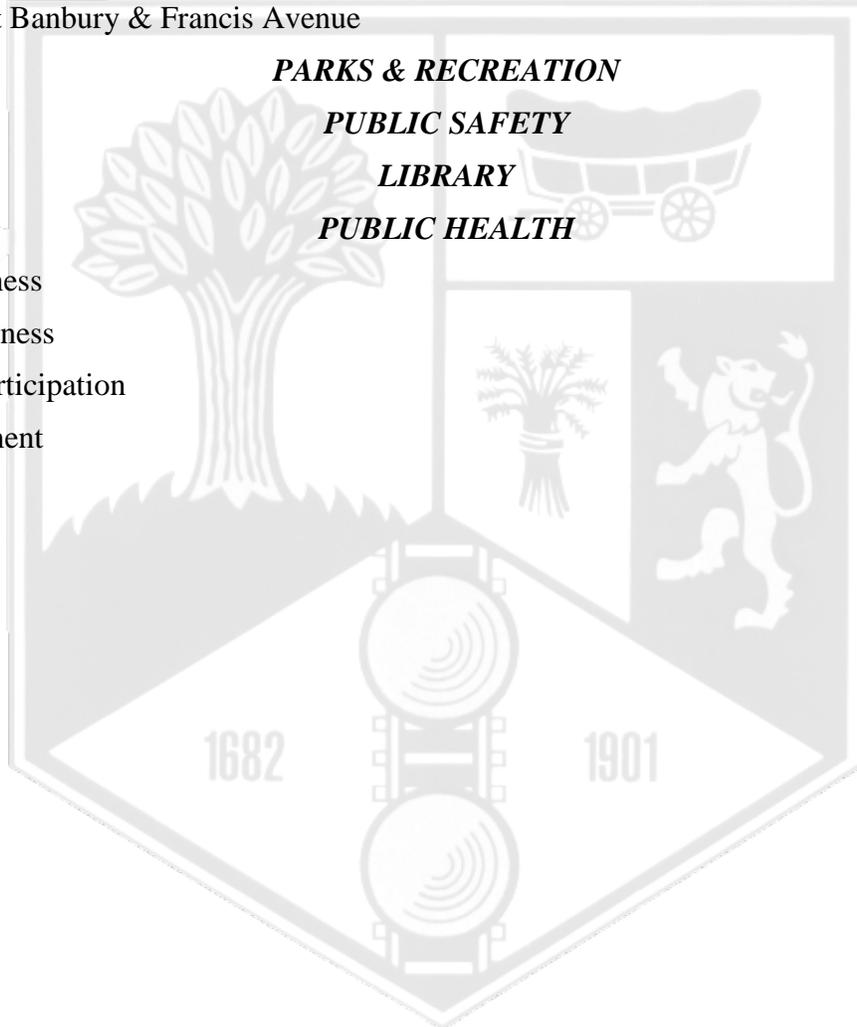
***PARKS & RECREATION***

***PUBLIC SAFETY***

***LIBRARY***

***PUBLIC HEALTH***

- Old Business
- New Business
- Public Participation
- Adjournment



**RADNOR TOWNSHIP**  
**DISBURSEMENTS SUMMARY**  
*June 13, 2016*

The table below summarizes the amount of disbursements made since the last public meeting held on May 23, 2016. As approved by the Board, the Administration is now making weekly accounts payable disbursement batches and publishing those lists on the Township's web site at the following link. Please refer to those files for a detailed listing of the amounts paid by vendor by account code.

Link: <http://www.radnor.com/egov/apps/document/center.egov?path=browse&id=22>

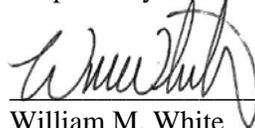
Fund (Fund Number)	2016-5D May 19,2016	2016-5C May 20, 2016	2016-5E May 27, 2016	2016-6A June 3, 2016	Total
General Fund (01)	25,044.96	113,529.05	254,099.18	61,734.20	\$454,407.39
Sewer Fund (02)	0.00	1,090,231.41	4,440.76	291.79	1,094,963.96
Liquid Fuels Fund (03)	0.00	0.00	0.00	6,763.00	6,763.00
Storm Sewer Management (04)	0.00	16,562.50	6,843.25	23,756.91	47,162.66
Capital Improvement Fund (05)	0.00	0.00	35,887.58	6,433.00	42,320.58
OPEB Fund (08)	0.00	249.24	634.59	0.00	883.83
Investigation Fund (12)	0.00	213.60	0.00	1,267.29	1,480.89
Police K-9 Fund (17)	0.00	209.27	0.00	0.00	209.27
\$8 Million Settlement Fund (18)	0.00	0.00	22,600.70	55,046.41	77,647.11
Parks & Open Space Fund (22)	0.00	1,978.23	0.00	0.00	1,978.23
The Willows Fund (23)	0.00	175.17	328.96	46.70	550.83
Library Improvement Fund (500)	0.00	165,782.22	17,032.91	0.00	182,815.13
<b>Total Accounts Payable Disbursements</b>	<b>\$25,044.96</b>	<b>1,388,930.69</b>	<b>341,867.93</b>	<b>155,339.30</b>	<b>\$1,911,182.88</b>
<i>Electronic Disbursements</i>	n/a	n/a	n/a	n/a	2,004,673.49
<b>Grand Total</b>	<b>\$25,044.96</b>	<b>\$1,388,930.69</b>	<b>\$341,867.93</b>	<b>\$155,339.30</b>	<b>\$3,915,856.37</b>

In addition to the accounts payable checks, the Township also has various electronic payments including payroll, debt service, credit card purchases and fees as well as others from time to time. The attached table reflects all of the electronic payments made since the last public Board meeting as well as those anticipated prior to the next Board meeting.

The Administration has adopted various internal control and processing procedures to insure that amounts obligated are within the budgetary limits established by the Board of Commissioners. Those procedures are monitored on a daily basis by members of the Finance Department and responsible employees of the various departments. The amounts included in the table above have been scrutinized as part of the internal control and processing procedures and have obtained the required approvals prior to disbursement.

If you should have any questions, please contact the Finance Department.

Respectfully Submitted,



William M. White  
*Finance Director*

**ELECTRONICALLY PAID DISBURSEMENT LISTING**

Estimated Through June 27, 2016

Description	Account No.	Date	Purpose	Amount
Credit Card Revenue Fees - Actual	01-Variou	5/10/2016	4/16 Credit Card Revenue Processing Fees	\$17,626.20
Credit Card Revenue Fees - Actual	01-Variou	6/10/2016	5/16 Credit Card Revenue Processing Fees	\$5,698.36
Debt Payment	Various Funds	6/15/2016	TD Bank GOB 2010	\$1,029,921.88
Debt Payment	Various Funds	6/15/2016	US Bank GOB 2016	\$296,922.09
Debt Payment	Various Funds	6/15/2016	US Bank GOB 2015	\$209,104.96
Payroll [Bi-Weekly] Transaction - Estimated	01-various	6/16/2016	Salaries and Payroll Taxes - General Fund	\$430,000.00
Payroll [Bi-Weekly] Transaction - Estimated	02-various	6/16/2016	Salaries and Payroll Taxes - Sewer Fund	\$15,000.00
Payroll [Bi-Weekly] Transaction - Estimated	17-various	6/16/2016	Salaries and Payroll Taxes - K-9 Fund	\$400.00
<b>Period Total</b>				<b>\$2,004,673.49</b>

Submitted:



<u>Original Estimate</u>			<u>Actual Amount</u>
\$400,000.00	5/19/2016	Salaries and Payroll Taxes - General Fund	\$431,709.50
\$15,000.00	5/19/2016	Salaries and Payroll Taxes - Sewer Fund	\$13,952.84
\$400.00	5/19/2016	Salaries and Payroll Taxes - K-9 Fund	\$135.64
<b>\$415,400.00</b>			<b>\$445,797.98</b>
\$400,000.00	6/2/2016	Salaries and Payroll Taxes - General Fund	\$448,508.81
\$15,000.00	6/2/2016	Salaries and Payroll Taxes - Sewer Fund	\$14,140.90
\$400.00	6/2/2016	Salaries and Payroll Taxes - K-9 Fund	\$946.57
<b>\$415,400.00</b>			<b>\$463,646.28</b>
\$186,839.03	6/1/2016	Police Pension Payroll	\$186,839.03
\$129,240.26	6/1/2016	Civilian Pension Payroll	\$129,240.26
<b>\$316,079.29</b>			<b>\$316,079.29</b>

**TOWNSHIP OF RADNOR**  
**Minutes of the Meeting of May 9, 2016**

The Radnor Township Board of Commissioners met at approximately 6:30 PM in the Radnorshire Room in the Radnor Township Municipal Building, 301 Iven Avenue, Wayne, PA 19087

**Commissioners Present**

Philip Ahr, President	Elaine Schaefer – Arrived @ 7:25 PM	Donald Curley
Luke Clark, Vice President	John Nagle	Richard F. Booker
James C. Higgins		

**Also Present:** Robert A. Zienkowski, Township Manager; John Rice, Township Solicitor; William White, Finance Director; Steve Norcini, Director of Public Works; William Colarulo, Superintendent of Police; Roger Philips, Township Engineer; Amy Kaminski, Traffic Engineer and Jennifer DeStefano, Executive Assistant to the Township Manager.

President Ahr called the meeting to order and led the assembly in the Pledge of Allegiance

Notice of Executive Session on May 9, 2016

All commissioners were in attendance at the May 9, 2016 executive session with the exception of Commissioner Schaefer; where matters of litigation were discussed.

1. Consent Agenda

- a) Disbursement Review and Approval: 2016-04D and 2016-04E
- b) Resolution #2016-59 - Further amending the 2016 Wage and Salary Schedule
- c) Resolution #2016-60 - Authorize Township Manager to Execute Contract with Tyler Technologies for ERP Purchase & Implementation
- d) Consideration of a Motion to Approve the Certificate of Appropriateness:
  - HARB 2016-04 – 406 North Wayne Avenue – Demolish existing single family dwelling and construct new single family dwelling, garage and pool – Amended. Referred back from the Board of Commissioners.
  - HARB 2016-06 – 401 Midland Avenue – Removal of non-original addition at rear of house and construct new two (2) story addition.
  - HARB 2016-07 – 414 Radnor Street Road – Addition to the rear of the house and a new garage.
  - HARB 2016-08 – 19 Louella Court – New construction of a partially underground concrete garage.
- e) Motion to authorize John Rice to attend the Zoning Hearing Board meeting and oppose the following: Appeal #2968 – The Applicant, Villanova University, property located at 800 E. Lancaster – Avenue and zoned PL, seeks a variance from Section 280-68.1.D(3)(g) of the Zoning Code regarding “Dark Sky” full-cutoff requirements.
- f) Resolution #2016-61 - Authorization for Gilmore and Associates to Provide Survey, Design, Construction Drawings, Specifications, and Bidding Documents for the Installation of Traffic Calming Medians on Pine Tree Road
- g) Motion to Authorize the Engineering Department to Receive Sealed Bids for the Installation of Traffic Calming Medians on Pine Tree Road

Commissioner Curley requested for items d & e to be removed from the consent agenda.

Commissioner Nagle made a motion to approve the consent agenda consisting of items a, b, c, f & g, seconded by Commissioner Clark. Motion passed 6-0 with Commissioner Schaefer absent.

- HARB-2016-04 – 406 North Wayne Avenue - Demolish existing single family dwelling and construct new single family dwelling, garage and pool – Amended. Referred back from the Board of Commissioners.

There was a brief discussion amongst the Commissioners and staff in regards to the above HARB application. Mr. Zienkowski commented that HARB recommended denial of the application. Commissioner Higgins briefly reviewed the history of the property in question.

#### Public Comment

Tom Lowy, N. Wayne Avenue – He spoke in support of the HARB denial for #2016-04.

Nick Caniglia, representing the applicant for HARB #2016-04 and Ben Sporangio, Property owner – He briefly discussed the proposed rebuild and showed renderings of the new constructed single family home. They also commented that the current home is not consistent with anything in the HARB district.

Steve Elliott, West Avenue – He is in favor of the plan to rebuild.

Pamela Jansen, N. Wayne Avenue – She is not in support of tearing down and rebuilding the property and would like the Commissioners to support HARB's decision to deny.

Kathy Flanagan, N. Wayne Avenue – She is in support of the denial and to allow the applicant to rebuild.

Commissioner Curley made a motion to approve the certificate of appropriateness #2016-04, seconded by Commissioner Nagle. Motion passed 4-2 with Commissioners Higgins and Ahr opposed and Commissioner Schaefer absent.

#### d) Consideration of a Motion to Approve the Certificate of Appropriateness:

- HARB-2016-06 – 401 Midland Avenue - Removal of non-original addition at rear of house and construct new two (2) story addition.

Commissioner Curley made a motion to approve, seconded by Commissioner Clark. Motion passed 6-0 with Commissioner Schaefer absent.

- HARB-2016-07 – 414 Radnor Street Road - Addition to the rear of the house and a new garage.

Commissioner Curley made a motion to approve, seconded by Commissioner Clark. Motion passed 6-0 with Commissioner Schaefer absent.

- HARB-2016-08 – 19 Louella Court - New construction of a partially underground concrete garage.

Commissioner Curley made a motion to approve, seconded by Commissioner Clark. Motion passed 6-0 with Commissioner Schaefer absent.

- e) Motion to authorize John Rice to attend the Zoning Hearing Board meeting and oppose the following: Appeal #2968 - The Applicant, Villanova University, property located at 800 E. Lancaster Avenue and zoned PI, seeks a variance from Section 280-68.1.D(3)(g) of the Zoning Code regarding "Dark Sky" full-cutoff requirements.

Commissioner Booker made a motion to authorize John Rice to attend the Zoning Hearing Board meeting and oppose Appeal #2968, seconded by Commissioner Ahr.

Commissioner Curley raised the issue that he did not feel that this item should have been on the consent agenda and should have been discussed amongst the Commissioners prior to the meeting. There was an in depth discussion amongst the Commissioners, staff and the applicant in regards to the differences of 100% Dark Sky versus the fixture that Villanova is requesting to install.

#### Public Comment

Chris Kovolski and Marilou Smith, Villanova University – They commented that they would like to appear in front of the Zoning Hearing Board because they cannot meet the 100% Dark Sky compliance with an esthetically pleasing fixture. They would like to install fixtures which are above 99% Dark Sky compliant. If the Board feels it is necessary to send John Rice to attend the Zoning Hearing Board meeting the University will withdraw their petition.

Leslie Morgan, Farm Road – She agrees that Mr. Rice has attended Zoning Hearing Board meetings prior and she believes it is in the best interest of the residents to have him attend.

Commissioner Ahr called the vote, motion failed 2-4 with Commissioners Higgins, Clark, Curley and Nagle opposed.

### 2. Public Participation

Commissioner Ahr clarified that Public Participation at the beginning of the meeting is so that residents don't have to wait to make public comment at end of meeting.

Sara Pilling, Garrett Avenue – The next meeting for the residents meeting to discuss the future of the Willows will be held on May 18, 2016 at 7 PM at the Township Building. The meeting will also be recorded and available. She also commented that she had a classical architect visit the Willows mansion and there is nothing of Charles Barton Keene design left at the Willows Mansion.

Leslie Morgan, Farm Road – She commented in regards to an article that was in the Inquirer this past weekend about the Haas Estate.

### 3. Committee Reports

#### **PUBLIC SAFETY**

- A. Ordinance #2016-06 (Introduction) - Amending The Code Of The Township Of Radnor, Chapter 270, Vehicles And Traffic, Section 270-30, Time Limit Parking

Commissioner Schaefer made a motion to introduce ordinance #2016-06, seconded by Commissioner Nagle.

Superintendent Colarulo commented that they are requesting to rescind Glenbrook Avenue South; 2 Hour Parking 8:00 AM - 6:00 PM Except Saturday, Sunday & Holidays; from Beatrice Drive in a

westerly direction to a point of 160 feet past the curb line of Charles Drive. This item was overlooked when the traffic codification was completed prior and is strictly administrative.

Commissioner Ahr called the vote, motion passed 7-0.

**B. Ordinance #2016-07 (Introduction) - Amending The Code Of The Township Of Radnor, Section 270-13, One-Way Streets, Section 270-16 Stop Intersections And Section 270-28, Parking Prohibited On Meredith Avenue**

Commissioner Schaefer made a motion to introduce ordinance #2016-07, seconded by Commissioner Ahr.

Superintendent Colarulo commented that Meredith Avenue will become one-way from Conestoga Road to Eachus Avenue and removal of the stop sign at Meredith Avenue travelling South on Conestoga Road; and removal of the Parking Prohibited at all times on Meredith Avenue, Northwest at the curve of Meredith Avenue, 70 feet north of Conestoga Road and 93 feet north of Conestoga Road, covering an area of 23 feet.

There was a brief discussion amongst the Commissioners for clarification of Ordinance #2016-07. Commissioner Booker asked for a drawing to be brought to the next meeting.

**Public Comment**

Sara Pilling, Garrett Avenue – She asked for clarification of the changes in the ordinance as well as inquired if the residents have been notified on Good Shepherd.

Commissioner Ahr called for the vote, motion passed 7-0.

***PERSONNEL & ADMINISTRATION***

None

***COMMUNITY DEVELOPMENT***

None

***PUBLIC WORKS & ENGINEERING***

None

***FINANCE & AUDIT***

None

***PARKS & RECREATION***

The next meeting of the Parks and Recreation Board is this Thursday at 6:30.

***LIBRARY***

None

***PUBLIC HEALTH***

Their next meeting of the Board of Health will be next Monday at 5:30 and there will be a presentation by Lt. Andrew Block about narcotics and heroin.

**Old Business**

Commissioner Curley commented in regards to the amendment to the PLO which was presented and discussed at the last meeting by an applicant. He has made edits to the document and he would like to use his edited copy of the ordinance as the baseline. There was discussion amongst the Commissioners

and agreed that Commissioner Curley's version and RETEWW version of the PLO amendment be discussed at the June 13, 2016 Board of Commissioners meeting.

Commissioner Schaefer announced that there will be a public meeting on Tuesday, June 7<sup>th</sup> at 7:00 pm at the Radnor Township Building to discuss the Ardrossan Trail project which is being led by National Lands Trust.

*New Business*

*The Carol H. Axelrod Memorial Blood Drive*

Commissioner Clark announced that the Blood Drive is scheduled for May 10, 2016 7 AM to 7 PM at the Township Building.

· *Villanova CICD CARE Group Update*

Commissioner Ahr gave a brief update on the Villanova CARE Group is attached to these minutes.

Commissioner Ahr also announced that there is a golf outing on May 15, 2016 at Turtle Creek Golf Course that will support the 4<sup>th</sup> of July Garrett Hill Parade. For more information you can visit [www.foregarretthill.com](http://www.foregarretthill.com).

*Public Participation*

Rick Leonardi, Aldwyn Lane – He spoke in opposition of the crucifixes that are proposed on top of the four corners of the pedestrian overpass at Villanova University.

*There being no further business, the meeting adjourned on a motion duly made and seconded.*

*Respectfully submitted,*

*Jennifer DeStefano*

Report of Villanova CICD Construction CARE Group  
May 9, 2016 Board of Commissioners' Meeting  
Phil Ahr, Commissioner and member of CARE Group

- A. General overview of Group
  - a. Have had 4 meetings, monthly schedule, with 2 meetings in March to begin
  - b. Group membership: 7 members – 2 from Township (Bob Zienkowski, Steve Norcini), 2 from Villanova (Chris Kovolski, Marilou Smith), 2 residents appointed by BOC (Jane Galli, Rick Leonardi), 1 Commissioner, 7<sup>th</sup> Ward (Phil Ahr)
  - c. Meetings are also attended by a number of residents each month
  - d. Meets 1<sup>st</sup> Thursday of the month, Township Building, Second Floor
- B. Initial issues addressed
  - a. Construction of West Lancaster Avenue Lot
    - i. Resolution of construction noise, outside of permitted hours (7am to 9 pm)
    - ii. Buffering on south side of lot, bordering Rt 100 line and residential area across.
      - 1. Township arborist inspected the buffer on May 2<sup>nd</sup>, identified plants that need either additional care or replacement. Will re-inspect in July.
      - 2. Villanova offered to provide residents a guided walk-through for the buffer, once they have received their official approval for lot use.
      - 3. VU re-emphasized their responsibility to maintain buffer.
  - b. Aldwyn Lane – cut-through traffic: Volume and speed
    - 1. Temporary speed bumps installed, approved by majority of residents
    - 2. Will work towards installing permanent bumps
  - c. Other concerns
    - i. Inspection – Township inspector is on site daily, also Steve Norcini, Dir. Of Public Works visits site regularly during the week
      - 1. Minimizes dirt and debris from construction trucks on streets
      - 2. Ensures construction is kept to plan and regulations.
    - ii. Safety –
      - 1. S. Ithan Ave. – Closing of east sidewalk for Pike garage construction
      - 2. New crosswalk created north of bridge to temporary western sidewalk
      - 3. Radnor Police Department has monitored site for pedestrian safety
- C. Villanova proposal of new, enlarged sidewalk on south side of Lancaster
  - a. Response to request by resident members of the CARE group at March meeting
    - i. Create a pedestrian-friendly path that continues wide sidewalk in front of dorms
  - b. Villanova announced plans at April CARE meeting for new sidewalk
    - i. Although was not part of original plan, they considered the request and agreed to create approx. 6 ft sidewalk and 6 ft. of verge, or grass buffering to the curb.
    - ii. Would cost an additional \$250,000+ to complete, asked for waivers to expedite and allow them to take advance of timing with construction firms still on site.
      - 1. Stormwater – Was determined by Township that VU had excess credit or capacity with existing stormwater management so none was needed. BOC granted waiver at April 25<sup>th</sup> meeting regardless.
      - 2. Shade Tree – BOC granted waiver from appearing at Shade Tree Commission to expedite process, however directed VU to work with Township staff to inspect trees impacted, look at the sidewalk plan and try to save as many as possible. After inspection, Township asked for ten replacement trees to be placed in the parking lot or CICD area.

- D. Time Table of Construction – near term
  - a. West Lancaster Ave. Lot open temporarily for use at graduation (5/13-14) if needed. Otherwise likely open around June.
  - b. Pike Parking Garage structure
    - i. Around June 13<sup>th</sup> will commence delivery of pre-cast
      - 1. Will coordinate truck delivery with Radnor Police Department
        - a. Similar to successful deliveries of pre-cast to the SAC Garage, RPD will escort trucks from Rt. 476 through Lancaster Avenue and control the traffic lights to expedite transit.
  - c. Roadway improvements – June (TBA), pending PENNDOT approvals
    - 1. Lancaster Avenue – Road widening east of Ithan Avenue
      - a. Sidewalk on south side will be closed during construction
    - 2. North Ithan Avenue
      - a. Internal to VU's campus, east side will see construction for infrastructure improvements
  - d. Overall - Lancaster & Ithan
    - i. Will see lots of construction activity over the summer
    - ii. No road closures anticipated
    - iii. Be careful driving and walking in this construction area
    - iv. All activity will be coordinated with Radnor Police Department
  - e. Pedestrian Bridge and lighting
    - i. Lighting and drawings were presented at May meeting
      - 1. Available for viewing on Radnor's website
        - a. <http://www.radnor.com/DocumentCenter/Home/View/13037>
    - ii. Lighting variance request before the Zoning Hearing Board, May 19<sup>th</sup>
      - 1. See above webpage for differences in uplighting specs between 100% full cut-off (required by zoning) and 99.2% cut-off lighting.
- E. Next CARE Group meeting
  - a. June 2<sup>nd</sup> – may also be coordinated as one of Villanova's "Neighbors' Meeting"
  - b. Public is invited to attend to hear VU's updates as well as CARE group items
- F. All meeting agenda and minutes are available on Radnor's website in the Villanova section
  - a. <http://www.radnor.com/875/Villanova-Project-Communication-Review-C>

**TOWNSHIP OF RADNOR**  
**Minutes of the Meeting of May 23, 2016**

*The Radnor Township Board of Commissioners met at approximately 6:30 PM in the Radnorshire Room in the Radnor Township Municipal Building, 301 Iven Avenue, Wayne, PA 19087*

**Commissioners Present**

<i>Philip Ahr, President</i>	<i>Elaine Schaefer</i>	<i>Donald Curley</i>
<i>Luke Clark, Vice President</i>	<i>John Nagle</i>	<i>Richard F. Booker</i>
<i>James C. Higgins</i>		

**Also Present:** *Robert A. Zienkowski, Township Manager; John Rice, Township Solicitor; William White, Finance Director; Steve Norcini, Director of Public Works; William Colarulo, Superintendent of Police; Roger Philips, Township Engineer; Amy Kaminski, Traffic Engineer and Jennifer DeStefano, Executive Assistant to the Township Manager.*

*President Ahr called the meeting to order and led the assembly in the Pledge of Allegiance*

*Notice of Executive Session on May 23, 2016*

All commissioners were in attendance at the May 23, 2016 executive session with the exception of Commissioner Schaefer; where matters of litigation were discussed.

*1. Certificate of Appreciation – First Responder’s for the NCAA Men’s Basketball Final Four and Championship Game in April 2016*

Superintendent of Police, William Colarulo and David Tedjeske, Villanova University presented the various agencies which assisted during the NCAA Men’s Basketball Final Four and Championship Game with certificates and shirts as well as a greeting film from Coach Wright was played.

Mr. Zienkowski presented Lieutenants Block and Flanagan along with Sergeant Smith with an award for all of their countless hours of planning.

*Commissioner Ahr commented that Item B will be removed from the agenda.*

*2. Presentation - Forge to Refuge Trail Feasibility Study*

John Fischer and Bob Campbell made a brief presentation in regards to the Forge to Refuge Feasibility Study which can be found on the Township website at: <http://www.radnor.com/910/Board-of-Commissioners-Presentations>.

*3. Consent Agenda*

- a) Disbursement Review and Approval: 2016-05A and 2016-05B*
- b) Acceptance of Department Monthly Reports*
- c) Approval of Minutes of the Board of Commissioners meeting of April 25, 2016*

- d) Resolution #2016-62 - Award of the 2016 Superpave Resurfacing Program
- e) Resolution #2016-63 - Authorization for Capital Purchases: Vehicles and Equipment
- f) Resolution #2016-64 - Forge to Refuge Trail Feasibility Study Approval

Commissioner Clark made a motion to approve, seconded by Commissioner Nagle. Motion passed 7-0.

#### 4. Public Participation

Roberta Winters, League of Women Voters – She read a statement into record that the League does not support the leasing of the Willows Mansion.

Marty Costello – He announced that the Radnor Memorial Day Parade is scheduled for May 30<sup>th</sup> beginning at 9:45 AM. The parade grand marshal this year is 2004 Radnor High School graduate Brian Nicholson. He also commented that Thursday evening is the unveiling of the Radnor Wall of Honor at the Radnor High School at 5:30 PM in the auditorium and invites everyone to attend.

Diane Edbril – She commented in regards to National Gun Violence Awareness day which is on June 2, 2016 and urged everyone to wear orange. She also requested the Board of Commissioners to pass a resolution acknowledging Wear Orange Day.

Anika Walsh – She commented that she does not support to sell or lease the Willows Mansion to a private owner as well as commented that she read that the property was acquired under eminent domain for specific use as public space.

Dan Skolnick – He thanked everyone that was involved with planning of the blood drive which was held on May 10<sup>th</sup> at the Township Building as well as everyone that participated.

Christina Perrone, Walnut Avenue – She commented that she would like to see the Willows to remain open for public use and also commented about the property was taken by eminent domain.

#### 5. Committee Reports

##### **FINANCE & AUDIT**

##### A. Q1 Finance Update Report

Mr. White, Finance Director made a presentation of the Q1 Finance which can be found on the Township website at: <https://m.youtube.com/watch?v=9Xm511DLrJo&feature=youtu.be>. There was a brief discussion amongst the Commissioners and staff.

##### **COMMUNITY DEVELOPMENT**

##### B. Motion to approve White Dog Restaurant Settlement Agreement

Removed from the Agenda

***PUBLIC WORKS & ENGINEERING***

***C. Resolution #2016-65 - Caucus/Final – Minor Subdivision Plan Subdivision of Edward F. McGinley, III***

Stephen Wasylyszyn, Licensed Surveyor, made a brief presentation of the proposed project.

The applicant is proposing to consolidate the six existing parcels to form three lots. This project does not meet the criteria for an administration review exemption due to the number of parcels involved in the consolidation. No improvements are proposed at this time. This project is located in the RI zoning district of the Township. There was a brief discussion amongst the Commissioners, applicant and staff.

Commissioner Curley made a motion to approve, seconded by Commissioner Schaefer. Motion passed 7-0.

***PUBLIC SAFETY***

***D. Ordinance #2016-06 (Adoption) - Amending The Code Of The Township Of Radnor, Chapter 270, Vehicles And Traffic, Section 270-30, Time Limit Parking***

Commissioner Schaefer made a motion to adopt, seconded by Commissioner Nagle. Motion passed 7-0.

***E. Ordinance #2016-07 (Adoption) - Amending The Code Of The Township Of Radnor, Section 270-13, One-Way Streets, Section 270-16 Stop Intersections And Section 270-28, Parking Prohibited On Meredith Avenue***

Commissioner Schaefer made a motion to adopt, seconded by Commissioner Ahr.

**Public Comment**

Jane Galli, Barcladen Rd. – She asked for a point of clarification on parking on Meredith Avenue.

Commissioner Ahr called the vote, motion passed 7-0.

***PERSONNEL & ADMINISTRATION***

***F. Discussion from the Board of Commissioners on the Willows RFP***

Commissioner Ahr gave a brief history of the steps that have been taken to this point in the RFP process with the Willows Mansion. There was an in depth discussion amongst the Commissioners and staff in regards to the following items: will the Mansion and the surrounding area to remain predominantly and primarily park and recreation use; the Mansion and surrounding area to remain a public facility; whether the property was condemned when purchased; preserve the mansion without burdening the taxpayer; maintaining the public use and access of the building; public/private partnership; catering facility; whether to move forward with a new RFP; the survey a few years back showed that most residents did not want to raise

taxes to renovate and maintain the mansion; ways to find a low-impact use for the building and the costs to maintain the mansion at its current condition. Staff discussed that CBFAC had recommended the township stop operating the Willows mansion since it was spending \$120,000 to \$140,000 on it annually; the mansion is in need of a roof and other expensive repairs. The catering proposals which were received would have been a way to generate revenue to maintain the mansion.

Solicitor John Rice commented that the township had an ordinance to condemn the property but did not file a declaration of taking. Instead there was a deed in lieu of condemnation.

#### Public Comment

Christina Perrone, Walnut Avenue – She commented in regards to her opinion to maintain the Mansion and Park for recreational use as well as commented whether the building was taken in lieu of condemnation.

Joseph Reiser, Villanova – He commented that the Township should continue on the premise that the Mansion was purchased for public use as well as commented that a few residents have taken on themselves to evaluate the legal basis of whether selling or leasing of the Willows was allowed and his counsel indicated that it is illegal to transfer the facility to a private entity.

Anita Kelly, Villanova – She commented that the Township should take care of the items that the Township already has rather than starting something new.

Leslie Morgan, Farm Road – She commented that she is in support of a public/private partnership.

Doug McCone, Poplar Avenue – He commented that he would like to see the Willows remain to have public access.

Maya van Rossum, S. Roberts Road – She commented that the Township had used its authority to secure the Willows and that it is not the right time for a RFP and the community should give its input into the use.

Georgia McCauley, Villanova – She inquired if the legal analysis that Mr. Reiser mentioned was completed would be part of the minutes of the meeting.

Commissioner Ahr and John Rice commented that the minute are not verbatim. If anyone would like a copy of the legal opinion they just need to contact Mr. Zienkowski.

John Osborne, Treasurer – He commented in regards to private/public partnerships which area municipalities have entered into and they have been successful.

There was a brief discussion amongst the Commissioners on how to proceed with the process and future of the Willows Mansion as well as how to proceed with St. David's Nursery School.

Commissioner Higgins made a motion for the Township Manager to prepare a RFP for a public private partnership with the Township for use of the Willows Mansion, the proposal would allow for 1) significant public use for members of the public 2) as a secondary use involving non-profit or for profit educational, recreational or scientific organization; the public recreational use would allow activities by community groups, private citizens, township bodies and others primarily for recreational use.

Commissioner Curley suggested to use the language that the proposers use the park primarily and predominantly for recreation or park and that the users are primarily and predominantly public.

*Commissioner Schaefer made a motion to extend the meeting until 11:15 PM, seconded by Commissioner Higgins. Motion passed 6-1 with Commissioner Booker opposed.*

There was consensus of the Board to take no action tonight on the Willows. There was also a consensus of the Board that they are not ready to take action on the proposal from St. David's Nursery School and will not be able to meet their deadline.

Commissioner Ahr made a motion to authorize John Rice to look into the legislative history impact of the deed for the Willows Mansion; seconded by Commissioner Curley. Motion passed 6-1 with Commissioner Booker opposed.

Mr. Rice commented that he will submit a letter to the Commissioners to clarify the above motion.

### ***PARKS & RECREATION***

Tammy Cohen announced the Great American Campout at the Willows on June 25. Summer Camp is currently open for registration.

Steve Norcini announced that the bridge at the Willows is substantially open for use. He gave a brief update on the contractor.

### ***LIBRARY***

None

### ***PUBLIC HEALTH***

Commissioner Nagle commented that at the last Board of Health meeting there was an excellent presentation on narcotics and he encouraged everyone to watch it on YouTube.

### **Old Business**

None

### **New Business**

Commissioner Schaefer made a motion to approve a resolution in regards to Gun Violence Awareness and Wear Orange Day.

**WHEREAS**, the Board of Commissioners take note of the widespread occurrence of gun violence in the United State; and

**WHEREAS**, a national organization, Wear Orange, seeks to have citizens and governmental bodies draw attention to the problem by having citizens wear orange on June 2, 2016.

**NOW, THEREFORE**, be it resolved that the Board of Commissioners of Radnor Township endorses the June 2, 2016 Wear Orange movement and encourages its citizens to wear orange on June 2, 2016 as a reminder to work to prevent gun violence.

**SO RESOLVED**, at a duly convened meeting of the Board of Commissioners of Radnor Township conducted on this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

Motion seconded by Commissioner Nagle

Commissioner Curley commented that he does not see himself supporting the resolution when he is not familiar with the organization.

Public Comment

Diane Edbril – She apologized for the late request for the resolution as well as briefly explained the purpose of the organization.

John Osborne, Township Treasurer – He commented about his opposition to the resolution.

Commissioner Ahr called the vote, motion passed 4-3 with Commissioners Curley, Clark and Booker opposed.

Public Participation

None

*There being no further business, the meeting adjourned on a motion duly made and seconded.*

*Respectfully submitted,*

*Jennifer DeStefano*

# RADNOR TOWNSHIP POLICE DEPARTMENT

301 Iven Avenue  
Wayne, Pennsylvania 19087-5297  
(610) 688-0503 ✉ Fax (610) 687-8852

**William A. Colarulo**  
**Police Superintendent**

**TO:** A Staff Traffic Committee Meeting was held on May 18, 2016, and was attended by Commissioner Booker; Commissioner Ahr, Lieutenant Andrew Block; Bill Cassidy, Public Works, Officer Raymond Matus, Officer Alex Janoski, Highway Patrol; William Gallagher, Supervisor of Parking, Lori DeNicola, Administrative Assistant; Lou Gryga, Radnor residents.

**RE: STAFF TRAFFIC COMMITTEE MEETING HELD IN THE POLICE ROLL CALL ROOM, WEDNESDAY, May 18, 2016, 10:00 AM.**

## **NEW BUSINESS:**

1. Commissioner Ahr is requesting traffic calming on Aldwyn Lane.

Staff Traffic Committee will conduct an automated traffic count and will return with the results of the speed study at the October 2016 Staff Traffic Committee Meeting.

2. Virginia Vivino is requesting traffic calming on Roberts Road due to complaints of speeding vehicles and insufficient sightline issues adversely affecting the safety/operation of the roadway.

The intersection was inspected by Highway Patrol Officers and found to be in compliance with the sight distances. There was some foliage that was cut back providing acceptable sight distances pursuant to Penn Dots engineering standards. The Staff Traffic Committee does not recommend installation of stop signs on Roberts Road at Vauclain Lane or Castlefinn Lane as the engineering warrants have not been met per Penn Dot.

3. Lou Gryga is requesting traffic calming on North Spring Mill Road due to complaints of speeding vehicles.

Staff Traffic Committee recommends Steve Norcini, Director of Public Works, draft a letter to Penn Dot requesting a roadway audit be conducted due to complaints of speeding vehicles.

4. Michael Marston is requesting a "Hidden Driveway" sign in front of 584 South Bryn Mawr Avenue.

Staff Traffic Committee recommends Steve Norcini, Director of Public Works, draft a letter to Penn Dot requesting a "Hidden Driveway" sign be installed in front of 584 South Bryn Mawr Avenue. After approval by Penn Dot, the sign will be installed.

**OLD BUSINESS:**

1. Commissioner Ahr is requesting traffic calming on Wentworth Lane due to complaints of speeding vehicles.

Highway Patrol placed a counter on Wentworth Lane which conducted a seven day automated traffic data count. The data collected from the traffic count revealed that the 85<sup>th</sup> percentile speed was 25 MPH and the Average Daily Traffic was 55 vehicles per day. The data collected does not meet the traffic calming warrants under the Radnor Township Traffic Calming Ordinance.

**Addendum:**

Commissioner Booker attend this Staff Traffic Committee meeting and requested discussion on Pine Tree Road. Commissioner Booker requested that the northbound stop sign on Pine Tree Road at Spruce Tree Road be removed. Commissioner Booker stated that this request is from constituents due to noise pollution.

The Staff Traffic Committee does not recommend removing the above stop sign. However, Commissioner Booker, requests that Amy Kaminski, Traffic Engineer, re-evaluate her traffic engineering study for the stop sign warrants at this intersection.

**RESOLUTION NO. 2016-68**

**A RESOLUTION OF RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA AUTHORIZING THE SALE OF SURPLUS PARKING METERS IN ACCORDANCE WITH ORDINANCE 2012-04.**

*WHEREAS*, the Township adopted Ordinance 2012-04 amending its Code of Ordinances to establish a procedure for the disposal of township personal property; and

*WHEREAS*, Ordinance 2012-04 authorizes the receipt of bids for the sale of personal property; and

*WHEREAS*, the Township advertised for the sale of the surplus parking meters by receipt of bid;

*NOW, THEREFORE*, be it hereby *RESOLVED* that the Board of Commissioners authorizes the sale of 299 double meters and 68 single meters to Eastern Surplus & Equipment Co. at the total sale price of \$431.29.

*SO RESOLVED* this 13<sup>th</sup> day of June, 2016.

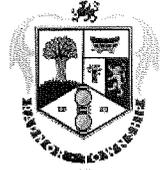
RADNOR TOWNSHIP

By: \_\_\_\_\_

Name: Philip M. Ahr  
Title: President

ATTEST: \_\_\_\_\_  
Robert A. Zienkowski, Secretary

**Radnor Township**  
**PROPOSED LEGISLATION**



**DATE:** May 16, 2016

**TO:** Board of Commissioners

**FROM:** William A. Colarulo

**LEGISLATION:** Resolution #2016-68 authorizing the sale of surplus parking meters of the township in accordance with Ordinance 2012-04.

**LEGISLATIVE HISTORY:** The Board of Commissioners adopted Ordinance #2012-04 (implementing changes to Chapter 5 of the Township's Administrative Code, Administration of Government, Article VII, Fiscal Affairs, Section 5-52, Disposal of Township property) at their meeting on May 14, 2012. On November 23, 2015, the Board of Commissioners approved Resolution 2015-119 for the auctioning of surplus parking meters.

**PURPOSE AND EXPLANATION:** The Administration is requesting that the Board of Commissioners authorize the sale of 750 surplus single and double parking meters. An online auction of the surplus parking meter was held through Municibid.net. The online auction began on February 8, 2016 and ended on February 22, 2016 and received zero (0) qualify bids.

Township staff was directed by the Township Manager to put the sale of the parking meters out to bid. Bids were received on Friday, May 13, 2016 and one (1) bid was submitted for the purchase of the surplus parking meters from Eastern Surplus & Equipment Co. at a total price of \$431.29.

**FISCAL IMPACT:** There is no direct fiscal impact of the sale of personal property of the Township.

**RECOMMENDED ACTION:** The Administration respectfully requests the Board to approve Resolution #2016-68 authorizing the sale of surplus parking meters.

# Radnor Township



## PROPOSED LEGISLATION

**DATE:** June 7, 2016

**TO:** Board of Commissioners

**FROM:** William M. White, Director of Finance

A handwritten signature in black ink, appearing to read "William M. White".

**LEGISLATION:** A motion authorizing the Township to solicit requests for proposals for the leasing of three (3) Public Works vehicles (one (1) refuse truck and two (2) dump trucks) and two (2) pieces of Public Works equipment (one (1) lawn mower and one (1) leaf vacuum).

**LEGISLATIVE HISTORY:** The Five Year Capital Program, incorporated into the 2016 Budget, included capital leases for these five (5) public works vehicles/equipment. The lease terms include a five year payment period with a purchase option of \$1 at the end of the financing.

**PURPOSE AND EXPLANATION:** The purpose of this motion is to allow the Administration to solicit RFPs from firms interested in providing the capital lease financing to the Township [for the three vehicles and two pieces of equipment identified in the Plan]. The Administration will develop the terms consistent with the payment period and amounts included in the Five Year Capital Program, and will then advertise for proposals.

The vehicles intended to be capital leased are available through State Contract and therefore do not need to be bid separately. Therefore, the Township will only need to competitively solicit the financing piece of the purchase transaction.

**IMPLEMENTATION SCHEDULE:** In order to allow for enough time to collect the Capital Lease RFPs, make a recommendation to the Board, and complete the purchase transaction in time for the delivery of the vehicle to occur in 2016, the Capital Lease RFPs need to go out immediately.

**FISCAL IMPACT:** There is no fiscal impact associated with soliciting for RFPs. Only those vehicles that were included in the Five Year Capital Plan are included with this RFP.

**RECOMMENDED ACTION:** The Administration respectfully recommends that the Board authorize the Township to solicit for proposals to provide capital lease financing for one (1) Public Works Refuse Truck, two (2) Public Works Highway Dump Trucks, one (1) Public Works Parks Lawn Mower, and one (1) Public Works Leaf Vacuum capital items.

**Radnor Township**  
**PROPOSED MOTION**

**DATE:** June 6<sup>th</sup>, 2016

**TO:** Radnor Township Board of Commissioners

**FROM:** Stephen F. Norcini, P.E., Director of Public Works *SN*

**CC:** Robert A. Zienkowski, Township Manager

**LEGISLATION:** Motion for Authorization to Receive Sealed Bids for Tree Removal & Stump Grinding

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**LEGISLATIVE HISTORY:** The Tree Removal and Stump Grinding project is an annual, sealed bid contract.

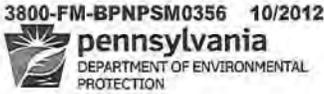
**PURPOSE AND EXPLANATION:** Each year the Public Works Department annually requests to receive bids from qualified contractors to remove trees in the Township R.O.W. and Township owned land. The Public Works Department is unable to remove these trees due to the specialized equipment needed or work near PECO wires. Through the expertise of the Township's appointed arborist, and with input from staff, trees are selected to be removed due to health or damage issues. Trees noted to be removed are in street Rights of Way, Township Parks, and the Radnor Trail.

**IMPLEMENTATION SCHEDULE:** Upon Board approval, the contract for construction will be posted on the Penn BID eBidding site.

**FISCAL IMPACT:** This project is funded by account 01-005-453-4250.

**RECOMMENDED ACTION:** *I respectfully request the Board of Commissioners authorize the receipt of sealed bids for Tree Removal and Stump Grinding.*

**MOVEMENT OF LEGISLATION:** It is being requested that the Board approve the motion for this project.



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

DEP Code No.
1-23013-247-3J

RESOLUTION FOR PLAN REVISION
FOR NEW LAND DEVELOPMENT

RESOLUTION OF THE (SUPERVISORS) (COMMISSIONERS) (COUNCILMEN) of Radnor Township
(TOWNSHIP) (BOROUGH) (CITY), Delaware COUNTY, PENNSYLVANIA (hereinafter "the municipality").

WHEREAS Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage
Facilities Act", as Amended, and the rules and Regulations of the Pennsylvania Department of Environmental Protection
(Department) adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, require the municipality to adopt an
Official Sewage Facilities Plan providing for sewage services adequate to prevent contamination of waters of the
Commonwealth and/or environmental health hazards from sewage wastes, and to revise said plan whenever it is
necessary to determine whether a proposed method of sewage disposal for a new land development conforms to a
comprehensive program of pollution control and water quality management, and

WHEREAS DTL Holdings has proposed the development of a parcel of land identified as
land developer

The Maples, and described in the attached Sewage Facilities Planning Module, and
name of subdivision

proposes that such subdivision be served by: (check all that apply), [X] sewer tap-ins, [ ] sewer extension, [ ] new
treatment facility, [ ] individual onlot systems, [ ] community onlot systems, [ ] spray irrigation, [ ] retaining tanks, [ ]
other, (please specify).

WHEREAS, Radnor Township finds that the subdivision described in the attached
municipality

Sewage Facilities Planning Module conforms to applicable sewage related zoning and other sewage related municipal
ordinances and plans, and to a comprehensive program of pollution control and water quality management.

NOW, THEREFORE, BE IT RESOLVED that the (Supervisors) (Commissioners) (Councilmen) of the (Township)
(Borough) (City) of Radnor Township hereby adopt and submit to the Department of Environmental Protection
for its approval as a revision to the "Official Sewage Facilities Plan" of the municipality the above referenced Sewage
Facilities Planning Module which is attached hereto.

I, Secretary, Radnor

(Signature)
Township Board of Commissioners (Borough Council) (City Councilmen), hereby certify that the foregoing is a true copy of
the Township (Borough) (City) Resolution # 2016-67, adopted, June 13, 2016.

Municipal Address:

Radnor Township
301 Iven Avenue
Wayne, PA 19087-5297
Telephone 610-688-5600

Seal of
Governing Body



## MEMORANDUM

**Date:** June 1, 2016

**To:** Radnor Township Board of Commissioners

**From:** Roger Phillips, P.E.

**cc:** Robert Zienkowski – Township Manager  
Stephen Norcini, P.E. – Director of Public Works  
Kevin W. Kochanski, RLA, CZO – Director of Community Development  
John Rice, Esq – Grim, Biehn, and Thatcher  
Amy Kaminski, PE – Gilmore and Assoc.  
Steve Gabriel - Rettew

**RE:** 227-229 Plant Avenue  
Sewage Facilities Planning Module

---

The applicant for 227-229 Plant Avenue has prepared a Sewage Facilities Planning Module to be submitted to the PA DEP. The Planning Module proposes public sewer to the 4 new dwelling units.

This Planning Module must be approved by resolution by the Board of Commissioners prior to submission to the PA DEP.

If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC.

Roger A. Phillips, P.E.  
Senior Project Manager



# MOMENEE AND ASSOCIATES, INC.

924 COUNTY LINE ROAD • BRYN MAWR, PENNSYLVANIA 19010

(610) 527-3030 • FAX (610) 527-9008

E-MAIL: info@momenee.com

www.momenee.com

## Sewage Facilities Planning Module

Prepared For

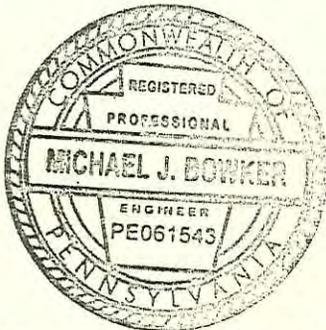
**The Maples**  
**229 & 227 Plant Avenue**

Situate In

**RADNOR TOWNSHIP**  
**COUNTY OF DELAWARE**

PA DEP Code No. 1-23013-247-3J

Momenee and Associates, Inc. Job No. 14-158



*Michael J. Dowker*

November 30, 2015

Revised

December 8, 2015

April 8, 2015

Mr. Michael Bowker  
Momenee and Associates, Inc.  
924 County Line Road  
Bryn Mawr, PA 19010

Re: Application for Planning Modules  
Checklist Letter – Component 3  
227 and 229 Plant Avenue Development  
DEP Code No. 1-23013-247-3J  
Radnor Township  
Delaware County

Dear Mr. Bowker:

In response to your application mailer, this checklist letter outlines what is required to be submitted to the municipality and the Department of Environmental Protection (DEP) as a complete module packet for the proposed development. Your development proposes the demolition of an existing dwelling and the construction of 4 townhouses that will be served by a connection to public sewer.

Sewage Facilities Planning Module forms are available from our eLibrary as MS Word Form Fields files directly from the Department's website at <http://www.dep.state.pa.us>. In the left-hand column, select the Water heading and then select Water Standards and Facility Regulation. In the right-hand column, select Wastewater Management and then select Act 537. Under Act 537, select Sewage Facilities Planning. Under Planning Forms, select the appropriate forms. The link will take you to the eLibrary location for the form.

Please select the following forms for this project and enter the above-referenced DEP Code Number on the first page of each form:

Sewage Facilities Planning Module Transmittal Letter, Form 3800-FM-BPNPSM0355  
Sewage Facilities Planning Module Resolution, Form 3800-FM-BPNPSM0356  
Sewage Facilities Planning Module Component 3, Form 3800-FM-BPNPSM0353

- Instructions
- Form

Sewage Facilities Planning Module Component 4

- 4A-Municipal Planning Agency Review, Form 3800-FM-BPNPSM0362A
- 4B-County Planning Agency Review, Form 3800-FM-BPNPSM0362B

Please submit the completed planning modules and supporting information to the municipality or municipalities in which the project is located. DEP must receive 1 copy of the completed planning module. Please answer all questions within the planning module. Do not simply answer "N/A" or "Not Applicable." If you feel a question does not apply, explain all reasons to support that answer. For this project, optional Section J must be completed.

Please refer to the Standard Operating Procedures (SOP) that govern Act 537 sewage facilities planning module reviews. The SOPs can be found on the DEP website at [http://www.portal.state.pa.us/portal/server.pt/community/Permit\\_Decision\\_Guarantee/21215/SOPs/1294992](http://www.portal.state.pa.us/portal/server.pt/community/Permit_Decision_Guarantee/21215/SOPs/1294992). Consistent with the SOP, DEP may disapprove an administratively incomplete planning module submission. Please use the checklist provided in this letter below to guide both you and the municipality in providing an administratively complete planning module submission to DEP for review.

A copy of this letter should be attached to the planning module when submitted through the municipality to DEP. This letter is to be used by the applicant (or the applicant's authorized representative) as a checklist and guide to completing the planning modules and does not supersede the rules and regulations found in Chapter 71. The municipality must submit a complete module package. (See end of letter for applicant and municipal certification statements.)

In all cases, address the immediate and long range sewage disposal needs of the proposal and comply with 25 Pa. Code, Chapter 71, Subchapter C relating to New Land Development Plan Revisions.

If you have any questions concerning the information required, please contact me at 484.250.5186.

Sincerely,



Stefanie Rittenhouse  
Sewage Planning Specialist 2  
Clean Water

cc: Delaware County Planning Department  
Mr. Zienkowski - Radnor Township  
Dovetail Associates, LLC  
RHM  
Mr. Fulton - Springfield Township  
Mr. Maloney - Upper Darby Township  
DCJA  
DELCORA  
Mr. Ponert - City of Philadelphia Water Department  
Planning Section  
Re 30 (GJE15CLW)098-7

Applicant Checklist (✓ or N/A)	Materials Required to be Included in the Planning Package	DEP Completeness Review
<b>DEP Checklist Letter</b>		
✓	DEP checklist letter is attached with items checked off by the applicant (or applicant's authorized representative) as included	
✓	DEP checklist letter certification statement completed and signed	
<b>Transmittal Letter (Form 3800-FM-BPNPSM0355)</b>		
✓	Transmittal Letter is attached, completed and the appropriate boxes in Section (i) are checked.	
✓	Transmittal Letter is signed by the municipal secretary	
<b>Resolution of Adoption (Form 3800-FM-BPNPSM0356)</b>		
✓	Resolution of Adoption is attached and completed	
✓	Resolution of Adoption is signed by the municipal secretary	
✓	Resolution of Adoption has a visible municipal seal	
<b>Component 4A - Municipal Planning Agency Review (Form 3800-FM-BPNPSM0362A)</b>		
✓	Component 4A is attached, completed and signed	
✓	Municipal Responses to Component 4A comments are included	
<b>Component 4B - County Planning Agency Review (Form 3800-FM-BPNPSM0362B)</b>		
✓	Component 4B is attached, completed and signed	
✓	Municipal Responses to Component 4B comments are included	
<b>Component 4C - County or Joint Health Department Review (Form 3800-FM-BPNPSM0362C)</b>		
N/A	Component 4C is attached, completed and signed	
N/A	Municipal Responses to Component 4C comments are included	
<b>Component 3 Sewage Facilities Planning Module (Form 3800-FM-BPNPSM0353)</b>		
<i>Section A: Project Information</i>		
✓	Section A.1. The Project Name is completed	
✓	Section A.2. The Brief Project Description is completed	
<i>Section B: Client Information</i>		
✓	Client Information is completed	
<i>Section C: Site Information</i>		
✓	Site Information is completed	
✓	A copy of the 7.5 minute USGS Topographic map is attached with the development site outlined, as required by the instructions and the checklist	
<i>Section D: Project Consultant Information</i>		
✓	Project Consultant Information is completed	

<i>Section E: Availability of Drinking Water Supply</i>		
✓	The appropriate box is checked in Section E	
✓	For existing public water supplies, the name of the company is provided	
✓	For public water supplies, the certification letter from the public water company is attached	
<i>Section F: Project Narrative</i>		
✓	The Project Narrative is attached	
✓	All information required in the module directions has been addressed	
<i>Section G: Proposed Wastewater Disposal Facilities</i>		
✓	Section G.1.a. The collection system boxes are checked	
N/A	The Pennsylvania Clean Streams Law (CSL) permit number is provided for existing systems	
✓	Section G.1.b. The questions on the collection system are completed	
✓	Section G.2.a. The appropriate treatment facility box is checked	
✓	For existing treatment facilities, the name is provided	
✓	For existing treatment facilities, the NPDES permit number is provided	
✓	For existing treatment facilities, the CSL permit number is provided	
N/A	For new treatment facilities, the discharge location is provided	
✓	Section G.2.b. The certification statement has been completed and signed by the wastewater treatment facility permittee or their representative	
✓	Section G.3. The plot plan is attached and contains all items in the module instructions under Section G.3	
✓	The plot plan will show the proposed sewer facilities, sewer extension and/or point of connection to the existing sewer line or point of discharge	
✓	Copies of easement(s) or right-of-way(s) are attached	
✓	Section G.4. The boxes are checked regarding Wetland Protection	
✓	Section G.5. The boxes are checked regarding Primary Agricultural Land	
✓	Section G.6. The boxes are checked confirming consistency with the Historic Preservation Act	
✓	The Cultural Resources Notice (CRN) (Form 0120-PM-PY0003) is attached	
✓	A return receipt for its submission to the Pennsylvania Historical and Museum Commission (PHMC) is attached	

<i>Section G: Proposed Wastewater Disposal Facilities</i>		
✓	The PHMC review letter is attached	
✓	Section G.7. The boxes are checked regarding Pennsylvania Natural Diversity Inventory (PNDI)	
✓	PNDI Project Environmental Review Receipt is attached	
✓	PNDI Review Receipt, if no potential impacts identified, is not older than 2 years	
N/A	All supporting resolution documentation from jurisdictional agencies (when necessary) is attached and not older than 2 years	
N/A	A completed PNDI Large Project Form (PNDI Form) (Form 8100-FM-FR0161) is attached with all supplemental materials and DEP is requested to complete the search.	
<i>Section H: Alternative Sewage Facilities Analysis</i>		
✓	The Alternative Sewage Facilities Analysis is attached	
✓	All information required in the module directions has been addressed	
<i>Section I: Compliance with Water Quality Standards and Effluent Limitations</i>		
N/A	The box is checked regarding Waters Designated for Special Protection	
N/A	The Social or Economic Justification is attached	
N/A	The box is checked regarding Pennsylvania Waters Designated As Impaired	
N/A	The box is checked regarding Interstate and International Waters	
N/A	The box is checked regarding Tributaries to the Chesapeake Bay and the required information is provided	
N/A	The Name of Permittee Agency, Authority, Municipality and the Initials of Responsible Agent are provided	
N/A	If discharge to an intermittent stream, dry swale or manmade ditch is proposed, provide evidence that a certified letter has been sent to each owner of property over which the discharge will flow until perennial conditions are met	
<i>Section J: Chapter 94 Consistency Determination</i>		
	A map showing the path of the sewage to the treatment facility and the location of the discharge is provided	
✓	Section J.1. The Project Flows are provided	
✓	Section J.2. The permitted, existing, and projected average and peak flows are provided in the table for collection, conveyance and treatment facilities	
✓	Section J.3.a. The appropriate box is checked indicating capacity in the Collection and Conveyance Facilities	

<i>Section J: Chapter 94 Consistency Determination</i>		
✓	Section J.3.b. The Collection System information is completed, signed and dated	
✓	Section J.3.b. The Conveyance System information is completed, signed and dated	
✓	Section J.4.a. The appropriate box is checked regarding projected overloads at the Treatment Facility	
✓	Section J.4.b. The Treatment Facility information is completed, signed and dated	
✓	The Permittee of the wastewater treatment facility has submitted a Chapter 94 Wasteload Management Report, which includes the information for the collection and conveyance system to serve this project	
✓	An acceptable Wasteload Management Report Corrective Action Plan (CAP) and schedule has been submitted, as well as a connection management plan	
✓	A letter from the permittee, which grants allocations to the project consistent with the CAP, and a copy of the connection management plan has been submitted	
✓	Letter indicating the treatment plant is an interim regional treatment facility is attached	
<i>Section K: Treatment and Disposal Options</i>		
N/A	For proposed treatment facilities, the appropriate box is checked indicating the selected Treatment and Disposal Option	
<i>Section L: Permeability Testing</i>		
N/A	The Permeability Testing information is attached	
<i>Section M: Preliminary Hydrogeologic Study</i>		
N/A	The Preliminary Hydrogeologic Study is attached	
N/A	The Preliminary Hydrogeologic Study is signed and sealed by a Professional Geologist	
<i>Section N: Detailed Hydrogeologic Study</i>		
N/A	The Detailed Hydrogeologic Study is attached	
N/A	The Detailed Hydrogeologic Study is signed and sealed by a Professional Geologist	
<i>Section O: Sewage Management</i>		
✓	Section O.1. The box is checked indicating municipal or private facilities	
✓	If municipal, the remainder of Section O is not applicable	
N/A	If private, the required analysis and evaluation of sewage management options is attached	
N/A	Section O.2. The appropriate box is checked regarding the use of nutrient credits or offsets	

<i>Section O: Sewage Management</i>		
N/A	Section O.3. The Project Flows for the private facilities are provided	
N/A	Section O.4.a. The appropriate box is checked indicating capacity in the existing private Collection and Conveyance Facilities	
N/A	Section O.4.b. The private Collection System information is completed, signed and dated	
N/A	Section O.4.c. The private Conveyance System information is completed, signed and dated	
N/A	Section O.5.a. The appropriate box is checked regarding projected overloads at the private Treatment Facility	
N/A	Section O.5.b. The private Treatment Facility information is completed, signed and dated	
N/A	Section O.6. The box is checked indicating the municipality will assure proper operation and maintenance of the proposed private facilities	
N/A	The required documentation of sewage management is attached	
<i>Section P: Public Notification Requirement</i>		
✓	All Public Notification boxes in this section are checked	
N/A	The public notice is attached, if public notification is necessary	
N/A	All comments received as a result of the notice are attached	
N/A	The municipal responses to these comments are attached	
N/A	The box is checked indicating that no comments were received, if valid	
<i>Section Q: False Swearing Statements</i>		
✓	The planning module preparer's false swearing statement is completed and signed	
<i>Section R: Planning Module Review Fee</i>		
✓	The correct fee has been calculated	
✓	The correct fee has been paid	
N/A	The request for fee exemption has been checked	
N/A	The deed reference information is provided to support the fee exemption	
<i>Completeness Checklist</i>		
✓	The module completeness checklist is included	
✓	All completeness items have been checked as included by the municipality, as appropriate	
✓	The Municipal Official has signed and dated the checklist	

CERTIFICATION STATEMENT

I certify that this submittal is complete and includes all requested items. I understand that failure to submit a complete module package may result in a denial of the application.

Signed:   
Applicant (or Applicant's authorized representative)

Date: 2/22/2016

Signed: \_\_\_\_\_  
Municipal Secretary

Date: \_\_\_\_\_

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Municipal Planning Agency Review

Site Plan

March 31, 2015

Ms. Stefanie Rittenhouse  
Sewage Planning Specialist  
Pennsylvania Department of Environmental Protection  
Water Management - Sewage Facilities Planning Section  
2 East Main Street  
Norristown, PA 19401

**RE: Planning Module for 229 & 227 Plant Ave.  
Radnor Township, Delaware County**

**Our Job #14-158**

Dear Ms. Rittenhouse:

Attached is the Sewage Facilities Planning Module Application Mailer for the above referenced project. As I have been informed, due to the fact that the proposed sewage flows for this project will travel through Springfield Township, a Planning Module Exemption will not be approved and a full Planning Module must be obtained. By submission of this package, I was hoping that you could provide me with the appropriate filing number and the appropriate documentation.

Also for your use, enclosed please find a copy of the Application Mailer, a brief introduction describing the project and estimated sewage flow calculations, a copy of the completed PNDI search form, and a copy of the Overall Site Plan. Please contact me should you require any additional information / documentation or if anything requires clarification during your review process. Thanks in advance for your time.

Very truly yours,  
**MOMENEE AND ASSOCIATES, INC.**



Michael Bowker, P.E.

MJB  
Enclosures  
14158L01\_DEP.doc



December 29, 2015

Michael J. Bowker  
Momenee and Associates, Inc.  
924 County Line Road  
Bryn Mawr, PA 19010

RE: 227 and 229 Plant Avenue  
Sewage Facilities Planning Module  
Component 3 – Section J

Dear Michael:

Enclosed for your use is an executed copy Section J for the Collection Capacity portion for the above reference project. Prior to the final planning module submission to the Township Board of Commissioners for approval, the planning module must be submitted to Radnor Township and the Delaware County Planning Commissions for their review and completion of components 4a and 4b.

If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC

A handwritten signature in black ink, appearing to read "Roger A. Phillips", written over a circular stamp or seal.

Roger A. Phillips, P.E.  
Senior Project Manager

Gannett Fleming, Inc.

P.O. Box 80794 • Valley Forge, PA 19484-0794 | 1010 Adams Avenue • Audubon, PA 19403-2402

t: 610.650.8101 • f: 610.650.8190

[www.gannettfleming.com](http://www.gannettfleming.com)



**RADNOR • HAVERFORD • MARPLE**

SEWER AUTHORITY

600 GLENDALE ROAD • HAVERTOWN, PA 19083

(610) 446-0867

FAX (610) 446-4926

February 02, 2016

Mr. Connor T. Henderson, P.E.  
Project Engineer  
924 County Line Road  
Bryn Mawr, PA 19010

RE: 229-227 Plant Avenue  
Radnor Township, Delaware County, PA.

Dear Mr. Connor;

In regards to your communication with the Radnor Haverford Marple Sewer Authority (RHM) dated November 30, 2015 requesting flow allocation of 1,050 gallons per day or Four EDU's, for the above referenced project in Radnor Township, on January 12, 2016 the RHM Authority Board approved the flow conveyance of 1,050 Gallons Per Day.

You will also have to submit for conveyance with Springfield Township, Darby Creek Joint Authority, D.E.L.C.O.R.A. and Philadelphia Southwest Water Pollution Control Plant.

If I can provide any further information or clarification with regards to the above information, please do not hesitate to telephone my office at (610) 446-0867.

Very truly yours,  
RHM Sewer Authority

David E. Adams  
Manager of Operations



**Township of Springfield  
DELAWARE COUNTY, PA**

50 POWELL ROAD, SPRINGFIELD, PA 19064

OFFICES 610-544-1300 POLICE 610-544-1100 HIGHWAY 610-543-2837 FAX 610-544-3012  
EIN NO. 23-6004592

Commissioners

JEFFREY RUDOLPH, SR  
President

LEE J. JANICZEK, Ed.D.  
Vice President

EDWARD KELLY  
DANIEL J. LANCIANO  
ROBERT LAYDEN  
GINA M. SAGE  
PAUL J. WECHSLER

J. LEE FULTON  
Township Manager

MARGARET A. YOUNG  
Treasurer

JAMES J. BRYNE, JR., Esq.  
Solicitor

February 8, 2016

Mr. Connor T. Henderson, PE  
Momenee and Associates, Inc.  
924 County Line Road  
Bryn Mawr, PA 19010

**RE: The Maples, 227 & 229 Plant Avenue  
Flow Allocation Request**

Dear Mr. Henderson,

Attached is the Public Sewer System Available Capacity Determination for the conveyance that you have requested. Although the proposed sewer tap-ins could generate a hydraulic overload within the existing collection and conveyance system within the next 5 years, the township implemented a Corrective Action Plan in January 2002 to correct the overload condition that the outfall experiences during wet weather. In order to connect to the Darby Creek Outfall, documented Infiltration and Inflow (I&I) removal must have been completed in the amount equivalent to the requested connection. Attached is a spreadsheet that shows that RHM Sewer Authority has completed enough I&I removal to allow the 1,050 gallons per day connection for the proposed construction of four (4) townhouses.

If you should need any additional information in order to process this planning module, please do not hesitate to contact Susan Guisinger-Colón at 610-640-3500.

Sincerely,

  
Lee Fulton  
Township Manager

cc: McCormick Taylor, Inc.  
Susan M. Guisinger-Colón, P.E.

Corrective Action Plan - Summary of RHM Connection Allocations

	Date	*EDU Equal to 262.5 gpd			REQUEST TABLED	Remarks: ** Tabled Items Approved
		Allocation (gpd)	Approved (gpd)	Remaining (gpd)		
	01/09/2002		262.5		1.0	43 Deepdale Rd. - The Doering Residence - Tredyffrin Twp. 335 Upper Gulph Rd. - Tredyffrin Twp.
	01/09/2002		262.5		1.0	
1	08/01/2002	4850.00		4850.0	18.5	
2	03/06/2002		2362.5	2487.5	9.5	The Blain Property - Radnor Twp.
3	09/11/2002		262.5	2225.0	8.5	355 S. Manoa Rd. - Havertown, PA
4	09/11/2002		1575.0	650.0	2.5	College Ave & Darby Rd. - Havertown, PA
5	12/11/2002		2887.5	-2237.5	-8.5	Townhouse Project - Berkley & Chester Rd. - Tredyffrin Twp.
6	09/20/2002	2560.00		322.5	1.2	I/I Allocation from Springfield Twp.
7	03/05/2003		262.5	60.0	0.2	Forest Ave. - Havertown, PA
8	04/02/2003		2182.0	-2122.0	-8.1	Lawerance Park Shopping Center - Marple Twp.
9	06/04/2003		6000.0	-8122.0	-30.9	Cabrini College - Radnor, Twp.
10	08/06/2003		262.5	-8384.5	-31.9	1418 Fairview Rd. - Havertown, PA
11	09/15/2003		262.5	-8647.0	-32.9	937 Wotten - Radnor Twp.
12	10/15/2003		2812.8	-11459.8	-43.7	763 Valley Forge Rd. - Radnor Twp.
13	03/10/2004		262.5	-11722.3	-44.7	301 Oxford Hill La. - Havertown, PA
14	03/10/2004		262.5	-11984.8	-45.7	1422 Fairview Rd. - Havertown, PA
15	06/03/2004	21065.00		9100.2	34.7	I/I Allocation from Springfield Twp.
16	06/09/2004		5512.5	3587.7	13.7	David & Jan Ceton Subdivision, Marple Rd. - Marple Twp.
17	07/28/2004		1575.0	2012.7	7.7	McPherson Property - Radnor Twp.
18	09/13/2004		1468.0	544.7	2.1	Dunwoody Village Expansion - Newtown Twp.
19	01/12/2005		262.5	282.2	1.1	3119 Sawmill Rd. - Newtown Twp. (Failing Septic System - Health Problems)
20	01/13/2005			282.2	1.1	Tabled #1**
21	02/02/2005		525.0	-242.8	-0.9	The Enclave at Mather Ave. Project - Marple Twp. (2,362.5 gpd) see below-approved 4/4/2006
22	04/06/2005			-242.8	-0.9	Tabled #3**
23	04/06/2005		262.5	-505.3	-1.9	Lancaster & Pembroke Ave. - Radnor Twp. (14,175 gpd)
24	04/06/2005			-505.3	-1.9	Tabled #2**
25	06/08/2005		262.5	-767.8	-2.9	Chanticleer Gardens, #03-136 - Radnor Twp. (840 gpd) see below-approved 4/4/2006
26	06/08/2005		262.5	-1030.3	-3.9	3314-3316 Saw Mill Rd. - Newtown Twp.
27	07/20/2005		262.5	-1292.8	-4.9	206 Greenbriar Ln. - Havertown, PA
28	08/10/2005		0.0	-1292.8	-4.9	16 Aldwyn La. - Radnor Twp.
29	09/19/2005		262.5	-1555.3	-5.9	Devereux Project - 17 EDU's approved (zero flow from project)
30	02/08/2006		262.5	-1817.8	-6.9	3416 Goshen Rd. - Newtown Twp. (Failing Septic System - Health Problems)
31	03/07/2006	10255.0		8699.7	33.1	809 Castlefinn La. Bryn Mawr, PA 19083 (Failing Septic System - Health Problems)
32	03/08/2006		262.5	8437.2	32.1	I/I Allocation from Springfield Twp.
33	04/04/2006		2362.5	6074.7	23.1	264 Ithan Creek Rd. Villanova, PA 19085 (Failing Spectic System - Health Problems)
34	04/04/2006		840.0	5234.7	19.9	Enclave at Mather Avenue, Project #17286 - Marplr Township
35	04/04/2006		130.0	5104.7	19.4	Chanticleer Gardens, #03-136 - Radnor Twp.
36	05/15/2006	9820.0		14924.7	56.9	Commerce Bank 200 Radnor Chester Rd., Radnor Twp.
37	06/12/2006	60,000.0		74924.7	285.4	I/I Allocation from Springfield Twp. (flows from Tredyffrin Twp.)
38	06/14/2006		2362.5	72562.2	276.4	Flow from DEP for Newtown Height flow removal
39	06/19/2006		2362.5	70199.7	267.4	Land Development - D'Agositino Builders, Tredyffrin Twp.
40	06/19/2006		14175.0	56024.7	213.4	Lancaster & Pembroke Ave. - Radnor Twp. (14,175 gpd)
41	06/19/2006		12000.0	44024.7	167.7	Eastern University Dorms -Radnor Twp.
42	06/19/2006		262.5	43762.2	166.7	733 Bryn Mawr Ave., Radnor Twp.
43	06/19/2006		2309.0	41453.2	157.9	Lancaster Pike and Kenilworth Road, P98150, Radnor Twp.
44	06/19/2006		1312.5	40140.7	152.9	740 Moore Ave., The Mews, Radnor Twp.
45	06/19/2006		262.5	39878.2	151.9	781 N. Wayne Ave., Parcel 43-11D-55, Tredyffrin Twp.
46	06/19/2006		262.5	39615.7	150.9	231 Fairlamb Ave., Havertown
47	06/19/2006		262.5	39353.2	149.9	255 Lansdowne Ave., Radnor Twp.
48	06/19/2006		1050.0	38303.2	145.9	Wicklow Project Job #02-129, Radnor Twp.
49	06/19/2006		15000.0	23303.2	88.8	Ellis Preserve, West Medical Building #060086001, Newtown Twp.
50	08/01/2006		525.0	22778.2	86.8	423 Old Eagle School Road, Tredyffrin Township
51	09/11/2006	19141.00		41919.2	159.7	I/I Allocation from Springfield Twp.
52	09/19/2006		525.0	41394.2	157.7	820 Vauclain Road, Radnor Township
53	10/04/2006		262.5	41131.7	156.7	1201 Ellston Road, Havertown
54	10/31/2006	20,500.00		61631.7	234.8	I/I Allocation from Springfield Twp.
55	11/15/2006		31.5	61600.2	234.7	Worthing - Devereux Project, Newtown Township
56	02/06/2007		39047	22553.2	85.9	Haverford Reserve Development
57	03/06/2007		5250	17303.2	65.9	Ellis Preserve, Newtown Twp. (5250 gpd = 20 EDU)
58	03/06/2007		262.5	17040.7	64.9	1600 Ashton Road, Havertown Twp.
59	03/06/2007		1312.5	15728.2	58.9	1400 Fairview Avenue, Havertown Township (1312.5 gpd = 5 EDUs)
60	06/05/2007		262.5	15465.7	58.9	115 Petrie Avenue, Radnor Township (Failed System)
61	07/31/2007	10552.00		26017.7	99.1	I/I Allocation from Springfield Twp. For 2006 I/I Reduction Program
62	12/04/2007		8626	17391.7	66.3	851 West Lancaster Avenue, Tredyffrin Township
63	01/08/2008		2362.5	15029.2	57.3	102 Louella Avenue, Radnor Township
64	01/08/2008		262.5	14766.7	56.3	537 Grand Avenue, Havertown
65	04/01/2008		65	14701.7	56.0	3067 W. Chester Pike, Newtown Square 0.26 EDUs
66	04/01/2008		80	14621.7	55.7	1974 Sproul Road, Marple Township - Bank of America - 0.31 EDUs
67	04/18/2008		1050	13571.7	51.7	34 Reese Avenue, Newtown Square
68	07/02/2008		262.5	13309.2	50.7	971 S. Hunt Road, Newtown Square, Radnor - Falling Septic System
69	07/02/2008		525	12784.2	48.7	236 N. Aberdeen Ave., Radnor Township - 2EDUs
70	08/12/2008		8705	4079.2	15.5	Haverford Reserve Development - 33.16 EDUs
71	08/12/2008		262.5	3816.7	14.5	147 N. Valley Forge Road, Devon - 1 EDU
72	08/12/2008		262.5	3554.2	13.5	1629 Ashton Road, Havertown - 1 EDU

Corrective Action Plan - Summary of RHM Connection Allocations

	Date	*EDU Equal to 262.5 gpd				REQUEST TABLED	Remarks: ** Tabled Items Approved	
		Allocation (gpd)	Approved (gpd)	Remaining (gpd)	(EDU)*			
73	08/12/2008	21348.00		24902.2	94.9		2007 I/I Credit	
74	10/15/2008		787.5	24114.7	91.9		317 Dorset Road, Easttown Township - 3 EDUs	
75	10/23/2008		1575	22539.7	85.9		John O'Keefe Subdivision - 6 EDUs	
76	12/04/2008		8025	14514.7	55.3		200 N. Radnor Chester Road - 31 EDUs	
77	12/16/2008		262.5	14252.2	54.3		1301 Fairview Avenue, Havertown, PA	
78	02/10/2009		12451	1801.2	6.9		145 King of Prussia Road, Radnor Twp.	
79	02/10/2009		525	1276.2	4.9		1254 Fairview Avenue, Havertown	
80	02/10/2009		262.5	1013.7	3.9		Bella Vista Road, Easttown	
81	02/10/2009		525	488.7	1.9		1300 Fairview Road, Havertown	
82	02/10/2009		262.5	226.2	0.9		1239 Leedom Road, Havertown	
83	05/15/2009	262.5	-36.3	-0.1		1344 W. Chester Pike, Havertown - failing septic system		
84	05/27/2009	37717.00		37680.7	143.5		I/I Allocation from Springfield Township for 2008	
85	06/02/2009		262.5	37418.2	142.5		600 Glenmary Rd., St. David's	
86	06/02/2009		2000	35418.2	134.9		Eastern University Fowler Hall -Radnor Twp.	
87	06/02/2009		262.5	35155.7	133.9		20 Surrey Dr., Newtown Square	
88	10/23/2009		262.5	34893.2	132.9		2628 Franklin Avenue Subdivision, Marple Township	
89	04/30/2010		787.5	34105.7	129.9		615 Newtown Road, Radnor Township	
90	06/23/2010		76932.00		111037.7	423.0		2009 I/I Credit
91	10/29/2010			262.5	110775.2	422.0		D&G Development Group
92	12/16/2010			262.5	110512.7	421.0		513 S. Roberts Road, Bryn Mawr - Failing Septic System
93	03/30/2011			525	109987.7	419.0		Douglas Golden, 1313 Center Road, Haverford Township
94	07/13/2011	262.5		109725.2	418.0		412 Conestoga Road, Radnor Township	
95	09/16/2011	787.5		108937.7	415.0		1217 Bon Air Road, Haverford Township	
96	10/04/2011	240		108697.7	414.1		Merion Golf Club, Ellis Road, Haverford Township	
97	11/16/2011	262.5		108435.2	413.1		117 Sugartown Road, Easttown Township	
98	11/17/2011	50757.00			159192.2	606.4		2010 I/I Credit
99	12/30/2011			262.5	158929.7	605.4		1430 County Line Road, Radnor Township
100	12/30/2011		12337.5	146592.2	558.4		Courtney Circle Pump Station , Radnor Township	
91	03/12/2012		1650	144942.2	552.2		Berkley Road Commercial, Tredyffrin Township	
92	04/13/2012		262.5	144679.7	551.2		606 W. Wayne Avenue, Radnor Township	
93	05/22/2012		5250	139429.7	531.2		Eastern University West Campus Office and Classroom Building	
94	07/06/2012		525	138904.7	529.2		Hurley Subdivision - Newtown St. & Caley Rd., Newtown Square	
95	07/16/2012		262.5	138642.2	528.2		370 Malin Road, Radnor	
96	11/05/2012		262.5	138379.7	527.2		527 St. Davids Avenue, Radnor Township - Failing Septic System	
97	11/05/2012		1575	136804.7	521.2		229 Wayne Avenue, Radnor Township - Townhomes	
98	11/05/2012	525	136279.7	519.2		200 Ithan Creek Road, Radnor Township - 3 lot subdivision		
99	12/07/2012	13134	123145.7	469.1		Haverford Reserve, Havertown (50 EDUs for Buildings 3 and 4)		
100	12/07/2012	787.5	122358.2	466.1		Munger Road & N. Newtown Street Road, Newtown Twp.		
101	12/07/2012	2100	120258.2	458.1		615 Newtown Road, Radnor Township		
102	03/01/2013	2625	117633.2	448.1		Stafford Apartments, Tredyffrin Township		
103	03/01/2013	1575	116058.2	442.1		Newtown Shopping Center - Panera Bread		
104	04/22/2013	262.5	115795.7	441.1		411 Timber Lane, Newtown Square		
105	05/28/2013	262.5	115533.2	440.1		11 Northwoods Road, Newtown Township		
106	05/28/2013	262.5	115270.7	439.1		1504 Steel Road, Haverford Township		
107	07/03/2013	262.5	115008.2	438.1		Rite Aid Pharmacy, Newtown Township		
108	09/09/2013	262.5	114745.7	437.1		Haverford Township School District - Maintenance Facility		
109	11/25/2013	262.5	114483.2	436.1		1254 Leedom Road, Haverford Township		
110	02/19/2014	1375	113108.2	430.9		301 S. Valley Forge Road, Tredyffrin Township		
111	03/26/2014	10500	102608.2	390.9		Dunwoody Village, Newtown Township		
112	04/22/2014	2888	99720.2	379.9		115 Strafford Avenue, Radnor Township		
113	05/23/2014	1427	98293.2	374.5		30-50 Lawrence Road, Marple Township		
114	05/23/2014	262.5	98030.7	373.5		2609 Sunset Boulevard, Marple Township		
115	06/09/2014	19950	78080.7	297.5		Ardrossan Farm, Radnor Township		
116	09/01/2014	397	77683.7	295.9		Surrey Services Senior Center, Devon		
117	11/06/2014	1050	76633.7	291.9		205 Stafford Avenue, Radnor Township		
118	01/21/2015	6090	70543.7	268.7		Villanova Center, Radnor Township - Flow Data updated per DEPs request		
119	03/23/2014	262.5	70281.2	267.7		217 Pine Tree Road, Radnor Township		
120	06/30/2015	262.5	70018.7	266.7		Albert Profico, Marple Township - Amended - 1 additional EDU		
121	06/30/2015	15,000	55018.7	209.6		Additional Flow Request for Ellis Preserve Town Center, Newtown Township		
	06/30/2015	1050	53968.7	205.6		Bloomingtondale Avenue, Radnor Township		
	02/08/2016	1050	52918.7	201.6		The Maples, 229 & 227 Plant Avenue, Radnor Township		

# UPPER DARBY TOWNSHIP

MUNICIPAL BUILDING  
100 GARRETT ROAD  
UPPER DARBY, PA 19082-3135

PHONE 610-734-7635  
FAX 610-734-7775

Mayor  
Thomas N. Micozzie

Chief Administrative Officer  
Thomas J. Judge, Jr.

Township Engineer  
Director, Department of Public Works  
Daniel R. Lutz, P.E.



March 8, 2016

Mr. Connor Henderson  
Momenee & Associates, Inc.  
924 County Line Rd.  
Bryn Mawr, PA 19010

Re: Sewage Facilities Planning  
227 & 229 Plant Ave.  
Radnor Township, Delaware County, PA

Dear Connor,

Attached is the signed Chapter 94 Consistency Determination form for the above referenced project. This certification of the conveyance system is based on the attached letter from Springfield Township dated February 8, 2016.

Sincerely,

Daniel R. Lutz, P.E.  
Township Engineer  
Director, Department of Public Works

# DARBY CREEK JOINT AUTHORITY

c/o DELCORA  
P.O. Box 999  
Chester, PA 19016-0999

February 18, 2016  
File No. 83800-112-RHM

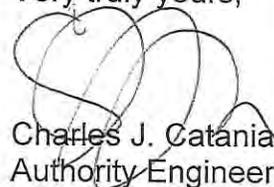
Connor T. Henderson  
Momenee & Associates, Inc.  
924 County Line Road  
Bryn Mawr, Pa 19010

Re: 227-229 Plant Avenue - Radnor  
Flow Allocation

Dear Mr. Henderson:

At its meeting on February 17, 2016 the Darby Creek Joint Authority Board approved the flow allocation of 1,050 gpd for the above-referenced project. In accordance with the October 2007 Capacity Management Plan for the Darby Creek Interceptor approved by PA DEP on February 12, 2008, the Authority has the capacity to receive the flows, and the flow will not create a hydraulic overload or 5-year project overload. A copy of the 5-year flow projection is attached.

Very truly yours,



Charles J. Catania, Jr., PE  
Authority Engineer

CJC,Jr/cd  
Enclosure

cc: Anthony Casadei  
Dave Adams, RHM

Darby Creek Joint Authority  
Capacity Management Plan  
Flow Allocation Summary

			DCJA System Total		RHM Total		DCJA Member Total	
			Approved	Balance 90300	Approved	Balance 46987.5	Approved	Balance 43312.5
Oct-07	Jackson Ave, Darby Twp (JD)	Residential	525.00	83775.00		46987.50	525.00	42787.50
Oct-07	3817 Denison Ave, Upper Darby	Residential	1050.00	88725.00		46987.50	1050.00	41737.50
	2006 I & J Credit (RHM)		-10500.00	93225.00	-10500.00	57487.50		41737.50
Feb-08	442 Poplar St, Sharon Hill	Residential	1050.00	98175.00		57487.50	1050.00	40887.50
Feb-08	537 Grand Ave, Havertford	Residential	262.5	97912.50	262.5	57225.00		40887.50
Feb-08	102 Lovella Ave, Radnor	Residential	2362.5	95549.00	2362.5	54861.50		40887.50
Feb-08	115 Petri Ave, Radnor	Residential	262.5	95286.50	262.5	54599.00		40687.50
Apr-08	851 W Lancaster Ave, Tredyffrin	Commercial	8750	86535.50	8750.0	45849.00		40687.50
Apr-08	Haverford Reserve, Haverford	Residential	8765	77851.50	8765.0	37144.00		40687.50
May-08	34 Reese Ave, Newtown	Residential	1050	76781.50	1050.0	36094.00		40687.50
May-08	540-542 Folcroft Ave, Folcroft	Residential	525.00	76256.50		36094.00	525.00	40162.50
Jul-08	Sycamore Ave, Upper Darby	Residential	3150	73106.50		36094.00	3150	37012.50
Jul-08	971 S Hunt Rd, Radnor	Residential	262.5	72844.00	262.5	35831.50		37012.50
Sep-08	236 N Aberdeen Ave, Radnor	Residential	262.5	72581.50	262.5	35569.00		37012.50
Sep-08	2007 I & J Credit (RHM)		-21348	93929.50	-21348	56917.00		37012.50
Oct-08	1974 Sprout Rd, Maple	Commercial	80	93849.50	80	56837.00		37012.50
Oct-08	613 W Lancaster Ave, Radnor	Commercial	0	93849.50	0	56837.00		37012.50
Oct-08	4812 Drexelbrook Dr, Upper Darby	Commercial	12400	81449.50		56837.00	12400	24612.50
Nov-08	317 Dorset Rd, Easttown	Residential	787.5	80962.00	787.5	56049.50		24612.50
Nov-08	519 Kalzer Dr, Folcroft	Commercial	1710	78952.00		56049.50	1710	22902.50
Dec-08	1629 Ashton Rd, Havertford	Residential	262.5	78889.50	262.5	55707.00		22902.50
Dec-08	112 N Mallin Rd, Maple	Residential	1575	77114.50	1575	54212.00		22902.50
Jan-09	1020 Ridge Ave, Darby Borough	Commercial	262.5	76952.00		54212.00	262.5	22640.00
Jan-09	MacDade & Chestnut, Darby Borough	Commercial	2177.5	74734.50		54212.00	2177.5	20522.50
Feb-09	1254 Fairview Ave, Havertford	Residential	525	74209.50	525	53687.00		20522.50
Feb-09	1300 Fairview Ave, Havertford	Residential	262.5	73947.00	262.5	53424.50		20522.50
Feb-09	145 King of Prussia Rd, Radnor	Commercial	12451	60971.00	12451	40448.50		20522.50
Mar-09	Covenry Woods, Springfield	Residential	6037.5	54933.50		40448.50	6037.5	14485.00
Mar-09	200 N Radnor-Chester Rd, Radnor	Commercial	8025	46908.50	8025	32423.50		14485.00
Mar-09	221-223 Bella Vista Rd, Easttown	Residential	262.5	46646.00	262.5	32161.00		14485.00
Mar-09	1301 Fairview Ave, Havertford	Residential	262.5	46383.50	262.5	31898.50		14485.00
Apr-09	1020 Ridge Ave, Darby Borough	Commercial	1312.5	45071.00		31898.50	1312.5	13172.50
May-09	1344 West Chester Pike, Havertford	Residential	262.5	44808.50	262.5	31636.00		13172.50
	2008 I & J Credit (RHM)		-37717.00	82525.50	-37717.00	69533.00		13172.50
Jun-09	20 Sney Dr, Newtown	Residential	262.5	82263.00	262.5	68905.50		13172.50
Jul-09	Eastern University (Fowler), Radnor	Institutional	2000	80263.00	2000	67890.50		13172.50
Sep-09	5050 Fairway Rd, Upper Darby	Commercial	533	79730.00		67890.50	533	12639.50
	I & J Credit (Upper Darby Twp)		-8014	87744.00		67890.50	-8014	20653.50
Oct-09	Collingdale Swim Club	Residential	262.5	87481.50		67890.50	262.5	20391.00
Nov-09	2628 Franklin Ave, Maple	Residential	262.5	87219.00	262.5	66828.00		20391.00
Nov-09	222 Sugarloaf Rd, Radnor	Commercial	0	87219.00		66828.00	0	20391.00
Nov-09	408 Lansdowne Ave, Yeadon	Residential	600	86519.00		66828.00	600	19791.00
Dec-09	45 Maple Rd, Havertford	Residential	262.5	85356.50	262.5	66585.50		19791.00
May-10	515 Newtown Rd, Radnor	Residential	787.5	85569.00	787.5	65778.00		19791.00
Oct-10	Bon Air & Royal Aves, Havertford	Residential	262.5	85306.50	262.5	65515.50		19791.00
Nov-10	416 S 4th St, Darby	Residential	2243	83063.50		65515.50	2243	17548.00
Nov-10	111 S Wycombe Ave, Lansdowne	Residential	262.5	82801.00		65515.50	262.5	17285.50
Nov-10	24-48 Baltimore Ave, Lansdowne	Residential	0	82801.00		65515.50	0	17285.50
Dec-10	513 S Roberts Rd, Radnor	Residential	262.5	82538.50	262.5	65253.00		17285.50
Apr-11	MacDade & Chestnut, Darby Borough	Commercial	1837.5	80711.00		65253.00	1837.5	15448.00
Jan-11	1313 Center Rd, Easttown	Residential	525	80176.00	525	64728.00		15448.00
Jan-11	1001 Cedar Ave, Yeadon	Commercial	74	80102.00		64728.00	74	15374.00
Jun-11	712-714 Sharon Ave, Darby Twp	Residential	525	75577.00	525	64203.00		15374.00
Jul-11	516-518 Main St, Darby Borough	Commercial	960	75917.00		64203.00	960	14414.00
Sep-11	412 Conestoga Rd, Radnor	Residential	262.5	75354.50	262.5	63949.50		14414.00
Oct-11	1217 Bon Air Rd, Havertford	Residential	787.5	75767.00	787.5	63183.00		14414.00
Oct-11	Ellis Rd - Merion Golf Club	Commercial	240	77327.00	240	62913.00		14414.00
Nov-11	117 Sugarloaf Rd, Easttown	Residential	262.5	77094.50	262.5	62650.50		14414.00
Jan-12	1518 Steel Rd, Havertford	Residential	262.5	75802.00	262.5	62388.00		14414.00
Jan-12	Courtesy Circle PG Diversion, Radnor	Residential	12337.5	64464.50	12337.5	50059.50		14414.00
Jan-12	1430 County Line Rd, Radnor	Residential	2625	61839.50	2625	47425.50		14414.00
Jan-12	Berkley Rd, Tredyffrin	Commercial	1650	60189.50	1650	45775.50		14414.00
Feb-12	BPG PH 1 of Sector 1, Newtown	Commercial	0	60189.50	0	45775.50		14414.00
Feb-12	Animal Protection Board, Darby Twp	Institutional	2140	58049.50		45775.50	2140	12274.00
Mar-12	606 W Wayne Ave, Radnor	Residential	262.5	57787.00	262.5	45513.00		12274.00
Mar-12	4139 Huey Ave, Upper Darby	Residential	262.5	57524.50		45513.00	262.5	12011.50
Mar-12	237-245 Lancaster Ave, Radnor	Commercial	-540	55064.50	-540	46053.00		12011.50
Apr-12	709 Chester Pike, Sharon Hill	Commercial	2800	55264.50		46053.00	2800	9211.50
Apr-12	231 N Rolling Rd, Springfield	Residential	262.5	55002.00		46053.00	262.5	8949.00
May-12	708 Chester Pike, Sharon Hill	Commercial	3367	51635.00		46053.00	3367	5582.00
Oct-12	527 St Davids Ave, Radnor	Residential	262.5	51372.50	262.5	45790.50		5582.00
Oct-12	370 Mallin Rd, Radnor	Residential	262.5	51110.00	262.5	45527.00		5582.00
Nov-12	161 Credit (Clifton Heights)		-9000	60110.00		45527.00	-9000	14882.00
Nov-12	254 Davis Ave, Clifton Heights	Residential	2625	57485.00		45527.00	2625	11957.00
Nov-12	4 Roadhouse Rd, Clifton Heights	Commercial	660	56825.00		45527.00	660	11297.00
Jan-13	2609 I & J Credit RHM		-76932	133757.00	-76932	122459.00		11297.00
Jan-13	2010 I & J Credit RHM		-50757	184514.00	-50757	173216.00		11297.00
Jan-13	2009 I & J Credit Springfield		-26510	211024.00		173216.00	-26510	37807.00
Jan-13	Haverford Reserve, Haverford	Residential	13134	197899.00	13134	180082.00		37807.00
Jan-13	200 Ihan Creek Rd, Radnor	Residential	525	197365.00	525	159557.00		37807.00
Jan-13	Stratford Station Apts, Tredyffrin	Residential	2625	194740.00	2625	156332.00		37807.00
Jan-13	229 W Wayne Ave, Radnor	Residential	1575	193165.00		156332.00	1575	37807.00
Jan-13	3590 West Chester Pike, Newtown	Commercial	1575	191590.00	1575	153782.00		37807.00
Jan-13	515 Newtown Rd, Radnor	Residential	2100	189490.00	2100	151862.00		37807.00
Jan-13	Hunger & Newtown St Rd, Newtown	Residential	787.5	188702.50	787.5	150934.50		37807.00
Mar-13	411 Timber Lane, Newtown	Residential	262.5	188440.00	262.5	150332.00		37807.00
May-13	11 Northwood Rd, Newtown	Residential	262.5	188177.50	262.5	150369.50		37807.00
Jul-13	1504 Steel Rd, Havertford	Residential	262.5	187915.00	262.5	150107.00		37807.00
Jul-13	3599 West Chester Pike, Newtown	Commercial	200	187715.00	200	149907.00		37807.00
Sep-13	50 Hilltop Rd, Havertford	Institutional	100	187615.00	100	149907.00		37807.00
Sep-13	110 S Wycombe Ave, Lansdowne	Residential	262.5	187352.50		149907.00	262.5	37544.50
Sep-13	103-105 Glenwood Ave, Clifton Heights	Residential	525	186827.50		149907.00	525	37282.00
Oct-13	1254 Leedom Rd, Havertford	Residential	262.5	186565.00	262.5	149544.50		37282.00
Dec-13	808 Longacre Blvd, Yeadon	Institutional	250	186315.00		149544.50	250	37032.00
Jan-14	115 Stratford Ave, Radnor	Residential	2887.5	183427.50	2887.5	146657.00		37032.00
Feb-14	501 S Valley Forge Rd, Tredyffrin	Residential	1375	182052.50	1375	145282.00		37032.00
Mar-14	3500 West Chester Pike, Newtown	Residential	10500	171552.50	10500	134782.00		37032.00
Mar-14	1220 Chester Pike, Sharon Hill	Commercial	130	171422.50		134782.00	130	36702.00
May-14	30 Lawrence Rd, Maple	Commercial	1427	168995.50	1427	133355.00		36902.00
May-14	2699 Sunset Blvd, Maple	Residential	262.5	168733.00	262.5	133092.50		36902.00
Jan-14	Androsan Farm, Radnor	Residential	19950	149783.00	19950	119142.50		36902.00
Jul-14	24 W Baltimore Ave, Lansdowne	Commercial	400	149383.00		119142.50	400	36502.00
Sep-14	Surety Services, Tredyffrin	Commercial	397	149386.00	397	112745.50		36502.00
Oct-14	205 Stratford Rd, Radnor	Residential	1650	147936.00	1650	111695.50		36502.00
Dec-14	217 Pine Tree Rd, Radnor	Residential	262.5	147673.50	262.5	111433.00		36502.00
Dec-14	77197 E Lancaster Ave, Radnor	Commercial	6055	141618.50	6055	105378.00		36502.00
Jan-15	120-124 Bloomingdale Ave, Radnor	Residential	1050	140568.50	1050	104028.00		36502.00
Jul-15	Vilanova CCID Development	Commercial	-43968	184536.50	-43968	148296.00		36502.00
Jul-15	Ellis Preserve	Commercial	15000	185356.50	15000	133296.00		36502.00
Sep-15	Proton, Berkley & Greenhill, Maple	Residential	262.5	185274.00	262.5	133033.50		36502.00
Feb-16	227-229 Plum Ave, Radnor	Residential	1050	183224.00	1050	131983.00		36502.00
Feb-16	Lanford Sq, Maple	Residential	7875	160349.00	7875	124108.50		3



DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY  
P.O. Box 999 • Chester, PA 19016-0999

March 3, 2016

Connor T. Henderson  
Momenee and Associates, Inc.  
942 County Line Road  
Bryn Mawr, PA 19010

RE: Sewer Planning Module Exemption  
For The Maples – 227-229 Plant Avenue – Radnor Twp.

Dear Mr. Henderson:

Please be advised that DELCORA has sufficient capacity at the Darby Creek Pump Station to accept the 1,050 GPD (4 EDUs) from the referenced project. The additional load from the project will not create a hydraulic or an organic overload, or a five-year projected overload. The conveyance and treatment system has adequate capacity to meet the criteria set forth in Section 71.51(b)(2)(iii) of the PADEP Rules and Regulations for this project's wastewater flows.

However, you must first pay the tapping fees to DELCORA of \$1,000.00 for each EDU prior to sewer module approval. Should the project not go forward, this fee will be refunded upon written request.

Sincerely,

Robert J. Willert  
Executive Director

RJW:vm

cc: E. Bothwell - via email  
C. Catania, Jr., CEA - via email  
Accounting - via email  
File - Project #2016-0219

ADMINISTRATION

610-876-5523

FAX: 610-876-2728

CUSTOMER SERVICE/BILLING

610-876-5526

FAX: 610-876-1460

PURCHASING & STORES

610-876-5523

FAX: 610-497-7959

PLANT & MAINTENANCE

610-876-5523

FAX: 610-497-7950



Debra McCarty, Water Commissioner

April 13, 2016  
Via E-mail

Connor T. Henderson  
Momenee and Associates, Inc.  
942 County Line Road  
Bryn Mawr, PA 19010

**SUBJECT: Request for Capacity Certification  
227-229 Plant Avenue  
PWD Code No. 201605-004  
Radnor Township, Delaware County**

Mr. Henderson:

I have completed the portions pertaining to the City of Philadelphia on the enclosed pages 3, 6 and 7 of the planning module for the above referenced project and certify that there is adequate capacity within the City of Philadelphia's conveyance and treatment facilities to receive and treat the sewage flows from this development. The waste load from the development will not create a hydraulic or organic overload or a five-year projected overflow from the date of this letter that is inconsistent with the City's approved Combined Sewer Overflow Plan. This certification is for conveyance capacity within the City of Philadelphia sewerage system and treatment for a flow of 1,050 gpd at the City's Southwest Water Pollution Control Plant (NPDES Permit No. PA 0026671, Clean Streams Law Permit No. 5173401) only and should not be construed as a certification of collection or conveyance capacity outside the City of Philadelphia.

Please note that the City of Philadelphia may rescind this capacity certification should an unforeseen capacity issue arise or if the PA Department of Environmental Protection or other regulatory agency restricts or bans additional flows to any portion of the City's sewerage system to which the project is tributary.

Sincerely,

Eric Ponert  
Sewage Enforcement Officer

## DELAWARE COUNTY PLANNING DEPARTMENT

# DCPD

Court House/ Government Center , 201 W. Front St., Media, PA 19063  
**Office Location:** Toal Building, 2nd & Orange Sts., Media, PA 19063  
Phone: (610) 891-5200 FAX: (610) 891-5203  
E-mail: [planning\\_department@co.delaware.pa.us](mailto:planning_department@co.delaware.pa.us)

**To:** Robert A. Zienkowski, Manager  
**CC:** PA Department of Environmental Protection  
Momenee & Associates, Inc.  
DTL Holdings LLC  
**From:** Michael Leventry, Environmental Planner  
**Subject:** Act 537 Review  
The Maples – 227 & 229 Plant Avenue  
Radnor Township  
DTL Holdings  
1-23013-247-3J  
**Date:** April 18, 2016

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Dear Mr. Zienkowski:

This letter is to acknowledge receipt of the Act 537 Sewage Facilities Planning Module for the Maples – 227 & 229 Plant Avenue proposal, submitted to the Delaware County Planning Department for review on April 15, 2016. The applicant proposes to demolish an existing dwelling on a 0.369 acre parcel and in its place develop four townhouses. The townhomes will be connected to public sewer totaling 4 EDUs with a projected flow rate of 1,050 gpd. Sewerage generated by this project will be conveyed by the Darby Creek Joint Authority's Darby Creek Interceptor and ultimately processed by DELCORA. Please note that DCPD will proceed with the review process and forward appropriate copies within the 60-day time period.

If you have any questions concerning this matter, please do not hesitate to contact me at (610) 891-5215.





## DELAWARE COUNTY PLANNING COMMISSION

COURT HOUSE/GOVERNMENT CENTER  
201 W. Front St. Media, PA 19063

### COUNCIL

MARIO J. CIVERA, JR.  
CHAIRMAN

COLLEEN P. MORRONE  
VICE CHAIRMAN

JOHN P. McBLAIN  
DAVID J. WHITE  
MICHAEL F. CULP

Robert A. Zienkowski, Manager  
Radnor Township  
301 Iven Avenue  
Wayne, PA 19087

RE: Act 537 Review  
The Maples – 227 & 229 Plant Avenue  
Radnor Township  
DTL Holdings  
1-23013-247-3J

Dear Mr. Zienkowski:

The Delaware County Planning Department (DCPD) has completed its review of the planning module for the Maples – 227 & 229 Plant Avenue proposal. The proposed plan is to demolish an existing dwelling on a 0.369 acre parcel and in its place develop four townhouses. The townhomes will be connected to public sewer totaling 4 EDUs with a projected flow rate of 1,050 gpd. Sewerage generated by this project will be conveyed by the Darby Creek Joint Authority's Darby Creek Interceptor and ultimately processed by DELCORA. DCPD has no objection to the proposed method of wastewater disposal.

Enclosed is the completed DEP Component 4 County Planning Agency Review Form.

If you have any questions or require additional information please do not hesitate to contact me at (610) 891-5215.

Sincerely,

Michael A. Leventry  
Environmental Planner

Enclosures: (1) Completed DEP Review Form

cc: PA Department of Environmental Protection  
Momenee & Associates, Inc.  
DTL Holdings LLC

### PLANNING COMMISSION

THOMAS J. O'BRIEN, AIA  
CHAIRMAN

THOMAS J. JUDGE  
VICE CHAIRMAN

KENNETH J. ZITARELLI  
SECRETARY

LINDA F. HILL  
DIRECTOR

April 28, 2016



**INTRODUCTION:**

The subject two sites are a combined 0.369-acre parcels located on 227 and 229 Plant Avenue in Radnor Township. Currently existing on the site are four units within the structure located on the subject two sites and a detached garage. Previously the four (4) units were served by public sewer service. The owner of the property wishes to demolish the existing units, garage, driveway, and other features and to construct four (4) new townhouses, driveways and associated improvements.

It is proposed to connect to the existing sewer line with in Cowans Alley. Currently, an existing 18” line connected at a manhole is located within Cowans Alley. It is proposed connect a new 1-1/4” force main line into the existing 18” sewer line located in Cowans Alley. The force main will serve the 4 new townhomes via one common lateral extension with individual grinder pumps on each lot. The connection of the proposed dwellings to the public sewer system will create a total of 4 EDU’s. All flows through the new extension will be by force main. The sewer lines will be dedicated to Radnor Township who will be responsible for their maintenance.

The site is already served by public water supplied by Aqua Pennsylvania, and water service will be extended to the new homes.

It is proposed to convey sewage flows to the existing 18” main located in Cowans Alley. Flow will be conveyed through lines owned and maintained by Radnor Township, the Radnor-Haverford-Marple Sewer Authority, Springfield Township, Upper Darby Township, The Darby Creek Joint Authority, DELCORA and the City of Philadelphia, for ultimate treatment by the City of Philadelphia.

**ESTIMATED SEWER FLOWS ACCORDING TO SEWER AUTHORITY STANDARDS:**

Residential Units	= 4 EDU’s
Estimated Flows/Unit	= 262.5 gpd
Total Estimated Flows	= 1,050 gpd



**TRANSMITTAL LETTER  
 FOR SEWAGE FACILITIES PLANNING MODULE**

DEP USE ONLY				
DEP CODE # 1-23013-247-3J	APS ID #	CLIENT ID #	SITE ID #	AUTH. ID #

TO: Approving Agency (DEP or delegated local agency)  
 DEP - Southeast Regional Office  
 2 E.Main Street  
 Norristown, PA 19401-4915

Date 06/13/2016

Dear Sir:

Attached please find a completed Sewage Facilities Planning Module prepared by Michael Bowker, P.E.  
 (Name)  
Project Engineer for DTL Holdings  
 (Title) (Name)  
 a subdivision, commercial ,or industrial facility located in Radnor Township  
Delaware County.  
 (City, Borough, Township)

**Check one**

- (i) The Planning Module, as prepared and submitted by the applicant, is approved by the municipality as a proposed  revision  supplement for new land development to its "Official Sewage Facilities Plan", and is  adopted for submission to the Department of Environmental Protection  transmitted to the delegated local agency for approval in accordance with the requirements of Chapter 71 and the Sewage Facilities Act, OR
- (ii) The Planning Module will not be approved by the municipality as a proposed revision or supplement for new land development to its "Official Sewage Facilities Plan" because the project described therein is unacceptable for the reason(s) checked below.

**Check Boxes**

- Additional studies are being performed by or on behalf of this municipality which may have an effect on the Planning Module as prepared and submitted by the applicant. Attached hereto is the scope of services to be performed and the time schedule for completion of said studies.
- The Planning Module as submitted by the applicant fails to meet limitations imposed by other laws or ordinances, officially adopted comprehensive plans and/or environmental plans (e.g., zoning, land use, Chapter 71). Specific reference or applicable segments of such laws or plans are attached hereto.
- Other (attach additional sheet giving specifics)

*Municipal Secretary: Indicate below by checking appropriate boxes which components are being transmitted to the Approving Agency.*

- |   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Resolution of Adoption                    | <input checked="" type="checkbox"/> 3. Sewage Collection/Treatment Facilities | <input checked="" type="checkbox"/> 4.A. Municipal Planning Agency Review |
| <input type="checkbox"/> 2. Individual and Community Onlot Disposal of Sewage | <input type="checkbox"/> 3s Small Flow Treatment Facilities                   | <input checked="" type="checkbox"/> 4.B. County Planning Agency Review    |
| <input type="checkbox"/> 2m. Sewage Management Program                        |   | <input type="checkbox"/> 4.C. County or Joint Health Department Review    |

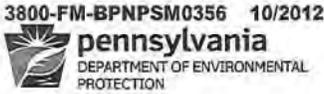
Robert A Zienkowski

Municipal Secretary (print)

Signature

Date

*Note: Please remove and recycle the Instructions portion of the Sewage Facilities Planning Module prior to mailing the appropriate completed components and supporting documents to the approving agency.*



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

DEP Code No.
1-23013-247-3J

RESOLUTION FOR PLAN REVISION
FOR NEW LAND DEVELOPMENT

RESOLUTION OF THE (SUPERVISORS) (COMMISSIONERS) (COUNCILMEN) of Radnor Township
(TOWNSHIP) (BOROUGH) (CITY), Delaware COUNTY, PENNSYLVANIA (hereinafter "the municipality").

WHEREAS Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage
Facilities Act", as Amended, and the rules and Regulations of the Pennsylvania Department of Environmental Protection
(Department) adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, require the municipality to adopt an
Official Sewage Facilities Plan providing for sewage services adequate to prevent contamination of waters of the
Commonwealth and/or environmental health hazards from sewage wastes, and to revise said plan whenever it is
necessary to determine whether a proposed method of sewage disposal for a new land development conforms to a
comprehensive program of pollution control and water quality management, and

WHEREAS DTL Holdings has proposed the development of a parcel of land identified as
land developer

The Maples, and described in the attached Sewage Facilities Planning Module, and
name of subdivision

proposes that such subdivision be served by: (check all that apply), [X] sewer tap-ins, [ ] sewer extension, [ ] new
treatment facility, [ ] individual onlot systems, [ ] community onlot systems, [ ] spray irrigation, [ ] retaining tanks, [ ]
other, (please specify).

WHEREAS, Radnor Township finds that the subdivision described in the attached
municipality

Sewage Facilities Planning Module conforms to applicable sewage related zoning and other sewage related municipal
ordinances and plans, and to a comprehensive program of pollution control and water quality management.

NOW, THEREFORE, BE IT RESOLVED that the (Supervisors) (Commissioners) (Councilmen) of the (Township)
(Borough) (City) of Radnor Township hereby adopt and submit to the Department of Environmental Protection
for its approval as a revision to the "Official Sewage Facilities Plan" of the municipality the above referenced Sewage
Facilities Planning Module which is attached hereto.

I, Secretary, Radnor

(Signature)
Township Board of Commissioners (Borough Council) (City Councilmen), hereby certify that the foregoing is a true copy of
the Township (Borough) (City) Resolution # 2016-67, adopted, June 13, 2016.

Municipal Address:

Radnor Township
301 Iven Avenue
Wayne, PA 19087-5297
Telephone 610-688-5600

Seal of
Governing Body



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

Code No.

## SEWAGE FACILITIES PLANNING MODULE

### Component 3. Sewage Collection and Treatment Facilities

(Return completed module package to appropriate municipality)

#### DEP USE ONLY

DEP CODE #	CLIENT ID #	SITE ID #	APS ID #	AUTH ID #
1-23013-247-3J				

This planning module component is used to fulfill the planning requirements of Act 537 for the following types of projects: (1) a subdivision to be served by sewage collection, conveyance or treatment facilities, (2) a tap-in to an existing collection system with flows on a lot of 2 EDU's or more, or (3) the construction of, or modification to, wastewater collection, conveyance or treatment facilities that will require DEP to issue or modify a Clean Streams Law permit. Planning for any project that will require DEP to issue or modify a permit cannot be processed by a delegated agency. Delegated agencies must send their projects to DEP for final planning approval.

This component, along with any other documents specified in the cover letter, must be completed and submitted to the municipality with jurisdiction over the project site for review and approval. All required documentation must be attached for the Sewage Facilities Planning Module to be complete. Refer to the instructions for help in completing this component.

**REVIEW FEES:** Amendments to the Sewage Facilities Act established fees to be paid by the developer for review of planning modules for land development. These fees may vary depending on the approving agency for the project (DEP or delegated local agency). Please see section R and the instructions for more information on these fees.

**NOTE:** All projects must complete Sections A through I, and Sections O through R. Complete Sections J, K, L, M and/or N if applicable or marked .

#### A. PROJECT INFORMATION (See Section A of instructions)

1. Project Name The Maples

2. Brief Project Description It is proposed to subdivided the existing two lots at 229 & 227 Palnt Avenue located in Radnor Township into 4 separate lots containing 4 townhomes driveways, and associated improvements. The existing structures are to be demolished along with associated facilities. The proposed project will generate 4 EDUs.

#### B. CLIENT (MUNICIPALITY) INFORMATION (See Section B of instructions)

Municipality Name	County	City	Boro	Twp
Radnor	Delaware	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Municipality Contact Individual - Last Name	First Name	MI	Suffix	Title
Zienkowski	Robert	A		Township Manager
Additional Individual Last Name	First Name	MI	Suffix	Title

Municipality Mailing Address Line 1

Radnor Township

Mailing Address Line 2

301 Iven Avenue

Address Last Line -- City

Wayne

State

PA

ZIP+4

19087

Area Code + Phone + Ext.

(601) 688-5600 ext. 123

FAX (optional)

(610) 688-1279

Email (optional)

**C. SITE INFORMATION** (See Section C of instructions)

**Site (Land Development or Project) Name**

The Maples, 229 & 227 Plant Avenue

Site Location Line 1 229 & 227 Plant Avenue		Site Location Line 2		
Site Location Last Line -- City Wayne	State PA	ZIP+4 19087	Latitude 40.046686N	Longitude -75.382292W

Detailed Written Directions to Site From 476. Take I-476 N to Arden Rd in Upper Merion for 4.2 miles. Turn right onto Arden Rd. Slught Right onto Upper Gulph Rd, Turn Left onto Pine Tree Rd, Slight left onto Eagle Rd. Take Walnut Ave and Radnor Rd/Radnor Street Rd to Plant Ave for 0.6 miles. Entire trip is 7.3 miles.

Description of Site 227 Palnt Avenue contains 5,363 SF or 0.123 ac (Gross), and 0.107ac or 4,663 SF (Net). 229 Plant Avenue contains 10,749 SF or 0.246 ac (Gross) and 5,644 SF or 0.129 ac (Net). Both Parcels are split by one house which is not currently occupied. 227 Plant Ave contains a block masnory garage. Parking for the properties is located on Willow Ave. The site does not have any known utilities running to it.

**Site Contact (Developer/Owner)**

Last Name Janson	First Name Eric	MI	Suffix	Phone	Ext.
Site Contact Title Develper	Site Contact Firm (if none, leave blank) DTL Holdings, LP				
FAX	Email ejanson@paralleledge.com				
Mailing Address Line 1 126 E. Beech Tree Lane	Mailing Address Line 2				
Mailing Address Last Line -- City Wayne	State PA	ZIP+4 19087			

**D. PROJECT CONSULTANT INFORMATION** (See Section D of instructions)

Last Name Bowker	First Name Michael	MI J	Suffix
Title Professional Engineer	Consulting Firm Name Momenee and Associates, Inc.		
Mailing Address Line 1 924 County Line Road	Mailing Address Line 2		
Address Last Line -- City Bryn Mawr	State PA	ZIP+4 19010	Country US
Email mbowker@momenee.com	Area Code + Phone (610) 527-3030	Ext. 106	Area Code + FAX (610) 527-9008

**E. AVAILABILITY OF DRINKING WATER SUPPLY**

The project will be provided with drinking water from the following source: (Check appropriate box)

- Individual wells or cisterns.
- A proposed public water supply.
- An existing public water supply.

If existing public water supply is to be used, provide the name of the water company and attach documentation from the water company stating that it will serve the project.

Name of water company: Aqua Pennsylvania

**F. PROJECT NARRATIVE** (See Section F of instructions)

- A narrative has been prepared as described in Section F of the instructions and is attached.

The applicant may choose to include additional information beyond that required by Section F of the instructions.

**G. PROPOSED WASTEWATER DISPOSAL FACILITIES** (See Section G of instructions)

Check all boxes that apply, and provide information on collection, conveyance and treatment facilities and EDU's served. This information will be used to determine consistency with Chapter 93 (relating to wastewater treatment requirements).

**1. COLLECTION SYSTEM**

a. Check appropriate box concerning collection system

- New collection system     Pump Station     Force Main  
 Grinder pump(s)     Extension to existing collection system     Expansion of existing facility

Clean Streams Law Permit Number N/A

b. Answer questions below on collection system

Number of EDU's and proposed connections to be served by collection system. EDU's 4

Connections 1

Name of:

existing collection or conveyance system Radnor Township

owner Radnor Township

existing interceptor RHM Interceptor

owner Radnor - Haverford - Maple Sewer Authority

**2. WASTEWATER TREATMENT FACILITY**

Check all boxes that apply, and provide information on collection, conveyance and treatment facilities and EDU's served. This information will be used to determine consistency with Chapter(s) 91 (relating to general provisions), 92 (relating to national Pollution Discharge Elimination System permitting, monitoring and compliance) and 93 (relating to water quality standards).

a. Check appropriate box and provide requested information concerning the treatment facility

- New facility     Existing facility     Upgrade of existing facility     Expansion of existing facility

Name of existing facility City of Philadelphia Southwest Plant

NPDES Permit Number for existing facility 26671

Clean Streams Law Permit Number 5173401

Location of discharge point for a new facility. Latitude N/A Longitude N/A

b. The following certification statement must be completed and signed by the wastewater treatment facility permittee or their representative.

As an authorized representative of the permittee, I confirm that the PHILA. SWWPCP (Name from above) sewage treatment facilities can accept sewage flows from this project without adversely affecting the facility's ability to achieve all applicable technology and water quality based effluent limits (see Section I) and conditions contained in the NPDES permit identified above.

Name of Permittee Agency, Authority, Municipality PHILA. WATER DEPT.

Name of Responsible Agent ERIC PONERT, S.E.O.

Agent Signature Eric Ponert Date 4/13/16

(Also see Section I. 4.)

**G. PROPOSED WASTEWATER DISPOSAL FACILITIES** (Continued)

**3. PLOT PLAN**

The following information is to be submitted on a plot plan of the proposed subdivision.

- a. Existing and proposed buildings.
- b. Lot lines and lot sizes.
- c. Adjacent lots.
- d. Remainder of tract.
- e. Existing and proposed sewerage facilities. Plot location of discharge point, land application field, spray field, COLDS, or LVCOLDS if a new facility is proposed.
- f. Show tap-in or extension to the point of connection to existing collection system (if applicable).
- g. Existing and proposed water supplies and surface water (wells, springs, ponds, streams, etc.)
- h. Existing and proposed rights-of-way.
- i. Existing and proposed buildings, streets, roadways, access roads, etc.
- j. Any designated recreational or open space area.
- k. Wetlands - from National Wetland Inventory Mapping and USGS Hydric Soils Mapping.
- l. Flood plains or Flood prone areas, floodways, (Federal Flood Insurance Mapping)
- m. Prime Agricultural Land.
- n. Any other facilities (pipelines, power lines, etc.)
- o. Orientation to north.
- p. Locations of all site testing activities (soil profile test pits, slope measurements, permeability test sites, background sampling, etc. (if applicable).
- q. Soils types and boundaries when a land based system is proposed.
- r. Topographic lines with elevations when a land based system is proposed

**4. WETLAND PROTECTION**

YES NO

- a.   Are there wetlands in the project area? If yes, ensure these areas appear on the plot plan as shown in the mapping or through on-site delineation.
- b.   Are there any construction activities (encroachments, or obstructions) proposed in, along, or through the wetlands? If yes, Identify any proposed encroachments on wetlands and identify whether a General Permit or a full encroachment permit will be required. If a full permit is required, address time and cost impacts on the project. Note that wetland encroachments should be avoided where feasible. Also note that a feasible alternative **MUST BE SELECTED** to an identified encroachment on an exceptional value wetland as defined in Chapter 105. Identify any project impacts on streams classified as HQ or EV and address impacts of the permitting requirements of said encroachments on the project.

**5. PRIME AGRICULTURAL LAND PROTECTION**

YES NO

- Will the project involve the disturbance of prime agricultural lands?  
If yes, coordinate with local officials to resolve any conflicts with the local prime agricultural land protection program. The project must be consistent with such municipal programs before the sewage facilities planning module package may be submitted to DEP.  
If no, prime agricultural land protection is not a factor to this project.
- Have prime agricultural land protection issues been settled?

**6. HISTORIC PRESERVATION ACT**

YES NO

- Sufficient documentation is attached to confirm that this project is consistent with DEP Technical Guidance 012-0700-001 *Implementation of the PA State History Code* (available online at the DEP website at [www.dep.state.pa.us](http://www.dep.state.pa.us), select "subject" then select "technical guidance"). As a minimum this includes copies of the completed Cultural Resources Notice (CRN), a return receipt for its submission to the PHMC and the PHMC review letter.

**7. PROTECTION OF RARE, ENDANGERED OR THREATENED SPECIES**

Check one:

- The "Pennsylvania Natural Diversity Inventory (PNDI) Project Environmental Review Receipt" resulting from my search of the PNDI database and all supporting documentation from jurisdictional agencies (when necessary) is/are attached.
- A completed "Pennsylvania Natural Diversity Inventory (PNDI) Project Planning & Environmental Review Form," (PNDI Form) available at [www.naturalheritage.state.pa.us](http://www.naturalheritage.state.pa.us) , and all required supporting documentation is attached. I request DEP staff to complete the required PNDI search for my project. I realize that my planning module will be considered incomplete upon submission to the Department and that the DEP review will not begin, and that processing of my planning module will be delayed, until a "PNDI Project Environmental Review Receipt" and all supporting documentation from jurisdictional agencies (when necessary) is/are received by DEP.

Applicant or Consultant Initials \_\_\_\_\_.

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**H. ALTERNATIVE SEWAGE FACILITIES ANALYSIS** (See Section H of instructions)

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- An alternative sewage facilities analysis has been prepared as described in Section H of the attached instructions and is attached to this component.  
  
The applicant may choose to include additional information beyond that required by Section H of the attached instructions.

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**I. COMPLIANCE WITH WATER QUALITY STANDARDS AND EFFLUENT LIMITATIONS** (See Section I of instructions) (Check and complete all that apply.)

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**1. Waters designated for Special Protection**

- The proposed project will result in a new or increased discharge into special protection waters as identified in Title 25, Pennsylvania Code, Chapter 93. The Social or Economic Justification (SEJ) required by Section 93.4c. is attached.

**2. Pennsylvania Waters Designated As Impaired**

- The proposed project will result in a new or increased discharge of a pollutant into waters that DEP has identified as being impaired by that pollutant. A pre-planning meeting was held with the appropriate DEP regional office staff to discuss water quality based discharge limitations.

**3. Interstate and International Waters**

- The proposed project will result in a new or increased discharge into interstate or international waters. A pre-planning meeting was held with the appropriate DEP regional office staff to discuss effluent limitations necessary to meet the requirements of the interstate or international compact.

**4. Tributaries To The Chesapeake Bay**

- The proposed project result in a new or increased discharge of sewage into a tributary to the Chesapeake Bay. This proposal for a new sewage treatment facility or new flows to an existing facility includes total nitrogen and total phosphorus in the following amounts: \_\_\_\_\_ pounds of TN per year, and \_\_\_\_\_ pounds of TP per year. Based on the process design and effluent limits, the total nitrogen treatment capacity of the wastewater treatment facility is \_\_\_\_\_ pounds per year and the total phosphorus capacity is \_\_\_\_\_ pounds per year as determined by the wastewater treatment facility permittee. The permittee has determined that the additional TN and TP to be contributed by this project (as modified by credits and/or offsets to be provided) will not cause the discharge to exceed the annual total mass limits for these parameters. Documentation of compliance with nutrient allocations is attached.

Name of Permittee Agency, Authority, Municipality \_\_\_\_\_

Initials of Responsible Agent (See Section G 2.b) \_\_\_\_\_

See *Special Instructions* (Form 3800-FM-BPNPSM0353-1) for additional information on Chesapeake Bay watershed requirements.

**J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 1050 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
<b>Collection</b>	1908800	4772000	878400	2196000	881450	2201000
<b>Conveyance</b>						
<b>Treatment</b>						

3. Collection and Conveyance Facilities

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

YES NO

- a.  YES  NO This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

b. Collection System

Name of Agency, Authority, Municipality Radnor Township

Name of Responsible Agent Roger A. Phillips, P.E. Township Engineer

Agent Signature  Date 12/29/2015

**J. CHAPTER 94 CONSISTENCY DETERMINATION (See Section J of instructions)**

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 1,050 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

	M.G.D. a. Design and/or Permitted Capacity (gpd)		M.G.D. b. Present Flows (gpd)		c. Projected Flows in M.G.D. 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
Collection						
Conveyance	16.8	20.0	6.0	6.5	10.0	15.0
Treatment						

3. Collection and Conveyance Facilities

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

YES NO

- a.  YES  NO This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

b. Collection System

Name of Agency, Authority, Municipality Radnor Township

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_ Date \_\_\_\_\_

**J. CHAPTER 94 CONSISTENCY DETERMINATION (Continued)**

c. Conveyance System

Name of Agency, Authority, Municipality Radnor Haverford Marple Sewer Authority

Name of Responsible Agent David Adams

Agent Signature *David Adams*

Date 02/02/2016

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

YES NO

- a.   This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

b. Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

**K. TREATMENT AND DISPOSAL OPTIONS (See Section K of instructions)**

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may NOT receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

- 1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.
- 2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.
- 3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.
- 4. A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

**L. PERMEABILITY TESTING (See Section L of instructions)**

- The information required in Section L of the instructions is attached.

**M. PRELIMINARY HYDROGEOLOGIC STUDY (See Section M of instructions)**

**J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 1,050 \_\_\_\_\_ gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
<b>Collection</b>						
<b>Conveyance</b>	16.8	22.6	13.37	23.37	13.3	22.0
<b>Treatment</b>						

3. Collection and Conveyance Facilities

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

YES NO

- a.   This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

b. Collection System

Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_ Date \_\_\_\_\_

**J. CHAPTER 94 CONSISTENCY DETERMINATION** (Continued)

c. Conveyance System

Name of Agency, Authority, Municipality Springfield Township

Name of Responsible Agent Lee Fulton, Township Manager

Agent Signature *Lee Fulton*

Date 2-8-16

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

YES NO

a.   This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

b. Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

**K. TREATMENT AND DISPOSAL OPTIONS** (See Section K of instructions)

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may **NOT** receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.

2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.

3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.

4. A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

**L. PERMEABILITY TESTING** (See Section L of instructions)

The information required in Section L of the instructions is attached.

**M. PRELIMINARY HYDROGEOLOGIC STUDY** (See Section M of instructions)

The information required in Section M of the instructions is attached.

**J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 1,050 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
Collection						
Conveyance	16.8 MGD	22.6 MGD	13.4 MGD	23.4 MGD	13.3 MGD	22.0 MGD
Treatment						

3. Collection and Conveyance Facilities

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

YES NO

- a.   This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

b. Collection System

Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_ Date \_\_\_\_\_

**J. CHAPTER 94 CONSISTENCY DETERMINATION (Continued)**

c. Conveyance System

Name of Agency, Authority, Municipality Upper Darby Township

Name of Responsible Agent Daniel R. Lutz, P.E., Township Engineer

Agent Signature *Daniel R. Lutz*

Date 3/8/16

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

YES NO

- a.   This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

b. Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

**K. TREATMENT AND DISPOSAL OPTIONS (See Section K of instructions)**

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may NOT receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

- 1. Spray irrigation (other than individual residential spray systems (IRSI)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.
- 2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.
- 3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.
- 4. A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

**L. PERMEABILITY TESTING (See Section L of instructions)**

- The information required in Section L of the instructions is attached.

**M. PRELIMINARY HYDROGEOLOGIC STUDY (See Section M of instructions)**

- The information required in Section M of the instructions is attached.

**CHAPTER 94 CONSISTENCY DETERMINATION (See Section J of Instructions)**

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 1,050 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
Collection						
Conveyance	21699503	29669503	21531279	29501279	21469225	29439225
Treatment						

DCJA

3. Collection and Conveyance Facilities

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

YES NO

- a.  YES  NO This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

- b. Collection System

Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_ Date \_\_\_\_\_

**J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

c. Conveyance System

Name of Agency, Authority, Municipality Darby Creek Joint Authority

Name of Responsible Agent Charles J. Catania

Agent Signature *Charles J. Catania*

Date 2-18-16

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

YES NO

a.   This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

b. Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

**K. TREATMENT AND DISPOSAL OPTIONS** (See Section K of instructions)

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may NOT receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

- 1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.
- 2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.
- 3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.
- 4. A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

**L. PERMEABILITY TESTING** (See Section L of instructions)

The information required in Section L of the instructions is attached.

**M. PRELIMINARY HYDROGEOLOGIC STUDY** (See Section M of instructions)

The information required in Section M of the instructions is attached.

**J. CHAPTER 94 CONSISTENCY DETERMINATION (See Section J of instructions)**

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 1,050 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

DELCORA (MGD)	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
Collection						
Conveyance	30.0	60.0	18.0	59.0	20.3	66.7
Treatment						

3. Collection and Conveyance Facilities

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

YES NO

- a.  YES  NO This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

b. Collection System

Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_ Date \_\_\_\_\_

**J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

c. Conveyance System

Name of Agency, Authority, Municipality DELCTORA

Name of Responsible Agent Robert J. Willert

Agent Signature *Robert J. Willert*

Date 3/11/16

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

YES NO

- a.   This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

- b. Name of Agency, Authority, Municipality \_\_\_\_\_  
Name of Responsible Agent \_\_\_\_\_  
Agent Signature \_\_\_\_\_  
Date \_\_\_\_\_

**K. TREATMENT AND DISPOSAL OPTIONS** (See Section K of instructions)

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may NOT receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.
2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.
3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.
4. A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

**L. PERMEABILITY TESTING** (See Section L of instructions)

- The information required in Section L of the instructions is attached.

**M. PRELIMINARY HYDROGEOLOGIC STUDY** (See Section M of instructions)

- The information required in Section M of the instructions is attached.

**J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 1,050 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

When providing "treatment facilities" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

- a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.
- b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.
- c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
Collection						
Conveyance						
Treatment *	200	400	165.6	186.4	172.9	196

3. Collection and Conveyance Facilities *\*(MGO) PHILA. SWWPCP*

The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

YES NO

- a.   This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

- b. Collection System

Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_ Date \_\_\_\_\_

**J. CHAPTER 94 CONSISTENCY DETERMINATION** (See Section J of instructions)

c. Conveyance System

Name of Agency, Authority, Municipality \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

YES NO

- a.  YES  NO This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

- b. Name of Agency, Authority, Municipality PHILA. WATER DEPT.  
Name of Responsible Agent ERIC PONERT, S.E.O.  
Agent Signature Eric Ponert  
Date 4/13/16

**K. TREATMENT AND DISPOSAL OPTIONS** (See Section K of instructions)

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may NOT receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.
2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.
3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.
4. A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

**L. PERMEABILITY TESTING** (See Section L of instructions)

- The information required in Section L of the instructions is attached.

**M. PRELIMINARY HYDROGEOLOGIC STUDY** (See Section M of instructions)

- The information required in Section M of the instructions is attached.

**N. DETAILED HYDROGEOLOGIC STUDY** (See Section N of instructions)

The detailed hydrogeologic information required in Section N. of the instructions is attached.

**O. SEWAGE MANAGEMENT** (See Section O of instructions)

(1-3 for completion by the developer(project sponser), 4-5 for completion by the non-municipal facility agent and 6 for completion by the municipality)

Yes No

1.   Is connection to, or construction of, a DEP permitted, non-municipal sewage facility or a local agency permitted, community onlot sewage facility proposed.

If Yes, respond to the following questions, attach the supporting analysis, and an evaluation of the options available to assure long-term proper operation and maintenance of the proposed non-municipal facilities. If No, skip the remainder of Section O.

2. Project Flows \_\_\_\_\_ gpd

Yes No

3.   Is the use of nutrient credits or offsets a part of this project?

If yes, attach a letter of intent to purchase the necessary credits and describe the assurance that these credits and offsets will be available for the remaining design life of the non-municipal sewage facility;

**(For completion by non-municipal facility agent)**

4. Collection and Conveyance Facilities

The questions below are to be answered by the organization/individual responsible for the non-municipal collection and conveyance facilities. The individual(s) signing below must be legally authorized to make representation for the organization.

Yes No

- a.   If this project proposes sewer extensions or tap-ins, will these actions create a hydraulic overload on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until this issue is resolved.

If no, a representative of the organization responsible for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with Chapter 71 §71.53(d)(3) and that this proposal will not affect that status.

- b. Collection System

Name of Responsible Organization \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

- c. Conveyance System

Name of Responsible Organization \_\_\_\_\_

Name of Responsible Agent \_\_\_\_\_

Agent Signature \_\_\_\_\_

Date \_\_\_\_\_

5. Treatment Facility

The questions below are to be answered by a representative of the facility permittee. The individual signing below must be legally authorized to make representation for the organization.

Yes No

- a.   If this project proposes the use of an existing non-municipal wastewater treatment plant for the disposal of sewage, will this action create a hydraulic or organic overload at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this issue is resolved.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with §71.53(d)(3) and that this proposal will not impact that status.

- b. Name of Facility \_\_\_\_\_  
Name of Responsible Agent \_\_\_\_\_  
Agent Signature \_\_\_\_\_  
Date \_\_\_\_\_

**(For completion by the municipality)**

6.  The **SELECTED OPTION** necessary to assure long-term proper operation and maintenance of the proposed non-municipal facilities is clearly identified with documentation attached in the planning module package.

**P. PUBLIC NOTIFICATION REQUIREMENT** (See Section P of instructions)

This section must be completed to determine if the applicant will be required to publish facts about the project in a newspaper of general circulation to provide a chance for the general public to comment on proposed new land development projects. This notice may be provided by the applicant or the applicant's agent, the municipality or the local agency by publication in a newspaper of general circulation within the municipality affected. Where an applicant or an applicant's agent provides the required notice for publication, the applicant or applicant's agent shall notify the municipality or local agency and the municipality and local agency will be relieved of the obligation to publish. The required content of the publication notice is found in Section P of the instructions.

To complete this section, each of the following questions must be answered with a "yes" or "no". Newspaper publication is required if any of the following are answered "yes".

Yes No

1.   Does the project propose the construction of a sewage treatment facility ?
2.   Will the project change the flow at an existing sewage treatment facility by more than 50,000 gallons per day?
3.   Will the project result in a public expenditure for the sewage facilities portion of the project in excess of \$100,000?
4.   Will the project lead to a major modification of the existing municipal administrative organizations within the municipal government?
5.   Will the project require the establishment of *new* municipal administrative organizations within the municipal government?
6.   Will the project result in a subdivision of 50 lots or more? (onlot sewage disposal only)
7.   Does the project involve a major change in established growth projections?
8.   Does the project involve a different land use pattern than that established in the municipality's Official Sewage Plan?

**P. PUBLIC NOTIFICATION REQUIREMENT cont'd.** (See Section P of instructions)

- 9.   Does the project involve the use of large volume onlot sewage disposal systems (Flow > 10,000 gpd)?
- 10.   Does the project require resolution of a conflict between the proposed alternative and consistency requirements contained in §71.21(a)(5)(i), (ii), (iii)?
- 11.   Will sewage facilities discharge into high quality or exceptional value waters?
- Attached is a copy of:
  - the public notice,
  - all comments received as a result of the notice,
  - the municipal response to these comments.
- No comments were received. A copy of the public notice is attached.

**Q. FALSE SWEARING STATEMENT** (See Section Q of instructions)

I verify that the statements made in this component are true and correct to the best of my knowledge, information and belief. I understand that false statements in this component are made subject to the penalties of 18 PA C.S.A. §4904 relating to unsworn falsification to authorities.

Michael J. Bowker P.E.

Name (Print)



Signature

Professional Engineer, Momenee & Associates, Inc

May 16, 2016

Title

Date

924 County Line Road, Bryn Mawr, PA 19010

610-527-3030

Address

Telephone Number

**R. REVIEW FEE** (See Section R of instructions)

The Sewage Facilities Act establishes a fee for the DEP planning module review. DEP will calculate the review fee for the project and invoice the project sponsor **OR** the project sponsor may attach a self-calculated fee payment to the planning module prior to submission of the planning package to DEP. (Since the fee and fee collection procedures may vary if a "delegated local agency" is conducting the review, the project sponsor should contact the "delegated local agency" to determine these details.) Check the appropriate box.

- I request DEP calculate the review fee for my project and send me an invoice for the correct amount. I understand DEP's review of my project will not begin until DEP receives the correct review fee from me for the project.
- I have calculated the review fee for my project using the formula found below and the review fee guidance in the instructions. I have attached a check or money order in the amount of \$200.00 payable to "Commonwealth of PA, DEP". Include DEP code number on check. I understand DEP will not begin review of my project unless it receives the fee and determines the fee is correct. If the fee is incorrect, DEP will return my check or money order, send me an invoice for the correct amount. I understand DEP review will NOT begin until I have submitted the correct fee.
- I request to be exempt from the DEP planning module review fee because this planning module creates **only** one new lot and is the **only** lot subdivided from a parcel of land as that land existed on December 14, 1995. I realize that subdivision of a second lot from this parcel of land shall disqualify me from this review fee exemption. I am furnishing the following deed reference information in support of my fee exemption.

County Recorder of Deeds for \_\_\_\_\_ County, Pennsylvania

Deed Volume \_\_\_\_\_ Book Number \_\_\_\_\_

Page Number \_\_\_\_\_ Date Recorded \_\_\_\_\_

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**R. REVIEW FEE** (continued)

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Formula:

1. For a new collection system (with or without a Clean Streams Law Permit), a collection system extension, or individual tap-ins to an existing collection system use this formula.

$$\#4 \text{ _____ Lots (or EDUs) X } \$50.00 = \$ \underline{200.00}$$

The fee is based upon:

- The number of lots created or number of EDUs whichever is higher.
  - For community sewer system projects, one EDU is equal to a sewage flow of 400 gallons per day.
2. For a surface or subsurface discharge system, use the appropriate one of these formulae.

- A. A new surface discharge greater than 2000 gpd will use a flat fee:
- \$ 1,500 per submittal (non-municipal)
  - \$ 500 per submittal (municipal)

- B. An increase in an existing surface discharge will use:

$$\# \text{ _____ Lots (or EDUs) X } \$35.00 = \$ \text{ _____}$$

to a maximum of \$ 1,500 per submittal (non-municipal) or \$ 500 per submittal (municipal)

The fee is based upon:

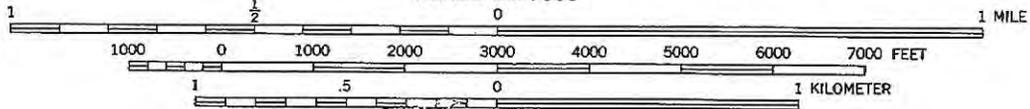
- The number of lots created or number of EDUs whichever is higher.
- For community sewage system projects one EDU is equal to a sewage flow of 400 gallons per day.
- For non-single family residential projects, EDUs are calculated using projected population figures

- C. A sub-surface discharge system that requires a permit under The Clean Streams Law will use a flat fee:

- \$ 1,500 per submittal (non-municipal)
- \$ 500 per submittal (municipal)

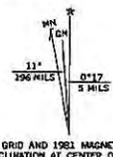


SCALE 1:24 000



CONTOUR INTERVAL 10 FEET  
 NATIONAL GEODETIC VERTICAL DATUM OF 1929  
 ROAD CLASSIFICATION

Heavy-duty \_\_\_\_\_ Light-duty \_\_\_\_\_  
 Medium-duty \_\_\_\_\_ Unimproved dirt \_\_\_\_\_  
 Interstate Route U.S. Route State Route



VALLEY FORGE, PA.

N4000—W7522.5/7.5

1966  
 PHOTOREVISED 1981  
 DMA 5964 III SW—SERIES V831

**MOMENE AND ASSOCIATES, INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS

324 COUNTY LINE ROAD BETH HAVR, PENNA. 19006 610 527-3030

**227 & 229 PLANT AVENUE, WAYNE, PA 19087**

## **F. PROJECT NARRATIVE**

DTL Holdings, LP is proposing to develop the properties located at 227 and 229 Plant Avenue, which is located in Radnor Township, Delaware County. The site is currently made up of two parcels that have gross area of 0.246-acres (229 Plant Ave.) and 0.123-acres (227 Plant Ave.). The site will be subdivided into 4 lots. The existing house that is on both lots, driveway, garage, and other features will be demolished. It is proposed to develop 4 townhomes spread over the 4 lots. The development of the site will be completed in one phase and the build-out shall consist of 4 townhomes, driveways, storm sewers and site grading improvements. The existing residence utilized sanitary sewer. The site is proposed to be served by public water and sewer. It is proposed to connect to the existing sanitary main in Cowans Alley with one sanitary force main lateral extending from the townhomes providing service to each lot. This system conveys flows directly to the existing municipal treatment plant.

### **ESTIMATED SEWER FLOWS ACCORDING TO SEWER AUTHORITY STANDARDS:**

Residential Units	= 4 EDU's
Estimated Flows/Unit	= 262.5 gpd
Total Estimated Flows	= 1,050 gpd

### **PROJECT NARRATIVE:**

The subject two sites are a combined 0.369-acre parcels located on 227 and 229 Plant Avenue in Radnor Township. Currently existing on the site are four units within the structure located on the subject two sites and a detached garage. Previously the four (4) units were served by public sewer service. The owner of the property wishes to demolish the existing units, garage, driveway, and other features and to construct four (4) new townhouses, driveways and associated improvements. Creating a total disturbance of 0.252 acres ± of disturbance.

It is proposed to connect to the existing sewer line with in Cowans Alley. Currently, an existing 18" line connected at a manhole is located within Cowans Alley. It is proposed connect a new 1-1/4" force main line into the existing 18" sewer line located in Cowans Alley. The force main will serve the 4 new townhomes via one common force main lateral extension with individual grinder pumps on each lot. The connection of the proposed dwellings to the public sewer system will create a total of 4 EDU's. All flows through the new extension will be by force main. The sewer lines will be dedicated to Radnor Township who will be responsible for their maintenance.

The site is already served by public water supplied by Aqua Pennsylvania, and water service will be extended to the new homes.

It is proposed to convey sewage flows to the existing 18" main located in Cowans Alley. Flow will be conveyed through lines owned and maintained by Radnor Township, the Radnor-Haverford-Marple Sewer Authority, Springfield Township, Upper Darby Township, The Darby Creek Joint Authority, DELCORA and the City of Philadelphia, for ultimate treatment by the City of Philadelphia.



Pennsylvania State Historic Preservation Office

PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

January 8, 2016

Connor T. Henderson  
Momenee and Associates, Inc.  
924 County Line Road  
Bryn Mawr, PA 19010

TO EXPEDITE REVIEW USE  
BHP REFERENCE NUMBER

Re: File No. ER 2016-0440-045-A  
DEP Act 537 Planning Module: The Maples, 227 & 229 Plant Avenue, Construction of  
Four New Townhouses, Driveways & Associated Improvements, Radnor Twp., Delaware  
Co.

Dear Mr. Henderson:

Thank you for submitting information concerning the above referenced project. The PA State Historic Preservation Office (PA SHPO) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

Based on our survey files, which include both archaeological sites and standing structures, there are no National Register eligible or listed historic or archaeological properties in the area of this proposed project.

Therefore, your responsibility for consultation for this project is complete. However, should you encounter archaeological resources during construction, please notify the Pennsylvania State Historic Preservation Office (PA SHPO) at (717) 783-8947.

Sincerely,

Douglas C. McLearn, Chief  
Division of Archaeology &  
Protection

cc: DTL Holdings, 126 E. Beech Tree Lane, Wayne, PA 19087  
DEP, Southeast Regional Office

DCM/tmw



### CULTURAL RESOURCE NOTICE



Read the instructions before completing this form.

<b>SECTION A. APPLICANT IDENTIFIER</b>	
Applicant Name	<u>DTL Holdings</u>
Street Address	<u>126 E. Beech Tree Lane</u>
City	<u>Wayne</u> State <u>PA</u> Zip <u>19087</u>
Telephone Number	_____
Project Title	<u>The Maples</u>
<b>SECTION B. LOCATION OF PROJECT</b>	
Municipality	<u>Radnor Township</u> County Name <u>Delaware</u> DEP County Code <u>23</u>
<b>SECTION C. PERMITS OR APPROVALS</b>	
Name of Specific DEP Permit or Approval Requested:	<u>Act 537 Planning Module</u>
Anticipated federal permits:	
<input type="checkbox"/> Surface Mining	<input type="checkbox"/> 404 Water Quality Permit
<input type="checkbox"/> Army Corps of Engineers	<input type="checkbox"/> Federal Energy Regulatory Commission
<input type="checkbox"/> 401 Water Quality Certification	<input type="checkbox"/> Other: _____
<b>SECTION D. GOVERNMENT FUNDING SOURCES</b>	
<input type="checkbox"/> State: (Name) _____	<input type="checkbox"/> Local: (Name) _____
<input type="checkbox"/> Federal: (Name) _____	<input type="checkbox"/> Other: (Name) _____
<b>SECTION E. RESPONSIBLE DEP REGIONAL, CENTRAL, DISTRICT MINING or OIL &amp; GAS MGMT OFFICE</b>	
DEP Regional Office Responsible for Review of Permit Application	<input type="checkbox"/> Central Office (Harrisburg)
<input checked="" type="checkbox"/> Southeast Regional Office (Norristown)	<input type="checkbox"/> Northeast Regional Office (Wilkes-Barre)
<input type="checkbox"/> Southcentral Regional Office (Harrisburg)	<input type="checkbox"/> Northcentral Regional Office (Williamsport)
<input type="checkbox"/> Southwest Regional Office (Pittsburgh)	<input type="checkbox"/> Northwest Regional Office (Meadville)
<input type="checkbox"/> District Mining Office: _____	<input type="checkbox"/> Oil & Gas Office: _____
<b>SECTION F. RESPONSIBLE COUNTY CONSERVATION DISTRICT, if applicable.</b>	
County Conservation District	Telephone Number, if known
<u>Delaware County Conservation District</u>	<u>(610) 892-9484</u>
<b>SECTION G. CONSULTANT</b>	
Consultant, if applicable	<u>Momenee &amp; Associates, Inc. - Michael Bowker, P.E.</u>
Street Address	<u>924 County Line Road</u>
City	<u>Bryn Mawr</u> State <u>PA</u> Zip <u>19010</u>
Telephone Number	<u>(610) 527-3030</u>

**SECTION H. PROJECT BOUNDARIES AND DESCRIPTION**

**REQUIRED**

Indicate the total acres in the property under review. Of this acreage, indicate the total acres of earth disturbance for the proposed activity.

Attach a 7.5' U.S.G.S. Map indicating the defined boundary of the proposed activity.

Attach photographs of any building over 50 years old. Indicate what is to be done to all buildings in the project area.

Attach a narrative description of the proposed activity.

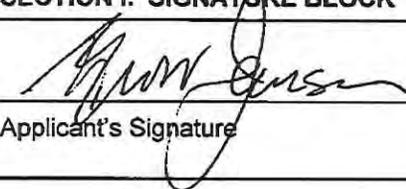
Attach the return receipt of delivery of this notice to the Pennsylvania Historical and Museum Commission.

**REQUESTED**

Attach photographs of any building over 40 years old.

Attach site map, if available.

**SECTION I. SIGNATURE BLOCK**

 Applicant's Signature	12/09/15 Date of Submission of Notice to PHMC
--	--

U.S. Postal Service™  
**CERTIFIED MAIL® RECEIPT** CH 14-158  
 Domestic Mail Only

For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

**OFFICIAL USE**

7014 2120 0002 3715 3202

Postage	\$ 1.86
Certified Fee	3.45
Return Receipt Fee (Endorsement Required)	2.80
Restricted Delivery Fee (Endorsement Required)	
<b>Total Postage &amp; Fees</b>	<b>\$ 8.11</b>

Postmark Here  
 DEC 11 2015

Sent to PA Historical and Museum Commission  
 Bureau of Historical Preservation  
 Street & Apt. # or PO Box No. 400 North Street, Second Floor  
 City, State, ZIP Harrisburgh, PA 17120-0093

PS Form 3800, July 2014 See Reverse for Instructions

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
  
 PA Historical and Museum Commission  
 Bureau of Historical Preservation  
 400 North Street, Second Floor  
 Harrisburgh, PA 17120-0093

2. Article Number  
 (Transfer from service label)

7014 2120 0002 3715 3202

PS Form 3811, July 2013

Domestic Return Receipt

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee

B. Received by (Printed Name)  
 C. Date of Delivery  
 DEC 11 2015

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail®  Priority Mail Express™  
 Registered  Return Receipt for Merchandise  
 Insured Mail  Collect on Delivery

4. Restricted Delivery? (Extra Fee)  Yes

**PHOTOGRAPH DESCRIPTIONS:**



Photograph 1 – Front view of the existing house. This building is proposed to be demolished.



Photograph 2 – Side view of the existing house from Willow Avenue. This building is proposed to be demolished.



Photograph 3 – Side view of the existing house from Willow Avenue. This building is proposed to be demolished



Photograph 4 –Side view of the existing house. This building is proposed to be demolished.



Photograph 5 – Side view of the existing house from Plant Avenue. This building is proposed to be demolished.



Photograph 6 – Rear view of the existing house. This building is proposed to be demolished.



Photograph 7 Rear view of the existing house. This building is proposed to be demolished.



Photograph 8 – Rear view of the existing house. This building is proposed to be demolished.



Photograph 9 – Rear view of the existing house. This building is proposed to be demolished.



Photograph 10 – Side view of existing detached garage. This building is proposed to be demolished.



Photograph 11 – Rear view of the existing detached garage. This building is proposed to be demolished.



Photograph 12 – Side view of the existing detached garage. This building is proposed to be demolished.

## **H. ALTERNATIVE SEWAGE FACILITIES ANALYSIS**

DTL Holdings, LP is proposing to develop the properties located at 227 and 229 Plant Avenue, which is located in Radnor Township, Delaware County. It is proposed to connect to the existing sanitary main located in Cowans Alley. In order to dispose of sewage generated by the proposed development each lot will tie into the proposed sanitary main in Cowans Alley via one force main lateral connection. The sanitary main is connected to the PWD SWWPCP treatment facility. The proposed daily flow that will be added to the system is that of 1,050-gpd, the proposed method of disposal will be permanent. The site currently consists of a four unit multi residential structure that splits both 227 and 229 Plant Avenue which previously used sanitary sewer. Land uses for the adjacent properties are currently commercial and residential. The adjacent properties are served by sanitary sewer. The treatment facility that will serve the site is the Philadelphia Water Department Southwest Water Pollution Control Plant.

The proposed sewage disposal method is in accordance with the method indicated in the municipality's Official Sewage Facilities Plan. There is one other alternate disposal method available for this project. The method would require extending a pipe under a stream and pumping the sewage to a manhole located in Willow Ave. The alternate disposal method was considered less feasible than the Cowans Alley disposal method. The proposed sewage disposal method is adequate for the short-term as well as the long-term.

The owner of and the one responsible for the operation and the maintenance of the system for the on lot portion up to the Right-of-Way of Plant Avenue is the Homeowner's Association of The Maples, and the one responsible for the maintenance of the system within the Right-of-Way of Plant Avenue is Radnor Township. This project is required to participate in an existing municipal sewage management program.

### 1. PROJECT INFORMATION

Project Name: 14-158

Date of review: 3/31/2015 12:25:27 PM

Project Category: **Development, Residential, Subdivision containing more than 2 lots and/or 2 single-family units**

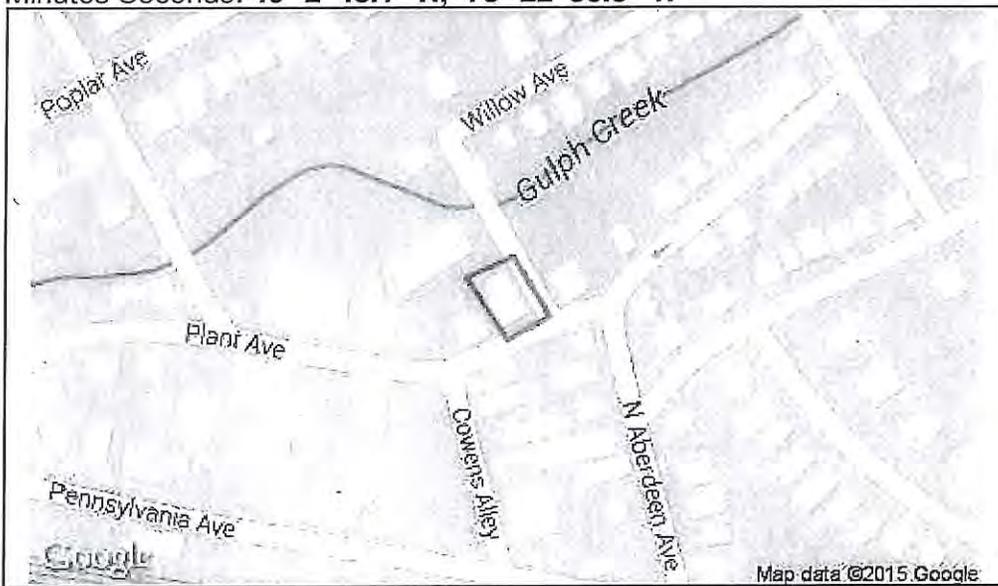
Project Area: 0.2 acres

County: **Delaware** Township/Municipality: **Radnor**

Quadrangle Name: **VALLEY FORGE** ~ ZIP Code: **19087**

Decimal Degrees: **40.046686 N, -75.382292 W**

Degrees Minutes Seconds: **40° 2' 48.1" N, -75° 22' 56.3" W**



### 2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

### 3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

#### PA Game Commission

**RESPONSE:** No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

#### PA Department of Conservation and Natural Resources

**RESPONSE:** No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

#### PA Fish and Boat Commission

**RESPONSE:** No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

#### U.S. Fish and Wildlife Service

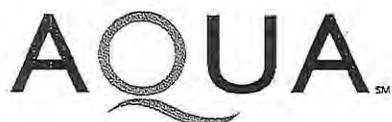
**RESPONSE:** No impacts to federally listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

### 4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special

concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.





December 1, 2015

Michael J. Bowker, P.E.  
Momenee and Associates, Inc.  
924 County Line Road  
Bryn Mawr, PA 19010

**Re:** Water Availability  
227 + 229 Plant Avenue  
Radnor Township, Delaware County, Pennsylvania

Dear Mr. Bowker:

This letter will serve as confirmation that the above referenced property is situated within Aqua Pennsylvania Inc.'s service territory. Service would be provided in accordance with Aqua Pennsylvania Inc.'s Rules and Regulations.

Please contact Deanne L. Ciotti, Aqua Pennsylvania Inc.'s New Service Representative at 610-541-4160 for further information on service alternatives that will meet your domestic and fire service needs. Ms. Ciotti will provide you with the appropriate service applications.

Please note that if any additional hydrants are required, or any need to be relocated, for this project that it will be handled separately by me with the issuance of a Fire Hydrant Agreement or Relocation Agreement for execution. If required, please forward a drawing with the hydrant dimensioned in both directions showing any utilities that could be encountered by us in running the hydrant lead pipe. Similarly this also applies to the existing mains on this parcel, except that your firm would be required to prepare a main relocation drawing for us.

Flow data information may be obtained from our Production Department so that you may determine the adequacy of our supply for your project needs. Please fax a written request to Lisa Thomas Oliva at 610-645-1162 containing the address, street, cross street and municipality and all pertinent contact information.

If I can be of further assistance, you may contact me at (610) 645-4230.

Sincerely,

A handwritten signature in cursive script that reads "Gary J. Home".

Gary J. Home  
New Business Representative



COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

DEP Code #:  
 1-23013-247-3J

**SEWAGE FACILITIES PLANNING MODULE  
 COMPONENT 4A - MUNICIPAL PLANNING AGENCY REVIEW**

**Note to Project Sponsor:** To expedite the review of your proposal, one copy of your completed planning module package and one copy of this *Planning Agency Review Component* should be sent to the existing local municipal planning agency for their comments.

**SECTION A. PROJECT NAME** (See Section A of instructions)

Project Name

The Maples - 229 & 227 Plant Avenue

**SECTION B. REVIEW SCHEDULE** (See Section B of instructions)

1. Date plan received by municipal planning agency. April 13, 2016

2. Date review completed by agency. May 2, 2016

**SECTION C. AGENCY REVIEW** (See Section C of instructions)

- | Yes                                 | No                                  |   |
|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1. Is there a municipal comprehensive plan adopted under the Municipalities Planning Code (53 P.S. 10101, <i>et seq.</i> )?               |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2. Is this proposal consistent with the comprehensive plan for land use?<br>If no, describe the inconsistencies _____                     |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 3. Is this proposal consistent with the use, development, and protection of water resources?<br>If no, describe the inconsistencies _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 4. Is this proposal consistent with municipal land use planning relative to Prime Agricultural Land Preservation?                         |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 5. Does this project propose encroachments, obstructions, or dams that will affect wetlands?<br>If yes, describe impacts _____            |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 6. Will any known historical or archaeological resources be impacted by this project?<br>If yes, describe impacts _____                   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 7. Will any known endangered or threatened species of plant or animal be impacted by this project?<br>If yes, describe impacts _____      |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 8. Is there a municipal zoning ordinance?   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 9. Is this proposal consistent with the ordinance?<br>If no, describe the inconsistencies _____   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 10. Does the proposal require a change or variance to an existing comprehensive plan or zoning ordinance?                                 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 11. Have all applicable zoning approvals been obtained?   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 12. Is there a municipal subdivision and land development ordinance?  |

**SECTION C. AGENCY REVIEW (continued)**

Yes No

13. Is this proposal consistent with the ordinance?

If no, describe the inconsistencies \_\_\_\_\_

14. Is this plan consistent with the municipal Act 537 Official Sewage Facilities Plan?

If no, describe the inconsistencies \_\_\_\_\_

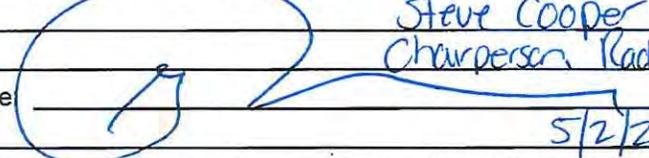
15. Are there any wastewater disposal needs in the area adjacent to this proposal that should be considered by the municipality?

If yes, describe \_\_\_\_\_

16. Has a waiver of the sewage facilities planning requirements been requested for the residual tract of this subdivision?

If yes, is the proposed waiver consistent with applicable ordinances?

17. Name, title and signature of planning agency staff member completing this section:

Name: Steve Cooper  
 Title: Chairperson, Radnor Township Planning Commission  
 Signature:   
 Date: 5/2/2016  
 Name of Municipal Planning Agency: Radnor Township Planning Commission  
 Address: 301 Iven Ave, Wayne, PA 19087  
 Telephone Number: 610-688-5600

**SECTION D. ADDITIONAL COMMENTS (See Section D of instructions)**

This Component does not limit municipal planning agencies from making additional comments concerning the relevancy of the proposed plan to other plans or ordinances. If additional comments are desired, attach additional sheets.

The planning agency must complete this Component within 60 days.

This component and any additional comments are to be returned to the project sponsor.



**SEWAGE FACILITIES PLANNING MODULE  
 COMPONENT 4B - COUNTY PLANNING AGENCY REVIEW  
 (or Planning Agency with Areawide Jurisdiction)**

**Note to Project Sponsor:** To expedite the review of your proposal, one copy of your completed planning package and one copy of this *Planning Agency Review Component* should be sent to the existing county planning agency or planning agency with areawide jurisdiction for their comments.

**SECTION A. PROJECT NAME** (See Section A of instructions)

Project Name  
 The Maples – 227 & 229 Plant Avenue

**SECTION B. REVIEW SCHEDULE** (See Section B of instructions)

1. Date plan received by county planning agency. April 15, 2016
2. Date plan received by planning agency with areawide jurisdiction \_\_\_\_\_  
 Agency name \_\_\_\_\_
3. Date review completed by agency April 28, 2016

**SECTION C. AGENCY REVIEW** (See Section C of instructions)

- | Yes                                 | No                                  |   |
|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 1. Is there a county or areawide comprehensive plan adopted under the Municipalities Planning Code (53 P.S. 10101 <i>et seq.</i> )? <i>Delaware County 2035 was adopted on November 27, 2013. Responses to #2, #3, #4, &amp; #5 are based on this plan.</i>   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 2. Is this proposal consistent with the comprehensive plan for land use? _____  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 3. Does this proposal meet the goals and objectives of the plan? _____<br>If no, describe goals and objectives that are not met _____   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 4. Is this proposal consistent with the use, development, and protection of water resources?<br>If no, describe inconsistency _____   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 5. Is this proposal consistent with the county or areawide comprehensive land use planning relative to Prime Agricultural Land Preservation?<br>If no, describe inconsistencies: _____  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 6. Does this project propose encroachments, obstructions, or dams that will affect wetlands? <i>Response based on information contained in the National Wetlands Inventory Maps and review of the site development plan.</i><br>If yes, describe impact _____ |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 7. Will any known historical or archeological resources be impacted by this project? <i>Response based on information contained in the Delaware County Preservation Planning files and documents.</i><br>If yes, describe impacts _____                       |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 8. Will any known endangered or threatened species of plant or animal be impacted by the development project? <i>Response based on information from the Natural Heritage Inventory of Delaware County.</i> _____  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | 9. Is there a county or areawide zoning ordinance?  |
| <input type="checkbox"/>            | <input type="checkbox"/>            | 10. Does this proposal meet the zoning requirements of the ordinance?<br>If no, describe inconsistencies <u>Not applicable.</u>   |

Yes	No	SECTION C. AGENCY REVIEW (continued)	
<input type="checkbox"/>	<input type="checkbox"/>	11.	Have all applicable zoning approvals been obtained? <u>Unknown, subject to municipal approval.</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	12.	Is there a county or areawide subdivision and land development ordinance? <i>The Delaware County Subdivision &amp; Land Development Ordinance is used by some, but not all municipalities. It is not applicable to this municipality.</i>
<input type="checkbox"/>	<input type="checkbox"/>	13.	Does this proposal meet the requirements of the ordinance? <u>Not applicable.</u> If no, describe which requirements are not met <u>Not applicable.</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	14.	Is this proposal consistent with the municipal Act 537 Official Sewage Facilities Plan? If no, describe inconsistency _____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.	Are there any wastewater disposal needs in the area adjacent to this proposal that should be considered by the municipality? If yes, describe _____
<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.	Has a waiver of the sewage facilities planning requirements been requested for the residual tract of this subdivision? _____
<input type="checkbox"/>	<input type="checkbox"/>		If yes, is the proposed waiver consistent with applicable ordinances. If no, describe the inconsistencies <u>Not applicable.</u>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.	Does the county have a stormwater management plan as required by the Stormwater Management Act? <i>Only for the Ridley, Chester, Darby, and Crum Creek watersheds. While this project is located in the <u>Gulph Creek</u> watershed, it should be noted that Radnor Township has adopted and implements the Darby Creek watershed stormwater model ordinance.</i>
<input checked="" type="checkbox"/>	<input type="checkbox"/>		If yes, will this project plan require the implementation of storm water management measures? _____
18. Name, Title and signature of person completing this section:			
Name: <u>Michael A. Leventry</u>			
Title: <u>Planner</u> Signature: 			
Date: <u>April 28, 2016</u>			
Name of County or Areawide Planning Agency: <u>Delaware County Planning Department</u>			
Address: <u>Court House &amp; Government Center, 201 W. Front Street, Media, PA 19063</u>			
Telephone Number: <u>610-891-5215</u>			

SECTION D. ADDITIONAL COMMENTS (See Section D of instructions)	
Every effort should be made to reduce infiltration and inflow (I&I). Consideration should be given to connecting into and upgrading the existing sanitary sewer manhole on the neighboring property if it is found that said manhole is deficient.	
This Component does not limit county planning agencies from making additional comments concerning the relevancy of the proposed plan to other plans or ordinances. If additional comments are needed, attach additional sheets.	
The county planning agency must complete this Component within 60 days.	
This Component and any additional comments are to be returned to the applicant.	

# Public Participation

**RESOLUTION NO. 2016-73**

**A RESOLUTION OF RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA, FORMALLY ACCEPTING THE INDEPENDENT AUDITORS' REPORT AND 2015 AUDITED FINANCIAL STATEMENTS OF RADNOR TOWNSHIP TO BE INCLUDED IN THE 2015 COMPREHENSIVE ANNUAL FINANCIAL REPORT**

**WHEREAS**, The Township engaged Zelenkofske Axelrod LLC (the "Auditors") to perform the annual financial audit pursuant to the Township's Home Rule Charter §7.13 for the year ending December 31, 2015; and

**WHEREAS**, Township Management bears the sole responsibility for the completeness and accuracy of the 2015 Financial Statements; and

**WHEREAS**, Zelenkofske Axelrod LLC, in its capacity as the Township's independent CPA, is responsible for expressing an opinion on the financial statements as prepared by Management and is responsible for issuing an opinion based upon the results of their audit of the Township as summarized in the Independent Auditors' Report; and

**WHEREAS**, The Citizens' Audit Review & Financial Advisory Committee ("CARFAC"), made up of nine volunteer residents as appointed by the Board of Commissioners, was involved in the audit process by overseeing project schedules and timelines, discussing internal control deficiency resolutions from prior years' audit results with management and the auditors, and by meeting independently with representatives of the Auditors to review possible audit findings, including but not limited to those specifically addressed in the SAS 115 Letter to Management prepared by the Auditors; and

**WHEREAS**, CARFAC accepts no responsibility and takes no position on the completeness or accuracy of either the Independent Auditors' Report or the Audited Financial Statements; and

**WHEREAS**, Exclusively based on the foregoing, CARFAC has recommended that the Board of Commissioners adopt a resolution during a public meeting accepting the Independent Auditors' Report and management's 2015 Audited Financial Statements.

**NOW, THEREFORE**, it is hereby **RESOLVED** that the Radnor Township Board of Commissioners formally accept the Independent Auditors' Report as prepared by Zelenkofske Axelrod LLC and the 2015 Audited Financial Statements as prepared by Management, both of which are to be included in the Township's 2015 Comprehensive Annual Financial Report (CAFR).

**SO RESOLVED**, this 13<sup>th</sup> day of June, A.D., 2016

RADNOR TOWNSHIP

By: \_\_\_\_\_  
Name: Philip Ahr  
Title: President

ATTEST: \_\_\_\_\_  
Name: Robert A. Zienkowski,  
Title: Township Manager / Secretary

# Radnor Township



## PROPOSED LEGISLATION

**DATE:** May 23, 2016

**TO:** Board of Commissioners

**FROM:** William White, Director of Finance

**LEGISLATION:** Resolution 2016-73 Accepting the 2015 Audited Financial Statements and Independent Auditors' Report as recommended by the Citizens' Audit Review & Financial Advisory Committee (CARFAC).

**LEGISLATIVE HISTORY:** The Township engaged Zelenkofske Axelrod, LLC as Independent Auditors for the 2015 audit period, which has now been completed. The Township's 2015 Comprehensive Annual Financial Report (CAFR) will be completed and filed by June 30<sup>th</sup> and will be available on the Township's web site.

**PURPOSE AND EXPLANATION:** This Resolution formally concludes the 2015 audit period by publically and transparently *accepting* the 2015 Audited Financial Statements and Independent Auditors' Report. It is imperative to note:

- Management is solely responsible for the content and accuracy of the 2015 Audited Financial Statements
- Zelenkofske Axelrod is solely responsible for expressing an opinion on the 2015 Audited Financial Statements as detailed in their Auditor's Report (to be included on page 1 of the Comprehensive Annual Financial Report)
- CARFAC has recommended that the Board of Commissioners accept this document as outlined in the attached Recommendation
- By accepting this document, the Board of Commissioners is not accepting responsibility for the content or accuracy of the Audited Statements or the Independent Auditors' Report

**FISCAL IMPACT:** There is no fiscal impact associated with this Resolution.

**RECOMMENDED ACTION:** In the interest of adding transparency and to conclude the 2015 audit process, the Administration and CARFAC both respectfully recommend that the Board adopt Resolution 2016-73.

# Radnor Township

Comprehensive Annual Financial Report

For the Year Ended, December 31, 2015

Proud Home of the

**Sports Legends**  
of Delaware County  
**MUSEUM**



**COMPREHENSIVE ANNUAL FINANCIAL REPORT**

**YEAR ENDED DECEMBER 31, 2015**

**TOWNSHIP OF RADNOR,  
DELAWARE COUNTY,  
PENNSYLVANIA**

**Prepared by:  
Radnor Township Finance Department  
William M. White, MBA  
Director of Finance**

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
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INTRODUCTORY  
SECTION

**PHILIP AHR**  
*President*

**LUCAS A. CLARK, ESQ.**  
*Vice-President*

**JAMES C. HIGGINS, ESQ.**

**ELAINE P. SCHAEFER**

**DONALD E. CURLEY**

**JOHN NAGLE**

**RICHARD F. BOOKER, ESQ.**



**RADNOR TOWNSHIP**  
301 IVEN AVENUE  
WAYNE, PENNSYLVANIA 19087-5297

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Fax (610) 688-1279  
[www.radnor.com](http://www.radnor.com)

**ROBERT A. ZIENKOWSKI**  
*Township Manager*  
*Township Secretary*

**JOHN B. RICE, ESQ.**  
*Solicitor*

**JOHN E. OSBORNE**  
*Treasurer*

June 13, 2016

To the Citizens and Board of Commissioners  
Radnor Township, Pennsylvania

On behalf of the staff of the Finance Department, the Township Manager and the entire administration, we are pleased to submit Radnor Township's Comprehensive Annual Financial Report (CAFR) for the year ended December 31, 2015. The annual report, as required by the Township's Home Rule Charter, includes the "basic financial statements" made up of Management's Discussion & Analysis, financial statements and accompanying footnotes. These financial statements have been examined by an independent accounting firm of certified public accountants and are presented in accordance with generally accepted accounting principles (GAAP) and audited in accordance with generally accepted auditing standards.

This report portrays management's representations regarding the Township's financial position. As such, Radnor Township management assumes full responsibility for the accuracy and completeness of all the information included in the CAFR. The Township management has implemented various internal control measures to provide a reasonable basis for making these financial representations. The framework of internal controls established is meant to provide reasonable assurances to protect Township assets from loss, theft, or misuse, noting that they do not provide absolute protection.

The Township's financial statements were audited by Zelenkofske Axelrod LLC. Zelenkofske Axelrod LLC is a regional, independent accounting firm of certified public accountants operating in five locations in Pennsylvania and Delaware, has nearly 50 professionals, and revenues in excess of \$8 million. In their report, the independent auditors rendered an unmodified opinion which indicates that the financial statements are fairly represented, in accordance with GAAP, and free from material misstatements. The independent audit involved examination, on a test basis, of Township records and supporting documentation used to generate the amounts and disclosures included in the financial statements. The independent auditor's report is the first item included in the financial section of this report and can be found on page 1.

Management's discussion and analysis (MD&A) immediately follows the independent auditors' report and provides a narrative introduction, overview and analysis of the basic financial statements. The MD&A complements this letter of transmittal and should be read in conjunction with it.

## PROFILE OF RADNOR TOWNSHIP

### General Profile:

The Radnor Township community is proud of its heritage and continues to reflect many of the values of its settlers of over 300 years earlier. The Township is home to a public school system that has been rated as one of the finest in the nation and includes a vast network of lush parks, playgrounds and athletic fields all of which make Radnor *“The best place to live, work, visit and do business on the Main Line.”*

Radnor Township is located in the northwestern corner of Delaware County and is approximately 15 miles west of the City of Philadelphia. The Township encompasses 13.83 square miles, has a population of 31,531 and is located on Philadelphia’s prestigious “Main Line.” The Township consists of all or portions of the Bryn Mawr, Garrett Hill, Newtown Square, Rosemont, St. Davids, Villanova, and Wayne neighborhoods, each of which brings a unique quality to the Radnor demographics. Part of what makes the Radnor Community so special is the opportunity for excellent education from the time a child first steps foot into a classroom all the way through post-secondary degree opportunities. In addition to having excellent public schools, Radnor Township is home to several private education entities such as the Academy of Notre Dame, Agnes Irwin School, Archbishop John Carroll High School, St. Aloysius, Country Day School of the Sacred Heart, St. Katharine of Siena School, and Jack M. Barrack Hebrew Academy. Also located within the Township are several colleges and universities including Villanova University, Eastern University, Cabrini College, and the Valley Forge Military Academy and College.

Radnor Township is also advantageously situated in terms of transportation making Radnor a primary destination for commercial activity with some of the most valuable commercial real estate in the east coast market. Stakeholders can easily get to Radnor by accessing the Interstate 476 and State Route 30 interchange which is just a few short miles south of the Pennsylvania Turnpike / Interstate 76. These major road arteries allow travelers to get to Philadelphia, New York, Baltimore, Washington D.C. or Harrisburg within a short commute. Radnor is also home to five Southeastern Pennsylvania Transportation Authority (SEPTA) Regional Rail Line stations and six Norristown High Speed Rail stations. From any of the SEPTA stations, travelers can easily and quickly get to downtown Philadelphia which then connects with the Philadelphia airport, the athletic facilities, and other greater Philadelphia region attractions as well as with Amtrak. Amtrak can then provide transportation to New York, Baltimore, Washington D.C. and other major metropolitan destinations.

### Township Structure and Services Profile

In 1968, the Commonwealth of Pennsylvania ratified a new constitution, giving voters the right to formulate and institute self-rule (called “home rule”) governments at the county and local levels. In 1976, Radnor voters approved the Radnor Township Home Rule Charter. The Home Rule Charter, together with the Pennsylvania laws pertaining to 1<sup>st</sup> Class Townships as well as Radnor’s Administrative Code, provides the legal structure and guidance of the Township.

As provided by the Home Rule Charter, legislative and executive authority is maintained at the Board of Commissioners level (the “Board”). The Board is Radnor’s governing body and consists of seven elected members, each representing one of the seven wards comprising the Township. The Board appoints a Township Manager who is responsible for the day to day administration of the Township. The Township Administration consists of five departments, headed by appointed Directors. Those departments include Recreation and Community Programming, Public Works, Police, Community Development, and Finance. Radnor Township stakeholders have come to expect the very best in municipal services and as

a result, the township provides a wide range of top-notch services from basic life safety issues to improved quality of life programming and amenities. The graphic below provides a program summary provided by each of the Township's departments:



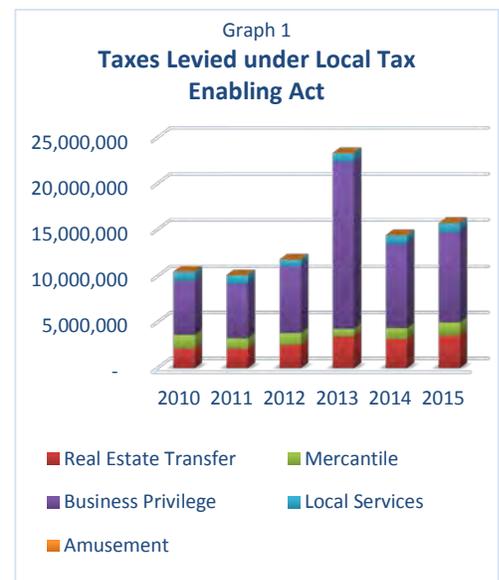
## Township Budget Process Profile

The Township budgets for its activities through an ongoing budgeting process, in accordance with the Township Charter, that culminates in the adoption of an annual appropriation budget, five-year capital plan as well as a consolidated fee schedule. Included in the annual budget process is the update of the five-year financial forecast and associated assumptions. The forecast consolidates future operational results with the five-year capital plan and is incorporated into the final budget document that is published for public review and comment. The budget process begins in late summer at which time the administrative departments submit their subsequent year requests and capital plan updates along with the necessary materials and supporting documentation to the Township Manager. The Manager then reviews the information and formulates a recommendation to the Board in the form of a preliminary budget by early October. The preliminary budget is then reviewed by the Board and public through various meetings, is amended as necessary, and is ultimately adopted (as revised) in early December. It is during this process that the Board determines the necessary real estate millage, sanitary sewer rent, stormwater and other significant fee rates necessary to provide funding for the ensuing fiscal year. The legal level of budgetary control is at the object of expense, and all appropriations lapse at the end of the fiscal year except those that are obligated through encumbrance.

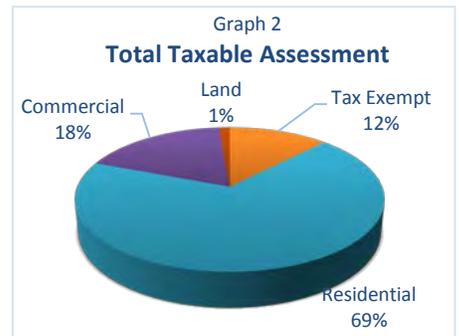
The Township has adopted several important fiscal policies aimed at creating balanced budgets, establishing appropriate levels of funding reserves, determining the appropriate use of non-reoccurring revenues, establishing annual capital funding, and establishing a funding plan for other post-employment benefits (OPEB). These policies can be found in the Township’s Administrative Code, Chapter §44 and are reviewed periodically and updated according to current needs or best practices.

### **RADNOR’S ECONOMY**

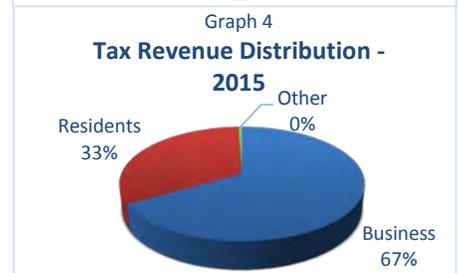
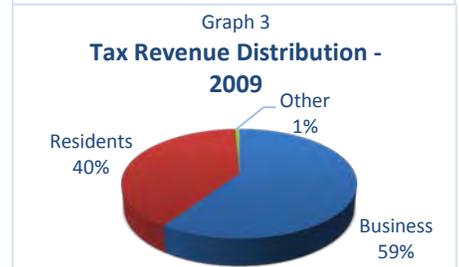
Radnor’s economy is made up of a broad spectrum of activities from the smallest family run retail store to national retail stores; from one-person professional service firms to Fortune 500 companies. As a result, Radnor’s affluence allows the local economy to be resilient. This is evidenced in the community’s continued recovery from the recessionary lows of 2009. In quantifying economic conditions, there are several key metrics to gauge the economic conditions including real estate category makeup, real estate assessment growth, median household income, employment statistics as well as the taxes levied under the Local Enabling Act 511. More specifically, the Act 511 taxes reveal how the real estate and business base in Radnor is doing economically. The business privilege taxes are levied on the gross receipts of commercial business activity at 3.000 mills. The performance of these revenues is a strong indication of the vitality of Radnor’s business community. Next, the local services tax is levied as a fixed amount per employee at \$52.00. The performance of these revenues is an indication of employment trends in Radnor by our businesses. Finally, the real estate transfer tax, levied as a percentage of the sale amount on real estate transactions in Radnor, is 1.00%. The performance of these revenues is an indication of the real estate market in Radnor, both in terms of the number of transactions and the value of each transaction. When these economic factors are reviewed together at the macro level, one can quickly gain an understanding of Radnor’s economic growth. These key metrics are discussed and documented in the Management’s Discussion and Analysis beginning on page 3.



Another economic factor to consider is the real estate assessment values year over year. Radnor Township has approximately 8,800 properties distributed into four broad categories as shown in Graph 2. In terms of the number of properties, most of the Township’s real estate market is made up of residential, at 69%. Overall, the Township’s total real estate assessed value has remained strong and stable. As shown in Schedule 7 in the Statistical Section, page 99, the annual assessment growth has averaged 0.88% per year, which contributes to increased real estate tax revenues over and above any changes made to the millage rates and shows a constant, reliable growth trend on a significant portion of the Township’s Revenue makeup.



The Radnor Township Administration understands that another important aspect to a healthy local economy and community is maintaining tax rates. To that end, the Township has worked extremely hard to balance the needs of the community while freezing the real estate tax rate. In fact, the real estate millage rate in Radnor has been at 3.7511 mills since 2012 through 2015. At the same time and in concert with keeping the real estate millage rate as low as possible, the Administration has embraced the trend whereby the resources generated through business activity exceeds those generated from the residents. Fostering business growth has helped shift the weight away from the residents. Graphs 3 and 4 represent the source of the Township’s tax revenue from 2009 as compared to 2015. As depicted, the residential burden has decreased from 40% to 33%. This is the result, in part, to keeping real estate taxes frozen since 2012, but also from business activity growth as discussed later in the Management Discussion and Analysis. The Township will continue to foster business growth in an effort to balance the service demands of the community with the constraint of keeping tax rates as low as possible.



**LONG-TERM FINANCIAL PLANNING**

The Board of Commissioners, Administration and the Citizens Audit Review and Financial Advisory Committee (CARFAC) worked together in 2012 to build a working five-year forecasting model. That model has been used to build in long-term funding plan for the OPEB obligations as well as annual funding to the Township’s capital program. Moving forward, the long-term financial planning model will be used to identify operational revenue and expense trends as well as to build in various dedicated funding plans to address other major funding needs. The long-term financial model is incorporated into the Township’s annual budget to help the Commissioners and the Township see the long-term impact of various decisions made today. Further, the model will allow more comprehensive decision making as decisions are built into the model and analyzed on a Township-wide scale, rather than in a vacuum.

**MAJOR INITIATIVES: Enterprise Resource Planning (“ERP”) and Technology Improvements**

The Township administration, working together with CARFAC, began working back in 2014 to evaluate the Township’s current financial and departmental operating software. The project was born out of frustration with the lack of functionality from the Township’s current software system, which has not seen a major upgrade since 2006 as well as comments from the Township auditors regarding IT security,

capital asset accounting and disaster recovery. The project kicked off during the summer of 2014 with members of the Township Finance Department presenting the CARFAC IT Subcommittee an overview of departmental level business processes and the inefficiencies in workflow and duplicative efforts caused by the Township's usage of non-integrated pieces of software. Over the next several months, Finance Department staff continued to meet with the CARFAC IT Subcommittee to discuss project objectives and goals, address audit comments and disaster recovery options, and identify potential ERP vendors. The project immediately resolved that the current system setup (or status quo) is not an option moving forward. After the need was established, the administration and CARFAC performed market research to find the very best in municipal software providers, and narrowed the search down to three providers. Each of the three providers were invited to conduct Radnor specific demonstrations of their software. Demonstrations were provided for each of the Township's departments to ensure that the appropriate level of detail was included and that the department had an opportunity for feedback. After the demonstrations, the administration and CARFAC reviewed pricing and implementation strategies with the three firms. Ultimately, the Township selected Tyler Technologies based on their ability to meet the core software objectives of the project, their pricing structure and implementation plan.

The overall objective of the project is to capitalize on advances in information technology to increase the efficiency of Township staff, improve access to information, and increase direct access to system functions by employees and constituents. Primary objectives include the implementation of an integrated system to eliminate inefficiencies such as duplicate data management, data entry, transactional processes and reconciliation, provide better and timelier information for decision making, streamline workflow, improve ability to access information for staff and constituents, eliminate the need to manually re-enter data to prepare regular and ad hoc reports, increase direct constituent access to information online and performance of online transactions, and improve security, controls, and disaster recovery.

The Board of Commissioners have supported the project from its inception, setting aside \$1,000,000 from a one-time business tax settlement dedicated to this project. Further, the Board of Commissioners adopted legislation in late November 2015 authorizing the administration and CARFAC to negotiate specifically with Tyler Technologies to develop an agreement to be brought back to the Board for final review and adoption. On May 9, 2016, the Board of Commissioners adopted a resolution entering into an agreement with Tyler Technologies to install their ERP system. The final pricing came in well under the amount allocated by the Commissioners. The Tyler ERP project kicked-off on June 1, 2016 and is expected to take approximately two years to implement. The implementation will be phased, with varying "go-live" dates for the different departmental modules being installed.

## **AWARDS**

Certificate of Achievement: The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to Radnor Township for its comprehensive annual financial report for the fiscal year ended December 31, 2014. This was the fourth year in a row that the Township had received this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

## ACKNOWLEDGMENTS

The preparation of this report would not have been possible without the contributions and dedication of the Township Staff, especially those in the Finance Department. Equally, we would like to thank the volunteer members of CARFAC for their dedication, expertise and guidance. Their contributions to this report and the overall audit process add tremendous value and are always appreciated.

Finally, we thank the members of the Board of Commissioners for their prudent fiscal management and leadership as well as all the volunteer members of the various boards and commissions for their tireless work helping to move Radnor forward.

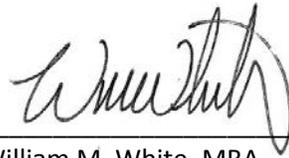
It's the contributions of all of these individuals that make Radnor Township *"The Best Place to Live, Work, Visit and Do Business on the Main Line."*

Respectfully,



---

Robert A. Zienkowski,  
Township Manager / Secretary



---

William M. White, MBA  
Director of Finance

**PRINCIPAL OFFICIALS**  
As of December 31, 2014  
RADNOR TOWNSHIP, PENNSYLVANIA

---

***ELECTED OFFICIALS***

---

**Board of Commissioners**

James C. Higgins, Esq. ....	1 <sup>st</sup> Ward Commissioner
Richard F. Booker, Esq. ....	2 <sup>nd</sup> Ward Commissioner
Lucas A. Clark, Esq. ....	3 <sup>rd</sup> Ward Commissioner
Elaine P. Schaefer ....	4 <sup>th</sup> Ward Commissioner
John C. Nagle, P.E. ....	5 <sup>th</sup> Ward Commissioner
Donald Curley.....	6 <sup>th</sup> Ward Commissioner
Philip Ahr .....	7 <sup>th</sup> Ward Commissioner

**Elected Treasurer**

John E. Osborne .....	Treasurer, At-Large
-----------------------	---------------------

---

***APPOINTED OFFICIALS***

---

Robert A. Zienkowski .....	Township Manager / Secretary
John Rice, Esq., Grim Biehn & Thatcher, PC.....	Township Solicitor
William Colarulo.....	Superintendent of Police
Tammy Cohen .....	Director of Recreation and Community Programming
Kevin Kochanski, RLA, CZO.....	Director of Community Development
Stephen Norcini, P.E.....	Director of Public Works
William M. White, MBA .....	Director of Finance

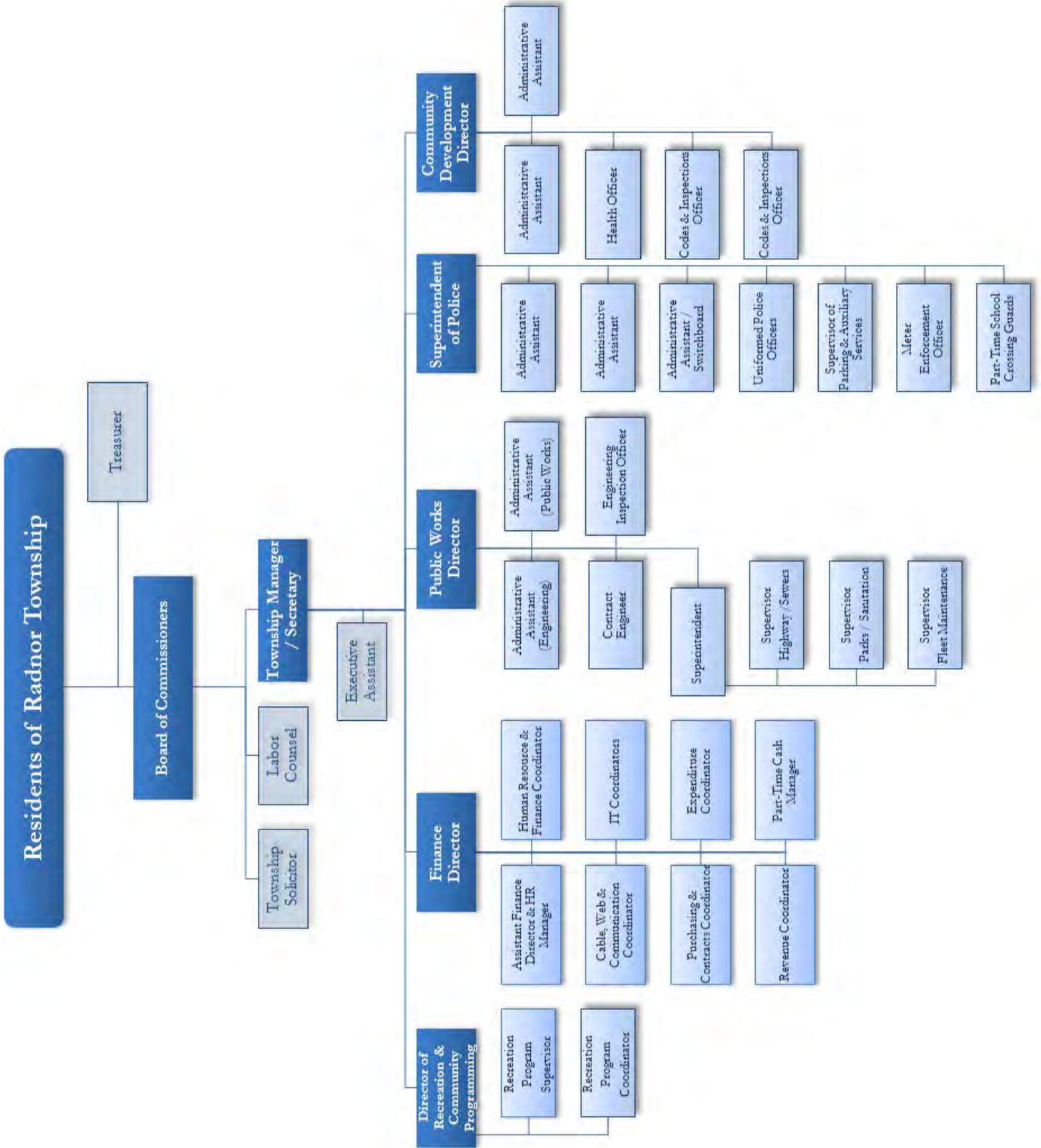
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***APPOINTED PROFESSIONAL FIRMS***

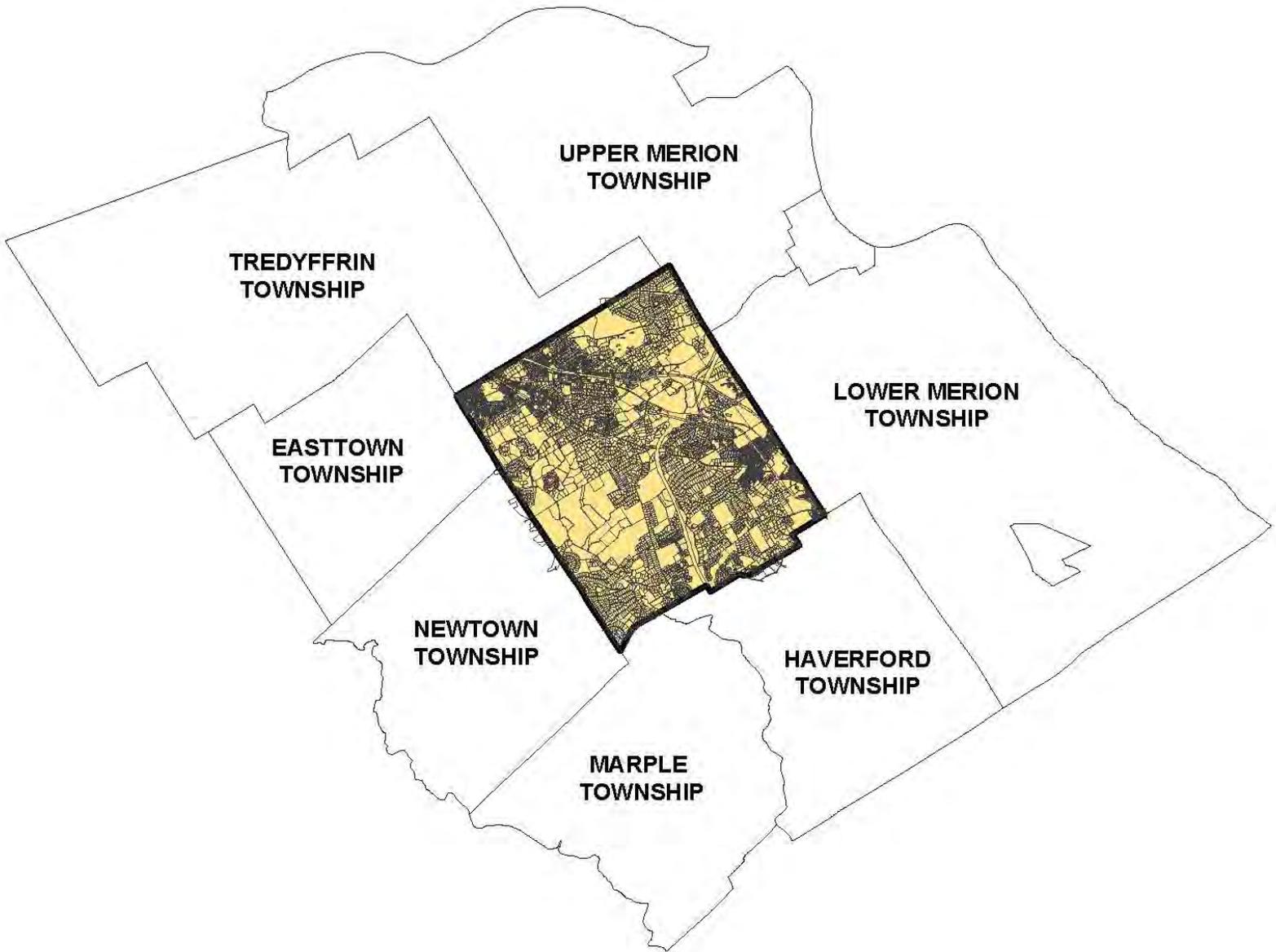
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T.D. Bank, NA .....	Banking Depository
Cozen O’Conner .....	Bond Counsel
PFM Advisors.....	Pension Plan Investment Advisor
Mockenhaupt Benefits Group.....	Pension Plan Actuary
Clark Hill, PLC .....	Labor Law Solicitor
Flamm Walton, PC.....	Business Tax Solicitor
Gannett Fleming .....	Engineering Firm

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
ORGANIZATIONAL CHART**



**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**MAP OF RADNOR AND SURROUNDING COMMUNITIES**



x

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Pennsylvania**

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended

**December 31, 2014**

Executive Director/CEO

FINANCIAL  
SECTION

# Zelenkofske Axelrod LLC

Board of Commissioners  
Township of Radnor  
Wayne, Pennsylvania

We have audited the accompanying financial statements of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the Township of Radnor, Pennsylvania as of and for the year ended December 31, 2015, and the related notes to the financial statements, which collectively comprise the Township's basic financial statements as listed in the table of contents.

## **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

## **Auditor's Responsibility**

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

## **Opinions**

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the Township of Radnor, Pennsylvania, as of December 31, 2015, and the respective changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

## **Adoption of New GASB's**

As discussed in Note 15 to the financial statements, in 2015 the Township adopted new accounting guidance, *GASB Statement No. 68, Accounting and Financial Reporting for Pensions—an amendment of GASB Statement No. 27 and GASB Statement No. 71, Pension Transition for Contributions Made Subsequent to the Measurement Date – an amendment of GASB Statement No. 68*. Our opinion is not modified with respect to this matter.

---

### **Harrisburg**

830 Sir Thomas Court, Suite 100  
Harrisburg, PA 17109  
717.561.9200 Fax 717.561.9202

### **Philadelphia**

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Jamison, Pa 18929  
215.918.2277 Fax 215.918.2302

### **Pittsburgh**

3800 McKnight E. Drive, Suite 3805  
Pittsburgh, PA 15237  
412.367.7102 Fax 412.367.7103

### **Greensburg**

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Greensburg, PA 15601  
724.834.2151 Fax 724.834.5969

# Zelenkofske Axelrod LLC

Board of Commissioners  
Township of Radnor  
Wayne, Pennsylvania

## **Other Matters**

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of employer contributions – police and civilian pension plans, pension plans - schedule of investment returns, pension plans - schedule of changes in the employer's net pension liability and related ratios, schedule of funding progress and schedule of employer contributions – other postemployment benefit plans, and budgetary comparison information on pages 3-16 and 64-72 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Other Information*

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Township of Radnor, Pennsylvania's basic financial statements. The introductory section, other supplementary information on pages 73-92, and statistical section are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The other supplementary information is the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory and statistical sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

ZELENKOFSKE AXELROD LCC

Jamison, Pennsylvania  
May 13, 2016

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

It is a pleasure to present the financial picture of the Township of Radnor, Pennsylvania. We offer readers of the Township's financial statements this narrative overview and analysis of the financial activities of the Township for the fiscal year ended December 31, 2015.

**Financial Highlights**

Radnor Township's government-wide net position on December 31, 2015 was (\$14,979,663), which was an improvement of \$1,979,757 from December 31, 2014, as restated. Note that the net position dated December 31, 2014 was restated to include the net pension liability as required with the adoption of GASB Statement 68. The restatement resulted in the Township's 2014 net position changing from \$4,158,225 to (\$16,959,420). Please see notes 14 and 15 in the Notes to the Financial Statements for details on the restatement. Notwithstanding the restated 2014 net position, this marks the fourth consecutive year in which the Township's net position has improved.

Since 2011, the Township has focused its efforts to capitalize on the growing local economy to ensure that revenue growth is invested back into improving financial position. To that end, the Township has focused its effort into three primary areas: (a) General Fund balance reserve and stabilization, (b) pension funding and (c) Other Post-Employment Benefits ("OPEB") funding. The Township has invested a significant portion of the revenue growth in establishing solid fund balance reserves in the General Fund. In fact, the Township's fund balance policy requires a minimum of fifteen percent of expenditures be held in reserve. Then, to help mitigate against fluctuations in business taxes, the policy requires an additional ten percent of expenditures in the event business tax revenue exceeds thirty percent of the total general fund revenues. As reported on the Governmental Funds Balance Sheet, the General Fund 2015 unassigned fund balance meets the target 15% at \$4,568,860, the 10% fund balance stabilization at \$3,045,907, and still has \$2,702,859 in other unassigned fund balance. The Township's fund balance policy calls for the Board of Commissioners to reinvest the other unassigned fund balance into either long-term liabilities and/or capital needs. That will be determined in 2016. Next, the Township has invested excess revenues totaling \$3,277,936 in 2012 and 2013 (see page 64) in an effort to improve pension funding ratios and pay down prior years' pension losses. Still, with a net pension liability of \$21,509,379, this will continue to be an area of focus moving forward. At the same time, the Township has established a funding plan for OPEB obligations. Since 2014, the Township has established an OPEB Trust to account for the assets and liabilities of the benefit plan and has invested excess revenues of \$4,455,955 to begin paying down the liability.

The source of funds resulting in the improved financial position has been tremendous revenue growth from the Township's Local Enabling taxes and permitting revenues; complimented by consistently strong real estate tax collections. First, the real estate tax rate remained unchanged in 2015 at 3.7511 mills. The last increase was in 2012 when the rate increased by 3% from 3.6411 mills to 3.7511 mills. Over that period, real estate taxes have been steady at roughly \$12.8 million per year with collection rates ranging from 97.48% to 99.22%. The revenue category that has continued to grow is the Local Enabling taxes which include the real estate transfer, business privilege, mercantile, and local services taxes. Real estate transfer taxes are a reflection of the local housing market. Revenues in 2015 surged by 12% over 2014 amounts. In fact, revenues have grown from \$2,099,160 in 2011 to \$3,506,820 in 2015. Next, mercantile taxes are a reflection of retail activity in Radnor, and the Township saw revenues grew by 21% in 2015 over 2014, generating \$1,437,467 in total revenues for the General Fund. Business privilege taxes reflect all other commercial activity in Radnor and represent the largest of the revenue sources in this grouping. This has also been the revenue category that has generated the most growth over the last five years. Revenues have grown from \$5,900,025 in 2011 to \$9,727,519 in 2015. A significant contributing factor to the revenue growth in mercantile and business privilege taxes has been the Township's more comprehensive compliance efforts. The Township has a full-time staff member dedicated to

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

overseeing the administrative aspects of the program from discovery, to taxpayer assistance, to compliance. Local services taxes reflect employment in the Township, and 2015 saw these revenues grow by 6% over 2014, ending with \$992,829 in revenues. Finally, permitting revenue is an indicator of the development and redevelopment activity in Radnor. Strong revenue performance since 2011, where revenues have grown from \$2,142,698 to \$4,010,451, demonstrates a strong commitment from both the commercial and residential market that Radnor is a place to invest in.

Another critical element to the improved financial position has been the stormwater fee. 2015 marked the second year of the program. The fee is assessed to all properties in Radnor Township and is broken down into two broad categories. Residential properties are classified as single family residents and all other properties are classified as other developed properties. All single family residents were billed based on their lot size with the largest category being capped at four billing units, while all other developed properties were billed based on their impervious area. The 2015 billing amount remained at \$29 per unit, resulting in little change in year over year comparisons. Still, total revenue generated continued to meet the Township's expectations at \$1,075,019. Being that the stormwater program is still evolving, most of the proceeds generated in 2014 and 2015 are still unspent, resulting in a fund balance of \$2,479,358, which is a contributing factor to the Township's improved financial position. To elaborate that point, the stormwater funds bolster the Township's capital funding by generating direct resources to fund major infrastructure projects that would have otherwise been funded from tax revenues. Without these funds, a portion of the revenues invested into General Fund balances, pension, and OPEB would have been used for this purpose.

**Overview of the Financial Statements**

This discussion and analysis is intended to serve as an introduction to the Township's basic financial statements, which are comprised of three components: 1) government-wide financial statements, 2) fund financial statements and 3) notes to the financial statements. This report also contains other supplementary information in addition to the basic financial statements themselves.

**Government-Wide Financial Statements** - The government-wide financial statements are designed to provide readers with a broad overview of the Township of Radnor, Pennsylvania's finances, in a manner similar to a private-sector business.

The statement of net position presents information on the entire Township's assets and liabilities, with the difference between the two reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the Township is improving or deteriorating.

The statement of activities presents information showing how the Township's net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. Thus, revenues and expenses are reported in this statement for some items that will only result in cash flows in future fiscal periods (e.g., uncollected taxes and earned but unused leave).

Both of the government-wide financial statements distinguish functions of the Township that are principally supported by taxes (governmental activities) from other functions that are intended to recover all or a significant portion of their costs through user fees and charges (business-type activities). The governmental activities of the Township include general government, public safety, community development, public works, parks and recreation, contributions to community organizations, and debt service. The business-type activities of the Township include the rental of The Willows Mansion.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

**Overview of the Financial Statements (continued)**

**Government-Wide Financial Statements (continued)**

The government-wide financial statements include only the activities of the Township. There are no other organizations or agencies whose financial statements should be combined and presented with the financial statements of the Township.

The government-wide financial statements can be found on pages 17 and 18 of this report.

**Fund Financial Statements** - A fund is a grouping of related accounts that is used to maintain control over resources that have been segregated for specific activities or objectives. The Township, like other state and local governments, uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements. All of the funds of the Township can be divided into three categories: governmental funds, proprietary funds and fiduciary funds.

Governmental Funds - Governmental funds are used to account for essentially the same functions reported as governmental activities in the government-wide financial statements. However, unlike the government-wide financial statements, governmental fund financial statements focus on near-term inflows and outflows of spendable resources, as well as on balances of spendable resources available at the end of the fiscal year. Such information may be useful in evaluating a government's near-term financial requirements.

Because the focus of governmental funds is narrower than that of the government-wide financial statements, it is useful to compare the information presented for governmental funds with similar information presented for governmental activities in the government-wide financial statements. By doing so, readers can better understand the long-term impact of the government's near-term financing decisions. Both the governmental fund balance sheet and the governmental fund statement of revenues, expenditures and changes in fund balances provide a reconciliation to facilitate this comparison between governmental funds and governmental activities.

The Township maintains twelve individual governmental funds. Information is presented separately in the governmental fund balance sheet and in the governmental fund statement of revenues, expenditures and changes in fund balances for the General Fund, Sewer Fund, Park and Open Space Fund, Stormwater Fund, Debt Service Fund, Special Assessment Fund, and the Capital Improvement Fund which are considered to be major funds. The Township has five nonmajor governmental funds, the State Liquid Fuels Tax Fund, Commemorative Shade Tree Fund, Grant Fund, Police K-9 Fund, and the Recreation Fee Fund.

The Township adopts an annual appropriated budget for all of its funds. A budgetary comparison statement has been provided as required supplementary information for the General Fund and major Special Revenue Fund to demonstrate compliance with this budget on pages 73 through 82.

The basic governmental funds financial statements can be found on pages 19 through 22 of this report.

Proprietary Funds - The Township maintains a proprietary fund (enterprise fund). Enterprise funds are used to report the same functions presented as business-type activities in the government-wide financial statements. Proprietary funds provide the same type of information as the government-wide financial statements for business-type activities, only in more detail.

The basic proprietary funds financial statements can be found on pages 23 through 25 of this report.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

**Overview of the Financial Statements (continued)**

**Fund Financial Statements (continued)**

Fiduciary Funds - Fiduciary funds are used to account for resources held for the benefit of parties outside the government. Fiduciary funds are not reflected in the government-wide financial statements because the resources of those funds are not available to support the Township's own programs. The fiduciary funds of the Township are pension trust funds and agency funds. Total net position of the fiduciary funds was \$55,932,357.

The basic fiduciary funds financial statements can be found on pages 26 and 27 of this report.

**Notes to the Financial Statements** - The notes provide additional information that is essential to a full understanding of the data provided in the government-wide and fund financial statements.

The notes to the financial statements can be found on pages 28 through 61 of this report.

**Other Information** - In addition to the basic financial statements and accompanying notes, this report also presents certain required supplementary information concerning the Township's progress in funding its obligation to provide pension benefits to its employees and budgetary comparison for the General Fund and major Special Revenue Fund.

The required supplementary information can be found on pages 64 through 72 of this report.

Other supplementary information is presented immediately following the notes to the financial statements and the required supplementary information.

Other supplementary information can be found on pages 73 through 92 of this report.

**Government-Wide Financial Analysis**

As noted earlier, net position may serve over time as a useful indicator of a government's financial position. The Township's governmental activities net position has increased from a year ago. Table 1 reflects a governmental activities net position of (\$14,979,663), which represents an increase of \$1,979,757 from December 31, 2014. The primary reasons for the net position improvement are discussed in the financial highlights section. While the Township has significantly improved its net position over the past four years, it should be noted that the Township has a net position deficiency in its governmental activities after net investment in capital assets and restricted assets are removed. As Table 1 reflects, the unrestricted net position (deficiency) decreased by \$3,288,882. The reduction in 2015 was the result of increases in deferred outflows of resources resulting from the accounting treatment of differences between pension assumptions and actual returns. The deficiency continues to be the result of the net pension liabilities and the current underfunding of the net OPEB obligation which totals (\$18,290,305) in spite of the fact that the Township has begun to fund OPEB through dedicated trust and through an approved funding plan, which began in 2014. The specific items that reconcile the total government fund balances to the Township's governmental activities' net position can be found on page 21.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

**Government-Wide Financial Analysis (continued)**

The Township's investment in capital assets (e.g., land, buildings and improvements, equipment and infrastructure), less any related debt used to acquire those assets that is still outstanding, was \$4,977,068 at the end of the year. The Township of Radnor uses these capital assets to provide infrastructure and facility improvements and to provide service to citizens; consequently, these assets are not available for future spending. Although the Township's investment in its capital assets is reported net of related debt, it should be noted that the resources needed to repay this debt must be provided from other sources, since the capital assets themselves cannot be used to liquidate these liabilities. As shown in Table 1, the increase in 2014 is the result of borrowing funds for library improvements in December 2015.

Table 1 - Township of Radnor's Net Position

	Governmental Activities		Business-Type Activities		Total	
	2015	2014 <sup>1</sup>	2015	2014	2015	2014
Current and Other Assets	\$ 24,894,206	\$ 25,478,120	\$ 15,792	\$ (12,697)	\$ 24,909,998	\$ 25,465,423
Capital Assets	56,731,461	55,211,653	84,091	86,482	56,815,552	55,298,135
Total Assets	81,625,667	80,689,773	99,883	73,785	81,725,550	80,763,558
Deferred Outflows of Resources	6,796,342	2,625,115	-	-	6,796,342	2,625,115
Noncurrent Liabilities	101,655,422	98,988,279	-	-	101,655,422	98,988,279
Other Liabilities	1,746,250	1,286,029	161	2,499	1,746,411	1,288,528
Total Liabilities	103,401,672	100,274,308	161	2,499	103,401,833	100,276,807
Net Position:						
Net Investment in Capital Assets	4,977,068	553,632	84,091	86,482	5,061,159	640,114
Restricted	6,852,941	6,007,738	-	-	6,852,941	6,007,738
Unrestricted (Deficiency)	(26,809,672)	(23,520,790)	15,631	(15,196)	(26,794,041)	(23,535,986)
Total Net Position	\$ (14,979,663)	\$ (16,959,420)	\$ 99,722	\$ 71,286	\$ (14,879,941)	\$ (16,888,134)

<sup>1</sup> Restated, See Footnote 15

The Township's business-type activity includes the Willows Fund, which accounts for the program activity at the mansion. Specifically, since the late 1970's the programming activity at the Willows Mansion includes the rental of the facility for special events, including weddings, birthday parties, social gatherings, school district events and the like. The total business-type activities' net position increased by \$28,436 in 2015. In 2013 the Township solicited proposals to lease the Willows Mansion to a private caterer, with the primary goals being to monetize the asset through a revenue sharing arrangement and elimination of ongoing Township maintenance costs, all while maintaining the park property as a gathering place for the community. In 2015, the Township continued to evaluate proposals with no decision. Consequently, the increase in net position was the result of General Fund transfers needed to pay ongoing utility and emergency repairs to the facility during this hibernation period.

Table 2 highlights the Township's revenues and expenses for the fiscal year ended December 31, 2015. These two main components are subtracted to yield the change in net position. This table utilizes the full accrual method of accounting.

Revenue is further divided into two major components: Program Revenue and General Revenue. Program revenue is defined as charges for sales and services, operating grants and contributions and capital grants and contributions. General revenue includes taxes, investment income and other unrestricted revenue sources.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

**Government-Wide Financial Analysis (continued)**

Table 2 - Township of Radnor's Changes in Net Position						
	Governmental Activities		Business-Type Activities		Total	
	2015	2014	2015	2014	2015	2014
<b>Revenues:</b>						
Program Revenues:						
Charges for Services	\$ 13,053,112	\$ 12,025,174	\$ -	\$ -	\$ 13,053,112	\$ 12,025,174
Operating Grants and Contributions	1,417,037	2,512,484	-	-	1,417,037	2,512,484
Capital Grants and Contributions	969,036	987,703	-	-	969,036	987,703
General Revenues:						
Real Estate Taxes	11,640,796	11,844,653	-	-	11,640,796	11,844,653
Taxes Levied Under Act 511	15,705,050	14,377,967	-	-	15,705,050	14,377,967
Debt Repayment Agreements	-	130,905	-	-	-	130,905
Investment Income	393,649	162,817	11	12	393,660	162,829
<b>Total Revenues</b>	<b>43,178,680</b>	<b>42,041,703</b>	<b>11</b>	<b>12</b>	<b>43,178,691</b>	<b>42,041,715</b>
<b>Expenses:</b>						
General Government	4,138,635	5,691,986	-	-	4,138,635	5,691,986
Protection to Persons and Property	15,012,436	13,505,092	-	-	15,012,436	13,505,092
Health and Sanitation	8,816,933	8,824,642	-	-	8,816,933	8,824,642
Highways	7,010,773	6,374,657	-	-	7,010,773	6,374,657
Library	901,839	899,290	-	-	901,839	899,290
Parks and Recreation	3,318,754	3,576,358	36,575	14,663	3,355,329	3,591,021
Interest on Long-Term Debt	1,934,553	1,910,392	-	-	1,934,553	1,910,392
<b>Total Expenses</b>	<b>41,133,923</b>	<b>40,782,417</b>	<b>36,575</b>	<b>14,663</b>	<b>41,170,498</b>	<b>40,797,080</b>
Changes in Net Position before Transfers	2,044,757	1,259,286	(36,564)	(14,651)	2,008,193	1,244,635
Transfers	(65,000)	-	65,000	-	-	-
Changes in Net Position	1,979,757	1,259,286	28,436	(14,651)	2,008,193	1,244,635
Net Position - Beginning, as Restated	(16,959,420)	(18,218,706)	71,286	85,937	-	-
<b>Net Position - Ending</b>	<b>\$ (14,979,663)</b>	<b>\$ (16,959,420)</b>	<b>\$ 99,722</b>	<b>\$ 71,286</b>	<b>\$ 2,008,193</b>	<b>\$ 1,244,635</b>

As discussed earlier in this report and as shown in Table 2, the surplus in 2015 was largely the result of the continued strong performance of the taxes levied under Act 511 complimented by limited governmental activity expenses. Total revenue grew by \$1,136,977 or 3% while expenses grew by \$351,506 or 1%. Looking more closely, charges for services revenue grew in 2015 by \$1,027,938 or 9% as a result of strong permitting revenue. Operating and capital grants decreased because the Township received a one-time, \$1,000,000 grant in 2014 for the purchase of the open space at Ardrossan. As noted in the Financial Overview section of this report, the other revenue category that showed significant growth was in the taxes levied under act 511, which grew by \$1,327,083, or 9%. On the expenditure side, general government expenses decreased by \$1,553,351 due to lower spending in administration, finance, and information technology. Conversely, protection to persons and property increased by \$1,507,344, or 11% as a result of filling vacant police officers positions and increased community development inspection costs needed as a result of increased construction activity in 2015. Similarly, highway expenses increased as a result of increased engineering costs incurred to review development plans during 2015. These costs are directly offset through escrow agreements, which is why charges for services in the highway department increased as well.

**Governmental Activities**

Table 3 discloses cost of services for Governmental Activities. The total cost of services column contains all costs related to the programs and the net cost column shows how much of the total amount not covered by program revenues. Succinctly put, net costs are costs that must be covered by local taxes or other general revenue or transfers.

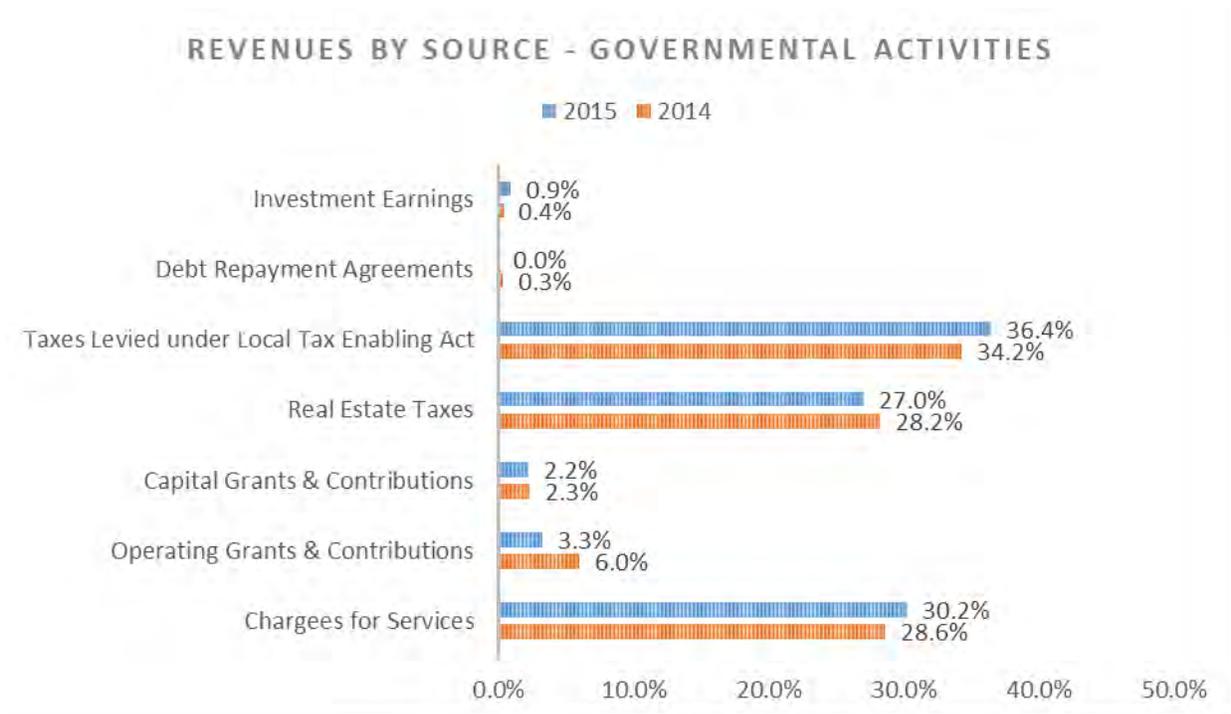
**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

**Governmental Activities (continued)**

Table 3 - Governmental Activities				
Programs	Total Cost of Services		Total Net Cost	
	2015	2014	2015	2014
General Government	4,138,635	5,691,986	(2,337,617)	(4,414,891)
Protection to Persons and Property	15,012,436	13,505,092	(10,302,821)	(8,384,867)
Health and Sanitation	8,816,933	8,824,642	(2,311,374)	(2,380,434)
Highways	7,010,773	6,374,657	(5,829,784)	(5,399,606)
Library	901,839	899,290	(901,839)	(899,290)
Parks and Recreation	3,318,754	3,576,358	(2,076,750)	(1,867,576)
Interest on Long-Term Debt	1,934,553	1,910,392	(1,934,553)	(1,910,392)
<b>Total</b>	<u>\$ 41,133,923</u>	<u>\$ 40,782,417</u>	<u>\$ (25,694,738)</u>	<u>\$ (25,257,056)</u>

Net cost of services remained at 62% of total cost of services in 2015. These percentages reflect that for every dollar spent to provide service, \$0.62 of that dollar comes from taxes, both real estate and those levied under Act 511, or other general revenue sources. This percentage has not fluctuated significantly over the past four years, indicating the Township's reliance on taxes. The Township is willing to accept this reliance given the nature of the taxes levied under Act 511, which impact the Radnor businesses. Not wanting to further burden the business sector, the Township has not pursued increases in fees which would improve the ratio of net cost to total cost.

The graph below shows the percentage of the total governmental activities revenues allocated by each revenue type.



**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

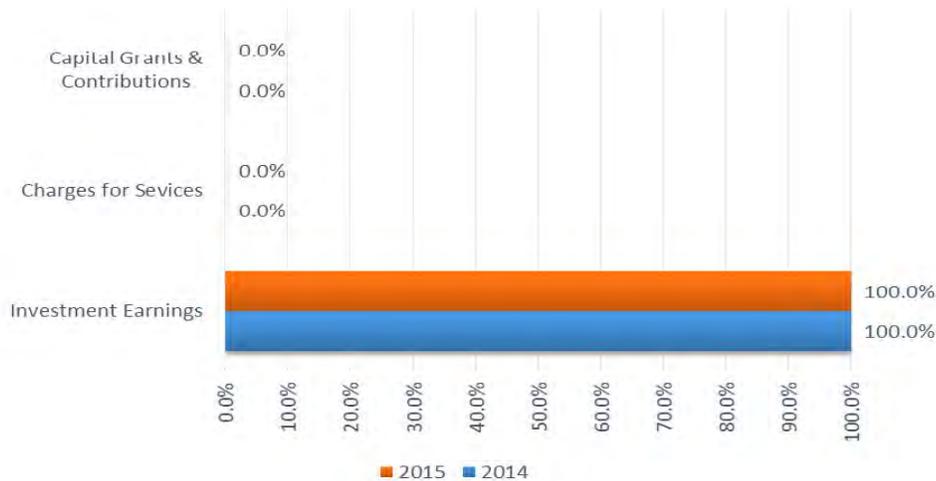
**Business-Type Activities**

As noted earlier, the Township's business-type activity includes the Willows Mansion programming. Total business-type activities' program expense for the fiscal year was \$36,575. No business-type revenues were generated in 2015 as the Township is in the process of out-sourcing the programming activity to a private caterer. This is the second year of the outsourcing process in which no revenue was generated. The graph below shows a comparison between the business-type activity expenses and program revenues.

Business-type activities showed a increase in net position of \$28,436. As noted earlier, the increase in the net position was the result of general fund transfers. The reevaluation was the result of sluggish financial performance dating back to 2001 along with mounting capital and maintenance costs needed to bring the Mansion to a serviceable level. To resolve the financial issue, in 2013 the Township solicited proposals from private catering firms to lease the Mansion with the following goals: Revenue sharing income for the Township, elimination of the township's responsibility for future maintenance and capital improvements to the Mansion, and to keep the Mansion as a gathering place for some public recreation use.



The graph below shows the breakdown of revenues by source for the business-type activities:



**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

**Financial Analysis of the Government's Funds**

As noted earlier, the Township uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements.

**Governmental Funds** - The focus of the governmental funds is to provide information on near-term inflows, outflows and balances of spendable resources. Such information is useful in assessing the Township's financing requirements. In particular, unreserved fund balance may serve as a useful measure of a government's net resources available for spending at the end of the fiscal year.

As of the end of the fiscal year 2015, the governmental funds reported combined ending fund balances of \$23,161,391, an increase of \$2,547,336 from the prior year resulting from increases in the general and capital improvement funds. Approximately 45% of this total amount or \$10,317,626 constitutes unassigned fund balance, which includes \$7,614,767 to comply with the General Fund's target fund balance policy of 15% and fund stabilization requirement of 10% of general fund expenditures. The remaining balance of \$2,702,859 is made up of unassigned other fund balances in the general fund. The next allocation of fund balance totals \$1,188,934 and is assigned for encumbered activity in 2015 carried forward into 2016. The next allocation of fund balance is restricted by constitutional provisions, enabling legislation, or constraints imposed by external factors which totaled \$7,866,251 and includes fund balances in the Sanitary Sewer Fund (\$1,451,687), Debt Service Fund (\$1,067,520), Capital Improvement Fund (\$4,641,069), Park Improvements and Open Space Fund (\$166,060) and State Liquid Fuels Tax Fund (\$539,915). The next allocation of fund balance totaled \$3,363,435 and is committed by the Board of Commissioners through ordinances or resolutions and includes balances for recreation or park impact fee purposes (\$297,149), stormwater purposes (\$2,123,486), and operational efficiency projects (\$942,800). The remainder of the fund balance is \$97,626 and is non-spendable to pay for future legal or contractual obligations which include prepaid items.

The General Fund is the chief operating fund to the Township. It includes all of the operational departments of the Township including police, fire contributions, community development, public works, park maintenance, recreational programming, community organization contributions, general government activity and others. At the end of fiscal year 2015, the unassigned fund balance of the General Fund was \$10,317,626, which is up by \$1,451,460 over 2014. As a measure of the General Fund's liquidity and to protect the Township from unexpected swings in revenue, the Board of Commissioners recognized the importance of a healthy unassigned fund balance and established a fund balance policy that sets the unassigned fund balance at 15% of expenditures, plus an additional 10% to stabilize the fund balance as mitigation against sudden fluctuations in business taxes from year to year. The additional 10% is only required when business taxes exceed 30% of total revenues.

General Fund revenues, in total, increased over 2014 amounts by \$1,598,077 or 5%. Significant contributors to the revenue increase were the business privilege taxes (by \$659,687, or 7%), real estate transfer taxes (by \$271,269, or 12%), licenses and permits (by \$637,582, or 19%) due to more development, and grants (by \$189,430, or 15%). Revenues that did not perform as well in 2015 included police fines, forfeitures and costs (by \$203,919, or -27%) due to decreased parking enforcement related to a change over from parking meters to kiosk machines as well as overall police enforcement declines.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

**Financial Analysis of the Government's Funds (continued)**

**Governmental Funds (continued)**

General Fund expenditures decreased by \$1,120,016 or 4%. The reason for the decrease in 2015 is that 2014 included significant one-time contributions for OPEB and employee benefits from the Township's \$8.0 million settlement allocation. Operating departments' expenses increased by \$795,636, or 3%. Most of that increase was the result of filling vacant police officer positions in 2015 coupled with prefunding OPEB costs associated with those police hires.

The [Sanitary] Sewer special revenue fund had a total fund balance of \$1,505,897 at December 31, 2015, a decrease of \$245,289, or -14% from the prior year. The fund balance is made of non-spendable, restricted and assigned allocations totaling \$4,436, \$1,451,687, and \$49,774, respectively. The activity in this fund is limited to the administration of the Township's sanitary sewer system. The decreases in fund balance is the result of the combination of a flat sewer rent rate for the third straight year as well as lower than expected water consumption levels, which is the basis of the sewer rent fee. In spite of the reduction in the fund balance, the Fund maintains a healthy fund balance of 31% of expenses.

The Debt Service fund had a total fund balance of \$1,067,520 which is a planned decrease of \$137,208, or 11%. The decrease is the result of management's decision to reduce fund balance since the establishment of the fund was to pay debt service and not carry fund balances. The fund balance is restricted for the sole purpose of paying debt service and related expenditures.

The Special Assessment fund, which accounts for special assessment funded projects to construct various sanitary sewer projects, ended 2015 with a fund balance of \$199,195. With no new projects since 2010, the activity in the fund is limited to the collection of past assessments, which are then used to pay down on the bonds issued to construct the projects. Currently, there are six assessment projects outstanding, with receivables totaling \$286,406.

The Park and Open Space Fund, which accounts for the 25% allocation of the Real Estate Transfer tax dedicated to the acquisition of open space and improvements to the Township's parks, ended 2015 with a restricted fund balance of \$173,060. Current activity in this fund is the annual debt service on the (voted) 2015 Series Bonds which refunded the originally issued 1996 and 2002 voted open space bonds as well as the (voted) 2014 Series Bonds issued for the acquisition of the 71 acres of open space at the Ardrossan estate in December 2014 at a purchase price of \$11,653,820 which was financed by \$9,885,000 in General Obligation Bonds, \$1,000,000 in grant proceeds and \$768,820 in current resources, including an interfund payable of \$605,000 to the General Fund.

The Stormwater Management Fund was established in 2012 to account for the Township's ongoing stormwater management and regulatory requirements. As noted earlier in this report, 2015 marked the second year that the Township billed for stormwater management. All properties are billed at a unit rate of \$29. Residential properties are billed at either one, two, three or four units depending on their lot size. All other developed properties are billed units based on a calculation of their impervious surface. The Stormwater Fund ended 2015 with a committed fund balance of \$2,123,486 and \$355,872 for encumbrances carried forward for unfinished projects at year end. Also touched on earlier in this report was that stormwater projects to be funded with these balances are still being evaluated. Thus, the fund balance will continue to grow until such time as when the Township begins to invest into stormwater projects.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

**Financial Analysis of the Government's Funds (continued)**

**Governmental Funds (continued)**

The Capital Improvement fund had a fund balance of \$4,892,508, as of December 31, 2015, an increase of \$1,540,440, or 46% from 2014. The increase is the result of excess general fund balances being allocated for capital purposes for the second straight year. As stipulated in the Township's fund balance policy, excess fund balances over the required 15% and 10% need to be invested into capital and/or pension or OPEB obligations. For 2014 and 2015, the Board elected to allocate excess general fund balances to the capital fund.

**Proprietary Funds** - The Township's proprietary funds provide the same type of information found in the government-wide financial statements but in more detail. Other factors concerning the finances of these funds have already been addressed in the discussion of the Township's business-type activities.

**General Fund Budgetary Information**

Consistent with the government-wide and governmental fund activity results noted earlier and as documented in the Schedule of Revenues, Expenditures and Change in Fund Balance report for the General Fund (Budgetary Basis) (page 72), revenues from taxes levied under local tax enabling act did much better than originally anticipated, which contributed to the positive budgetary variance in the General Fund. The report shows that total revenue estimates ended with the positive variance of \$1,722,412, which was made up of the taxes levied under the local tax enabling act variance of \$1,148,780. Another significant contribution to the positive revenue variance was the licenses and permits variance of \$894,851. Actual General Fund expenditures (\$29,589,774) exceeded the final appropriation budget (\$27,712,185) by \$1,877,589. The variance was due to larger than expected legal and engineering fees, winter costs, police overtime, unbudgeted expenses associated with the Papal visit in September and Board approved transfers to the capital fund.

**Capital Asset and Debt Administration**

**Capital Assets** - The Township's investment in capital assets for its governmental and business-type activities as of December 31, 2015, amounts to \$56,815,552 (net of accumulated depreciation). Capital assets increased by \$1,519,808, or 3% for governmental activities and decreased by 3% for business-type activities for 2015. due to the lack of any additional capital improvements to the facility, which was planned as part of the reevaluation of the Township's role in the renting of that facility.

Table 4 - Capital Assets

Programs	Governmental Activities		Business Activities		Total	
	2015	2014	2015	2014	2015	2014
Land	\$ 24,149,624	\$ 24,149,624	\$ -	\$ -	\$ 24,149,624	\$ 24,149,624
Land Improvements	2,853,282	2,609,477	-	-	2,853,282	2,609,477
Building and Improvement:	22,983,118	22,950,118	460,882	460,882	23,444,000	23,411,000
Machinery and Equipment	16,491,636	14,729,704	-	-	16,491,636	14,729,704
Infrastructure	19,600,481	18,032,714	-	-	19,600,481	18,032,714
Construction in Progress	168,800	38,749	-	-	168,800	38,749
Accumulated Depreciation	(29,515,480)	(27,298,733)	(376,791)	(374,400)	(29,892,271)	(27,673,133)
<b>Total</b>	<b>\$ 56,731,461</b>	<b>\$ 55,211,653</b>	<b>\$ 84,091</b>	<b>\$ 86,482</b>	<b>\$ 56,815,552</b>	<b>\$ 55,298,135</b>

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

**Capital Asset and Debt Administration (Continued)**

**Capital Assets (continued)**

Major capital asset investments during fiscal year 2015 included machinery and equipment (+12%), infrastructure improvements (+9%) and construction in progress (+336%). More specifically infrastructure investments included culvert replacements, road resurfacing projects, sanitation sewer and pumping station projects, traffic calming projects, traffic signal improvement projects, and a new parking lot at the Township Building. Machinery and equipment additions included department vehicle replacements for police, sanitation, public works, sewer and community development departments.

Additional information on the Township's capital assets can be found in Note 4 of this report.

**Debt** - As of December 31, 2015, the Township had outstanding general obligation bonds totaling \$56,705,000. This was down from \$56,915,000 on December 31, 2014. In the current year, the Township paid \$2,700,000 in principal and \$1,683,097 in interest on outstanding debt. The reason why the principal decrease was not larger was due to the issuance of new funds totaling \$2,490,000 in Series 2015(A) General Obligation Bonds for the purpose of making improvements at the Township owned library building. Note that the Series 2015(A) issue also included the current refunding of the Series 2010 Bonds for a total issue of \$5,275,000.

Table 5 - Outstanding Debt

	Governmental Activities		Business-Type Activities		Maturity 2018, 2026, 2034, 2035, 2037, and 2043
	2015	2014	2015	2014	
General Obligation Bonds	\$ 56,705,000	\$ 56,915,000	-	-	

Additional information about the Township's long-term debt can be found in Note 7 to the financial statements.

**Economic Factors and Major Initiatives**

The following represent some of the significant items identified by Township management for 2015:

The Radnor Township economy continues its strong performance with a mix of growing businesses complemented with a solid foundation of real estate values. As touched on throughout this report, there are several positive indicators of economic health in Radnor Township, each of which highlights different aspects of the economy:

- Business privilege tax (BPT), levied on the gross receipts of commercial business activity has grown by 34% since 2012 from \$7,262,512 to \$9,727,519 in 2015
- Real estate transfer tax (RTT), levied as a fixed percent of the value of every real estate sale transaction has grown by 41% since 2012 from \$2,480,143 to \$3,506,820 in 2015. Further, transactional analysis shows that these revenue increases are the result of increased values and increased transactions.
- Local services tax (LST), paid as a fixed amount by each employee working in Radnor Township has grown steadily since 2012 from \$702,954 to \$992,829 in 2015
- Business and residents are investing in Radnor as evidenced by the growing permitting activity in the Township, both in the number of transactions and the size of the improvements. As a result permitting revenues have increased by 43% since 2012 from \$2,812,427 to \$4,010,451 in 2015

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

In addition to the revenues already realized, there are two significant redevelopment projects that have been proposed at two sites in Radnor Township. These projects include new dormitory and retail development by Villanova on their campus and a complete redevelopment of the office site owned by Penn Medicine on King of Prussia Road. The Villanova dormitory and retail project, valued at over \$320,000,000 has received Township approval and construction began in late 2015 with an expected completion date of 2018. The Penn Medicine redevelopment project is currently going through the rezoning review process. There is no known project value or specific time table for approval as of the date of this report.

The Township also continues to focus on the long-term financial health of the Township. With the assistance of the volunteer efforts of the Citizens' Audit Review and Financial Advisory Committee (CARFAC), the Township continues to make strides towards addressing the various long-term obligations and other major initiatives including:

- **Other Post-Employment Benefit Obligations:** The Township has a better understanding of the breadth and gravity of these liabilities, thanks largely to the special report that CARFAC prepared for the Board of Commissioners in December 2012. In 2013 the Board created an OPEB Trust Fund and transferred over \$3.5 million to begin setting aside assets to fund future obligations. Additionally, as reported in the 2013 report, the Township developed and implemented a long-term OPEB funding plan and included the first installment paid in 2014. The funding plan includes funding OPEB at \$2,200,000 in 2014 and ramping up annual funding by \$200,000 per year until annual funding reaches \$4,050,000 per year. Complemented with changes to the collective bargaining agreements whereby future benefits are reduced or eliminated for new hires, this plan achieves full funding in 2059. The plan achieved the Board's directive to develop a long-term plan that has additional funding from the Township as well as reduced benefits on the employee side.
- **Fund Balance Policy Improvements:** As touched on in this report, the Township has adopted a more robust fund balance policy that built in higher reserve requirements to help mitigate against sudden decreases in the business taxes. This portion of the policy was in reaction to the fiscal impact caused by the sharp decline in business taxes in 2008. Further, to assist in addressing long-term liability and capital funding needs, the fund balance policy requires the Board to direct excess fund balances to pension, OPEB and/or capital programs. Since the adoption of the policy, the Board of Commissioners have allocated significant amounts of funds to address all three of those initiatives as evidenced by the excess funding of in pension in 2012 and 2013 totaling \$3,227,936, as well as establishing \$4,455,955 in cash and investments for OPEB and increasing the capital fund balance from \$1,725,224 at the end of 2013 to \$4,892,508 at the end of 2015.
- **Five-Year Forecasting:** The Township continues to incorporate a five-year forecast into its annual Budget process. 2015 marks the fourth year for the forecast, which has already assisted in the development of the OPEB funding plan, analysis for the purchase of open space at Ardrossan and develop the five year funding needed for the capital plan.

In addition to these initiatives, the Board of Commissioners and Township Management strive to continue to provide the stakeholders of Radnor Township with the very best municipal services at the most cost effective rate manageable, and to continue to support the development of the local economy in an effort to improve the overall business activity of the Township.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
YEAR ENDED DECEMBER 31, 2015**

**Requests for Information**

These financial statements and discussions are designed to provide our citizens, taxpayers, investors and creditors with a complete disclosure of the Township's finances and to demonstrate a high degree of accountability for the public dollars entrusted to us. If you have questions about this report or need additional information, please contact Robert Zienkowski, Township Manager or William M. White, Director of Finance at:

Radnor Township  
301 Iven Ave.  
Wayne, Pennsylvania 19087-5297  
610.688.5600  
[www.radnor.com](http://www.radnor.com)

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**STATEMENT OF NET POSITION**  
**ENDED DECEMBER 31, 2015**

	Governmental Activities	Business- Type Activities	Total
<b>Assets</b>			
Cash and Cash Equivalents	\$ 11,871,579	\$ 12,753	\$ 11,884,332
Investments	9,731,670	-	9,731,670
Receivables			
Real Estate Taxes, Net	272,027	-	272,027
Local Enabling Taxes	500,521	-	500,521
Sewer Rents and Stormwater Fees	397,529	-	397,529
Special Assessments	286,406	-	286,406
Other	756,248	-	756,248
Loans Receivable (Due Within One Year)	73,300	-	73,300
Prepaid Items	97,626	3,039	100,665
Loans Receivable (Due Beyond One Year)	907,300	-	907,300
Capital Assets			
Land and Construction in Progress	24,318,424	-	24,318,424
Other Capital Assets, Net of Depreciation	32,413,037	84,091	32,497,128
Total Capital Assets	<u>56,731,461</u>	<u>84,091</u>	<u>56,815,552</u>
<b>Total Assets</b>	<u>81,625,667</u>	<u>99,883</u>	<u>81,725,550</u>
<b>Deferred Outflows of Resources</b>			
Deferred Charge on Refunding	2,450,607	-	2,450,607
Pensions	4,345,735	-	4,345,735
Total Deferred Outflows of Resources	<u>6,796,342</u>	<u>-</u>	<u>6,796,342</u>
<b>Liabilities</b>			
Accounts Payable and Accrued Liabilities	694,377	161	694,538
Accrued Interest Payable	464,217	-	464,217
Unearned Revenue	587,656	-	587,656
Noncurrent Liabilities:			
Due Within One Year	4,177,544	-	4,177,544
Due in More than One Year	57,678,194	-	57,678,194
Net Pension Liability	21,509,379	-	21,509,379
Other Post Employment Benefits	18,290,305	-	18,290,305
<b>Total Liabilities</b>	<u>103,401,672</u>	<u>161</u>	<u>103,401,833</u>
<b>Net Position</b>			
Net Investment in Capital Assets	4,977,068	84,091	5,061,159
Restricted:			
Sewer Operations	1,505,897	-	1,505,897
Capital Improvements	4,641,069	-	4,641,069
Park Improvements and Open Space	166,060	-	166,060
Highways	539,915	-	539,915
Unrestricted (Deficiency)	(26,809,672)	15,631	(26,794,041)
<b>Total Net Position</b>	<u>\$ (14,979,663)</u>	<u>\$ 99,722</u>	<u>\$ (14,879,941)</u>

The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**STATEMENT OF ACTIVITIES**  
**ENDED DECEMBER 31, 2015**

Functions/Programs	Expenses	Program Revenues			Net (Expenses) Revenue and Changes in Net Position		
		Charges for Services	Operating Grants and Contributions	Capital Grants and Contributions	Governmental Activities	Business-Type Activities	Total
<b>Governmental Activities:</b>							
General Government	\$ 4,138,635	\$ 976,699	\$ 824,319	\$ -	\$ (2,337,617)	\$ -	\$ (2,337,617)
Protection to Persons and Property	15,012,436	4,314,933	371,508	23,174	(10,302,821)	-	(10,302,821)
Health and Sanitation	8,816,933	6,424,317	81,242	-	(2,311,374)	-	(2,311,374)
Highways	7,010,773	256,705	139,968	784,316	(5,829,784)	-	(5,829,784)
Library	901,839	-	-	-	(901,839)	-	(901,839)
Parks and Recreation	3,318,754	1,080,458	-	161,546	(2,076,750)	-	(2,076,750)
Interest on Long-Term Debt	1,934,553	-	-	-	(1,934,553)	-	(1,934,553)
<b>Total Governmental Activities</b>	<b>41,133,923</b>	<b>13,053,112</b>	<b>1,417,037</b>	<b>969,036</b>	<b>(25,694,738)</b>	<b>-</b>	<b>(25,694,738)</b>
<b>Business-Type Activities:</b>							
Willows Fund	36,575	-	-	-	-	(36,575)	(36,575)
<b>Total Business-Type Activities</b>	<b>36,575</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(36,575)</b>	<b>(36,575)</b>
<b>Total Primary Government</b>	<b>\$ 41,170,498</b>	<b>\$ 13,053,112</b>	<b>\$ 1,417,037</b>	<b>\$ 969,036</b>	<b>(25,694,738)</b>	<b>(36,575)</b>	<b>(25,731,313)</b>
<b>General revenues:</b>							
<b>Taxes:</b>							
Real estate					11,640,796	-	11,640,796
<b>Taxes Levied under Local Tax Enabling Act:</b>							
Real Estate Transfer					3,506,820	-	3,506,820
Mercantile					1,437,467	-	1,437,467
Business Privilege					9,727,519	-	9,727,519
Emergency and Municipal Services					992,829	-	992,829
Amusement					40,415	-	40,415
Investment income					393,649	11	393,660
Transfers In/(Out)					(65,000)	65,000	-
<b>Total general revenues and transfers</b>					<b>27,674,495</b>	<b>65,011</b>	<b>27,739,506</b>
Change in Net Position					1,979,757	28,436	2,008,193
Net Position, Beginning of Year, As Restated					(16,959,420)	71,286	(16,888,134)
Net Position, Ending					<b>\$ (14,979,663)</b>	<b>\$ 99,722</b>	<b>\$ (14,879,941)</b>

The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**BALANCE SHEET – GOVERNMENTAL FUNDS**  
**DECEMBER 31, 2015**

	Major Funds						Nonmajor Governmental Funds	Total Governmental Funds
	General	Sewer	Park Improvements and Open Space	Storm Water	Debt Service	Special Assessment		
<b>Assets</b>								
Cash and Cash Equivalents	\$ 2,815,970	\$ 713,694	\$ 703,448	\$ 1,293,048	\$ 86,920	\$ 199,195	\$ 5,008,647	\$ 11,871,579
Investments	7,610,126	833,544	-	1,190,000	-	-	98,000	9,731,670
Receivables, Net:								
Real Estate Taxes	272,027	-	-	-	-	-	-	272,027
Local Enabling Taxes	500,521	-	-	-	-	-	-	500,521
Sewer Rents and Stormwater Fees	-	356,650	-	40,879	-	-	-	397,529
Special Assessments	-	-	-	-	-	286,406	-	286,406
Other	632,471	-	58,907	1,737	-	-	63,133	756,248
Prepaid Items	93,190	4,436	-	-	-	-	-	97,626
Due from Other Funds	609,267	-	15,705	-	-	-	22,400	647,372
Loans Receivable	-	-	-	-	980,600	-	-	980,600
<b>Total Assets</b>	<b>12,533,572</b>	<b>1,908,324</b>	<b>778,060</b>	<b>2,525,664</b>	<b>1,067,520</b>	<b>485,601</b>	<b>5,192,180</b>	<b>25,541,578</b>
<b>Liabilities, Deferred Inflows of Resources and Fund Balances</b>								
<b>Liabilities</b>								
Accounts Payable and Accrued Liabilities	515,323	67,980	-	7,599	-	-	82,403	694,377
Due to Other Funds	-	2,767	605,000	-	-	-	39,605	647,372
Unearned Revenues	-	331,680	-	38,707	-	-	217,269	587,656
<b>Total Liabilities</b>	<b>515,323</b>	<b>402,427</b>	<b>605,000</b>	<b>46,306</b>	<b>-</b>	<b>-</b>	<b>299,672</b>	<b>1,929,405</b>
<b>Deferred Inflows of Resources</b>								
Unavailable Revenues	164,376	-	-	-	-	286,406	-	450,782
<b>Total Deferred Inflows of Resources</b>	<b>164,376</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>286,406</b>	<b>-</b>	<b>450,782</b>
<b>Fund Balance</b>								
Non-Spendable	93,190	4,436	-	-	-	-	-	97,626
Restricted for:								
Sewer	-	1,451,687	-	-	-	-	-	1,451,687
Debt Service	-	-	-	-	1,067,520	-	-	1,067,520
Capital Improvement	-	-	-	-	-	-	4,641,069	4,641,069
Park Improvements and Open Space	-	-	166,060	-	-	-	-	166,060
State Liquid Fuels Tax	-	-	-	-	-	-	-	539,915
Committed								
Recreation Fee	-	-	-	-	-	-	297,149	297,149
Storm Water	-	-	-	2,123,486	-	-	-	2,123,486
Operational Efficiency Projects	942,800	-	-	-	-	-	-	942,800
Assigned								
Subsequent Year Budget	500,257	49,774	7,000	355,872	-	-	251,439	1,188,934
Other	-	-	-	-	-	199,195	-	327,519
Unassigned								
Target 15% Fund Balance Reserve	4,568,860	-	-	-	-	-	-	4,568,860
Fund Balance Stabilization 10% Requirement	3,045,907	-	-	-	-	-	-	3,045,907
Other	2,702,859	-	-	-	-	-	-	2,702,859
<b>Total Fund Balances</b>	<b>11,853,873</b>	<b>1,505,897</b>	<b>173,060</b>	<b>2,479,358</b>	<b>1,067,520</b>	<b>199,195</b>	<b>4,892,508</b>	<b>23,161,391</b>
<b>Total Liabilities, Deferred Inflows of Resources and Fund Balances</b>	<b>\$ 12,533,572</b>	<b>\$ 1,908,324</b>	<b>\$ 778,060</b>	<b>\$ 2,525,664</b>	<b>\$ 1,067,520</b>	<b>\$ 485,601</b>	<b>\$ 5,192,180</b>	<b>\$ 25,541,578</b>

The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
RECONCILIATION OF TOTAL GOVERNMENTAL FUND BALANCES TO  
NET POSITION OF GOVERNMENTAL ACTIVITIES  
FOR THE YEAR ENDED DECEMBER 31, 2015**

Amounts reported for governmental activities in the statement of net position are different because:

Total Governmental Fund Balances	23,161,391
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Amounts Reported for Governmental Activities in the Statement of Net Position are Different Because:

Capital Assets Used in Governmental Activities are not Financial Resources and, Therefore, are not Reported in the Funds:

Capital Assets	86,246,941
Accumulated Depreciation	(29,515,480)
	56,731,461

Other Long-Term Receivables are not Available to Pay for Current-Period Expenditures and, Therefore, are Deferred in the Funds.	450,782
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Deferred Charge on Refunding is Recorded as an expenditure in the Fund Statements but Recorded as a Deferred Outflow and Amortized in the Statement of Net Position	2,450,607
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Certain Liabilities, Including Bonds Payable, are not Due and Payable in the Current Period and, Therefore, are not Reported in the Funds:

Compensated Absences	(3,097,321)
Capital Lease	(1,035,281)
Deferred Outflows of Resources	4,345,735
Net OPEB Obligation	(18,290,305)
Net Pension Liability	(21,509,379)
Accrued Interest Payable	(464,217)
General Obligation Bonds Payable	(57,723,136)
	(97,773,904)

Net Position of Governmental Activities	(14,979,663)
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The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND**  
**BALANCES – GOVERNMENTAL FUNDS**  
**FOR THE YEAR ENDED DECEMBER 31, 2015**

	Major Funds							Nonmajor Governmental Funds	Total Governmental Funds
	General	Sewer	Park Improvements and Open Space	Storm Water	Debt Service	Special Assessment	Capital Improvement		
<b>Revenues:</b>									
Real Estate Taxes	\$ 11,797,463	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11,797,463
Taxes Levied under Local Tax Enabling Act:									
Real Estate Transfer	2,630,115	-	876,705	-	-	-	-	-	3,506,820
Mercantile	1,437,467	-	-	-	-	-	-	-	1,437,467
Business Privilege	9,727,519	-	-	-	-	-	-	-	9,727,519
Local Services	992,829	-	-	-	-	-	-	-	992,829
Amusement	40,415	-	-	-	-	-	-	-	40,415
Licenses and Permits	4,010,451	-	-	-	-	-	-	-	4,010,451
Fines, Forfeits and Costs	555,290	-	-	-	-	-	-	290,877	846,167
Interest and Rents	251,938	24,294	353	11,219	-	72,103	32,250	1,492	393,649
Grants and Gifts	1,417,037	-	100,005	-	-	-	-	869,031	2,386,073
Departmental Earnings	1,508,526	4,917,514	-	1,075,019	-	88,762	-	-	7,589,821
Debt Repayment Agreements	-	-	-	-	-	-	-	-	-
Refunds and Miscellaneous	388,806	21,325	-	6,783	-	2,206	224,617	-	643,737
<b>Total Revenues</b>	<b>34,757,856</b>	<b>4,963,133</b>	<b>977,063</b>	<b>1,093,021</b>	<b>-</b>	<b>163,071</b>	<b>256,867</b>	<b>1,161,400</b>	<b>43,372,411</b>
<b>Expenditures:</b>									
<b>Current</b>									
General Government	2,908,551	-	-	-	24,706	-	35,830	-	2,969,087
Protection to Persons and Property	10,887,007	-	-	-	-	-	116,951	20,226	11,024,184
Health and Sanitation	2,933,890	4,724,313	-	181,905	-	-	176,054	-	8,016,162
Highways	4,606,631	-	-	-	-	-	283,036	332,131	5,221,798
Library	885,496	-	-	-	-	-	16,343	-	901,839
Parks and Recreation	2,688,182	-	-	-	-	-	75,514	49,497	2,813,193
Miscellaneous									
Employee Benefits	3,164,110	-	-	-	-	-	-	-	3,164,110
OPEB Trust Contributions	772,097	-	-	-	-	-	-	-	772,097
Insurance	463,715	-	-	-	-	-	-	-	463,715
Other	294,101	-	-	-	-	-	-	-	294,101
Capital Outlay	855,288	115,559	-	47,610	-	-	2,062,275	655,823	3,736,555
<b>Debt Service</b>									
Principal Retirement	-	-	-	-	10,529,121	-	-	-	10,529,121
Interest	-	-	-	-	1,720,685	-	-	-	1,720,685
Bond Issue Costs	-	-	-	-	145,767	-	55,832	-	201,599
<b>Total Expenditures</b>	<b>30,459,068</b>	<b>4,839,872</b>	<b>-</b>	<b>229,515</b>	<b>12,420,279</b>	<b>-</b>	<b>2,821,835</b>	<b>1,057,677</b>	<b>51,828,246</b>
<b>Excess of Revenues over (under) Expenditures</b>	<b>4,298,788</b>	<b>123,261</b>	<b>977,063</b>	<b>863,506</b>	<b>(12,420,279)</b>	<b>163,071</b>	<b>(2,564,968)</b>	<b>103,723</b>	<b>(8,455,835)</b>
<b>Other Financing Sources (Uses):</b>									
Issuance of Refunding Bonds	-	-	-	-	7,750,000	-	2,490,000	-	10,240,000
Premium on Bond Issuance	-	-	-	-	224,888	-	65,832	-	290,720
Capital Lease Acquisition	-	-	-	-	-	-	537,451	-	537,451
Transfers In	-	-	-	-	4,308,183	-	1,012,125	25,000	5,345,308
Transfers Out	(4,026,125)	(368,550)	(965,814)	-	-	(49,819)	-	-	(5,410,308)
<b>Total Other Financing Sources (Uses)</b>	<b>(4,026,125)</b>	<b>(368,550)</b>	<b>(965,814)</b>	<b>-</b>	<b>12,283,071</b>	<b>(49,819)</b>	<b>4,105,408</b>	<b>25,000</b>	<b>11,003,171</b>
<b>Net Changes in Fund Balances</b>	<b>272,663</b>	<b>(245,289)</b>	<b>11,249</b>	<b>863,506</b>	<b>(137,208)</b>	<b>113,252</b>	<b>1,540,440</b>	<b>128,723</b>	<b>2,547,336</b>
Fund Balances - Beginning	11,581,210	1,751,186	161,811	1,615,852	1,204,728	85,943	3,352,068	861,257	20,614,055
Fund Balance - Ending	\$ 11,853,873	\$ 1,505,897	\$ 173,060	\$ 2,479,358	\$ 1,067,520	\$ 199,195	\$ 4,892,508	\$ 989,980	\$ 23,161,391

The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
RECONCILIATION OF THE STATEMENT OF REVENUES, EXPENDITURES,  
AND CHANGES IN FUND BALANCES – GOVERNMENTAL FUNDS TO  
THE STATEMENT OF ACTIVITIES  
YEAR ENDED DECEMBER 31, 2015**

Net change in fund balances - total governmental funds	<u>\$ 2,547,336</u>
Amounts Reported for Governmental Activities in the Statement of	
Activities are Different Because:	
Governmental Funds Report Capital Outlays as Expenditures. However, in the Statement of	
Activities, the Cost of the Assets is allocated over their Estimated Useful Lives and Reported as	
Depreciation Expense. This is the Amount by which Depreciation Exceeds Capital Outlay in the	
Current Period:	
Capital Outlay	3,736,555
Depreciation Expense	(2,216,747)
Revenues in the Statement of Activities that do not Provide Current	
Financial Resources are not Reported as Revenues in the Funds.	(193,731)
The Issuance of Long-Term Debt Provides Current Financial Resources to Governmental Funds,	
while the Repayment of the Principal of Long-Term Debt Consumes the Current Financial	
Resources of Governmental Funds. Neither Transaction, However, has any Effect of Net	
Position. This amount is the Principal Repayments net of Proceeds of Issuance.	
	210,000
Some Expenses Reported in the Statement of Activities do not Require the use of Current	
Financial Resources and, Therefore, are not Reported as Expenditures in Governmental Funds:	
Change in Accrued Interest Expense	(26,404)
Change in Compensated Absences:	
General Government	(1,958)
Protection to Persons and Property	(73,779)
Health and Sanitation	(16,740)
Highways	(45,217)
Parks and Recreation	66
	<u>(137,628)</u>
Change in OPEB Obligation:	
General Government	(162,622)
Protection to Persons and Property	(862,452)
Health and Sanitation	(53,114)
Highways	(470,503)
Parks and Recreation	(177,532)
	<u>(1,726,223)</u>
Change in Pension Benefit Expense:	
General Government	54,891
Protection to Persons and Property	291,110
Health and Sanitation	17,928
Highways	158,812
Parks and Recreation	59,924
	<u>582,665</u>
Change in Capital Lease Obligation:	
	(397,003)
Premiums/Discounts Incurred in Relation to the Bond Issuance and Refunding are Added	
to/Subtracted from the General Obligation Debt in the Statement of Net Position and	
Amortized over the Life of the Bonds. This is the Amount by which the Net Premiums/Discounts	
Exceeded the Amortization for the Current Period.	
	<u>(399,063)</u>
<b>Change in net position of governmental activities</b>	<u><u>\$ 1,979,757</u></u>

The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
STATEMENT OF NET POSITION – PROPRIETARY FUND  
YEAR ENDED DECEMBER 31, 2015**

	Business-Type Activities
	Willows
<b>Assets</b>	
Current Assets	
Cash and Cash Equivalents	\$ 12,753
Prepaid Expenses	3,039
<b>Total Current Assets</b>	<b>15,792</b>
Noncurrent Assets	
Capital Assets	
Buildings	300,000
Improvements	160,882
Less Accumulated Depreciation	(376,791)
<b>Total Noncurrent Assets</b>	<b>84,091</b>
<b>Total Assets</b>	<b>99,883</b>
<b>Liabilities</b>	
Current Liabilities	
Accounts Payable	161
<b>Total Current Liabilities</b>	<b>161</b>
<b>Net Position</b>	
Investment in Capital Assets	84,091
Unrestricted	15,631
<b>Total Net Position</b>	<b>\$ 99,722</b>

The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN FUND**  
**NET POSITION – PROPRIETARY FUND**  
**YEAR ENDED DECEMBER 31, 2015**

	Business-Type Activities
	Willows
Operating Revenues	
Charges for Service	-
<b>Total Operating Revenues</b>	-
Operating Expenses	
Operations	34,184
Depreciation	2,391
<b>Total Operating Expenses</b>	36,575
<b>Operating Loss</b>	(36,575)
Nonoperating Revenues	
Investment Earnings	11
<b>Total Nonoperating Revenues</b>	11
Transfer In	65,000
Change in Net Position	28,436
Net Position - Beginning of Year	71,286
Net Position - End of Year	\$ 99,722

The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**STATEMENT OF CASH FLOWS – PROPRIETARY FUND**  
**YEAR ENDED DECEMBER 31, 2015**

	Business-Type Activities
	Willows
Cash Flows from Operating Activities	
Payments to Suppliers	\$ (51,811)
Payments to Employees	(447)
<b>Net Cash Used in Operating Activities</b>	<b>(52,258)</b>
Cash Flows from Noncapital Financing Activities	
Transfers from Other Fund	65,000
<b>Net Cash Provided by Capital Financing Activities</b>	<b>65,000</b>
Cash Flows from Investing Activities	
Interest Received	11
<b>Net Cash Provided by Investing Activities</b>	<b>11</b>
<b>Increase (Decrease) in Cash and Cash Equivalents</b>	<b>12,753</b>
Cash and Cash Equivalents - Beginning of Year	-
Cash and Cash Equivalents - End of Year	<b>\$ 12,753</b>
Reconciliation of Operating Loss to Net Cash Used by Operating Activities	
Operating Loss	\$ (36,575)
Adjustment to Reconcile Operating Loss to Net Cash Provided by Operating Activities	
Depreciation	2,391
Change in Assets and Liabilities	
Prepaid Expenses	(736)
Due from Other Fund	(15,000)
Accounts Payable	(2,338)
<b>Net Cash Used in Operating Activities</b>	<b>\$ (52,258)</b>

The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**STATEMENT OF FIDUCIARY NET POSITION – FIDUCIARY FUNDS**  
**DECEMBER 31, 2015**

	Trust Funds	Agency
Assets:		
Cash and cash equivalents	\$ 1,358,025	\$ 2,575,603
Investments:		
Equity Mutual Funds	20,799,804	-
Fixed Income Mutual Funds	20,874,930	-
International Mutual Funds	11,187,219	-
Real Estate Limited Partnership	481	-
Certificates of Deposit	198,000	-
U.S. Government and Agency Securities	200,000	-
Life Insurance Cash Value	1,303,540	-
Receivables:		
Accrued Interest	56,678	-
Total assets	55,978,677	2,575,603
Liabilities:		
Accounts Payable	41,729	-
Refunds Payable	4,591	-
Deposits Payable	-	2,575,603
Total Liabilities	46,320	2,575,603
Net position:		
Restricted for Pensions	50,173,585	
Held in Trust for OPEB Benefits	5,758,772	
Total Net Position	\$ 55,932,357	

The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**STATEMENT OF CHANGES IN FIDUCIARY NET POSITION – FIDUCIARY FUNDS**  
**DECEMBER 31, 2015**

	<u>Trust Funds</u>
Additions:	
Contributions:	
Employer Commonwealth of Pennsylvania Portion	\$ 627,333
Employer	4,355,976
Members	<u>441,624</u>
Total contributions	<u>5,424,933</u>
Investment Earnings:	
Net Investment Income (Loss)	(25,903)
Investment Expense	<u>(20,931)</u>
Net investment earnings	(46,834)
Other Additions:	
Litigation	<u>500</u>
Total Other Additions	<u>500</u>
Total additions	<u>5,378,599</u>
Deductions:	
Benefits	3,810,211
Refund of Contributions	28,175
Administrative Expenses	<u>128,910</u>
Total deductions	<u>3,967,296</u>
Changes in net position	1,411,303
Net Position Held in Trust for Benefits:	
Beginning of Year	<u>54,521,054</u>
End of Year	<u><u>\$ 55,932,357</u></u>

The accompanying notes are an integral part of the financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1      SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Nature of Operations**

The Township of Radnor (the "Township") is located in Delaware County, Pennsylvania, approximately 15 miles west of the City of Philadelphia. The Township was founded in 1682. The Township is governed by a seven member Board of Commissioners (the "Commissioners" or "Board") and operates under the Radnor Township Home Rule Charter and the Radnor Township Administrative Code.

**Financial Reporting Entity**

In accordance with the Governmental Accounting Standards Board's (GASB's) Codification of Governmental Accounting and Financial Reporting Standards, the basic financial statements include all funds, organizations, agencies, boards, commissions, and authorities for which the Township is financially accountable. The Township has also considered all other potential organizations for which the nature and significance of their relationships with the Township are such that exclusion would cause the Township's financial statements to be misleading or incomplete. GASB has set forth criteria to be considered in determining financial accountability. These criteria include appointing a majority of an organization's governing body, and 1) the ability of the Township to impose its will on that organization, or 2) the potential for that organization to provide specific benefits to or impose specific financial burdens on the Township. Based on these criteria, there are no other organizations or agencies which should be included in these basic financial statements.

While the Commissioners exercise some degree of control over the Radnor-Haverford-Marple Sewer Authority, the Township Commissioners do not have financial accountability for this entity and, therefore, its financial statements are not included within the Township's financial statements. However, summarized financial information for the Radnor-Haverford-Marple Sewer Authority is presented in Note 13 because the Township has an ongoing cost-sharing obligation to the Authority.

**Government-wide and Fund Financial Statements**

The government-wide financial statements (i.e., the statement of net position and the statement of activities) report information on all of the nonfiduciary activities of the Township. For the most part, the effect of interfund activity has been removed from these statements. Governmental activities, which normally are supported by taxes and intergovernmental revenues, are reported separately from business-type activities, which rely to a significant extent on fees and charges for support.

The statement of activities demonstrates the degree to which the direct expenses of a given function are offset by program revenues. Direct expenses are those that are clearly identifiable with a specific function. Administrative overhead charges of the general government are included in the direct expenses. Program revenues include 1) charges to customers or applicants who purchase, use or directly benefit from goods, services or privileges provided by a given function and 2) grants and contributions that are restricted to meeting the operational or capital requirements of a particular function. Taxes and other items not included among program revenues are reported as general revenues.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Government-wide and Fund Financial Statements (Continued)**

Separate fund financial statements are provided for governmental funds, proprietary funds, and fiduciary funds, even though the latter are excluded from the government-wide financial statements. The focus of fund financial statements is on major funds. Major individual governmental funds and major individual enterprise funds are reported as separate columns in the fund financial statements. Nonmajor funds are aggregated and presented in a single column.

**Fund Accounting**

The accounts of the Township are organized on the basis of funds, each of which is considered to be a separate accounting entity. The operations of each fund are accounted for by providing a separate set of self-balancing accounts which comprise its assets, deferred outflows, liabilities, deferred inflows, fund balance/net position, revenues and expenditures or expenses, as appropriate. The Township has the following funds:

**Governmental Funds**

Governmental funds are those funds through which most governmental functions typically are financed. Governmental fund reporting focuses on the sources, uses, and balances of current financial resources. Expendable assets are assigned to the various governmental funds according to the purposes for which they may or must be used; current liabilities are assigned to the fund from which they are paid; and the difference between governmental fund assets and liabilities, the fund equity, is referred to as "fund balance." The measurement focus is upon determination of changes in current financial resources, rather than upon net income determination.

The Township reports the following major governmental funds:

- **General Fund** – Accounts for all financial resources except those required to be accounted for in other funds. For external financial reporting purposes, the Township includes the Investigation Fund and the \$8 Million Settlement Fund in the General Fund.
- **Sewer Special Revenue Fund** – Established under the Township's Administrative Code, records the transactions related to the billing and collection of sanitary sewer rents and the expenditures related to the collection and treatment of waste water.
- **Park Improvements and Open Space** – is a special revenue fund that derives revenues from 25 percent of the Township's share of the realty transfer tax to fund park development and future land acquisitions for parks and open space (i.e., 25% of the 1.5% levied by the Township on transfer of real property).
- **Storm Water Management Fund** – is a special revenue fund that accounts for revenues and costs associated with operating, repairing and maintaining the Township owned storm water management systems.
- **Debt Service Fund** – Accounts for the accumulation of resources for, and payment of, debt principal and interest.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Governmental Funds (Continued)**

- ***Special Assessment Fund*** – is a capital projects fund, with a legally adopted budget. The special assessment fund is used to account for financial resources to be used for installing sanitary sewers, sidewalks and curbing in the Township. This fund also accounts for the collection for special assessment taxes levied to finance public improvements or services deemed to benefit the properties assessed. Special assessment taxes are primarily used to finance the improvements.
  
- ***Capital Improvement Capital Projects Fund*** – Accounts for bond proceeds to be used for various capital acquisitions and improvements of the Township. For external reporting purposes, the Township includes the Library Fund in the Capital Improvements Capital Projects Fund.

The other governmental funds of the Township are considered nonmajor (presented in a single column) and are as follows:

- The State Liquid Fuels Tax Special Revenue Fund, as required by state law, accounts for receipts from State Motor License Fund (gasoline tax distribution, etc.) to be used for highway related expenses and improvements and the transfer of funds to the General Fund to cover other allowable highway-related expenditures.
  
- The Commemorative Shade Tree Fund derives its revenues from contributions, escrows, fines and/or penalties assessed as a result of improper tree removal situations pursuant Administrative Code Chapter 263. Any revenues collected will be a dedicated source of funds to be used for planting trees.
  
- The Grant Fund will be used to account for the activity associated with approved grants in accordance with the grant requirements that the Township deposit the funds into segregated interest bearing accounts.
  
- The Police K9 Fund derives its revenues from donations and sponsorships to fund the purchase of K9 bomb/patrol dogs, equipment, and training.
  
- The Recreational Fee Fund derives its revenues from fees collected from land development to insure adequate park and recreational areas and facilities to serve the future residents of the Township.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Proprietary Funds**

Proprietary funds are used to account for operations that are organized to be self-supporting through user charges.

- ***Enterprise Fund*** – Accounts for operations that are financed and operated in a manner similar to a private business enterprise, with the intent that the costs of providing goods and services be financed or recovered primarily through user charges. The Township maintains one enterprise fund, the Willows Fund, which accounts for the operation of the Willows mansion. The Township purchased the mansion in the 1970's along with the surrounding 47 acre park and operated it as an event center. Since 2012, the mansion has been shuttered while the Township solicit requests for proposals seeking a third party partner to restore the mansion and continue operations. As of the date of this report, the Board of Commissioners is evaluating various options. Once a decision is made, the Willows Fund will resume charging for services and operating as an enterprise again.

**Fiduciary Funds**

Fiduciary funds are used to account for assets held by the Township as a trustee capacity or as an agent for individuals, private organizations, other governmental units and/or other funds. The funds included in this category are:

- ***Pension and OPEB Trust Funds*** – Account for Township and employee pension plan contributions and provide for the payment of retirement and other post-employment benefits.
- ***Agency Funds*** – The Township's Agency Fund includes the Escrow Fund. Agency Funds are custodial in nature and, therefore, do not report operations or have a measurement focus.

**Measurement Focus and Basis of Accounting**

The government-wide financial statements are reported using the *economic resources measurement focus* and the *accrual basis of accounting*, as are the Proprietary Fund and Fiduciary Fund financial statements. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Real estate taxes are recognized as revenues in the year for which they are budgeted. Grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the provider have been met.

Governmental fund financial statements are reported using the *current financial resources measurement focus* and the *modified accrual basis of accounting*. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the Township considers revenues to be available if they are collected within 60 days of the end of the current fiscal period. Those revenues susceptible to accrual are real estate taxes and taxes levied under the Local Tax Enabling Act. Expenditures generally are recorded when a liability is incurred, as under accrual accounting. However, debt service expenditures, as well as expenditures related to other postemployment benefits, compensated absences, and claims and judgments, are recorded only when payment is due or matured.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1      SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Measurement Focus and Basis of Accounting (Continued)**

In applying the susceptible to accrual concept to intergovernmental revenues, the legal and contractual requirements of the numerous individual programs are used as guidance. There are, however, essentially two types of these revenues. In one, monies must be expended on the specific purpose or project before any amounts will be paid to the Township; therefore, revenues are recognized based upon the expenditures recorded and the availability criteria. In the other, monies are virtually unrestricted as to purpose of expenditure and are usually revocable only for failure to comply with prescribed requirements. These resources are reflected as revenues at the time of receipt or earlier if the susceptible to accrual criteria are met.

Licenses and permits, fines and forfeitures, charges for sales and services (other than utility), and miscellaneous revenues are generally recorded as revenue when received in cash because they are generally not measurable until actually received. Investment earnings are recorded as earned, since they are measurable and available.

Proprietary funds distinguish operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a Proprietary Fund's principal ongoing operations. The principal operating revenues of the Township's enterprise funds are charges to customers for sales and services. Operating expenses for enterprise funds include the cost of sales and services, administrative expenses and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

**Budgets and Budgetary Accounting**

The Township follows the procedures below, which comply with legal requirements of both the Commonwealth of Pennsylvania and the Township of Radnor. Pursuant to the Township's Home Rule Charter and Administrative Code:

- Balanced budgets, whereby appropriated expenditures equal authorized and levied revenues, are legally adopted on an annual basis for the General, Sewer, State Liquid Fuels Tax, Capital Improvements, Special Assessments, and the Park Improvements and Open Space Funds. Budgets for each of these Funds are prepared on the modified accrual basis of accounting. Debt service revenues, primarily real estate taxes dedicated for debt retirement, are included in the General Fund budget and debt service expenditures are included in the budget of the individual fund responsible for debt retirement.
  
- At least 90 days before the end of each fiscal year, the Township Manager is required to submit to the Board a minimum 3-year capital improvement plan (a five-year capital plan has been submitted since 1994).

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Budgets and Budgetary Accounting (Continued)**

- At least 60 days before the end of each fiscal year, the Township Manager is required to submit to the Board a proposed operating budget for the next fiscal year, comprising the funds listed above. The proposed budget must be accompanied by a budget message; it contains proposed revenues and expenditures for all funds subject to annual appropriation for the upcoming year, as well as estimates for the two subsequent fiscal years, given certain assumptions.
- The Board is required to adopt a preliminary operating budget and a capital improvement plan for the upcoming fiscal year at least 30 days before the end of each current fiscal year.
- After the preliminary operating budget and capital plan are adopted by the Board, at least one public hearing is required to permit public input, at least 7 days after public notice of such hearing is published in a local newspaper and at least 10 days before the end of the fiscal year.
- The Board is required to adopt a final operating budget ordinance, a tax levy ordinance, and by resolution a capital improvement plan and salary administration resolution, after the public hearing and before the end of the current fiscal year.
- A newly elected Board may, within 45 days after the start of the new fiscal year, enact revised budget and tax levy ordinances following a public hearing.
- All annual appropriations lapse at the end of each fiscal year. The Board, however, may authorize by resolution at any time supplemental appropriations for operating expenditures if the Township Manager certifies that additional revenues are available for such purposes.
- The Board may make supplemental appropriations to meet an emergency and may issue temporary notes, in accordance with the Local Government Unit Debt Act, for such purposes.
- The Board is required to reduce appropriations to avoid a deficit when the Township Manager advises that a revenue shortfall is probable.
- The Township Manager and Chief Financial Officer may transfer part or all of any unexpended appropriation balance among programs (at the object or line item level) within a given department without further approval by the Board. The Board approves by ordinance any transfer of unused appropriations from one department to another department (at the activity level). Transfers are not required for non-departmental budget line items that exceed their appropriations as long as there is no fund deficit.

**Assets, Liabilities and Net Position or Equity**

**Cash and Cash Equivalents**

The Township considers all highly liquid debt instruments purchased with a maturity of three months or less to be cash equivalents for the purpose of reporting cash flows in proprietary funds.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Assets, Liabilities and Net Position or Equity (Continued)**

**Investments**

Investments are stated at fair value. Short-term investments are reported at cost which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates.

The Township invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market, and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the financial statements.

**Interfund Transactions**

In connection with financing its operations, the Township conducts interfund transactions. Accordingly, to the extent that certain interfund transactions have not been paid or received as of December 31, 2015, appropriate interfund receivables or payables have been established. As a general rule, the effect of interfund activity has been eliminated from the government-wide financial statements. Exceptions to this general rule are balances between the governmental activities and the business-type activities (internal balances). Elimination of these charges would distort the direct costs and program revenues for the various functions concerned.

**Allowance for Uncollectible Taxes**

The balance of real estate taxes receivable (and unavailable revenues for such taxes in governmental funds) is net of an allowance of \$0 for the amount of taxes which the Township estimates to be uncollectible.

**Prepaid Items**

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in the both government-wide statements and fund financial statements. The cost of prepaid items is recorded as expenditures/expenses when consumed rather than when purchased.

**Capital Assets**

Capital assets include land, construction in progress, buildings, improvements, machinery and equipment and infrastructure (i.e. roads, bridges, sidewalks and similar items) and are reported in the applicable governmental or business-type activities columns in the government-wide financial statements and in the proprietary fund financial statements. Capital assets are not recorded in governmental fund financial statements. Instead, governmental funds recognize capital outlay expenditures. Capital assets are defined by the Township as assets with an initial, individual cost of more than \$10,000 and an initial useful life of one year or greater. Such assets are recorded at historical cost if purchased or constructed. Donated capital assets are recorded at estimated fair value at the date of donation. The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend the life of the asset are not capitalized.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Assets, Liabilities and Net Position or Equity (Continued)**

Major outlays for capital assets and improvements are capitalized as projects are constructed. Interest incurred during the construction phase of capital assets of business-type activities is included as part of the capitalized value of the assets constructed. No interest was capitalized in the current fiscal year.

Depreciation has been provided using the straight-line method over the estimated useful lives of the respective assets. The estimated useful lives for each capital asset type are as follows:

Land Improvements	10 - 50 years
Buildings and Improvements	8 - 50 years
Machinery and Equipment	5 - 20 years
Infrastructure	10 - 50 years

**Deferred Outflows/Inflows of Resources**

In addition to assets, the statement of net position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, *deferred outflows of resources*, represents a consumption of net position that applies to a future period and so will not be recognized as an outflow of resources (expense/expenditure) until then. The Township has two line items that qualifies for reporting in this category that are reported in the government-wide statement of net position: deferred charge on refunding bonds and pensions. A deferred charge on refunding results from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded debt or the new refunding debt. Deferred outflows related to pensions are described further in Note 8. The components of deferred outflows of resources, include differences between expected and actual experience, change in assumptions, and net difference between projected and actual earnings on pension plan investments.

In addition to liabilities, the balance sheet – governmental funds will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, *deferred inflows of resources*, represents an acquisition of fund balance that applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time. The Township has certain items that qualify for reporting in this category. The unavailable revenues related to real estate tax, business privilege tax and special assessments are reported as deferred inflows of resources

**Long-Term Obligations**

In the government-wide financial statements and in the proprietary fund financial statements, any long-term debt and other long-term obligations are reported as liabilities. In the governmental fund financial statements, the face amount of debt issued is reported as other financing sources and is not considered fund liabilities, and principal payments are considered expenditures.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Assets, Liabilities and Net Position or Equity (Continued)**

**Bond Discounts and Premiums**

In the government-wide financial statements and in the proprietary fund financial statements, any bond discounts and premiums are amortized over the life of the bonds using the proportionate-to-stated-interest method. Long-term debt is reported net of the applicable bond premium or discount.

In the government fund financial statements, bond premiums and discounts are recognized during the current period. Premiums received on debt issuances are reported as other financing sources while discounts on debt issuances are reported as other financing uses.

**Accrued Vacation and Sick Leave**

Township employees accumulate vacation and sick leave hours for subsequent use or for payment upon termination, death or retirement. Sick leave is payable when used, or upon retirement. If paid upon retirement, the total accumulated hours are reduced to forty-five percent and paid at the then effective hourly rate for that employee, with a maximum of 300 days per employee. Vacation pay and sick pay are accrued when incurred in the government-wide statements and proprietary funds. A liability for these amounts is reported in governmental funds only if they have matured, for example, as a result of employee resignations and retirements.

**Unavailable Revenues**

In the governmental fund financial statements, unavailable revenues represent delinquent real estate taxes which will be included in revenues of future years when collected, local enabling taxes collectible, but not available, or special assessments receivable which will be included in revenues as the assessments become current.

**Real Estate Taxes**

In the governmental fund financial statements, real estate taxes are recorded as revenues when available and measurable. The Township records a receivable when taxes are levied, and defers that portion of real estate tax revenue, which is not expected to be collected within sixty days of the year end.

Real estate taxes are levied February 1 and due May 31 of each year. A two percent discount is provided for taxes paid prior to April 1. A ten percent penalty is applied to taxes paid after May 31. Unpaid taxes are liened with Delaware County by February 28 of the subsequent year.

**Local Enabling Taxes**

The Township recognizes assets resulting from local enabling taxes (derived tax revenues) when the underlying exchange transaction occurs or when resources are received, whichever is first. In the governmental fund financial statements, under the modified accrual basis of accounting, revenue is recorded when the underlying exchange occurs and when the resources are available. Revenue that is not available is recorded as unavailable revenue until it becomes available.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Assets, Liabilities and Net Position or Equity (Continued)**

**Unearned Revenues**

In the governmental fund financial statements, unearned revenue represents rental income which will be included in revenues of future years as they are earned.

**Fund Balance**

The Township follows GASB Statement No. 54, *Fund Balance Reporting and Government Fund Type Definitions*. This statement provides defined fund balance categories to make the nature and extent of the constraints placed upon a government's fund balance more transparent. Fund balances of the government funds are classified as follows:

**Non-Spendable** – Amounts that cannot be spent because of their form or because they are legally or contractually required to be maintained intact.

**Restricted** – Amounts that can be spent only for specific purposes because of constitutional provisions or enabling legislation or because of constraints that are externally imposed by creditors, grantors, contributors, or the laws or regulations of other governments.

**Committed** – Amounts that can be used only for specific purposes determined by a formal action of the Township Board. The Board is the highest decision making authority of the Township. Commitments may be established, modified or rescinded only through ordinances approved by the Board.

**Assigned** – Amounts that do not meet the criteria to be classified as restricted or committed but that are intended to be used for specific purposes. The Township Commissioners passed a resolution authorizing the Township Finance Director to assign fund balances by their intended use.

**Unassigned** – Residual net resources. If after the annual audit, prior committed or assigned fund balance causes the unassigned fund balance to fall below 12% of General Fund budgeted operating expenditures, the Finance Director will advise the Township Commissioners in order for the necessary action to be taken to restore the unassigned fund balance to 15% of General Fund budgeted operating expenditures. If, however, the total revenues generated from the Act 511 Enabling Tax exceed 30% of the total revenues in the General Fund, the amount needed to restore the unassigned fund balance would consist of the 15% base target amount as well as an added 10%, for a total of 25% of General Fund budgeted operating expenditures. The additional 10% is meant to specifically mitigate against revenue fluctuations from the Act 511 Enabling Tax group by maintaining a larger General Fund balance.

When expenditures are incurred for purposes for which both restricted and unrestricted balance are available, it is the Township's policy to use restricted fund balance first, followed by unrestricted fund balance. When expenditures are incurred for purposes for which committed, assigned or unassigned amounts are available, it is the Township's policy to use committed first, then assigned and then finally unassigned.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)**

**Assets, Liabilities and Net Position or Equity (Continued)**

**Net Position**

Net position represent the difference between assets, deferred outflows of resources, liabilities, and deferred inflows of resources in the government-wide financial statements and proprietary and fiduciary fund financial statements. Net investment in capital assets, consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of any borrowings used for the acquisition, construction or improvement of those assets. Net investment in capital assets excludes unspent debt proceeds. Net position is reported as restricted when there are limitations imposed on its use through enabling legislation or through external restrictions imposed by creditors, grantors or laws or regulations of other governments. All other net position amounts are considered unrestricted. The Township applies restricted resources when an expense is incurred for purposes for which both restricted and unrestricted net positions are available.

**Other Postemployment Benefits**

The Township follows GASB No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. This statement requires governments to recognize an expense under the accrual basis for annual required other postemployment benefits contributions, regardless of amounts paid. The cumulative difference between amounts expensed and paid creates a liability (asset) similar to net pension obligation or asset. See Note 9.

**Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows, liabilities and deferred inflows and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenditures or expenses during the reporting period. Actual results could differ from those estimates.

**NOTE 2 DEPOSITS AND INVESTMENTS**

**Legal and Contractual Restrictions**

The Township is authorized by statute to deposit funds in depositories that are either banks, banking institutions or trust companies located in the Commonwealth of Pennsylvania. To the extent that such deposits exceed federal insurance, the depositories must pledge as collateral (with their trust department or other custodians) obligations of the United States, the Commonwealth of Pennsylvania or any political subdivision of the Commonwealth. Under Pennsylvania Act 72 of 1971, as amended, the depositories may meet this collateralization requirement by pooling appropriate securities to cover all public funds on deposit. The Township may purchase certificates of deposit from institutions having their principal place of business outside the Commonwealth of Pennsylvania that are insured by the Federal Deposit Insurance Corporation ("FDIC") or other like insurance.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015**

**NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Legal and Contractual Restrictions (Continued)**

Under Pennsylvania law, the Township is permitted to invest in the following types of instruments:

- United States Treasury bills;
- Obligations backed by the full faith and credit of the U.S. government or its agencies;
- Shares of money market or mutual funds of companies that invest in only authorized investments listed above; and
- Funds pooled by other municipalities and political subdivisions.

In addition, the Local Government Unit Debt Act allows funds held under the Township's bond indentures not required for prompt expenditure to be invested in any securities in which the Commonwealth of Pennsylvania may similarly invest.

The law provides that the Township's Pension Trust Funds may invest in any form or type of investment, financial instrument, or financial transaction if determined by the Township to be prudent.

The Township's deposits and investments at December 31, 2015 totaling \$78,810,064 are classified in the fund balance sheets/statements of net position as follows:

	Cash and Cash Equivalents	Investments	Total
General Fund	\$ 2,815,970	\$ 7,610,126	\$ 10,426,096
Special Revenue Fund			
Sewer Fund	713,694	833,544	1,547,238
Park Improvements and Open Space	703,448	-	703,448
Storm Water	1,293,048	1,190,000	2,483,048
Debt Service Fund	86,920	-	86,920
Capital Projects Fund			
Capital Improvement Fund	5,008,647	98,000	5,106,647
Special Assessment Fund	199,195	-	199,195
Nonmajor Governmental Fund	1,050,657	-	1,050,657
Enterprise Fund	12,753	-	12,753
Fiduciary Funds	3,933,628	53,260,434	57,194,062
Total	<u>\$ 15,817,960</u>	<u>\$ 62,992,104</u>	<u>\$ 78,810,064</u>

**Custodial Credit Risk – Deposits**

Custodial credit risk for deposits is the risk that in the event of a bank failure, the Township's deposits may not be returned to it. The Township's deposit policy for custodial credit risk is to have uninsured deposits collateralized, pursuant to Pennsylvania Act 72 of 1971, as amended. As of December 31, 2015, the Township's deposits with a carrying value of \$15,639,419 and bank balances of \$16,157,755 was exposed to custodial credit risk as follows:

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015**

**NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Custodial Credit Risk – Deposits (Continued)**

Insured by FDIC	\$	250,000
Uninsured, Collateral Held by Pledging Bank's Trust Department pursuant to Act 72, but not in the Township's Name (A)		15,907,755
		15,907,755
	\$	16,157,755

(A) This figure excludes petty cash and those investments recorded as cash and cash equivalents.

**Investments**

Investments held as of December 31, 2015 are as follows:

Governmental Funds:		
Negotiable Certificates of Deposit	\$	5,713,933
U.S. Governmental Agencies		2,939,325
PLGIT		1,078,412
		9,731,670
Pension Trust Funds:		
Money Funds (1)		177,142
Negotiable Certificates of Deposit		198,000
U.S. Governmental Agencies		200,000
Fixed Income Funds		20,874,930
International Mutual Funds		11,187,219
Equity Mutual Funds		20,799,806
Real Estate Limited Partnership		481
		53,437,578
	\$	63,169,248

(1) Money Funds are Included with Cash and Cash Equivalents in the Statement of Fiduciary Net Position

The Township had \$1,078,412 invested in the Pennsylvania Local Government Investment Trust ("PLGIT") at December 31, 2015. This Trust is a common law trust established pursuant to the Intergovernmental Cooperation Act and similar statutes by Local Governments in Pennsylvania for the purpose of pooling their investments. It is a fundamental policy of the Trust to maintain a net position value of \$1 per share, but there can be no assurance that the net position value will not vary from \$1 per share.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015**

**NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Custodial Credit Risk – Investments**

For an investment, custodial credit risk is the risk that in the event of the failure of the counterparty, the Township may not be able to recover the value of its investments or collateral securities that are in possession of an outside party. The Township’s investment policy is to store its investments in safekeeping by an unrelated third party not underwriting a particular investment. The Township

**Custodial Credit Risk – Investments (Continued)**

maintains a list of financial institutions authorized to provide investment services and of approved security broker/dealers. The Township has purchased from brokers negotiable certificates of deposit, in which the Township receives pass-through depository insurance up to \$250,000 at each financial institution. As of December 31, 2015, all of the Township’s negotiable certificates of deposit were insured and collateralized.

**Interest Rate Risk – Investments**

The Township’s investment policy is to minimize the risk of fair value losses arising from increasing interest rates by avoiding the need to sell securities prior to maturity and by investing in shorter-term securities, money market funds and similar investment pools, where appropriate. The average maturities of the Township’s U.S. Government Agencies, fixed income funds, corporate bonds, certificates of deposit, and municipal debt are as follows:

	Average Maturities (in years)					Total
	Less than 1	1-5	6-10	11-15	More than 15	
U.S Government Agencies	\$ -	\$ -	\$ 2,226,625	\$ 912,700	\$ -	\$ 3,139,325
Fixed Income Funds	-	1,855,903	19,019,027	-	-	20,874,930
Certificates of Deposit	<u>\$ 1,541,933</u>	<u>\$ 2,482,000</u>	<u>\$ 1,638,000</u>	<u>\$ 250,000</u>	<u>\$ -</u>	<u>\$ 5,911,933</u>

There were no investments in U.S. Government Agencies subject to be called in 2015.

**Credit Risk – Investments**

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation. The Township’s investment policy is to limit the investment of funds to the safest type of securities and to pre-qualify the financial institutions, broker/dealers and advisors the Township conducts business with. The Township does not have a policy related to concentration of credit risk. The Township’s investments in corporate bonds were rated by Moody’s as follows:

<u>Investment Type</u>	<u>Fair Value</u>	<u>Credit Rating</u>
U.S Government Agencies	\$ 3,139,325	AAA
Fixed Income Funds	1,843,498	AAA
Fixed Income Funds	5,446,301	A
Fixed Income Funds	13,585,131	BBB

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015**

**NOTE 2 DEPOSITS AND INVESTMENTS (CONTINUED)**

**Custodial Credit Risk – Investments**

The Township’s Investment Policy over the police and civilian employee pension plans and other post-employment benefit obligation plan investments limits fixed income securities of any one issuer to 5% of the total fixed income portfolio at the time of purchase excluding U.S. Treasury securities and Federal Agency securities. Investments in stock of any one corporation may not exceed more than 5% of the total stock portfolio valued at market. Additionally, not more than 25% of stock valued at market may be held in any one industry category.

More than 5% of the Township’s governmental activities investments are in Federal Home Loan Mortgage Corporation and Federal National Mortgage Association. These investments are 10% and 7%, respectively, of the Township’s governmental activities investments.

More than 5% of the Township’s general fund investments are in Federal Farm Credit Bank, Federal Home Loan Mortgage Corporation, and Federal National Mortgage Association. These investments are 6%, 13%, and 9%, respectively, of the Township’s general fund investments.

More than 5% of the Township’s sewer fund investments are in Federal Farm Credit Bank, Federal Home Loan Mortgage Corporation, and Federal National Mortgage Association. These investments are 12%, 28%, and 30%, respectively, of the Township’s sewer fund investments.

None of the Township’s police and civilian employee pension plans and other post-employment benefit obligation plan investment concentrations exceeded 5%.

**NOTE 3 INTERFUND RECEIVABLES, PAYABLES AND TRANSFERS**

Inter-fund balances result from the time lag between the dates that (1) inter-fund goods and services are provided or reimbursable expenditures occur, (2) transactions are recorded in the accounting system and (3) payments between funds are made.

The following is a schedule of interfund receivable and payables as included in the basic financial statements of the Township as of December 31, 2015:

	Due From Other Funds	Due To Other Funds
General Fund	\$ 609,267	\$ -
Special Revenue Fund		
Park Improvements and Open Space Fund	15,705	605,000
Sewer Fund	-	2,767
Capital Improvements Fund	22,400	-
Nonmajor Governmental Funds	-	39,605
Total	<u>\$ 647,372</u>	<u>\$ 647,372</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 3 INTERFUND RECEIVABLES, PAYABLES AND TRANSFERS (CONTINUED)**

The following is a schedule of transfers as included in the basic financial statements of the Township as of December 31, 2015:

	Transfers In	Transfers Out
General Fund	\$ -	\$ 4,026,125
Special Revenue Fund		
Sewer Fund	-	368,550
Park Improvements and Open Space Fund	-	965,814
Special Assessment Fund	-	49,819
Debt Service Fund	4,308,183	-
Capital Improvements Fund	1,012,125	-
Willows Fund	65,000	-
Nonmajor Governmental Funds	25,000	-
<b>Total</b>	<b>\$ 5,410,308</b>	<b>\$ 5,410,308</b>

Transfers are used to (1) move revenues from the fund that statute or budget requires collecting them to the fund that statute or budget requires to expend them and (2) use unrestricted revenues collected in the General Fund to finance various programs accounted for in other funds in accordance with budgetary authorizations.

**NOTE 4 CAPITAL ASSETS**

The following is a summary of changes in capital assets for the year ended December 31, 2015:

	2014 Balance	Additions	Deletions	2015 Balance
<b>Governmental Activities</b>				
Capital Assets, not being Depreciated:				
Land	\$ 24,149,624	\$ -	\$ -	\$ 24,149,624
Construction in Progress	38,749	130,051	-	168,800
<b>Total Capital Assets not being Depreciated</b>	<b>24,188,373</b>	<b>130,051</b>	<b>-</b>	<b>24,318,424</b>
Capital Assets, being Depreciated:				
Land Improvements	2,609,477	243,805	-	2,853,282
Buildings	22,950,118	33,000	-	22,983,118
Machinery and Equipment	14,729,704	1,761,932	-	16,491,636
Infrastructure	18,032,714	1,567,767	-	19,600,481
<b>Total Capital Assets being Depreciated</b>	<b>58,322,013</b>	<b>3,606,504</b>	<b>-</b>	<b>61,928,517</b>
Less Accumulated Depreciation for:				
Land Improvements	1,692,065	123,596	-	1,815,661
Buildings	6,093,828	572,649	-	6,666,477
Machinery and Equipment	10,892,135	904,352	-	11,796,487
Infrastructure	8,620,705	616,150	-	9,236,855
<b>Total Accumulated Depreciation</b>	<b>27,298,733</b>	<b>2,216,747</b>	<b>-</b>	<b>29,515,480</b>
<b>Total Capital Assets being Depreciated, Net</b>	<b>31,023,280</b>	<b>1,389,757</b>	<b>-</b>	<b>32,413,037</b>
<b>Governmental Activities Capital Assets, Net</b>	<b>\$ 55,211,653</b>	<b>\$ 1,519,808</b>	<b>\$ -</b>	<b>\$ 56,731,461</b>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 4 CAPITAL ASSETS (CONTINUED)**

	<u>2014 Balance</u>	<u>Additions</u>	<u>Deletions</u>	<u>2015 Balance</u>
<b>Business Type Activities</b>				
Capital Assets, being Depreciated:				
Buildings	\$ 300,000	\$ -	\$ -	\$ 300,000
Improvements	160,882	-	-	160,882
<b>Total capital Assets being Depreciated</b>	<u>460,882</u>	<u>-</u>	<u>-</u>	<u>460,882</u>
Less Accumulated Depreciation for:				
Buildings	300,000	-	-	300,000
Improvements	74,400	2,391	-	76,791
<b>Total Accumulated Depreciation</b>	<u>374,400</u>	<u>2,391</u>	<u>-</u>	<u>376,791</u>
<b>Total Capital Assets being Depreciated, Net</b>	<u>86,482</u>	<u>(2,391)</u>	<u>-</u>	<u>84,091</u>
<b>Business Type Activities Capital Assets, Net</b>	<u>\$ 86,482</u>	<u>\$ (2,391)</u>	<u>\$ -</u>	<u>\$ 84,091</u>

Depreciation expense was charged to functions / programs as follows:

<b>Governmental Activities</b>	
General Government	\$ 644,985
Protection to Persons and Property	269,056
Health and Sanitation	179,270
Highways	923,605
Parks and Recreation	199,831
Total Depreciation Expense, Governmental Activities	<u>\$ 2,216,747</u>
<b>Business-Type Activities</b>	
Willow Fund	2,391
Total Deprecation Expense, Business-Type Activities	<u>\$ 2,391</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 5      LOANS RECEIVABLE**

The following is a summary of loans receivable at December 31, 2015:

Wayne Art Center	\$	830,000
Radnor Fire Company		150,600
		980,600
	\$	980,600

On May 25, 2004, the Township entered into a loan agreement with the Wayne Art Center, whereby the Township agreed to loan \$995,000 to the Wayne Art Center to finance certain capital improvements to the visual arts center which it owns and operates in exchange for the Wayne Art Center’s commitment to continue operating the facilities of the arts center for the benefit of the residents of the Township and others during the term of the loan. The loan followed the repayment schedule consistent with that of the General Obligation Bonds, Series of 2004, from which the loan was funded. During 2014, the loan was renegotiated to bear interest at varying rates over the life of the bonds from 2.75% to 4.0% per annum. Interest only payments are due January 15 and July 15 of each year through January 2020. Principal and interest payments of approximately \$68,000 to \$75,600 per year extend through 2034. Principal payments are due annually on July 15, beginning in 2020.

On November 1, 1996, the Township entered into a Loan and Service agreement with the Radnor Fire Company (the “Fire Company”), whereby the Township agreed to loan \$1,000,000 to the Fire Company to finance construction of a new firehouse and related facilities in exchange for the Fire Company’s commitment to continue providing fire protection services for the Township during the term of the loan. The loan bears interest at a rate of 5.443% per annum. Principal and interest payments of approximately \$80,500 per year extend over a 20-year period and are due annually on December 31, beginning in 1997.

Since the loans receivable represents assets that are not available for current spending, a restricted fund balance equal to the outstanding balance of the loans has been recognized in the Debt Service Fund in the fund financial statements. A transfer of this loan was made to the Debt Service Fund from the Capital Improvements Fund, eliminating prior interfund receivable and payables.

**NOTE 6      CAPITAL LEASE OBLIGATIONS**

The Township acquired several pieces of equipment under the provisions of long term leases. For financial reporting purposes, minimum lease payments relating to the equipment have been capitalized. The leases expire during 2019.

The cost and depreciation of equipment under the capital leases are as follows:

Cost	\$	1,255,050
Accumulated Depreciation		203,276
Total		1,051,774

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
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**NOTE 6 CAPITAL LEASE OBLIGATIONS (CONTINUED)**

The future minimum lease payments under the capital leases and the net present value of future minimum capital lease payments at December 31, 2015 are as follows:

Year Ending December 31,		
2016	\$	261,725
2017		261,725
2018		261,725
2019		181,295
2020		112,364
Total Minimum Lease Payments		1,078,834
Less: Amount Representing Interest		43,553
Present Value of Minimum Lease Payments	\$	1,035,281

**NOTE 7 LONG-TERM DEBT**

In 2009 the Township issued \$7,695,000 of General Obligation Bonds, Series 2009. The proceeds of the bonds were used for the current refunding of the Township’s General Obligation Bonds, 2002 Series AA and 2004 Series A. The Bonds are dated October 15, 2009 and have varying maturities from November 1, 2010 to November 1, 2026 with interest rates ranging from 1% to 3.7%, being paid semi-annually, May 1 and November 1.

In 2010 the Township issued \$13,735,000 of General Obligation Bonds, Series 2010. The proceeds of the bonds were used for the current refunding of the Township’s General Obligation Bond, 2002 Series A. The Bond is dated June 15, 2010 and has a maturity of June 15, 2024 with interest rates ranging from 1.5% to 3.4%, being paid semi-annually, June 15 and December 15.

In 2012 the Township issued \$16,360,000 of General Obligation Bonds, Series 2012. The proceeds of the bonds were used for the current refunding of the Township’s General Obligation Bond, Series of 2007. The Bond is dated May 4, 2012 and has a maturity of November 1, 2037 with interest rates ranging from 1% to 4%, being paid semi-annually, May 1 and November 1.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
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**NOTE 7      LONG-TERM DEBT (CONTINUED)**

In 2013, the Township incurred \$3,860,000 of federally taxable non-electoral debt and \$14,350,000 of tax-exempt non-electoral debt through the issuance of General Obligation Notes Series 2013A and 2013B, respectively. The 2013A Note was issued to finance the payment of a termination payment pursuant to the terms of the Interest Rate Management Agreement related to the 2004 Bonds (the "Swap Agreement") with Lehman Brothers Special Financing, Inc. as a result of Swap Agreement by the Township and the payment of costs of issuing the 2013A Notes. The 2013B Note was issued to finance the advance refunding of a portion of the Township's General Obligation Bonds, Series of 2004 and the payment of the costs of issuing the 2013B Notes. The Township deposited a sum of \$14,873,507 with an escrow Agent which was held until maturity on July 15, 2014. The reacquisition price exceeded the net carrying amount of the old debt by \$2,735,206. This amount is being amortized over the remaining life of the new debt, which was the same as the life of the refunded debt. The advance refunding was undertaken to reduce total debt service payments by \$1,752,129 and resulted in an economic gain of \$1,199,948.

The 2013 Notes have varying maturities from January 2014 to July 2034 with interest being paid semiannually, January 15 and July 15. The interest rates of the Notes range between .607% and 4.00%.

In 2014 the Township issued \$9,885,000 of General Obligation Bonds, Series 2014. The proceeds of the bonds were used for the purchase of land in the Township. The Bond is dated December 16, 2014 and has a maturity of December 31, 2043 with interest rates ranging from 2% to 4%, being paid semi-annually, May 1 and November 1.

In February 2015, the Township issued General Obligation Bonds, Series of 2015 in the amount of \$4,965,000. The proceeds were used to currently refund the outstanding 2009 Bonds in the amount of \$4,885,000. The Bond is dated February 18, 2015 and has a maturity of November 1, 2026 with interest rates ranging from 2% to 2.25%, being paid semi-annually, May 1 and November 1. The bonds decreased debt service payments by \$384,436 and resulted in an economic gain of \$345,100.

In November 2015, the Township issued General Obligation Bonds, Series A of 2015 in the amount of \$5,275,000. The proceeds were used to currently refund the portion of the outstanding 2010 Bonds stated to mature on June 15 of the years 2019 through and including 2024 and to finance a portion of the costs of renovations and improvements to the Radnor Memorial Library, in Wayne, PA. The Bond is dated November 12, 2015 and has a maturity of June 15, 2035 with interest rates ranging from .75% to 4%, being paid semi-annually, June 15 and December 1. The bonds decreased debt service payments by \$157,351 and resulted in an economic gain of \$138,822.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
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**NOTE 7    LONG-TERM DEBT (CONTINUED)**

The following is a summary of changes in long-term obligations:

	Year of Final Maturity	Original Issue Amount	Balance January 1, 2015	2015 Additions	2015 Reductions	Balance December 31, 2015	Due Within One Year
<b>Governmental Activities:</b>							
General Obligations							
2009 Issue - 1.00% - 3.70%	2026	\$ 7,695,000	\$ 5,425,000	\$ -	\$ (5,425,000)	\$ -	\$ -
2010 Issue - 1.50% - 4.00%	2018	13,735,000	7,390,000	-	(4,925,000)	2,465,000	1,005,000
2012 Issue - 1.50% - 4.00%	2037	16,360,000	16,295,000	-	(30,000)	16,265,000	35,000
2013 Issue - .607% - 4.00%	2034	18,210,000	17,920,000	-	(5,000)	17,915,000	595,000
2014 Issue - 2.00% - 4.00%	2043	9,885,000	9,885,000	-	(5,000)	9,880,000	235,000
2015 Issue - 2.00% - 3.00%	2026	4,965,000	-	4,965,000	(60,000)	4,905,000	575,000
2015 A Issue - .75% - 4.00%	2035	5,275,000	-	5,275,000	-	5,275,000	130,000
Add/Less Deferred Amounts							
For Issuance Discount/Premium			793,581	290,720	(66,165)	1,018,136	-
Total General Obligation Debt			57,708,581	10,530,720	(10,516,165)	57,723,136	2,575,000
Capital Lease Obligations			638,278	537,451	(140,448)	1,035,281	248,668
Compensated Absences			2,959,693	1,285,711	(1,148,083)	3,097,321	1,353,876
Total Governmental Activities			<u>\$ 61,306,552</u>	<u>\$ 12,353,882</u>	<u>\$ (11,804,696)</u>	<u>\$ 61,855,738</u>	<u>\$ 4,177,544</u>

Debt service for general obligation bonds is funded primarily from real estate taxes. Compensated absences attributable to governmental activities are generally liquidated by the General Fund. Other postemployment benefits costs attributed to governmental activities are also generally liquidated by the General Fund.

At December 31, 2015, the Township's legal debt limit under the Pennsylvania Local Government Unit Debt Act (the "Act") was approximately \$103,428,000 for non-electoral debt. After deducting the non-electoral debt outstanding of \$41,920,000, the Township's remaining borrowing capacity as of December 31, 2015, was approximately \$61,508,000 for non-electoral debt. Electoral debt (i.e., debt approved by the Township voters) is not subject to any statutory borrowing limit under the Act.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
NOTES TO FINANCIAL STATEMENTS  
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**NOTE 7 LONG-TERM DEBT (CONTINUED)**

The following is a schedule of aggregate principal and interest payments for each of the next five years and each five-year period thereafter for all long-term debt except for the net OPEB obligation and compensated absences:

	General Obligation		Total
	Principal	Interest	
2016	\$ 2,575,000	\$ 1,912,786	\$ 4,487,786
2017	2,580,000	1,869,388	4,449,388
2018	2,365,000	1,825,454	4,190,454
2019	2,400,000	1,686,001	4,086,001
2020	1,975,000	1,621,841	3,596,841
2021-2025	10,690,000	7,172,141	17,862,141
2026-2030	11,655,000	5,554,658	17,209,658
2031-2035	13,775,000	3,332,094	17,107,094
2035-2039	7,125,000	840,569	7,965,569
2040-2043	1,565,000	118,688	1,683,688
<b>Total</b>	<b>\$ 56,705,000</b>	<b>\$ 25,933,620</b>	<b>\$ 82,638,620</b>

**NOTE 8 DEFINED BENEFIT PENSION PLANS**

**Plan Description**

The Township contributes to two single-employer defined benefit plans (the “Plans”), one for police employees and one for civilian employees. The Plans are presented in the statement of net position and the statement of changes in net position of the fiduciary funds. The Plans are included in the audit of the Township.

**Plan Administration**

The Police Plan and Civilian Plan were established by Ordinance Nos. 936 and 934, respectively, effective January 1, 1957. The Plans were amended and restated by Ordinance Nos. 9928 and 99-29, respectively, effective January 1, 1998. The Plans are governed by the Radnor Township Board of Commissioners which may amend plan provisions, and are responsible for the management of Plan assets. The Board of Commissioners has delegated the authority to manage certain Plan assets to the Radnor Township Police pension Board and the Radnor Township Civilian Employee Pension Board. The Board has retained PFM Advisors as an investment counselor, who will assist the Board in the selection of various money managers. The Police Plan and Civilian Plan are required to file Form PC-201C and PC 203C, respectively, biennially with the Public Employee Retirement Commission (PERC). The most recent filing was as of January 1, 2015.

The following table provides information concerning types of covered employees and benefit provisions for each of the Township’s Plans, from the January 1, 2015 actuarial valuation:

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
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**NOTE 8    DEFINED BENEFIT PENSION PLANS (CONTINUED)**

	Civilian	Police
Covered Employees	All Regular Full-Time Employees, Excluding Sworn Police Officers	All Regular, Full-Time Sworn Police Officers
Number of Covered Active Employees	76	40
Number of Persons Receiving Benefits: Inactive Employees currently receiving benefits	52	50
Inactive Employees Vested but not Receiving Benefits	18	2
Current Annual Covered Payroll	\$5,864,834	\$4,593,099
Required Employee Contributions	5% of Eligible Salary	5% of Eligible Salary, Currently Reduced to 3% (2% to retirement contribution and 1% to charity) of Eligible Salary
Normal Retirement Date	Age 62 and 5 years of service	Age 50 and 25 years of service; if hired prior to January 1, 2013, age 60 and 20 years of service, if earlier.
Retirement Benefit	A monthly benefit equal to 50% of total pay averaged over the final 36 months of employment, reduced by 1/20 for each year of service less than 20 full years.	A monthly benefit equal to 50% of gross pay averaged over the last 36 months of employment, plus a service increment of \$100 per month for each completed year of service in excess of 25 years up to a maximum increase of \$500. The minimum benefit is \$300 per month.
Early Retirement Date	Age 55 and completion of 15 years of service.	Completion of 20 years of service.
Early Retirement Benefit	If eligible (see above), the accrued benefit at date of actual retirement is payable at normal retirement. Benefit may be elected immediately, but will be actuarially reduced for early commencement.	The accrued benefit actuarially reduced for commencement before normal retirement.
Pre-Retirement Death Benefit	Before 10 years of service, the beneficiary receives a refund of employee contributions with interest. After 10 years of service, the surviving spouse or children receive the participant's accrued benefit payable for 120 months starting when the participant would have attained age 62. An actuarially equivalent lump-sum payment may be elected in lieu of monthly payments.	The spouse will receive 100% of the participant's accrued benefit to date, payable for life.
Postretirement Death Benefit	The Form of benefit payment in force for such participant at the time of death occurs.	The surviving spouse will receive 100% of the amount the participant was receiving or entitled to receive at death, payable for life.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
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**NOTE 8    DEFINED BENEFIT PENSION PLANS (CONTINUED)**

The benefit provisions of the Township's Plans are established by and may be amended by Township ordinances in compliance with collective bargaining agreements.

**Contributions**

Pennsylvania Act 205 of 1984 (as amended) requires that annual contributions be based upon the Minimum Municipal Obligation ("MMO"), which is based on the Plans' biennial actuarial valuation. The MMO includes the normal cost, estimated administrative expenses and an amortization contribution of the unfunded actuarial accrued liability, less estimated member contributions, and a credit equal to 10% of the excess (if any) of the actuarial value of assets over the actuarial accrued liability. The state provides an allocation of funds, which must be used for pension funding. Any financial requirement established by the MMO which exceeds state and member contributions must be funded by the employer.

Employees are required to contribute a percentage of covered payroll which amounts to 5% for the Civilian Plan. For Police, the required contribution is 3% of covered payroll if hired prior to January 1, 2013. If hired on or after January 1, 2013, employees are required to contribute 5% of payroll. This contribution is governed by the Plans' governing ordinances and collective bargaining. Administrative costs, which may include but are not limited to investment management fees and actuarial services, are charged to the Plans and funded through the MMO and/or plan earnings.

**Net Pension Liability**

The net pension liability of the plans as of the measurement date of December 31, 2015, was as follows:

**CIVILIAN**

**Changes in the Net Pension Liability**

	<b>Increase (Decrease)</b>		
	<b>Total Pension Liability</b>	<b>Plan Fiduciary Net Position</b>	<b>Net Pension Liability</b>
	<b>(a)</b>	<b>(b)</b>	<b>(a) - (b)</b>
<b>Balance at 12/31/2014</b>	\$ 31,401,391	\$ 23,234,535	\$ 8,166,856
<b>Changes for the Year:</b>			
Service Cost	694,479	-	694,479
Interest	2,360,239	-	2,360,239
Changes of benefit terms	-	-	-
Differences between expected and actual experience	146,376	-	146,376
Changes of assumptions	-	-	-
Contributions - employer	-	2,020,351	(2,020,351)
Contributions - employee	-	291,807	(291,807)
Net investment income	-	(9,292)	9,292
Benefit payments and refunds of employee contributions	(1,573,218)	(1,573,218)	-
Administrative expense	-	(70,039)	70,039
Other changes	-	250	(250)
<b>Net changes</b>	<u>1,627,876</u>	<u>659,859</u>	<u>968,017</u>
<b>Balance at 12/31/2015</b>	<u>\$ 33,029,267</u>	<u>\$ 23,894,394</u>	<u>\$ 9,134,873</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
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**NOTE 8    DEFINED BENEFIT PENSION PLANS (CONTINUED)**

**Net Pension Liability (Continued)**

**POLICE**

**Changes in the Net Pension Liability**

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
<b>Balance at 12/31/2014</b>	\$ 35,878,827	\$ 26,299,374	\$ 9,579,453
<b>Changes for the Year:</b>			
Service Cost	764,044	-	764,044
Interest	2,777,216	-	2,777,216
Changes of benefit terms	-	-	-
Differences between expected and actual experience	1,339,767	-	1,339,767
Changes of assumptions	159,012	-	159,012
Contributions - employer	-	2,190,861	(2,190,861)
Contributions - employee	-	149,817	(149,817)
Net investment income	-	(16,863)	16,863
Benefit payments and refunds of employee contributions	(2,265,169)	(2,265,169)	-
Administrative expense	-	(79,079)	79,079
Other changes	-	250	(250)
<b>Net changes</b>	<u>2,774,870</u>	<u>(20,183)</u>	<u>2,795,053</u>
<b>Balance at 12/31/2015</b>	<u>\$ 38,653,697</u>	<u>\$ 26,279,191</u>	<u>\$ 12,374,506</u>

The total pension liability was determined by an actuarial valuation as of January 1, 2015 and rolled forward to the reporting date using the following significant actuarial assumptions applied to all periods included in the measurement. The assumptions used were based on past experience under the plan and reasonable future expectation which our best estimate of anticipated experience under the Plan. A recent actuarial experience study was not performed.

Inflation: 3.0%  
Salary Increases: 5.0% including inflation  
Mortality: RP-2000 Combined Healthy Mortality Table with Blue Collar Adjustment, with rates set forward 5 years for disabled lives. Rates are projected to improve with 75% of scale AA.

Expected Long-Term  
Rate of Return: 7.5%, applied to all periods

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
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**NOTE 8    DEFINED BENEFIT PENSION PLANS (CONTINUED)**

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of inflation and pension plan investment expense not funded through the Minimum Municipal Obligation (MMO)) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rate of return for each major asset class included in the pension plan's target asset allocation as of the December 31, 2015 measurement date are as follows:

Asset Class	Estimated Long-term Rates of Return
Equities	6.30%
Real Estate	6.30%
Fixed Income	2.00%
Cash and Cash Equivalents	0.00%

**Discount Rate**

The discount rate used to measure the total pension liability was 7.50%. The projection of cash flow to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made equal to the MMO. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payment of current plan members. Therefore, the long-term expected rate of return on the pension plan investment was applied to all periods of projected benefit payments to determine the total pension liability.

**Sensitivity of Net Pension Liability to Changes in the Discount Rate**

The following presents the net pension liability calculated using the discount rate of 7.50%, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%), or 1-percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability - Civilian Pension Plan	12,892,126	9,134,873	5,921,541
Net Pension Liability - Police Pension Plan	16,822,336	12,374,506	8,648,838

**Investment Policy**

The Pension Fund Board is responsible for administering the investment policies of the Plans and providing oversight for the management of the Plans' assets. The investment strategy of the Plans is to emphasize total return (defined as the aggregate return from capital appreciation and dividend and interest income). The investment policy requires that all Plan assets be invested in liquid securities, defined as securities that can be transacted quickly and efficiently for the Plans, with minimal impact on market price. The two Plans' financial statements are prepared on the accrual basis of accounting. Plan investments are listed at fair value as reported by the investment managers. Short-term investments are reported at cost, which approximates fair value.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
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**NOTE 8 DEFINED BENEFIT PENSION PLANS (CONTINUED)**

Contributions and pension payments are recognized in the period that they are due for both Plans. The following was the Plans' adopted asset allocation policy as of December 31, 2015:

Asset Class	Minimum	Maximum
Equities - Domestic	27.50%	37.50%
Equities - International	13.00%	23.00%
Fixed Income	36.50%	46.50%
Real Estate	0.00%	8.00%
Cash Equivalents	0.00%	10.00%

**Investments that Represent Five Percent or More of Plan Net Position**

At December 31, 2015, the Plan had no investments (other than those issued by the U.S. Government or guaranteed by the U.S. Government or those in mutual funds) in any one organization or instrument that represents 5% or more of the Plan Net Position.

**Rate of Return on Investments**

The annual money-weighted rate of return on pension plan investments, net of pension plan investment expenses not funded through the MMO, for plan year 2015 was -0.03% and -0.07% for the Civilian and Police Pension Plans, respectively. For plan year 2014, the money-weighted rate of return was 5.63% and 6.01% for the Civilian and Police Pension Plans, respectively. The money-weighted rate of return expresses investment performance, net of expenses, adjusted for the changing amounts actually invested.

**Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions**

For the year ended December 31, 2015, the Township recognized pension expense of \$3,763,070. At December 31, 2015, the Township reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

**Civilian Employees Pension Plan**

	<b><u>Deferred Outflows of Resources</u></b>
Differences between expected and actual experience	\$ 126,046
Changes in assumptions	-
Net difference between projected and actual earnings on pension plan investments	1,401,132
<b>Total</b>	<b><u>\$ 1,527,178</u></b>

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
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**NOTE 8 DEFINED BENEFIT PENSION PLANS (CONTINUED)**

**Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions (Continued)**

Police Pension Plan

	<b>Deferred Outflows of Resources</b>
Differences between expected and actual experience	\$ 1,116,472
Changes in assumptions	132,510
Net difference between projected and actual earnings on pension plan investments	1,569,575
 Total	 \$ 2,818,557

Amounts reported as deferred outflows of resources and deferred inflows of resources will be recognized in pension expense as follows:

	<b>Police</b>	<b>Civilian</b>
Year ended December 31,		
2016	\$ 642,191	\$ 370,613
2017	642,191	370,613
2018	642,191	370,613
2019	642,190	370,613
2020	249,794	20,330
Thereafter	-	24,396

**NOTE 9 POSTEMPLOYMENT BENEFITS OTHER THAN PENSION BENEFITS (OPEB)**

**Plan Description**

The Township provides postretirement health care benefits (including hospitalization, surgical, major medical, dental, vision and prescription drugs), in accordance with collective bargaining agreements and Township policy, to all retired employees and their eligible dependents, except civilian employees hired after December 31, 1989. Medical claims for these retirees are paid in full by the Township, in accordance with the health plan's provisions, until age 65. At age 65, Medicare becomes the primary carrier for these employees, and the Township's health plan becomes the secondary carrier (that is, the Township plan pays for claims not initially paid by Medicare).

Retirees eligible for postretirement health care benefits receive the same level of benefits in retirement that they were eligible for as active employees. Plan membership per the January 1, 2014 valuation was 40 police retirees and 53 civilian retirees.

Expenditures for postretirement health care benefits are recognized as claims are paid by the Township in the governmental fund financial statements. In 2015, expenditures of approximately \$1,651,753 were recognized for postretirement health care. No amount was due to the Township nor was any amount reimbursed to the Township by its stop-loss insurance carrier for catastrophic medical expenses for postretirement health care.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
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**NOTE 9 POSTEMPLOYMENT BENEFITS OTHER THAN PENSION BENEFITS (CONTINUED)**

The Township also provides life insurance benefits to its retired employees. The amount of life insurance coverage is generally \$25,000 per police retiree and \$35,000 per civilian retiree, but formally dictated by the contract terms in effect at the time of retirement. The premiums are paid entirely by the Township and continue until the retired employee's death or until which time the dividends can be calculated to handle the premium payments. These postretirement life insurance benefits are recognized as expenditures when due in the governmental fund financial statement. At December 31, 2014, 40 police retirees and 53 civilian retirees are eligible for these postretirement life insurance benefits. In 2015, expenditures of approximately \$67,663 were recognized for postretirement life insurance benefits.

**Funding Policy**

Prior to 2013 the Township funded these benefits on a pay-as-you-go basis. During 2013, the Township committed approximately \$3.3 million for future funding and segregated these funds in a separate OPEB fund. Additional funds have been contributed since 2013 into the OPEB reserve trust fund. Funding Policy is set and can be amended by the Board of Commissioners.

**Annual OPEB Cost and Net OPEB Obligation**

The Township's annual other postemployment benefit (OPEB) cost (expense) is calculated based on the *annual required contribution of the employer (ARC)*, an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed 30 years.

The following table shows the components of the Township's annual OPEB cost for the year, the amount actually contributed to the plan, and changes in the net OPEB obligation.

Annual Required Contribution	\$ 4,489,246
Interest on Net OPEB Obligation	745,384
Adjustment to ARC	<u>(1,016,894)</u>
Annual OPEB Cost (Expense)	4,217,736
Actual Contributions Made	<u>(2,491,513)</u>
Decrease in Net OPEB Obligation	1,726,223
Net OPEB Obligation - Beginning of Year	<u>16,564,082</u>
Net OPEB Obligation - End of Year	<u><u>\$ 18,290,305</u></u>

The Township's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan and the net OPEB obligation for 2015 were as follows:

<u>Years Ended December 31,</u>	<u>Annual OPEB</u> <u>Cost</u>	<u>Percentage of</u> <u>Annual OPEB</u> <u>Cost Contributed</u>	<u>Net OPEB</u> <u>Obligation</u>
2013	\$ 4,341,774	38.74%	17,696,460
2014	4,199,174	126.97%	16,564,082
2015	4,217,736	59.07%	18,290,305

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 9      POSTEMPLOYMENT BENEFITS OTHER THAN PENSION BENEFITS (CONTINUED)**

**Funded Status and Funding Progress**

As of January 1, 2014, the most recent actuarial valuation date, the actuarial accrued liability was approximately \$53,939,000 and the actuarial value of assets was approximately \$4,487,000 resulting in an unfunded actuarial accrued liability (UAAL) of approximately \$49,452,000 and a funded ratio of 8.3%. The covered payroll (annual payroll of active employees covered by the plan) was approximately \$11,167,000 and the ratio of the UAAL to the covered payroll was 443 percent.

**Annual OPEB Cost and Net OPEB Obligation**

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented as required supplementary information following the notes to the financial statements, presents trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits. However, because the Township maintains no Plan assets, information relative to Plan asset disclosures is not applicable.

**Actuarial Methods and Assumptions**

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and the plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and the Plan members to that point. There are no legal or contractual funding limitations that would potentially affect the projection of benefits for financial accounting purposes. The actuarial methods and assumptions used include techniques that are designed to reduce the effect of short-term volatility in actuarial accrued liabilities, consistent with the long-term perspective of the calculations. In the actuarial valuation dated January 1, 2014, the Entry Age Normal Actuarial Cost Method was used and a 4.5% discount rate, which approximates the expected rate of return on non-pension investments held by the Township, was utilized. Actuarial assumptions also included a declining scale starting with a 7.5% increase for each year from 2010 to 2013, with the rate of increase decreasing by ¼% each year thereafter to 5% for 2018 and later, except for Dental premiums. For Dental premiums, the actuarial assumption is a constant 3% increase per year. The inflation rate is assumed to be 3%. The UAAL is being amortized as a level dollar amount over thirty years on an open period basis.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 10 DEFERRED COMPENSATION PLANS**

The Township offers all full-time employees the option to participate in deferred compensation plans created in accordance with the Internal Revenue Code Section 457. The Plans permit the employees to voluntarily defer a percentage of their salary until future years. The deferred compensation is not available to employees until termination, retirement, death or unforeseeable emergency.

All amounts of compensation deferred under the plans, all property and rights purchased with those amounts, and all income attributable to these amounts, property, or rights are held in trust for the exclusive benefit of participants and their beneficiaries. The compensation deferred is managed by outside Trustees under various investment options. As a result, the financial statements of the deferred compensation plans are excluded from the accompanying financial statements.

**NOTE 11 RISK MANAGEMENT**

**General**

The Township is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; errors and omissions by elected officials, employees and volunteers; personal injury and illness; and natural disasters. The Township carries various types of commercial insurance to manage these risks of loss. In 2015, these coverages included separate policies for: general liability; public officials liability; police professional liability; vehicular liability; pension fiduciary liability; liquor liability; cyber security liability; boiler and machinery; workers compensation; bonds for the Treasurer, Chief Financial Officer, and Assistant Director of Finance; errors and omissions by volunteer fire and ambulance companies; and other policies covering volunteers participating in several different Township-sponsored programs. Premiums for these coverage's are paid directly to the insurers out of the accounts of the General and Sewer Funds. There were no significant reductions in coverage under these policies from the prior year and settlements have not exceeded coverage in the past three years.

**Employee Health Benefits Plan**

The Township health benefits program is a managed-care program administered by the Delaware Valley Health Insurance Trust (the "DVHIT") for all Township employees and retirees. DVHIT is a regional risk sharing pool providing health insurance benefits to employees and dependents of participating municipalities. DVHIT is established under legal authority granted by the Pennsylvania Intergovernmental Cooperation Law. DVHIT is governed by a Board of Trustees comprised of a representative from each member municipality.

Member municipalities are assessed premiums at the beginning of each calendar year based on the specific design of their plan. Any excess funds are returned to the membership via a dividend and/or rate stabilization credits. As of December 31, 2015, the Township earned a rate stabilization credit of \$700,199 of which the Township has chosen to utilize \$300,000 to offset 2016 premium increases.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015**

**NOTE 12 RADNOR-HAVERFORD-MARPLE SEWER AUTHORITY**

The Radnor-Haverford-Marple Sewer Authority (the “RHM Sewer Authority”), a joint Authority, was incorporated in 1967 by the Townships of Radnor, Haverford and Marple under the provisions of the Municipal Authorities Act of 1945. Presently, the RHM Sewer Authority operates and maintains sewerage collection systems and interceptors to transfer sewerage collected by the incorporating Townships’ (and other municipal entities) collection systems for eventual treatment and disposal by the City of Philadelphia.

Under an agreement dated June 1, 1968, the Township is obligated to pay its proportionate share of the RHM Sewer Authority operating, maintenance and debt service costs. The Township’s proportionate share of the applicable costs is based on metered flows into the RHM Sewer Authority system. As of December 31, 2012, the Township accounted for approximately forty-four percent of the flows received by the RHM Sewer Authority. During 2015, the Township paid the RHM Sewer Authority \$3,704,185 from the Township’s Sewer Fund.

Summarized financial information for the RHM Sewer Authority as of December 31, 2014 and for the year then ended (the most recently available information) is shown below:

Cash and Investments	\$ 8,673,339
Receivables	-
Plant in Service	487,584
Other Assets	1,111,395
Total Assets	<u>\$ 10,272,318</u>
Liabilities	\$ 3,841,805
Equity	<u>6,430,513</u>
Total Liabilities and Equity	<u>\$ 10,272,318</u>
Total Revenues	<u>\$ 7,955,621</u>
Total Expenses	<u>\$ 7,393,088</u>

Audited financial statements for the RHM Sewer Authority are available from the RHM Sewer Authority, 600 Glendale Road, Havertown, PA 19083.

**NOTE 13 COMMITMENTS AND CONTINGENCIES**

In the normal course of business there are various claims and suits pending against the Township. In the opinion of management and counsel, the amount of such losses that might result from these claims and suits, if any, would not materially affect the financial condition of the Township.

**RHM Sewer Authority**

As described in Note 13, the Township is obligated to pay its proportionate share of the applicable costs of the RHM Sewer Authority. The RHM Sewer Authority expects to be named as a potentially responsible party by the United States Environmental Protection Agency (“EPA”) in the future with respect to the Lower Darby Creek Area Superfund Site consisting of the Clearview Landfill, Folcroft Landfill and Folcroft Landfill Annex. The EPA has reason to believe that hazardous wastes generated at locations owned or operated by the RHM Sewer Authority may have been transported to and

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
NOTES TO FINANCIAL STATEMENTS  
DECEMBER 31, 2015**

**NOTE 13 COMMITMENTS AND CONTINGENCIES (CONTINUED)**

**RHM Sewer Authority (Continued)**

disposed of at the Superfund Site. In the event that the RHM Sewer Authority is subsequently named as a potentially responsible party, it is likely that the RHM Sewer Authority will be expected to participate in, pay for or otherwise contribute to the cost of assessment and remediation of the hazardous wastes at the Superfund Site. It is not possible to estimate the amount of such liability at this time.

Under an agreement, which expires in 2017, between RHM Sewer Authority and Darby Creek Joint Authority ("DCJA"), RHM Sewer Authority agrees to pay DCJA a yearly service charge in connection with operating costs and interceptor maintenance costs. DCJA's operating costs are directly related to the service charges it incurs from Delaware County Regional Authority ("DELCORA") under an agreement it has with DELCORA. Furthermore, DELCORA's operating costs are directly related to the service charges it incurs from the City of Philadelphia ("Philadelphia") under an agreement it has with Philadelphia. DELCORA is expecting significant increases in the service charges it incurs from Philadelphia under a 15 year contract agreement with the City that was effective April 1, 2013. Due to the uncertainty surrounding DELCORA's negotiations with Philadelphia, RHM Sewer Authority expects to incur significantly higher service charges in future years. RHM Sewer Authority may be required to upgrade its sewer infrastructure and share in the cost of certain downstream improvements by DCJA.

In addition, RHM Sewer Authority may consider constructing a parallel interceptor sewer, in future years, to alleviate capacity limitations in related existing segments downstream.

**NOTE 14 RESTATEMENT OF NET POSITION/CHANGE IN ACCOUNTING PRINCIPLE**

The following 2015 amounts have been restated due to the adoption of GASB Statements No. 68 and No. 71.

	<b>Governmental Activities</b>
Beginning Net Position	\$ 4,158,225
Net Pension Liability for the adoption of GASB 68	<u>(21,117,645)</u>
Restated Beginning Net Position	<u>\$ (16,959,420)</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 15 NEW ACCOUNTING PRONOUNCEMENTS**

The Governmental Accounting Standards Board (GASB) has issued the following statements that were implemented by the Township during the year ended December 31, 2015.

GASB Statement No. 68, *Accounting and Financial Reporting for Pensions* (GASB 68) establishes accounting and financial reporting requirements related to pensions for governments whose employees are provided with pensions through pensions that are covered by the scope of this Statement, as well as for nonemployer governments that have a legal obligation to contribute to those plans. This Statement establishes a definition of a pension plan that reflects primary activities associated with the pension arrangement – determining pensions, accumulating and managing assets dedicated for pensions, and paying benefits to plan members as they come due. This Statement was implemented for the Police and Civilian Pension Plans’ reporting period ending December 31, 2015 and the related disclosures are in Note 8.

GASB Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date – an amendment of GASB Statement No. 68* eliminates a potential source of understatement of restated net position and expense in a government’s first year of implementing Statement No. 68. To correct this potential understatement, Statement No. 71 requires that when a government is transitioning to the new pension standards, it recognize a beginning deferred outflow of resources for its pension contributions made during the time between the measurement date of the beginning net pension liability and the beginning of the initial fiscal year of implementation. This amount will be recognized regardless of whether it is practical to determine the beginning amounts of all other deferred outflows of resources and deferred inflows of resources related to pensions.

The Governmental Accounting Standards Board (GASB) has issued the following statements not yet implemented by the Township:

In February 2015, GASB issued Statement No. 72, *Fair Value Measurement and Application* (“GASB 72”). The objective of this Statement is to improve financial reporting by clarifying the definition of fair value for financial reporting purposes, establishing general principles for measuring fair value, providing additional fair value application guidance, and for enhancing disclosures around fair value measurements. The provisions of this Statement are effective for financial statements in periods beginning after June 15, 2015. The Township has not yet completed the process of evaluating the impact of GASB 72 on its financial statements.

In June 2015, GASB issued Statement No. 73, *Accounting and Financial Reporting for Pensions and Related Assets that are not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB 67 and 68*. The objective of this Statement is to improve the usefulness of information about pensions included in the general purpose external financial reports of state and local governments for making decisions and assessing accountability. The provisions of this Statement are effective for financial statements in periods beginning after June 15, 2016. The Township has not yet completed the process of evaluating the impact of GASB 73 on its financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 15 NEW ACCOUNTING PRONOUNCEMENTS (CONTINUED)**

In June 2015, GASB issued Statement No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*. The objective of this Statement is to improve the usefulness of information about postemployment benefits other than pensions (other postemployment benefits or OPEB) included in the general purpose external financial reports of state and local governmental OPEB plans for making decisions and assessing accountability. The provisions of this Statement are effective for financial statements in periods beginning after June 15, 2016. The Township has not yet completed the process of evaluating the impact of GASB 74 on its financial statements.

In June 2015, GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pension Plans*. The primary objective of this Statement is to improve accounting and financial reporting by state and local governments for postemployment benefits other than pensions (other postemployment benefits or OPEB). It also improves information provided by state and local governmental employers about financial support for OPEB that is provided by other entities. The provisions of this Statement are effective for financial statements in periods beginning after June 15, 2017. The Township has not yet completed the process of evaluating the impact of GASB 75 on its financial statements.

In June 2015, GASB issued Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. The objective of this Statement is to identify—in the context of the current governmental financial reporting environment—the hierarchy of generally accepted accounting principles (GAAP). The provisions of this Statement are effective for financial statements in periods beginning after June 15, 2015. The Township has not yet completed the process of evaluating the impact of GASB 76 on its financial statements.

In August 2015, GASB issued Statement No. 77, *Tax Abatement Disclosures*. The objective of this Statement is to assist the users of financial statements in assessing (1) whether a government's current-year revenues were sufficient to pay for current-year services (known as interperiod equity), (2) whether a government complied with finance-related legal and contractual obligations, (3) where a government's financial resources come from and how it uses them, and (4) a government's financial position and economic condition and how they have changed over time. The provisions of this Statement are effective for financial statements in periods beginning after December 15, 2015. The Township has not yet completed the process of evaluating the impact of GASB 77 on its financial statements.

In December 2015, GASB issued Statement No. 78, *Pensions Provided through Certain Multiple – Employer Defined Benefit Plans*. The objective of this Statement is to address a practice issue regarding the scope and applicability of Statement No. 68, *Accounting and Financial Reporting for Pensions*. The provisions of this Statement are effective for financial statements in periods beginning after December 15, 2015. The Township has not yet completed the process of evaluating the impact of GASB 78 on its financial statements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO FINANCIAL STATEMENTS**  
**DECEMBER 31, 2015**

**NOTE 15 NEW ACCOUNTING PRONOUNCEMENTS (CONTINUED)**

In December 2015, GASB issued Statement No. 79, *Certain External Investment Pools and Pool Participants*. The objective of this Statement is to establish criteria for an external investment pool to qualify for making the election to measure all of its investments at amortized cost for financial reporting purposes. The provisions of this Statement are effective for financial statements in periods beginning after December 15, 2015. The Township has not yet completed the process of evaluating the impact of GASB 79 on its financial statements.

In January 2016, GASB issued Statement No. 80, *Blending Requirements for Certain Component Units – an amendment of GASB Statement No. 14*. The objective of this Statement is to improve financial reporting by clarifying the financial statement presentation requirements for certain component units. The provisions of this Statement are effective for financial statements in periods beginning after June 15, 2016. The Township has not yet completed the process of evaluating the impact of GASB 80 on its financial statements.

In March 2016, GASB issued Statement No. 81, *Irrevocable Split-Interest Agreements*. The objective of this Statement is to improve accounting and financial reporting for irrevocable split-interest agreements by providing recognition and measurement guidance for situations in which a government is a beneficiary of the agreement. The provisions of this Statement are effective for financial statements in periods beginning after December 15, 2016. The Township has not yet completed the process of evaluating the impact of GASB 81 on its financial statements.

In March 2016, GASB issued Statement No. 82, *Pension Issues – an amendment of GASB Statements No. 67, No. 68, and No. 73*. The objective of this Statement is to address certain issues that have been raised with respect to Statements No. 67, *Financial Reporting for Pension Plans*, No. 68, *Accounting and Financial Reporting for Pensions*, and No. 73, *Accounting and Financial Reporting for Pensions and Related Assets That Are Not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*. The provisions of this Statement are effective for financial statements in periods beginning after June 15, 2017. The Township has not yet completed the process of evaluating the impact of GASB 82 on its financial statements.

**NOTE 16 COMPLIANCE**

Actual General Fund expenditures (\$29,589,774) exceeded the final appropriation budget (\$27,712,185) by \$1,877,589. The variance was due to larger than expected legal and engineering fees, winter costs, police overtime, unbudgeted expenses associated with the Papal visit in September and Board approved transfers to the capital fund.

**NOTE 17 SUBSEQUENT EVENTS**

The Township has evaluated all subsequent events through the report issue date of May 13, 2016.

No additional events have taken place that effect the financial statements or required disclosure.

REQUIRED  
SUPPLEMENTARY  
INFORMATION

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF INVESTMENT RETURNS –  
POLICE AND CIVILIAN PENSION PLANS  
10 YEARS ENDED DECEMBER 31, 2015**

Police Pension Plan					
Valuation Date	Actuarially Determined Contributions	Contributions Recognized by the Plan	Contribution Deficiency (Excess)	Covered Employee Payroll	Contributions Recognized by Plan as a % of Covered Employee Payroll
2015	2,190,861	2,190,861	-	4,593,099	47.7%
2014	2,160,223	2,160,223	-	4,535,114	47.6%
2013	1,730,673	3,212,915	(1,482,242)		
2012	855,232	1,010,418	(155,186)	3,894,876	25.9%
2011	822,301	822,301	-		
2010	558,404	558,404	-	3,883,113	14.4%
2009	534,000	534,000	-	4,063,200	13.1%
2008	522,000	522,000	-		
2007	624,992	624,992	-	3,649,100	17.1%
2006	322,000	322,000	-		
2005	313,000	313,000	-	3,352,600	9.3%

Civilian Pension Plan					
Valuation Date	Actuarially Determined Contributions	Contributions Recognized by the Plan	Contribution Deficiency (Excess)	Covered Employee Payroll	Contributions Recognized by Plan as a % of Covered Employee Payroll
2015	2,020,351	2,020,351	-	5,864,834	34.4%
2014	1,979,695	1,979,695	-	5,893,475	33.6%
2013	1,779,371	3,214,693	(1,435,322)		
2012	1,280,125	1,435,311	(155,186)	5,532,690	25.9%
2011	1,252,960	1,252,960	-		
2010	717,342	717,342	-	5,899,799	12.2%
2009	881,500	881,500	-	6,399,700	13.8%
2008	840,000	840,000	-		
2007	985,000	985,000	-	6,747,700	14.6%
2006	744,000	744,000	-		
2005	739,000	739,000	-	6,543,900	11.3%

Actuarially determined contributions rates are calculated as of January 1, one year prior to the end of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Actuarial valuation date	January 1, 2015
Actuarial cost method	Entry age normal
Amortization method	Level dollar, closed
Remaining amortization period	12 year aggregate (Civilian); 13 years aggregate (Police)
Asset valuation method	4-year smoothing
Inflation	3.0%
Salary increases	5.0% including inflation
Investment rate of return	7.5% net of investment expenses not funded through the MMO, and including inflation

Mortality RP-2000 Combined Healthy Mortality Table with Blue Collar Adjustment with rates set forward 5 years for disabled lives

Change in assumption Effective January 1, 2015 the rates of disability incidence were updated to rates based on the 2010 Social Security Administration's projections. 20% increase assumption for pay in the final year applied to disability benefits.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
 REQUIRED SUPPLEMENTARY INFORMATION  
 PENSION PLANS - SCHEDULE OF INVESTMENT RETURNS –  
 POLICE AND CIVILIAN PENSION PLANS**

Average money-weighted rate of return, net of investment expense:

	Police	Civilian
2015	-0.07%	-0.03%
2014	6.01%	5.63%

**Notes to Schedule**

The Township adopted GASB 67 on a prospective basis in 2014; therefore only two years are presented.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**REQUIRED SUPPLEMENTARY INFORMATION**  
**PENSION PLANS - SCHEDULE OF CHANGES IN THE EMPLOYER'S**  
**NET PENSION LIABILITY AND RELATED RATIOS CALCULATED IN ACCORDANCE**  
**WITH GASB 67**

	Police		Civilian	
	2015	2014	2015	2014
Total Pension Liability				
Service Cost	\$ 764,044	\$ 606,602	\$ 694,479	\$ 719,328
Interest	2,777,216	2,577,970	2,360,239	2,248,146
Changes of Benefit Terms	-	-	-	-
Differences Between Actual and Expected, if any	1,339,767	-	146,376	-
Assumptions Changes	159,012	-	-	-
Benefit Payments, Including Refunds of Employee Contributions	(2,265,169)	(2,106,088)	(1,573,218)	(1,614,877)
Net change in Total Pension Liability	2,774,870	1,078,484	1,627,876	1,352,597
Total Pension Liability - Beginning	35,878,827	34,800,343	31,401,391	30,048,794
Total Pension Liability - Ending (a)	<u>\$ 38,653,697</u>	<u>\$ 35,878,827</u>	<u>\$ 33,029,267</u>	<u>\$ 31,401,391</u>
Plan Fiduciary Net Position				
Contributions - Employer and State Aid	\$ 2,190,861	\$ 2,160,223	\$ 2,020,351	\$ 1,979,695
Contributions - Member	149,817	182,981	291,807	298,425
Net Investment Income	(16,863)	1,463,674	(9,292)	1,199,517
Benefit payments	(2,265,169)	(2,106,088)	(1,573,218)	(1,614,877)
Administrative Expense	(79,079)	(72,342)	(70,039)	(59,772)
Refund of Member Contributions	250	-	250	250
Net Change in Plan Fiduciary Position	(20,183)	1,628,448	659,859	1,803,238
Plan Fiduciary Net Position - Beginning	26,299,374	24,670,926	23,234,535	21,431,297
Plan Fiduciary Net Position - Ending (b)	<u>26,279,191</u>	<u>26,299,374</u>	<u>23,894,394</u>	<u>23,234,535</u>
Net Pension Liability (a) - (b)	<u>\$ 12,374,506</u>	<u>\$ 9,579,453</u>	<u>\$ 9,134,873</u>	<u>\$ 8,166,856</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	68.0%	73.3%	72.3%	74.0%
Covered Employee Payroll	\$ 4,593,099	\$ 4,535,114	\$ 5,864,834	\$ 5,893,475
Net Pension Liability as a Percentage of Covered Payroll	269.4%	211.2%	155.8%	138.6%

Notes to schedule

\* Actuarially Determined Contributions

\* Actual Contributions as a Percentage of Covered Employee Payroll

\* Actual Money Weighted Rate of Return, Net of Investment Expense

\* Schedules are intended to show information for 10 years. Additional years will be disclosed as they become available in future years.



**TOWNSHIP OF RADNOR, PENNSYLVANIA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES –  
BUDGET AND ACTUAL (BUDGETARY BASIS) – GENERAL FUND  
YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with Final Budget Positive (Negative)
	Original	Final		
<b>Revenues</b>				
Real Estate Taxes	\$ 11,850,300	\$ 11,850,300	\$ 11,797,463	\$ (52,837)
Taxes Levied Under Local Tax Enabling Act	13,679,565	13,679,565	14,828,345	1,148,780
License and Permits	3,115,600	3,115,600	4,010,451	894,851
Fines, Forfeits and Costs	844,738	844,738	547,593	(297,145)
Interest and Rents	235,000	235,000	249,860	14,860
Grants and Gifts	1,358,323	1,358,323	1,417,037	58,714
Department Earnings	1,656,143	1,656,143	1,508,526	(147,617)
Refunds and Miscellaneous	286,000	286,000	388,806	102,806
Total Revenues	<u>33,025,669</u>	<u>33,025,669</u>	<u>34,748,081</u>	<u>1,722,412</u>
<b>Expenditures:</b>				
<b>Current:</b>				
General Government	2,642,675	2,642,675	2,908,551	(265,876)
Protection to Person and Property	10,842,134	10,842,134	10,880,501	(38,367)
Public Works	6,653,930	6,653,930	7,540,521	(886,591)
Library	890,507	890,507	885,496	5,011
Parks and Recreation	2,808,005	2,808,005	2,688,182	119,823
Capital Outlay	-	-	-	-
Other - Nondepartmental (Employee Benefits, Insurance, Contributions, and Miscellaneous)	3,874,934	3,880,934	4,686,523	(805,589)
Total Expenditures	<u>27,712,185</u>	<u>27,718,185</u>	<u>29,589,774</u>	<u>(1,871,589)</u>
Excess of Revenues over (under) Expenditures	5,313,484	5,307,484	5,158,307	3,594,001
<b>Other Financing sources/(uses):</b>				
Operating Transfers Out	(4,433,660)	(4,433,660)	(4,026,125)	407,535
Total Other Financing sources/(uses)	<u>(4,433,660)</u>	<u>(4,433,660)</u>	<u>(4,026,125)</u>	<u>407,535</u>
<b>Net Change in Fund Balance</b>	879,824	873,824	1,132,182	4,001,536
Fund Balance - Beginning of Year (Budgetary Basis)	<u>9,560,937</u>	<u>9,560,937</u>	<u>9,186,437</u>	<u>(374,500)</u>
Fund Balance - End of Year (Budgetary Basis)	<u>\$ 10,440,761</u>	<u>\$ 10,434,761</u>	<u>\$ 10,318,619</u>	<u>\$ 3,627,036</u>
<b>Non-GAAP Budgetary Basis Reconciliation</b>				
Add Other Unbudgeted General Fund Ending Fund Balance				
\$8 Million Settlement Fund			1,534,057	
Investigation Fund			<u>1,197</u>	
Fund Balance - General Fund - End of Year (GAAP Basis)			<u>\$ 11,853,873</u>	

See accompanying Notes to Required Supplementary Information.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES –  
BUDGET AND ACTUAL (BUDGETARY BASIS) – SEWER FUND  
YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with Final Budget Positive (Negative)
	Original	Final		
Revenues				
Interest and Rents	\$ 20,000	\$ 20,000	\$ 24,294	\$ 4,294
Department Earnings	5,269,214	5,269,214	4,917,514	(351,700)
Refunds and Miscellaneous	26,258	26,258	21,325	(4,933)
<b>Total Revenues</b>	<b>5,315,472</b>	<b>5,315,472</b>	<b>4,963,133</b>	<b>(352,339)</b>
Expenditures:				
Current:				
Health and Sanitation	5,837,146	5,837,146	4,724,313	1,112,833
<b>Total Expenditures</b>	<b>5,837,146</b>	<b>5,837,146</b>	<b>4,724,313</b>	<b>1,112,833</b>
Excess of Revenues over (under) Expenditures	(521,674)	(521,674)	238,820	(1,465,172)
Other Financing Uses:				
Operating Transfers Out	(368,550)	(368,550)	(368,550)	-
Total Other Financing Uses	(368,550)	(368,550)	(368,550)	-
<b>Net Change in Fund Balance</b>	<b>(890,224)</b>	<b>(890,224)</b>	<b>(129,730)</b>	<b>(1,465,172)</b>
Fund Balance - Beginning of Year (Budgetary Basis)	1,751,186	1,751,186	1,751,186	-
Fund Balance - End of Year (Budgetary Basis)	<u>\$ 860,962</u>	<u>\$ 860,962</u>	<u>\$ 1,621,456</u>	<u>\$ (1,465,172)</u>

See accompanying Notes to Required Supplementary Information.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES –  
BUDGET AND ACTUAL (BUDGETARY BASIS) – PARK IMPROVEMENTS AND OPEN SPACE FUND  
YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with Final Budget Positive (Negative)
	Original	Final		
Revenues				
Taxes Levied Under Local Tax Enabling Act	\$ 1,159,750	\$ 1,159,750	\$ 876,705	\$ (283,045)
Interest and Rents	-	-	353	353
Grants and Gifts	-	-	100,005	100,005
Total Revenues	1,159,750	1,159,750	977,063	(182,687)
Other Financing Uses:				
Operating Transfers Out	(1,279,205)	(1,279,205)	(965,814)	313,391
Total Other Financing uses	(1,279,205)	(1,279,205)	(965,814)	313,391
<b>Net Change in Fund Balance</b>	(119,455)	(119,455)	11,249	130,704
Fund Balance - Beginning of Year (Budgetary Basis)	161,811	161,811	161,811	-
Fund Balance - End of Year (Budgetary Basis)	\$ 42,356	\$ 42,356	\$ 173,060	\$ 130,704

See accompanying Notes to Required Supplementary Information.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES –  
BUDGET AND ACTUAL (BUDGETARY BASIS) – STORMWATER FUND  
YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with Final Budget Positive (Negative)
	Original	Final		
Revenues				
Interest and Rents	\$ -	\$ -	\$ 11,219	\$ 11,219
Department Earnings	1,007,800	1,007,800	1,075,019	67,219
Refunds and Miscellaneous	2,700	2,700	6,783	4,083
Total Revenues	1,010,500	1,010,500	1,093,021	82,521
Expenditures:				
Current:				
Health and Sanitation	403,200	403,200	181,905	221,295
Total Expenditures	403,200	403,200	181,905	221,295
<b>Net Change in Fund Balance</b>	607,300	607,300	911,116	303,816
Fund Balance - Beginning of Year (Budgetary Basis)	1,615,852	1,615,852	1,615,852	-
Fund Balance - End of Year (Budgetary Basis)	2,223,152	2,223,152	2,526,968	303,816

See accompanying Notes to Required Supplementary Information.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**NOTES TO REQUIRED SUPPLEMENTARY INFORMATION –**  
**BUDGETARY COMPARISON SCHEDULES**  
**DECEMBER 31, 2015**

The budgets presented in the required supplementary information are prepared on the budgetary basis which is the modified accrual basis of accounting.

The General Fund balances include the \$8 Million Settlement Fund and Investigation Fund. These funds do not have adopted budgets and have been removed from the budget and actual statements. The table below shows the activity for those respective funds:

	<u>General</u>	<u>Investigation</u>	<u>\$8M Settlement</u>	<u>Combined</u>
Revenues				
Real Estate Taxes	11,797,463	\$ -	\$ -	\$ 11,797,463
Taxes Levied Under Local Tax Enabling Act	14,828,345	-	-	14,828,345
License and Permits	4,010,451	-	-	4,010,451
Fines, Forfeits and Costs	547,593	7,697	-	555,290
Interest and Rents	249,860	6	2,072	251,938
Grants and Gifts	1,417,037	-	-	1,417,037
Department Earnings	1,508,526	-	-	1,508,526
Refunds and Miscellaneous	388,806	-	-	388,806
Total Revenues	<u>34,748,081</u>	<u>7,703</u>	<u>2,072</u>	<u>34,757,856</u>
Expenditures:				
Current:				
General Government	2,908,551	-	-	2,908,551
Protection to Person and Property	10,880,501	6,506	-	10,887,007
Public Works	2,933,890	-	-	2,933,890
Highways	4,606,631	-	-	4,606,631
Library	885,496	-	-	885,496
Parks and Recreation	2,688,182	-	-	2,688,182
Debt Service	-	-	-	-
Capital Outlay	-	-	855,288	855,288
Other - Nondepartmental (Employee Benefits, Insurance, Contributions, and Miscellaneous)	4,686,523	-	7,500	4,694,023
Total Expenditures	<u>29,589,774</u>	<u>6,506</u>	<u>862,788</u>	<u>30,459,068</u>
Excess of Revenues over (under) Expenditures	5,158,307	1,197	(860,716)	4,298,788
Other Financing sources/(uses):				
Operating Transfers Out	<u>(4,026,125)</u>	-	-	<u>(4,026,125)</u>
Total Other Financing sources/(uses)	<u>(4,026,125)</u>	-	-	<u>(4,026,125)</u>
<b>Net Change in Fund Balance</b>	1,132,182	1,197	(860,716)	1,124,681
Fund Balance - Beginning of Year (Budgetary Basis)	<u>9,186,437</u>	-	<u>2,394,773</u>	<u>11,581,210</u>
Fund Balance - End of Year (Budgetary Basis)	<u>\$ 10,318,619</u>	<u>\$ 1,197</u>	<u>\$ 1,534,057</u>	<u>\$ 11,853,873</u>

OTHER  
SUPPLEMENTARY  
INFORMATION

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**GENERAL FUND**  
**DECEMBER 31, 2015**

The General Fund is used to account for all financial resources except those required to be accounted for in another fund. Revenues of this fund are primarily derived from real estate taxes, taxes levied under the Local Enabling Tax Act (Act 511), licenses and permits, grants and gifts and departmental earnings. Many of the important activities of the Township are accounted for in this Fund, including police and fire protection, community development, health, solid waste collection, street and highway maintenance, library, parks and recreation and general governmental administration. The \$8 Million Settlement Fund and Investigation Fund are included in the General Fund for financial statement purposes but have been removed from budget to actual schedules as these funds do not have adopted budgets.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE OF REVENUES AND OTHER FINANCING SOURCES –**  
**BUDGET AND ACTUAL (BUDGETARY BASIS) – GENERAL FUND**  
**YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with Final Budget Positive (Negative)
	Original	Final		
Revenues				
Real Estate Taxes	\$ 11,850,300	\$ 11,850,300	\$ 11,797,463	\$ (52,837)
Taxes Levied Under Local Tax Enabling Act				
Real Estate Transfer Tax	2,085,350	2,085,350	2,630,115	544,765
Mercantile	1,450,527	1,450,527	1,437,467	(13,060)
Business Privilege	9,170,188	9,170,188	9,727,519	557,331
Emergency Municipal Services	936,500	936,500	992,829	56,329
Amusement	37,000	37,000	40,415	3,415
Total Taxes Levies Under Local Tax Enabling Act	13,679,565	13,679,565	14,828,345	1,148,780
License and Permits				
Beverage	12,000	12,000	11,550	(450)
Building, Electrical and Plumbing	1,734,000	1,734,000	2,671,383	937,383
Public Works and Engineering	257,000	257,000	170,226	(86,774)
Rental Housing	183,000	183,000	176,885	(6,115)
Health and Fire Prevention	81,000	81,000	95,805	14,805
Subdivision, Design and Zoning	29,000	29,000	49,575	20,575
Cable TV Franchise	747,600	747,600	767,117	19,517
Certificate of Occupancy	64,000	64,000	63,410	(590)
Sewage Enforcement	8,000	8,000	4,500	(3,500)
Total License and Permits	3,115,600	3,115,600	4,010,451	894,851
Fines, Forfeits and Costs				
Fines Levied by Police	614,100	614,100	347,179	(266,921)
Fines Levied by District Justice	230,638	230,638	200,414	(30,224)
Total Fines, Forfeits and Costs	844,738	844,738	547,593	(297,145)
Interest and Rents				
Interest Earned on Investments	100,000	100,000	148,737	48,737
Other	135,000	135,000	101,123	(33,877)
Total Interest and Rents	235,000	235,000	249,860	14,860
Revenues - Forward	\$ 29,725,203	\$ 29,725,203	\$ 31,433,712	\$ 1,708,509

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE OF REVENUES AND OTHER FINANCING SOURCES –**  
**BUDGET AND ACTUAL (BUDGETARY BASIS) – GENERAL FUND (CONTINUED)**  
**YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with Final Budget Positive (Negative)
	Original	Final		
Revenues - Forward	\$ 29,725,203	\$ 29,725,203	\$ 31,433,712	\$ 1,708,509
Grants and Gifts - Other Federal and State	1,358,323	1,358,323	1,417,037	58,714
Department Earnings				
Parking Meter Fees	482,344	482,344	405,438	(76,906)
Police Extra Duty and Alarm Fees	370,500	370,500	336,449	(34,051)
Recreational Program Fees	475,000	475,000	426,962	(48,038)
Other	328,299	328,299	339,677	11,378
Total Departmental Earnings	1,656,143	1,656,143	1,508,526	(147,617)
Refunds and Miscellaneous				
Sale of Recycled Materials	25,000	25,000	3,225	(21,775)
Other	261,000	261,000	385,581	124,581
Total Refunds and Miscellaneous	286,000	286,000	388,806	102,806
Total Revenues	33,025,669	33,025,669	34,748,081	1,722,412
Total Revenues and Other Financing Sources	\$ 33,025,669	\$ 33,025,669	\$ 34,748,081	\$ 1,722,412

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE OF FUNCTIONAL EXPENDITURES BY ACTIVITY –**  
**BUDGET AND ACTUAL (BUDGETARY BASIS) – GENERAL FUND**  
**YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with
	Original	Final		Final Budget
				Positive (Negative)
General Government				
Administration	\$ 703,208	\$ 703,208	\$ 841,815	\$ 138,607
Finance	1,075,226	1,075,226	1,159,743	84,517
Tax Collection	41,371	41,371	32,686	(8,685)
Information Technology	299,725	299,725	312,627	12,902
Township Buildings	523,145	523,145	561,680	38,535
Total General Government	2,642,675	2,642,675	2,908,551	265,876
Protection to Person and Property				
Community Development	1,059,701	1,059,701	1,099,298	39,597
Police Protection	8,985,326	8,985,326	8,886,313	(99,013)
Fire Protection	797,107	797,107	780,627	(16,480)
Emergency Management	-	-	114,263	114,263
Total Protection to Person and Property	10,842,134	10,842,134	10,880,501	38,367
Public Works				
Solid Waste Collection	3,049,424	3,049,424	2,933,890	(115,534)
Engineering	777,374	777,374	1,289,520	512,146
Streets and Highways:				
General Services	1,814,910	1,814,910	2,154,735	339,825
Street Cleaning	7,000	7,000	4,650	(2,350)
Snow and Ice Removal	89,500	89,500	242,412	152,912
Traffic Signals and Signs	74,500	74,500	99,238	24,738
Street Lighting	252,500	252,500	272,754	20,254
Curbs and Sidewalks	4,000	4,000	3,014	(986)
Storm Sewers, Drainage	3,700	3,700	7,503	3,803
Repairs, Tools and Machinery	548,122	548,122	408,742	(139,380)
Road Maintenance and Repairs	32,900	32,900	124,063	91,163
Total Public Works	6,653,930	6,653,930	7,540,521	886,591
Library	890,507	890,507	885,496	(5,011)
Expenditures - Forward	\$ 21,029,246	\$ 21,029,246	\$ 22,215,069	\$ 1,185,823

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE OF FUNCTIONAL EXPENDITURES BY ACTIVITY –**  
**BUDGET AND ACTUAL (BUDGETARY BASIS) – GENERAL FUND (CONTINUED)**  
**YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with
	Original	Final		Final Budget
Expenditures - Forward	\$ 21,029,246	\$ 21,029,246	\$ 22,215,069	\$ 1,185,823
Parks and Recreation				
Administration	333,633	333,633	330,999	(2,634)
Parks Maintenance	1,976,951	1,976,951	1,826,767	(150,184)
Shade Trees	10,000	10,000	112,930	102,930
Recreation Programs	438,721	438,721	378,152	(60,569)
Sulpizio Gym	48,700	48,700	39,334	(9,366)
Total Parks and Recreation	<u>2,808,005</u>	<u>2,808,005</u>	<u>2,688,182</u>	<u>(119,823)</u>
Debt Service	6,000	6,000	-	6,000
Capital Outlay	-	-	-	-
Other - Nondepartmental (Employee Benefits, Insurance, Contributions, and Miscellaneous)	3,868,934	3,868,934	4,686,523	(817,589)
<b>Total Expenditures</b>	<u>27,712,185</u>	<u>27,712,185</u>	<u>29,589,774</u>	<u>254,411</u>
Other Financing sources/(uses):				
Operating Transfers Out	4,433,660	4,433,660	(4,026,125)	(8,459,785)
Total Other Financing sources/(uses)	<u>4,433,660</u>	<u>4,433,660</u>	<u>(4,026,125)</u>	<u>(8,459,785)</u>
<b>Total Expenditures and Other Financing Uses</b>	<u>32,145,845</u>	<u>32,145,845</u>	<u>25,563,649</u>	<u>(8,205,374)</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
DEBT SERVICE FUND  
YEAR ENDED DECEMBER 31, 2015**

The Debt Service Fund is comprised of restricted funds used to account for the accumulation of financial resources for, and payment of, debt interest and principal payments on the outstanding long-term debt obligations of the Township.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES –**  
**BUDGET AND ACTUAL (BUDGETARY BASIS) – DEBT SERVICE FUND**  
**YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with Final Budget Positive (Negative)
	Original	Final		
Revenues				
Debt Repayment Agreements	\$ 113,201	\$ 113,201	\$ -	\$ (113,201)
Total Revenues	<u>113,201</u>	<u>113,201</u>	<u>-</u>	<u>(113,201)</u>
Expenditures:				
Current:				
General Government	-	-	24,706	(24,706)
Debt Service				
Prinple Retirement	2,635,000	2,635,000	10,529,121	(7,894,121)
Interest	1,542,590	1,542,590	1,720,685	(178,095)
Bond Issue Costs	-	-	145,767	(145,767)
Total Expenditures	<u>4,177,590</u>	<u>4,177,590</u>	<u>12,420,279</u>	<u>(8,242,689)</u>
Excess of Revenues over (under) Expenditures	(4,064,389)	(4,064,389)	(12,420,279)	(8,355,890)
Other Financing Sources:				
Proceeds from Bond Issuance	-	-	7,750,000	7,750,000
Premium on Bond Issuance	-	-	224,888	224,888
Operating Transfers In	4,066,961	4,066,961	4,308,183	241,222
Total Other Financing Sources	<u>4,066,961</u>	<u>4,066,961</u>	<u>12,283,071</u>	<u>8,216,110</u>
<b>Net Change in Fund Balance</b>	2,572	2,572	(137,208)	(139,780)
Fund Balance - Beginning of Year (Budgetary Basis)	<u>1,204,728</u>	<u>1,204,728</u>	<u>1,204,728</u>	<u>-</u>
Fund Balance - End of Year (Budgetary Basis)	<u>\$ 1,207,300</u>	<u>\$ 1,207,300</u>	<u>\$ 1,067,520</u>	<u>\$ (139,780)</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**MAJOR CAPITAL PROJECT FUNDS WITH LEGALLY ADOPTED BUDGET**  
**YEAR ENDED DECEMBER 31, 2015**

Capital projects funds are used to account for financial resources intended to be used for the acquisition, construction or reconstruction of Township assets and facilities. Resources of the capital projects funds are derived primarily from bond proceeds, contributions, and grants.

- The Capital Improvements Fund is a major capital projects fund with a legally adopted budget. The capital improvements fund is to be used for various capital acquisitions and improvements of the Township.
  
- The Special Assessment Fund is a capital projects fund with a legally adopted budget. The special assessment fund is used to account for financial resources to be used for installing sanitary sewers, sidewalks, and curbing in the Township. This fund also accounts for the collection of special assessment taxes levied to finance public improvements or services deemed to benefit the properties assessed. Special assessment taxes are primarily used to finance the improvements.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES –  
BUDGET AND ACTUAL (BUDGETARY BASIS) – CAPITAL IMPROVEMENT FUND  
YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with Final Budget Positive (Negative)
	Original	Final		
Revenues				
Interest and Rents	\$ 6,000	\$ 6,000	\$ 32,250	\$ 26,250
Refunds and Miscellaneous	180,000	180,000	224,617	44,617
Total Revenues	<u>186,000</u>	<u>186,000</u>	<u>256,867</u>	<u>70,867</u>
Expenditures:				
Current:				
General Government	-	-	35,830	(35,830)
Protection to Person and Property	-	-	116,951	(116,951)
Public Works	-	-	176,054	(176,054)
Highways	-	-	283,036	(283,036)
Library	-	-	16,343	(16,343)
Parks and Recreation	-	-	75,514	(75,514)
Capital Outlay	2,198,125	2,198,125	2,062,275	135,850
Debt Service				
Bond Issue Costs	-	-	55,832	(55,832)
Total Expenditures	<u>2,198,125</u>	<u>2,198,125</u>	<u>2,821,835</u>	<u>(623,710)</u>
Excess of Revenues over (under) Expenditures	(2,012,125)	(2,012,125)	(2,564,968)	(552,843)
Other Financing sources/(uses):				
Proceeds from Bond Issuance	-	-	2,490,000	2,490,000
Premium on Bond Issuance	-	-	65,832	65,832
Capital Lease Acquisition	-	-	537,451	537,451
Operating Transfers In	1,012,125	1,012,125	1,012,125	-
Operating Transfers Out	-	-	-	-
Total Other Financing sources/(uses)	<u>1,012,125</u>	<u>1,012,125</u>	<u>4,105,408</u>	<u>3,093,283</u>
<b>Net Change in Fund Balance</b>	(1,000,000)	(1,000,000)	1,540,440	2,540,440
Fund Balance - Beginning of Year (Budgetary Basis)	<u>3,352,068</u>	<u>3,352,068</u>	<u>3,352,068</u>	<u>-</u>
Fund Balance - End of Year (Budgetary Basis)	<u>\$ 2,352,068</u>	<u>\$ 2,352,068</u>	<u>\$ 4,892,508</u>	<u>\$ 2,540,440</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
REQUIRED SUPPLEMENTARY INFORMATION  
SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES –  
BUDGET AND ACTUAL (BUDGETARY BASIS) – SPECIAL ASSESSMENT FUND  
YEAR ENDED DECEMBER 31, 2015**

	Budget		Actual	Variance with Final Budget Positive (Negative)
	Original	Final		
Revenues				
Interest and Rents	\$ -	\$ -	\$ 72,103	\$ 72,103
Department Earnings	1,700,800	1,700,800	88,762	(1,612,038)
Refunds and Miscellaneous	2,700	2,700	2,206	(494)
Total Revenues	<u>1,703,500</u>	<u>1,703,500</u>	<u>163,071</u>	<u>(1,540,429)</u>
Other Financing sources/(uses):				
Operating Transfers Out	-	-	(49,819)	(49,819)
Total Other Financing sources/(uses)	<u>-</u>	<u>-</u>	<u>(49,819)</u>	<u>(49,819)</u>
<b>Net Change in Fund Balance</b>	1,703,500	1,703,500	113,252	(1,590,248)
Fund Balance - Beginning of Year (Budgetary Basis)	<u>85,943</u>	<u>85,943</u>	<u>85,943</u>	<u>-</u>
Fund Balance - End of Year (Budgetary Basis)	<u>\$ 1,789,443</u>	<u>\$ 1,789,443</u>	<u>\$ 199,195</u>	<u>\$ (1,590,248)</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
NONMAJOR GOVERNMENTAL FUNDS  
YEAR ENDED DECEMBER 31, 2015**

The Township's nonmajor funds are as follows:

**Special Revenue Funds**

Account for the proceeds of specific revenue sources (other than special assessments, expandable trusts or major capital projects) that are legally restricted to expenditures for specified purposes.

- The State Liquid Fuels Tax Fund, as required by state law, accounts for receipts from the State Motor License Fund (gasoline tax distribution, etc.) and the transfer of funds to the General Fund to cover allowable highway-related expenditures.
- The Commemorative Shade Tree Fund derives its revenues from contributions, escrows, fines and/or penalties assessed as a result of improper tree removal situations to be used for planting trees.
- The Trail Grant Fund will be used to account for the activity associated with approved grants in accordance with the grant requirements that the Township deposit the funds into segregated interest bearing accounts.
- The Police K9 Fund derives its revenues from donations and sponsorships to fund the purchase of K9 bomb/patrol dogs, equipment, and training.
- The Recreational Fee Fund derives its revenues from fees collected from land development to insure adequate park and recreational areas and facilities to serve the future residents of the Township.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**COMBINING BALANCE SHEET – NONMAJOR GOVERNMENTAL FUNDS**  
**DECEMBER 31, 2015**

	State Liquid Fuels Tax	Commemorative Shade Tree Fund	Trail Grant Fund	Police K-9 Fund	Recreation Fee Fund	Total Nonmajor Governmental Funds
<b>Assets</b>						
Cash and Cash Equivalents	\$ 539,915	\$ 171,852	\$ 66,320	\$ 2,136	\$ 270,434	\$ 1,050,657
Receivables, Net:						
Other	-	-	-	-	-	-
<b>Total Assets</b>	<u>\$ 539,915</u>	<u>\$ 171,852</u>	<u>\$ 66,320</u>	<u>\$ 2,136</u>	<u>\$ 270,434</u>	<u>\$ 1,050,657</u>
<b>Liabilities and Fund Balances</b>						
<b>Liabilities</b>						
Accounts Payable and Accrued Liabilities	\$ -	\$ 20,800	\$ -	\$ 272	\$ -	\$ 21,072
Due to Other Funds	-	-	39,605	-	-	39,605
<b>Total Liabilities</b>	<u>-</u>	<u>20,800</u>	<u>39,605</u>	<u>272</u>	<u>-</u>	<u>60,677</u>
<b>Fund Balances</b>						
Restricted:						
State Liquid Fuels Tax	539,915	-	-	-	-	539,915
Committed						
Recreation Fee	-	-	26,715	-	270,434	297,149
Assigned						
Subsequent Year Budget	-	22,728	-	1,864	-	24,592
Other	-	128,324	-	-	-	128,324
<b>Total Fund Balances</b>	<u>539,915</u>	<u>151,052</u>	<u>26,715</u>	<u>1,864</u>	<u>270,434</u>	<u>989,980</u>
<b>Total Liabilities and Fund Balances</b>	<u>\$ 539,915</u>	<u>\$ 171,852</u>	<u>\$ 66,320</u>	<u>\$ 2,136</u>	<u>\$ 270,434</u>	<u>\$ 1,050,657</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**COMBINING STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES**  
**IN FUND BALANCES – NONMAJOR GOVERNMENTAL FUNDS**  
**YEAR ENDED DECEMBER 31, 2015**

	State Liquid Fuels Tax	Commemorative Shade Tree Fund	Trail Grant Fund	Police K-9 Fund	Recreation Fee Fund	Total Nonmajor Governmental Funds
<b>Revenues</b>						
Fines, Forfeits and Costs	\$ -	\$ 60,250	\$ -	\$ -	\$ 230,627	\$ 290,877
Interest and Rents	880	91	418	7	96	1,492
Grants and Gifts	784,316	20,550	40,991	23,174	-	869,031
Total revenues	<u>785,196</u>	<u>80,891</u>	<u>41,409</u>	<u>23,181</u>	<u>230,723</u>	<u>1,161,400</u>
<b>Expenditures</b>						
Protection to Persons and Property	-	-	-	20,226	-	20,226
Highways	332,131	-	-	-	-	332,131
Parks and Recreation	-	28,005	21,492	-	-	49,497
Capital Outlay	655,823	-	-	-	-	655,823
Total Expenditures	<u>987,954</u>	<u>28,005</u>	<u>21,492</u>	<u>20,226</u>	<u>-</u>	<u>1,057,677</u>
Excess of Revenues Over (Under) Expenditures	(202,758)	52,886	19,917	2,955	230,723	103,723
<b>Other Financing Sources (Uses)</b>						
Operating Transfers In	-	25,000	-	-	-	25,000
Operating Transfers Out	-	-	-	-	-	-
Total Other Financing Sources (Uses)	<u>-</u>	<u>25,000</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>25,000</u>
<b>Net Changes in Fund Balances</b>	(202,758)	77,886	19,917	2,955	230,723	128,723
Fund Balance - Beginning of Year	<u>742,673</u>	<u>73,166</u>	<u>6,798</u>	<u>(1,091)</u>	<u>39,711</u>	<u>861,257</u>
Fund Balance - End of Year	<u>\$ 539,915</u>	<u>\$ 151,052</u>	<u>\$ 26,715</u>	<u>\$ 1,864</u>	<u>\$ 270,434</u>	<u>\$ 989,980</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCE –**  
**BUDGET AND ACTUAL – STATE LIQUID FUELS TAX FUND**  
**YEAR ENDED DECEMBER 31, 2015**

	State Liquid Fuels Tax		
	Budget	Actual	Variance
Revenues			
Interest and Rents	\$ 982	\$ 880	\$ (102)
Grants and Gifts	562,018	784,316	222,298
Total Revenues	<u>563,000</u>	<u>785,196</u>	<u>222,196</u>
Expenditures:			
Highways	1,013,000	332,131	680,869
Capital Outlay	-	655,823	(655,823)
Total Expenditures	<u>1,013,000</u>	<u>987,954</u>	<u>25,046</u>
<b>Net Change in Fund Balance</b>	(450,000)	(202,758)	247,242
Fund Balance - Beginning of Year	<u>742,673</u>	<u>742,673</u>	<u>-</u>
Fund Balance - End of Year	<u>\$ 292,673</u>	<u>\$ 539,915</u>	<u>\$ 247,242</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**FIDUCIARY FUNDS**  
**YEAR ENDED DECEMBER 31, 2015**

Fiduciary fund types are used to account for assets held by the Township as a trustee capacity or as an agent for individuals, private organizations, other governmental units and/or other funds. The funds included in this category are:

- Trust funds account for assets held by the Township in trust in the employees' retirement system. During the year, the Township had two such funds, the Police Pension Trust and the Civilian Employees Pension Trust.
  - Police Pension Trust funds account for contributions received and benefit payments made for the Radnor Township Police Pension Plan.
  - Civilian Employees Pension Trust funds account for contributions received and benefit payments made for the Radnor Township Civilian Pension Plan.
  - OPEB Trust fund accounts for contributions made by the Township to fund OPEB obligations.
- Agency funds are used to account for assets held by the Township as agent for individuals, private organizations, other governmental units, and/or other funds. During the year, the Township maintained one such fund. This fund is used to account for amounts collected and held awaiting the necessary legal requirements for distribution and are as follows:
  - Escrow Fund – This Fund accounts for deposits made to cover engineering and inspection costs related to zoning, subdivision and development activities. The Township acts as an agent for this Fund.

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
FIDUCIARY FUNDS  
COMBINING STATEMENT OF FIDUCIARY NET POSITION  
PENSION TRUST FUNDS  
DECEMBER 31, 2015**

	Pension Trust Funds				Total Trust Fund
	Police Pension Trust Fund	Civilian Pension Trust Fund	Total Pension Trust Fund	OPEB Reserve Trust Fund	
<b>Assets</b>					
Cash and Cash Equivalents	\$ 668,879	\$ 674,955	\$ 1,343,834	\$ 14,191	\$ 1,358,025
Investments	25,582,007	23,236,663	48,818,670	4,441,764	53,260,434
Life Insurance Cash Value	-	-	-	1,303,540	1,303,540
Receivables	54,689	1,989	56,678	-	56,678
<b>Total Assets</b>	<b>26,305,575</b>	<b>23,913,607</b>	<b>50,219,182</b>	<b>5,759,495</b>	<b>55,978,677</b>
<b>Liabilities</b>					
Accounts Payable	26,384	14,622	41,006	723	41,729
Refunds Payable	-	4,591	4,591	-	4,591
<b>Total Liabilities</b>	<b>26,384</b>	<b>19,213</b>	<b>45,597</b>	<b>723</b>	<b>46,320</b>
<b>Net Position</b>					
Restricted for Pensions	26,279,191	23,894,394	50,173,585		50,173,585
Held in Trust for OPEB Benefits	-	-	-	5,758,772	5,758,772
<b>Total Fund Balances</b>	<b>\$ 26,279,191</b>	<b>\$ 23,894,394</b>	<b>\$ 50,173,585</b>	<b>\$ 5,758,772</b>	<b>\$ 55,932,357</b>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**FIDUCIARY FUNDS**  
**COMBINING STATEMENT OF CHANGES IN PLAN NET POSITION**  
**PENSION TRUST FUNDS**  
**DECEMBER 31, 2015**

	Pension Trust Funds			OPEB Reserve Trust Fund	Total Trust Fund
	Police Pension Trust Fund	Civilian Pension Trust Fund	Total Pension Trust Fund		
<b>Additions:</b>					
<b>Contributions:</b>					
Commonwealth of Pennsylvania	\$ 321,508	\$ 305,825	\$ 627,333	\$ -	\$ 627,333
Employer	1,869,353	1,714,526	3,583,879	772,097	4,355,976
Members	149,817	291,807	441,624	-	441,624
<b>Total contributions</b>	<u>2,340,678</u>	<u>2,312,158</u>	<u>4,652,836</u>	<u>772,097</u>	<u>5,424,933</u>
<b>Investment Earning Losses):</b>					
Investment Gain (Loss)	(516,823)	(439,127)	(955,950)	-	(955,950)
Investment Expense	(10,915)	(10,016)	(20,931)	-	(20,931)
<b>Net Investment Earnings (Losses)</b>	<u>(527,738)</u>	<u>(449,143)</u>	<u>(976,881)</u>	<u>-</u>	<u>(976,881)</u>
<b>Other Additions:</b>					
Litigation and Other	250	250	500	-	500
Interest Earnings	499,959	429,835	929,794	253	930,047
<b>Total Other Additions</b>	<u>500,209</u>	<u>430,085</u>	<u>930,294</u>	<u>253</u>	<u>930,547</u>
<b>Total Additions</b>	<u>2,313,149</u>	<u>2,293,100</u>	<u>4,606,249</u>	<u>772,350</u>	<u>5,378,599</u>
<b>Deductions:</b>					
Benefit Payments	2,242,068	1,568,143	3,810,211	-	3,810,211
Refund of Contributions	23,100	5,075	28,175	-	28,175
Administrative Expenses	68,164	60,023	128,187	723	128,910
<b>Total Deductions</b>	<u>2,333,332</u>	<u>1,633,241</u>	<u>3,966,573</u>	<u>723</u>	<u>3,967,296</u>
<b>Changes in Plan Net Position</b>	<u>(20,183)</u>	<u>659,859</u>	<u>639,676</u>	<u>771,627</u>	<u>1,411,303</u>
<b>Net Position Held in Trust for Benefits:</b>					
Beginning of Year	<u>26,299,374</u>	<u>23,234,535</u>	<u>49,533,909</u>	<u>4,987,145</u>	<u>54,521,054</u>
End of Year	<u>\$ 26,279,191</u>	<u>\$ 23,894,394</u>	<u>\$ 50,173,585</u>	<u>\$ 5,758,772</u>	<u>\$ 55,932,357</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA  
 FIDUCIARY FUNDS  
 COMBINING STATEMENT OF CHANGES IN ASSETS AND LIABILITIES –  
 AGENCY FUND  
 YEAR ENDED DECEMBER 31, 2015**

	Balance January 1, 2015	Additions	Deductions	Balance December 31, 2015
	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<b>Escrow Fund</b>				
Assets				
Cash and Cash Equivalents	\$ 2,173,033	\$ 2,095,982	\$ 1,693,412	\$ 2,575,603
	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
Liabilities				
Accounts Payable	\$ 800	\$ -	\$ 800	\$ -
Deposits Payable	2,172,233	2,095,982	1,692,612	2,575,603
	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
	<u>\$ 2,173,033</u>	<u>\$ 2,095,982</u>	<u>\$ 1,693,412</u>	<u>\$ 2,575,603</u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**CAPITAL ASSETS USED IN THE OPERATION OF GOVERNMENTAL FUNDS**  
**COMPARATIVE SCHEDULES BY SOURCE**  
**DECEMBER 31, 2015**

Governmental Funds Capital Assets	
Land	\$ 24,149,624
Land Improvements	2,853,282
Buildings	22,983,118
Infrastructure	19,600,481
Machinery and Equipment	16,491,636
Construction in Progress	<u>168,800</u>
Total Governmental Funds Capital Assets	\$ 86,246,941
Less: Accumulated Depreciation	<u>(29,515,480)</u>
Net Governmental Funds Capital Assets	<u><u>\$ 56,731,461</u></u>
Investment in Governmental Funds Capital Assets by Source	
General Fund	\$ 1,345,672
Special Revenue Funds	29,937,868
Capital Projects Funds	52,509,465
Sewer Fund	115,559
Storm Water Fund	47,610
Donations	<u>2,290,767</u>
Total Governmental Funds Capital Assets	\$ 86,246,941
Less: Accumulated Depreciation	<u>(29,515,480)</u>
Net Governmental Funds Capital Assets	<u><u>\$ 56,731,461</u></u>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**CAPITAL ASSETS USED IN THE OPERATION OF GOVERNMENTAL FUNDS**  
**SCHEDULE BY FUNCTION AND ACTIVITY**  
**YEAR ENDED DECEMBER 31, 2015**

Function and Activity	Land		Buildings	Infrastructure	Machinery and Equipment	Total
	Land	Improvements				
General Government	\$ -	\$ -	\$ 15,948,366	\$ 256,358	\$ 2,067,586	\$ 18,272,310
Protection to Persons and Property	-	-	-	-	4,561,376	4,561,376
Health and Sanitation	-	-	-	771,590	2,410,147	3,181,737
Highways	-	-	4,746,352	18,224,446	6,265,281	29,236,079
Library	-	-	1,195,247	-	-	1,195,247
Parks and Recreation	24,149,624	2,853,282	1,093,153	348,087	1,187,246	29,631,392
Total Governmental Funds Capital Assets	24,149,624	2,853,282	22,983,118	19,600,481	16,491,636	86,078,141
Less: Accumulated Depreciation	-	(1,815,661)	(6,666,477)	(11,508,285)	(9,525,057)	(29,515,480)
Total	\$ 24,149,624	\$ 1,037,621	\$ 16,316,641	\$ 8,092,196	\$ 6,966,579	56,562,661
Construction in Progress						168,800
Net Governmental Funds Capital Assets						\$ 56,731,461

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**CAPITAL ASSETS USED IN THE OPERATION OF GOVERNMENTAL FUNDS**  
**SCHEDULE OF CHANGES BY FUNCTION AND ACTIVITY**  
**YEAR ENDED DECEMBER 31, 2015**

Function and Activity	Balance at January 1, 2015		Increases	Decreases	Balance at December 31, 2015	
General Government	\$ 17,521,247	\$ 751,063	\$ -	\$ -	\$ 18,272,310	
Protection to Persons and Property	4,255,787	305,589	-	-	4,561,376	
Health and Sanitation	2,952,369	229,368	-	-	3,181,737	
Highways	27,717,751	1,518,328	-	-	29,236,079	
Library	1,195,247	-	-	-	1,195,247	
Parks and Recreation	28,829,236	802,156	-	-	29,631,392	
Total Governmental Funds Capital Assets	82,471,637	3,606,504	-	-	86,078,141	
Construction in Progress	38,749	130,051	-	-	168,800	
Less: Accumulated Depreciation	(27,298,733)	(2,216,747)	-	-	(29,515,480)	
Net Governmental Funds Capital Assets	\$ 55,211,653	\$ 1,519,808	\$ -	\$ -	\$ 56,731,461	

STATISTICAL  
SECTION  
(Unaudited)

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 1 - NET POSITION BY COMPONENT**  
**LAST TEN YEARS**  
(accrual basis of accounting)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Government activities</b>										
Net Investment in Capital Assets	\$ 190,764	\$ 474,838	\$ 843,265	\$ 1,695,503	\$ 3,350,750	\$ 3,738,196	\$ 5,047,878	\$ (5,322,939)	\$ 553,632	\$ 4,977,068
Restricted	-	-	-	-	-	5,636,058	6,723,380	5,399,445	6,007,738	6,852,941
Unrestricted (deficiency)	<u>(3,806,707)</u>	<u>(1,904,628)</u>	<u>(4,439,017)</u>	<u>(9,987,170)</u>	<u>(13,968,543)</u>	<u>(18,143,325)</u>	<u>(18,232,322)</u>	<u>2,822,433</u>	<u>(2,403,145)</u>	<u>(26,809,672)</u>
<b>Total Net Position, governmental activities</b>	<b>\$ (3,615,943)</b>	<b>\$ (1,429,790)</b>	<b>\$ (3,595,752)</b>	<b>\$ (8,291,667)</b>	<b>\$ (10,617,793)</b>	<b>\$ (8,769,071)</b>	<b>\$ (6,461,064)</b>	<b>\$ 2,898,939</b>	<b>\$ 4,158,225</b>	<b>\$ (14,979,663)</b>
<b>Business-type activities</b>										
Net Investment in Capital Assets	\$ 52,500	\$ 45,000	\$ 37,500	\$ 30,000	\$ 22,500	\$ 92,609	\$ 98,764	\$ 88,873	\$ 86,482	\$ 84,091
Restricted	-	-	-	-	-	-	-	-	-	-
Unrestricted (deficiency)	<u>17,350</u>	<u>(38,655)</u>	<u>(79,103)</u>	<u>29,640</u>	<u>11,222</u>	<u>65,447</u>	<u>68,963</u>	<u>(2,936)</u>	<u>(15,196)</u>	<u>15,631</u>
<b>Total Net Position, business-type activities</b>	<b>\$ 69,850</b>	<b>\$ 6,345</b>	<b>\$ (41,603)</b>	<b>\$ 59,640</b>	<b>\$ 33,722</b>	<b>\$ 158,056</b>	<b>\$ 167,727</b>	<b>\$ 85,937</b>	<b>\$ 71,286</b>	<b>\$ 99,722</b>
<b>Primary government</b>										
Net Investment in Capital Assets	\$ 243,264	\$ 519,838	\$ 880,765	\$ 1,725,503	\$ 3,373,250	\$ 3,830,805	\$ 5,146,642	\$ (5,234,066)	\$ 640,114	\$ 5,061,159
Restricted	-	-	-	-	-	5,636,058	6,723,380	5,399,445	6,007,738	6,852,941
Unrestricted (deficiency)	<u>(3,789,357)</u>	<u>(1,943,283)</u>	<u>(4,518,120)</u>	<u>(9,957,530)</u>	<u>(13,957,321)</u>	<u>(18,077,878)</u>	<u>(18,163,359)</u>	<u>2,819,497</u>	<u>(2,418,341)</u>	<u>(26,794,041)</u>
<b>Total Net Position, primary government</b>	<b>\$ (3,546,093)</b>	<b>\$ (1,423,445)</b>	<b>\$ (3,637,355)</b>	<b>\$ (8,232,027)</b>	<b>\$ (10,584,071)</b>	<b>\$ (8,611,015)</b>	<b>\$ (6,293,337)</b>	<b>\$ 2,984,876</b>	<b>\$ 4,229,511</b>	<b>\$ (14,879,941)</b>

Note:

As of the financial statement date December 31, 2012, the following title have changed:

- Schedule 1 - Net Position by Component - formerly titled Net Assets by Component
- Net Investment in Capital Assets - formerly titled as Invested in Capital Assets, net of related debt
- Total Net Position (by activity) - formerly titled as Total Net Assets/(Deficiency) ( by activity)

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 2 - CHANGES IN NET POSITION**  
**LAST TEN YEARS**  
(accrual basis of accounting)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Expenses</b>										
Government activities										
General government	\$ 3,973,442	\$ 3,678,615	\$ 4,412,462	\$ 4,010,008	\$ 3,884,263	\$ 4,267,630	\$ 4,110,480	\$ 4,027,041	\$ 5,691,986	\$ 4,138,635
Protection to persons and property	8,880,924	8,606,018	11,010,789	10,837,731	11,148,431	10,697,442	11,313,565	12,745,479	13,505,092	15,012,436
Health and sanitation	6,859,706	7,889,805	8,243,298	8,280,877	7,744,284	7,703,327	8,188,645	8,733,554	8,824,642	8,816,933
Highways	4,555,055	5,215,465	5,019,350	4,517,841	4,639,667	4,700,904	4,819,026	6,021,919	6,374,657	7,010,773
Library	797,503	823,625	847,382	847,382	815,650	733,821	818,443	849,850	899,290	901,839
Parks and recreation	2,729,555	2,650,243	3,575,198	3,093,348	3,275,958	3,067,398	3,046,785	3,725,915	3,576,358	3,318,754
Interest on long-term debt	2,056,433	2,459,128	2,544,461	2,415,864	2,341,738	2,046,102	1,968,757	1,812,689	1,910,392	1,934,553
Total governmental activities net assets	\$ 29,852,618	\$ 31,322,899	\$ 35,652,940	\$ 34,003,051	\$ 33,849,991	\$ 33,216,624	\$ 34,265,701	\$ 37,916,447	\$ 40,782,417	\$ 41,133,923
Business-type activities										
The Willows	125,379	131,345	114,246	91,835	248,307	94,912	82,902	64,090	14,663	36,575
Total business-type activities net assets	\$ 125,379	\$ 131,345	\$ 114,246	\$ 91,835	\$ 248,307	\$ 94,912	\$ 82,902	\$ 64,090	\$ 14,663	\$ 36,575
Total primary government expenses	\$ 29,977,997	\$ 31,454,244	\$ 35,767,186	\$ 34,094,886	\$ 34,098,298	\$ 33,311,536	\$ 34,348,603	\$ 37,980,537	\$ 40,797,080	\$ 41,170,498
<b>Program revenues</b>										
Government activities										
Charges for services:										
General government	\$ 420,699	\$ 464,676	\$ 567,017	\$ 589,028	\$ 1,381,391	\$ 875,742	\$ 1,080,385	\$ 1,179,348	\$ 1,133,685	\$ 1,332,990
Protection to persons and property	3,313,322	3,965,711	3,276,796	2,032,627	2,581,873	3,117,019	3,697,080	3,552,696	4,352,438	4,314,993
Health and sanitation	4,324,444	4,476,779	5,142,404	5,524,916	4,495,789	5,023,688	5,144,615	5,029,173	5,680,287	6,459,830
Highways	211,283	222,087	125,792	79,468	59,196	87,765	95,777	92,817	128,600	258,197
Parks and recreation	499,880	532,376	581,365	722,357	699,190	702,057	684,126	647,417	730,164	1,080,811
Operating grants and contributions	1,526,332	1,676,438	1,721,290	1,593,526	1,842,782	3,413,688	1,937,762	2,092,665	2,512,484	1,417,037
Capital grants and contributions	384,831	426,670	367,312	89,563	263,001	169,571	210,897	257,099	987,703	969,036
Total governmental activities program revenues	\$ 10,680,791	\$ 11,764,737	\$ 11,781,976	\$ 10,631,485	\$ 11,323,222	\$ 13,389,530	\$ 12,850,642	\$ 12,851,215	\$ 15,525,361	\$ 15,832,894
Business-type activities										
The Willows	125,507	114,576	113,137	103,002	107,036	100,823	74,230	24,069	-	-
Capital grants and contributions	-	-	-	-	122,022	111,577	-	-	-	-
Total business-type activities program revenues	\$ 125,507	\$ 114,576	\$ 113,137	\$ 103,002	\$ 229,058	\$ 212,400	\$ 74,230	\$ 24,069	\$ -	\$ -
Total primary government program revenues	\$ 10,806,298	\$ 11,879,313	\$ 11,895,113	\$ 10,734,487	\$ 11,552,280	\$ 13,601,930	\$ 12,924,872	\$ 12,875,284	\$ 15,525,361	\$ 15,832,894

Note:

As of the financial statement date December 31, 2012, the following title and descriptions have changed:

- Schedule 1 - Changes in Net Position - formerly titled Changes in Net Assets

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 2 - CHANGES IN NET POSITION (CONTINUED)**  
**LAST TEN YEARS**  
(accrual basis of accounting)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Net (Expense)/Revenue</b>										
Government activities	\$ (19,171,827)	\$ (19,558,162)	\$ (23,870,964)	\$ (23,371,566)	\$ (22,526,769)	\$ (19,827,094)	\$ (21,415,059)	\$ (25,065,232)	\$ (25,257,056)	\$ (25,301,089)
Business-type activities	<u>128</u>	<u>(16,769)</u>	<u>(1,109)</u>	<u>11,167</u>	<u>(19,249)</u>	<u>117,488</u>	<u>(8,672)</u>	<u>(40,021)</u>	<u>(14,663)</u>	<u>(36,575)</u>
Total primary government net expense	<u>\$ (19,171,699)</u>	<u>\$ (19,574,931)</u>	<u>\$ (23,872,073)</u>	<u>\$ (23,360,399)</u>	<u>\$ (22,546,018)</u>	<u>\$ (19,709,606)</u>	<u>\$ (21,423,731)</u>	<u>\$ (25,105,253)</u>	<u>\$ (25,271,719)</u>	<u>\$ (25,337,664)</u>
<b>General Revenues and Other Changes in Net Assets</b>										
Governmental activities:										
Taxes										
Real estate taxes	\$ 9,125,486	\$ 9,194,781	\$ 9,387,945	\$ 9,559,632	\$ 10,428,058	\$ 10,915,977	\$ 11,734,189	\$ 11,843,737	\$ 11,844,653	\$ 11,640,796
Taxes levied under Local Tax Enabling Act	11,609,166	11,183,631	11,597,425	8,869,630	10,484,186	10,107,822	11,808,104	23,308,687	14,377,967	15,705,050
Investment earnings	1,072,634	1,318,835	672,546	289,683	(198,428)	658,671	103,117	128,039	162,817	-
Special item - loss on demolition of building	-	-	-	-	-	-	-	-	-	-
Debt repayment agreements	-	-	-	-	-	-	95,933	60,175	130,905	-
Transfers	<u>56,708</u>	<u>47,068</u>	<u>47,068</u>	<u>(43,024)</u>	<u>(40,071)</u>	<u>(6,654)</u>	<u>(18,277)</u>	<u>41,811</u>	<u>-</u>	<u>(65,000)</u>
Total governmental activities	<u>\$ 21,863,994</u>	<u>\$ 21,744,315</u>	<u>\$ 21,704,984</u>	<u>\$ 18,675,921</u>	<u>\$ 20,673,745</u>	<u>\$ 21,675,816</u>	<u>\$ 23,723,066</u>	<u>\$ 35,382,449</u>	<u>\$ 26,516,342</u>	<u>\$ 27,280,846</u>
Business-type activities										
Investment earnings	\$ 3,030	\$ 332	\$ 247	\$ 76	\$ 236	\$ 192	\$ 66	\$ 42	\$ 12	\$ 11
Transfers	<u>(56,708)</u>	<u>(47,068)</u>	<u>(47,068)</u>	<u>43,024</u>	<u>40,071</u>	<u>6,654</u>	<u>18,277</u>	<u>(41,811)</u>	<u>-</u>	<u>65,000</u>
Total business-type activities	<u>\$ (53,678)</u>	<u>\$ (46,736)</u>	<u>\$ (46,821)</u>	<u>\$ 43,100</u>	<u>\$ 40,307</u>	<u>\$ 6,846</u>	<u>\$ 18,343</u>	<u>\$ (41,769)</u>	<u>\$ 12</u>	<u>\$ 65,011</u>
Total primary government	<u>\$ 21,810,316</u>	<u>\$ 21,697,579</u>	<u>\$ 21,658,163</u>	<u>\$ 18,719,021</u>	<u>\$ 20,714,052</u>	<u>\$ 21,682,662</u>	<u>\$ 23,741,409</u>	<u>\$ 35,340,680</u>	<u>\$ 26,516,354</u>	<u>\$ 27,345,857</u>
<b>Changes in Net Position</b>										
Governmental activities	\$ 2,692,167	\$ 2,186,153	\$ (2,165,980)	\$ (4,695,645)	\$ (1,853,024)	\$ 1,848,722	\$ 2,308,007	\$ 10,317,217	\$ 1,259,286	\$ 1,979,757
Business-type activities	<u>(53,550)</u>	<u>(63,505)</u>	<u>(47,930)</u>	<u>54,267</u>	<u>21,058</u>	<u>124,334</u>	<u>9,671</u>	<u>(81,790)</u>	<u>(14,651)</u>	<u>28,436</u>
Total primary government	<u>\$ 2,638,617</u>	<u>\$ 2,122,648</u>	<u>\$ (2,213,910)</u>	<u>\$ (4,641,378)</u>	<u>\$ (1,831,966)</u>	<u>\$ 1,973,056</u>	<u>\$ 2,317,678</u>	<u>\$ 10,235,427</u>	<u>\$ 1,244,635</u>	<u>\$ 2,008,193</u>

**Note:**

As of the financial statement date December 31, 2012, the following title and descriptions have changed:  
- Schedule 1 - Changes in Net Position - formerly titled Changes in Net Assets

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 3 - PROGRAM REVENUES BY FUNCTION / PROGRAM**  
**LAST TEN YEARS**  
(accrual basis of accounting)

Function / Program	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Governmental activities</b>										
General government	\$ 488,248	\$ 581,067	\$ 679,916	\$ 689,331	\$ 1,583,408	\$ 1,116,029	\$ 1,309,789	\$ 1,451,142	\$ 1,277,095	\$ 2,157,309
Protection to persons and property	3,617,995	4,352,858	3,595,865	2,320,267	2,866,539	4,211,647	4,345,358	4,356,925	5,120,225	4,709,615
Health and sanitation	4,903,144	5,038,291	5,645,388	5,713,690	4,894,094	5,846,443	5,356,070	5,183,809	6,444,208	6,541,072
Highways	1,004,974	1,043,662	1,014,163	1,033,962	1,066,586	1,027,950	1,069,032	1,121,634	975,051	1,182,481
Library	500	-	-	-	-	-	-	-	-	-
Parks and recreation	665,930	748,859	846,644	874,235	912,595	1,187,461	770,393	737,705	1,708,782	1,242,357
Subtotal governmental activities	\$ 10,680,791	\$ 11,764,737	\$ 11,781,976	\$ 10,631,485	\$ 11,323,222	\$ 13,389,530	\$ 12,850,642	\$ 12,851,215	\$ 15,525,361	\$ 15,832,834
<b>Business-type activities</b>										
The Willows	125,507	114,576	113,137	103,002	229,058	212,400	74,230	24,069	-	-
Subtotal business-type activities	\$ 125,507	\$ 114,576	\$ 113,137	\$ 103,002	\$ 229,058	\$ 212,400	\$ 74,230	\$ 24,069	\$ -	\$ -
<b>Total primary government</b>	\$ 10,806,298	\$ 11,879,313	\$ 11,895,113	\$ 10,734,487	\$ 11,552,280	\$ 13,601,930	\$ 12,924,872	\$ 12,875,284	\$ 15,525,361	\$ 15,832,834

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 4 - FUND BALANCES, GOVERNMENTAL FUNDS**  
**LAST TEN YEARS**  
(modified accrual basis of accounting)

	Year										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
<b>General Fund</b>											
Reserved	\$ 13,803	\$ 7,927	\$ 67,619	\$ 3,913	\$ 166,186	\$ -	\$ -	\$ -	\$ -	\$ -	
Unreserved	2,532,800	4,452,389	6,406,644	3,364,206	5,248,097	-	-	-	-	-	
Non-Spendable	-	-	-	-	-	21,957	30,195	84,961	81,570	93,190	
Restricted	-	-	-	-	-	-	-	-	-	-	
Committed	-	-	-	-	-	-	-	7,332,240	1,450,000	942,800	
Assigned	-	-	-	-	-	3,480,206	4,413,634	389,941	1,183,474	500,257	
Unassigned	-	-	-	-	-	3,486,688	3,652,753	7,600,641	8,866,166	10,317,626	
<b>Subtotal governmental activities</b>	<b>\$ 2,546,603</b>	<b>\$ 4,460,316</b>	<b>\$ 6,474,263</b>	<b>\$ 3,368,119</b>	<b>\$ 5,414,283</b>	<b>\$ 6,988,851</b>	<b>\$ 8,096,582</b>	<b>\$ 15,407,783</b>	<b>\$ 11,581,210</b>	<b>\$ 11,853,873</b>	
<b>All Other Governmental Funds</b>											
Reserved	2,099,700	2,715,352	2,100,059	1,967,548	1,495,210	-	-	-	-	-	
Unreserved, reported in:											
Special revenues funds	3,434,575	2,682,851	2,767,121	2,968,678	2,985,713	-	-	-	-	-	
Capital projects funds	2,829,766	7,851,632	3,067,776	2,164,361	2,749,497	-	-	-	-	-	
Debt service funds	14,482	101,014	197,759	318,098	155,079	-	-	-	-	-	
Non-Spendable	-	-	-	-	-	1,332,548	1,199,900	1,120,391	3,818	4,436	
Restricted	-	-	-	-	-	4,281,553	5,493,285	5,399,445	7,208,648	7,866,251	
Committed	-	-	-	-	-	-	-	980,528	1,390,911	2,420,635	
Assigned	-	-	-	-	-	1,010,277	1,058,497	908,632	429,468	1,016,196	
Unassigned	-	-	-	-	-	61,485	-	189,541	-	-	
<b>Total all other governmental funds</b>	<b>\$ 8,378,523</b>	<b>\$ 13,350,849</b>	<b>\$ 8,132,715</b>	<b>\$ 7,418,685</b>	<b>\$ 7,385,499</b>	<b>\$ 6,685,863</b>	<b>\$ 7,751,682</b>	<b>\$ 8,598,537</b>	<b>\$ 9,032,845</b>	<b>\$ 11,307,518</b>	

Footnote:

1. Effective for the year ending December 31, 2011, The Township implemented GASB Statement No. 54 in 2011 which changed the classifications and definitions of fund balances in the governmental funds. Consequently, the classifications noted as Reserved and Unreserved are no longer applicable and have been replaced with Non-Spendable, Restricted, Assigned, and Unassigned. Please see Note 1 Summary of Significant Accounting Policies, Fund Balance (page 35) for more explanation.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 5 - CHANGES IN FUND BALANCE, GOVERNMENTAL FUNDS**  
**LAST TEN YEARS**  
(modified basis of accounting)

	Year									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Revenues</b>										
Taxes (see Schedule 6)	\$ 20,644,283	\$ 20,291,946	\$ 20,877,590	\$ 18,255,935	\$ 20,989,999	\$ 21,545,023	\$ 23,427,514	\$ 35,049,838	\$ 26,389,776	\$ 27,502,513
Licenses, fees and permits	2,818,155	3,634,569	2,640,789	1,536,651	1,947,935	2,142,698	2,812,427	2,790,072	3,372,869	4,010,451
Fines and penalties	371,611	435,119	520,589	527,847	551,277	642,010	617,297	619,889	805,893	846,167
Charges for services	5,662,865	6,170,906	6,510,946	6,535,690	6,345,349	6,776,691	6,795,987	6,617,950	7,460,989	7,589,821
Intergovernmental	1,499,589	1,587,571	1,638,280	1,606,732	1,819,193	3,359,486	1,975,832	2,207,993	3,502,850	2,386,073
Interest and rents	1,088,473	1,321,614	685,129	311,439	216,666	222,633	225,382	255,334	301,202	393,649
Other revenues	241,677	362,618	419,591	139,655	836,758	407,866	577,425	574,657	498,594	643,737
<b>Total revenues</b>	<b>32,326,653</b>	<b>33,804,343</b>	<b>33,292,914</b>	<b>28,913,949</b>	<b>32,707,177</b>	<b>35,096,407</b>	<b>36,431,864</b>	<b>48,115,733</b>	<b>42,332,173</b>	<b>43,372,411</b>
<b>Expenditures</b>										
General government	1,955,248	2,157,889	1,891,660	2,422,523	2,059,662	2,395,825	2,757,849	2,675,320	2,876,337	2,969,087
Protection to persons and property	5,606,097	5,531,538	5,743,559	5,958,844	5,651,576	7,912,433	9,265,977	9,549,766	10,610,555	11,024,184
Health and sanitation	5,483,131	7,148,278	6,544,734	6,096,826	5,470,263	6,550,912	7,302,854	7,662,617	8,391,250	8,016,162
Highways	2,548,368	3,227,513	2,594,658	2,579,952	2,647,479	3,890,896	3,590,319	4,603,647	5,013,694	5,221,798
Library	765,771	791,893	815,650	815,650	815,650	753,297	818,443	849,850	899,290	901,839
Parks and recreation	1,678,067	1,844,295	1,845,342	1,851,206	1,868,826	2,116,237	2,387,673	2,590,004	2,761,898	2,813,193
Miscellaneous:										
Employee benefits	7,072,692	5,789,335	6,107,964	6,352,479	6,047,229	3,696,967	2,000,964	5,817,123	3,180,340	3,164,110
OPEB Trust Contributions	-	-	-	-	-	-	-	-	3,680,330	772,097
Insurance	911,145	709,240	710,136	761,026	659,096	387,594	346,368	363,948	406,843	463,715
Other	335,978	402,634	342,379	269,280	304,344	247,269	250,041	425,783	197,450	294,101
Capital outlay	7,721,452	10,586,964	5,278,922	987,318	626,438	1,822,352	1,129,643	1,082,351	14,103,816	3,736,555
Debt service										
Interest	2,063,994	2,348,527	2,552,640	2,562,703	2,479,444	2,036,039	1,943,226	1,845,484	1,683,097	1,720,685
Principal	2,110,000	2,180,000	2,255,000	2,160,000	2,490,000	2,405,000	2,455,000	2,540,000	2,495,000	10,529,121
Bond Issue Costs	-	-	-	-	-	-	149,726	197,034	141,427	201,599
Payment to Redeem Bonds	-	-	-	-	-	-	15,890,000	-	-	-
<b>Total expenditures</b>	<b>38,251,943</b>	<b>42,718,106</b>	<b>36,682,644</b>	<b>32,817,807</b>	<b>31,120,007</b>	<b>34,214,821</b>	<b>50,288,083</b>	<b>40,202,927</b>	<b>56,441,327</b>	<b>51,828,246</b>
<b>Other Financing Sources</b>										
Bonds issued	-	15,752,734	-	-	-	-	16,048,046	-	9,885,000	10,240,000
Premium on Bond Issuance	-	-	-	-	-	-	-	-	114,289	290,720
Capital Lease Acquisition	-	-	-	-	-	-	-	-	717,600	537,451
Swaption proceeds	-	-	-	-	-	-	-	-	-	-
Refunding bonds issued	-	-	-	-	-	-	-	18,883,901	-	-
Payments to escrow agent	-	-	-	-	-	-	-	(18,680,462)	-	-
Transfers in	1,933,652	2,541,633	3,697,017	2,737,968	5,773,203	4,993,458	6,978,065	6,370,376	7,440,153	5,845,308
Transfers out	(1,876,944)	(2,494,565)	(3,511,474)	(2,654,282)	(5,347,395)	(5,000,112)	(6,996,342)	(6,328,565)	(7,440,153)	(5,910,308)
<b>Total other financing sources (uses)</b>	<b>56,708</b>	<b>15,799,802</b>	<b>185,543</b>	<b>83,686</b>	<b>425,808</b>	<b>(6,654)</b>	<b>16,029,769</b>	<b>245,250</b>	<b>10,716,889</b>	<b>11,003,171</b>
<b>Net change in fund balance</b>	<b>\$ (5,868,582)</b>	<b>\$ 6,886,039</b>	<b>\$ (3,204,187)</b>	<b>\$ (3,820,172)</b>	<b>\$ 2,012,978</b>	<b>\$ 874,932</b>	<b>\$ 2,173,550</b>	<b>\$ 8,158,056</b>	<b>\$ (3,392,265)</b>	<b>\$ 2,547,336</b>
Debt service as a percentage of noncapital expenditures	13.7%	14.1%	15.3%	14.8%	16.3%	13.7%	8.9%	11.2%	9.9%	25.5%

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 6 - TAX REVENUE BY SOURCE, GOVERNMENTAL FUNDS**  
**LAST TEN YEARS**  
(modified basis of accounting)

<u>Year</u>	Local Enabling Tax (Act 511) (b)				Total
	Property (a)	Business Privilege & Mercantile	Realty Transfer	Other	
2006	9,110,117	6,955,432	3,280,052	1,298,682	20,644,283
2007	9,208,315	6,198,782	3,585,263	1,299,586	20,291,946
2008	9,330,165	7,937,247	2,586,806	1,023,372	20,877,590
2009	9,331,575	6,018,989	1,869,545	1,035,826	18,255,935
2010	10,360,813	7,514,534	2,098,951	1,015,701	20,989,999
2011	11,305,201	7,157,179	2,099,160	983,483	21,545,023
2012	11,687,363	8,511,021	2,480,143	748,987	23,427,514
2013	11,836,596	18,840,100	3,441,425	931,717	35,049,838
2014	11,805,411	10,465,390	3,145,128	973,847	26,389,776
2015	11,797,463	11,164,986	3,506,820	1,033,244	27,502,513
Changes					
2006 - 2015	29.5%	60.5%	6.9%	-20.4%	33.2%

(a) Notwithstanding the county-wide reassessment in 2000, assessments have steadily increased over the past ten years while our real estate taxes have remained fairly steady when annualized over the fourteen year period.

(b) Taxes collected under Act 511 (Local Enabling Tax Act) have grown for a variety of reasons, including the climbing value of our real estate increasing the realty transfer tax, our improved economy increasing the business privilege and mercantile tax collections, and the change from a \$10 per person Occupational Privilege Tax to a \$52 per person Emergency & Municipal Services Tax (now known as the Local Services Tax) in 2005.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 7 - ASSESSED VALUE AND ESTIMATED ACTUAL VALUE OF TAXABLE PROPERTY**  
**LAST TEN YEARS**  
(in thousands of dollars)

<u>Year</u>	Tax Exempt Property	Residential Property	Commercial Property	Other Property (a), (c)	Total Taxable Assessed Value	Total Direct Tax Rate (per \$1,000)	Estimated Actual Taxable Value	Taxable Assessed Value as a Percentage of Actual Taxable Value
2006	407,686,215	2,306,908,769	711,846,537	45,231,948	3,063,987,254	3.0100	3,063,987,254	100.0%
2007	407,541,105	2,333,987,261	706,971,527	43,784,084	3,084,742,872	3.0100	3,084,742,872	100.0%
2008	427,700,645	2,374,223,989	683,048,147	42,539,224	3,099,811,360	3.0100	3,099,811,360	100.0%
2009	444,577,193	2,399,381,717	684,171,717	47,765,544	3,131,318,978	3.0100	3,131,318,978	100.0%
2010	445,876,898	2,404,787,156	680,386,421	46,157,028	3,131,330,605	3.3411	3,131,330,605	100.0%
2011	448,146,338	2,404,723,368	675,657,684	44,557,628	3,124,938,680	3.6411	3,124,938,680	100.0%
2012	448,267,948	2,426,398,552	678,489,534	42,417,098	3,147,305,184	3.7511	3,147,305,184	100.0%
2013	445,005,068	2,456,745,267	679,253,194	40,038,325	3,176,036,786	3.7511	3,176,036,786	100.0%
2014	445,530,608	2,476,283,310	653,004,104	42,970,567	3,172,257,981	3.7511	3,172,257,981	100.0%
2015	446,358,268	2,496,459,218	651,319,891	46,624,817	3,194,403,926	3.7511	3,194,403,926	100.0%

Source: County of Delaware, Pennsylvania, Board of Assessments

Notes:

- (a) Includes agricultural and vacant land
- (b) Upon County-wide reassessment, effective January 1, 2000, taxable assessed value theoretically equaled market values; from 1993 - 1999, assessed value averaged 3.1% of market value.
- (c) At the end of 2006, a court approved settlement reduced the assessed value of a large commercial property.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 8 - DIRECT AND OVERLAPPING PROPERTY TAX RATES**  
**LAST TEN YEARS**  
(rate per \$1,000 of assessed value)

<u>Year</u>	Township Direct Rates			Overlapping Rates	
	Basic Rate	General Obligation Debt Service	Total Direct Rate	Radnor Township School District	Delaware County
2006	2.082	0.928	3.010	17.3670	4.450
2007	2.082	0.928	3.010	18.2360	4.450
2008	2.082	0.928	3.010	19.5118	4.825
2009	1.923	1.087	3.010	20.4085	4.825
2010	2.297	1.044	3.3411	20.8681	5.184
2011	2.534	1.107	3.6411	21.1439	5.180
2012	2.769	0.983	3.7511	21.8227	5.304
2013	2.785	0.966	3.7511	21.7122	5.452
2014	2.819	0.932	3.7511	21.8227	5.604
2015	2.821	0.930	3.7511	22.1247	5.604

Source: County of Delaware, Pennsylvania, Board of Assessments

Notes:

- (1) Upon County-wide reassessment, effective January 1, 2000, taxable assessed value theoretically equaled market values; from 1993 - 1999, assessed value averaged 3.1% of market value.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 9 - PRINCIPAL PROPERTY TAXPAYERS**  
**CURRENT AND NINE YEARS AGO**

<u>Taxpayer</u>		2015			2006		
		Taxable Assessed Value	Rank	Percentage of Total Township Taxable Assessed Value	Taxable Assessed Value	Rank	Percentage of Total Township Taxable Assessed Value
Radnor Properties	Commercial Real Estate	\$ 171,550,465	1	5.4%	-		
Trustees of University of PA	Healthcare	32,918,600	2	1.0%	16,307,600	6	0.5%
S. W. Bajus & Associates, LTD	Commercial Real Estate	31,609,020	3	1.0%	12,340,630	9	0.4%
Radwyn Apartments	Apartment Complex	22,149,000	4	0.7%	23,186,980	3	0.8%
KMO 361 Realty Associates	Commercial Real Estate	17,850,410	5	0.6%	17,850,410	5	0.6%
Home Properties	Apartments	17,470,500	6	0.5%	-		
Linda Sposato Trust ETAL	Apartments	14,205,000	7	0.4%	-		
Enrico Partners	Commercial Real Estate	13,949,250	8	0.4%	-		
Fidelity Mutual Trust	Commercial Real Estate	13,843,140	9	0.4%	13,843,100	8	0.5%
G&I II Radnor Crossing LP	Apartments	12,271,030	10	0.4%	12,271,000	10	0.4%
Brandywine Realty Trust	Radnor Corporate Center & Radnor Financial Center	-		0.0%	243,850,290	1	8.0%
Radcliffe House	Apartments	-		0.0%	82,588,000	2	2.7%
Albert Levin & Associates	Apartment Complex	-		0.0%	19,166,600	4	0.6%
Montgomery-Scott Associates	Private residential/agricultural	-		0.0%	15,618,250	7	0.5%
<b>Total</b>		<u>\$ 347,816,415</u>		<u>10.9%</u>	<u>\$ 457,022,860</u>		<u>14.9%</u>

Notes:

(1) Total taxable assessed value, all real property in Radnor Township, December 31, 2015 was \$3,194,403,926 and at December 31, 2006 was \$3,063,987,254.

(2) Upon County-wide reassessment, effective January 1, 2000, taxable assessed value theoretically equaled market values;

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 10 - PROPERTY TAX LEVIES AND COLLECTIONS**  
**LAST TEN YEARS**

<i><b>Year Ended December 31</b></i>	Taxes Levied for the Year	Collected within the Year of the Levy		Collections in Subsequent Years	Total Collections to Date	
		Amount	Percentage of Levy		Amount	Percentage of Levy
2006	9,197,804	9,110,117	99.05%	87,687	9,197,804	100.00%
2007	9,285,076	9,193,509	99.01%	91,567	9,285,076	100.00%
2008	9,330,434	9,248,811	99.13%	81,623	9,330,434	100.00%
2009	9,425,270	9,310,850	98.79%	111,077	9,421,927	99.96%
2010	10,462,089	10,380,944	99.22%	81,145	10,462,089	100.00%
2011	11,378,213	11,280,867	99.14%	97,346	11,378,213	100.00%
2012	11,805,857	11,713,761	99.22%	89,381	11,803,142	99.98%
2013	11,826,420	11,652,931	98.53%	91,607	11,744,538	99.31%
2014	11,913,632	11,636,427	97.67%	68,657	11,705,084	98.25%
2015	11,894,911	11,735,097	98.66%	-	11,735,097	98.66%

Source: County of Delaware, Pennsylvania, Board of Assessments, Radnor Township Department of Finance

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 11 - BUSINESS PRIVILEGE AND MERCANTILE TAXES, REVENUE BASE AND COLLECTIONS**  
**LAST TEN YEARS**

	Year									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Business Privilege (2)</b>										
- Number of Filers	1,232	1,234	1,082	1,180	1,309	1,463	1,452	1,340	1,390	1,531
- Tax Collections	\$ 5,706,108	\$ 4,851,853	\$ 6,638,348	\$ 4,931,812	\$ 5,882,082	\$ 5,635,035	\$ 6,489,709	\$ 10,123,991	\$ 8,652,138	\$ 8,903,082
- Taxable Services	\$ 1,902,036,000	\$ 1,617,824,333	\$ 2,212,782,667	\$ 1,643,937,333	\$ 1,960,694,000	\$ 1,878,345,000	\$ 2,163,236,333	\$ 3,374,663,667	\$ 2,884,046,000	\$ 2,967,694,000
- Tax Rate (1)	3 mills	3 mills	3 mills							
<b>Mercantile (2)</b>										
- Number of Filers	338	315	240	256	278	305	304	238	233	254
- Tax Collections	\$ 1,249,324	\$ 1,346,929	\$ 1,298,901	\$ 1,087,177	\$ 1,632,452	\$ 1,212,563	\$ 1,195,293	\$ 716,109	\$ 1,397,556	\$ 1,302,523
- Taxable Services	\$ 416,442,000	\$ 448,976,333	\$ 432,967,000	\$ 362,392,333	\$ 544,150,667	\$ 404,187,667	\$ 398,431,000	\$ 238,703,000	\$ 465,852,000	\$ 434,174,333
- Tax Rate (1)	3 mills	3 mills	3 mills							
<b>Total Tax Collections</b>	<b>\$ 6,955,432</b>	<b>\$ 6,198,782</b>	<b>\$ 7,937,249</b>	<b>\$ 6,018,989</b>	<b>\$ 7,514,534</b>	<b>\$ 6,847,598</b>	<b>\$ 7,685,002</b>	<b>\$ 10,840,100</b>	<b>\$ 10,049,694</b>	<b>\$ 10,205,605</b>

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 12 - PRINCIPAL BUSINESS PRIVILEGE AND MERCANTILE TAX REMITTERS**  
**CURRENT AND NINE YEARS AGO**

<b><i>Taxpayer's Business</i></b>	<b>2015</b>		<b>2006</b>	
	Rank	Percentage of Total	Rank	Percentage of Total
Investment	1	6.2%	4	4.6%
Investment	2	5.1%	5	2.2%
Industrial Gas	3	4.2%		0.0%
Investment Advisors	4	3.7%		0.0%
Laboratory Supply & Distribution	5	3.0%		0.0%
Digital Cable Products	6	2.9%		0.0%
Real Estate Investment Trust	7	2.2%		0.0%
Publisher	8	2.2%		0.0%
Information Technology	9	2.0%		0.0%
Investment	10	1.7%	8	1.9%
Consulting			1	19.4%
Management			2	6.2%
Legal			3	4.8%
Management			6	2.0%
Retail Sales - Autos			7	2.0%
Management			9	1.8%
Retail Sales - Food			10	<u>1.5%</u>
<b>Percentage of Total Gross Collections</b>		<u>33.1%</u>		<u>46.4%</u>

Source: Township of Radnor Finance Department

Note:

(1) Due to the confidential nature of tax returns and on advice of legal counsel, the Township of Radnor does not disclose the proper name nor specific tax paid for any individual taxpayer. In lieu of that information, we have provided the top ten taxpayers by the nature of the business and the taxpayer's individual share of total tax collected.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 13 - RATIO OF NET GENERAL BONDED DEBT OUTSTANDING**  
**LAST TEN YEARS**

<u>General Obligation Bonds (1)</u>										
<u>Year</u>	Electoral	Non Electoral	Unamortized Bond Premium	Capital Lease Debt	Total	Taxable Assessed Value	Percentage of Actual Taxable Value of Property	Percentage of Personal Income (4)	Population (3)	Net General Obligation Bonds Per Capita
2006	8,630,000	36,860,000	229,194	-	45,719,194	3,084,742,872	1.48%	3.70%	30,878	1,481
2007	8,240,000	50,980,000	436,957	-	59,656,957	3,099,811,360	1.92%	4.82%	30,878	1,932
2008	7,835,000	49,130,000	417,764	-	57,382,764	3,112,600,046	1.84%	3.79%	30,878	1,858
2009	7,695,000	47,225,000	556,690	-	55,476,690	3,131,318,978	1.77%	3.60%	30,878	1,797
2010	7,465,000	44,965,000	994,178	-	53,424,178	3,131,330,705	1.71%	3.36%	31,531	1,694
2011	6,970,000	43,055,000	932,509	-	50,957,509	3,124,938,680	1.63%	3.21%	31,531	1,616
2012	6,465,000	41,575,000	571,359	-	48,611,359	3,147,305,184	1.54%	3.06%	31,531	1,542
2013	5,955,000	43,570,000	735,550	-	50,260,550	3,176,036,786	1.58%	3.49%	31,531	1,594
2014	15,310,000	41,605,000	793,581	638,278	58,346,859	3,172,257,981	1.84%	3.49%	31,531	1,850
2015	14,785,000	41,920,000	1,018,136	1,035,281	58,758,417	3,194,403,926	1.84%	3.49%	31,531	1,864

Sources:

- (1) Township of Radnor Finance Department - Bond Amortization Schedules & Note 7 Audited Financial Statements
- (2) County of Delaware, Pennsylvania, Board of Assessments
- (3) US Census 2010, 2000, 1990
- (4) Schedule 16 - 2015 CAFR Statistical Information

Note: Only general obligation bonds were outstanding in all of the years shown; upon County-wide reassessment effective January 1, 2000, taxable assessed value theoretically equaled market values; from 1993 to 1999, assessed value averaged about 3.1% of market value.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 14 - DIRECT AND OVERLAPPING GOVERNMENTAL ACTIVITIES DEBT**  
**AS OF DECEMBER 31, 2015**

Governmental Unit	Total Debt Outstanding	Estimated Percentage Applicable	Estimated Share of Direct and Overlapping Debt
Debt repaid with property taxes			
Radnor Township School District	\$ 102,083,343	100.00%	\$ 102,083,343
Delaware County	\$ 319,599,000	10.488%	<u>33,521,089</u>
Sub-Total, Overlapping Debt			135,604,432
Township of Radnor Direct Debt		100.00%	<u>58,758,417</u>
Total Direct and Overlapping Debt			<u><u>\$ 194,362,849</u></u>

Sources: Township of Radnor Finance Department, Radnor Township School District, County of Delaware

Note:

(1) Proportionate share of Delaware County's existing debt as of December 31, 2015 is based on the ratio of Radnor Township's assessed valuation to Delaware County's 2015 assessed valuation.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 15 - LEGAL DEBT MARGIN INFORMATION**  
**LAST TEN YEARS**  
(in thousands of dollars)

	Year									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Three Year Average Revenues(2),(3)	\$ 23,992	\$ 29,327	\$ 30,074	\$ 29,381	\$ 29,411	\$ 29,461	\$ 31,767	\$ 36,961	\$ 39,478	\$ 41,371
Debt limit (1)	\$ 59,980	\$ 73,318	\$ 75,185	\$ 73,453	\$ 73,528	\$ 73,653	\$ 79,418	\$ 92,403	\$ 98,695	\$ 103,428
Total net debt applicable to limit	\$ 36,860	\$ 50,980	\$ 49,130	\$ 47,225	\$ 44,965	\$ 43,055	\$ 41,575	\$ 43,570	\$ 41,605	\$ 41,920
Legal debt margin	\$ 23,120	\$ 22,338	\$ 26,055	\$ 26,228	\$ 28,563	\$ 30,598	\$ 37,843	\$ 48,833	\$ 57,090	\$ 61,508
Total net debt applicable to the limit as a percentage of debt limit	61.45%	69.53%	65.35%	64.29%	61.15%	58.46%	52.35%	47.15%	42.16%	40.53%

Notes:

- (1) 250% of borrowing base (three year average revenues) is used in the calculation for determining a municipality's debt limit for general obligation bonds.
- (2) The local Government Unit Debt Act (Act 52 of 1978), reenacted and amending Act 185 of 1972 prescribes debt limits, net revenues and calculation of borrowing base for all local units in Pennsylvania. The "Debt Act" is administered by the Pennsylvania Department of Economic Development. Under the Radnor Township Home Rule Charter, any new debt in excess of 250% of the borrowing base must be approved by the electorate.
- (3) Borrowing Base Revenues represent total revenues less Enterprise Fund operating revenues, interest, State and Federal grants, proceeds from the sale of assets and loan proceeds.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 16 - DEMOGRAPHIC AND ECONOMIC STATISTICS**  
**LAST TEN YEARS**

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<u>Year</u>	Population (1)	Personal Income (2)	Per Capita Personal Income (1)	Unemployment Rate (3)
2005	30,878	1,229,345,814	39,813	4.9%
2006	30,878	1,229,345,814	39,813	4.5%
2007	30,878	1,229,345,814	39,813	5.0%
2008	30,878	1,504,221,770	48,715	5.0%
2009	30,878	1,527,040,612	49,454	7.6%
2010	31,531	1,559,334,074	49,454	7.9%
2011	31,531	1,559,334,074	49,454	7.2%
2012	31,531	1,559,334,074	49,454	5.8%
2013	31,531	1,559,334,074	49,454	5.8%
2014	31,531	1,615,175,475	51,225	4.9%
2015	31,531	1,701,601,946	53,966	4.2%

Sources:

- (1) US Census 2010, 2000, 1990 and PA Center for Workforce Information and Analysis
- (2) Computation of per capita personal income multiplied by population
- (3) US Dept of Labor and PA Center for Workforce Information & Analysis

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 17 - PRINCIPAL EMPLOYERS**  
**CURRENT AND NINE YEARS AGO**

<u><i>Taxpayer</i></u>		2015			2006		
		Employees	Rank	Percentage of Total Township Employment	Employees	Rank	Percentage of Total Township Employment
Villanova University	Higher Education	3,139	1	14.0%	3,423	1	15.6%
Radnor Township School District	Education	837	2	3.7%	940	2	4.3%
Eastern University	Higher Education	754	3	3.4%	828	3	3.8%
Lincoln National Life Insurance	Insurance / Financial Investments	427	4	1.9%	-	-	-
Pathfinders, Inc	Staffing Solutions	394	5	1.8%	-	-	-
University of Pennsylvania	Medical Services	390	6	1.7%	346	8	1.6%
Jefferson Health System	Medical Services	376	7	1.7%	338	9	1.5%
VWR Management Services	Research Supply & Distribution	352	8	1.6%	-	-	-
Cabrini College	Higher Education	323	9	1.4%	518	5	2.4%
Green Apple Manegement Company	Consulting	307	10	1.4%	-	-	-
Centocor	Biotechnology	-	-	-	660	4	3.0%
News America Publications, Inc	Publisher	-	-	-	514	6	2.3%
Bearing Point, Inc	Business Consulting	-	-	-	350	7	1.6%
Sovereign Bank	Banking	-	-	-	252	10	1.2%
<b>Total</b>		<u>7,299</u>		<u>32.5%</u>	<u>8,169</u>		<u>37.3%</u>

Source: Township of Radnor Finance Department

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 18 - FULL TIME EQUIVALENT TOWNSHIP GOVERNMENT EMPLOYEES BY FUNCTION/PROGRAM**  
**LAST TEN YEARS**

<b>Function/Program</b>	<b>Year</b>									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>General Government</b>										
Administration	7	4.5	5	3	4	2	2	2	2	2
Finance	7	5	5	2	3	4	6	6	6	6
Community Development	7	8	8	5	6	5	6	6	6	6
Engineering	4	3	3	3	3	2	2	2	2	2
Information Technology	-	3	3	3	3	3	2	2	2	2
<b>Police</b>										
Officers	42	46	45	43	40	41	36	38	41	40
Civilian	8	6.5	6.0	6	6	5	5	5	4	4
<b>Refuse Collection</b>	30	28	27	26	25	22	20	17	19	21
<b>Other Public Works</b>										
Highways	20	19	19	19	18	18	19	18	17	17
Sewer	6	5	4	4	4	4	4	4	4	4
Park maintenance	17	17	17	17	17	14	13	13	13	13
Other	2	1	2	2	1	1	1	1	1	1
<b>Parks and recreation</b>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>
<b>Total</b>	<u>153</u>	<u>149</u>	<u>147</u>	<u>136</u>	<u>132</u>	<u>124</u>	<u>119</u>	<u>117</u>	<u>120</u>	<u>121</u>

Source: Township of Radnor Finance Department

Note: A full-time employee is scheduled to work 1,820 hours (administration/management) / 2,080 (police officers/public works).

(1) In 2006, all police dispatch duties were transferred to Delaware County.

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 19 - OPERATING INDICATORS BY FUNCTION/PROGRAM**  
**LAST TEN YEARS**

<b>Function/Program</b>	<b>Year</b>									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>General Government</b>										
Business Tax Audits	46	57	49	72	74	85	41	35	32	44
Collections from audits (rounded in thousands)	\$ 1,425	\$ 349	\$ 679	\$ 1,349	\$ 971	\$ 310	\$ 826	\$ 8,984	\$ 421	\$ 959
Business Tax Licenses Issued	1,570	1,550	1,203	1,289	1,237	1,282	1,282	1,655	1,768	1,785
<b>Protection to persons and property</b>										
Building permits issued	914	744	705	675	785	831	910	916	971	828
New construction	43	29	12	19	7	8	22	23	39	18
Accessories and additions	156	112	149	117	104	104	55	49	133	89
Subdivision plans	11	9	9	4	1	2	-	2	19	11
Lots approved	2	1	6	2	-	4	-	1	72	-
Zoning appeals	53	35	59	35	35	54	28	22	26	34
Design review	55	70	89	67	53	90	67	87	70	70
Vehicle violations	23,129	23,728	26,503	28,277	23,371	28,445	30,322	31,576	32,414	20,682
Vehicle accidents	1,307	1,295	1,285	1,136	1,209	1,207	1,214	1,235	1,190	1,103
Nuisance and non-criminal	10,808	11,608	11,861	11,306	10,972	10,579	12,590	15,537	15,298	7,758
Serious crimes	438	436	413	384	433	423	428	396	331	321
Secondary offenses	1,378	986	902	827	784	733	828	672	613	849
Alarm signals	1,950	1,483	1,671	1,551	1,674	1,568	1,664	1,730	1,729	985
Animal complaints	715	685	773	705	784	616	646	518	259	291
<b>Health and sanitation</b>										
Refuse collected (tons)	10,973	10,341.0	9,678.0	9,182.0	8,774.0	7,838.8	7,838.8	7,251.0	7,176.8	7,055.5
Curbside recycling (tons)	5,568	5,919	4,919	6,306	5,738	2,898	6,646	6,629	6,563	6,604
<b>Other Public Works</b>										
Streets resurfaced (sq yds)	83,778	53,219	63,878	42,430	37,224	50,610	-	41,636	41,563	101,089
<b>Parks and recreation</b>										
Number of programs	214	219	221	225	220	187	145	125	125	195
Events held at Willows	151	132	124	118	120	122	117	22	5	-
<b>Wastewater</b>										
New sanitary sewer connections	45	34	29	28	18	3	4	2	2	-

Source: Various Departments, Township of Radnor

**TOWNSHIP OF RADNOR, PENNSYLVANIA**  
**SCHEDULE 20 - CAPITAL ASSET STATISTICS BY FUNCTION/PROGRAM**  
**LAST TEN YEARS**

<u>Function/Program</u>	Year									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Protection to persons and property										
Marked vehicles	13	13	13	13	13	13	13	13	14	14
Unmarked vehicles	9	9	9	8	7	7	7	7	7	7
Health and sanitation										
Recycling trucks	6	6	6	6	6	6	-	-	-	-
Refuse collection trucks	12	12	12	12	12	12	-	-	-	-
Recycling & Refuse Trucks	-	-	-	-	-	-	12	12	12	13
Other Public Works										
Streetlights	1,402	1,402	1,402	1,402	1,402	1,406	1,406	1,406	1,406	1,406
Traffic signals	43	44	44	44	44	44	44	44	44	45
Parks and recreation										
Acres of open space	441.84	441.84	441.84	441.84	441.84	441.84	441.84	441.84	512.84	512.84
Parks, playgrounds, athletic fields	26	26	23	23	23	23	23	23	23	26
Wastewater										
Sanitary sewers (linear feet)	719,810	719,810	719,810	719,810	719,810	719,810	719,810	719,810	719,810	719,810
Storm sewers (linear feet)	675,840	675,840	675,840	675,840	675,840	675,840	675,840	675,840	675,840	675,840

Source: Various Departments, Township of Radnor



**June 7, 2016**

**Consideration of submitting an application to PA DCED / CFA Greenways, Trails and Recreation Program**

The resolution before the Board of Commissioners is to consider submitting a grant application to PA Department of Community and Economic Development for a \$250,000.00 grant for the design, engineering and construction of the Radnor TAP Trail. The extent of the TAP trail is shown on the attached plan.

The DCED grant application is the third and smallest of three grants authored and submitted by our office for this, phase 1 of implementation of the trail system as master planned in the Radnor Township Greenways and Open Space Network Plan, adopted by the Board of Commissioners in 2015.

Assuming success with all three grants, this is how the costs break down.

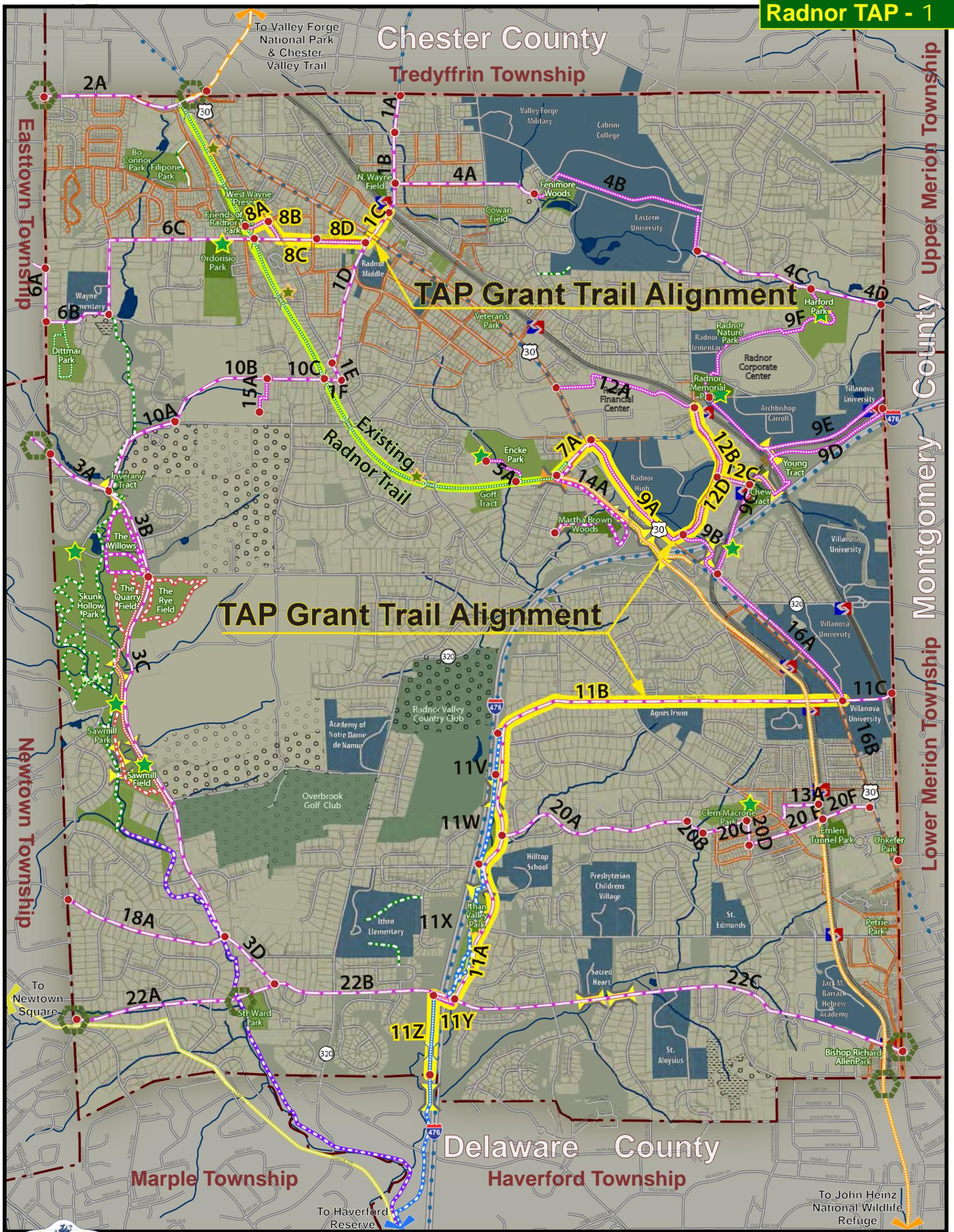
<b>Total project cost, including design and engineering:</b>	<b>\$1,907,892</b>
TAP Application (PennDOT / DVRPC) (submitted)	-\$1,000,000
DCNR Application (submitted)	-\$ 500,000
DCED Application (to be submitted by June 30)	<u>-\$ 250,000</u>
Subtotal	\$157,892.00
 Right of way costs (in application, but not now anticipated)	 <u>-\$ 50,000.00</u>
Subtotal	\$107,892.00
 <b>Anticipated cost to Township / township funds:</b>	 <b>\$107,892.00</b>

Please advise if you have any questions.

Sincerely,

Simone Collins  
Landscape Architecture

Peter M. Simone, RLA, FASLA  
President



# RADNOR COMPREHENSIVE TRAILS MAP

Mapping of Existing, Proposed, and Planned Trails in Radnor Township - September 2015

TRAIL		TYPE		
Existing	Radnor Trails	On Road Bike Route	Multiuse Trail	Hiking/Walking
Proposed	Radnor Trails & Greenways			
Proposed	Forge to Refuge Trail			
Proposed	Ithan Valley Connector			
Proposed	Ardrossan Network Trails			
Planned	Darby Creek Greenway			
Planned	Newtown Line			

<ul style="list-style-type: none"> <li>Existing Trailhead</li> <li>Proposed Trailhead</li> <li>Existing Bridge</li> <li>Proposed Bridge</li> <li>Proposed Underpass</li> <li>Potential Improvement</li> <li>Other Planned Township Trail Connections</li> </ul>	<ul style="list-style-type: none"> <li>Radnor Parks &amp; Open Space</li> <li>Radnor School District</li> <li>Institution</li> <li>Golf Course</li> <li>HOA &amp; Right-of-Way</li> <li>Conservation Easements</li> <li>NLT Easements</li> </ul>	<ul style="list-style-type: none"> <li>Existing Sidewalk</li> <li>Municipal Boundary</li> <li>County Boundary</li> <li>SEPTA Station</li> <li>Railroad</li> <li>Bus/Charter Route</li> </ul>
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Scale: 0 1000' 2000' 4000'

North

**RESOLUTION 2016-39  
RADNOR TOWNSHIP**

**A RESOLUTION OF RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA, AUTHORIZING THE EXECUTION OF A GRANT APPLICATION TO THE PENNSYLVANIA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES FOR THE RADNOR TOWNSHIP TAP TRAIL.**

*WHEREAS*, Radnor Township (“Township”, “Applicant”) desires to undertake the Radnor Township TAP Trail; and

*WHEREAS*, Radnor Township desires to apply to the Department of Conservation and Natural Resources (“Department”) for a grant for the purposes of carrying out this project; and

*WHEREAS*, the application package includes a document entitled “Terms and Conditions of Grant” and a document entitled “Grant Agreement Signature Page”; and

*WHEREAS*, Radnor Township understands that the contents of the document entitled “Terms and Conditions of Grant,” including appendices referred to therein, will become the terms and conditions of a Grant Agreement between Radnor Township and the Department if the applicant is awarded the grant; and

*WHEREAS*, Radnor Township understands, that by signing the “Grant Agreement Signature Page” and submitting it to the Department as part of the grant application, the applicant agrees to the terms and conditions of the grant and will be bound by the Grant Agreement if the Department awards a grant and the Township accepts.

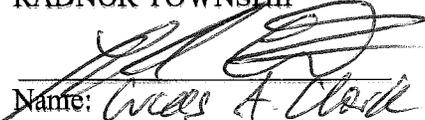
*NOW THEREFORE, BE IT RESOLVED* by the Board of Commissioners of Radnor Township, as follows:

1. The “Grant Agreement Signature Page” may be signed on behalf of the applicant by the official who, at the time of signing, has the title of “Township Manager”.
2. If this official signed the “Grant Agreement Signature Page” prior to the passage of this Resolution, this grant of authority applies retroactively to the date of the signing.
3. If Radnor Township is awarded a grant and the Township accepts, the “Grant Agreement Signature Page,” signed by the above official, will become the applicant/grantee’s executed signature page for the Grant Agreement, and the applicant/grantee will be bound by the Grant Agreement.
4. Any Amendment to the Grant Agreement may be signed on behalf of the grantee by the official who, at the time of the signing of the amendment, has the title specified in paragraph 1 and the grantee will be bound by the amendment.

**SO RESOLVED** this 28<sup>th</sup> day of March, 2016.

RADNOR TOWNSHIP

By:

  
Name: Charles A. Clark  
Title: President  
Vice

ATTEST:

  
Name: Robert A. Zienkowski  
Title: Township Manager/Secretary

# Radnor Township

## PROPOSED LEGISLATION



**DATE:** March 22, 2016

**TO:** Board of Commissioners

**FROM:** Steve Norcini, Director of Public Works

**LEGISLATION:** Resolution #2016-39 Authorizing the Execution of a Grant Application to the Pennsylvania Department of Conservation and Natural Resources Community Conservation Partnerships Program (DCNR C2P2) for the Radnor Township TAP Trail. Township Staff will administer and prepare the necessary grant documentation in cooperation with Simone Collins Landscape Architecture (the Architectural Firm that developed the Radnor Greenways & Open Space Network Plan) and will coordinate the project if approved by the Board of Commissioners and subsequent granting authorities.

**LEGISLATIVE HISTORY:** This is the first legislative action on this topic.

**PURPOSE AND EXPLANATION:** As a key link in The Circuit (a 750-mile network of bicycle and pedestrian trails connecting people to jobs, communities, and parks in the Greater Philadelphia Region), Radnor Township plays a pivotal role in connecting the north-south Heinz-to-Refuge Trail to the east-west Chester Valley Trail and points beyond. In October of 2014, Radnor Township completed the Radnor Greenways and Open Space Network Plan (funded by Radnor Township and DCNR). The year-long public process included multiple public meetings, stakeholder focus groups, committee meetings, and four (4) Board of Commissioners Meetings. The resulting trail master plan gained the widespread support of the community and governing body.

This application seeks to implement an immediate alternative segment to the Circuit through Radnor Township using a five (5) mile combination of both on-road and off-road routes. These routes will build needed long-term support and help create a future constituency for the much more intensive alternative. Additionally, the TAP routes will connect to the preferred Circuit once the ultimate Circuit route is realized (many of these segments proposed are recommended in the Heinz-to-Refuge Trail Feasibility Study). These routes will be a catalyst to complete the remaining 5,600 feet of trail through Radnor to complete the Tap/Circuit Route.

The Radnor Township TAP Trail will link residents to downtown Wayne, five (5) schools, four (4) SEPTA train stations, three (3) parks, and office areas including the Penn Medicine facility. The majority of on-road trail routes include sections of Route 30, King of Prussia Road, Bryn Mawr Avenue, and Ithan Road. Off-road trail sections include Encke Park, Radnor High School, Penn Medicine facility, and Cornerstone HOA.

**FISCAL IMPACT:** There is no direct fiscal impact or financial obligation to authorizing the execution of a grant application to DCNR for the Radnor Township TAP Trail. The Township will only accept the term of the proposed DCNR C2P2 grant only in the event that the DVRPC Transportation Alternative Program (TAP) grant application for the Radnor Township TAP Trail is awarded. The DVRPC TAP grant will serve as the matching funds required by the DCNR C2P2 Grant.

**RECOMMENDED ACTION:** The Administration respectfully requests the Board to approve Resolution #2016-39 authorizing the execution of a grant application to DCNR C2P2 for the Radnor Township TAP Trail.

Discussion from the Board  
of Commissioners on the  
Willows RFP

**RESOLUTION NO. 2016-70  
RADNOR TOWNSHIP**

**A RESOLUTION OF RADNOR TOWNSHIP, DELAWARE COUNTY,  
PENNSYLVANIA, APPROVING A LEASING PROPOSAL FOR THE  
WILLOWS MANSION AND WILLOWS COTTAGE**

*WHEREAS*, the Board of Commissioners desires to investigate possible uses and reuses for both the Willows Mansion and the Willows Cottage within the Willows Park; and

*WHEREAS*, the Township has received a leasing proposal from Avison Young to conduct a marketing study of potential uses for both the mansion and the cottage; and

*WHEREAS*, the Board of Commissioners desires to retain Avison Young in accordance with its leasing proposal, a copy of which is attached hereto and incorporated herein as Exhibit "A".

*NOW, THEREFORE*, be it resolved that the Board of Commissioners of Radnor Township approves the leasing proposal of Avison Young for the Willows Mansion and Willows Cottage.

*SO RESOLVED*, at a duly convened meeting of the Board of Commissioners of Radnor Township conducted on this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

RADNOR TOWNSHIP

By: \_\_\_\_\_  
Name: Phil Ahr  
Title: President

ATTEST: \_\_\_\_\_



# Leasing Proposal for The Willows Mansion & Carriage House

For Radnor Township



Partnership. Performance.

**Presented to:**

Radnor Township

**Paul French**, Principal

D 610.276.1083

C 610.308.1961

[paul.french@avisonyoung.com](mailto:paul.french@avisonyoung.com)

**Ryan FitzPatrick**, Associate

D 610.276.3152

C 610.639.8980

[ryan.fitzpatrick@avisonyoung.com](mailto:ryan.fitzpatrick@avisonyoung.com)

# Marketing Strategy



# Strategic Marketing Strategy

1. Assess Property (Condition and Challenges)
2. Meet with Radnor Officials to fully understand the Township's requirements
3. Create market materials which reflect property highlights as well as Township's restrictions
4. Target the most logical users/occupiers for the property
5. Schedule property inspections with interested "qualified" prospects
6. Solicit proposals
7. Review proposals with Township
8. Secure terms which meet the requirements of the Township
9. Execute lease and/or related binding agreement based on mutually agreed upon terms

## Marketing Materials

- Print/Media Advertising
- Marketing Materials
- Brokerage Solicitations
- Brokerage and Tenant Presentations
- Building Banner/Large Scale Building Signage
- Public Relations
- Logo and Building Name
- Direct Mail
- Email Flyers
- Glossy Brochure
- CoStar Updates

## Marketing Materials



## Social & Mobile Media



## Events, Public Relations & Advertising



# Avison Young Team & Overview





**Paul French**, Principal

Paul has more than two decades of commercial real estate brokerage experience, with a primary focus on facilitating transactions for institutional investor and corporate clients. Prior to joining Avison Young, French served as Executive Vice-President for Binswanger, where he consistently ranked as the company's top producing commercial broker. Prior to his tenure at Binswanger, French worked as a commercial real estate lender with one of Philadelphia's major banking institutions. During his career, French has been recognized by CoStar as one of the top brokers in the Philadelphia Metropolitan Region and nationally by Commercial Property News. Mr. French is a native of Canada and a graduate of the University of Virginia.



**Ryan FitzPatrick**, Associate

Ryan FitzPatrick launched his career with Avison Young in June 2015 following three years with the law firm of Lavin, O'Neil, Cedrone and DiSipio, in Philadelphia, PA, where he was an associate attorney in the Business Litigation, Industrial and Consumer Product Liability and Mass Tort Groups. A native of Berwyn, Ryan earned his degree in Business Marketing from the Kania School of Management at the University of Scranton, and his juris doctorate from the Widener University School of Law. While at Scranton, Ryan played basketball where he earned all-conference honors.

# Services Provided by Avison Young

## TRANSACTION MANAGEMENT

- Portfolio Management
- National Site Selection
- Acquisitions and Dispositions
- Lease Restructuring
- Brokerage Process Management
- Tenant Representation
- Landlord Representation
- Market Research/Intelligence
- Financial Analyses/Modeling

## LEASE ADMINISTRATION SERVICES

- Lease Abstracts & Audits
- Operating Expense Audits
- Data Management
- Reporting

## PROJECT MANAGEMENT

- Budget and RFP Development
- Site Evaluation & Construction Expertise
- Contract Negotiation
- Project Scheduling & Reporting
- Cost Analysis & Value Engineering
- Construction Management
- Project Troubleshooting
- Move Coordination

## CONSULTING SERVICES

- Optimization Studies
- Strategic Portfolio Planning
- Real Estate Process Development
- Municipal Incentive Negotiations
- Lease Restructuring

## CAPITAL MARKETS EXPERTISE

- Property Sales
- Corporate Finance
- Note Sales
- Debt, Joint Venture, Structured Capital
- Sales and Debt
- Investment Advisory
- Asset Monetization
  - Sale-Leasebacks
  - Corporate Asset Sales
- Build to Suit/Acquisition Structuring & Financing
- Asset/Portfolio Strategy & Advisory Services
- Recapitalization

## ASSET MANAGEMENT

### APPRAISAL

- Asset & Portfolio Valuations
- Research & Market Analysis
- Investment Analysis
- Acquisition & Disposition Strategies
- Litigation Support & Expert Testimony

## FACILITIES MANAGEMENT

- Building Operations
- Workspace Deployment Strategies
- Strategic Partners & Preferred Suppliers Network
- Reporting Systems & Technology
- Sustainability Initiatives
- Space Planning/Allocation of Space & Furniture
- Maintenance/Security/Administrative Contracts

## PROPERTY MANAGEMENT

- Office/Industrial/Retail Property Management
- Financial Reporting & Analysis
- Cost Control & Cash Management
- Tenant & Community Relations
- Lease Administration & Renewal
- Sustainability Strategies & Implementation
- Preventative Maintenance
- Service Provider Selection/Supervision
- Capital & Operating Budget Preparation & Implementation

## INVESTMENT MANAGEMENT

- Acquisitions
- Asset management
- Portfolio Strategy
- Capital Repositioning

## ENTERPRISE SOLUTIONS

## **Advisory Fee: \$9,000**

### **Commission:**

#### A: Lease

- 5% of total scheduled rent – years 1-3
- 4% of total scheduled rent – years 4-5
- 3% of total scheduled rent – years 6-10
- 2% of total scheduled rent – year 11 and beyond
  
- If third party co-broker is involved the above schedule will be increased by 50% and split between Avison Young and co-broker
- If tenant provides building improvements in lieu of rent, Avison Young will be paid 6% of the gross improvement costs

#### B: Joint-Venture or Similar Structure

- If a joint-venture or similar type agreement is structured in lieu of a lease, Avison Young will be paid \$12,000 at the signing of the agreement, reducing \$1,000 per year for each year that the joint-venture contract is in place
- The term of this agreement shall be for 3 months and shall continue on a month-to-month basis thereafter unless terminated by either party
- Upon success, 50% of the advisory fee will be deducted from the total commission

Thank you.



Intelligent  
Real Estate  
Solutions

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[avisonyoung.com](http://avisonyoung.com)

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Discussion and Possible  
Motion to receive bids  
for painting, plastering  
and exterior repairs at  
the Willows Mansion  
and Cottage

**Saul Ewing**  
LLP

David J. Falcone  
Phone: (610) 251-5752  
Fax: (610) 722-3270  
dfalcone@saul.com  
www.saul.com

April 12, 2016

**VIA HAND DELIVERY AND  
ELECTRONIC MAIL [kkochanski@radnor.org](mailto:kkochanski@radnor.org)**

Board of Supervisors  
Radnor Township  
301 Iven Avenue  
Wayne, PA 19087  
Attn: Mr. Kevin Kochanski, Director of Community Development

**RE: Proposed Zoning Amendment**

Dear Kevin:

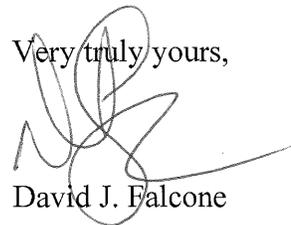
On behalf of University of Pennsylvania Health Systems, enclosed for your consideration are twenty (20) copies of the proposed Zoning Amendment. Also enclosed is a check in the amount of \$1,500.00, payable to Radnor Township, representing the filing fee for this application.

The proposed Zoning Amendment pertains to Chapter 280 of the Radnor Township Code, Zoning, Article XV PLO - Planned Laboratory-Office District, to allow for additional permitted uses within the district, amendment of certain area and height regulations, creation of special development definitions, and financial subdivision.

We look forward to discussing this Zoning Amendment with the Board of Supervisors. Kindly advise when the Board of Supervisors will be able to consider this request.

Please feel free to contact me at 610-251-5752 if you have any questions.

Very truly yours,



David J. Falcone

DJF/pad  
Enclosures  
cc: Mr. Patrick Dorris

1200 Liberty Ridge Drive, Suite 200 • Wayne, PA 19087-5569 • Phone: (610) 251-5050 • Fax: (610) 651-5930

**ORDINANCE NO. 2016-\_\_\_\_\_**

**AN ORDINANCE OF THE TOWNSHIP OF RADNOR, DELAWARE COUNTY, PENNSYLVANIA, AMENDING CHAPTER 280 OF THE RADNOR TOWNSHIP CODE, ZONING: ARTICLE XV PLO – PLANNED LABORATORY – OFFICE DISTRICT TO ALLOW FOR ADDITIONAL PERMITTED USES WITHIN THE DISTRICT, TO AMEND CERTAIN AREA AND HEIGHT REGULATIONS, TO CREATE SPECIAL DEVELOPMENT DEFINITIONS AND TO ALLOW FOR FINANCIAL SUBDIVISION.**

**SECTION 1.** Article XV, Section 280-62(A) of Chapter 280, Zoning, of the Radnor Township Code, governing the purpose of the PLO Planned Laboratory-Office District, is hereby amended by deleting subsection 280-62(A) in its entirety and replacing it with the following:

A. PLO Planned Laboratory-Office Districts are designed primarily for selected uses as set forth in §280-63 below which are uses that are compatible with the character of the surrounding area and strengthen and diversify the Township's tax base.

**SECTION 2.** Article XV, Section 280-63. Use Regulations. Section 280-63 of Chapter 280, Zoning, of the Radnor Township, governing the uses permitted in the PLO Planned Laboratory-Office District, is amended by inserting the following additional permitted uses:

- C. Medical Office.
- D. Hotel, including extended stay, which may contain restaurant and banquet space. Hotel pools shall be for the use of hotel guests only.
- E. Restaurant, located only within an office (including Medical Office) building, hotel or age restricted multiple family development building. Outdoor dining is permitted in accordance with §280-115.3B.
- F. Age restricted multiple family development that may involve associated amenities including, but not limited to, an accessory community center, swimming pool, and/or self-serve laundry facilities, all of which are for the use of residents and their guests only.
- G. Retail store with individual Gross Floor Area not to exceed 10,000 square feet, only when located within an office building (including Medical Office), hotel or age-restricted multiple family development building.
- H. Personal service shop with individual Gross Floor Area not to exceed 10,000 square feet, only when located within an office building (including Medical Office), hotel or age-restricted multiple family development building.
- I. Indoor health/fitness/recreation center.

- J. Bank or similar financial institution.
- K. Skilled nursing and/or assisted living facility.
- L. Independent living facility.
- M. Out-patient surgical center.
- N. Accessory uses that may include:

**[Accessory uses as set forth in subsections 280-63.C (1) – (5) shall remain unchanged except that the numbering of such subsections shall be §280-63.M (1) – (5)]**

**SECTION 3.** Article XV, Section 280-64 of Chapter 280, Zoning, of the Radnor Township Code, governing the area and height regulations of the PLO Planned Laboratory-Office District, is hereby deleted in its entirety and replaced with the following:

**§280.64. Area and Height Regulations.**

- A. Lot Area – Every lot on which a building or combination of buildings is hereafter erected or used shall have a lot area of not less than six (6) acres.
- B. Front Yard Setback – Buildings, structures, surface parking areas, and service and/or interior vehicular access roadways shall be set back 100 feet from the proposed street line of every public street they abut. Entrance driveways and sidewalks may cross through the front yard setback.
- C. Side and Rear Yard Setbacks – Buildings and structures shall be set back from every side and rear yard property line at least 50 feet. These requirements may be reduced according to the following:
  - (1) Side and rear yards for buildings and structures abutting railroad rights-of-way shall not be less than 25 feet.
  - (2) Side yards for buildings and structures abutting uses in the PLO zoning district shall not be less than 25 feet.
- D. Surface Parking Areas shall be located at least 25 feet from a side or rear yard property line. Surface parking related driveways, and service and/or interior vehicular access roadways shall be located at least 15 feet from a side or rear yard property line.
- E. Accessory Structures, including parking garages and structures, shall meet the required yard setback of a principal building or structure.

- F. Buildings, structures, surface parking areas, and service and/or interior vehicular access roadways shall be set back at least 100 feet from any side or rear property line that abuts a property within an existing residential zoning district that is used for residential purposes.
- G. Maximum Building Area – no more than 30% of the Total Site Area may be covered by buildings and structures.
- H. Maximum Gross Floor Area – 25,500 square feet of Gross Floor Area per acre of Total Site Area.
- I. Maximum Lot Coverage - 45% of the Total Site Area.
- J. Height requirements.
  - (1) No building shall exceed 85 feet in height.
  - (2) A Parking Garage or Parking Structure may have a height of up to 55 feet so long as such parking garage or parking structure does not exceed the height of any building on the site.
  - (3) All other structures shall not exceed 45 feet in height.
  - (4) For those building facades that face a side or rear property line that adjoins a residential use within an existing residential zoning district, any portion of the building façade over 45 feet high shall be stepped back from the required setback a distance of one (1) foot for every two (2) feet or portion thereof in height over 45 feet.
- K. Riparian Buffer Setback – 35 feet.
- L. Building Spacing - The distance at the closest point between any two buildings shall not be less than 45 feet. There is no required minimum distance between a building and a parking garage/structure.

**SECTION 4.** Article XV, Section 280-65.1 of Chapter 280, Zoning, of the Radnor Township Code, governing the buffer and landscape requirements of the PLO Planned Laboratory-Office District, is hereby deleted in its entirety and replaced with the following:

**§280.65.1 Buffer and landscape requirements.**

- A. Buffer and Landscaping.

- (1) Along each public street, except for a limited access highway, a landscape strip not less than 75 feet in depth shall be provided. Storm water management areas, entrance driveways, and sidewalks are permitted to be constructed within this strip.
- (2) Abutting any property line that abuts a residential use within an existing residential zoning district, a landscape strip of not less than 100 feet in depth shall be planted and maintained, except where a railroad right-of-way, or a limited access highway right-of-way is located between the site and such existing residential zoning district or use, in which case the landscape strip shall be equal in depth to that of the setback provided or 25 feet, whichever is greater. Storm water management areas, entrance driveways, and sidewalks are permitted to be constructed within the strip.

**SECTION 5.** Article XV – Planned Laboratory-Office District is amended to add a new Section 280-65.3. Sign regulations applicable to the PLO District:

**§ 280-65.3. Sign Regulations.** Notwithstanding Article XXI of Chapter 280, Zoning, of the Radnor Township Code, the following shall apply to development in the PLO zoning district:

A. Business Development Signs

- (1) development sign shall be permitted for every 500 feet of road frontage or portion thereof. However, no more than two (2) such signs shall be permitted on a site.
- (2) Shall not exceed 50 square feet in sign area.
- (3) Shall not exceed 6 feet in height.
- (4) May be placed within any required front yard; but no closer to the street line than ten (10) feet.
- (5) May be illuminated but shall not blink, flash, or be animated.

B. Business Directory Signs

- (1) Shall be located within the site so as to allow motorists to pull out of the flow of traffic and safely read the directory, or, shall be placed at the main entrance to a building.
- (2) No more than one (1) directory sign per entrance driveway or per entrance to a building shall be allowed.

(3) Shall not exceed twelve (12) square feet in sign area per building directory sign.

(4) Shall not exceed five (5) feet in height.

(5) May be illuminated but shall not blink, flash, or be animated.

C. Corporate Identification Signs

(1) Each building on a site shall be permitted to erect no more than one (1) corporate identification sign. Such sign shall be in addition to permitted wall sign(s).

(2) Shall not exceed 140 square feet in sign area.

(3) Shall be placed no higher than or extend above any cornice, parapet wall, or building façade.

D. Wall Sign

(1) Each building on a site shall be permitted one (1) wall sign not to exceed forty (40) square feet in area. For those buildings on a site containing more than one nonresidential tenant or business establishment, a wall sign up to twenty (20) square feet in area shall be permitted for each tenant/ establishment located in the building, provided that in no event shall there be more than one hundred (100) square feet in the aggregate of individual tenant signage permitted pursuant to this Section (D)(1). Such sign(s) shall be in addition to the one permitted corporate identification sign.

(2) Shall not exceed a sign height of fifteen (15) feet nor be placed higher than or extend above any cornice, roofline, parapet wall, or building façade.

(3) May be illuminated but shall not blink, flash, or be animated.

E. Instructional Signs

(1) Shall not exceed thirty (30) square feet in sign area per instruction sign.

(2) Shall not exceed a sign height of six (6) feet.

(3) May be illuminated but shall not blink, flash, or be animated.

F. Directional Signs

- (1) Shall not exceed four (4) square feet in sign area per directional sign.
- (2) Shall not exceed a sign height of three (3) feet.
- (3) May be illuminated but shall not blink, flash, or be animated.

G. Real Estate Signs

- (1) No more than one (1) real-estate sign shall be permitted on each street frontage.
- (2) Shall not exceed twenty (20) square feet in area.
- (3) Shall not exceed a sign height of six (6) feet.
- (4) Shall be non-illuminated.

**SECTION 6.** Article XV – Planned Laboratory-Office District is amended to add a new Section 280-65.4. Development Definitions applicable to the PLO District:

**§ 280-65.4. Development Definitions.** The following definitions shall supplement and/or supersede the general definitions contained in Section 280-4 of Chapter 280, Zoning, of the Radnor Township Code and shall apply to development in the PLO zoning district:

**BUILDING OR STRUCTURE HEIGHT** – The vertical distance from the average grade (the average of the grades taken at twenty foot intervals around the building or structure perimeter) to the top of the highest roof beams of a flat roof or to the mean level of a sloped roof, provided that chimneys, spires, elevator, stair and equipment penthouses, tanks and air-conditioning towers shall not be included in measuring the height. The height shall be measured from finished grade, but such measurement shall not be made from a point higher than eight feet above original grade.

**BUSINESS DEVELOPMENT SIGN** - An on-premises sign located along the road frontage which announces the nature, purpose, or name of the building/enterprise/complex.

**BUSINESS DIRECTORY SIGN** - An on-premises sign listing the names, logos, trademarks, and/or addresses of a building(s), and its respective occupants, located on the site.

**CORPORATE IDENTIFICATION SIGN** - A wall sign limited to the name and/or business logo of a single entity who is an occupant of the building.

**GROSS FLOOR AREA** – The sum of the actual horizontal floor area(s) of a building or group of buildings on a lot from the inside surface of exterior walls. The area of stairs or escalators and of elevator towers shall be deemed to exist on each floor they serve. Atriums and similar open

areas shall not be deemed floor area of the floors they penetrate. The calculation of gross floor area shall not include parking structures.

**INDEPENDENT LIVING FACILITY** -- An age-restricted residential development that provides accommodations, meals, activities and supplementary care, in independent living units on a per month rental basis to occupants.

**INTERNAL ILLUMINATION** - A light source that is concealed or contained within the sign and becomes visible in darkness through a translucent surface. Message center signs, digital displays, and signs incorporating neon lighting shall not be considered as internally illuminated.

**LANDSCAPE STRIP** – A strip of required yard space adjacent to the boundary of a site or zoning district, not less in depth than designated in this Chapter, which is landscaped for the full depth and includes lawn grasses, ground cover vegetation, and a buffer screen equivalent to that described in Chapter 255, Subdivision of Land, of the Radnor Township Code under Buffer Screen Class A, first option, all informally arranged.

**MEDICAL OFFICE** – Establishments with physicians and other medical staff primarily engaged in providing outpatient-only health care services, including, but not limited to, primary care, specialized care, urgent care, laboratory, diagnostics and out-patient surgery.

**SITE** – A contiguous area of land, including a lot or lots or a portion thereof, upon which a project is developed or proposed for development.

**TOTAL SITE AREA** – The gross area of a site as described in the deeds or from an actual survey included as part of an application for subdivision or land development, excluding the area of any streets or rights-of-way.

**SECTION 6.** Article XV – Planned Laboratory District is amended to add a new Section 280-65.4. Financial Subdivision applicable to the PLO District:

**§ 280-65.4. Financial subdivision.**

In connection with development of a site within the PLO District, individual lots may be created for purposes of financing and/or conveyancing. Such individual lots shall not be required to comply on an individual basis with the dimensional requirements of this Article, provided that the site complies with such requirements on an overall basis, and further provided that the deeds conveying such separate lots contain covenants requiring the purchasers to, at all times, operate and maintain such lots in good order and repair and in a clean and sanitary condition; that cross-easements for parking areas and all appurtenant ways, pedestrian access, and utilities shall be maintained between such lots; and that such covenants shall be subject to the approval of the Township Solicitor. The purchaser of any such lot shall so covenant and agree thereby to be bound by such conditions as set forth herein. A financial subdivision plan shall not be subject to the subdivision approval process but shall be approved by the Board of Commissioners prior to recording.

## MEMORANDUM

**TO:** Radnor Township Board of Commissioners

**FROM:** Steve Gabriel, PP, Township Planning Consultant

**CC:** Robert Zienkowski, Steve Norcini, Kevin Kochanski, John B. Rice, Roger Phillips, Amy Kaminski

**DATE:** June 7, 2016

**PROJECT NAME:** Planned Laboratory Office (PLO) **PROJECT NO.:** 101442010  
Amending Zoning Ordinance

**SUBJECT:** Draft Ordinance Presentation

Since the Board of Commissioners last discussion of this draft Ordinance, the ordinance has been reviewed and discussed at a total of eight (8) Planning Commission meetings starting in July of last year and wrapping up at the Planning Commission's meeting last month. The Planning Commission directed a number of modifications to the ordinance over that period and these will be discussed at your upcoming June 13 meeting. Summary highlights of the ordinance as it stands are listed below:

- Mixed Use Development is being added to the uses permitted in the PLO zoning district to facilitate current market redevelopment in the PLO. A variety of uses fall under the heading of Mixed Use Development. A special set of regulations are being proposed that will only apply to Mixed Use Development. The decision to develop under Mixed Use Development or under the current PLO permitted uses and regulations is a choice that is left up to the applicant.
- A number of new terms and definitions are being added that will only apply to development in the PLO and not across the entire Township.
- Open Space on-site is being increased under Mixed Use Development with a limit of 45% site coverage (thus 55% open space required) as opposed to the 45% required open space under the existing PLO.
- As a trade-off for the increased open space requirement, maximum building height under Mixed Use Development is proposed to be increased to 85 feet.
- To protect existing residential uses adjacent to PLO zoned properties from the increased building height, Mixed Use Development projects must provide a 100 feet wide buffer planting strip where they adjoin a residential use or zone. In addition, facades of Mixed Use Development buildings that face residential uses must shall be stepped back from the required side or rear setback a distance of one (1) foot for every two (2) feet or portion thereof in height over 45 feet. Further, the required front yard setback for Mixed Use Development is 100 feet and shall contain a 75 feet wide landscape strip.
- Density/Intensity of development for Mixed Use Development is regulated through the concept of Traffic Neutrality (see Section 280-65.3.C(1)(a) of the draft ordinance for a description) whereby the amount of traffic projected for a proposed Mixed Use Development must be 5% less than the traffic generated by a general office use of the existing building floor area on a site, based on ITE (Institute of Traffic Engineers) data and methods. This concept is based on feedback from Township officials and particularly Township residents via face-to-face meetings and town hall meetings that identified traffic as the number one concern related to any kind of development in the PLO.

I look forward to reviewing the draft ordinance with you next week.



**ORDINANCE NO. 2016-XX**

**AN ORDINANCE OF THE TOWNSHIP OF RADNOR, DELAWARE COUNTY, PENNSYLVANIA,  
AMENDING CHAPTER 280 OF THE RADNOR TOWNSHIP CODE, "ZONING", TO ENABLE A  
MIXED USE DEVELOPMENT WITH ASSOCIATED REGULATIONS WITHIN THE PLO  
PLANNED LABORATORY-OFFICE DISTRICT .**

**WHEREAS**, Radnor Township seeks to accommodate reasonable community growth that recognizes the special attributes of areas of the Township;

**WHEREAS**, the Board of Commissioners has conducted a public hearing to consider these amendments to Chapter 280 relating to Zoning;

**WHEREAS**, prior to the public hearing, the proposed amendments were provided to the Radnor Township Planning Commission and to the Delaware County Planning Commission as required by Act of 1968, P.L. 805, No. 247 as reenacted and amended;

**WHEREAS**, after a public hearing and consideration of all of the information, comments, and questions raised or made therein, and the comments received from the Radnor Township Planning Commission and the Delaware County Planning Commission, the Board of Commissioners has deemed it beneficial to the residents of Radnor Township to amend said sections of Chapter 280 relating to Zoning;

**NOW, THEREFORE**, be it **ORDAINED** and **ENACTED** that the Board of Commissioners does hereby amend Chapter 280, Zoning, as follows:

**ARTICLE I - Definitions**

§ 280-4 of Chapter 280, Zoning, of the Radnor Township Code is hereby amended by adding the following new terms and definitions:

structures.

**STREET LINE**

The dividing line between the street and the lot. The street line shall be the same as the legal right-of-way provided that the street line shall be not less than thirty (30) feet from the centerline of any street nor less than provided for in Chapter 255, Subdivision of Land, of the Radnor Township Code.

**ARTICLE II - Definitions**

§ 280-4 of Chapter 280, Zoning, of the Radnor Township Code is hereby amended by revising the definition of BUILDING HEIGHT to read as follows:

**BUILDING or STRUCTURE HEIGHT**

The vertical distance from the average grade (the average of the grades taken at twenty foot intervals around the building or structure perimeter) to the top of the highest roof beams of a flat roof or to the mean level of a sloped roof, provided that chimneys and spires shall not be included in measuring the height. Elevator, stair and equipment penthouses, tanks and air-conditioning towers shall not be included in measuring the height. The height shall be measured from finished grade, but such measurement shall not be made from a point higher than eight feet above original grade.

**ARTICLE III – Definitions**

§ 280-62.1 of Chapter 280, Zoning, of the Radnor Township Code is hereby added to read as follows:

§ 280-62.1 Definitions

**AGE RESTRICTED MULTIPLE FAMILY DEVELOPMENT**

Multiple family development with dwelling units designed for independent living and occupied by a family where the head(s) of household shall be at least 55 years of age. Occupants less than 19 years of age shall not reside in such a development for more than 90 days in a calendar year. This use shall not include a convalescent or nursing home. The deeds and/or homeowners’ association declaration of an age restricted multiple family development shall include the requirements and restrictions of this definition.

**GROSS FLOOR AREA**

The sum of the horizontal floor area(s) of a building or group of buildings on a site, measured from the exterior faces of the building(s). The calculation of gross floor area shall not include parking structures.

**LANDSCAPE STRIP**

A strip of required yard space adjacent to the boundary of a property or district, not less in depth than designated in this Chapter, which is landscaped for the full depth and includes lawn grasses, ground cover vegetation, and a buffer screen equivalent to that described in Chapter 255, Subdivision of Land, of the Radnor Township Code under Buffer Screen Class A, first option, all informally arranged.

**MEDICAL OFFICE**

Establishments with physicians and other medical staff primarily engaged in providing a range of outpatient-only health care services that may include one or more of the following: primary care, specialized care, urgent care, diagnostics, and surgery.

**PERMITTED GROSS FLOOR AREA**

The gross floor area of a development which achieves traffic neutrality as described in Section 280-65.3.

**SITE**

A parcel or parcels of adjoining land under common ownership on which a plan for subdivision or land development is proposed.

**SITE COVERAGE**

A measure of the intensity of the use of a lot measured as that portion or percentage of the total site area covered with structures, buildings, driveways, parking areas and parking structures, loading facilities, bicycle/pedestrian pathways, patios, decks, and other similar types of structures as well as improved surfaces. Includes the water surface area of swimming pools.

**TOTAL SITE AREA**

The gross area of a site as described in the deeds or from an actual survey included as part of an application for subdivision or land development, excluding the area of any streets or rights-of-way.

**ARTICLE IV – Use Regulations**

§ 280-63 of Chapter 280, Zoning, of the Radnor Township Code is hereby amended to read as follows:

§ 280-63            Use regulations

A building or unified group of buildings may be erected or used and a lot may be used or occupied for any of the following purposes:

- A.        Scientific or industrial research, testing or experimental laboratory or similar establishment for research or product development, provided that there is no commercial production or storage of any commodity or substance except for storage necessary for scientific research.
- B.        Office building, excluding Medical Office.
- C.        Accessory uses, which may include:
  - (1)       Storage within a completely enclosed building in conjunction with a permitted use.
  - (2)       A cafeteria or other service facility located within the building and operated for the exclusive use of the occupants of the building. An accessory cafeteria may include outdoor dining as permitted by § 280-115.3B.
  - (3)       A recreational area for occupants.
  - (4)       Living quarters for watchmen, caretakers or similar employees.
  - (5)       A parking garage or structure. Parking garages and structures may be constructed above or below ground, be located, wholly or partly, within the principal building(s), be attached to and made a part of the principal building(s), or constructed as a detached accessory structure.
  - (6)       A health/fitness center operated for the exclusive use of the occupants or residents of the development’s building(s).

- D. Mixed Use Development – subject to the regulations and requirements set forth in § 208-65.3 below.

**ARTICLE V – Special Regulations**

§ 280-65 of Chapter 280, Zoning, of the Radnor Township Code is hereby amended by adding a new subsection 280-65.3 that shall read as follows:

§ 280-65.3 Special regulations for mixed use development

In place of the foregoing requirements for the PLO District, a mixed use development may be established in accordance with and pursuant to the regulations and requirements set forth below:

- A. Uses – Under the mixed use development use, a building(s), structure(s), or a combination thereof may be erected, used, or occupied by one or more of the following uses. No use shall include a drive-in/drive-thru/drive-up service.
  - (1) Any use or accessory use permitted in the PLO District.
  - (2) Medical office.
  - (3) Hotel, including extended stay, which may contain restaurant and banquet space. Hotel pools shall be for the use of hotel guests only.
  - (4) Restaurant, located only within an office building, hotel, or age restricted multiple family development building.
  - (5) Age restricted multiple family development that may involve associated amenities including, but not limited to, an accessory community center, swimming pool, and/or self-serve laundry facilities, all of which are for the use of residents and their guests only.
  - (6) Retail store with individual gross floor area not to exceed 10,000 square feet, located only within an office building, hotel, or age-restricted multiple family development building.
  - (7) Personal service shop with individual gross floor area not to exceed 10,000 square feet, located only within an office building, hotel, or age restricted multiple family development building.
  - (8) Bank or similar financial institution.
  - (9) Skilled nursing and/or assisted living facility.
  - (10) Accessory uses and structures customarily incidental to the foregoing permitted uses. Outdoor dining is permitted in accordance with § 280-115.3B.

B. Dimensional Regulations.

- (1) Front Yard Setback – Buildings, structures, surface parking areas, and service and/or interior vehicular access roadways shall be set back 100 feet from the proposed street line of every public street they abut. Entrance driveways and sidewalks may cross through the front yard setback.
- (2) Side and Rear Yard Setbacks – Buildings and structures shall be set back from every side and rear yard property line at least 50 feet. These requirements may be reduced according to the following:
  - (a) Side and rear yards for buildings and structures abutting railroad rights-of-way shall not be less than 25 feet.
  - (b) Side yards for buildings and structures abutting properties in the PLO District shall not be less than 25 feet.
- (3) Surface parking areas shall be located at least 25 feet from a side or rear yard property line. Surface parking related driveways, and service and/or interior vehicular access roadways shall be located at least 15 feet from a side or rear yard property line.
- (4) Accessory structures, including parking garages and structures, shall meet the required yard setbacks for a principal building or structure.
- (5) Buildings, structures, surface parking areas, and service and/or interior vehicular access roadways shall be set back at least 100 feet from any side or rear property line which abuts an existing residential zoning district or use existing as of      [insert effective date]     ].
- (6) Minimum Site Area – every site on which a building, buildings, or a combination of building(s) and structure(s) is hereafter erected or used shall have a site area of not less than 10 acres.
- (7) Maximum Building Area – No more than 30% of the total site area may be covered by buildings and structures.
- (8) Maximum Site Coverage - 45% of the total site area.
- (9) Height requirements.
  - (a) No building shall exceed 85 feet in height.
  - (b) A parking garage or parking structure may have a height of up to 55 feet so long as such parking garage or parking structure does not exceed the height of any building on the site.
  - (c) All other structures shall not exceed 45 feet in height.

- (d) For those building facades that face a side or rear property line which adjoins an existing residential zoning district or use existing as of \_\_\_\_\_[insert effective date]\_\_\_\_\_, any portion of the building façade over 45 feet high shall be stepped back from the required setback a distance of one (1) foot for every two (2) feet or portion thereof in height over 45 feet.
- (10) Riparian Buffer– 35 feet in width.
- (11) Buffer and Landscaping
  - (a) Abutting each public street, except for limited access highways, a landscape strip not less than 75 feet in depth shall be provided. Storm water management areas, entrance driveways, and sidewalks are permitted to be constructed within this strip.
  - (b) Abutting any property line which abuts an existing residential zoning district or use existing as of \_\_\_\_\_[insert effective date]\_\_\_\_\_, a buffer planting strip of not less than 100 feet in depth shall be planted and maintained, except where a railroad right-of-way, or a limited access highway right-of-way is located between the site and such existing residential zoning district or use, in which case the planting buffer strip shall be equal in depth to that of the setback provided or 25 feet, whichever is greater. Storm water management areas, entrance driveways, and sidewalks are permitted to be constructed within the strip.
- (12) Building Spacing - The distance at the closest point between any two buildings shall not be less than 45 feet. There is no required minimum distance between a building and a parking garage/structure.
- (13) Building Size – an individual building’s length or width shall not exceed 350 feet.

C. Design and Site Regulations.

- (1) Traffic Neutrality.
  - (a) The size of a mixed use development shall be limited by the amount of traffic it is projected to produce. A proposed mixed use development on a site must achieve “traffic neutrality” when compared to a possible general office use on the same site. Traffic neutrality shall be achieved if the number of vehicular trips projected to be generated by the proposed mixed use development on the site during the AM peak hour of the street is at least five percent less than the number of vehicular trips projected to be generated by a general office use on the subject site during the AM peak hour of the street; and, the number of vehicular trips projected to be generated by the proposed mixed use development on the site during the PM peak hour of the street is at least five percent less than the number of vehicular trips projected to be generated by a general office use on the subject site during the PM peak hour of the street. In making this determination, the projected general office use shall only encompass the same amount of gross floor

area as existed on the subject site as of  [insert effective date] . Calculations shall be in accordance with the total trip generation rate tables, procedures and methodologies of the latest edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. Local/regional projects' actual trip counts data may be used to supplement or substitute for the ITE Trip Generation Manual rate tables' information, procedures, or methodologies subject to the review and approval of the Township Traffic Engineer. All data and calculations shall be reviewed by the Township Traffic Engineer and PennDOT where access is taken to a state roadway, for the purpose of determining whether traffic neutrality is achieved in accordance with this subsection.

- (b) No trip reduction factors of any kind shall be applied as part of determining traffic neutrality.
  - (c) Outdoor seating shall be included in trip generation calculations.
  - (d) A mixed use development shall not be approved or permitted until traffic neutrality is achieved in accordance with this Section. If a proposed mixed use development is projected to produce too many vehicular trips, the size and/or composition of the development shall be revised so as to reduce the number of projected trips to a point where traffic neutrality is achieved.
  - (e) Whenever the gross floor area of the development or the gross floor area of a use within the development is proposed to change, or when a new use is proposed to move into the development, or the composition of uses within the development is proposed to change; the current development owner shall demonstrate the development still achieves traffic neutrality. A zoning permit shall be required for such changes and shall not be issued should it be shown that traffic neutrality is not achieved under the proposed changes.
- (2) For Sites Less Than 10 Acres - A mixed used development may consist of a single office, laboratory, medical office, hotel, age restricted multiple family development, or skilled nursing/assisted living use occupying 100% of the permitted gross floor area on the site. Otherwise, a minimum of two uses shall be established as part of the mixed use development, and the maximum gross floor area of each use category shall not exceed the following percentages:
- (a) A maximum of 99% of the permitted gross floor area may be designated for the category of office, laboratory, medical office, age restricted multiple family development, hotel, or skilled nursing/assisted living use.
  - (b) A maximum of 10% of the permitted gross floor area may be designated for the category of retail, personal service, or restaurant uses.
  - (c) A maximum of 35% of the permitted gross floor area may be designated for the category of accessory indoor health/fitness center and bank or similar financial institution.

- (3) For Sites 10 Acres or Larger - There shall be a minimum of three (3) uses established as part of the mixed use development. Out of the three (3) minimum uses, one use may be designated for up to 65% of the permitted gross floor area, and two uses may be designated for up to 85% of the permitted gross floor area. The third and any additional uses shall be designated to utilize the remaining permitted gross floor area. The maximum gross floor area of individual uses shall not exceed the following percentages:
- (a) A maximum of 65% of the permitted gross floor area may be designated for office use.
  - (b) A maximum of 65% of the permitted gross floor area may be designated for medical office use.
  - (b) A maximum of 35% of the permitted gross floor area may be designated for hotel uses.
  - (c) A maximum of 35% of the permitted gross floor area may be designated for age restricted multiple family development uses.
  - (d) A maximum of 10% of the permitted gross floor area may be designated for retail use.
  - (e) A maximum of 10% of the permitted gross floor area may be designated for personal service use.
  - (f) A maximum of 10% of the permitted gross floor area may be designated for restaurant use.
  - (g) A maximum of 10% of the permitted gross floor area may be designated for a bank or similar financial institution use.
  - (h) A maximum of 30% of the permitted gross floor area may be designated for either accessory indoor health/fitness center use, or skilled nursing and/or assisted living use or both combined.
- (4) Applicants shall comply with the architectural design standards found in Chapter 255, Subdivision of Land, Article V Design Standards of the Township Code.
- (5) All building mechanical systems, such as air conditioning units, exhaust systems, satellite dishes, fire escapes, elevator housing, and other similar elements (including dumpsters), shall be integrated into the overall design and character of the building and shall be screened from view by architectural or landscape features. In addition, sound attenuation devices shall be installed on all equipment such that noise levels after 9 pm do not exceed 55 dBA at the property line of an abutting residential use or residential zoning district existing as of \_\_\_\_ [insert effective date] \_\_\_\_.
- (6) Site Lighting - Light fixtures shall be shielded to reduce light spillage beyond the property line of the site. At no point shall any light trespass onto adjacent residential properties exceed 0.1 foot-candles at the property line, and no light shall trespass onto adjacent non-

residential properties that exceeds 1.0 foot-candles at the property line. All proposed exterior site and building-mounted lighting shall achieve International Dark-Sky Association (IDA) standards at 99% of full cutoff.

(7) Site Amenities to Promote Transit Use

- (a) Public sidewalks shall be provided at a minimum width of six (6) feet.
- (b) SEPTA-approved bus shelters shall be installed on the frontage of properties where bus stops are planned, proposed, needed, or currently exist.
- (c) Shared use paths across properties as shown in the Radnor Township Greenways and Open Space Network Plan that link developments to transit hubs shall be provided at a minimum width of twelve (12) feet.
- (d) Wayfinding signage shall be provided to clearly identify on-site pedestrian walks, trails, and other facilities and provide direction to and from nearby transit facilities.
- (e) Pedestrian scaled lighting shall be positioned along on-site pedestrian sidewalks, walkways, paths, and trails, such that lighting levels along them maintain a consistent 0.3 foot-candles.

D. Off-Street Parking and Loading Requirements.

- (1) Motor Vehicle Parking. All parking spaces used for parking motor vehicles shall measure not less than 9 feet by 19 feet. At the discretion of the Board of Commissioners, up to 25% of the total number of parking spaces may be designated as compact, which shall measure no less than 8 feet by 16 feet.
- (2) Required Number of Parking Spaces. Unless otherwise approved in accordance with provisions of this subsection, the following requirements shall be met:
  - (a) Residential Uses – A minimum of 1.2 spaces per dwelling unit.
  - (b) All other permitted uses shall provide parking in accordance with § 280-103.B of the Zoning Code.
- (3) Off street loading shall comply with § 280-104 of the Zoning Code.
- (4) The applicant shall provide and designate at least one (1) space for carpooling for every fifty (50) automobile parking spaces. These spaces shall be those next closest in proximity to building entrances after those provided for ADA parking. The applicant shall provide at least five (5) preferred carpooling parking spaces and shall not be required to provide more than twenty-five (25) preferred carpooling spaces based on the ratio above. The applicant shall determine the minimum number of vehicle occupants that will constitute a carpool. Such carpooling spaces shall be appropriately signed by the applicant.

- (5) The applicant shall provide and designate bicycle facilities at a ratio of at least one (1) bicycle space for every twenty (20) automobile parking spaces. These spaces shall be located within a principal building(s) or accessory structure(s) or in an area shielded from the weather no more than fifty (50) feet from the entrance of a principal building(s). Each space shall include a metal anchor sufficient to secure the bicycle frame when used in conjunction with a user-supplied lock. The applicant shall provide at least three (3) spaces and shall not be required to provide more than fifty (50) spaces based on the ratio above. The applicant shall also provide, as part of the bicycle facilities, lockers and showers within the office/mixed use buildings for use by tenants and their employees.
- (6) The applicant shall provide and designate a minimum of 1% of the total number of off-street parking spaces proposed on the site to be dedicated to a car share program. The applicant shall provide and designate at least three (3) spaces and shall not be required to provide more than fifteen (15) spaces based on the ratio above. A car share program shall be with a nationally recognized car share organization/operator, unless the applicant can demonstrate to the satisfaction of the Board of Commissioners, in their sole discretion, that a local operator has the capabilities to provide a sustainable car share program. Tenants/occupants may provide their own fleet vehicles to serve the same purpose in lieu of their proportion of a site's car share program.
- (7) Reduction in Parking and/or Loading Requirements - Two or more uses on a site may provide for required parking/loading in a common parking lot or loading area, so long as the total of the spaces provided is not less than the total number of the spaces required for each use individually. In their sole discretion, however, the Board of Commissioners may permit a reduction in the sum total of the required parking and/or loading for some or all of the uses within a mixed use development. Such a reduction shall be requested by the applicant and be based on the following:
  - (a) Where there are efficiencies derived by shared parking and/or loading for uses which have complementary peak demands, the applicant shall submit parking/loading generation data, based upon standard methodology (such as that published by the Urban Land Institute or from actual studies within the region or regions with similar access to transit) sufficient for the Township to determine the appropriate reduction. The applicant shall adequately demonstrate to the Board that the hours or days of peak parking or loading needed by the individual uses are so different and/or that the documented projected use of transit is significant enough, such that a lesser number of spaces or berths will still provide adequate parking/loading for all uses proposed as part of the request. The required number of off-street parking or loading spaces shall not be reduced by more than 25%.

E. Signs - In addition to the regulations set forth elsewhere in this Chapter, the following provisions shall apply to all signs located within a mixed use development. Only the signs listed below and signs listed under Section 280-120, Exempt Signs, are permitted within a mixed use development.

- (1) Business Development Signs

- (a) One (1) development sign shall be permitted for every 500 feet of road frontage or portion thereof. However, no more than two (2) such signs shall be permitted on a site.
  - (b) Shall not exceed 50 square feet in sign area.
  - (c) Shall not exceed 6 feet in height.
  - (d) May be placed within any required front yard; but no closer to the street line than ten (10) feet.
  - (e) May be illuminated but shall not blink, flash, or be animated.
- (2) Business Directory Signs
- (a) Shall be located within the site so as to allow motorists to pull out of the flow of traffic and safely read the directory, or, shall be placed at the main entrance to a building.
  - (b) No more than one (1) directory sign per entrance driveway or per entrance to a building shall be allowed.
  - (c) Shall not exceed twelve (12) square feet in sign area.
  - (d) Shall not exceed five (5) feet in height.
  - (e) May be illuminated but shall not blink, flash, or be animated.
- (3) Corporate Identification Signs
- (a) Each building on a site shall be permitted to erect no more than one (1) corporate identification sign. Such sign shall be in addition to permitted wall sign(s).
  - (b) Shall not exceed 140 square feet in sign area.
  - (c) Shall not be illuminated in any fashion.
  - (d) Shall be placed no higher than or extend above any cornice, parapet wall, or building façade.
- (4) Wall Sign
- (a) Each building on a site shall be permitted one (1) wall sign not to exceed forty (40) square feet in area. For those buildings on a site containing more than one nonresidential tenant or business establishment, a wall sign up to twenty (20) square feet in area shall be permitted for each tenant/ establishment located in the building. Such sign(s) shall be in addition to the one permitted corporate identification sign.

- (b) Shall not exceed a sign height of fifteen (15) feet nor be placed higher than or extend above any cornice, roofline, parapet wall, or building façade.
  - (c) May be illuminated but shall not blink, flash, or be animated.
- (5) Instructional Signs
  - (a) Shall not exceed thirty (30) square feet in sign area.
  - (b) Shall not exceed a sign height of six (6) feet.
  - (c) May be illuminated but shall not blink, flash, or be animated.
- (6) Directional Signs
  - (a) Shall not exceed four (4) square feet in sign area.
  - (b) Shall not exceed a sign height of three (3) feet.
  - (c) May be illuminated but shall not blink, flash, or be animated.
- (7) Real Estate Signs
  - (a) No more than one (1) real-estate sign shall be permitted on each street frontage.
  - (b) Shall not exceed twenty (20) square feet in area.
  - (c) Shall not exceed a sign height of six (6) feet.
  - (d) Shall be non-illuminated.

**Article VI – Outdoor Dining**

The initial paragraph of Subsection A. of § 280-115.4 of Chapter 280, Zoning, of the Radnor Township Code is hereby amended to read as follows:

- A. Outdoor dining shall be permitted in the PLO Zoning District as an accessory use on the same premises as a licensed food establishment (restaurant, banquet facility, or accessory use cafeteria) that has indoor seating. Within the C-1, C-2, C-3, WBOD, and PB Zoning Districts, outdoor dining shall be permitted as an accessory use on the same premises as a licensed food establishment (restaurant) that has indoor seating. To assure quality standards for customers and food safety, the following provisions shall apply:

**ARTICLE VII – Sign Definitions**

§ 280-118 of Chapter 280, Zoning, of the Radnor Township Code is hereby amended by adding the following new terms and definitions:

**BUSINESS DEVELOPMENT SIGN**

An on-premises sign located along the road frontage which announces the nature, purpose, or name of the building/enterprise/complex.

**BUSINESS DIRECTORY SIGN**

An on-premises sign listing the names, logos, trademarks, and/or addresses of a building(s), and its respective occupants, located on the site.

**CORPORATE IDENTIFICATION SIGN**

A wall sign limited to the name and/or business logo of a single entity who is an occupant of the building.

**INTERNAL ILLUMINATION**

A light source that is concealed or contained within the sign and becomes visible in darkness through a translucent surface. Message center signs, digital displays, and signs incorporating neon lighting shall not be considered as internally illuminated.

**ARTICLE VIII - Repealer**

All ordinances or parts of ordinances which are inconsistent herewith are hereby repealed.

**ARTICLE IX - Severability**

If any sentence, clause, section or part of this Ordinance is for any reason found to be unconstitutional, illegal, or invalid by a court of competent jurisdiction, such unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections, or parts of this Ordinance. It is hereby declared as the intent of the Board of Commissioners of Radnor Township, that this Ordinance would have been adopted had such unconstitutional, illegal, or invalid sentence, clause, section, or part thereof not been included therein.

**ARTICLE X – Effective Date**

This Ordinance shall become effective in accordance with the Radnor Township Home Rule Charter.

**ENACTED AND ORDAINED** this \_\_\_\_\_ day of \_\_\_\_\_, A.D. 2016.

**RADNOR TOWNSHIP**

By: \_\_\_\_\_  
Name: Phil Ahr  
Title: President

ATTEST: \_\_\_\_\_  
Robert A. Zienkowski, Secretary

## Jennifer DeStefano

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**From:** Jennifer DeStefano  
**Sent:** Tuesday, June 07, 2016 4:52 PM  
**To:** Jennifer DeStefano  
**Subject:** Fwd: PLO Ordinance  
**Attachments:** PLO Amendment.docx; ATT00001.htm

Begin forwarded message:

**From:** [donalddcurley@verizon.net](mailto:donalddcurley@verizon.net)  
**Date:** June 7, 2016 at 3:49:28 PM EDT  
**To:** [kkochanski@radnor.org](mailto:kkochanski@radnor.org), [donalddcurley@verizon.net](mailto:donalddcurley@verizon.net)  
**Cc:** [rzienkowski@radnor.org](mailto:rzienkowski@radnor.org),  
**Subject:** **Re: RE: PLO Ordinance**

- here it is. I hope it is not too late. Can you place it in the packet and on the web? please include this email so every one knows its origin.

Commissioners and Citizens,  
here is my draft of the PLO amendment. it does the following:

1. minimizes change
2. minimizes uncertainty
3. provides certain benefits (recognizing benefit is relative)
4. provides for mixed use
5. considers and addresses concerns of commissioners, citizens, and property owners
6. provides an alternative to traffic intense uses
7. preserves the PLO as a zoning district

Please review. My hope is that the Township would initiate adopting it or something that resembles it. as always, the details are open to further consideration.

respectfully,  
Don

On 06/07/16, Kevin Kochanski<[kkochanski@radnor.org](mailto:kkochanski@radnor.org)> wrote:

Thank you. Would it be possible to get your version by 2 pm today so we can finalize the packets?

Kevin W. Kochanski, RLA, CZO  
Director of Community Development

Radnor Township  
301 Iven Avenue  
Wayne, PA 19087

(610) 688-5600 ext. 168

[kkochanski@radnor.org](mailto:kkochanski@radnor.org)

[www.radnor.com](http://www.radnor.com)

## Section 280 62 Purpose; application of regulations

PLO Planned Laboratory-Office Districts are designed primarily to provide for selected modern laboratory and office establishments which:

(1)  
Provide for attractive large-site, low-lot-coverage development in areas where traditional business development would be inappropriate.

(2)  
Strengthen and diversify the Township's tax base.

(3)  
Are compatible with the character of the surrounding areas.

(4) Increase the effectiveness of the zoning district by providing the capability for a mixture of complementary uses.

(5) Decrease the negative external effects of parking and traffic on surrounding areas by providing the capability for a mixture of complementary uses.

B.  
PLO Districts may be established and developed only in accordance with the special provisions of § 280-132 and subject to the regulations of this article and any other pertinent provisions of this chapter.

C.  
In PLO Planned Laboratory-Office Districts, the regulations contained in this chapter shall apply.

## Section 280 63 Use regulations

A building or unified group of buildings may be erected or used and a lot may be used or occupied for any of the following purposes:

A. (List A) – Fifty-one percent (51%) to one-hundred percent (100%) of the gross floor area may be used or occupied for the following:

1. Scientific or industrial research, testing or experimental laboratory or similar establishment for research or product development, provided that there is no commercial production or storage of any commodity or substance except for storage necessary for scientific research.
2. Office Building

B. (List B) – Zero to Forty-nine percent (49%) of the gross floor area may be used or occupied for the following and subject to the conditions specified in Section 280 64 G:  
Office building.

1. Hotel, including extended stay, which may contain restaurant and banquet space.  
Hotel pools shall be for the use of hotel guests only.

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2. Restaurant, located only within office (including Medical office) building or hotel. Outdoor dining is permitted in accordance with Section 280-115.3B.

3. Indoor health/fitness/recreation center.

4. Skilled nursing and/or assisted living facility.

5. Independent living facility.

6. Out-patient surgical center.

7. Ambulatory care facility.

C.

Accessory uses, which may include:

(1)

Storage within a completely enclosed building in conjunction with a permitted use.

(2)

A cafeteria or other service facility located within the building and operated for the exclusive use of the occupants of the building. An accessory cafeteria may include outdoor dining as permitted by § 280-115.3B.

[Amended 4-8-2013 by Ord. No. 2012-09]

(3)

A recreational area for occupants.

(4)

Living quarters for watchmen, caretakers or similar employees.

(5)

A parking structure, when constructed as an accessory structure for the purpose of eliminating allowable surface parking. Parking structures may be located wholly or partly within the principal building, attached to and made a part of the principal building, or constructed as a detached accessory structure. Parking spaces within structures may be reduced to not less than nine feet in width by 19 feet in depth, exclusive of aisles, for each motor vehicle.

(6) Banking facilities/ATM for use with building tenants.

## **Section 280 64 Area and height regulations**

A.

Lot area and width. Every lot on which a building or combination of buildings is hereafter erected or used shall have a lot area of not less than 10 acres, and such lot shall not be less than 300 feet at the building line.

B.

Building area. Not more than 30% of the area of any lot may be occupied by buildings and structures, and not less than 45% of the total lot area, exclusive of those areas within the public right-of-way, shall be devoted to landscaping and planted in accordance with Chapter 255, Subdivision of Land. Landscaped areas shall include nonimpervious areas devoted to stormwater management, required buffer areas and landscaping for parking facilities.

C.

Building placement. No building or accessory structure shall be located less than one hundred and fifty (150) feet from a street right-of-way line nor less than two hundred (200) feet from a side or rear property line and no surface parking area, driveway, service or interior roadway, with the exception of approved areas for vehicular access, shall be located less than 75 feet from a street right-of-way or other property line.

Commented [c1]: This language should be unchanged from current text. Staff, please verify.

D.

Building size and spacing.

(1)

The greatest dimension in length or depth of a building shall not exceed 160 feet, and no more than three buildings may be attached to each other, provided further that the facade of any building attached to another building be visibly offset from the adjoining building at an angle of approximately 90°

The distance at the closest point between any two buildings or group of attached buildings, including accessory structures, shall not be less than 45 feet.

(3)

In no case shall the width of buildings or accessory structures or the aggregate widths of buildings or accessory structures fronting on a street on the same lot exceed 80% of the width of a lot.

E.

Height regulations. Except as set forth in Section 280 64 G, nNo building or accessory structure shall exceed three stories or 38 feet in height.

F.

Riparian buffer setback: 35 feet

#### G. Mixed use

A building or unified group of buildings may include the uses specified in Section 280 63 B subject to the following conditions:

1. The minimum gross floor area of these uses is 30%.
2. No building shall exceed 85 feet in height. Buildings in excess of the height specified in Section 280 64 E are subject to the following restrictions:

Building Height (Tallest building on site)	Maximum Building Area (%)	Maximum Lot Coverage (%)	Set Back to Street ROW Line (ft)	Set Back to Side and Rear Property Line Adjacent to Residential Zoning District (ft)	Set Back to Side and Rear Property Line Adjacent to Non-Residential Zoning District (ft)	Set Back to Side and Rear Property Line Abutting Railway (ft)
Greater than 38' but less than or equal to 55'	29	50	100	200	50	25
Greater than 55' but less than or equal to 85'	28	45	100	200	50	25

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3. The gross floor area for all buildings on site shall not exceed 25,500 square feet per acre of Total Site Area.

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4. a parking garage or parking structure may have a height of up to 55 feet so long as such parking garage or parking structure does not exceed the height of any building on the site.

5. All other structures shall not exceed 45.

Commented [c2]: Not sure what this means.

6. Financial Subdivision -

Commented [c3]: Consider language to allow this practice in lieu of conventional subdivision.  
Staff to provide.

## **MEMORANDUM OF UNDERSTANDING**

THIS MEMORANDUM OF UNDERSTANDING (“**MOU**”) is made as of this \_\_\_\_\_ day of June 2016, by and between **G & I II Radnor Crossing, LP** (“**Radnor Crossing LP**”), a Pennsylvania corporation with offices at 801 Old York Road, Jenkintown, Pennsylvania, and the Township of Radnor, Delaware County, PA (“**Township**”), a Home Rule municipality with offices located at 301 Iven Avenue, Wayne, Pennsylvania. Radnor Crossing LP and the Township shall collectively be referred to herein as the “**Parties.**”

### **BACKGROUND**

- A. Radnor Crossing LP is the owner of real property located at 284 Iven Avenue, St. Davids, Pennsylvania (the “**Property**”). The Property has two zoning districts. The majority of the site is in the PA Planned Residential District, but there is a 100-foot wide R-1 Residential District along Iven Avenue and the residential properties North and West of the site.
- B. The Property is improved with an apartment complex commonly known as “**Radnor Crossing.**” Radnor Crossing LP seeks to construct certain improvements (the “**Improvements**”) at Radnor Crossing pursuant to a grading permit application and associated plans (collectively, the “**Application**”) to be submitted by Joseph P. Hanna, P.E. of Chambers Associates, Inc. on behalf of Radnor Crossing LP. The purpose of the Improvements is to allow for temporary parking, among other places, on Radnor Crossing’s tennis court.
- C. On May 4, 2016, Radnor Crossing LP met with the near neighbors regarding the Improvements and the Application.

### **AGREEMENT**

NOW THEREFORE, in consideration of the foregoing recitals, the promises and covenants of each set forth below, and other good and valuable consideration, the sufficiency of which the Parties acknowledge, and intending to be legally bound hereby, the Parties agree as follows:

1. Concurrent with the execution of this MOU, Mr. Hanna shall submit the Application to the Township for review and approval, which the Township shall approve in its customary practice and procedures.
2. The Application is a mutually acceptable design to allow temporary parking at Radnor Crossing under the terms set forth herein. Slight changes in the design may occur in coordination and upon agreement between the Parties.
3. Radnor Crossing LP shall provide screening around the temporary parking area to the satisfaction of the Township. Such screening may include opaque fencing and/or a buffer planting strip of trees and/or tall shrubs.

4. Radnor Crossing LP agrees to pay all reasonable bills and invoices for engineering, inspection, legal, and other professional consulting services that Township incurs for such services for the time that the Engineer, Inspector, or other professional for the Township is actually engaged as a result of the following: (1) review and approval of the Application; (2) development of the Improvements in accordance with the terms of the approved Application; (3) review of this MOU and any other supplemental agreements, documents, etc., incidental to the approved Application and Improvements; (4) monitoring, testing and inspecting of the work required of Radnor Crossing LP under the approved Application; and (5) attendance at meetings pertaining to this agreement.

5. Because the parking proposed pursuant to the Application is temporary in nature, the Improvements do not require zoning relief and the current permitted uses at Radnor Crossing are hereby preserved and no abandonment thereof shall have occurred by way of the Application or this MOU. Should Radnor Crossing LP seek to make the proposed temporary parking and/or the Improvements permanent, Radnor Crossing LP must apply for and receive all necessary approvals in accordance with the Township Code.

6. The temporary parking at Radnor Crossing in accordance with the Application shall be valid for twelve (12) months from the issuance date of a grading permit for the Improvements. Radnor Crossing LP may receive up to two additional months of temporary parking pursuant to the terms of this MOU upon written request to the Township for just cause shown as reasonably determined by the Township.

7. The provisions of this MOU shall be severable. If any provision of the MOU, or the application thereof, for any reason or circumstance, is to any extent held to be invalid or unenforceable, the remaining provisions of the MOU (as well as the application of all provision(s) that were held to be invalid or unenforceable to persons to entities other than those as to which they were held invalid or unenforceable) shall not be affected or impaired thereby; and each provision of the MOU shall be valid and enforceable to the fullest extent permitted by law.

8. This MOU and all disputes arising under the MOU shall be governed, construed and decided in accordance with the laws of the Commonwealth of Pennsylvania. The parties agree that any lawsuit, action, claim, or legal proceeding involving, directly or indirectly, any matter arising out of or related to the MOU, or the relationship(s) created or evidenced thereby, shall be brought exclusively in the Court of Common Pleas of Delaware County.

9. This MOU may be executed in counterparts, each of which shall be deemed an original, and all of which shall constitute one instrument; provided, that the MOU shall be effective and binding on the parties upon, but only upon, the execution of each party of one copy thereof.

10. Radnor Crossing LP and the Township each represents and warrants that it has caused this MOU to be duly authorized, executed and delivered by and through persons authorized to execute the MOU on its behalf. The parties hereto bind themselves, their heirs, executors, administrators, successors and assigns for the faithful performance of this MOU. This MOU contains the entire agreement between the parties with respect to the subject matter hereof; supersedes all prior negotiations, agreements, and undertakings between the parties with respect to such subject matter, and cannot be changed, modified or amended except by agreement in writing signed by both parties.

11. All provisions of this instrument shall be governed by the laws of the Commonwealth of Pennsylvania.

IN WITNESS WHEREOF, the parties hereto, intending to be legally bound, have executed this MOU as of the date first written above.

G & I II RADNOR CROSSING, LP

TOWNSHIP OF RADNOR

\_\_\_\_\_  
By: Jessica Radnor Crossing LP  
[INSERT TITLE]

\_\_\_\_\_  
By: Philip A. Ahr  
President, Board of Commissioners

DEBRA A. SHULSKI  
Debbie@rrhc.com  
Extension 210



RILEY RIPER HOLLIN & COLAGRECO  
ATTORNEYS AT LAW

June 2, 2016

via Hand Delivery

Kevin Kochanski, Director of Community Development  
Radnor Township  
301 Iven Avenue  
Wayne, PA 19087

Re: Five Below, Inc./Wayne Square Shopping Center  
Appeal of Design Review Committee Decision  
Our File: 6505-02

Dear Mr. Kochanski:

Please accept this letter appeal on behalf of Five Below, Inc. ("Five Below") from the Design Review Board Decision dated May 12, 2016, with respect to signage for property located at 309 East Lancaster Avenue in the Wayne Square Shopping Center, Radnor Township. Five Below is proposing to lease space in the storefront previously occupied by City Sports and is proposing certain signage consisting of one (1) wall sign and the change of copy of the two (2) existing pylon signs to remove and replace the prior City Sports copy with the Five Below copy.

The scope of this appeal relates strictly as to a recommended condition relating to the proposed building wall sign. Five Below is proposing a 50 square foot wall sign on the front façade of the building which sign area includes both the white lettering and blue backer (note the lettering is only 36.23 square feet in size but with the backer the overall sign area is 50 square feet).

The proposed sign area and location of the sign is compliant with the Zoning Ordinance requirements. Pursuant to Section 280-122.C(2) of the Zoning Ordinance, the total sign area permitted is 2 square feet for the first 15 lineal feet of building frontage plus 1 square foot of sign area for each additional foot of building frontage up to a maximum sign area of 50 square feet. The width of the Five Below store front façade is 60'3" and is the largest tenant space within the Wayne Square Shopping Center. The sign lettering is 27" in height and there is no Ordinance requirement limiting the dimensions of the lettering other than the overall square foot requirement. Based on its corporate branding and prototype signage in other locations, Five Below originally considered a wall sign greater than the 50 square feet permitted by the Zoning Ordinance but then determined to reduce the size to be compliant with the requirements of the Zoning Ordinance.

At the meeting before the Design Review Committee, the Board recommended approval of both the freestanding and wall sign subject to four (4) conditions of approval. Five Below is appealing the imposition of one of the conditions, namely the limitation on the maximum letter height of 22" for the wall sign.

The Applicant respectfully disagrees that this condition is proper because the proposed sign is compliant with all the applicable Zoning Ordinance requirements and there is no requirement limiting the lettering height to 22". Notwithstanding that the signage is compliant with the Zoning Ordinance, the Applicant believes the proposed lettering height is necessary because of the existing vegetation and visibility issues in proximity to the roadways. The Applicant also believes the proposed signage is consistent and in keeping with the other surrounding signage in the shopping center as well as in the surrounding area. The tenant space proposed to be occupied by Five Below is the largest tenant space in the shopping center and contains the widest storefront within the shopping center. Five Below will be the anchor tenant in the Shopping Center. As previously mentioned, Five Below had reduced the overall square footage of the sign area to be compliant with the Zoning Ordinance from its prototypical type where other locations have a larger sign area. The lettering limitation height of 22" as recommended by the Design Review Board would be the smallest lettering that Five Below would have at any of its locations within Pennsylvania and New Jersey. All but one of its other locations has a lettering height of 36 inches to 42 inches.

Pursuant to Section 280-128 of the Zoning Ordinance, the Design Review Board is required to review sign permits to ensure compliance with the provisions and intent of the Zoning Ordinance. The proposed wall sign does in fact comply with all applicable requirements of the Zoning Ordinance (including dimensional and location on the building). As such, the Applicant respectfully requests that the Board of Commissioners strike the condition limiting the letter height to 22" since there is no authority to impose additional requirements beyond what the Zoning Ordinance requires.

Enclosed as part of this submission are the fifteen (15) copies of the following documents:

1. Design Review Board Decision dated May 12, 2016;
2. Sign Plans prepared by Kieffer and Company dated April 6, 2016 which consist of the following 7 sheets:
  - (a) Site Plan Aerial;
  - (b) Front elevation;
  - (c) Wall Sign Details;
  - (d) Pylon Sign 1 Details;
  - (e) Pylon Sign 2 Details;

Kevin Kochanski, Director of Community Development  
Radnor Township  
June 2, 2016  
Page 3 of 3

- (f) photographs of existing center and other sign locations; and
- (g) floor plan showing leased areas within the Wayne Square Shopping Center.

3. Photographs showing visibility issues for proposed storefront (previously occupied by City Sports);
4. Photographs of surrounding signage with attached Aerial Key map;
5. Owner Authorization Letter; and
6. Electronic submission a flash drive.

It is my understanding that this matter will be placed on the Board of Commissioners' meeting agenda on June 13, 2016.

Thank you for your attention to this matter. We look forward to being before the Board at that time. In the meantime, if you have any questions, please feel free to give me a call.

Very truly yours,



DEBRA A. SHULSKI

DAS/kch  
Enclosures

cc: John Rice, Esquire (via first class mail, w/o encl.)  
Glenn Fink (via email only, w/o encl.)

PHILIP M. AHR  
*President*

LUCAS A. CLARK, ESQ.  
*Vice President*

JAMES C. HIGGINS, ESQ.

ELAINE P. SCHAEFER

DON CURLEY

JOHN NAGLE

RICHARD F. BOOKER, ESQ.



**RADNOR TOWNSHIP**  
301 IVEN AVENUE  
WAYNE, PENNSYLVANIA 19087-5297

Phone (610) 688-5600  
Fax (610) 971-0450  
[www.radnor.com](http://www.radnor.com)

ROBERT A. ZIENKOWSKI  
*Township Manager*  
*Township Secretary*

JOHN B. RICE, ESQ.  
*Solicitor*

JOHN E. OSBORNE  
*Treasurer*

Thursday, May 12, 2016

FIVE BELOW INC  
181B MARKET STREET  
PHILADELPHIA, PA 19103

RE: DRB APPLICATION NO: DRB 2016-27  
PROPERTY ADDRESS: 309 E LANCASTER AVE , WAYNE

Dear Applicant:

This letter is to notify you that the above application was reviewed by the Design Review Board during the 5/11/2016 meeting for the following:

FREESTANDING SIGN (2), WALL SIGN

at which time the Motion was made to approve based on the following conditions:

- Wall sign will have a maximum letter height of 22 inches.
- Wall sign height will not exceed 15 feet from grade.
- Tenant panels approved as submitted.
- Address will be placed on building with a minimum number height of 4 inches

**Please be advised that building permits** must be secured from the Community Development Department for work to be performed. Applications for permits must be consistent with the decision of the Design Review Board.

Decisions of the Design Review Board are subject to review by the Board of Commissioners who reserve the right to modify or reverse any decision, provided such action is initiated within twenty-one (21) calendar days from the date of the final decision by the Design Review Board.

Sincerely,

Kevin Kochanski  
Director of Community Development

# BAKER PROPERTIES

April 18, 2016

Glenn Fink  
1818 Market Street  
Philadelphia, PA 19013

RE: Five Below, Inc./309 East Lancaster Avenue

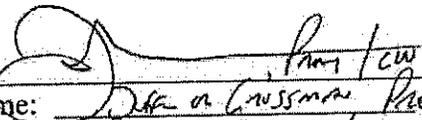
Dear Mr. Fink:

Please be advised that I am an authorized officer of Baker Properties, Inc., agent for Lancaster Wayne Associates, LP ("Owner"), the record owner of the Wayne Square Shopping Center located at 309 East Lancaster Avenue, Wayne in Radnor Township ("Wayne Square").

Owner and Five Below, Inc. are finalizing the terms of a lease agreement for Store A at Wayne Square ("Premises") ("Lease Agreement"). In accordance with the foregoing, we have authorized Five Below, Inc. and their respective directors, officers, agents, employees, attorneys, and consultants (collectively "Agents") at Five Below's sole cost and expense, to act as my agent and accordingly has the Owner's permission to undertake all activities, including the making, filing and prosecution of any required plans, applications, permits or other documents in connection with securing approvals for signage (as approved by Owner) at the Premises only, including the filing of any application(s) to Radnor Township and to do such other acts as may be requested by any other governmental authority having or purporting to have jurisdiction.

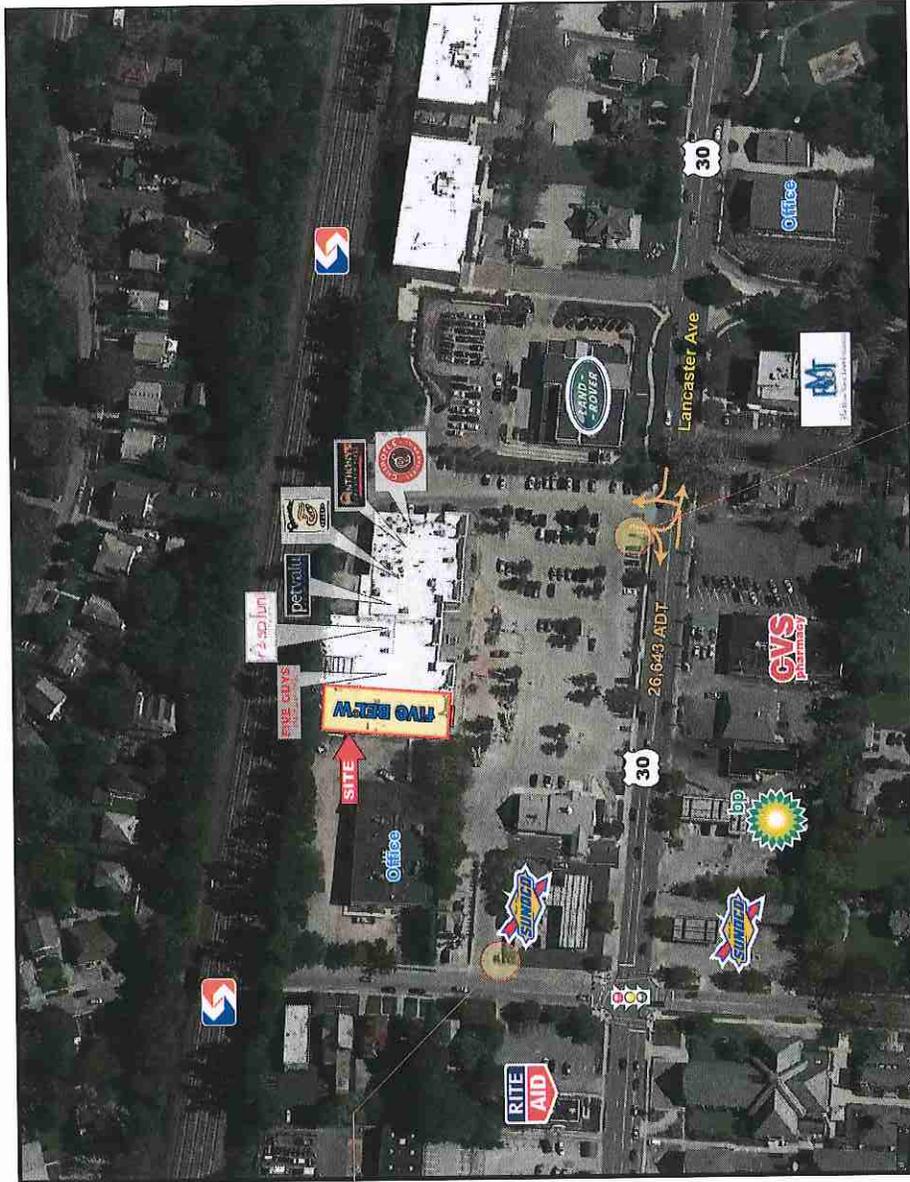
If a Lease Agreement is not fully executed by May 10, 2017, Owner reserves the right to withdraw this authorization.

Baker Properties, Inc., agent for  
LANCASTER WAYNE ASSOCIATES, LP

By:   
Name: Peter J. Crossman, President/CW

# fIVE BELOW

## Site Plan



Pylon Sign w/ FIVE BELOW, Tenant Faces

**fIVE BELOW**  
Illuminated Letters on Storefront Elevation

Pylon Sign w/ FIVE BELOW, Tenant Faces

S I T E P L A N

N. T. S.

Wayne, PA (Wayne Square)

**Kreffer & CO., INC.**

THIS PLAN OR ANY PART THEREOF IS THE PROPERTY OF KREFFER & CO., INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF KREFFER & CO., INC.

© 2016 KREFFER & CO., INC.  
565 North Street - Lisle, IL 60089  
PHONE: (630) 520-1655 FAX: (630) 520-1949  
www.kreffer.com

CUSTOMER: **fIVE BELOW**  
LOCATION: Wayne, PA (Wayne Square)

SALESMAN: LC  
DESIGNER: JAK  
DATE: 4/6/16



COMPANION FILES

PRODUCTION PROCESSING

Rev#	Rev Description
001	
002	
003	
004	

INITIALS: \_\_\_\_\_  
DATE: \_\_\_\_\_

REVISION: \_\_\_\_\_

**Site Plan**

# five BELOW

EXISTING STOREFRONTS



PROPOSED STOREFRONT



60'-3" STORE FRONT LEASE WIDTH

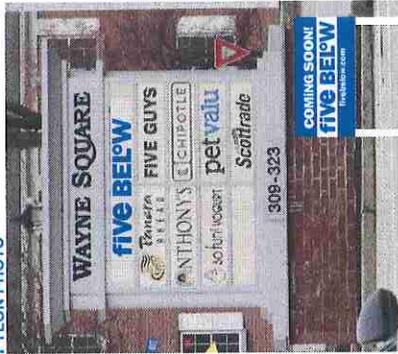


Front Elevation

Sign A	Sign Type: 27" Five Below Individual Channel Letters on Backer Panel
	Illumination: Internally Illuminated LED
	Square Footage: 59.0 TTL SQ FT / UTRS ONLY 36.23 SQ FT
	Reference DWG#: <b>B70817A</b> for detailed specifications

## Site Identification - Front Elevation

PYLON PHOTO



### Storefront Work:

- Height to remain as is
- Glazing to remain as is
- Tenant to locate storefront doors per Tenant's final plans
- Tenant to install walkway lighting, 6'-0" min O.C., with additional door light
- Tenant to procure and install decorative sconces, as shown
- Tenant to install HILTI eyebolts in facade for temporary banners, see A-40 for loc.
- Tenant to reskin awnings to match Sunbrella Royal Blue
- Tenant to install curb cut near storefront entry

### Tenant Signs:

- Primary Sign: 27" internally illuminated channel letters on backer panel
- Temp Post and Panel: Construction sign placed near entrance
- Walkway sign: **Blade signs are NOT ALLOWED.**
- Pylon Panel: TBD, verify w/ Leasing

### Tenant approved finishes:

- Facade bump up: To match existing
- Cornice EIFS: Existing to remain
- Plasters EIFS: Existing brick to remain

N. T. S.

Wayne, PA (Wayne Square)



THIS IS AN UNLIMITED PERMITTING OFFER FOR THE COMMUNITY OF WAYNE SQUARE. THE SIGNAGE IS NOT TO BE CONSIDERED A FINAL OFFER. THE SIGNAGE IS NOT TO BE CONSIDERED A FINAL OFFER. THE SIGNAGE IS NOT TO BE CONSIDERED A FINAL OFFER.

© 2016 KIEFFER & CO., INC.  
 585 Bond Street - Lincolnshire, IL 60069  
 PHONE: (847) 520-1255 FAX: (847) 520-1943  
 www.kieffersigns.com

CUSTOMER: **FIVE BELOW**  
 LOCATION: Wayne, PA (Wayne Square)  
 SALESMAN: JC  
 DESIGNER: MAK  
 DATE: 4/6/16



COMPANION FILES

Refer Item #	PRODUCTION PROCESSING
489-#	
-001	
-082	
-083	
-084	

INITIALS: DATE: MAK 4/11/16

MAK 4/14/16

REVISION:

8	Delete blade sign
7	Revise backer panel length, increase letter size
6	
5	
4	
3	
2	
1	

**B70817**







THE STATE OF ILLINOIS HAS REVIEWED THIS SIGN AND DETERMINED THAT IT CONFORMS WITH THE REQUIREMENTS OF THE ILLINOIS SIGNAGE ACT AND DOES NOT VIOLATE ANY PROVISIONS OF THE ILLINOIS SIGNAGE ACT.  
 2816 KIEFFER & CO., INC.  
 585 Bond Street - Lincolnshire, IL 60069  
 PHONE: (847) 520-1233 FAX: (847) 520-1549  
 www.kieffersigns.com

CUSTOMER: **five BELOW**  
 LOCATION: Wayne, PA (Wayne Square)  
 SALESMAN: LC  
 DESIGNER: MAK  
 DATE: 4/8/16



COMPANION FILES

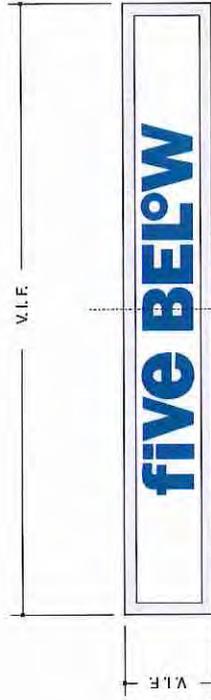
PRODUCTION PROCESSING  
 Kieffer Item # \_\_\_\_\_  
 Job # \_\_\_\_\_  
 -001 \_\_\_\_\_  
 -002 \_\_\_\_\_  
 -003 \_\_\_\_\_  
 -004 \_\_\_\_\_

INITIALS: DATE:

REVISION: 

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
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**B70817C**



Face Layout  
 (2) Faces Required

N. T. S.

**General Description**

Remove existing faces. Install New acrylic faces w/ flat cut 3M vinyl logotype graphics applied to 1st surface - SEE COLOR SCHEDULE. Survey Required.

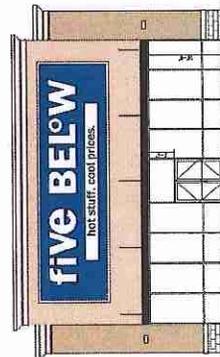
- Vinyl Specification
- #3630-167 Bright Blue
  - White Background



D/F Pylon Sign 2

# five BELOW

## Wayne Square Shopping Center



Prototype



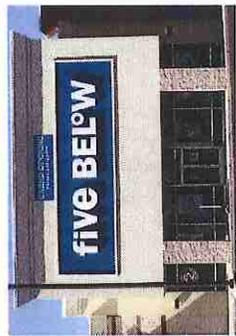
Owensboro, KY



Goshen, IN



Turnersville



Levittown



Warmminster



Dover



Wilmington



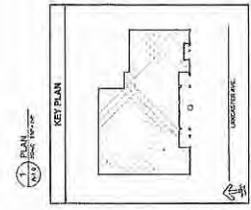
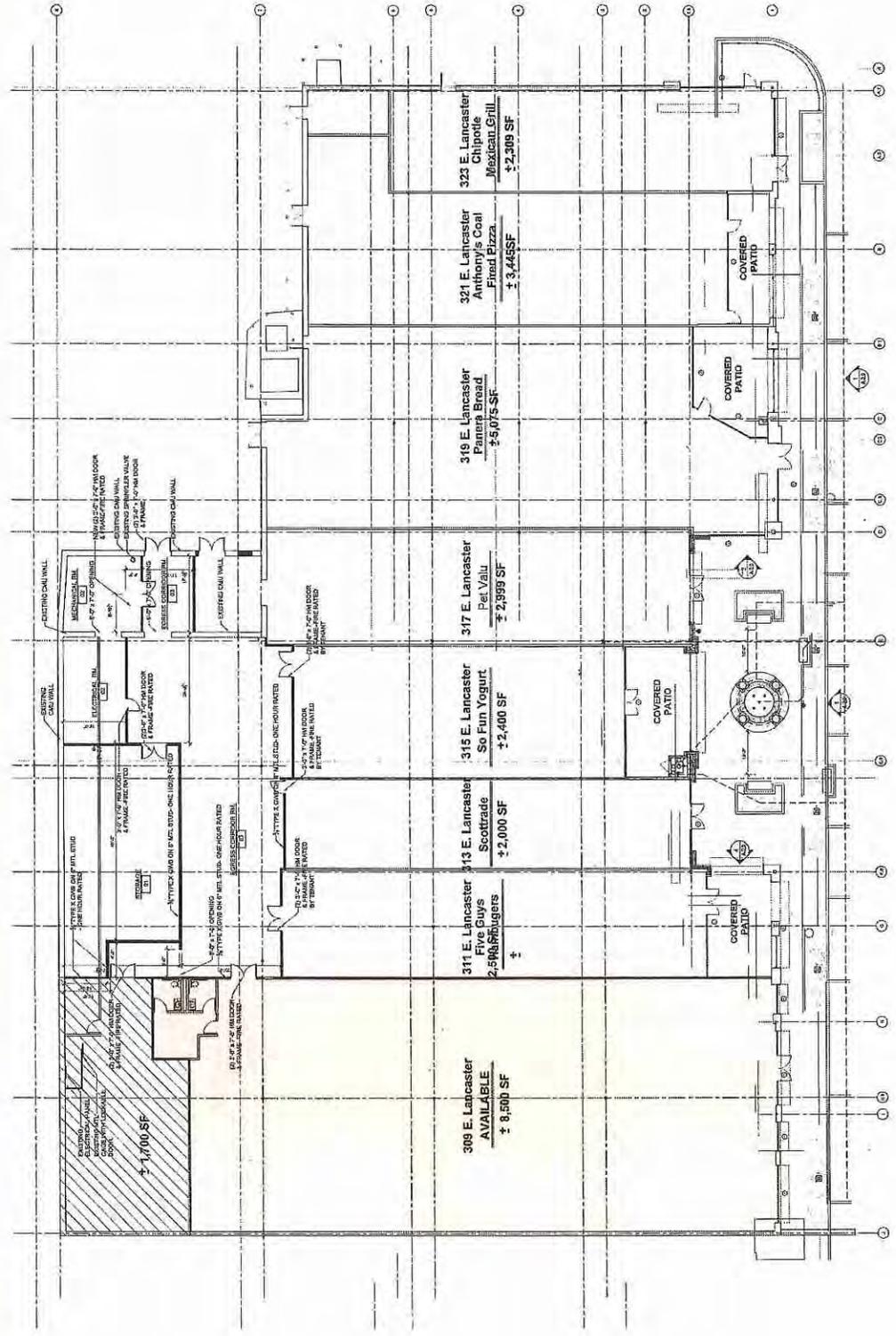
Springfield Marple



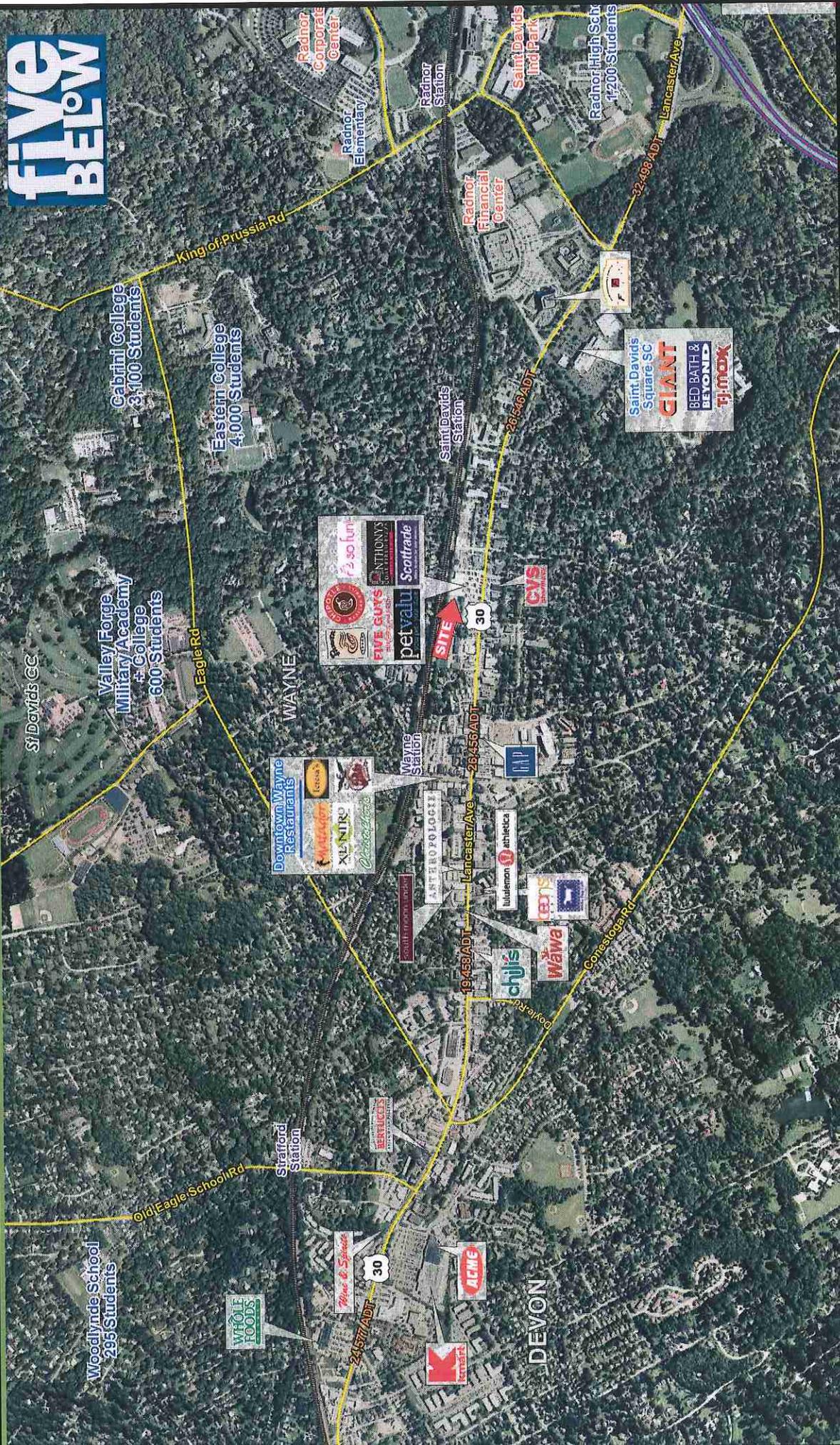
Feasterville

# five BELOW

## Wayne Square Shopping Center

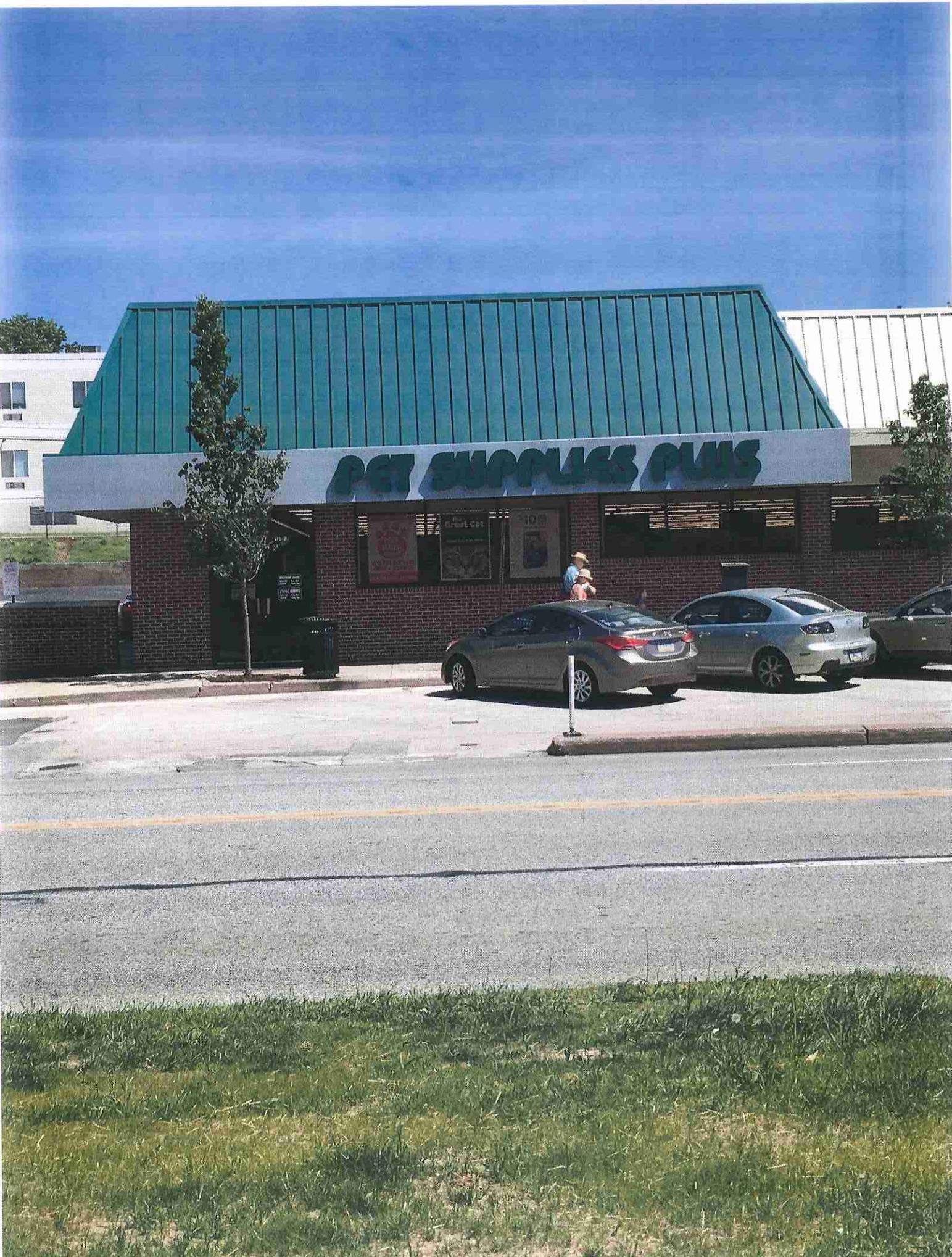


**WAYNE, PA**



**FIVE BELOW**

**CBRE | FAMECO**



# PET SUPPLIES PLUS

127

RECYCLING CENTER  
STORE HOURS  
MON-FRI 10am-6pm  
SAT 10am-5pm  
SUN 11am-5pm

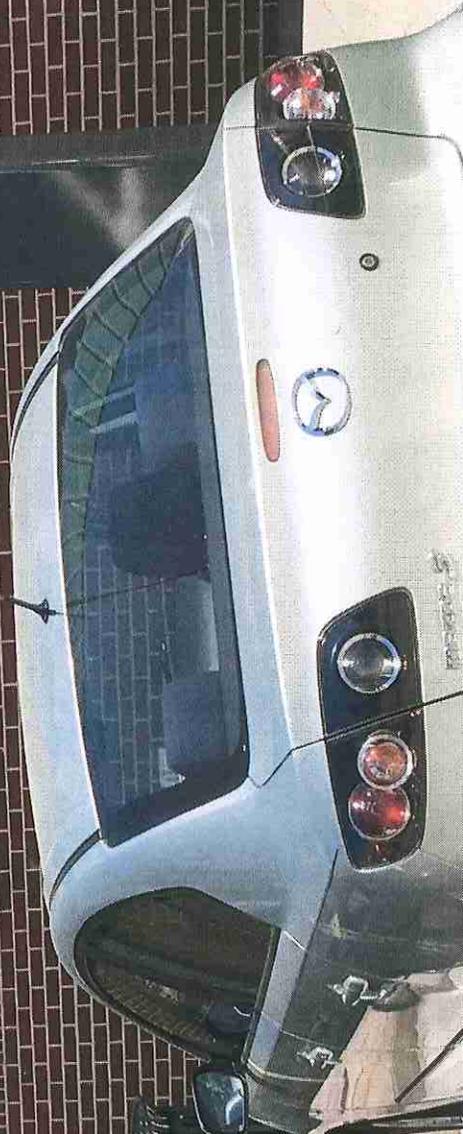
**\$10.98**  
Paw Print Cat Chow



**The Great Cat**  
Spray and toss, guarantee.



**LET THE GOOD BITTNESS**  
100% ALL-NATURAL  
100% TASTELESS





Wawa

NO PARKING  
IN FRONT OF  
BUSINESS

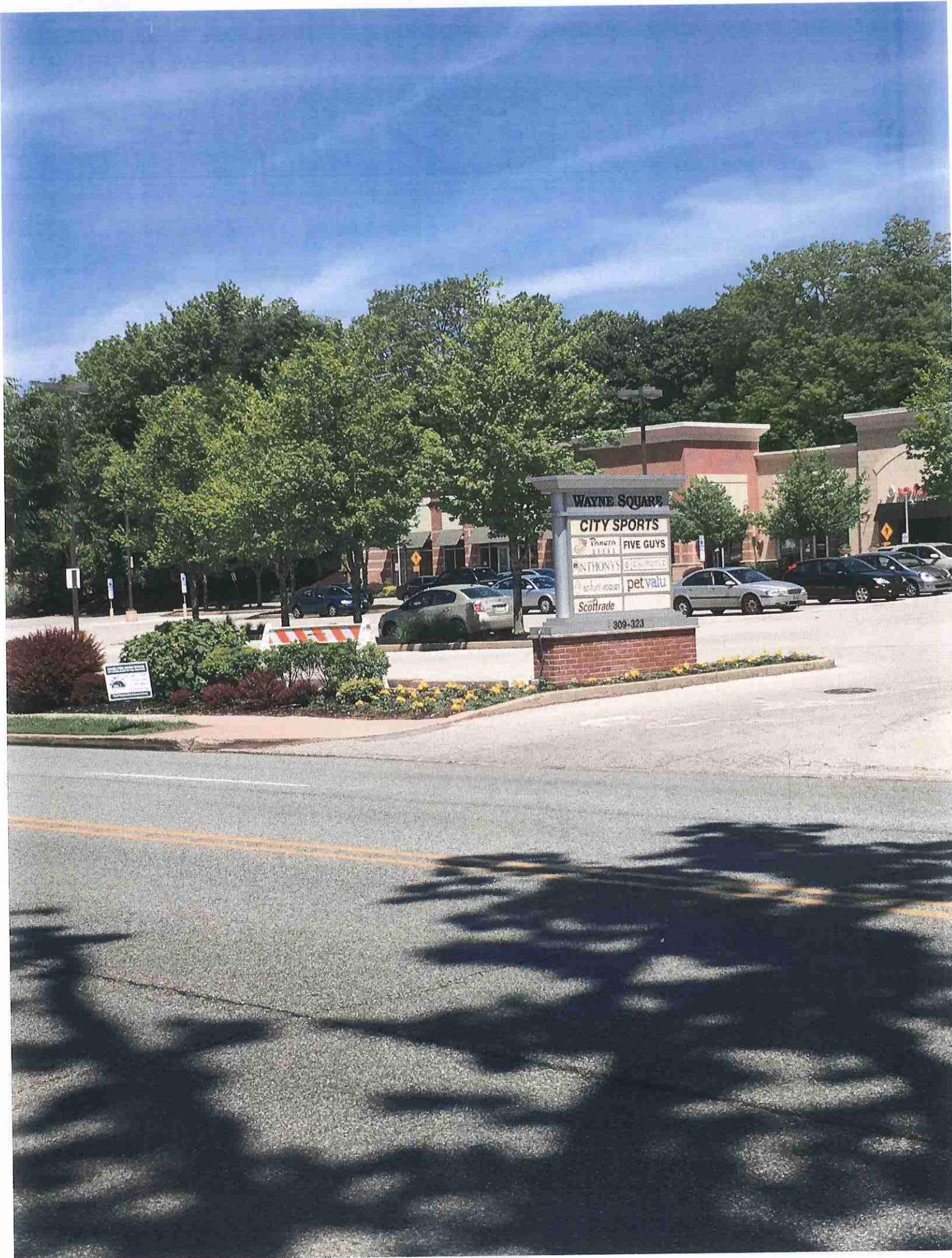
Wawa

Handicap Accessible



**ACME**





WAYNE SQUARE

CITY SPORTS

FIVE GUYS

ANTHONY'S

pet valu

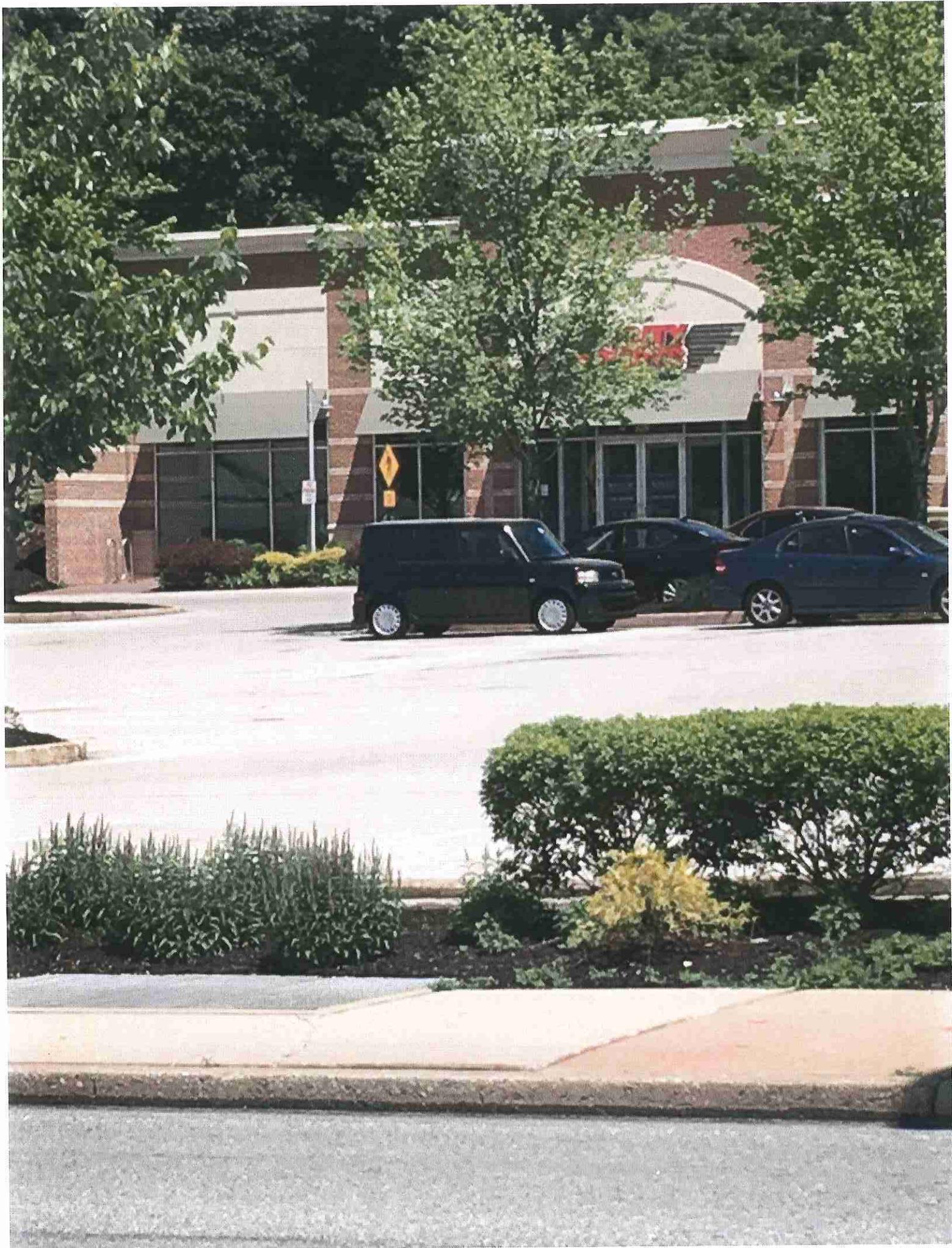
Scottrade

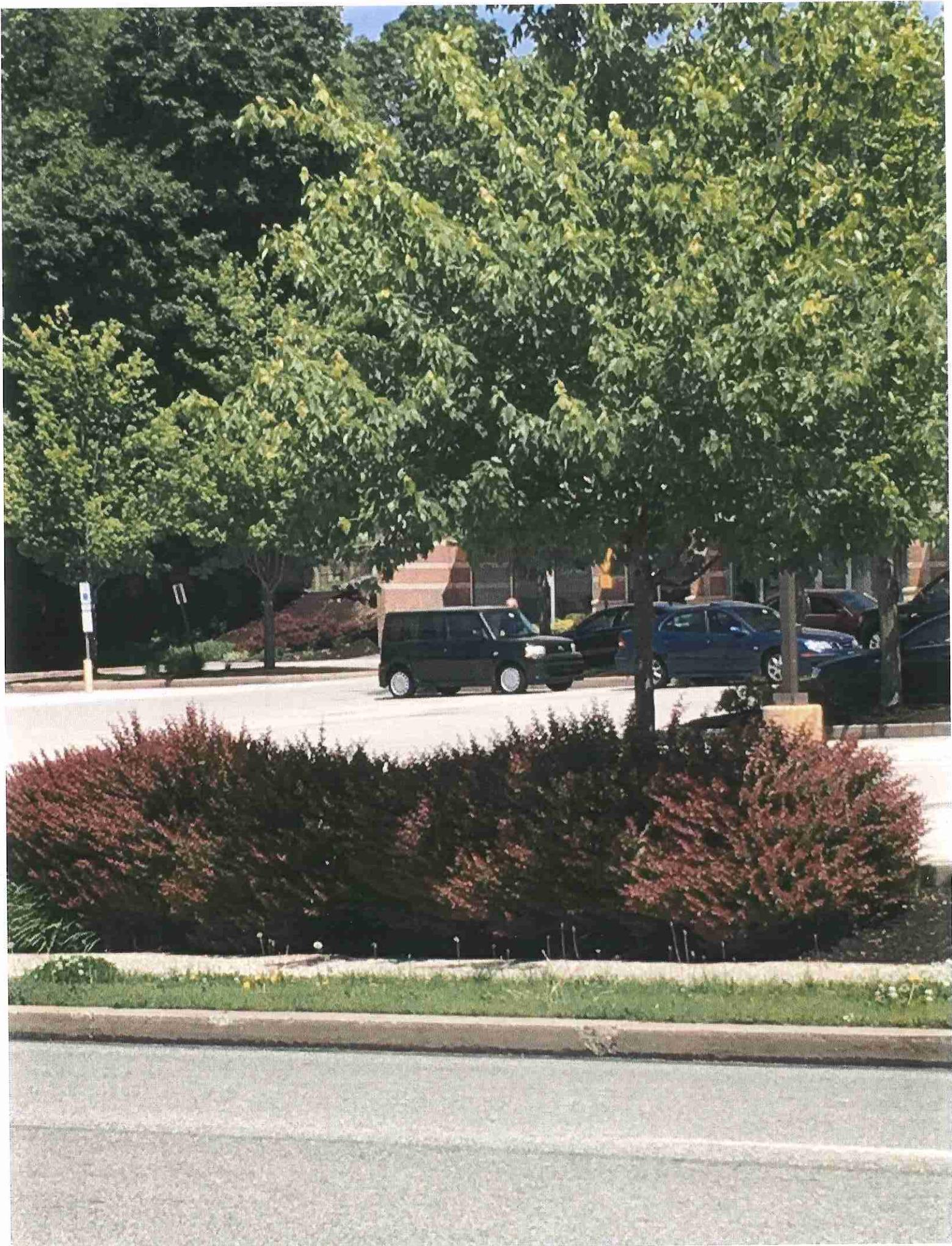
309-323













# Gannett Fleming

*Excellence Delivered **As Promised***

**Date:** June 7, 2016

**To:** Radnor Township Board of Commissioners

**From:** Roger Phillips, PE

**cc:** Robert Zienkowski – Township Manager  
Stephen Norcini, P.E. – Director of Public Works  
Kevin W. Kochanski, RLA, CZO – Director of Community Development  
John Rice, Esq – Grim, Biehn, and Thatcher  
Amy Kaminski, PE – Gilmore and Assoc.  
Steve Gabriel - Rettew

**RE:** 223 Radnor Chester Road – Stormwater Waiver Request  
Grading Permit Application – 16 - 071

---

The applicant has indicated on the Grading Permit Plans that the following waivers will be requested:

§245-22 – Groundwater Recharge  
§245-23 – Water Quality Requirements  
§245-25 – Stormwater Peak Rate Control and Management Districts

The applicant performed a soil investigation onsite. The investigation found that there was a limiting zone approximately 12” from existing grade that would prevent infiltration onsite. The applicant’s engineer investigated several alternatives to manage stormwater with regards to peak rate control and volume management that were deemed infeasible due to existing site limitations.

If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC.

Roger A. Phillips, P.E.  
Senior Project Manager



June 2, 2016

Ms. Suzan Jones  
Radnor Township  
Engineering Department  
301 Iven Avenue  
Wayne, PA 19087

Re: Stormwater Management Waiver Request  
223 Radnor Chester Road

Ms. Jones:

On behalf of our client, Movses and Tamara Balabanyan, we are requesting the following waivers from the stormwater management requirements for Radnor Township for new impervious areas located on their property at 223 Radnor Chester Road:

- Section 245-22 – Groundwater Recharge
- Section 245-23 – Water Quality Requirements
- Section 245-25 – Stormwater Peak Rate Control and Management Districts

Our client is proposing to selectively demolish the existing residence on the site and construct a new residence. As can be seen in the Grading Permit Application, there will be 3,054 sf of added impervious area with a no net increase in the impervious area after construction. A soil investigation was performed Joe Walls under the direction of Radnor Township's Sewage Enforcement Officer, Doug Meder (report was submitted under a different cover). The investigation found that there was a limiting zone approximately 12" under the top ground layer which would prevent any infiltration on the site.

Other BMP options were investigated, however they were deemed infeasible due to the lack of infiltration and/or the limited size of the site (see 223 Radnor Chester Road Stormwater Management Plan Narrative). Slow release for the site was also deemed infeasible due to the relatively flat lot (about 1 ½' fall from the building corner to the property line). This allows little room for storage and no room for an outfall structure such as a level spreader to discharge.

Please contact me if you have any questions.

Sincerely,  
YERKES ASSOCIATES, INC.

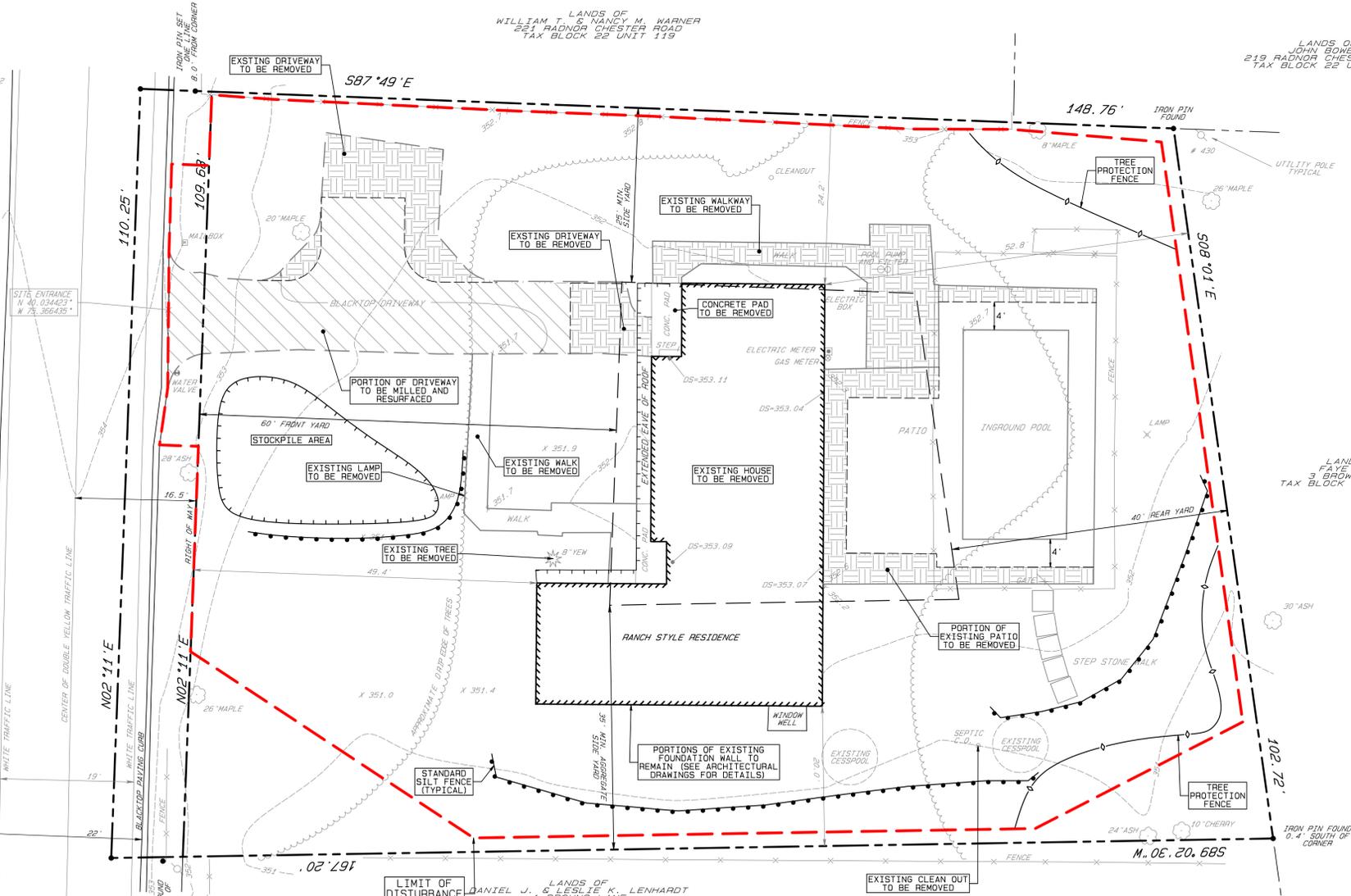


Francis Greene, P.E.

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DEVELOPED FROM EXISTING UTILITY RECORDS AND/OR ABOVE GROUND EXAMINATION OF THE SITE. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE START OF WORK PER PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 199 OF 2004. SERIAL #



RADNOR CHESTER ROAD

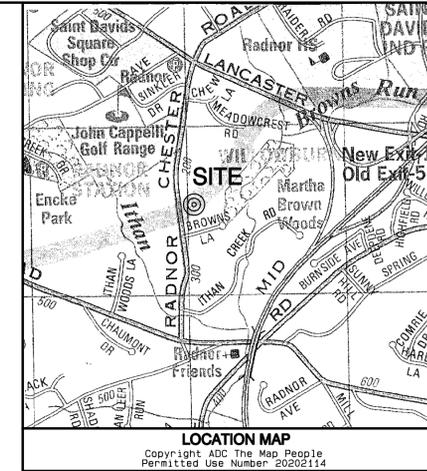


**LEGEND**

- NOTE: ALL ITEMS SHOWN IN LEGEND ARE NOT SHOWN ON PLANS
- EXISTING**
- AERIAL UTILITY LINE — A — A —
  - COMMUNICATIONS LINE — C — C —
  - ELECTRIC LINE — E — E —
  - FIBER OPTIC LINE — F — F —
  - GAS LINE — G — G —
  - SANITARY FORCE MAIN — F — H —
  - SANITARY GRAVITY PIPE — S — S —
  - STORMWATER PIPE — ST — ST —
  - TV LINE — T — T —
  - UTILITY TRENCH — UG — UG —
  - WATER LINE — W — W —
  - 2 FT. CONTOUR INTERVAL — 252' —
  - 10 FT. CONTOUR INTERVAL — 350' —
- MATERIALS AND FEATURES:
- MALIBOX
  - TREES
  - RAINWATER DOWNSPOUT
  - FIRE HYDRANT
  - WATER VALVE
  - GAS METER
  - GAS VALVE
  - ELECTRIC BOX/METER
  - LIGHT
  - SIGN
  - MANHOLE
  - INLET
  - VENT
  - POWER POLE
  - SETBACK LINE
  - PROPERTY LINE
  - RIGHT-OF-WAY LINE
  - EASEMENT LINE

**EROSION CONTROL LEGEND**

- NOTE: ALL ITEMS SHOWN IN LEGEND ARE NOT SHOWN ON PLANS
- TREE PROTECTION FENCE
  - STANDARD FILTER FABRIC FENCE
  - STOCKPILE AREA
  - LIMIT OF DISTURBANCE



**LOCATION MAP**  
Copyright: ADC The Map People  
Permitted Use Number: 20202114

**BULK ZONING**

DISTRICT: R-1 RESIDENTIAL REQUIRED EXISTING

LOT AREA: 43,560 SF MIN \*\* 16,721 SF \*

LOT WIDTH: 120' MIN 109.7' \*

**BUILDING SETBACKS**

FRONT YARD: 60' MIN 49.4' \*

SIDE YARD: 25' MIN 20.0' \*

AGGREGATE: 60' MIN 44.2' \*

REAR YARD: 40' MIN 52.8' \*

**BUILDING HEIGHT**

3 STORIES OR 35' MAX EXISTING

**BUILDING COVERAGE**

15% MAX 11.4%  
1,901 SF 1,901 SF

**IMPERVIOUS COVERAGE**

22% MAX 26.6% \*  
4,444 SF 4,444 SF

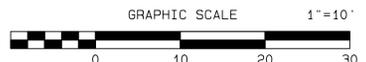
\* EXISTING NON-COMFORMITY

**IMPERVIOUS COVERAGE TABLE**

EXISTING	EXISTING
BUILDING	1,901 SF
DRIVEWAY	1,026 SF
WALKWAYS	500 SF
POOL/PATIO	1,017 SF
<b>TOTAL</b>	<b>4,444 SF</b>

**WAIVERS REQUESTED**

SECTION 245-22 GROUNDWATER RECHARGE  
SECTION 245-23 WATER QUALITY REQUIREMENTS  
SECTION 245-25 STORMWATER PEAK RATE CONTROL AND MANAGEMENT DISTRICTS



**GROSS LOT AREA = 0.384 ACRES OR 16,721 SQUARE FEET**

**ENVIRONMENTAL INDEMNIFICATION**

**UNFORESEEN SUBSURFACE CONDITIONS**

YERKES ASSOCIATES, INC.'S SCOPE OF SERVICES IS LIMITED TO SITE DEVELOPMENT ENGINEERING INCLUDING THE DESIGN OF STORM WATER MANAGEMENT SYSTEMS IN ACCORDANCE WITH EAST GOSHEN TOWNSHIP'S STORM WATER ORDINANCES. IT DOES NOT INCLUDE SERVICES RELATED TO HAZARDOUS OR TOXIC MATERIALS OR CHEMICALS, OR PRODUCTS (IF ANY EXIST ON THE SITE). YERKES ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY FOR CONSEQUENTIAL DAMAGES FOR SERVICES RENDERED OR DESIGNS CONSTRUCTED IN THE EVENT HAZARDOUS OR TOXIC MATERIALS OR CHEMICALS OR PRODUCTS ARE DISCOVERED. SHOULD ANY PARTY ENCOUNTER HAZARDOUS OR TOXIC MATERIALS OR CHEMICALS AT THE JOB SITE, OR SHOULD IT BECOME KNOWN IN ANY WAY THAT SUCH MATERIALS MAY BE PRESENT AT THE JOBSITE, OR ADJACENT AREAS THAT MAY AFFECT THE PERFORMANCE OF YERKES ASSOCIATES, INC.'S SERVICES, THE CLIENT SHALL RETAIN APPROPRIATE SPECIALISTS OR CONTRACTOR(S) TO IDENTIFY, ABATE AND/OR REMOVE THE MATERIALS, AND WARRANT THAT THE JOBSITE IS IN FULL COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

**CONTRACTOR DWELLING FIRST FLOOR NOTE:**

WHETHER INDICATED ON THE PLANS OR NOT, CONTRACTOR MUST REVIEW PLANS AND CONSULT WITH ARCHITECT TO ENSURE FIRST FLOOR ELEVATIONS ALLOW FOR AT LEAST 6" OF EXPOSED FOUNDATION WALL, PER 2009 IRC (SECTION R404.1.3) OR LATEST REVISED IRC.

ALSO, WHETHER INDICATED ON THE PLANS OR NOT, CONTRACTOR MUST REVIEW PLANS AND CONSULT WITH ENGINEER TO ENSURE FINISHED GRADES FALL A MINIMUM OF 6" WITHIN THE FIRST TEN FEET (10') FROM FOUNDATION WALLS, (PER R401.3), OR LATEST REVISED IRC.

IN CASES WHERE ANY OF THE ABOVE IS NOT FEASIBLE, CONTRACTOR MUST CONSULT WITH ARCHITECT AND ENGINEER FOR ACCEPTABLE REMEDIES.

**OWNERSHIP OF INSTRUMENTS OF SERVICE**

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COPYRIGHT, 2016 YERKES ASSOCIATES, INC.

**GENERAL CONTRACTOR SITE NOTES**

- CALL BEFORE YOU DIG 1 - 8 0 0 - 2 4 2 - 1 7 7 5 ACT 172 REQUIREMENTS - YERKES ASSOCIATES, INC. DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES AND LINES AS SHOWN ON THE PLANS. NOR DOES YERKES ASSOCIATES, INC. GUARANTEE THAT ALL SUBSURFACE STRUCTURES OR LINES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF THE WORK.
- UTILITY TIE-INS: OWNER SHALL NOTIFY ALL UTILITIES PRIOR TO THE START OF THE WORK FOR THE PROGRESS OF THE WORK BOTH DAY AND NIGHT. SHALL MAINTAIN SUFFICIENT OTHER BARRICADES, LIGHTS, DANGER SIGNALS, AND OTHER DEVICES FOR THE SAFETY OF THE PUBLIC, AND THE WORK MUST BE CONDUCTED AT ALL TIMES, IN SUCH A MANNER, AS TO OFFER THE LEAST INCONVENIENCE TO ADJACENT PROPERTY OWNERS.
- DURING THE CONSTRUCTION PROCEDURE, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS THAT MAY BE REQUIRED TO PREVENT ANY PHYSICAL DAMAGE OR CHANGES FROM OCCURRING BEYOND THE LIMITS OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE BEYOND THE LIMITS OF WORK FOR ANY AND ALL DAMAGE.
- THE CONTRACTOR SHALL MAINTAIN SUFFICIENT BARRICADES AND WARNING SIGNS DURING THE PROGRESS OF THE WORK BOTH DAY AND NIGHT. SHALL MAINTAIN SUFFICIENT OTHER BARRICADES, LIGHTS, DANGER SIGNALS, AND OTHER DEVICES FOR THE SAFETY OF THE PUBLIC, AND THE WORK MUST BE CONDUCTED AT ALL TIMES, IN SUCH A MANNER, AS TO OFFER THE LEAST INCONVENIENCE TO ADJACENT PROPERTY OWNERS.
- LINE AND LEVELS:
  - THE CONTRACTOR SHALL HAVE ON THE SITE A CALIBRATED SURVEY INSTRUMENT AT ALL TIMES TO ENSURE PROPER GRADING.
  - THE CONTRACTOR WILL FURNISH THE ELEVATIONS FOR SUCH POINTS AS ARE REQUIRED AS SHOWN ON THE PLANS FOR CONSTRUCTION AND/OR TO ENSURE POSITIVE DRAINAGE OF ALL NEWLY PAVED SURFACES AND YARD SURFACES.
  - THE CONTRACTOR SHALL WORK ACCURATELY TO BENCH MARKS AND TO PROPER ELEVATIONS AND DIMENSIONS. CHECKING CONDITIONS AND DETAILS OF WORK ALREADY IN PLACE AND PROPOSED IN RELATION TO WORK THEN TO BE INSTALLED.
- CONTRACTOR SHALL ENSURE THAT ALL INLET GRATE ELEVATIONS ARE "SUMPED" WHETHER INDICATED ON THE PLANS OR NOT, TO ENSURE POSITIVE DRAINAGE COLLECTION AFTER FINAL FINISH GRADES. INLET GRATE ELEVATIONS SHOWN ON THE PLAN ARE TO BE "SUMPED" (1") IN (3) FEET, AND ONLY IF APPROPRIATE FOR THE LOCATION AND SURROUNDING AREA, OR AS APPROVED BY THE OWNER'S ENGINEER.

**LIMIT OF DISTURBANCE**  
0.35 ACRES

LANDS OF DANIEL J. & LESLIE K. LENHARDT  
TAX BLOCK 22 UNIT 121

**GENERAL NOTES**

- ALL WOODY VEGETATION TO BE RETAINED WITHIN 25' OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING PLACED AT DRIPLINES OR AS SHOWN ON PLANS. TOWNSHIP ARBORIST MUST APPROVE THE LOCATION OF THE TREE PROTECTION FENCE PRIOR TO START OF EARTH WORK.
- TREES SHALL BE TREATED TO PROTECT THE ROOT SYSTEM PRIOR TO CONSTRUCTION WHERE IMPROVEMENTS ARE SHOWN WITHIN THE DRIPLINES OF TREES TO REMAIN.
- WHERE EXCAVATION TRENCHES ARE PROPOSED WITHIN THE DRIPLINES OF TREES, ALL DISTURBED ROOTS MUST BE CUT AS CLEANLY AS POSSIBLE. THE TRENCH MUST BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING COMPACTION.
- SHOULD ANY TREES NOT SCHEDULED OR PERMITTED TO BE REMOVED BE IRREPARABLY DAMAGED DURING CONSTRUCTION AND DIE WITHIN EIGHTEEN (18) MONTHS OF THE CONCLUSION OF CONSTRUCTION ACTIVITIES, THOSE TREES ARE TO BE REPLACED.
- THE TOWNSHIP ENGINEER MUST BE NOTIFIED 48 HOURS PRIOR TO THE START OF EARTHMOVING ACTIVITIES.
- ALL LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATES FROM EXISTING UTILITY RECORDS AND/OR ABOVE GROUND EXAMINATION OF THE SITE. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE START OF WORK PER PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 199 OF 2004.
- THE CONTRACTOR SHALL PROTECT OR RELOCATE UTILITIES AS NEEDED.
- NO GRADING CHANGES SHALL BE SHOWN WITHIN THREE (3') FEET OF THE PROPERTY LINE IN ORDER TO ENSURE TRANSITION TO THE GRADINGS ON THE ADJOINING PROPERTY.
- GRADING AND EARTHMOVING OPERATIONS SHALL BE MINIMIZED DURING THE PERIOD FROM NOVEMBER 15 TO APRIL 1 WHEN RE-VEGETATION OF EXPOSED GROUND SURFACE IS DIFFICULT. MULCH, STRAW, STONE AND/OR SOIL SHALL BE USED TO STABILIZE ALL AREAS DENIED DURING THIS TIME PERIOD.
- MAINTAIN MINIMUM COVER OVER ALL EXISTING AND PROPOSED UTILITIES AT ALL TIMES PER PIPE BEDDING DETAIL.
- NOTE TO CONTRACTOR: THIS PLAN CAN BE USED FOR CONSTRUCTION ONLY AFTER ALL REQUIRED AGENCY APPROVALS ARE FINALIZED, PERMITS ARE ISSUED AND WRITTEN AUTHORIZATION TO PROCEED IS GRANTED BY THE OWNER.
- A CUT AND FILL ANALYSIS WAS NOT PERFORMED AND MATERIAL BALANCE IS NEITHER IMPLIED NOR GUARANTEED. PROPOSED GRADIES MAY NOT NECESSARILY INCORPORATE SPREADING OF CUT MATERIAL NOR DO THEY PRECLUDE THE NEED FOR IMPORTING FILL MATERIAL TO OBTAIN THE GRADES SHOWN ON THE PLAN. EXCESS MATERIAL MAY BE SPREAD THROUGHOUT THE PROJECT AREA AFTER CONSULTING WITH THE DESIGN ENGINEER AND TOWNSHIP REGARDING IMPACT TO EXISTING AND PROPOSED DRAINAGE PATTERNS OR STORMWATER FACILITIES. IMPORTED MATERIAL MUST BE CLEAN FILL AS DESIGNATED BY THE OWNER.
- TREES TO BE REMOVED
- CONSTRUCTION ENTRANCE NOT SHOWN. TIRES FOR ALL CONSTRUCTION VEHICLES LEAVING THE SITE ARE TO BE CLEANED AND WASHED TO ENSURE NO SEDIMENT IS TO EXIT THE SITE.

**PROJECT DESCRIPTION**

THIS PROPERTY IS LOCATED AT 223 RADNOR CHESTER ROAD IN RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA. THE PROPERTY CONSISTS OF AN EXISTING SINGLE FAMILY RESIDENCE WITH A POOL, PATIO AND DRIVEWAY.

THE APPLICANT PROPOSES TO SELECTIVELY DEMOLISH THE EXISTING HOUSE AND A PORTION OF THE EXISTING DRIVEWAY AND PATIO. A NEW HOUSE WILL BE CONSTRUCTED AND THE DRIVEWAY RESURFACED.

**REFERENCE PLAN:**

"EXISTING CONDITIONS PLAN" PREPARED FOR MOVSES AND TAMARA BALABANYAN, PREPARED BY YERKES ASSOCIATES, INC., DATED SEPTEMBER 2, 2015, PLAN NUMBER 0-36-22-120

**SURVEY NOTES**

- THIS IS THE SAME PREMISES DESCRIBED IN RECORD BOOK 1069 PAGE 434 RECORDED AT THE DELAWARE COUNTY RECORDER OF DEEDS.
- THIS PLAN IS BASED UPON A FIELD SURVEY BY YERKES ASSOCIATES, INC., IN SEPTEMBER 2015.
- THIS PLAN HAS BEEN PREPARED WITHOUT THE AID OF A TITLE REPORT.
- THIS PREMISES MAY HAVE UNDERGROUND UTILITIES THAT HAVE NOT BEEN LOCATED NOR SHOWN.
- ELEVATION DATUM IS APPROXIMATE USGS.

**SOILS INFORMATION (IN PROJECT AREA)**

(PER USDA WEB SOIL SURVEY)

608 - GLENEL CHANNERY LOAM, 3 TO 8 PERCENT SLOPES  
HYDROLOGIC SOIL GROUP: B  
GEOLOGIC FORMATION: MAFIC GNEISS  
DOMINANT LITHOLOGY: MAFIC GNEISS

**TREES TO BE REMOVED**

1 - 8" YEW

**OWNER / APPLICANT**

MOVSES AND TAMARA BALABANYAN  
7507 LENNOX ROAD  
UPPER DARBY, PA 19082

**ENGINEER**

FRANCIS GREENE, PE 075817  
YERKES ASSOCIATES, INC.  
1444 PHOENIXVILLE PIKE  
WEST CHESTER, PA 19380  
(610) 644-4254

NO.	DATE	REVISION COMMENT
1	JUNE 2, 2016	PER TWP REVIEW DATED 6/1/16

**EXISTING CONDITIONS, DEMOLITION AND EROSION CONTROL PLAN**

**GRADING PERMIT**  
PREPARED FOR

**MOVSES & TAMARA BALABANYAN**  
223 RADNOR CHESTER ROAD

RADNOR TOWNSHIP \* DELAWARE COUNTY \* PENNSYLVANIA

**Yerkes**  
CONSULTING ENGINEERS \* LAND SURVEYORS \* LAND PLANNERS

1444 PHOENIXVILLE PIKE \* P.O. BOX 1568 \* WEST CHESTER, PA 19380  
TEL: (610) 644-4254 \* FAX: (610) 640-0771

PROJECT - W-15-1064-4  
DATE - MAY 12, 2016  
SCALE - 1" = 10'  
DRAWN - EJS  
CHECKED - FEG  
CAD FILE - M1064 GRADING  
TAX PARCEL - 36040256400

PLAN NO.  
**D-36-22-120**

**SHEET 1 OF 4**

6/27/2016 10:45:15 AM - W-15-1064-4 - BALABANYAN/CADD/W1064 - PERMIT - 1670

NOTE: ALL LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DEVELOPED FROM EXISTING UTILITY RECORDS AND/OR ABOVE GROUND EXAMINATION OF THE SITE. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE START OF WORK PER PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 199 OF 2004.

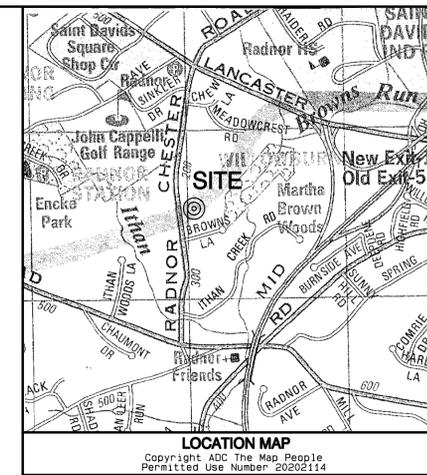
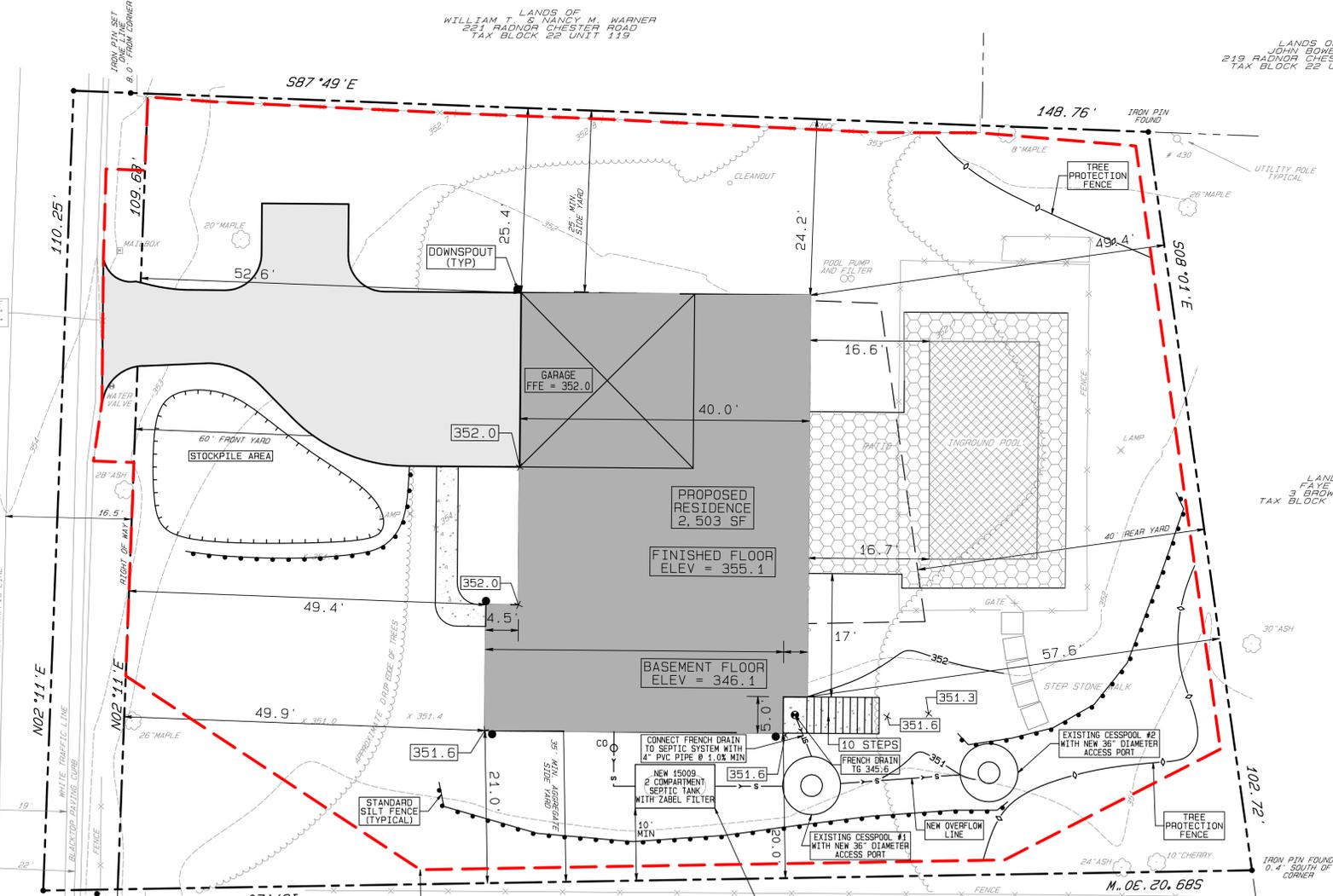


**Construction Sequence**

- Stage 1. Install tree protection
- Stage 2. Install silt fence properly at the locations on the plan
- Stage 3. Install the stabilized construction entrance.
- Stage 4. Strip and stockpile topsoil from area of proposed construction. Place sediment barrier completely around the stockpile. Limit all disturbance to immediate areas of construction.
- Stage 5. Perform rough grading. Spread topsoil and immediately stabilize area with permanent ground cover.
- Stage 6. Start selective demolition of the existing house and other impervious areas. Mill portions of existing driveway that are to remain.
- Stage 7. Start construction of new residence and proceed to completion.
- Stage 8. Install new septic (design by others).
- Stage 9. Resurface existing driveway
- Stage 10. Fine grade all disturbed areas. Spread topsoil and stabilize work areas with permanent ground cover.
- Stage 11. Remove sediment barriers only after permanent ground cover has been established on site.
- Stage 12. All erosion and sedimentation controls must be maintained in proper working order. Inspect the controls on site on a weekly basis and after each rainfall event. Cleanout, repair, replace, regrade, reseed or remove as necessary. Any preventative and/or remedial maintenance work required to the controls must be performed immediately.
- Stage 13. Care shall be taken by the contractor to prevent silt and sediment deposition on adjacent properties. Runoff from disturbed areas must pass through a sediment filtering device before being discharged from the site.
- Stage 14. Erosion and sedimentation controls must be constructed, stabilized and fully functional before any general site disturbance will be allowed within the tributary areas of those controls.

Anticipated start of construction: July 2016  
 Anticipated completion of construction: December 2016

**RADNOR CHESTER ROAD**



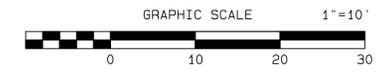
**BULK ZONING**

DISTRICT:	R-1 RESIDENTIAL	REQUIRED	EXISTING	PROPOSED
LOT AREA	43,560 SF MIN	**	16,721 SF	* 16,721 SF **
LOT WIDTH	120' MIN		109.7' *	109.7' **
<b>BUILDING SETBACKS</b>				
FRONT YARD	60' MIN		49.4' *	49.4' **
SIDE YARD	25' MIN		20.0' *	20.0' **
AGGREGATE	60' MIN		44.2' *	44.2' **
REAR YARD	40' MIN		52.8' *	49.4' **
<b>BUILDING HEIGHT</b>				
	3 STORIES OR 35' MAX		EXISTING 3 STORIES OR 35' MAX	
<b>BUILDING COVERAGE</b>				
	15% MAX		11.4%	11.4%
			1,901 SF	2,475 SF
<b>IMPERVIOUS COVERAGE</b>				
	22% MAX		26.6% *	18.3% **
			4,444 SF	4,444 SF

\* EXISTING NON-CONFORMITY  
 \*\* MATCHES EXISTING NON-CONFORMITY

**IMPERVIOUS COVERAGE TABLE**

	EXISTING	REMOVED	NEW	PROPOSED
BUILDING	1,901 SF		1,901 SF	2,475 SF
DRIVEWAY	1,026 SF	333 SF	435 SF	1,128 SF
WALKWAYS	500 SF	500 SF	144 SF	144 SF
POOL PATIO	1,017 SF	320 SF	0 SF	697 SF
<b>TOTAL</b>	<b>4,444 SF</b>	<b>3,054 SF</b>	<b>3,054 SF</b>	<b>4,444 SF</b>



**GROSS LOT AREA = 0.384 ACRES  
 OR 16,721 SQUARE FEET**

**ENVIRONMENTAL INDEMNIFICATION**

**UNFORESEEN SUBSURFACE CONDITIONS**  
 YERKES ASSOCIATES, INC.'S SCOPE OF SERVICES IS LIMITED TO SITE DEVELOPMENT ENGINEERING INCLUDING THE DESIGN OF STORM WATER MANAGEMENT SYSTEMS IN ACCORDANCE WITH EAST GOSHEN TOWNSHIP'S STORM WATER ORDINANCES. IT DOES NOT INCLUDE SERVICES RELATED TO HAZARDOUS OR TOXIC MATERIALS OR CHEMICALS, OR PRODUCTS (IF ANY EXIST ON THE SITE). YERKES ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY FOR CONSEQUENTIAL DAMAGES FOR SERVICES RENDERED OR DESIGNS CONSTRUCTED IN THE EVENT HAZARDOUS OR TOXIC MATERIALS OR CHEMICALS OR PRODUCTS ARE DISCOVERED. SHOULD ANY PARTY ENCOUNTER HAZARDOUS OR TOXIC MATERIALS OR CHEMICALS AT THE JOB SITE, OR SHOULD IT BECOME KNOWN IN ANY WAY THAT SUCH MATERIALS MAY BE PRESENT AT THE JOBSITE, OR ADJACENT AREAS THAT MAY AFFECT THE PERFORMANCE OF YERKES ASSOCIATES, INC.'S SERVICES, THE CLIENT SHALL RETAIN APPROPRIATE SPECIALISTS OR CONTRACTOR(S) TO IDENTIFY, ABATE AND/OR REMOVE THE MATERIALS, AND WARRANT THAT THE JOBSITE IS IN FULL COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

**CONTRACTOR DWELLING FIRST FLOOR NOTE:**

WHETHER INDICATED ON THE PLANS OR NOT, CONTRACTOR MUST REVIEW PLANS AND CONSULT WITH ARCHITECT TO ENSURE FIRST FLOOR ELEVATIONS ALLOW FOR AT LEAST 6" OF EXPOSED FOUNDATION WALL, PER 2009 IRC (SECTION R404.1.9) OR LATEST REVISED IRC. ALSO, WHETHER INDICATED ON THE PLANS OR NOT, CONTRACTOR MUST REVIEW PLANS AND CONSULT WITH ENGINEER TO ENSURE FINISHED GRADES FALL A MINIMUM OF 6" WITHIN THE FIRST TEN FEET (10') FROM FOUNDATION WALLS, (PER R401.3), OR LATEST REVISED IRC. IN CASES WHERE ANY OF THE ABOVE IS NOT FEASIBLE, CONTRACTOR MUST CONSULT WITH ARCHITECT AND ENGINEER FOR ACCEPTABLE REMEDIES.

**OWNERSHIP OF INSTRUMENTS OF SERVICE**

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**GENERAL CONTRACTOR SITE NOTES**

1. CALL BEFORE YOU DIG 1-800-2-4-2-1776 ACT 172 REQUIREMENTS - YERKES ASSOCIATES, INC. DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES AND LINES AS SHOWN ON THE PLANS, NOR DOES YERKES ASSOCIATES, INC. GUARANTEE THAT ALL SUBSURFACE STRUCTURES OR LINES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF THE WORK.
2. UTILITY TIE-INS: OWNER SHALL NOTIFY ALL UTILITIES PRIOR TO THE START OF THE WORK FOR THE APPROPRIATE PERMITS AND PROCEDURES REQUIRED TO TIE-INTO THE RESPECTIVE MAINS. THIS INCLUDES BUT IS NOT LIMITED TO: SANITARY, DOMESTIC WATER, GAS AND ELECTRIC.
3. DURING THE CONSTRUCTION PROCEDURE, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS THAT MAY BE REQUIRED TO PREVENT ANY PHYSICAL DAMAGE OR CHANGES FROM OCCURRING BEYOND THE LIMITS OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE BEYOND THE LIMITS OF WORK FOR ANY AND ALL DAMAGE.
4. THE CONTRACTOR SHALL MAINTAIN SUFFICIENT BARRICADES AND WARNING SIGNS DURING THE PROGRESS OF THE WORK BOTH DAY AND NIGHT. SHALL MAINTAIN SUFFICIENT OTHER BARRICADES, LIGHTS, DANGER SIGNALS, AND OTHER DEVICES FOR THE SAFETY OF THE PUBLIC, AND THE WORK MUST BE CONDUCTED AT ALL TIMES IN SUCH A MANNER, AS TO OFFER THE LEAST INCONVENIENCE TO ADJACENT PROPERTY OWNERS.
5. LINES AND LEVELS:
  - A) THE CONTRACTOR SHALL HAVE ON THE SITE A CALIBRATED SURVEY INSTRUMENT AT ALL TIMES TO ENSURE PROPER GRADING.
  - B) THE CONTRACTOR WILL FURNISH THE ELEVATIONS FOR SUCH POINTS AS ARE REQUIRED AS SHOWN ON THE PLANS FOR CONSTRUCTION AND/OR TO ENSURE POSITIVE DRAINAGE OF ALL NEWLY PAVED SURFACES AND YARD SURFACES.
  - C) THE CONTRACTOR SHALL WORK ACCURATELY TO BENCH MARKS AND TO PROPER ELEVATIONS AND DIMENSIONS. CHECKING CONDITIONS AND DETAILS OF WORK ALREADY IN PLACE AND PROPOSED IN RELATION TO WORK THEN TO BE INSTALLED.
6. CONTRACTOR SHALL ENSURE THAT ALL INLET GRADE ELEVATIONS ARE "SUMPED" WHETHER INDICATED ON THE PLANS OR NOT, TO ENSURE POSITIVE DRAINAGE COLLECTION AFTER FINAL FINISH GRADES. INLET GRADE ELEVATIONS SHOWN ON THE PLAN ARE TO BE "SUMPED" (1") IN (3) FEET, AND ONLY IF APPROPRIATE FOR THE LOCATION AND SURROUNDING AREA, OR AS APPROVED BY THE OWNER'S ENGINEER.

**GENERAL NOTES**

1. ALL WOODY VEGETATION TO BE RETAINED WITHIN 25' OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING PLACED AT DRIVE LINES OR AS SHOWN ON PLANS. TOWNSHIP ARBORIST MUST APPROVE THE LOCATION OF THE TREE PROTECTION FENCE PRIOR TO START OF EARTH WORK.
2. TREES SHALL BE TREATED TO PROTECT THE ROOT SYSTEM PRIOR TO CONSTRUCTION WHERE IMPROVEMENTS ARE SHOWN WITHIN THE DRIFTLINES OF TREES TO REMAIN.
3. WHERE EXCAVATION TRENCHES ARE PROPOSED WITHIN THE DRIFTLINES OF TREES, ALL DISTURBED ROOTS MUST BE CUT AS CLEANLY AS POSSIBLE. THE TRENCH MUST BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING COMPACTION.
4. SHOULD ANY TREES NOT SCHEDULED OR PERMITTED TO BE REMOVED BE IRREPARABLY DAMAGED DURING CONSTRUCTION AND DIE WITHIN EIGHTEEN (18) MONTHS OF THE CONCLUSION OF CONSTRUCTION ACTIVITIES, THOSE TREES ARE TO BE REPLACED.
5. THE TOWNSHIP ENGINEER MUST BE NOTIFIED 48 HOURS PRIOR TO THE START OF EARTHMOVING ACTIVITIES.
6. ALL LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATES FROM EXISTING UTILITY RECORDS AND/OR ABOVE GROUND EXAMINATION OF THE SITE. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES OR STRUCTURES CANNOT BE GUARANTEED. CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE START OF WORK PER PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 199 OF 2004.
7. THE CONTRACTOR SHALL PROTECT OR RELOCATE UTILITIES AS NEEDED.
8. NO GRADING CHANGES SHALL BE SHOWN WITHIN THREE (3) FEET OF THE PROPERTY LINE IN ORDER TO ENSURE TRANSITION TO THE GRADING ON THE ADJOINING PROPERTY.
9. GRADING AND EARTHMOVING OPERATIONS SHALL BE MINIMIZED DURING THE PERIOD FROM NOVEMBER 15 TO APRIL 1 WHEN RE-VEGETATION OF EXPOSED GROUND SURFACE IS DIFFICULT. MULCH, STRAW, STONE AND/OR SOIL SHALL BE USED TO STABILIZE ALL AREAS DENuded DURING THIS TIME PERIOD.
10. MAINTAIN MINIMUM COVER OVER ALL EXISTING AND PROPOSED UTILITIES AT ALL TIMES PER PIPE BEDDING DETAIL.
11. NOTE TO CONTRACTOR: THIS PLAN CAN BE USED FOR CONSTRUCTION ONLY AFTER ALL REQUIRED AGENCY APPROVALS ARE FINALIZED, PERMITS ARE ISSUED AND WRITTEN AUTHORIZATION TO PROCEED IS GRANTED BY THE OWNER.
12. A CUT AND FILL ANALYSIS WAS NOT PERFORMED AND MATERIAL BALANCE IS NEITHER IMPLIED NOR GUARANTEED. PROPOSED GRADES MAY NOT NECESSARILY INCORPORATE SPREADING OF CUT MATERIAL NOR DO THEY PRECLUDE THE NEED FOR IMPORTING FILL MATERIAL TO OBTAIN THE GRADES SHOWN ON THE PLAN. EXCESS MATERIAL MAY BE SPREAD THROUGHOUT THE PROJECT AREA AFTER CONSULTING WITH THE DESIGN ENGINEER AND TOWNSHIP REGARDING IMPACT TO EXISTING AND PROPOSED DRAINAGE PATTERNS OR STORMWATER FACILITIES. IMPORTED MATERIAL MUST BE CLEAN FILL AS DESIGNATED BY THE PADEP.
13. CONSTRUCTION ENTRANCE NOT SHOWN. TIRES FOR ALL CONSTRUCTION VEHICLES LEAVING THE SITE ARE TO BE CLEANED AND WASHED TO ENSURE NO SEDIMENT IS TO EXIT THE SITE.

**PROJECT DESCRIPTION**

THIS PROPERTY IS LOCATED AT 223 RADNOR CHESTER ROAD IN RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA. THE PROPERTY CONSISTS OF AN EXISTING SINGLE FAMILY RESIDENCE WITH A POOL, PATIO AND DRIVEWAY. THE APPLICANT PROPOSES TO SELECTIVELY DEMOLISH THE EXISTING HOUSE AND A PORTION OF THE EXISTING DRIVEWAY AND PATIO. A NEW HOUSE WILL BE CONSTRUCTED AND THE DRIVEWAY RESURFACED.

**SOILS INFORMATION (IN PROJECT AREA)**

(PER USDA WEB SOIL SURVEY)  
 60B - GLENELG CHANNERY LOAM, 3 TO 8 PERCENT SLOPES  
 HYDROLOGIC SOIL GROUP: B  
 PEDOLOGIC FORMATION: MAFIC GNEISS  
 DOMINANT LITHOLOGY: MAFIC GNEISS

**OWNER / APPLICANT**

MOVSES AND TAMARA BALABANYAN  
 7507 LENNOX ROAD  
 UPPER DARBY, PA 19082

**ENGINEER**

FRANCIS GREENE, PE 075817  
 YERKES ASSOCIATES, INC.  
 1444 PHOENIXVILLE PIKE  
 WEST CHESTER, PA 19380  
 (610) 644-4254

NO.	DATE	REVISION COMMENT
1	JUNE 2, 2016	PER TWP REVIEW DATED 6/1/16

**PROPOSED SITE PLAN**

**GRADING PERMIT**  
 PREPARED FOR

**MOVSES & TAMARA BALABANYAN**  
**223 RADNOR CHESTER ROAD**

RADNOR TOWNSHIP \* DELAWARE COUNTY \* PENNSYLVANIA

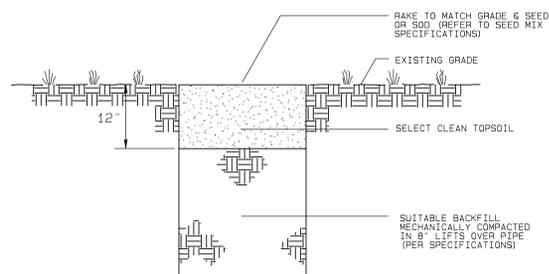
**Yerkes**  
 CONSULTING ENGINEERS \* LAND SURVEYORS \* LAND PLANNERS

1444 PHOENIXVILLE PIKE \* P.O. BOX 1568 \* WEST CHESTER, PA 19380  
 TEL: (610) 644-4254 \* FAX: (610) 640-0771

**SHEET 2 OF 4**

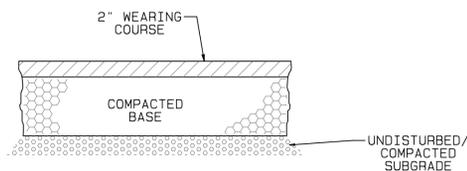
6/27/2016 10:45:15 AM - BALABANYAN\CADD\16054 - PERMIT - 1610





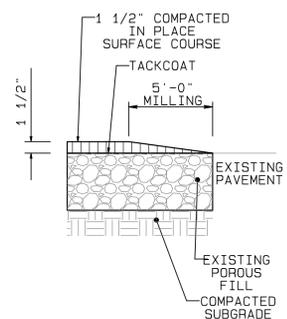
**TURF RESTORATION**

NOT TO SCALE



**PAVING SECTION**

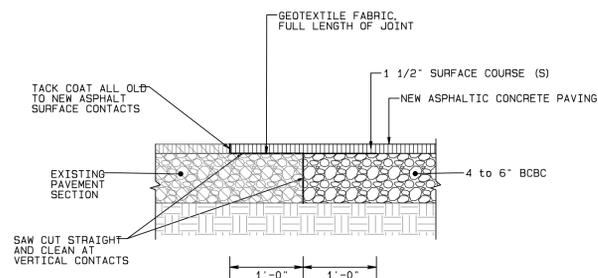
NOT TO SCALE



NOTE: FOR USE AT MILLED AREAS

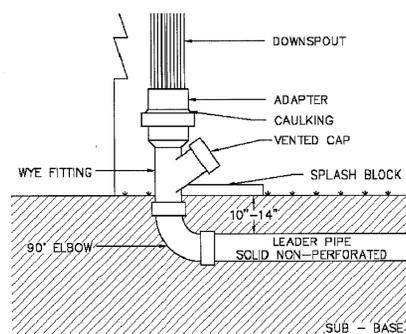
**OVERLAY PAVING DETAIL**

NOT TO SCALE



**EXISTING / NEW PAVEMENT INTERSECTION**

NOT TO SCALE



**DOWNSPOUT DETAIL**

NTS

RADNOR TOWNSHIP  
APRIL 2014

GANNETT FLEMING

OWNER / APPLICANT

MOVSES AND TAMARA BALABANYAN  
223 RADNOR CHESTER ROAD  
VILLANOVA, PA 19085

ENGINEER

FRANCIS GREENE, PE 075817  
YERKES ASSOCIATES, INC.  
1444 PHOENIXVILLE PIKE  
WEST CHESTER, PA 19380  
(610) 644-4254

NO.	DATE	REVISION COMMENT
1	JUNE 2, 2016	PER TWP REVIEW DATED 6/1/16

<b>CONSTRUCTION DETAILS</b>	
<b>GRADING PERMIT</b> PREPARED FOR	
<b>MOVSES &amp; TAMARA BALABANYAN</b> <b>223 RADNOR CHESTER ROAD</b>	
RADNOR TOWNSHIP * DELAWARE COUNTY * PENNSYLVANIA	
PROJECT -	W-15-1064-4
DATE -	MAY 12, 2016
SCALE -	1" = 10'
DRAWN -	EJS
CHECKED -	FEJ
CAD FILE	M1064 GRADING
TAX PARCEL -	36040256400
PLAN NO.	<b>D-36-22-120</b>
1444 PHOENIXVILLE PIKE * P.O. BOX 1568 * WEST CHESTER, PA 19380 TEL: (610) 644-4254 * FAX: (610) 640-0771	

6/27/2016 : W-15-15-1064 - 0865 W-15-1064 - BALABANYAN/CADD/W1064 - PERMIT - P10



# Gannett Fleming

Excellence Delivered *As Promised*

**Date:** June 7, 2016

**To:** Radnor Township Board of Commissioners

**From:** Roger Phillips, PE

**cc:** Robert Zienkowski – Township Manager  
Stephen Norcini, P.E. – Director of Public Works  
Kevin W. Kochanski, RLA, CZO – Director of Community Development  
John Rice, Esq – Grim, Biehn, and Thatcher  
Amy Kaminski, PE – Gilmore and Assoc.  
Steve Gabriel - Rettew

**RE:** 663 Conestoga Road – Stormwater Waiver Request  
Grading Permit Application – 16-077

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The applicant is requesting a waiver of §245-22 of the Townships Stormwater Management Ordinance which requires maximizing the ground water recharge capacity of the area being developed.

The applicant performed an infiltration test onsite. The testing results indicated that there was a limiting zone approximately 20" from existing grade that would prevent infiltration onsite. The applicant has made provisions for the installation of a rain garden north of the proposed building addition. The proposed rain garden has been designed to address the volume management requirements due to the lack of infiltration at the site. Stormwater runoff will be directed into the proposed rain garden from the proposed building addition rooftop via a 6" downspout. Any overflow would leave the rain garden via an emergency spillway located on the north side of the proposed rain garden.

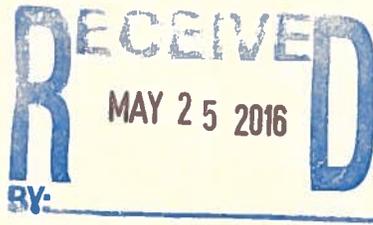
If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC.

Roger A. Phillips, P.E.  
Senior Project Manager





**robert e. blue consulting engineers, p.c.**

May 23, 2016

Board of Commissioners  
Radnor Township  
301 Iven Avenue  
Wayne, PA 19087-5297

Re: **663 Conestoga Road**  
**Building Addition Waiver Request**  
Radnor Township, Chester Co., PA  
REB #2006-1

Dear Commissioners:

On behalf of the Applicant, Randolph and Katherine Roberts, we are requesting a waiver from §245-22 of the Township Code regarding groundwater recharge for their proposed building addition.

The project consists of the removal of an existing deck, slate walkway and a portion of the existing driveway. In its place the project proposes to construct a building addition of approximately 576 square feet and a 134 square foot deck with stairs for a total of 710 square feet of new impervious. According to Table 105.1 referenced in Section 245-5.F of the Radnor Township Stormwater Management Ordinance, groundwater recharge is required for this project since the total added impervious area is between 500 SF and 1,500 SF and the area of earth disturbance is less than 5,000 SF.

In order to design the groundwater recharge system, an infiltration test was performed in the middle of the rear yard between the house and the pool area by Abbadusky Environmental Services. A copy of their findings is attached for your reference. The findings indicated that the existing soils were unsuitable for infiltration. As such the applicant requests that the ground water recharge requirement of §245-22 be waived for this project.

In keeping with the intent of the ordinance, the project proposes to provide a rain garden adjacent to the proposed structures to intercept roof runoff. The rain garden will be planted with native species plants to provide for the evapotranspiration of runoff. The rain garden has been designed to impound no more than 6" of runoff with an 8ft wide overflow spillway. As rain gardens are acceptable best management practices with the Pennsylvania Department of Environmental Protection for water quality, it is our opinion this will provide sufficient water quality treatment of runoff prior to discharge from the site.

**CIVIL ENGINEERS • LAND SURVEYORS • SITE PLANNERS**

1149 Skippack Pike, Blue Bell, Pennsylvania 19422 • Telephone 610-277-9441 • Facsimile 610-277-9897  
www.robertblue.com • e-mail: rblue@robertblue.com



robert e. blue consulting engineers, p.c.

2

663 Conestoga Road  
Building Addition Waiver Request  
Radnor Township, Chester Co., PA  
REB #2006-1

We respectfully request your review of the enclosed information and to be placed on the next meeting agenda. Do not hesitate to contact us should you have any questions or comments. Please notify us when this meeting will occur and if our attendance will be required.

Sincerely,

Robert E. Blue, Consulting Engineers, P.C.

By: \_\_\_\_\_  
Robert E. Blue Jr., P.E., P.L.S., President

By: \_\_\_\_\_  
Marc Toth, Assistant Project Manager

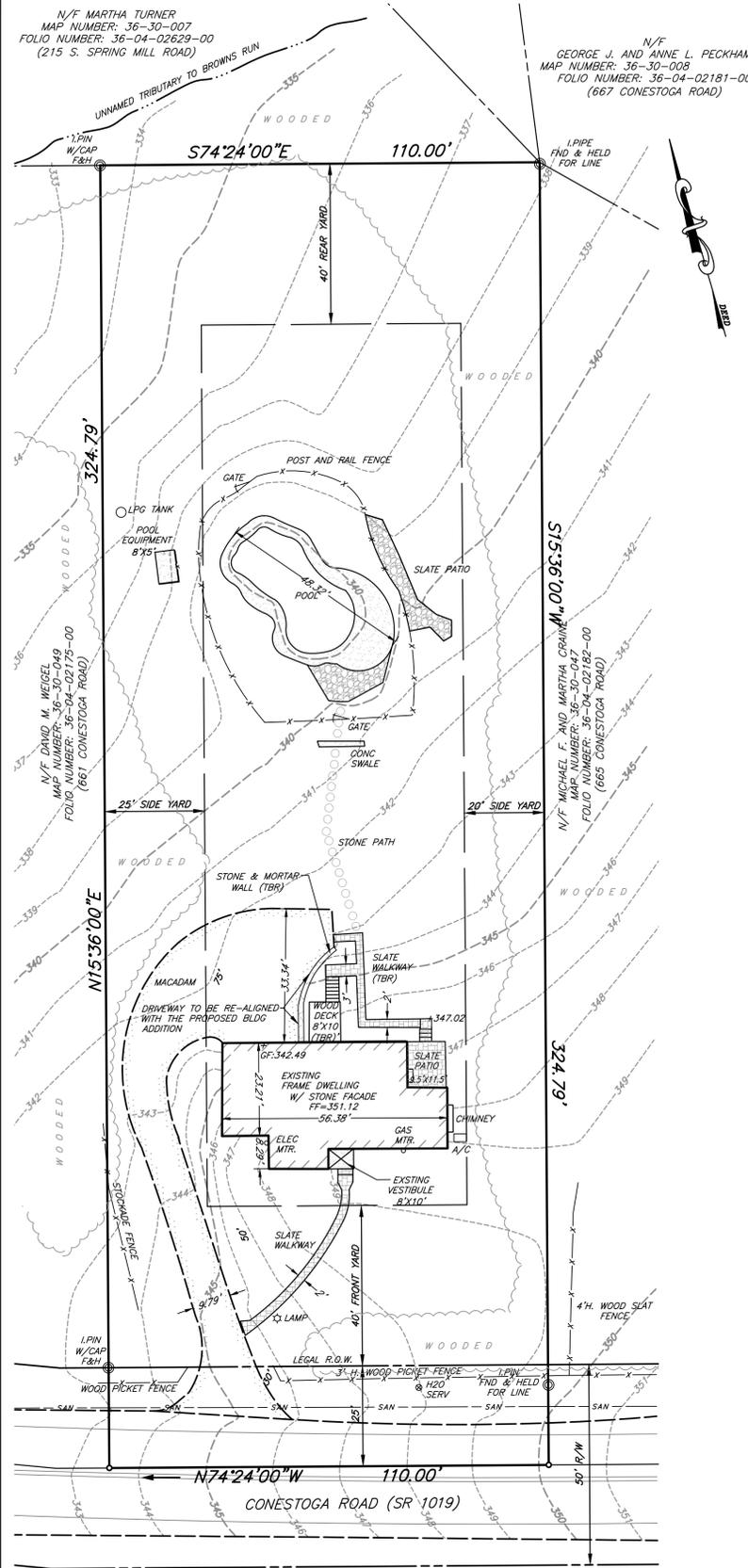
Enclosures: Abbadusky Soil Testing Report

Copy: R. Blue, P.E., President – w/o encl.  
R. Roberts, Applicant – via email only

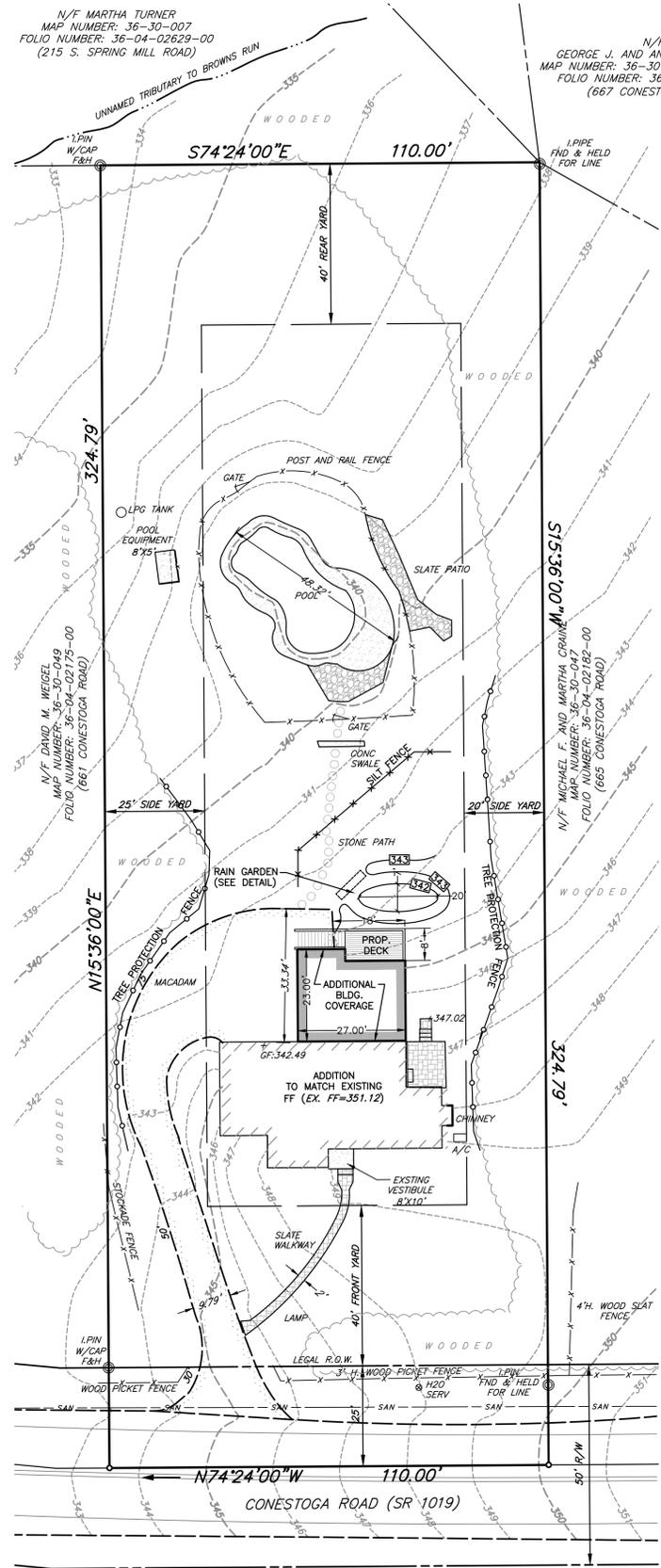
M:\Proj\2006-1\Letters\2016-05-17 Waiver Request.docx

**CIVIL ENGINEERS • LAND SURVEYORS • SITE PLANNERS**

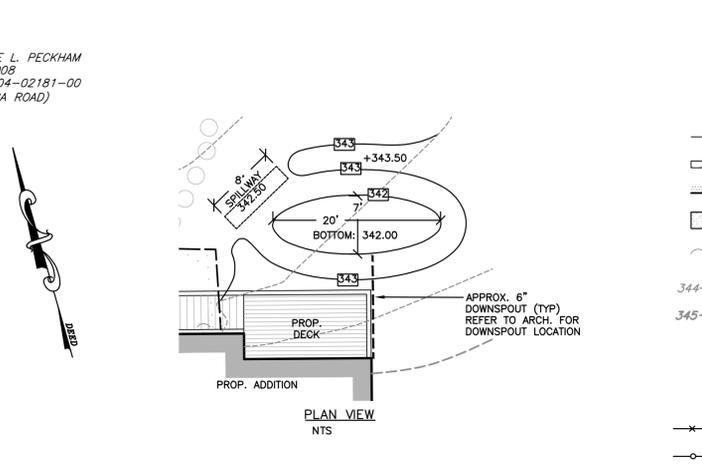
1149 Skippack Pike, Blue Bell, Pennsylvania 19422 • Telephone 610-277-9441 • Facsimile 610-277-9897  
www.robertblue.com • e-mail: rblue@robertblue.com



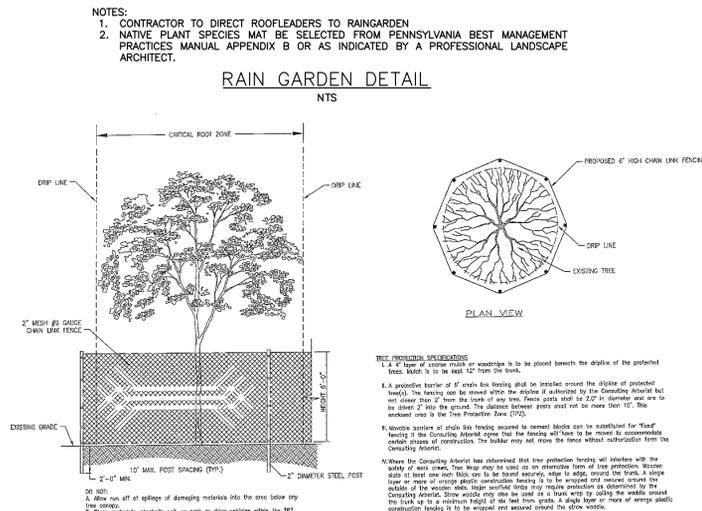
EXISTING  
SCALE: 1" = 20'



PROPOSED  
SCALE: 1" = 20'



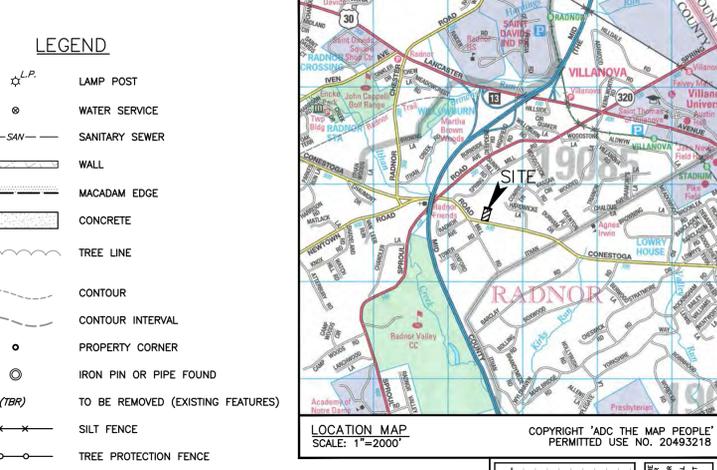
RAIN GARDEN DETAIL  
NTS



STANDARD FILTER FABRIC FENCE (18" HIGH)  
NOT TO SCALE

**LEGEND**

- L.P. LAMP POST
- WATER SERVICE
- SANITARY SEWER
- WALL
- MACADAM EDGE
- CONCRETE
- TREE LINE
- CONTOUR
- CONTOUR INTERVAL
- PROPERTY CORNER
- IRON PIN OR PIPE FOUND
- (TBR) TO BE REMOVED (EXISTING FEATURES)
- SILT FENCE
- TREE PROTECTION FENCE



**ZONING:**  
R-2 - RESIDENCE DISTRICT  
USE: SINGLE-FAMILY DETACHED DWELLING

	REQUIRED	EXISTING
MINIMUM LOT AREA	20,000 S.F.	32,977 S.F. (NET)
MINIMUM LOT WIDTH	100 FT.	110 FT.
MAX. BUILDING AREA	18%	4.3%
SETBACK DATA		
FRONT YARD	40 FT.	40 FT.
SIDE YARD	40 FT./45 FT. AGG.	40 FT./45 FT.
REAR YARD	40 FT.	40 FT.
MAX. IMPERVIOUS COVERAGE	30%	16.8% (5,540 S.F.)
RIPARIAN BUFFER SETBACK	35 FT.	>35 FT.
BUILDING HEIGHT	3 STORIES OR 35 FT.	1 1/2 STORIES
ACCESSORY USE SETBACK	10 FT.	N/A

**WAIVER REQUEST:**  
A WAIVER IS REQUESTED FROM §245-22 REQUIRING GROUNDWATER RECHARGE. THE SITE HAS BEEN TESTED AND THE SOILS ARE UNSUITABLE FOR INFILTRATION. A RAIN GARDEN HAS BEEN ADDED TO ADDRESS WATER QUALITY IN ITS PLACE.

**NOTES:**

- THIS PLAN REPRESENTS AN ACTUAL FIELD SURVEY COMPLETED BY THIS OFFICE ON JUNE 30, 2015.
- CURRENT OWNER: KATHERINE LENARD ROBERTS  
ADDRESS: 663 CONESTOGA ROAD  
VILLANOVA, PA 19085
- RECORDED DATA:  
RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA  
FOLIO NUMBER: 36-04-02179-00  
MAP NUMBER: 36-30-048  
DEED BOOK 5217 PAGE 2342
- THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.
- THE VERTICAL DATUM FOR THIS SURVEY IS NAVD 88 BASED ON GPS OBSERVATIONS. THE BENCHMARK FOR THE SITE IS THE FIRST FLOOR OF THE EXISTING DWELLING HAVING AN ELEVATION OF 351.12'
- GROSS AREA = 35,726 S.F. OR 0.820 ACRES  
NET AREA (TO LEGAL R.O.W.) = 32,977 S.F. OR 0.757 ACRES
- THE PROPERTY ON THIS SURVEY DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA ("SFHA"), AS SHOWN ON THE FLOOD INSURANCE RATE MAP IDENTIFIED AS PANEL 38 OF 250, COMMUNITY NUMBER 420428, MAP NUMBER 42045C0038 F, HAVING AN EFFECTIVE DATE OF NOVEMBER 18, 2009.
- THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT.

**IMPERVIOUS COVER:**

REMOVED IMPERVIOUS (-) AREA	ADDED IMPERVIOUS (+) AREA
WALKS	BLDG.
DECKS	DECKS
DRIVEWAY	
NET CHANGE IN IMPERVIOUS ADDED - REMOVED	NET

**REGISTERED PROFESSIONAL ENGINEER**  
ROBERT E. BLUE JR. (DATE)LICENSE NO. 26169-E

**PROFESSIONAL LAND SURVEYOR**  
ROBERT E. BLUE JR. (DATE)  
LICENSE NO. SU1323A

**CALL BEFORE YOU DIG**  
1-800-242-1776  
3 DAYS NOTICE TO THE LAW

**ACT 287 COMPLIANCE**  
SERIAL NO. 20151691765  
DATE: JUNE 18, 2015

**robert e. blue**  
consulting engineers, p.c.  
1149 Skippack Pike, Blue Bell, PA 19422  
tel: (610)-277-9441 fax: (610)-277-9897  
www.robertblue.com email: rblue@robertblue.com

**KATHERINE ROBERTS**  
APPLICANT NAME LINE2  
663 CONESTOGA ROAD  
VILLANOVA, PA 19085

**EXISTING AND PROPOSED SITE PLAN**

663 CONESTOGA ROAD  
RADNOR TOWNSHIP  
DELAWARE COUNTY  
COMMONWEALTH OF PENNSYLVANIA

PREPARED FOR  
KATHERINE ROBERTS  
APPLICANT NAME LINE2  
663 CONESTOGA ROAD  
VILLANOVA, PA 19085

DATE: 2015-8-3 CHECKED BY: REB SCALE: 1"=20'  
JOB NUMBER: 2006-1E SHEET NUMBER: 1 of 1

**RESOLUTION NO. 2016-71**

**A RESOLUTION OF RADNOR TOWNSHIP, DELAWARE  
COUNTY, PENNSYLVANIA, AWARDING THE DESIGN  
OF A STORMWATER MANAGEMENT AND FLOOD  
MITIGATION PROJECT FOR THE INTERSECTION OF  
BANBURY WAY/FRANCIS AVENUE/WINDSOR AVENUE**

**WHEREAS**, Radnor Township solicited proposals from engineering firms for the design of a stormwater management and flood mitigation project for the intersection of Banbury Way/Francis Avenue/Windsor Avenue

**WHEREAS**, a selection group comprised of Stormwater Management Advisory Committee members, the Township's consultant, and Township staff recommended award to T&M Associates

**WHEREAS**, the Township's Stormwater Management Advisory Committee concurred with said recommendation, and recommends the Board of Commissioners award the design contract to T&M Associates

**NOW, THEREFORE**, be it **RESOLVED** by the Board of Commissioners of Radnor Township does hereby Award the Design of a Stormwater Management and Flood Mitigation Project for the Intersection of Banbury Way/Francis Avenue/Windsor Avenue to T&M Associates, in the amount of \$95,236.

**SO RESOLVED** this 13<sup>th</sup> day of June, A.D., 2016

**RADNOR TOWNSHIP**

By: \_\_\_\_\_

Name: Philp Ahr  
Title: President

ATTEST: \_\_\_\_\_

Robert A. Zienkowski  
Manager/Secretary

**Radnor Township**  
**PROPOSED LEGISLATION**

DATE: June 6<sup>th</sup>, 2016  
TO: Radnor Township Board of Commissioners  
CC: Robert A. Zienkowski, Township Manager  
FROM: Stephen F. Norcini, P.E., Director of Public Works *SN*  
LEGISLATION: Resolution #2016-71, Awarding the Design of a Stormwater Management and Flood Mitigation Project for the Intersection of Banbury Way/Francis Avenue/Windsor Avenue

LEGISLATIVE HISTORY: The Board of Commissioners authorized (with a recommendation from the Stormwater Management Advisory Committee) the Engineering Department to receive proposals for Professional Services for “the Design of a Stormwater Management and Flood Mitigation Project for the Intersection of Banbury Way/Francis Avenue/Windsor Avenue”.

PURPOSE AND EXPLANATION: A Request For Proposals was placed on Penn BID, eBidding site, for the Design of Stormwater Management and Flood Mitigation Project for the Intersection of Banbury Way/Francis Avenue/Windsor Avenue. Proposals were received from eight firms. The cost proposal tabulation is as follows:

Firm	Cost
Bergmann & Associates, Incorporated	\$84,900
Conceptual CAD, Incorporated	\$90,600
Pennoni Associates, Incorporated	\$91,500
T&M, Associates, Incorporated	\$95,236
Buchart Horn, Incorporated	\$99,950
RK&K, Incorporated	\$144,737
Meliora Design	\$177,956
Gannett Fleming, Incorporated	\$192,409

From the eight firms, we came forward with a short list of firms: T&M Associates, RK&K, Incorporated, and Meliora Design. A selection group was comprised of Paige Maz, Regina Majercak, Tim Sass (Chair and members of the Stormwater Management Advisory Committee, respectively), Dan Wible of CH2M, and myself. The group recommended the award of the design contract to T&M Associates. This was then brought before the Stormwater Management Advisory Committee, and they concurred with the recommendation. *Attached is the recommendation from the selection group (which provides greater detail of the process), the T&M Associates proposal, and the Township’s Request For Proposal.*



# Consultant Recommendation for Design of Stormwater Management and Flood Mitigation Project at Intersection of Banbury Way / Francis Ave / Windsor Ave

PREPARED FOR: Radnor Township  
 PREPARED BY: CH2M  
 DATE: May 12, 2016

On 3/24/16, the Township received 8 proposals in response to the Request for Proposals (RFP) for "Design of Stormwater Management & Flood Mitigation Project at Intersection of Banbury Way / Francis Ave / Windsor Ave". As noted in the RFP, the selection criteria would include, but not be limited to the following criteria (and their respective weight to the Township):

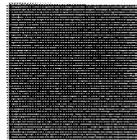
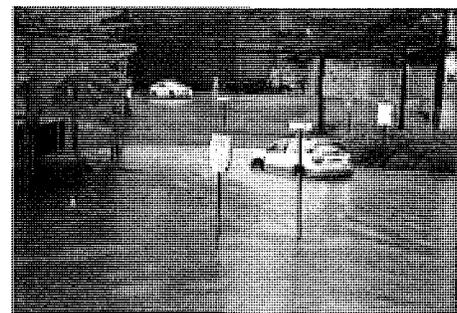
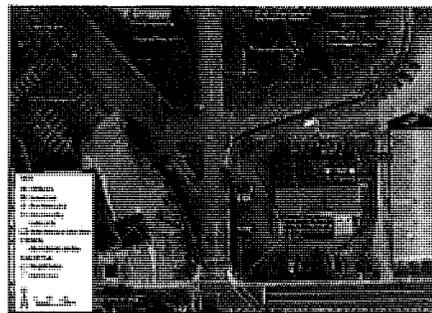
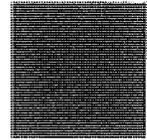
1. Ability or capacity to perform the requested work and meet the needs of Radnor Township: 25%
2. Prior experience of firm and staff with respect to the requested work: 25%
3. Quality and efficiency of proposed scope of work: 20%
4. Value to Township: 20%
5. Proposed schedule: 10%

Many of the proposals received were of high quality and offered a variety of unique approaches to this project. After careful review based on the above criteria, the Township and its Stormwater Program Administrator, CH2M, recommended to the Township's Stormwater Management Advisory Committee (SWMAC) that the following three firms be shortlisted and interviewed: Meliora, RK&K, and T&M. The SWMAC agreed with the shortlist of firms and requested that several SWMAC representatives be included on the final selection sub-committee and join Steve Norcini and Daniel Wible (CH2M) in the interview process. The following table summarizes the proposed fees of the three shortlisted firms:

Firm	Task 1A - Survey	Task 1B - Geotech	Task 2A - Verify Conceptual Design	Task 2B - Feasibility of Bioretention / Road Closure	Task 3 - Design	Expenses (if separate)	Total Fee
Meliora	\$16,726	\$10,700	\$14,680	\$21,480	\$114,370	\$0	\$177,956
RK&K	\$13,792	\$10,979	\$13,458	\$10,568	\$95,940	\$0	\$144,737
T&M	\$16,730	\$7,590	\$13,332	\$6,436	\$45,648	\$5,500	\$95,236

On 4/29/16, three members of the SWMAC (Chair Paige Maz, Regina Majercak, and Tim Sass), Steve Norcini, and Daniel Wible conducted interviews with the three firms. The interviews entailed up to 30 minutes for each firm to make a presentation (or however they chose to use that time) and then 30 minutes for a Q&A session with the sub-committee. The sub-committee then followed up the interviews by posing additional questions to each firm on 5/2/16 and were provided answers on 5/3/16.

The above process revealed three highly qualified firms that would all be excellent choices for this project. However, after careful consideration of the proposals, interview presentations, and follow-up responses to emailed questions, the sub-committee recommends to the Board of Commissioners that T&M be awarded the design contract for this project. The sub-committee unanimously selected T&M with the belief that their approach, qualifications, and proposed fee offered the highest value to the Township for this particular project at this time.



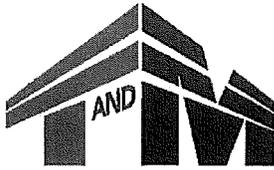
Proposal for

# Design of Stormwater Management & Flood Mitigation Project at Intersection of Banbury Way/Francis Ave/Windsor Ave

Radnor Township, Delaware County, PA

March 24, 2016





**YOUR GOALS. OUR MISSION.**

March 24, 2016

Stephen Norcini, PE, Director of Public Works  
Radnor Township  
Engineering Department  
301 Iven Avenue  
Wayne, PA 19087

**RE: Design of Stormwater Management & Flood Mitigation  
Project at Intersection of Banbury Way/Francis Ave/Windsor Ave**

Dear Mr. Norcini:

T&M Associates (T&M) is pleased to provide you with our qualifications for the above referenced project. As directed, we are submitting ten (10) hard copies to the Township's Engineering office and one (1) electronic copy via PennBid.

T&M is offering a team experienced in all facets of the proposed project including experts in stormwater modeling, design of underground infiltration/detention systems, green stormwater infrastructure, streetscape design, traffic engineering and roadway reconstruction. We have provided resumes and relevant project profiles demonstrating our capabilities and have provided a scope, fee and staffing to provide maximum value to the Township.

Our proposal includes all of the information requested in your Request for Proposal; however, should have any questions or require additional information, please do not hesitate to contact me at 610.625.2999 or RBenner@tandmassociates.com. We appreciate your consideration of T&M and look forward to the opportunity to working with you.

Sincerely,

**T&M ASSOCIATES**

Russell Benner, PE  
Vice President



*Transmittal Letter*

**SECTION 1 | FIRM INTRODUCTION**

- Firm Profile
- Offices

**SECTION 2 | APPROACH TO SERVICES**

- Scope of Work
- Exclusions

**SECTION 3 | STORMWATER QUALIFICATIONS**

- Stormwater Capabilities
- Relevant Projects

**SECTION 4 | KEY PERSONNEL**

- Project Team
- Organizational Chart
- Proposed Client Manager
- Key Personnel Summary Table
- Capacity to Provide the Required Work
- Sub-consultants

**SECTION 5 | COMPENSATION & PROJECT SCHEDULE**

- Cost Estimate Form
- Schedule

**SECTION 6 | APPENDIX**

- Resumes of Key Personnel
- Insurance Limits for Professional Services

**T&M PROFILE**

Full Company Name	T&M Associates
Mailing Address & Telephone of Office to Perform Services	525 Plymouth Road, Suite 315, Plymouth Meeting, PA 19462 P   484.5301270 F   484.530.1277
Company Website Address	www.tandmassociates.com
Primary Contact (including name, title, address, telephone, and email address)	Russell Benner, PE – Vice President 525 Plymouth Road, Suite 315, Plymouth Meeting, PA 19462 P   484.5301270 F   484.530.1277 Email: RBenner@tandmassociates.com
Offices where the majority of work will be performed	The majority of work will be performed from our Plymouth Meeting, PA office. Additional project support will be provided from our office located in Bethlehem, PA.
Type of Business Organization	Corporation
Federal Taxpayer Identification Number or Federal Employer Identification Number	22-1806708
Is Company registered to do business in Pennsylvania	Yes
Country and State of Business Formation	United States; New Jersey
Number of Years in Business	50 years
Conflicts	T&M does not currently represent any private clients or developers with projects within the Radnor Township service area.

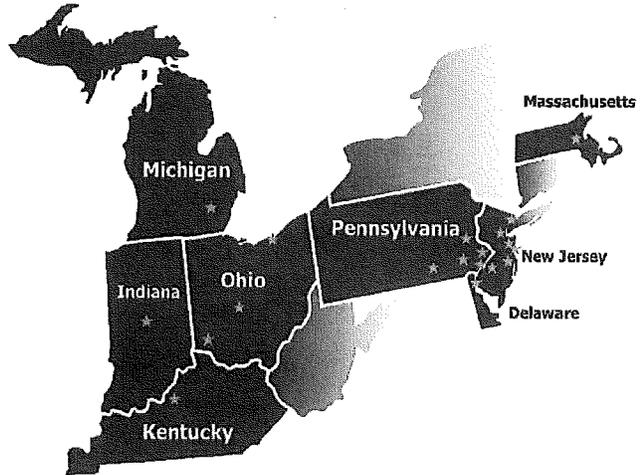
**RADNOR TOWNSHIP**

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Ave



**OFFICE TO PROVIDE SERVICE TO RADNOR TOWNSHIP**

525 Plymouth Road, Suite 315  
Plymouth Meeting, PA 19462  
T 484.530.1270  
F 484.530.12774675



**REGIONAL OFFICES**

74 West Broad Street  
Suite 530  
Bethlehem, PA 18018  
T 610.625.2999  
F 610.625.2969

1853 William Penn Way  
Lancaster, PA 17601  
T 717.735.3979  
F 717.293.4470

188 Lincoln Highway  
Suite 206  
Fairless Hills, PA 19030  
T 215.486.5770  
F 215.486.5791

111 South Independence Mall East  
Suite 950A  
Philadelphia, PA 19106  
T 215.282.7850  
F 215.627.3459

11 Tindall Road  
Middletown, NJ 07748  
T 732.671.6400  
F 732.671.7365

1256 North Church Street  
Moorestown, NJ 08057  
T 856.722.6700  
F 856.722.0175

9 Grand Avenue, Building 1  
Toms River, NJ 08753  
T 732.473.3400  
F 732.473.3408

1455 Broad Street, Suite 250  
Bloomfield, NJ 07003  
T 973.614.0005  
F 973.338.5867

9 East Street  
Englewood, NJ 07631  
T 201.569.7590  
F 201.569.5132

40 Monmouth Park Highway,  
Suite 2  
West Long Branch, NJ 07764  
T 732.676.4000  
F 732.272.1890

39555 Orchard Hill Place  
Suite 600  
Novi, MI 48375  
T 810.986.6003  
F 248.348.5760

Allied Drive, Suite 303  
Dedham, MA 02026  
T 781.742.7287  
F 781.742.7201

4675 Lakehurst Court  
Suite 250  
Columbus, OH 43016  
T 614.339.3380  
F 614.389.7082

600 Superior Avenue East  
Suite 1300  
Cleveland, OH 44114  
T 216.479.6853

300 E-Business Way  
Suite 200  
Cincinnati, OH 45241  
T 513.247.6120  
F 513.247.6199

10200 Forest Green Boulevard  
Suite 112  
Louisville, KY 40223  
T 502.269.3190  
F 502.214.6251

201 North Illinois Street  
16th Floor – South Tower  
Indianapolis, IN 46204  
T 317.610.3342  
F 317.610.3202

1000 N. West Street, Suite 1203  
Wilmington, DE 19801  
T 302.295.4925

**RADNOR TOWNSHIP**

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven



## SCOPE OF WORK

### Task 1: Base Plan Development and Geotechnical Investigations

#### Task 1a: Site Survey and Base Plan Development

We will meet with the Township to review communication protocols and further review the desired scope of work, objective, goals and schedule.

The T&M Team will perform the field survey of the project area and prepare base plans from that survey. The survey area will include the area shown on the Concept Plan included in the RFP and will include all features within 200' of the area shown on the Concept Plan, if we can get permission from the property owners to enter the property. Services under this Task include the following:

#### Boundary/Right-of-Way Survey:

- Deed and plan research at Delaware County Court House.
- Locate existing cartway and related monumentation of Banbury Way, Francis Ave, and Windsor Ave. and show Right-of-Way on final plan.
- Individual lot sidelines will not be surveyed. Lot sidelines will be shown on final plan as scaled from tax maps for informational purposes.

#### Boundary and Topographic Survey Plan:

- Locate buildings, driveways, parking areas, fences, visible utilities (storm sewers, sanitary sewers, gas, electric, water etc.), retaining walls, sidewalks, curbing, impervious areas, limits of wooded areas of large tree masses, trees 6" in diameter or larger when measured at breast height (6"DBH), landscaped areas, spot elevations and grades.
- Show FEMA determined 100 year flood line boundary on site if applicable as shown on FEMA mapping. Perform a PA-One Call to obtain utility maps and/or mark-outs from utility companies to be incorporated into final drawing.
- Prepare a boundary and existing features survey plan showing boundary details, contours at a 1 foot interval, and items listed above. Show easements and Right-of-Ways as shown on recorded subdivision plans and current deed of record for property.
- Provide up to 3 original copies of plan signed and sealed by a Professional Land Surveyor and an electronic (.dwg) file and a pdf file.

The T&M Team will perform a Pennsylvania One Call investigation, have all utilities located in the field and locate the field marking for plotting on the base plans. In reference to Township owned facilities, this proposal considers Township staff will provide traffic control and open all manholes and inlet grates in order for our survey crew to obtain required information.

*Deliverables: The base plans will be signed and sealed by a PA licensed surveyor and submitted to the Township in PDF and AutoCAD format for the Township review and approval.*

#### Task 1b: Geotechnical Investigations

The T&M Team will perform a geotechnical investigation of the project area. This investigation will be for the purpose of verifying the feasibility of infiltration and structural capacity of the subsurface conditions. We will perform three tests for infiltration. Each test will be 5-10 feet deep. We will also perform four borings each one 20-25 feet deep. The boring are to investigate if there is the presents of high groundwater and/or rock in the project area. All testing will be in accordance with the requirements of the Philadelphia Water Department's Geotechnical Testing Guidelines.



### **Subsurface Field Investigation**

As per Task 1b of the RFP, the subsurface investigation consist of the completion of four (4) test borings and three (3) borehole infiltration tests. The test borings will extend to a maximum depth of approximately 25 feet below the existing surface elevation in order to identify limiting zones (i.e. bedrock, groundwater, and/or soil mottling).

The test borings will be conducted using a truck-mounted drill rig equipped with hollow stem augers and split spoon samplers. Samples of the soils encountered will be recovered at suitable intervals and the Standard Penetration Resistance Test (SPT) values will be recorded. All sampling procedures will be performed in accordance with the applicable American Society for Testing and Materials (ASTM) Standards. An Advantage representative will be on-site during all drilling activities to monitor and direct the operation and collect soil samples and groundwater elevations.

In order to evaluate the infiltration rate (permeability) of the subgrade soils, a three (3) borehole infiltration test will be completed within auger hole offset approximately 10 feet from the completed test borings. The test elevation will be determined based on the conditions encountered in the field and will range from 5 to 10 feet below the existing surface elevation. The infiltration tests will be completed in accordance with the PADEP Best Management Practices manual (Appendix C – Site Evaluation and Soil Testing) and Philadelphia Green Stormwater Infrastructure Design Requirements and Guidelines Packet (Appendix F – Geotechnical Testing Guidelines).

The proposed test locations will be present to the township for approval prior to mobilization to the field. The test locations will be located in the field by Advantage personnel. This proposal includes supervision and monitoring of the field investigation by a qualified representative of Advantage. Each test boring will be backfilled with the drill cuttings upon completion of the testing and the surface will be repaired with either asphalt cold patch or concrete.

**This scope of work assumes that all work can be completed under a single mobilization and no traffic controls beyond signage and cones will be necessary to complete the work. Further, it is assumed the work will be completed outside of any PENNDOT right of way and no HOP permits are required.**

### **Laboratory Analysis of Soils**

In order to define the physical characteristics of the soils encountered, it is proposed that laboratory analysis of soil, consisting of a USCS classification, be conducted in accordance with ASTM 2487 standards. This testing will include Atterberg limits determination, mechanical gradation analysis, and natural moisture content testing. It is proposed that a single standard classification test be performed on a representative soil sample obtained from the project site.

### **Stormwater Infiltration Feasibility Report**

A Stormwater Infiltration Feasibility Report presenting our conclusion, based on the above scope of work, will be prepared which will include the following:

- Geologic site evaluation (including terrain description, brief geological history, and surface drainage conditions)
- Groundwater data, including soil mottling, if encountered
- Test Boring logs
- Test Boring Location Plan
- Results of infiltration testing
- Suitability of site for stormwater infiltration



The Stormwater Infiltration Feasibility Report will be completed under the direction of a professional geologist, licensed in the Commonwealth of Pennsylvania. A digital (.PDF) copy of the final report will be submitted to the client within 20 working days of receipt of written Notice-to-Proceed. This schedule may be impacted by inclement weather, due to site/subsurface conditions beyond our control, or subcontractor's availability.

*Deliverables: There are two (2) deliverables as part of this task. The first is a map showing the proposed locations of the test. The second is a report showing the final as conducted test locations, the boring logs, soil characteristics, and raw and resultant infiltration test results.*

## **Task 2: Conceptual Design Verification**

### **Task 2a: Review and Recommend Modifications to Concept Design**

The T&M Team will perform an in-depth review of the Concept Design and SWMM Model input to verify the design. If needed, we will revise the SWMM Model and verify the results with other software (InfoSWMM/InfoWorks). The Concept Design review will include constructability issues, utility coordination, flood mitigation effects, subsurface limitations, traffic issues, etc.

*Deliverables: The deliverable as part of this task is a Technical Memorandum summarizing the review of the Concept Design and any recommendations that may develop as a result of that review. In order to compare the options the T&M Team will prepare cost estimates for the recommended modifications.*

### **Task 2b: Further Investigate of Bioretention Concept/Permanent Road Closure**

The T&M Team will investigate the feasibility, potential benefits, cost, and challenges associated with converting one of the two connecting legs of the intersection of Windsor Avenue and Banbury Way to a bioretention facility or other Green Stormwater Infrastructures (GSI). We will also investigate the feasibility of providing GSI improvements within the remainder of the tributary water shed and determine the impact of the proposed Concept Design and develop a cost of the GSI's.

*Deliverables: The deliverable as part of this task is a Technical Memorandum summarizing feasibility, potential benefits, cost, and challenges associated with closing a segment of Windsor Avenue and Implementing GSI.*

## **Task 3: Development of Construction Documents**

Based on the consensus for of the final design developed in Task 2, our team will produce the required construction documents and specifications needed to enable permitting and competitive public bidding of the proposed solution. All documents will be prepared for posting on PennBid.

*Deliverables: The deliverable as part of this task are as follows:*

- *Construction Plans (in AutoCAD and PDF) at 60%, 90% and 100% complete.*
- *Construction Specification (in Word and PDF Format) at 90% and 100% complete.*
- *Construction Cost estimates at 60%, 90% and 100% complete.*
- *A Technical memorandum summarizing the project characteristics (drainage area, structure footprint, Structure depth, storage volume, and pre and post construction runoff volumes and peak rates at 60%, 90%, and 100% complete.*
- *Provide an Operation and Maintenance Manual at 100% complete.*
- *Documentation of Township review and comments received at 60% and 90% complete with responses to each.*

**EXCLUSIONS**

*Our proposal does not include the following services. These services can be provided, if needed and requested. Separate proposals will be provided as requested:*

- *Environmental Investigation, engineering or mitigation plans, and NEPA requirements, other than those included in the Scope of Work.*
- *Phase 1 or Phase 2 Environmental reporting*
- *No permit fees are included*
- *Detailed Flood Plain mapping*
- *Construction Administration, Observation, and Inspection*
- *Additional topographic survey beyond what is noted herein*
- *Traffic reports other than those stipulated*
- *Structural Engineering and Design*
- *Property Appraisals*
- *Resolution of Boundary Conflict that may exist.*
- *Full boundary surveys of adjacent properties to the trail.*
- *Sinkhole mitigation services or consulting.*
- *Zoning variance requests.*
- *Land Development Plan submission to Radnor Township.*
- *Preparation for and attendance at any PUC Hearings*



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**The core of T&M is to be focused on clients, act with integrity, be accountable for the work we do, and deliver quality as a result. By doing these things, we create sustainable value for clients, communities and our employees.**

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## INTRODUCTION

Municipal governments, and their agencies dedicate themselves to improving service levels for the public, promoting the local economy, controlling costs and pursuing sustainability. They rely on proven engineering and consulting partners for the expertise to help accomplish their mission. Like keeping citizens moving efficiently by building and maintaining roadways, mitigating flooding with adequate stormwater management, and improving the quality of life with recreational opportunities, such as parks and athletic fields.

At T&M, we strive to treat our public clients' businesses as our own. Since our founding in 1966, T&M has taken pride in our ability to envision, plan and implement solutions for a broad range of projects that have helped shape communities, improve a wide range of infrastructure and preserve natural environments. As a result, municipalities, counties, state agencies and authorities have come to depend on T&M for our ability to find effective solutions that exceed expectations.

## ABOUT T&M ASSOCIATES

We have built a solid reputation for getting the job done right, no matter the size or scope of the challenge. With nearly 400 employees company-wide, T&M has an extraordinary talent base from which to choose when assembling a team to respond quickly to our clients' individual needs. We combine a consulting perspective with technical rigor, creativity and reliability across government, energy, transportation, construction and environmental sectors. We add value by ensuring that our informed solutions comply with today's requirements while anticipating and planning for tomorrow's demands.

Our in-house team is comprised of:

- Professional Civil, Structural, Site, Transportation, Traffic, Electrical and Environmental Engineers
- Planners
- Environmental Scientists
- Professional Geologists/Hydrogeologists
- LEED Certified Professionals
- Certified Energy Procurement Professionals (CEP)
- Landscape Architects
- Grant Writers
- Geographic Information Specialist Professionals (GISP)
- Land Surveyors
- Construction Managers & Inspectors

## T&M'S PHILOSOPHY

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**T&M makes your goals our mission.  
Only with trusted partners and dedicated staff is this possible.**

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### RADNOR TOWNSHIP

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven



## APPROACH TO CAPITAL PROJECTS

THE T&M TEAM CAN ASSIST WITH A VARIETY OF CAPITAL IMPROVEMENT PROJECTS ON A TASK-ORDER BASIS.

Conceptual Design  
Preliminary and Final Engineering  
Cost Estimating  
Grant Writing Assistance  
Bid Phase Services  
Contract Award  
Pre-Construction Meetings  
Full or Part-time Resident Inspection  
Progress Meetings  
Shop Drawing Review  
Owner's Representation  
Payment Application Review  
Change Order Review  
As-Built Drawings  
Operating & Maintenance Manuals  
Project Closeout



T&M has a full staff of professionals to participate in design review, value engineering, bidding and contract award and to provide construction inspection services for all types of municipal infrastructure facilities. We design, advertise and recommend award for capital construction contracts exceeding \$50 million annually and have completed hundreds of projects in the region. On a regular basis, our staff works on multi-disciplinary projects involving:

- Stormwater and "Green" Infrastructure
- Water & Sewer Infrastructure
- Streambank Restoration
- Flood Control Projects
- Streetscapes
- Accessibility Improvements
- Park, Recreation, Athletic Fields, & Spray/Pool Facilities
- Bike and Pedestrian Trails
- Intersection, Traffic Signal, Pedestrian & Bicycle Facilities
- Local Road Programs
- Trails and Greenways
- Bridges, Culverts, and Storm Drainage

Our staff works closely with project owners to provide an engineering product that meets specifications and can be easily maintained by owner staff once projects are completed.

T&M typically provides full construction services for the projects we design. We have inspected and performed related contract administration services for hundreds of capital improvement projects. Our inspectors are highly qualified possessing NICET, NECEPT and ACI certifications and have years of experience working directly in the construction industry. The experience and expertise of our inspectors ensures projects are constructed as designed and provides for sensible solutions to field challenges.



## APPROACH TO STORMWATER MANAGEMENT & REGULATORY COMPLIANCE



### THE T&M TEAM ASSISTS ITS CLIENTS IN MEETING ITS WATER QUANTITY AND WATER QUALITY GOALS:

- MS4 Permitting
- TMDL Compliance
- Annual Reporting
- Watershed Modeling
- Green Infrastructure Modeling & Design
- Stormwater Infrastructure
- Environmental Benefits Modeling
- H&H Studies
- Flood Studies
- Flood Mitigation Projects
- Stormwater Authority Feasibility Studies
- Stormwater Management Master Planning

Our team has a strong history of assisting communities with implementing, meeting and maintaining NPDES MS4 permit requirements. This would include a strong track record of plan development for all 6 minimum control measures (MCM) and associated BMPs. Including but not limited to: development of employee training activities, chemical tracking plans, stormwater facility inspection & maintenance programs, and illicit discharge and detection and elimination testing (outfall testing).

T&M can fully manage your MS4 program or provide automated reminders of when tasks are due to staff (assisting only as needed) – whatever is required to better assist your community's permit compliance needs. Whether your community requires full development of minimum control plans or just needs help continuing to comply with record keeping and annual reporting, T&M can help.

T&M currently assists Upper Gwynedd Township, Upper Merion Township, Falls Township, and Whitemarsh Township with their stormwater permitting program. We are also currently assisting Whitemarsh Township and Upper Gwynedd Township as it relates to the Watershed TMDL limits for sediments and phosphorous.

T&M and our staff have extensive experience helping municipal governments manage stormwater and stormwater infrastructure. We have completed numerous complex projects for communities throughout eastern Pennsylvania, designing creative stormwater management solutions for large scale projects, designing creative green stormwater infrastructure, applying for regulatory agency permits, evaluations and preservation of natural resources. Our projects are designed to alleviate current flooding problems, minimize stormwater impact on existing properties, and preserving and enhancing the existing natural resources of the community.

T&M's team of hydraulics and hydrology professionals has extensive experience in analyzing the effects of urbanization on the quantity and quality of stormwater runoff and the associated ensuing problems. We have successfully completed flood control studies and stormwater management plans throughout Pennsylvania.

Our staff has provided professional engineering services related to all aspects of stormwater infrastructure systems, including development of stormwater management design plans, analyses of stormwater management systems, traditional stormwater infrastructure and green infrastructure design, and construction phase services. Further, our relationship with staff at the Pennsylvania Department of Environmental Protection is very positive – a fact that benefits our clients. The fact that our engineers have co-authored articles with staff members at the DEP is indicative of the trust they place in our technical competency and methodology.

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### RADNOR TOWNSHIP

Design of Stormwater Management & Flood Mitigation Project at  
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### **Stormwater Approach to Road Programs & Structural Engineering**

T&M has planned and overseen a number of capital improvement programs that involve road rehabilitation, drainage construction, and curb and sidewalk repair. We recognize that road programming is not only extremely important to the appearance and condition of a municipality's infrastructure but also provides the opportunity for the integration of stormwater management. Undertaking road programs, T&M ensures that related stormwater management infrastructure is taken into consideration and looks for opportunities to fix problem spots. Whether we are considering the operation and maintenance of traditional stormwater collection and conveyance or seeking opportunities to incorporate green infrastructure, T&M's road programming takes a holistic approach to meeting our clients' needs. As such, T&M will consider the Township's road programming schedule when evaluating solutions to your stormwater concerns.

### **Stormwater Approach to Park Design and Landscape Architecture**

T&M's Landscape Architects are skilled in blending elements of botany, horticulture, fine art, architecture, industrial design, geology, earth sciences, geography and ecology to create places of distinction. They are "placemakers". Paired with civil engineers, they excel at creating places of distinction. From public parks to university athletic fields to site planning for corporate campuses to degraded landfills to simple municipal gateways... our team's services can cross all of the T&M market sectors.

Our landscape professionals combine site beautification and environmental sustainability to develop creative solutions to projects resulting in distinctive and award winning results. We recognize that parks and open spaces can offer regional solutions to stormwater problems and have the skill and expertise to design and incorporate stormwater management projects that are both beautiful and functional.

### **Grant Consultation & Application Preparation**

T&M has been very successful helping our clients in obtaining grant funding for the construction of a variety of stormwater BMPs designed to improve water quality, protect eroding streambanks, and manage local flooding.

Example projects include:

- stream restoration projects;
- spillway and drainage channel restoration and replacement;
- naturalized wetlands;
- dam removal;
- bioretention facilities;
- basin retrofits;
- inlet filtering; and
- porous paving projects.



#### **GIS Mapping and Asset Management Related to Stormwater Management**

County and municipal mapping and data management have entered a new era with the conversion from paper-based maps and disparate spreadsheets to computer-enhanced mapping and database driven analysis. Numerous county and municipalities have enlisted the services of T&M to prepare GIS mapping systems.

Our team develops fully operational municipal GIS systems from start to finish. We survey, scan, digitize and assemble parcel and infrastructure maps into a GIS program and link relevant data to create a powerful asset tracking and management tool. We have used our GIS capabilities to assist clients with stormwater infrastructure mapping, evaluation of stormwater basins, sewerhed and watershed delineations, green infrastructure alternatives mapping, and parcel specific runoff characteristics.



advantage engineers .

## Geotechnical Engineering Services

With the challenging complexity of earth and soil conditions, and the need to develop difficult sites and urban areas, the services of a highly qualified geotechnical expert are increasingly in demand.

Because our geotechnical engineers and scientists all have a solid understanding of geology, hydrology, and construction, Advantage Engineers is highly qualified to provide specialized investigative, remedial and design services in public and private sectors.

Our geotechnical professionals have provided cost-effective geotechnical services in industrial, commercial, institutional, telecommunications, transportation, natural gas, and utility markets. We have extensive experience, in sinkhole prone regions underlain by carbonate geology, providing solutions for foundation design that allow sound, solid construction of buildings, structures and other facilities.

### *Our Services & Expertise Includes:*

- Geotechnical engineering analysis
- Detailed subsurface investigation
- Test boring, core sampling, exploratory excavations
- In-house soils and construction materials testing laboratory
- Geologic site assessments
- Feasibility studies
- Foundation design recommendations
- Detailed settlement analysis
- Steep slope analysis & design
- Retaining wall design
- Groundwater control recommendations
- Structural fill recommendations & specification development
- Deep foundation recommendations & design
- Sinkhole mitigation & repair
- Geophysical investigations and surveys
- Bearing capacity determinations
- Historical mining reviews
- Forensics investigations & expert testimony
- Bedrock surface profiling & rock quality analysis
- Stormwater infiltration testing
- Construction phase & quality control / quality assurance
- Flexible & rigid pavement design
- Dams inspection, maintenance & rehabilitation
- Ground modification programs

## Sample Projects

### Bridge 2H3

Client: City of Woodbury

Location: Woodbury, NJ

Advantage Engineers conducted the geotechnical engineering investigation for the replacement of Bridge 2H3 in Woodbury, NJ. The replacement of the bridge included the reconstruction and raising of grade of several hundred feet of roadway on either side of the bridge. This plan was complicated by the presence of very soft, compressible, organic soils underlying the roadway and bridge. As a result, Advantage's geotechnical report for the project

included not only deep foundation recommendations for the bridge but also, lightweight fill recommendations for the roadway.

The geotechnical engineering for this project included detailed Pile Capacity Calculations and detailed Settlement calculations due to the underlying soft soils. During construction Advantage provided geotechnical engineering consulting services through on site Pile Installation Inspection. Advantage oversaw the installation and testing of several test piles in order to prepare a Pile Installation Plan for the remainder of the project. Advantage also oversaw the installation and provided recommendations for the lightweight fill placement at the site.

## PA Turnpike Commission

Client: PA Turnpike Commission

Location: Eastern Region of PA Turnpike & Northeast Extension

Advantage's Construction Phase Services group was recently awarded an open end construction materials testing and inspection contract for the eastern region of the Pennsylvania Turnpike and Northeast Extension. Our work began in early May 2013 and will run through June 2015.

The scope of work includes the provision of construction quality assurance and testing at concrete, aggregate, and bituminous asphalt plants where materials are being produced for use on PTC construction projects, as well as the completion of supplemental in-house laboratory testing and on-site inspections.

## Caln Township Subdivisions

Client: Caln Township

Location: Chester County, PA

Advantage Engineers has provided geotechnical consulting services on behalf of Caln Township (Chester County) since 2002. Our scope of services includes the review of Subdivision & Land Development Plans and associated submittals. Submittals include Geotechnical Engineering Reports (GER), Carbonate Assessment Reports (CAR), Environmental Impact Assessments (EIA), Retaining Wall Plans & Calculations, and Stormwater Infiltration Reports (SWR).

### **Construction Observation & Materials Testing Services**

**Woods at Edges Mill Subdivision** – Advantage provided construction and observation services on behalf of the local Township to verify that the construction of a 68 unit residential subdivision was completed in accordance with the approved land development plans. Our scope of services included observation and inspection during the installation of approximately 30,000 linear feet of storm sewer, sanitary sewer, water service utilities and a box culvert.

In addition, Advantage provided concrete installation quality testing for sidewalks and curbing, bulk fill placement inspection and asphalt inspection for roadways. Typical services included the verification of the trench subgrade, pipe bedding, pipe diameter, pipe thickness, pipe connections, and approval of backfill material to be used, compaction testing of backfill in lifts according to equipment ratings, manhole placement and review. Our services included review of all land development improvements in order to verify compliance with project plans prior to Township dedication.

**Advantage also provided Construction Observation and Materials Testing services at these Caln Township subdivisions, including:**

- Bailey Station
- Kings Grant
- Woods at Rock Raymond

## REFERENCES – ADVANTAGE ENGINEERS

Barry Isett and Associates, Inc.  
Christopher Kotch, P.G.  
85 Pennsylvania Route 100  
Allentown, PA 18106  
Phone: 484-866-4849

Boyle Construction, Inc.  
Tony Ganguzza, P.E.  
1209 Hausman Road, Suite B  
Allentown, PA 18104  
Phone: 484-223-0726

D'Huy Engineering, Inc.  
Arif Fazil  
One East Broad Street, Suite 310  
Bethlehem, PA 18018  
Phone: 610-865-3000



ASH Associates  
Company Profile

765 Tennis Ave.  
Ambler, PA 19002  
215-367-5261  
[www.ashassociates.net](http://www.ashassociates.net)

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ASH Associates was established in 2003 as a residential surveying company and has grown since then to include all facets of land surveying and mapping including Boundary and Topographic surveying, flood study mapping, construction layout, land subdivision, title surveys, wall and building monitoring surveys, and steel infrastructure as-built and layout surveys.

ASH Associates is committed to providing "project appropriate" precision, high accuracy surveying services to residential and professional clients. Utilizing a combination of leading edge robotic, GPS, 3D scanning and data collection technologies together with sound traditional surveying practices, ASH Associates can meet the needs of your project.

Plans and maps are created using industry standard CAD software and can be provided in both digital and conventional hard-copy formats.

ASH Associates has Professional Surveying Licenses to practice in Pennsylvania, Delaware, and Maryland. Licenses are maintained on a bi-annual basis and continuing education is required so all licensed professionals are up to date on all techniques and equipment of the industry.





### **RELEVANT EXPERIENCE & REFERENCES**

The following summaries demonstrate our extensive capabilities to perform the engineering services associated with the scope of services requested by the Township. A brief description is provided below, followed by extended descriptions of highlighted projects demonstrating T&M's use of underground detention and green infrastructure to solve stormwater issues. Client references are included.

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#### **RADNOR TOWNSHIP**

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven



**Client**  
Borough of South Plainfield

**Location**  
South Plainfield, NJ

**Contact**  
Leonard Miller  
Borough Engineer/  
Superintendent DPW  
908.755.2187

**Services Provided**  
Roadway, Site & Bridge  
Design; Survey;  
Stormwater Management;  
Traffic Analysis; Permitting;  
Funding Assistance

**Completion Date**  
Ongoing

**Construction Cost**  
\$30 million (estimated)

## HOLLYWOOD AVENUE EXTENSION

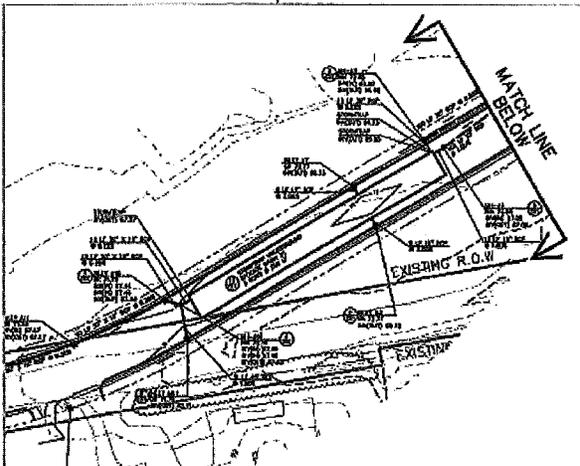
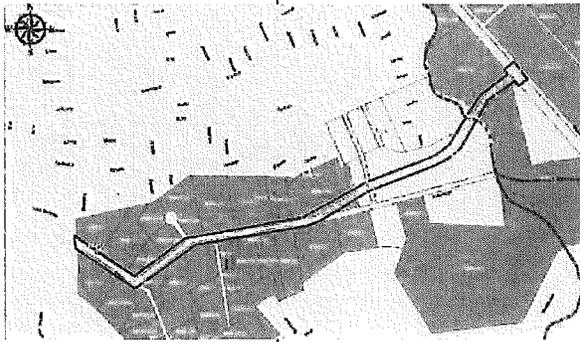
T&M is currently providing professional engineering services to the Borough of South Plainfield for the design improvements to extend Hollywood Avenue to Metuchen Road (approximately 1,500 feet). This road will serve as truck bypass that will divert several thousand vehicles that travel through South Plainfield daily due to its close proximity to Route 287. The current truck route circulates through residential areas that are not designed to handle the volume and class of vehicle.

The roadway alignment goes through some challenging terrain making this a unique project. The road will cross wetlands, floodplain areas and part of the roadway will be built on top of a sanitary landfill. The alignment includes construction of two bridges over Bound Brook and its tributary and railroad crossing.

Our scope of services include design and permitting of the roadway and funding support. T&M has been successful in getting the wetlands and flood hazard area disturbance permits for the project. In order to obtain these permits, a storm water management system has to be implemented. Due to the environmentally sensitive nature of the land this road passes through, disturbance has to be limited to within the limits of the Right of Way. The water table in this area is very

high; therefore, a solution needed to be developed that was compact and can be installed at shallow depths. A StormTrap detention system was used to control runoff from the roadway. The footprint of this system was contained within the roadway and was able to be installed at a shallow depth of twelve inches from the top of the pavement. This unique approach to stormwater management was very helpful in limiting the disturbance and obtaining the required environmental permits.

The estimated cost this project is approximately \$30 million. T&M is actively working with Borough to obtain funding for this project.



### RADNOR TOWNSHIP

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven

**Client**

Phoenixville Area School  
District & Schrader  
Group Architecture, LLC

**Location**

Schuylkill Township,  
Chester County, PA

**Contact**

Stan Johnson  
Executive Director of  
Operations  
Phoenixville Area School  
District  
484.927.5044

**Services Provided**

Civil Engineering, Sports  
Engineering, Zoning  
Services, Land Planning,  
Land Development  
Permitting/Approvals,  
Utility Design,  
Stormwater  
Management Design,  
Landscape Architecture,  
Erosion Control,  
Construction Services

**Completion Date**

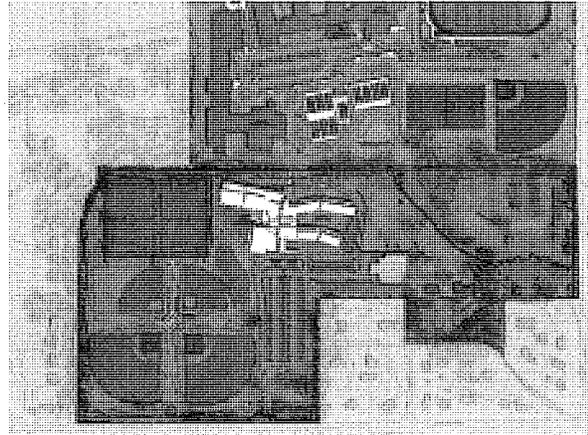
2014 - Ongoing

## PHOENIXVILLE AREA SCHOOL DISTRICT EARLY LEARNING CENTER/ELEMENTARY SCHOOL

T&M is currently providing a full array of civil engineering, sports engineering, landscape architecture and land development permitting/approval services for construction of a new early learning center/elementary school for the Phoenixville Area School District.

The project consists of a new 152,000± SF elementary school on a former golf course parcel with historic structures that requires environmental remediation.

The project completes the K-12 campus, with the new school site plan seamlessly integrated with the existing middle school and high school on the adjacent parcel. The plan also provides for much needed district athletic facilities. New state of the art fields are



proposed including two (2) soccer fields (at least one to be synthetic turf), two (2) baseball fields, two (2) softball fields and tennis courts.

Stormwater management was a major design challenge as the new school is located within the High Quality Pickering Creek watershed. T&M developed an innovative stormwater management facility network for the site and worked tirelessly with PADEP and the local Conservation District to obtain an Individual NPDES permit in an almost unprecedented timeframe. T&M also provided stormwater management design and consulting for major state road Highway Occupancy improvements which were required for the project. Erosion & Sedimentation Design for the project accounts for the construction of a geothermal well field as well as the required environmental remediation.

T&M worked closely with the owner, owner's representatives, architect and land use attorney to carefully construct a land development approval strategy. Our value-add approach to design and to expediting permits/approvals through established relationships with regulatory authorities allowed the school district to meet an aggressive construction start date that was set to meet a best case school opening date goal.

**RADNOR TOWNSHIP**

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven



**Client**

BET Investments

**Location**

Middletown Township,  
Delaware County, PA

**Contact**

Peter Clelland, PE  
Director of Development  
BET Investments  
215.938.7300 x124

**Services Provided**

Civil Engineering, Zoning  
Services, Conceptual  
Design, Land  
Development Approval,  
Utility Design,  
Stormwater  
Management, Landscape  
Architecture, Erosion  
Control, PennDOT HOP  
Design, Permitting &  
Construction Services

**Completion Date**

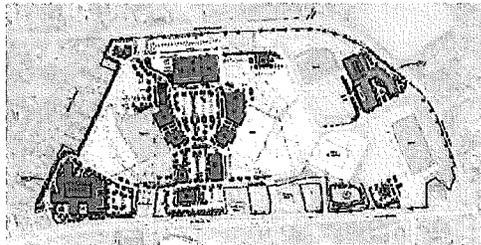
2014 – Ongoing

**GRANITE RUN MALL REDEVELOPMENT PROJECT**

T&M is currently providing a full array of civil engineering and landscape architecture services to BET Investments for their transformative Granite Run Mall Redevelopment Project in Delaware County, PA. BET selected T&M due to the firm's extensive experience with large-scale redevelopment sites, expertise in rezoning and challenging land development approval processes and our innovative approaches to solving complex stormwater management problems.

BET's vision is to transform the dated 1970s mall into a modern lifestyle center with 400 apartments, outdoor walkable mall, restaurants, retail stores, movie theater and entertainment uses. To accomplish this, a number of buildings on the site will be demolished and new buildings constructed. New buildings and uses will be blended to create an entirely new lifestyles environment in which people can live, eat, shop work and play.

T&M worked closely with the architect, attorney and BET to develop the site plan and collaborated with the project land use attorney to develop an overlay zoning ordinance for the innovative center. Additionally, T&M evaluated the township's stormwater management ordinance and Delaware County's Act 167 stormwater plan for Chester Creek and recommended changes to the township stormwater management ordinance. In collaboration with the county, conservation district, and Township, changes were made that would encourage redevelopment of a site and remove disincentives to redevelopment while ensuring consistency with the Act 167 plan and the county model stormwater ordinance.



Following the development of a site master plan and overlay ordinance, T&M provided full Land Development engineering and landscape architecture services for the project. The project presented numerous engineering challenges, including shallow bedrock, poor site infiltration rates, utility conflicts & relocations, easement & lease area negotiations, ADA pedestrian enhancements and sewer capacity issues.

Addressing stormwater management requirements of both the Township and PADEP required innovative solutions to

demonstrate compliance. T&M developed a plan that included a creative retrofit of the existing stormwater management basin on site, as well as a porous pavement parking lots, which incorporates a filter media for enhanced water quality control. The innovative solutions proposed by T&M preserved valuable developable area and reduced construction costs considerably by avoiding costly underground stormwater management facilities and expensive water quality devices.

As part of the Land Development approvals, T&M led the development of site and architectural design guidelines for elements such as landscaping, hardscaping, street furniture, bike racks, trash enclosures, architectural elements, signage and other aesthetical site components. T&M also prepared landscaping design plans to greatly enhance and beautify this modern lifestyle center.

**RADNOR TOWNSHIP**

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven





**Client**  
City of Philadelphia  
Water Department

**Location**  
Philadelphia, PA

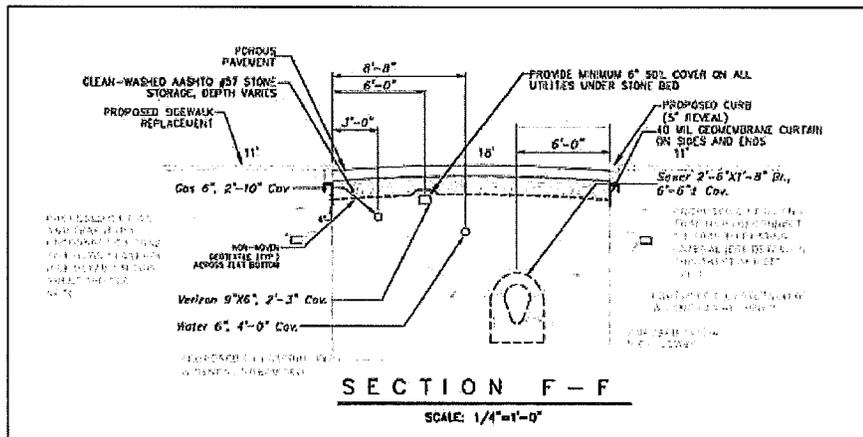
**Contact**  
Walid El-Morshedy, PE  
Project Engineer  
215.685.6378

**Services Provided**  
Stormwater Design,  
Environmental  
Engineering,  
Stormwater Design,  
Civil Engineering,  
Permitting

### PWD GREEN STORMWATER INFRASTRUCTURE

In order to comply with planned project goals laid out in the Philadelphia Water Department's Long Term Control Plan Update, opportunities to integrate stormwater management into department projects have been strongly encouraged throughout the city. With that in mind, T&M Associates was tasked to incorporate green infrastructure techniques into a water and sewer reconstruction job (*PWD Project Nos. S-40819-RD Sanitary Sewer Replacement and Water Main Relay and S-40866-RD Sanitary Sewer Replacement and Water Main Relay*).

Taking into account the constraints of a narrow Philadelphia street and existing utility locations, porous pavement was determined to be the most appropriate stormwater management technique for the project. Designed for a 1.5" storm, the three facilities will detain and infiltrate almost 6000 cubic feet of runoff. The Green Stormwater Infrastructure Design Requirements and Guidelines packet was used as a prominent design tool during the different stages of development. The Design Process Workflow Packet was also utilized during the project in order



to prepare for upcoming submissions and stay on the expected timeline.

T&M was diligent in communicating with the different design groups to accurately incorporate any updates made in the manual or details during the timeline of the project. Throughout the project, T&M worked closely with PWD's Design Branch and Green Stormwater Infrastructure Design Group as well as utilities that were affected by the design such as PECO, SEPTA, and PGW. Coordination was also required with the Philadelphia Streets Department in order to design ADA ramps and comply with the Survey Districts regulated curb heights. After project completion, three streets (Iseminger, Camac and Pierce) will be fully paved with approximately 16,700 square feet of porous pavement.

**RADNOR TOWNSHIP**

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven



**Client**  
Infrastructure Solution  
Services

**Location**  
Philadelphia, PA

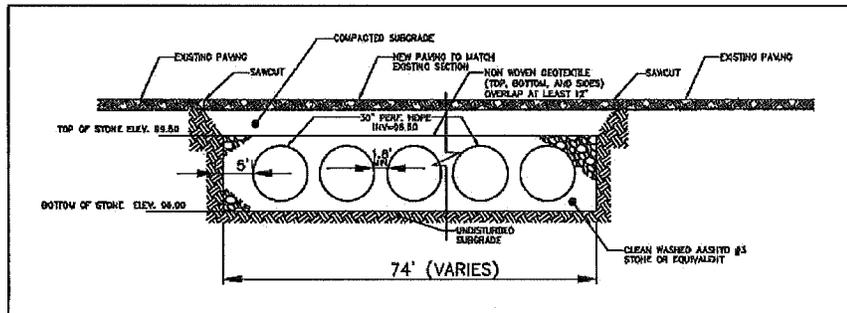
**Contact**  
Peter Burns  
484.704.7201

**Services Provided**  
Stormwater Design,  
Environmental  
Engineering, Civil  
Engineering, Permitting

## PWD STORMWATER MANAGEMENT INCENTIVE PROGRAM

As part of the Long Term Control Plan Update, the Philadelphia Water Department encourages private property owners to manage the stormwater generated by their property. Some larger property owners were incentivized by being offered grant money through the Stormwater Management Incentive Program. Cardone Industries volunteered to participate in the PWD SMIP program; on their behalf, Infrastructure Solution Services chose T&M Associates to complete the design and coordination required for the project.

The design included an above ground infiltration basin, two underground stone



detention basins, an above ground detention basin and improvements to an existing pond for total of almost 360,000 cubic feet of storage. Per Philadelphia standards, all of the basins were designed to manage the 1" water quality storm and accounted for approximately 67 greened acres, the largest project of its kind in Philadelphia. As an Act 2 industrial site, T&M worked closely with environmental consultants to devise stormwater control measures that not only worked within the tight existing site constraints, but also did not interfere with any of the environmentally active onsite areas. With these design constraints in mind, a pumping station was designed to convey stormwater runoff from the large above ground basin to the underground detention basins. This innovative design used a variable speed pump that only conveys the design volume to the upstream stormwater facilities to reduce the power consumption.

T&M also worked closely with PWD's Stormwater Billing and Credits Program in order to appropriately address any comments the reviewer had during the design process. Coordination meetings were also held between T&M, PWD and PA DEP. As this was the first project as its kind, proper protocols needed to be established for NPDES submission and coordination between the two agencies. T&M, as the design engineer, was instrumental in the development of these standards.



**Client**

City of Allentown

**Location**

Allentown, Lehigh  
County, PA

**Contact**

Craig Messinger  
Interim Director of  
Public Works  
610.437.7587

**Services Provided**

Civil Engineering  
Permitting  
Stormwater Design  
Landscape Architecture  
Public Meetings  
Press Briefings  
Construction  
Management &  
Inspection

**Awards & Recognition**

American Planning  
Administration, "Great  
Places in Pennsylvania"  
Award (2014)  
Lehigh Valley Planning  
Commission (LVPC),  
Transportation Project  
Honoree  
House of  
Representatives of PA,  
Project Citation  
PA State Senate Project  
Citation

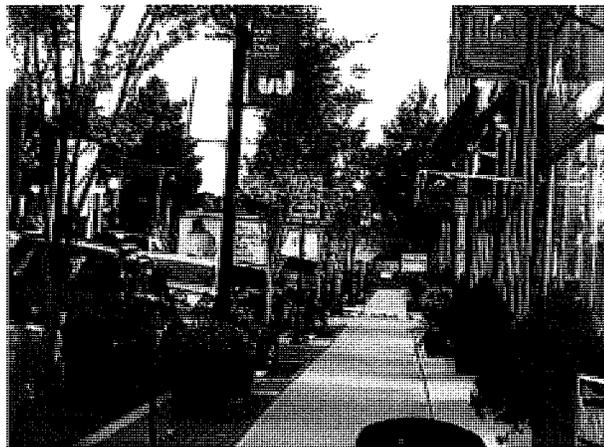
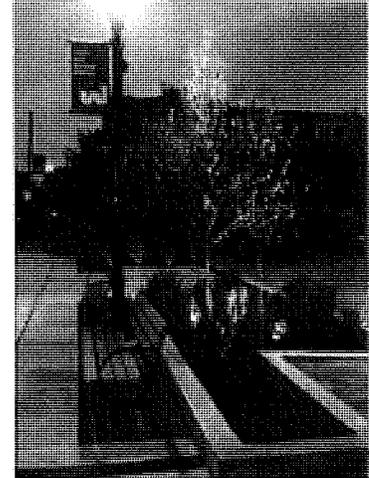
## WEST END THEATRE DISTRICT STREETScape REVITALIZATION PROGRAM (PHASE I – 19<sup>TH</sup> STREET)

T&M is providing professional engineering and landscape architectural services necessary for the design, bidding, and construction inspection of streetscape improvements in the West End Theatre District of the City of Allentown.

The first section includes the streetscape and stormwater improvements of 19<sup>th</sup> Street from Liberty Street to Allen Street. The overall project impacts an area of over seven square city blocks and in addition will include the periphery of the City fairgrounds.

Work also involves the identification of regions within the City's West End District that would be suitable for incorporation of GSI facilities. This program is an ongoing effort that will continue to take place over the course of the next two years.

Depicted here, in the first phase of this program, are two large bioretention cells in box planters are proposed at 19<sup>th</sup> and Allen Street. The source of tributary runoff for the bioretention cells is a small commercial parking lot (about 18 parking spaces). We are utilizing decorative tree fences to prevent foot traffic from weaving into these "recessed" planted areas. Raised fences will be utilized



as an aesthetically pleasing alternative to notched curbing. It is anticipated that the use of raised fences will also result in being less of a tripping hazard than a curb alternative.

**RADNOR TOWNSHIP**

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven



**Client**  
Philadelphia Water  
Department

**Location**  
Philadelphia, PA

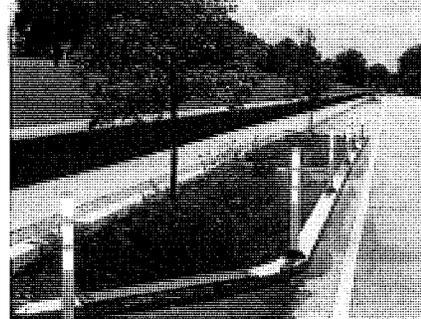
**Contact**  
Paul Hildebrand  
Project Manager  
215.685.4964

**Services Provided**  
Stormwater  
Management

## GREEN STORMWATER INFRASTRUCTURE

This project consisted of implementing green stormwater infrastructure (GSI) in the form of porous pavement on six streets in the City of Philadelphia. The project will decrease the amount and rate of flow entering the combined sewer system in that area, which will help alleviate flooding locally and combined sewer overflows citywide.

T&M was contracted to work closely with Philadelphia Water Department's (PWD) GSI Implementation Program Design Coordination department in order to comply with the GSI Design Manual. T&M also worked with PWD's Design Branch in order to obtain geotechnical results as well as to coordinate the design and construction with the water and sewer project occurring in conjunction.



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### RADNOR TOWNSHIP

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven



**Client**  
Towamencin Township

**Location**  
Towamencin Township,  
Montgomery County,  
PA

**Contact**  
Robert Ford,  
215.368.7602

**Services Provided**  
Preliminary and Final  
Design, Construction  
Document Preparation,  
Construction Inspection,  
Construction  
Management, Grant  
Writing, Grant  
Administration

## FISCHER'S PARK POROUS PAVING PARKING LOT

T&M staff provided design, bid administration, construction management, construction inspection and grant management services for the construction of a 35,910 square foot pervious parking lot with an underground infiltration bed and bio-retention islands at Fischer's Park, a community recreation facility that had inadequate parking capacity. The project was designed to increase facility parking and enhance watershed quality.



Designed and constructed in accordance with Pennsylvania Stormwater Best Management Practices Manual guidelines, this project stores an estimated 9170 cubic feet of stormwater and treats an estimated 85% of total suspended solids, 85% of phosphorous, and 30% of nitrates from stormwater runoff discharging to Towamencin Creek.

This green project was funded in its entirety with PENNVEST grant funding obtained and administered by T&M staff on behalf of the Township.

**Client**

Lower Mt. Bethel  
Township

**Location**

Lower Mt. Bethel, PA

**Contact**

Lori Stauffer  
610.252.5074

**Services Provided**

Conceptual Planning,  
Design, Construction  
Cost Estimates, Grant  
Assistance, Surveying,  
Permitting,  
Environmental Studies,  
Construction Inspection

## LOWER MT. BETHEL WELCOME CENTER AND PARK & RIDE LOT

Members of T&M's staff were responsible for the conceptual planning, design, permitting and construction services to create a "zero-discharge site" for high frequency storms (i.e. 95% of all rainfall events). The team incorporated the latest technologies, best management practices (BMPs) and innovative designs to manage all stormwater runoff. BMPs incorporated by the team

included a "green-roof" for the new building, rain-gardens, wetlands, vegetated swales and recharge-to-groundwater components, to contain peak runoff rates,

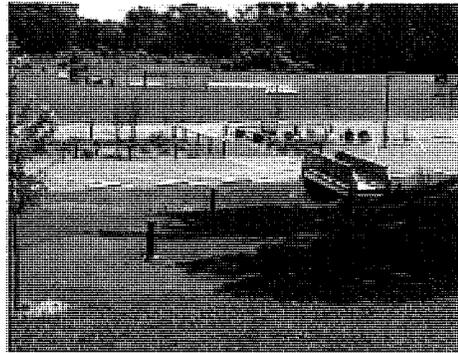
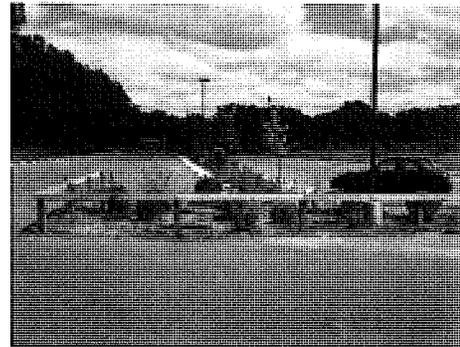
contain the increased runoff volume and provide water quality pretreatment. Members of the design staff also assisted with the installation of the rain gardens and green roof BMPs.

All stormwater was managed on site. In the original engineering design, storm water was to be piped to the Delaware River at a cost of \$69,000. Through incorporating the Best Management Practices of storm

water infiltration, vegetated swales, and rain gardens the construction cost was reduced to \$7,000.

In addition to the stormwater elements of the project, the team designed and permitted an advanced peat filtered sewage system to reduce nitrate loading, a potable well source and distribution system, a pedestrian trail system and integrated park and ride lot with recreation parking serving a municipal sports complex and fishing boat launch facility.

The project was substantially completed in the fall of 2008. Since this time, the project has received numerous accolades and most recently was included in a Department of Conservation and Natural Resource's Sustainable Landscape bus tour offered in Lehigh Valley, PA.

**RADNOR TOWNSHIP**

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven



**Client**  
Upper Merion Township

**Location**  
Upper Merion, PA

**Contact**  
Edward O'Brien  
Director of Public  
Works  
610.205.8501

**Services Provided**  
H&H Analysis,  
Stormwater Design,  
Survey, Civil  
Engineering,  
Permitting, Bid Phase  
Services, Construction  
Inspection

## UPPER MERION TOWNSHIP STORMWATER IMPROVEMENTS

T&M provided professional engineering, survey and construction administration/observation services relative to the design and construction of stormwater improvements at various locations throughout the Township.



Resident and township staff concerns regarding high volumes of stormwater runoff and localized flooding of roadways and private property after storm events led to an evaluation of the stormwater infrastructure in several areas of the Township. T&M prepared several design alternatives and cost estimates to remedy stormwater issues in the areas of Diana Court, Sharon Court and Red Oak Terrace.

The recommended improvements included the installation of additional inlets, expansion and conversion of existing inlets, new storm piping, pipe lining, new curb and curb depressions, and roadway milling and overlay.



**Client**  
City of Allentown

**Location**  
Allentown, PA

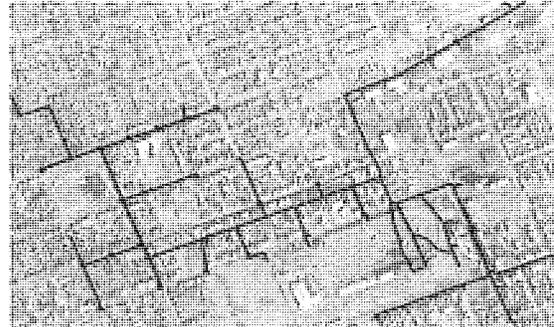
**Contact**  
Craig Messinger  
Interim Director of  
Public Works  
610.437.7587

**Services Provided**  
Stormwater System  
Modeling, Concept  
Design, Preliminary  
Cost Estimating

## LIVINGSTON WATERSHED ANALYSIS

T&M Associates prepared an analysis of the Livingston Watershed within the City of Allentown and provided recommendations to reduce flooding. The Livingston Watershed is comprised of an area of some 4.6 square miles with 23.8 miles of drainage conduits.

Recent and repeated short duration but high intensity storm events created severe flooding situations along the storm sewer trunk line serving the Livingston Watershed.



T&M was tasked by the City with conducting a hydrologic/hydraulic engineering study to develop recommendations to upgrade and improve the stormwater collection system. The work included:

- Analyzing watersheds, starting with areas having significant exposure to residential flooding;
- Modeling 2, 10, 25, and 100-year design storms to determine runoff rates and volumes, water surface profiles, channel velocities and inundated/affected areas;
- Developing viable options for addressing identified flooding problems and issues associated with those options (regulatory, physical, property ownership, etc.); and
- Providing analysis of the risk and the reduction of risk due to the mitigation project.

T&M utilized CivilStorm by Haestad Methods to model the Watershed and piping network. The model was used to establish baseline conditions and to evaluate alternative stormwater BMP's proposed to mitigate/reduce flooding impacts in the subject corridor.

Potential solution sets included a parallel storm line to the Andrew Alley line, modifications to regional basins, incorporation of stormwater BMP's on city-owned property and reduction or elimination of the backwater effects to surface flows, especially along Andrew Alley in proximity to Albright Street.

Recommendations were presented to the city along with conceptual cost estimates for the proposed solution sets.





**Client**  
Ocean County

**Location**  
Brick and Lakewood,  
NJ

**Contact**  
Ronald A. Lotrecchio,  
PE  
County Engineer  
732.929.2130

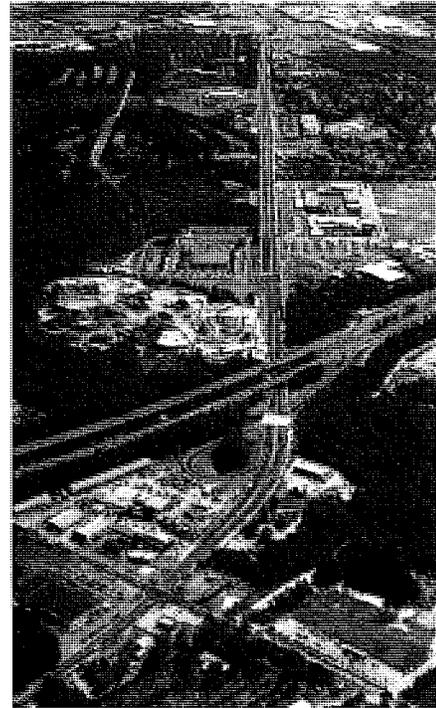
**Services Provided**  
Survey, Traffic  
Engineering, Bridge  
and Highway Design,  
Permitting, Stormwater  
Management,  
Construction  
Administration

## CHAMBERS BRIDGE ROAD RECONSTRUCTION

This project involved the upgrade of a 1.5-mile section of an existing four-lane county road and a 0.5-mile section of NJ Route 88. Included were the installation of median barriers, five traffic signals, jug-handles and replacement of a bridge over the south branch of the Rancocas Creek.

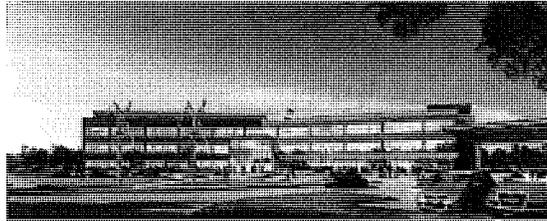
T&M provided the following services:

- Survey
- Mapping
- Traffic analysis, signal design
- CAFRA, freshwater wetlands and stream encroachment permits
- Right-of-Way
- Final design
- Preparation of construction contract documents
- Construction coordination/observation
- Stormwater management techniques including surface detention basins and perforated pipes for subsurface runoff storage/groundwater recharge
- Wetlands mitigation



**Client**

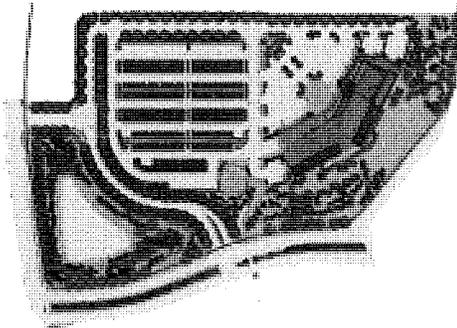
Boston Properties

**Location**Carnegie Center,  
Princeton, NJ**Contact**David Stewart  
617.236.3407**Services Provided**Site Plan, Survey,  
Environmental  
Permitting, Planning  
Construction  
Management**CARNEGIE CENTER WEST - BUILDING 804**

Building 804 at Carnegie Center West is a state-of-the-art 121,500 SF LEED® Gold office building and the future headquarters of NRG Energy, who is the largest

solar power developer in the U.S. and a Fortune 250 company. This site will feature a smart micro-grid that will power the entire campus by generating clean and efficient energy onsite. The energy will be provided by a 400kW combined heat and power (CHP) plant that will not only power one-third of the building, but also will offer hot water and air conditioning to the building. An additional 800kW will be generated from onsite solar arrays, consisting of 13 solar ground-mounted parking canopies, 2 solar roof-mounted canopies, and 2 solar ground-mounted pergolas.

T&M was contracted to provide a preliminary and final site plan design. This ongoing project involves civil engineering and design services that include surveying, General Development Plan (GPD) design, wetland delineations, Phase 1 investigations, environmental permitting, landscape architecture design, traffic engineering, site lighting design, LEED® consulting services, and construction management. T&M will also provide expert testimony at public hearings and coordinate local, state and federal work sessions in support of the application.



The building will be designed and constructed using a multitude of sustainable elements including:

- 800kW solar arrays consisting of 13 solar ground-mounted parking canopies, 2 solar roof-mounted canopies, and 2 solar ground-mounted pergolas.
- 400kW natural-gas-fired CHP unit
- Two 30,000 gallon underground rainwater storage system for building reuse
- Two onsite windmills
- 2,000 LF of pedestrian sidewalks and bicycle paths
- Four 150' long bio-swales and a 0.70-acre wet pond
- Native, non-invasive and drought-resistant landscaping, including approximately 700 new trees and 4,400 shrubs
- 7,200 SF green roof
- 36 electric vehicle charging stations

This project was nominated for the Commercial Real Estate Impact Award at the NAIOP Gala in May 2015.

**Client**

Fletcher Thompson  
Architecture Engineering,  
LLC

**Location**

City of Philadelphia,  
Philadelphia County, PA

**Contact**

Gary W. Bixby  
Community College of  
Philadelphia  
215.751.8189

**Services Provided**

Land Development,  
Landscape  
Architecture,  
Stormwater Design,  
LEED Consulting, Utility  
Design, Permitting,  
Survey

**Completion Date**

2010

**Construction Cost**

\$20,600,000

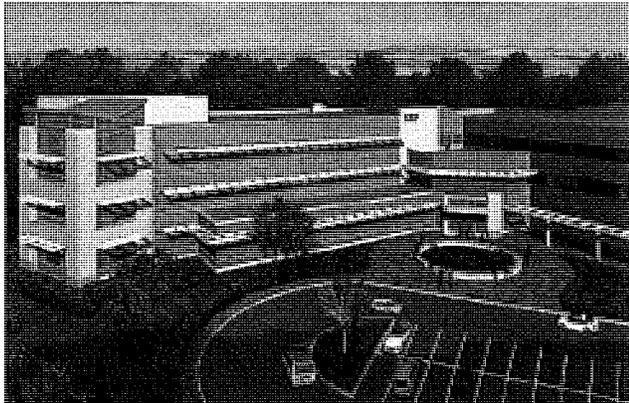
**PHILADELPHIA COMMUNITY COLLEGE – NORTHEAST  
REGIONAL CENTER EXPANSION**

The Community College of Philadelphia Northeast Regional Center Expansion project consists of the construction of an approximate 60,000 GSF building addition (with associated demolition of an existing parking area) plus alteration/renovation of an existing building on an approximate 11.7-acre site in Northeast Philadelphia.

The project significantly enhances the campus environment with the inclusion of outdoor gathering/learning spaces. The project meets LEED Silver design criteria and includes stormwater, bioretention, geothermal wells, and a green roof design. The project also consists of an overall expansion to the existing parking areas through the addition of a new parking lot. Stormwater management infrastructure is minimized in the new parking area through the use of shallow infiltration trenches. The project team collaborated with PWD throughout the PWD Plan Review process resulting in a project considered to be a model of successful integration of state of the art Best Management Practices for an urban redevelopment project.

Traffic flow improvements (pedestrian/vehicular) are a significant part of the project and include such design features as a driveway entrance relocation and a pedestrian bridge connecting the new parking area to the building addition.

*This project was completed by key T&M staff members while working with a prior engineering firm.*

**RADNOR TOWNSHIP**

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven



**Client**

BPG Development  
Company, Ltd.

**Location**

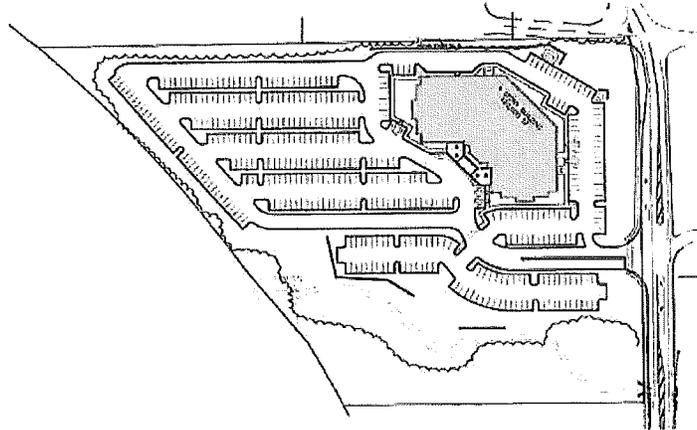
Lower Providence  
Township, Montgomery  
County, PA

**Contact**

John Forde  
610.355.1872

**Services Provided**

Civil Design,  
Hydraulics/Hydrology,  
Landscape  
Architecture,  
Permitting, Site Design,  
Stormwater  
Management,  
Wetlands Delineation

**VALLEY FORGE CORPORATE CENTER, LOT #1**

This project initially involved a complex Due Diligence Study for the 10 acre site including a detailed review of previous permits, approvals, and encumbrances. The Land Development Design and Permitting phase involved site design for a 120,000 SF class A Commercial Office Building in a prime location near a future state highway ramp. The project required PennDOT highway improvement plans and permitting to accommodate the new site entrance including overcoming sight distance challenges.

In addition to accommodating both Township and Office Park Master Plan requirements for stormwater management by incorporating on-site underground stormwater facilities, the project also included a cornucopia of state permits (PennDOT & DEP) for an on-site stormwater dam and its downstream discharge under the adjacent state highway.

The Project achieved LEED Silver status. LEED site components included specialized site lighting design, landscaping, alternative fuel vehicle accommodation, and incorporation of pedestrian and bike friendly features.

This project was completed by key T&M staff members while working with a prior engineering firm.

**Client**

Jersey City  
Redevelopment Agency

**Location**

Jersey City, NJ

**Contact**

Benjamin Delisle  
Director of  
Development  
201.547.5810

**Services Provided**

Planning, Design,  
Survey, Environmental,  
Public Outreach, Green  
Infrastructure,  
Stormwater Design,  
Grant Procurement &  
Administration of HUD  
Community Challenge  
& DOT TIGER II Grants

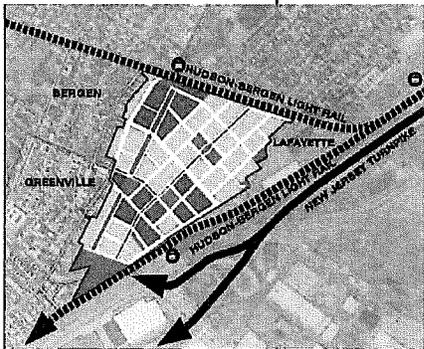
**CANAL CROSSING ENGINEERING & DESIGN, MULTIPLE  
STREETSCAPES WITH GREEN INFRASTRUCTURE**

Canal Crossing is a 111-acre tract in Jersey City, which was declared an “area in need of redevelopment” in 2009. The tract was formerly tidally flowed land filled in the 1800s for industrial development. The Canal Crossing project reconfigures 17 industrial blocks into 40 walkable city blocks and provides a wide mix of commercial, residential and public open space development opportunities. The Project design is developed around themes of building neighborhoods, reconnecting the urban grid and sustainable design which included numerous streetscape designed roadways.

The project focused on sustainability, the goals were to: (1) reuse existing infrastructure where feasible; (2) reduce the reliance on potable water through the use of stormwater harvesting; (3) focus on green design techniques; and (4) include a robust transportation network of complete streets which serve pedestrian and bikeway needs, as well as provide connections to open space, and a new train station.

The project is currently in design phase and the complete build-out will occur over a period of 10-15 years, and the distributed property ownerships present unique staging issues further complicated by individual site remediation requirements.

One element of the project included the design of sanitary sewer collection and water main systems of a 111-acre redevelopment area consisting of outdated infrastructure and large tracts of contaminated brownfields. Work included investigation of existing combined



storm/sanitary sewer system, pre and post development water system model, sanitary sewer and water system basis of design reports, preparation of the horizontal and vertical alignment of approximately 17,600 LF of 8-inch – 30-inch diameter sanitary sewer, 74 manhole structures, horizontal alignment of 24,800 LF of 8-inch – 16-inch diameter water main, location of fire hydrants, wet taps and valves.

Additionally the project includes multiple “green complete streets” with bio retention, stormwater harvesting, rain gardens, and LED light fixtures, connections to transit and

open space etc. The streetscapes include Canal Way, Passaic Street, Halladay, Carteret Ave and Caven Point Ave. The area was serviced by a combined sewer system that connected to a regulator, and then to a combined sanitary outfall that discharged combined sewer flow during wet weather conditions to the Hudson River. Ultimately, the project separates the sanitary sewer from the storm sewer into two separate infrastructure systems, which eliminated sanitary flow to the Hudson River from the 111-acre property.

**RADNOR TOWNSHIP**

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Ave



### PROJECT TEAM INTRODUCTION

When the Township hires T&M, you gain access to our uniquely qualified team of experts. Our people are absolutely our greatest asset. For some engineering firms, that phrase has become an empty cliché, but not for T&M. What we offer the Township isn't calculations and CADD files – it's our staff and their knowledge. It's why we hire and partner with the best, those who are forward-thinking, client-oriented and respected experts in their field.

We are confident you will notice the difference too.

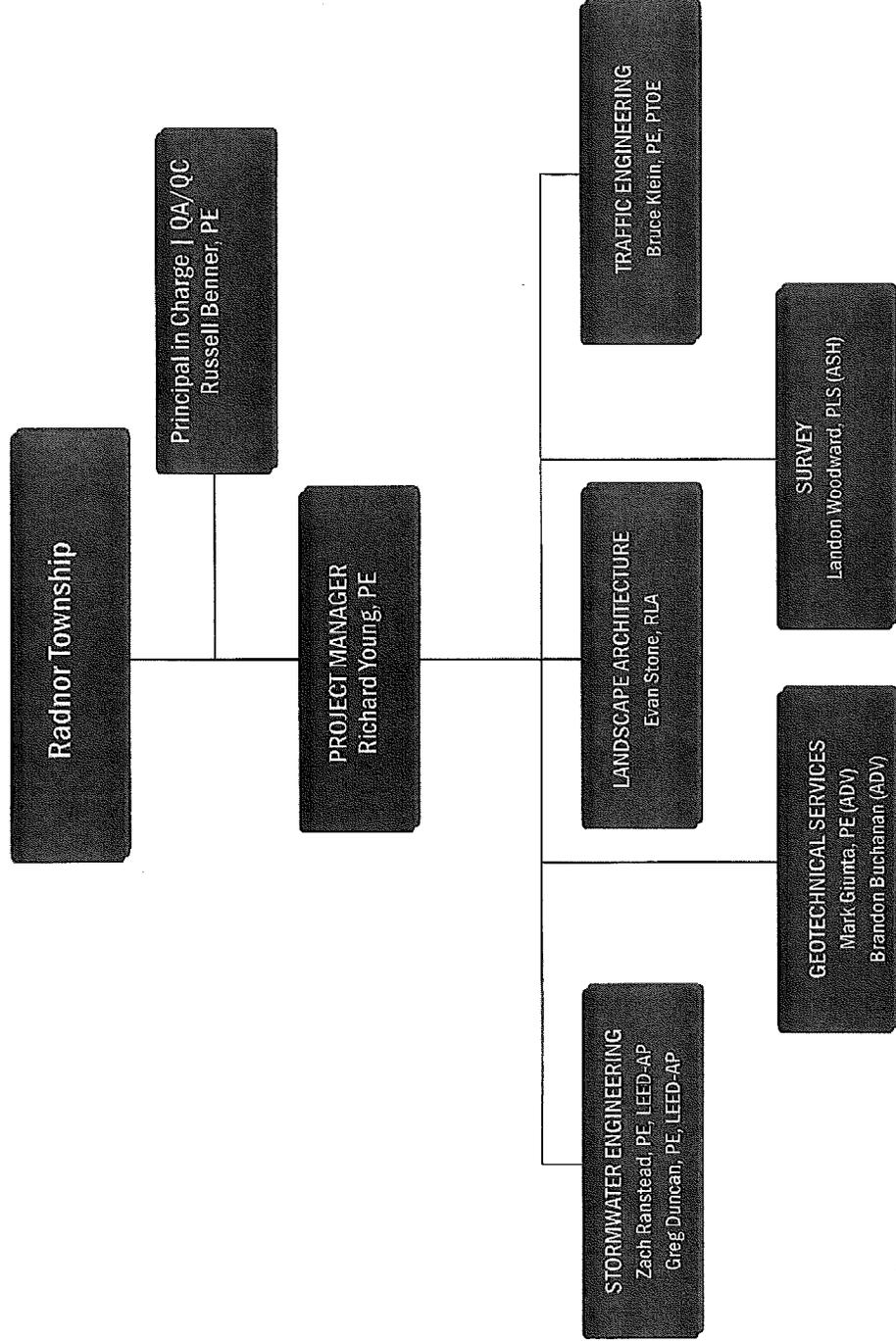
Clients routinely share with their peers and with our senior management how a given T&M associate isn't just an exceptional project manager, engineer, designer or technology expert, but also their advocate, going out of their way to save them money or pitching in.

We have assembled a team of sufficient depth of resources to meet the Township's needs. The following Organization Chart, Key Personnel Summary Table, and the Key Personnel resumes found in the Appendix highlight our team's full range of skills and expertise.

### ORGANIZATION CHART

Please see our Project Team Organization Chart on the following page.

**ORGANIZATIONAL CHART**  
**DESIGN OF STORMWATER MANAGEMENT & FLOOD MITIGATION PROJECT AT**  
**THE INTERSECTION OF BANBURY WAY/FRANCIS AVE/WINDSOR AVE**





**KEY PERSONNEL SUMMARY TABLE**

We have staffed this project with a T&M Project Team of national experts, seasoned leaders, and emerging top talent in the optimal manner in order to provide the Authority with exceptional quality at a cost-effective price.

Name	Years of Experience	Staff Role/Area of Expertise Abbreviated Summary of Expertise	License / Certification / Specialty
<b>Russell Benner</b>	<b>39</b>	<b>Principal in Charge / QA/QC</b>  Mr. Benner, PA Public Works Division Director, has 39 years of experience in providing civil engineering services to municipal clients. He has acted as municipal engineer for communities in Bucks, Lehigh, and Montgomery counties in Pennsylvania providing design and construction administration services for infrastructure rehabilitation projects, administration of National Pollutant Discharge Elimination System (NPDES) MS-4 Program, Flood Plain Management and Grant Procurement Services.	<b>PE</b>  PA, NJ
<b>Richard Young</b>	<b>40</b>	<b>Project Manager</b>  Mr. Young will lend his Project Management skills to the project. Prior to joining T&M in 2015, he served as the Director of Public Works for the County of Northampton in Pennsylvania. He provided oversight of the Division of Building Operation & Maintenance, bridge maintenance, and parks and recreation. In this position, he was responsible for 95 employees, a \$10M operating budget, and a \$12.3M Capital Improvement Plan. For more than 10 years, Mr. Young held a variety of engineering positions in the City of Allentown including City Engineer and Director of Public Works. He was responsible for oversight of the Bureaus of Engineering, Traffic, Planning and Control, 244 employees, a \$62.7M operating budget, and a \$165M Capital Improvement Plan. His roadway experience includes horizontal and vertical design; storm drainage design; geometric design of intersections; preparation of specifications and bid documents; and pavement marking and signing plans.	<b>PE</b>  PA
<b>Zachary Ranstead</b>	<b>18</b>	<b>Supervising Engineer – Underground Stormwater</b>  Mr. Ranstead is a Supervising Engineer specializing in stormwater control and BMP design. Mr. Ranstead has designed numerous underground storage facilities, including several in Delaware County.	<b>PE</b>  PA  <b>LEED-AP</b>



## KEY PERSONNEL

Gregory Duncan	13	<b>Supervising Engineer – Green Stormwater Infrastructure/Modeling</b> Mr. Duncan is a Supervising Engineer who specializes in Green Stormwater Infrastructure and stormwater and watershed modeling.	PE PA
Bruce Klein	20	<b>Group Manager – Traffic and Transportation</b> Mr. Klein lends his experience with traffic and transportation engineering and will provide MPT services for the final design, as well as, analysis of the potential road abandonment noted in the proposal.	PE NY, NJ PTOE
Evan Stone	29	<b>Landscape Architecture</b> Mr. Stone has produced award-winning Land Planning, Landscape Architecture, Recreation Planning, Environmental Design and Urban Design projects. He routinely utilizes low impact design principles and views ecological stormwater design as the foundation for all projects. He will provide consultation on plant selection and guidance on streetscaping enhancements.	RLA
<b>Advantage Engineers</b>		<b>Geotechnical Subconsultant</b> Advantage Engineers will provide subsurface field investigations, laboratory analysis of soils and stormwater infiltration feasibility assessment.	
<b>American Surveying Heritage Associates</b>		<b>Survey</b> ASH Associates will provide professional surveying.	

Resumes of these key personnel can be found in the Appendix.

### SUBCONSULTANTS

Advantage Engineers – Geotechnical | Mark Giunta, PE, Senior Project Manager  
6330 Hedgewood Drive, Suite 310  
Allentown, PA 18106  
610.366.7120  
www.advantageengineers.com

ASH Associates – Survey | Landon Woodward, PLS, Owner  
765 Tennis Ave.  
Ambler, PA 19002  
215.367.5261  
www.ashassociates.net

### RADNOR TOWNSHIP

Design of Stormwater Management & Flood Mitigation Project at  
Intersection of Banbury Way/Francis Ave/Windsor Aven



**COMPENSATION**

Based on the RFP, we have a thorough understanding of the project's overall objectives. We believe our proposal provides an overview of our qualifications, our team, and our approach to this project. We believe our fees are commensurate with the level of work outlined in the RFP and are competitive within our industry. As always, we strive to offer services in the most cost-efficient manner possible. We welcome the opportunity to review our proposal and fee structure in keeping with the Township's overall goals and objectives.

Our total lump sum fee for the project, inclusive of reimbursable expenses is \$95,236.00.

TASK	PROFESSIONAL V	PROFESSIONAL VI	TECHNICAL STAFF GRADE 5	PRINCIPAL DIVISION MANAGER	ADMINISTRATIVE SUPPORT STAFF	SUBCONTRACTOR	TASK TOTAL
HOURLY RATE	\$115	\$115	\$101	\$140	\$58		
SITE SURVEY & BASE PLAN DEVELOPMENT	4		2	1	1	\$15,870	\$16,730.00
GEOTECHNICAL INVESTIGATIONS	4		2	1	1	\$6,730	\$7,590.00
REVIEW & RECOMMEND MODIFICATIONS TO CONCEPTUAL DESIGN	40	20	48	8	8		\$13,332.00
FURTHER INVESTIGATION OF BIORETENTION CONCEPT/PERMANENT ROAD CLOSURE	20	8	24	4	4		\$6,436.00
DEVELOPMENT OF CONSTRUCTION DOCUMENTS	160	24	200	24	16		\$45,648.00
EXPENSES							\$5,500.00
<b>TOTAL</b>	<b>228</b>	<b>52</b>	<b>276</b>	<b>38</b>	<b>30</b>		<b>\$95,236.00</b>



**REIMBURSABLE EXPENSES**

Document reproduction for submissions for client and project team use is considered a reimbursable expense and will be billed accordingly; please see attached Schedule of Miscellaneous Charges. Travel expenses (mileage) will be itemized as well as extraordinary expenses identifiable to the specific project. These expenses include, but are not limited to, public transportation fares, photographic processing, express or overnight mail and delivery charges. As is customary, all application fees, review fees, etc., associated with this project will be provided by the Client.

**METHOD OF BILLING**

T&M will submit invoices monthly for services rendered in accordance with the RFP.

Radnor Township Public Works and Engineering Departments

**Cost Estimate Form**

for

**Design of Stormwater Management & Flood Mitigation Project at Intersection  
of Banbury Way / Francis Ave / Windsor Ave**

Description	Cost / Hours
Task 1A. Site Survey and Base Plan Development	\$16,730
Task 1B. Geotechnical Investigations	\$7,590
Task 2A. Review and Recommend Modifications to Conceptual Design	\$13,332
Task 2B. Further Investigation of Bioretention / Road Closure	\$6,436
Task 3. Development of Construction Documentation	\$45,648
Reimbursable Expenses	\$5,500

Submitted by:

T&M Associates | 525 Plymouth Road, Suite 315, Plymouth Meeting, PA 19462

FIRM

ADDRESS



Russell Benner, PE, Vice President | 484.530.1270 | RBenner@tandmassociates.com | 24MAR16

AUTHORIZED SIGNATURE

PHONE & EMAIL

DATE

TO BE EXECUTED BY RADNOR TOWNSHIP IF AWARDED

Robert A. Zienkowski Township Manager/Secretary

Date



## WORK SCHEDULE

Based on the RFP and experience on related projects we believe the design portion of the project can be effectively completed in an eighteen month (18) timeframe. We foresee no problems with meeting that timetable and have staff and resources available to meet project needs. We recommend reviewing the project schedule jointly, with the City at the kick off meeting.

Timeframes are provided as a guide and should not be viewed as absolute. We endeavor to tailor project schedules and deliverables to the needs of each project and encourage flexibility with an emphasis on focused efforts. We offer the following general timeline:

### Start-up

- **1 Month to complete**
- Kick off meeting within two weeks of notice to proceed
- Meeting with Township Staff

### Base Plan Development and Geotechnical Investigations

- **2 Months to complete**
- Site Survey and Base Plan Development
- Geotechnical Investigations

### Conceptual Design Verification

- **1 Months to complete**
- Review and Recommend Modifications to Conceptual Design
- Further Investigation of Bioretention Concept/Permanent Road Closure

### Development of Construction Documents

- **2 Months to complete**
- Development of Construction Documents

### **TOTAL ESTIMATED TIMELINE**

***Estimated time for design and documentation – 6 months***



### **RESUMES OF KEY PERSONNEL**

The following resumes provide an abbreviated summary of experience and relevant projects for our key personnel proposed to assist the Township.



**Education**

Lafayette College, BS Civil Engineering, 1977

**Professional Registrations/Affiliations**

Licensed Professional Engineer in New Jersey and Pennsylvania

Water Environment Federation (WEF)

Pennsylvania Water Environment Association (PWEA)

**Years in the Industry**

39

**Areas of Expertise**

Municipal Engineering, Stormwater Management, Construction Administration, Project Management

**Summary of Qualifications**

Mr. Benner, PA Public Works Division Director, has 39 years of experience in providing civil engineering services to municipal and private sector clients. He has acted as a project manager for the design and regulatory agency approval of large scale commercial and institutional land developments throughout eastern Pennsylvania. In addition, he has served as municipal engineer for communities in Bucks, Lehigh, and Montgomery counties in Pennsylvania providing design and construction administration services for infrastructure rehabilitation projects, administration of National Pollutant Discharge Elimination System (NPDES) MS-4 Program, Flood Plain Management, Grant Procurement Services, and implementation and interpretation of zoning and subdivision and land development ordinances. While serving as municipal engineer Mr. Benner has accumulated extensive knowledge and specialized experience in the review of complex Zoning matters and large scale Subdivision and Land Development applications.

**Key Projects**

**Engineer of Record**

**Upper Gwynedd Township, Montgomery County, PA.** Mr. Benner currently serves as Municipal Engineer to the Township of Upper Gwynedd which encompasses 8.1 sq. mi. and a population of 15,552. Mr. Benner's responsibilities include liaison to the Township Commissioners and Township staff, review of subdivision and land development applications, and preparation of construction drawings and documents, managing the public bid process, and management of construction administration services. In addition, he currently manages the National Pollutant Discharge Elimination System (NPDES) MS-4 program for the Township which includes two TMDL watersheds.

**Upper Merion Township, Montgomery County, PA.** Mr. Benner currently serves as civil project engineer to the Township of Upper Merion which encompasses 16.8 sq. mi. and a population of 27,780. Mr. Benner's responsibilities include design and preparation of construction drawings and documents, managing the public bid process, and management of construction administration services. In addition, he currently manages the National Pollutant Discharge Elimination System (NPDES) MS-4 program for the Township. In addition, Mr. Benner provided review of subdivision and land development applications as Engineer of Record between 2000 and 2011.

**Plymouth Township, Montgomery County, PA.** Between 2010 and 2012, Mr. Benner served as engineer to Plymouth Township, Montgomery County, PA. Mr. Benner's responsibilities included liaison to the Township Planning Agency and Township Council, review of subdivision and land development applications, management of construction observation services, preparation of construction drawings, and management of public works projects. He also served as Client Manager and Principal in Charge for Wastewater and Transportation engineering and design services and Landscape Architecture services provided to the Township by the firm.



**Salford Township, Montgomery County, PA.** Mr. Benner served as engineer to Salford Township, Montgomery County, PA. Mr. Benner's responsibilities included acting as liaison to the Township Planning Commission and Board of Supervisors, review of subdivision and land development applications, management of construction observation services, preparation of construction drawings, and management of public works projects.

**Towamencin Township, Montgomery County, PA.** Between 1996 and 2012, Mr. Benner served as engineer of Towamencin Township, which encompasses a 9.7 square mile area and a population of 17,597. Mr. Benner's responsibilities included liaison to the Township Planning Commission, and Board of Supervisions, review of subdivision and land development applications, management of construction observation services, and preparation of construction drawings and management of public works projects.

**Upper Milford Township, Lehigh County, PA.** Mr. Benner served as Engineer of Record with responsibilities that included liaison to Township Planning Commission and Board of Supervisors, review of subdivision and land development applications, management of construction observation services, preparation of construction drawings, and management of public works projects. He also served as Principal-in-Charge for design and construction administration of two storm drainage improvement projects; two street reconstruction projects; and two culvert replacement projects.

**Perkasie Borough, Bucks County, PA.** Mr. Benner served as Engineer of Record from 1992-2003 with responsibilities that included review of subdivision and land development applications, management of construction observation services, preparation of construction drawings, and management of public works projects. He also served as Project Manager for design and construction various Borough capital improvement projects.

**Upper Merion Township Drainage Improvements (2013/2014).** This project involves 3 different locations which existing drainage problems. These project areas are very complicated due to their locations in private residential yards (decks, pools, fences, landscaping, etc.). The one location requires slip-lining 300 feet of existing CMP. Assisted with the coordination with the residential property owners at all 3 locations via meetings and periodic notices and status updates. Prepared and obtained necessary easements for access, construction and maintenance. Prepared plans and specifications. Provided bid services.

**Upper Merion Township Road Improvement Program, King of Prussia, Montgomery County, PA.** Project Manager responsible for design/design oversight for mill and overlay of 33 residential and commercial streets consisting of 12 miles of residential and commercial streets as well as the construction of 105 ADA sidewalk ramps. Project encompassed full depth road reconstruction including, new curbs, sidewalks, drainage improvements, utility relocations, and landscaping/restoration. Responsibilities also included preparation of NPDES permit package, pavement evaluation and design, complete bid package, project specifications, estimates, bid administration, contractor selection and investigations, construction oversight, construction site engineering, and problem resolution.

**Fischer's Park Pervious Paving Parking Lot, Towamencin Township, Montgomery County, PA.** Principal-in-Charge for the design, bid administration, construction management, construction inspection and grant management services for the construction of a 35,910 square foot pervious parking lot with an underground infiltration bed and bio-retention islands at Fischer's Park, a community recreation facility. Designed and constructed in accordance with Pennsylvania Stormwater Best Management Practices Manual guidelines, this project stores an estimated 9170 cubic feet of stormwater and treats an estimated 85% of total suspended solids, 85% of phosphorous, and 30% of nitrates from stormwater runoff discharging to Towamencin Creek. This green project was funded in its entirety with PENNVEST grant funding obtained and administered by T&M staff.

**Skippack Watershed Basin Retrofits, Upper Gwynedd, Montgomery County, PA.** Principal-in-Charge for the retrofit of two municipally owned detention basins into water quality basins to help the Township meet TMDL goals. The stormwater BMP retrofit were selected and designed by T&M for their ability to reduce sediment load to the Skippack watershed. T&M provided grant writing, design, construction inspection and benefit validation for the project.

**Joel and Garrison Drainage Project, Upper Merion Township, Montgomery County, PA.** Project Manager for design and construction management services for removal of three sections of 60-inch pipe and resetting the pipe, constructing an endwall with a stone face façade, and installing rip-rap in the stream channel.



**Pugh Road Drainage Project, Upper Merion Township, Montgomery County, PA.** Project Manger for design and construction management services for construction of a 1,450 LF of new storm piping and new inlets along General Washington and Pugh Roads. Project also consisted of design of an underground stormwater detention basin and extensive roadway repair.

**Independence Court, Upper Merion Township, Montgomery County, PA.** Project Manager for design and construction management services for Independence Road and Town Center Road. Work for Independence Road consisted of installation of approximately 545 LF feet of 15-inch and 18-inch smooth lined corrugated polyethylene pipe (SLCPP) including junction and inlet structures, approximately 420 LF of curb removal and replacement, pavement patching, and lawn restoration along Independence Road from Prince Frederick Street to Hillside Road. Town Center Road improvements consisted of installation of approximately 32 LF of 15-inch SLCPP storm sewer and approximately 160 LF of 6-inch SLCPP underdrain, including an inlet structure, approximately 30 LF of curb removal and replacement, pavement patching, and lawn restoration along Town Center Road from Prince Frederick Street to Tanglewood Lane.

**Radnor Hill Culvert, Upper Merion Township, Montgomery County, PA.** Project Manager for design and construction management services for a 40-inch by 65-inch cmp culvert, which was deteriorated and undersized. Work consisted of designing a supplemental bypass pipe system and stabilization of the culvert utilizing a sliplining and grouting technique. Project included preparation of construction drawings, contract bid documents, and permitting.

**Kings Highway Culvert, Upper Milford, Lehigh County, PA.** Project Manager for design and construction management services for a 48-inch by 60-inch arch culvert designed to safely pass the full 25-year storm. Project consisted of surveying to develop topography in the vicinity of the culvert, hydrologic and hydraulic calculations to size the culvert, permitting, and developing design plans and specifications for bidding and construction.

**Shimerville Road Vertical Realignment, Upper Milford Township, Lehigh County, PA.** Project Manager for design and construction management services for reconstruction of 1,000 feet of roadway involving pavement and earth removals, swale shaping, storm sewer installations, subgrade repair, paving, striping, and sign erection. Included preparation of construction drawings, preparation and administration of bidding documents, review of contractor qualifications, review of payment request, preparation of easement descriptions and negotiations with residents to obtain right-of-way.

**Skytop Drive Reconstruction, Upper Milford Township, Lehigh County, PA.** Project Manager for design and construction management services for reconstruction of 400 feet of roadway involving pavement and earth removals, swale shaping, storm sewer installations, subgrade repair, paving, striping, and sign erection. Work included preparation of construction drawings including local detour plan, preparation and administration of bidding documents, review of contractor qualifications, and review of payment request. Work also included preparation of easement descriptions and negotiations with private residents to obtain additional right-of-way.

**Blooming Glen Road Reconstruction, Perkasio Borough, Bucks County, PA.** Project Manager for design and construction management services for reconstruction of 2000 LF of roadway involving pavement and earth removals, gabion slope protection, curb construction, storm sewer installations, subgrade repair, paving, striping, and sign erection. Work included preparation of construction drawings, preparation and administration of bidding documents, review of contractor qualifications, and review of payment requests. Work also included preparation of easement descriptions and negotiations with residents to obtain additional rights-of-way. Project required extensive coordination with local water and regional gas utilities replacing and constructing new distribution lines.

**East/West Broad Street Reconstruction, Quakertown Borough, Bucks County, PA.** Project Manager for the reconstruction of 2 miles for a major north and south state highway through the Borough requiring PADOT permits and coordination with PADOT officials during construction. The total project cost exceeded \$1,200,000 and included upgrade and replacement of sanitary sewer, gas, and water mains as well as reconstruction of the existing cartway. Work included preparation of construction drawings, preparation and administration of bidding documents, review of contractor qualifications, and review of payment request. The project required a phased detour plan and extensive coordination with local business owners to insure access was maintained to their properties during construction.

# Richard YOUNG, PE

Principal Engineer



## Education

Lehigh County  
Vocational/Technical  
School, Architectural  
Drafting, Civil Technology,  
1973

Lehigh County Community  
College: Surveying,  
Materials of Construction  
Northampton Area County  
Community College

## Professional Registrations/ Affiliations

Professional Engineer in  
Pennsylvania & Maryland  
PENNDOT Certified Bridge  
Safety Inspector – 2002  
Certificate of Completion –  
Traffic Engineering &  
Operations – University of  
Maryland/CITE

Pennsylvania Society of  
Land Surveyors

American Society of  
Highway Engineers

American Society of Civil  
Engineers

Institute of Transportation  
Engineers

American Public Works  
Association

Lehigh County Solid Waste  
Advisory Committee  
Member

## Years in the Industry

42

## Areas of Expertise

Civil Engineering, Municipal  
Engineering

## Summary of Qualifications

Mr. Young is a Principal Engineer with over 40 years of experience in Civil/Municipal Engineering. Prior to joining T&M in 2015, he served as the Director of Public Works for the County of Northampton in Pennsylvania. He provided oversight of the Division of Building Operation & Maintenance, bridge maintenance, and parks and recreation. In this position, he was responsible for 95 employees, a \$10M operating budget, and a \$12.3M Capital Improvement Plan. He also served as the County's representative on the Coordinating Committee of the Lehigh Valley Transportation Study.

For more than 10 years, Mr. Young held a variety of engineering positions in the City of Allentown including City Engineer and Director of Public Works. He was responsible for oversight of the Bureaus of Engineering, Building Maintenance, Streets, Recycling, Water Resources, Traffic, Planning and Control, 244 employees, a \$62.7M operating budget, and a \$165M Capital Improvement Plan.

His roadway experience includes horizontal and vertical design; storm drainage design; geometric design of intersections; preparation of specifications and bid documents; pavement marking and signing plans; and the review of highway occupancy permit plans for the Pennsylvania Department of Transportation, District 5-0.

## Key Projects

**Pavement Marking, Signing and Sign Lighting Design for a New Interchange, PENNDOT, District 6-0, Philadelphia, PA.** Project Engineer for the design of the pavement markings, signing and sign lighting for a new interchange from I-95 to the Philadelphia International Airport. This project consisted of all pavement marking, signing and signing lighting (including power supply) on the main line, ramps, and adjacent streets.

**Pavement Marking, Signing, and Sign Lighting Design for the New Jersey approach to the Walt Whitman Bridge, Delaware River Post Authority, Camden, NJ.** Project Engineer for the design of the pavement marking, signing, and sign lighting for reconstruction of the New Jersey approach to the Walt Whitman Bridge. This project consisted of all pavement marking, signing, and signing lighting (including power supply) on the main line, ramps, and adjacent streets.

**15th Street Bridge Replacement, City of Allentown, PA.** Owner's Project Manager/ Representative for the replacement of the 15<sup>th</sup> Street Bridge over the Little Lehigh and over Martin Luther King, Jr. Drive including improvements to the approaches, drainage and guiderail.

**American Parkway Project, City of Allentown, PA.** Owner's Project Manager/Representative for the connection of the existing section of the American Parkway on the West side of the Lehigh River with the existing section of the American Parkway on the East side of the river. The project involved the construction of a new four-lane, controlled access road from Ridge Ave. to the existing four-lane section constructed for the new Agere Headquarters. Included a new bridge across the Lehigh River, a new intersection at Front Street and new ramps to N. Dauphin Street in the City of Allentown.



**Water Main Replacements, City of Allentown, PA.** Management of the annual water main replacement projects. Projects consisted of replacing approximately one to two miles of water line each year based on age and/or break history.

**Design of Safety Improvements to Hanover Avenue, City of Allentown, PA.** Project Manager for a concrete island, lane width reduction, improved visibility of cross walks, and improved signing along Hanover Avenue from Irving Street to Club Avenue.

**Replacement of the Union Street Bridge, City of Allentown, PA.** Owner's Project Manager/Representative for the replacement of the Union Street Bridge over Cedar Creek.

**Design of Intersection Improvements at 25<sup>TH</sup> Street and William Penn Highway, Palmer Township, PA.** Project Engineer for improvements to the intersection of 25<sup>TH</sup> Street and William Penn Highway in Palmer Township for a new Lowe's Home Improvement Center and several other commercial buildings.

**Street Program, City of Allentown, PA.** Management of the annual street program. These projects consisted of reconstruction and/or overlaying of 2-3 miles of street line each year based on age and/or condition.

**Union Bridge Replacement, City of Allentown, PA.** Owner's Project Manager/Representative for the replacement of the Union Street Bridge over the Cedar Creek including improvements to the approaches.

**Ott Street Bridge Superstructure Replacement, City of Allentown, PA.** Owner's Project Manager/Representative for the replacement of the superstructure on the Ott Street Bridge over the Cedar Creek including improvements to the approaches.

# Zachary RANSTEAD, PE, LEED-AP

Supervising Engineer



## Education

University of Mississippi, BS  
Civil Engineering, 1998

## Professional Registrations/ Affiliations

Licensed Professional  
Engineer in Pennsylvania

LEED Accredited  
Professional

## Years in the Industry

18

## Areas of Expertise

Civil Engineering,  
Stormwater and Erosion  
Control BMP Design and  
Permitting, Project  
Management

## Summary of Qualifications

Mr. Ranstead is a Supervising Engineer with 18 years of experience in Civil Engineering. The majority of his work involves the design and management of residential, commercial, industrial, and institutional projects with an emphasis on stormwater, flood study, erosion control, and BMP designs. Mr. Ranstead has developed new PADEP-approved stormwater volume management credits achieved through the design of baseflow replication and evapotranspiration facilities applicable to sites with infiltration limitations. He has presented this cost-effective technology at training seminars for PADEP and County Conservation District staff as well as the engineering community throughout the Commonwealth. Mr. Ranstead is a member of the Stormwater Technical Advisory Workgroup, a consortium of private, public, government and academic entities that are working with PADEP to develop technical and policy revisions to the 2006 Stormwater BMP Manual.

## Key Projects

### **Promenade at Granite Run, Media, Delaware County PA.**

Project Engineer responsible for lead design including grading, drainage and NPDES permitting for an 85 acre existing mall redevelopment into a pedestrian friendly outdoor Promenade. Project challenges included underlying shallow granite and serpentine geology which limited earthmoving operations due to rock removal cost and prevented infiltration. Access to a number of existing site tenants was maintained through redevelopment which included reconstruction of the internal loop drive. Stormwater rate and volume credits were demonstrated through methods that followed PADEP draft white papers based on aforesaid baseflow replication presentations.

### **Perkiomen School New Residential Life Facilities, Pennsburg, Montgomery County PA.**

Project Manager for cluster dormitories project. T&M was selected for the project due to requirement for high level of site design coordination with landscape architecture group. T&M provided a harmony between site layout, planting, lighting, hardscape and streetscape designs. The project area had stormwater management limitations due to shallow bedrock. A design was provided whereby an underground detention facility slowly released runoff to a raingarden at a rate that the underlying soil could infiltrate.

### **Phoenixville Area School District New Early Learning Center, Phoenixville, Chester County, PA.**

Project Engineer responsible for grading, drainage and NPDES permitting for 106,000 sf new Early Learning Center with extensive athletic fields and external roadway improvements, geothermal well field and district storage building in a high-quality watershed. Pre-existing site was a golf course which required initial remediation primarily due to pesticide based arsenic contamination. Extensive stormwater infiltration testing was directed in order to support the design. Only upper portions of the site were suitable for infiltration requiring capture of runoff from offsite as insufficient volume would be generated from on-site. A riparian stream buffer warranted an outfall stability solution. A new zero-impact solution was utilized, acknowledged by PADEP as not warranting any permitting whatsoever. Otherwise, a conventional armored channel would have required a Joint 105 permit.



**Canal Crossing Redevelopment Area, Jersey City, NJ** Designed stormwater conveyance management system for a 111-acre urban redevelopment project. Project challenges included conflict avoidance with existing and proposed utilities on a very flat site, distributed underground detention facilities for the 42 blocks associated with the project, outfall into an existing stormwater basin and piping system that was below sea level and tidally influenced. It was necessary to prepare a dynamic model with the Autodesk SSA (Storm and Sanitary Analysis) program to demonstrate stormwater management system function when the peak of the design storm event coincided with high tide.

**Pineville South Brunswick Township, Middlesex County, NJ** Project manager for expansion of existing shopping center involving a 69,000 sf supermarket and McDonalds pad site. Site improvements required HEC-RAS analysis of existing on-site stream and NJDEP FHA approval. Site area stormwater management was addressed via an underground detention system which discharged into a constructed wetland which in turn discharged into a basin for the original shopping center retrofit as a constructed wetland to allow compliance with current requirements.

**PWD Green Stormwater Infrastructure, Philadelphia, PA.** Project Engineer providing Stormwater Design Services for Philadelphia Water Department's Green Stormwater Infrastructure project to incorporate green infrastructure techniques into a water and sewer reconstruction job. Porous pavement was determined to be the most appropriate stormwater management technique for this project; 16,700 square feet of porous pavement in all. Collaborated closely with PWD's Management, Design Branch, Green Stormwater Infrastructure Design Group, affected utilities as well as the City's Streets Department to implement project on schedule and within budget.

**PWD Stormwater Management Incentive Program (SMIP), Philadelphia, PA.** Project Engineer providing Stormwater Design Services to the design and coordination required for Cardone Industries' participation in the Philadelphia Water Department's SMIP program involving a stormwater retrofit project on a 100-acre industrial site. Design included an above ground infiltration basin, two underground stone detention basins, an above ground detention basin and improvements to an existing pond for a total of almost 356,000 cubic feet of storage. A pumping station was designed to convey stormwater runoff from the large above ground basin to the underground detention basins. Coordinated closely with the PA DEP, as this was the first project of its kind for PWD.

**Elwyn 112-Unit Townhome Development, Middletown Township, Delaware County, PA.** Served client as special technical sub-consultant to oversee design and Individual NPDES permitting of stormwater management facilities by other global engineering firm, for project at an approval impasse. The site, located in a high quality watershed, exhibited unique hydrology with severe infiltration limitations. The plans and reports were modified to incorporate design methodologies for baseflow replication, spray irrigation evapotranspiration and newly created infiltration BMP facilities. The design was accepted by PADEP under PA Code 25 Environmental Protection, Chapter 102 as an approved alternative to Control Guideline 1, which protects surface waters as well as or better than designs that mitigate runoff increases through infiltration alone. The development yield and project schedule were both maintained as a result.

**Barrett Elementary Center, Barrett Township, Monroe County, PA.** Project Manager for land development design and permitting of public-bid 33,000 SF addition to an existing elementary school with associated circulation modifications, two new emergency accesses, and existing building and infrastructure improvements. The design utilized best management practices including constructed wetlands and riparian restoration to provide required groundwater recharge due to poor infiltration rates and risk of groundwater contamination. Other efforts included restoration of a deteriorating stormwater basin and maintaining access to temporary modular classrooms.

**Administrative Offices of Pennsylvania Courts, Mechanicsburg, Cumberland County, PA.** Project Manager for land development design and permitting for renovation of an existing 57,000 SF office building with associated infrastructure improvements. Design incorporated new entrance features for main building, increased compliance with ADA accessibility requirements, revised layout of existing parking areas to create additional capacity while improving traffic circulation for deliveries, expanded landscaping and lighting, and improved stormwater conveyance and management.

**103 Lot Single-Family Residential Subdivision, Warrington, Bucks County, PA.** Project Manager for design, design oversight, and permitting of a 103-lot single family residential subdivision on 90 acres fronting a PennDOT road. Performed pre/post development HEC-RAS flood-study analyses on all channels (~3,500 feet) and designed and analyzed nine internal



stream crossings. Analyzed stormwater facility outflows for upstream, offsite developments and incorporated them into hydrologic models to ultimately optimize design of required stormwater facilities required and improved lot yield. Sanitary sewer extensions for adjoining developments were also incorporated into design.

**93 Lot Single Family Residential Subdivision, Warrington, Bucks County, PA.** Project Manager for design, design oversight, and permitting of 93 lot single family residential subdivision on 70 acres with frontage on a township road. Designed 2,000-foot offsite gravity sewer interceptor required to serve a portion of project. Stormwater designs included capturing and reducing runoff entering site from adjoining properties to increase development yield. A significant stream crossing design was required for one of two site entrances, requiring a HEC-RAS analysis.

**86-unit Carriage Home Cluster Development, West Whiteland Township, Chester County, PA** Project Engineer responsible for lead design including grading, drainage and NPDES permitting for an 86 unit residential townhome development with a 1,800 ft connector road between existing intersections on a former plant nursery site. The site's former operation required environmental remediation including special erosion control designs and sequencing. The underlying karst geology prevented any stormwater management via infiltration, requiring demonstration that the proposed design met volume and rate controls through alternative methods. A new no-impact Landscape Restoration BMP that converted existing lawn to meadow was developed with the Landscape Architecture group that was recognized by DEP as providing Post-Construction stormwater credits without additional erosion controls or review fees based on disturbance.

**108 Unit Townhome Development, Warrington Township, Bucks County, PA** Project Engineer responsible for lead design including grading, drainage and NPDES permitting for a 108 unit residential townhome development, expansion of an adjoining office-commercial parcel, a gas station parcel and 2,500 ft connector road. The project site was approved for land development 8 years prior without the loop road and a lesser density of development and demonstrated that infiltration was infeasible due to soil limitations. Extensive infiltration re-testing located soils viable for infiltration that were utilized to ultimately demonstrate NPDES compliance. The site discharged into an existing off-site regional basin that was expanded (allowing a greater on-site development density) and retrofitted to maximize water quality.

**Bella Vista Golf Course, New Hanover Township, Montgomery County, PA.** Project Engineer for land development design and permitting of a 215 residential unit, 18-hole golf course community on 200 acres. Primary stormwater design incorporated a variety of naturalized detention basins and wet ponds. Performed HEC-RAS analyses on approximately 1,500 feet of onsite streams in addition to a 1,800-foot section of FEMA studied Swamp Creek. Designed erosion controls in phases for a total of 150 disturbed acres. Coordinated with PHMC to incorporate existing historic structures into community design, including a large stone barn renovated as the golf club house.

**Buehrer Tract 17-Lot Residential Subdivision, Richland Township, Bucks County, PA.** Project Manager for design, design oversight, and permitting of a 17-lot single family cluster residential subdivision on a 46 acre site. Layout was significantly influenced by a public roadway bisecting site. Designed recreational amenities including a walking trail and tot-lot in open space areas. Designed large wet pond to mitigate development runoff and help alleviate existing roadway drainage issues.

**McGinley Shopping Center, Skippack, Montgomery County, PA.** Project Manager for design and permitting for an 180,000 SF village commercial shopping center, including a proposed anchor supermarket on a 34-acre site. Design required in-depth coordination with landscape architect to engineer site layout and streetscape corridor along Route 73, extending the character of Skippack Village. The center's overall design required a conditional use approval and zoning amendments. Extensive coordination was required with traffic engineer for driveway siting and design and improvements to Route 73 intersections with Route 113 and Cressman Road. Designed building pad sites to tenant's corporate requirements. Stormwater management included a large retention pond, water quality basins, and numerous traffic-island BMP facilities. A HEC-RAS analysis was required for an internal stream crossing.

# Gregory DUNCAN, PE, LEED-AP

Supervising Engineer



## Education

North Carolina State University, BS, Biological Engineering, 2002  
North Carolina State University, BS, Environmental Sciences – Watershed Hydrology, 2000

## Professional Registrations/ Affiliations

Licensed Professional Engineer In Pennsylvania  
LEED Accredited Professional (LEED-AP)

## Years in the Industry

13

## Areas of Expertise

Engineering, Green Infrastructure, TMDL Planning, Stormwater & Drainage Systems, Hydrology & Hydraulics Engineering, Environmental Engineering, GIS

## Individual Honors

PWEA - 2015 Green Infrastructure - Expert Panel  
2012 Ben Franklin Innovation Award (Finalist)

## Project Awards

2014 LVPC Environmental/Green Infrastructure Award – Honoree (West End Theatre District)  
2014 LVPC Transportation Award – Honoree (West End Theatre District)  
2014 American Planning Association Award (Great Places in Pennsylvania)

## Summary of Qualifications

Mr. Duncan is a Supervising Engineer with over 13 years of experience in civil and environmental engineering. He has had the unique opportunity to work with biological engineering research, software development, as well as environmental and municipal consulting on domestic and international projects. His experience includes design of stormwater and drainage systems, hydrology and hydraulics engineering, environmental engineering, and potable water distribution design.

## Key Projects

**Washington Street Streetscape Design Program, City of Hoboken, NJ.** A comprehensive update of one of the nation's most utilized pedestrian corridors, responsible as a task leader for design and implementation of drainage improvements and green infrastructure design as part of a complete street program. Program includes, design and development of construction plans for a collection of stormwater green infrastructure BMPs, including: rain gardens, porous surfaces, bio-swales and continuous tree trenches. Work is on-going and is expected to be complete in 2016.

**Green Infrastructure Strategic Implementation Plan - Livingston Sewershed, City of Allentown, Lehigh County, PA.** Responsible as program manager for the development of a strategic plan effort for the Livingston Sewershed. As a continuation of flood modeling work performed in 2014, T&M is currently contracted with the City of Allentown to provide planning and grantsmanship services to the City. With the modeling framework already in place the information of the previous study is currently being leveraged to develop a strategic implementation plan for one of the City's most acutely effected flood zones. Currently there are twelve individual projects that have been identified for construction. T&M is currently assisting the City with development of a funding strategy for this program.

**TMDL (Total Maximum Daily Load) Plan Development, Upper Gwynedd Township, Montgomery County, PA.** Program Engineer responsible for developing a 20-year plan and comprehensive strategy for compliance with a new Notice of Intent (NOI) required for the community's existing MS4 program. As part of this effort, a TMDL plan was developed to quantify an overall waste load allocation (WLA) attributed to the Township as a municipality (public) entity. After the waste load allocation for the community was determined, provided a summary of key opportunities through the development (and retrofit) of stormwater facilities to move the community towards compliance with their pollution reduction goals. Identified grant funding opportunities for the Township to assist with the offset of direct expenses associated with compliance of these new regulations.

**Media Borough Municipal-Wide Flooding and Drainage Study, Borough of Media, PA.** Responsible as project manager for a comprehensive borough-wide analysis of an aging drainage collection system, including, data gathering and modeling (InfoWorks) of the existing system as well as presentation of opportunities to capture and defray rainfall runoff inputs from the system through a series of green infrastructure opportunities. Program includes, design and development of construction plans for a collection system capacity improvements as well as stormwater green infrastructure BMPs, including: rain gardens, bio-swales and continuous tree trenches. Work is on-going and is expected to be complete in 2016.



**First Avenue Streetscape Design Program, Contract B, City of Hoboken, NJ.** Responsible as a task leader for design and implementation of green infrastructure as part of a complete street design program. Program includes, design and development of construction plans for a collection of stormwater green infrastructure BMPs, including: rain gardens, bio-swales and continuous tree trenches.

**Stefko Boulevard Drainage Corridor Repair and Green Infrastructure Evaluation, City of Bethlehem, Northampton County, PA.** Mr. Duncan assisted with an application for funding under PA DEP's Growing Greener Fund from which, the City was successful in obtaining funding. Currently, he is Program Engineer, this project will involve the evaluation of green infrastructure options to help reduce the magnitude of flooding to the Monocacy Creek as well as developing plans to repair of one the City's most vital drainage systems.

**Emergency Flooding Analysis of Allentown West End Theatre District, City of Allentown, Lehigh County, PA.** Based on its expertise, T&M was selected as a special consultant, to provide evaluation, modeling and alternative analyses to assist the City with finding an optimal solution to these issues. As Program Engineer, Mr. Duncan converted data from the City's GIS clearinghouse to efficiently develop a large-scale model of one of Allentown's sewer tunnels as well as all contributing sub-networks (over 1,200 inlets). A comprehensive evaluation of options are currently being evaluated in order to reduce the frequency of flooding in this part of the City. Options being considered by the City include: regional stormwater basin retrofits, additional capacity lines and green infrastructure.

**Allentown West End Theatre District Streetscape, City of Allentown, PA.** Project Manager and designer for a multi-award winning streetscape improvements program including: decorative sidewalks, curbing, crosswalks, curb ramps, green infrastructure box planters and partial road reconstruction for the West End Theater District. The project also included the design of a decorative brick and iron fence surrounding the Allentown Fairgrounds. Responsibilities also included oversight of bid phase, construction management and construction inspection services.

**NJDOT 3-Year Task Order Contract for Hydrologic and Hydraulic Services (Task 8).** H&H Project Engineer for this task order, responsible for the study and design of two replacement bridge structures along Game Creek. Since the watercourse is not State-studied, extensive watershed models (PondPack) were prepared to determine design flows. The hydrologic models included numerous interconnected ponding areas and associated culvert structures in the upstream watershed. HEC-RAS models were prepared to evaluate the replacement structures, as well as to perform scour analyses in accordance with HEC-18 procedures. Also prepared Stream Encroachment documents for this project.

**Route 94 Drainage Improvements, Vernon, Sussex County, NJ.** Performed hydrological and hydraulic analysis of a deficient culvert structure and recommended the dimensioning of the replacement. Additionally, was responsible for the preliminary design of a storm sewer system to service this section of Route 94.

**Route 206 Roadway Improvements, Byrum, Sussex County NJ.** As design engineer for this project, responsible for assessing all possible impacts for the new design of the roadway, including applicability of C1 Buffers and Highlands Preservation Areas as well as design of stormwater facilities for the site.

**Route 35 Pavement and Drainage Improvements, Mile Post 4-9, Ocean County, NJ.** Carried out the preliminary design of drainage and water quality facilities for over ten miles of roadway and 30 drainage outfalls for this Final Scope Development Project. Work involved the evaluation of the existing stormwater collection systems using HEC-22 methodology; hydraulic modeling accounting for tidal backwater controls; design of new collection facilities as well as water quality controls; and the evaluation of tidal backflow prevention devices. Designed innovative measures to reduce outfall sedimentation, and investigated various means of improving water quality for runoff entering the stagnant lagoon areas. Design storm sewer collection systems.

**Route 206/Arreton Road, Princeton, Mercer County, NJ.** Responsible for preparing a context sensitive design that will resolve drainage and roadway issues, while preserving the aesthetic signature of the area. Responsibilities included hydrology and design of a storm sewer serving Route 206. Additionally, bio-technical stabilization techniques were proposed to meet the desired design considerations.



**Lower Mt Bethel Welcome Center & Recreational Complex in Lower Mt. Bethel Township, PA.** As primary Site Engineer, designed layout, procured permits, drafted construction documents and conducted inspection of the visitor center and 3.75 miles of trail, park and ride facilities. Environmentally sensitive design incorporated bio-retention cells, stormwater wetlands, infiltration trenches, level spreaders, roof gardens, and photo-voltaic panels.

**Furnace Hill Culvert Replacement Project in Upper Milford Township, PA.** As Project Manager and Design Engineer, conducted a hydrologic and hydraulic analysis to determine a suitable replacement culvert configuration that would pass the 25-year event without flooding the road. Drafted plans, specifications and attained a required Chapter 105 Water Obstruction & Encroachment General Permit (GP-7).

### Publications and Presentation

Duncan, G.S., Furjanic, S.M. (2015). "Time to Plan for TMDLs". *PA Township News*, (August), pp. 38-42

Duncan, G.S., Furjanic, S.M. (2015). "Planning for TMDLs: A Look at What's Ahead for MS4/TMDL Watershed Communities in Pennsylvania". *Keystone Water Quality Manager*, (April, May, June), pp. 31-34

"**Water Informatics: State of the Arts in the Integration of Water Supply and Geographic Information Systems,**" International Society for Environmental Information Sciences, 2003

Presenter / American Water Resources Association of National Conference (AWRA), Philadelphia, PA, November 2002.



#### Education

Rutgers University College of Engineering, BS, Civil Engineering, 1996

University of Central Florida, Short Course on Timing Traffic Signals, 1999

CAIT-LTAP/NJDOT, Traffic Signal Design, September 2006

Georgia Tech, Signalized Intersections and Systems, Part I, March 2004

ASCE "Modern Roundabouts: The Geometric Aspects", 2014

ASCE "Modern Roundabouts: The Operational Aspects", 2014

#### Professional Registrations/Affiliations

Licensed Professional Engineer in New Jersey and New York

Certified Professional Traffic Operations Engineer

Member, Institute of Transportation Engineers

#### Years in the Industry

20

#### Areas of Expertise

Traffic/Transportation Engineering, Highway Design, Traffic Studies, Traffic Safety in Construction Work Zones, HCM Software & Various Modeling Software; i.e., SYNCHRO

#### Summary of Qualifications

Mr. Klein has 20 years of transportation experience and is responsible for supervising all types of traffic and transportation related projects. Mr. Klein has been primarily responsible for performing/coordinating traffic surveys, compiling raw data, projecting future traffic conditions, accident analyses, performing traffic signal warrant studies, performing capacity analyses, recommend traffic signal timing/phasing alternatives, computer simulations, pavement marking design, traffic signal equipment layout, detailed staging plans, MPT plans, and specifications and estimates for public bidding.

#### Key Projects

##### **Modifications/Upgrades to Various Traffic Signals, Central & Southern Middlesex County, NJ.**

Project Manager for complete traffic signal upgrades and ADA accommodations to eight signalized intersections. Project tasks included crash analyses, traffic counts, capacity analyses for current and future demand, traffic simulations, traffic signal warrant reports, utility engineering/coordination, traffic signal design, MPT and pedestrian plans, and significant ADA compliancy alternatives. Project also included bringing all intersection aspects into compliance with current MUTCD standards. To ensure ADA and MUTCD compliance, each curb ramp and pushbutton location was detailed at 1" = 5' and included proposed spot grades and identification of turning spaces and landings to demonstrate that location and requirements were met. Project was particularly challenging as it required coordination between multiple municipal jurisdictions and utility owners.

##### **Modifications/Upgrades to Three Wood Avenue Traffic Signals, Woodbridge Township, Middlesex County, NJ.**

Project Manager/Lead Traffic Engineer for complete traffic signal upgrades and ADA accommodations to three signalized intersections along the South Wood Avenue Corridor adjacent to the Garden State Parkway Interchange 131A. This traffic signal upgrade project required maintaining existing signals and pedestrian accommodations during construction and identified capacity and safety improvements that included revised lane configurations, extended turn lanes, signal optimization/coordination, and modified traffic signal phasing. Project tasks included crash analyses, traffic counts, capacity analyses for current and future demand, traffic simulations, traffic signal warrant reports, utility engineering/coordination, traffic signal design, MPT and pedestrian plans, and significant ADA compliancy alternatives. Tasks also included bringing all intersection aspects into compliance with current MUTCD standards. To ensure ADA and MUTCD compliance, each curb ramp and pushbutton location was detailed at 1" = 5' and included proposed spot grades and identification of turning spaces and landings to demonstrate that location and requirements were met. The HCS software and SYNCHRO were utilized to assist in the final design and optimization of the traffic signal systems.

**Centennial Avenue Corridor Intersection Improvements, Cranford, NJ.** Project Manager for Union County project for complete traffic signal upgrades and ADA accommodations to two existing signalized intersections and one new signalized intersection. This corridor improvement project required roadway widening to provide side-by-side left turn lanes to accommodate traffic demand and enhance safety. Project tasks included crash analyses, traffic counts, capacity analyses for current and future demand, traffic signal



optimization, traffic simulations, traffic signal warrant reports, utility engineering/coordination, roadway design, traffic signal design, MPT and pedestrian plans, and significant ADA compliancy alternatives. Tasks also included upgrading all intersection aspects to comply with current MUTCD standards

**NJ Route 46 & Fairfield Road Improvements, Fairfield Township, Essex County, NJ.** Lead Traffic Engineer for Essex County administered project. The project included the design of three traffic signals and acceleration/deceleration lanes along Route 46. Specific tasks associated with this project included traffic data gathering, reduction, future projections, and reporting. Detailed capacity analyses and operational alternatives were conducted to substantiate the proposed roadway improvements. The final design tasks included detailed staging, MPT, signing and striping plans, extensive access analyses and traffic signal design. Extensive use of MUTCD and TRB's Highway Capacity Manual (including LOS analysis using Synchro/SimTraffic and HCS) was required.

**Route 516 Bridge Replacement, Old Bridge, NJ.** Traffic Engineer for design of 44' pre-cast voided slab superstructure supported on reinforced concrete cap with steel sheet piling and cast-in-place pipe substructure. Responsible for detailed construction staging, MPT plans, detour plans and signing and striping.

**Ocean County/NJTA Improvements to GSP Interchange 67/Bay Avenue, Barnegat, NJ.** Lead Traffic Engineer for scoping and design of new GSP on- and off-ramps, major roadway widening and realignment, and new structures over the GSP. Project included five interconnected traffic signal installations/upgrades incorporating optimized traffic signal timing and coordination. Primarily responsible for performing and coordinating traffic surveys, projecting future traffic conditions, accident analyses, diversion studies, performing iterative capacity analyses, determining corridor capacity and number of lanes, traffic simulations, traffic signal design, staging plans, MPT plans, and alternative analyses. Extensive use of the MUTCD and TRB's Highway Capacity Manual (including LOS analysis and using HCS software). Traffic safety in construction zone principles were used and implemented during this project. The Highway Capacity Software (HCS) and SYNCHRO were utilized to assist in the final design of the traffic signals.

**River Road Improvements, Piscataway, NJ.** Lead Traffic Engineer for engineering design services for Middlesex County project that involved preliminary and final engineering for improvements to River Road (CR 622). Improvements included roadway widening, signal improvements, bikeway and sidewalk installation, and drainage improvements. River Road intersects Route 287 within the project limits, providing a full movement interchange via 2 signalized intersections. Design tasks included permitting, FHWA interagency coordination, future traffic projections and capacity improvement justification, traffic simulations, alternatives analysis, traffic signal design, staging plans, MPT plans, and signing & striping design. HCS and SYNCHRO/SimTraffic software was utilized to assess future traffic conditions within the project limits and document necessity of required mitigation measures. All traffic analyses were conducted in accordance with TRB's Highway Capacity Manual.

**PANYNJ Structural On-Call Agreement.** Evaluated staging options and coordinated MPT designs:

- Lincoln Tunnel Structural Rehabilitation and Repaving of the Helix.
- Goethals Bridge Modernization Program, Elizabeth, NJ and Staten Island, NY.
- George Washington Bridge Upper Deck Repairs over NJ Anchorage.
- George Washington Bridge Upper Level Spans over NJ Anchorage and Hudson Terrace Structure Deck Study.

**Developer-Funded NJ Route 53 Widening Project, Morris Plains Township, Morris County, NJ.** Traffic Engineer for roadway widening and traffic signal improvements related to a private pharmaceutical plant expansion. Responsible for performing/coordinates traffic surveys, Level of Service analyses, preparation of signing and striping plans, detailed staging plans, and Maintenance and Protection of Traffic (MPT) plans. Temporary traffic control design was performed at local intersections and on the highway implementing traffic safety in construction zone principles. Extensive use of the MUTCD and TRB's Highway Capacity Manual (including LOS analysis using SYNCHRO/SimTraffic and HCS software), were required. The Highway Capacity Software (HCS) and Synchro were utilized extensively to assist in the final design documents.



**Education**

Pennsylvania State University, BS Landscape Architecture, 1986

**Professional Registrations/  
Affiliations**

Licensed Landscape Architect in New Jersey, Pennsylvania, Connecticut, Maryland and Ohio

Registered Landscape Architect

Certified by the Council of Landscape Architectural Registration Boards

Certified Playground Safety Inspector

American Society of Landscape Architects

Member of the Bucks County Planning Commission

**Years in the Industry**

29

**Areas of Expertise**

Landscape Architecture,  
Land Planning,  
Environmental Design

**Summary of Qualifications**

Mr. Stone has 29 years of experience in award-winning Land Planning, Landscape Architecture, Recreation Planning, Environmental Design and Urban Design. He has a proven ability to manage multi-faceted, multi-consultant projects. He is responsible for project management, client development and design oversight and has provided his expertise to a diverse range of public and private client groups. Mr. Stone excels in facilitating the public process and leading stakeholder groups towards consensus. He routinely utilizes low impact design principles and views ecological stormwater design as the foundation for all projects. His talents are strengthened by his background and professional experience in planning design and construction administration. Mr. Stone has successfully written grant applications for various state and federally funded project types including RACP, DCED, DCNR, HUD and Montgomery County Open Space funding.

**Key Projects**

**Teaneck Road Streetscape Project, Teaneck, NJ.** Project Manager to prepare concept design plans, construction plans, and specifications for a streetscape improvement project, approximately 4,500 feet in the main business corridor. The goal is to create a vibrant and pedestrian friendly streetscape that would enhance commercial viability and beautify the pedestrian realm. Design will include ADA compliant handicap ramps, site furnishings and appurtenances, tree grates, landscaping and other amenities.

**Wood & Vine Street Connector, Borough of Lansdale, PA.** Provided project management for the streetscape improvement project that included pedestrian and vehicular improvements to enhance the safety, accessibility and appearance of Wood and Vine Street and surrounding community. The specific improvements included reconfiguration of curbs; decorative sidewalk paving; crosswalks; street and pedestrian lighting; street trees and landscaping.

**Croydon Route 13 Revitalization, Bristol Township, PA.** Provided project management for the streetscape improvement project. Final improvements included: Township Gateway including a welcome sign, lighting and landscaping near the Neshaminy Creek Bridge; pedestrian oriented lighting; street trees and site furnishings; new sidewalk and curb; new ADA accessible curb ramps. The sidewalk and drainage design will help to redefine the roadway edge on the north side fronting the businesses, providing better parking alignment and more room for pedestrian accommodations. There are also plans to utilize green stormwater management practices as part of the design, and to provide for bicycle use on Bristol Pike.

**Springfield Township TCDI Streetscape, Delaware County, PA.** This project was part of a Transportation and Community Development Initiative (TCDI) to incorporate and utilize the SEPTA Trolley 101 line as a means for invigorating and enhancing the local business and residential community. Provided project management and design oversight, led the public meeting process with the local steering committee. The project sought creative ways to deal with a shortage of commercial parking while enhancing and beautifying the shopping areas.



**York Road Streetscape Master Plan, Jenkintown Borough, PA.** Provided assistant project management and design oversight for the site design portion of this streetscape project. Oversaw the development of concept plans into construction documents.

**DREAM Park Wetlands Mitigation and Equestrian Trail Project, Gloucester County Park, Gloucester County, NJ.** Provided landscape architectural design services in association with the detailed wetlands mitigation plans for review by jurisdictional agencies including U.S. Army Corps of Engineers (USACE) and NJ Department of Environmental Protection (NJDEP) Land Use Regulation. The wetlands mitigation construction plans and specifications were for an approximately 22-acre portion of the Logan Equine Park, also known as Gloucester County Park, or DREAM Park.

**Pennsylvania Turnpike Slip Ramps to Street Road, Wetland Mitigation, Bensalem, PA.** Provided landscape architectural design services, project management and approval services for the wetland mitigation component of the site and worked closely with representatives from PADEP to develop and approve a final design concept for the nearly 2 acre wetland mitigation site associated with the Slip Ramps project.

**Majestic Bethlehem Center, Bethlehem, PA.** Provided landscape architectural design oversight services in preparation and approval of reforestation and meadow establishment plans for nearly 50 acres of the 450-acre site. The meadow and reforestation plans sought to achieve a balance between ecological needs for remediation, aesthetics and a long-term sustainable maintenance strategy that minimized the dependence on lawns for groundcover. Plans were reviewed and approved by the PADEP and received high marks for creativity and plant selection.

**Leedom Street & Greenwood Avenue Parking Facility, Jenkintown Borough, PA.** Provided landscape architectural design services for the development of parking lot improvements to address parking shortages in the business district. Utilizing a BMP approach, rain gardens were designed that aided with water quality, stormwater runoff, and the landscape experience in the parking facility.

**Aberdeen Proving Grounds, Harford County, MD.** Provided landscape architectural design services for building and site improvements associated with the construction of a three story office building and parking facility.

**Reshetar Homes, Basin Re-vegetation Plan, Wrightstown Township, PA.** Provided design and technical assistance to Reshetar Homes to determine the best possible method for establishing vegetative cover in a wet bottom at one of their residential developments. Utilizing a BMP approach and an understanding of the basin's condition, recommended a methodology and species selection to fit the local micro-climate and desired BMP result.



advantage engineers

## **Brandon Buchanan**

Technical Manager

### **PROFESSIONAL REGISTRATIONS**

- ACI Concrete Field Testing Technician Grade 1
- Certified Floor Flatness Technician
- Shell Safe Land Training
- NECEPT Concrete Technician
- NECEPT Asphalt Technician
- COMTRAIN Certified

### **SPECIAL TRAINING**

- RH testing
- Certified for Use of Nuclear Moisture-Density Equipment
- FL certified highway caisson inspections
- PENNDOT
- COMTRAIN, Authorized Climber and Rescuer
- Waterproofing Inspection Training

### **SUMMARY OF EXPERIENCE**

Mr. Buchanan, a Technical Manager, has 5 years of experience including project oversight of construction phase services. His responsibilities include technical and project management duties, staff training, report and proposal preparation as well as onsite construction observation and material testing services. Mr. Buchanan has extensive experience in a wide range of onsite completion of construction services for both public and private clients.

### **PROJECT EXPERIENCE**

**Exel Warehouse, PA** – Provided construction observation and material testing services during the construction phase of a 972,000 square foot warehouse, services included review of Structural Fill Placement, Utility Installation, Foundation and Bearing Capacity Review, Slab and Structural Concrete, Floor Flatness/Levelness Testing, Reinforcing Steel Review, and Review of Asphalt Paving, compaction grouting, sinkhole mitigation, as well as report preparation and weekly progress meetings.

**Lock Haven, Mount Holly Springs, Fairview, and Carlisle Waste Water Treatment Plants, PA** – Provided onsite construction observation and material testing services during construction phases of the new waste water treatment plants SBR pads and tanks. Scope of work included Steel Reinforcement review, Structural Concrete Testing and Sampling, Structural Fill Placement, as well as report preparation.

**Mountain Creek Distribution Center Carlisle, PA-** Provided construction observation and material testing services during construction phases of a new 700,000 square foot warehouse facility. Responsibilities included review and oversight of the placement of Structural Fill, Utility Installation, Floor Flatness and Levelness Testing, Foundation and Slab construction, Structural, concrete coring and Swiss hammer testing, as well as Laboratory Testing of construction materials to verify conformance with project specifications, including concrete, masonry and grout specimens.

## Brandon Buchanan



**Holiday Inn Express, PA** – Provided geotechnical engineering services during the construction phases of a 4 story hotel responsibilities included but not limited to review of Structural Fill Placement, Foundation and Bearing Capacity Review, Structural Concrete, Reinforcing Steel Review, Masonry Observation and Review of Asphalt Paving. As well as daily report preparation, and weekly progress meetings.

**First Quality Warehouse, PA** – Provided construction observation and material testing services during the construction phase of a 581,000 square foot warehouse Responsibilities included review of structural fill placement, Utility Installation, Foundation and Bearing Capacity Review, Slab and Structural Concrete, Floor Flatness/Levelness Testing, Reinforcing Steel Review, and Review of Asphalt Paving. As well report preparation and weekly progress meetings.

**Sprint and AT&T, PA, NJ, KY, OH, MD, and DE** – Provided Telecommunication services on existing Communication Towers, Roof Tops, and other miscellaneous structures. Responsibilities included Review and Audit of structural Tower Modifications, Tower Equipment/Antenna Modifications, Shelter and or Ground Equipment Inventory, as well as daily audit report preparation.

**Clarion Elizabeth Logistics Center Warehouses, Elizabeth, NJ** – Provided construction observation and material testing services during the construction phases of a 290,000 square foot ware house. Services included Slab and Structural Concrete, Reinforcing Steel Review, Floor Flatness/ Levelness Testing, as well as daily report preparation.

**Key Logistics Park, PA** – Provided construction observation and material testing services during the construction phase of a 1,325,870 square foot warehouse, services included review of Slab and Structural Concrete, Floor Flatness/Levelness Testing, Reinforcing Steel Review, and sinkhole mitigation as well as report preparation and weekly progress meetings.

**George School, Newtown, PA** – Provided onsite material testing during the construction phase of the addition to the George School. Responsibilities included Relative Humidity Testing and Monitoring, as well as Daily Report Preparation.

**Howard County, Columbia, MD-** Provided onsite material testing in the post construction phase of Howard Counties Fiber Optic lines. Responsibilities included Locating, Tracing, and Mapping of the previously installed fiber optic lines and manholes.

**Arcelor-Mittal, Steelton, PA-** Provided geotechnical engineering services during the construction phase of the addition to the Arcelor-Mittal Steel Mill. Responsibilities of construction observation and material testing services included Micro pile Drilling Review, Structural Concrete and Grout Testing/Sampling, Reinforcing Steel Review, Fill Placement, As well as daily report and log preparation.

**First Quality ASRS Warehouse, Lewistown, PA-** Provided geotechnical engineering and Assistant Project Management services during the construction phase of a 340,000 square foot Automated Storage and Retrieval System warehouse, Responsibilities included review of Structural Fill Placement and Removal, Utility Installation, Foundation and Bearing Capacity Review, Slab and Structural Concrete, Floor Flatness/Levelness Testing, Double Mat Slab Reinforcing Steel Review, Review of Asphalt Paving, As well report preparation and weekly progress meetings.

**Knoebels Amusement Park, Elysburg, PA-** Provided geotechnical engineering services during the construction phase of the new Impulse roller coaster, responsibilities included construction observation and material testing for the foundation of the coaster. Caisson Drilling Review, Structural Reinforcing Bar review, Slab and Structural Concrete testing and sampling, as well as daily logs and report preparation.

## Brandon Buchanan



**First Quality Warehouse, McElhattan, PA-** Assistant Project Manager who provided geotechnical engineering services during construction phases of a new warehouse facility. Responsibilities included review and oversight of the placement of Structural Fill, Utility Installation, Floor Flatness and Levelness Testing, Foundation and Slab construction, Structural Steel Erection, Installation of Paving Elements, and Laboratory Testing of construction materials to verify conformance with project specifications, including concrete, masonry and grout specimens.

**Glatfelter Paper Mill, Spring Grove, PA-** Provided geotechnical engineering services during the construction phase of the addition to the Glatfelter Paper Mill. Responsibilities of construction observation and material testing services included Micro pile Drilling Review, Structural Concrete and Grout Testing/Sampling, Reinforcing Steel Review, Fill Placement, As well as daily reports and logs.

**Valley View Retirement Community, Belleville, PA –** Provided Project Management, Construction Observation, and material testing services. Responsibilities included on-site Waterproofing Review, Placement of structural fill, utility installation, floor flatness and levelness testing, foundation and slab construction, installation of paving elements, and laboratory testing of construction materials to verify conformance with project specifications, including concrete, masonry and grout specimens. As well as daily report preparation and lab testing results.

**Creekvale RT 39, West Hanover, PA-** Provided PennDOT construction observation and material testing services during the construction phase of North and South lanes of RT 39. Responsibilities of construction observation and material testing services included; review of Asphalt paving, as well as daily reports and logs.

**PPL Brunner Island, Goldsboro, PA-** Provided geotechnical engineering services during the construction phase of the addition to the PPL Bruner Island power plant. Responsibilities of construction observation and material testing services included Micro pile Drilling Review, Structural Concrete and Grout Testing/Sampling, Reinforcing Steel Review, Fill Placement, As well as daily reports and logs.



advantage engineers

## Mark A. Giunta, P.E.

### EDUCATION

- B.S. – Civil Engineering, Virginia Polytechnic Institute and State University, 1999

### PROFESSIONAL REGISTRATIONS

- P.E. - Pennsylvania (PE073764)
- P.E. - Florida (61683)

### CERTIFICATIONS

- OSHA 40-Hr Hazwoper
- MSHA Surface Mine
- Troxler Certified
- PennDOT Certified Drilling Inspector - Level I

### PROFESSIONAL AFFILIATIONS

- American Society of Civil Engineers

### SUMMARY OF EXPERIENCE

Mr. Giunta has more than 15 years of practical field, laboratory and professional experience in geotechnical engineering. He has experience with projects such as high rise condominiums and office buildings, retail centers, DOT bridges, industrial projects, marine facilities, roadway projects, tunnels, and landfills. He has been responsible for all phases of geotechnical work including project management, coordination of various phases of projects, supervision of field, laboratory and engineering personnel, analysis, report preparation, consultation and construction monitoring.

#### Deep Foundations

Drilled Shafts  
Mini-Piles  
Driven Piles  
Drilled Piles  
Helical Piers

#### Shallow Foundations

Spread Footings  
Surcharge  
Soil Exchange  
Geopiers  
Compaction Grouting  
Vibro Compaction  
Soil Mixing  
Deep Dynamic Compaction

#### Retaining Walls

Sheetpile Walls  
Soldier Pile/lagging  
MSE Walls  
Tied-back Gunite Walls

#### Miscellaneous

Rockfalls

### PROJECTS

#### **Philadelphia Union Soccer Stadium; Chester, PA**

Resident Geotechnical Engineer during the installation of approximately 1900 timber piles. The stadium structure and its 18,500 seating capacity were estimated to produce maximum column loads on the order of 600 tons. Difficulties with pile installation due to dense sand and gravel and existing fill layers encountered sporadically throughout the site, required rapid engineering



## **Mark A. Giunta, P.E.**

decisions. These decisions affected an already stressed schedule and budget, requiring an accurate, cost effective and timely solution.

### **PS 331; Brooklyn, NY**

Project Manager for the geotechnical exploration for a five-level steel framed school with a footprint of 22,700 sf. An extensive field exploration consisting of test pits and test borings was conducted. The conditions consisted of urban fill followed by dense granular soils, and a relatively deep water table. We recommended the new structure be supported on spread footings.

### **Public Safety Training Center – Bucks County Community College; Bristol, PA**

Project Manager for the geotechnical exploration and foundation recommendations for a three-story concrete “Burn Building” with a footprint of 4,000 sf, and a one-story steel framed “Education Building” with a footprint of approximately 16,000 sf. An extensive field exploration consisting of test pits and test borings was conducted, and a geotechnical report of recommendations was prepared. Due to loose, unsuitable fill, a soils exchange was recommended. The new structures are designed to be supported on spread footings founded on newly placed fill. Infiltration testing for the design of the storm water management system was also conducted.

### **Victory Brewing; Downingtown, PA**

Project Manager for the geotechnical exploration and foundation design of an addition to an existing building space adjacent to the Victory Brewing facility. The addition consisted of installing twelve 150,000 lb brewing vats approximately 12.5 ft in diameter and about 40 feet high. The geotechnical exploration was performed with low overhead drilling equipment. The vats are supported by a steel frame and the frame supported by mini-piles. A karst geological formation underlying the site and relatively high loads required the use of a deep foundation consisting of mini-piles. The mini-piles were designed for 40 tons in compression and 20 tons in tension. We also provided oversight of the pile installation.

### **I-95 ITS - Section ITB; Philadelphia and Bucks Counties, PA**

Project Manager for the geotechnical exploration and design of 4 to 5 ft diameter caisson foundations for 19 proposed Dynamic Message Signs and CCTV Camera Modules along Interstate 95 in Philadelphia and Bucks Counties. The project is design-build and requires close coordination with the contractor and quick turn-around of submittals. Drilling coordination, laboratory work and design were done according to PENNDOT and AASHTO Standards.

### **Centocor – Photovoltaic System; Horsham, PA**

Project Manager for the geotechnical exploration and design of 3 ft diameter caissons for eight “solar trees.” The solar arrays were designed to resist a relatively high overturning moment. The geotechnical exploration was performed, foundations designed and caissons constructed in a short turn-around time to satisfy a fast tracked schedule.

### **Aqua America’s – Ingram’s Mill Water Treatment Plant – Photovoltaic System; West Chester, PA**

Project Manager for the geotechnical exploration and design of foundations for 212 photovoltaic arrays in a field of about 4 acres. The large number of foundation elements required installation to be done quickly and efficiently. Field evaluation of an impermeable storm water management facility berm and infiltration testing for the design of the storm water management system were also conducted.

### **FPL Outfall, Sunoco Refinery; Marcus Hook, PA**

Project Manager for the design and installation of driven pipe piles to support an outfall structure in the Delaware River. The soil conditions consisted of very soft river silts limiting the lateral capacity of the piles. An integral driving template/pile cap was used to reduce the underwater work required. There were strict time constraints due to the proximity of the construction to the oil freightliner’s offloading area in addition to environmental constraints regarding the disturbance to red bellied turtle habitat. The project is design-build so clear coordination between the contractor, owner, and governmental agencies was paramount.

### **Pennsylvania Welcome Center; Lower Chichester, PA**

Project Manager responsible for the exploration and geotechnical recommendations for a new 9,000 sf Welcome Center on Interstate 95 near the border of Delaware and Pennsylvania. Tasks included subsurface investigation, laboratory testing,



## **Mark A. Giunta, P.E.**

infiltration testing and geotechnical report of recommendations. The subsurface investigation consisted of excavating test pits, Dynamic Cone Penetration Tests in areas of difficult access, rock probes and SPT Borings.

### **American Revolution Center; Lower Providence Township, PA**

Project Manager responsible for the subsurface exploration and geotechnical recommendations for four new bridges; 2 pedestrian bridges and 2 vehicular bridges. The proposed bridges were pre-engineered and pre-fabricated, so the abutment foundations had geotechnical requirements which needed to be met. The soil conditions required the shallow foundation to be placed close to the water table, so dewatering recommendations were made accordingly.

### **Williamsburg Commons; King of Prussia, PA**

Project consisted of a group of 7 townhouse units that suddenly settled due to sinkhole activity. A geotechnical exploration was conducted and compaction grouting was recommended. We developed specifications and assisted with contractor evaluations. Approximately 380cy was injected in 90 locations.

### **Worthington; Malvern, PA**

Geotechnical exploration of a multi-million dollar mixed use development in Malvern, Pennsylvania. The development consisted of sixteen commercial/residential buildings in a town center, and two "Big Box" stores. Existing site conditions included soft residual soil over a highly active carbonate (limestone) bedrock formation. The reports included recommendations for deep foundations and shallow foundations depending on the building loads. The explorations were accomplished utilizing multiple geotechnical drilling and cone penetrometer truck mounted and ATV rigs.

### **Sam's Club; Bethlehem, PA**

Geotechnical exploration for new Sam's Club in Bethlehem, Pennsylvania. The site conditions required ground modification consisting of compaction grouting for support of the structure.

### **Whitehall Self-Storage; Whitehall, PA**

Geotechnical exploration for a self-storage facility in Whitehall, Pennsylvania. The subsurface conditions consisted of boulder fills situated above carbonate bedrock. The subsequent recommendations consisted of Dynamic Deep Compaction for the support of the units.

### **Target; Easton, PA**

Geotechnical Exploration and site seismic survey for a new Target store in Easton, Pennsylvania. CPT Exploration enabled the seismic site class to be improved to reduce costs in the structural design.

### **328 South Main Street; New Hope, PA**

Forensic evaluation for an office building which settled in New Hope, Pennsylvania. Remediation recommendations consisted of supporting the structure on helical piers.

### **Albright College Science Center; Reading, PA**

Geotechnical exploration for a 5-story science center at Albright College in Reading, Pennsylvania. Subsurface conditions with shallow water and weak soils dictated the need for caissons to support the structure.

### **Sunoco Pipeline SR2088; Williamsport, PA**

Geotechnical exploration for an existing high pressure gas pipeline in Williamsport, Pennsylvania. Exploration focused on settlements induced on the proposed pipeline due to surcharge from a new roadway to service the Williamsport Airport.

### **South Florida Water Management District, Stormwater Treatment Area 5; Everglades, FL**

Design of 14 miles of levee and several water control structures for a 350-acre parcel in the Florida Everglades designed to eliminate contaminants in stormwater.



## **Mark A. Giunta, P.E.**

### **High-Rise Condominiums; West Palm Beach to Miami, FL**

Completed approximately twenty high rise condominium projects from West Palm Beach to Miami, Florida from the proposal stage to the Construction Engineering Inspection stage. Augered Cast-in-Place piles were primarily used with capacities up to 1400 tons.

### **Bahamas Electric Company, Blue Hills Facility; New Providence, Bahamas**

Inspection of installation and pump testing oversight of four supply wells (~180 ft) and one injection well (~600 ft) with capacities up to 5200 GPM.

### **Emerald Bay, Rokers Point Marina; Exuma, Bahamas**

Geotechnical liaison for a tie-back shotcrete wall for a marina project. Following excavation of the marina, the sidewalls were shotcreted and tied-back with mechanical anchors. Proof testing was performed on anchors where installation was suspect.

### **HOVENSA Oil Refinery; St. Croix, USVI**

Design and installation inspection of large diameter Augered Cast-in-Place piles for support of a new coker unit. Compression, tension and lateral load tests were monitored and the data evaluated to determine the allowable load carrying capacity of an individual pile.

### **US Embassy; Kingston, Jamaica**

Geotechnical Exploration and preliminary design recommendations for a high security facility. Security walls and structures were designed for bomb blasts, etc.

### **14<sup>th</sup> Street Armory; New York, NY**

Resident Geotechnical Engineer for three high-rise buildings. Project responsibilities included installation monitoring and testing mini-piles and rock anchors, and inspecting the integrity of bedrock for the installation of footings. Additional tasks include making decisions regarding soil conditions and rock formations that were not anticipated. Rock anchors designed to resist uplift forces for a large in-ground pool were proof-tested.

### **Atlantic City/Brigantine Connector Tunnel Project; Atlantic City, NJ**

Field Engineer for a project consisting of 18 bridges and a 2500-foot "cut and cover" tunnel. Responsibilities included installing instrumentation, collecting and reducing field data. Movements of the tunnel walls and settlement of surcharge loads were analyzed and presented weekly in monitoring reports.

### **Metro North Railroad; Harlem to Poughkeepsie, NY**

Evaluated the rock cuts along the Hudson Line and made recommendations for scaling, draped mesh and rock bolting. Field responsibilities included observation of rock face mitigation efforts. Scaling was performed mechanically with heavy equipment and by hydro-fracturing methods. When scaling was ineffective, rock-bolting was performed using epoxy resin as the bonding agent. A similar epoxy system was used for anchoring the draped mesh.

### **Freshkills Landfill; Staten Island, NY**

Field Engineer at one of the largest landfills in the country. Responsibilities included collecting and presenting field data from more than 200 geotechnical instruments, such as piezometers and inclinometers, using radio transmitters throughout the 1200 acre site.

### **Route 3 Widening; Bedford, MA to Nashua, NH**

Site Safety Officer and Assistant Project Coordinator for widening a 23-mile stretch of highway with 42 bridge replacements, and numerous retaining walls for wetland preservation. Project responsibilities include subsurface soil investigation, conducting coordination efforts between state police and vehicular traffic, and training of new inspectors.



## **Landon Woodward, P.L.S.**

765 Tennis Ave.  
Ambler, PA 19002  
215-367-5261

### **Education**

B.S. – Electrical and Electronic Engineering,  
Montana State University, 1993

### **Professional Registrations**

P.L.S. – PA (#S11040787)  
DE (#SB-0000727)  
MD (#21554)  
WA (#37567) inactive

### **Professional Affiliations**

Pennsylvania Society of Land Surveyors (PSLS)  
Delaware Association of Surveyors (DAS)

### **Special Training**

DAS Conference Seminars, DAS Conference,  
2009, 2010, 2011  
MSS Conference Seminars, MSS Conference,  
2009  
PSLS Conference Seminars, PSLS Conference,  
2003, 2005, 2007, 2008, 2009, 2010,  
2012, 2013, 2014, 2015, 2016  
Easements and Right-of-way Seminar, 2005  
LSAW Conference Seminars, LSAW Conference,  
1998, 1999  
Boundary Evidence, University of Wyoming,  
1998  
Beginning Surveying course, University of  
Wyoming, 1996  
GPS Seminar, GPS World Conference, 1994

## **SUMMARY OF EXPERIENCE**

Mr. Woodward, owner of ASH Associates Inc., has over 21 years of field, technical and managerial experience involving all areas/phases of land surveying services, including: boundary retracement; horizontal and vertical control surveying; differential and trigonometric leveling; GPS surveying; topographic surveying; route surveying; construction stake-out; proposal writing; and invoicing. He has performed boundary analysis, plotted elevations and contours, profiles, cross-sections, and performed extensive earthwork and layout computations. He has conducted record research, coordinated horizontal and vertical control for aerial mapping including GPS calculations and reduction, and has prepared and supervised the preparation of boundary survey plans, topographic surveys, sub-division plans, right of way plans, site plans, and as-built plans. Mr. Woodward has a Bachelors degree in Electrical and Electronic Engineering which gives him a strong background for surveying and engineering disciplines. Mr. Woodward's diverse background in surveying includes projects ranging from boundary surveys along wilderness areas in Montana to high density development in Philadelphia, Pennsylvania.

## **PROJECT EXPERIENCE**

**Estate of Lydia Wright, East Nantmeal Township, Chester County, PA** – Project Manager who conducted a boundary and topographic survey of this 375 acre tract for a simple subdivision.

**Norristown Area School District- High School, Norristown, PA** – Project Manager who supervised a boundary and topographic survey of this high school complex. Detailed surveys were

## **Landon Woodward, P.L.S.**

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required near buildings to be renovated and additions to be designed. Aerial surveying services were sub-contracted and data used for an overall base plan of the property.

**Quaker Penn Park Boat Ramp, Falls, Bucks County, PA** – Survey Task Manager for the design of a new boating access area to the Delaware River in Falls Township. Located within the Penn Warner Club area of Falls Township, the existing Quaker Penn Park is adjacent to the historic Quaker Penn Manor (William Penn's Summer Residence) and will provide the necessary waterfront access for a municipal boat launch. Survey included existing site features, property boundaries, and final construction layout. Boat ramp is scheduled to open the summer of 2011.

**Philadelphia Housing Authority, Paschall Apartments, Philadelphia, Philadelphia County, PA** – Project Manager who supervised all aspects of this American Land Title Association (A.L.T.A.) and boundary/topographic survey of two large scale apartment sites. Provided client with base plans and CAD files for the proposed re-design/re-model of the 50 yr old apartment complexes owned by the Philadelphia housing authority.

**McCarthy Park, Whitemarsh Township, Montgomery County, PA** – Project Manager who supervised this Boundary and topographic survey of an approximately 20 Acre tract of land for future design of storm water management facilities. Managed field personnel and office personnel to provide base plans to engineering design group.

**Beechwood and Veterans Park Site Improvements, Middletown, Bucks County, PA** – Survey Task Manager who provided conceptual design of the park improvements for two parks in Middletown. This project consisted of the following improvements: large open playing Field area with a backstop, a walking path around and within the Parks, a new vehicular entry on West Maple Avenue with improved sight lines parking spaces, restroom / concession building, a play area including a playground structure and swings, associated storm water drainage facilities, trash collection enclosure, seeding of all disturbed areas, shade trees and landscaping.

**Gambrel Recreation Center Improvements, Philadelphia, Philadelphia County, PA** – Survey Task Manager who worked with the City of Philadelphia and the neighborhood groups to develop a new and expanded use area. Presently, this Recreation Center has one of the only synthetic turf fields in the City.

**Pleasant Hill Park, Philadelphia, Philadelphia County, PA** – Survey Task Manager worked with the City of Philadelphia Recreation and Capital Program Office to redesign the existing Pleasant Hill Park Fish Hatchery and Pond area. The project involves an evaluation of the existing conditions at the site including an assessment of the fish populations and status of the existing landscape.

**VA Medical Center, Philadelphia, PA** – Project Manager who supervised existing features and topographic surveys of two separate areas of the complex in support of design of a large scale back up generator system. Underground utilities were especially important and Mr. Woodward worked directly with an underground utility contractor to accurately locate underground utilities horizontally and vertically.

**INSURANCE LIMITS FOR PROFESSIONAL SERVICES**

Per the Authority's Request for Proposal, on the following pages, T&M has provided our most recent certified annual report, which includes balance sheets and profit-loss statements.



# CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)  
07/08/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Aon Risk Services Northeast, Inc. New York NY Office 199 Water Street New York NY 10038-3551 USA	<b>CONTACT NAME:</b> PHONE (A/C, No, Ext): (866) 283-7122      FAX (A/C, No.): (800) 363-0105		
	<b>E-MAIL ADDRESS:</b>		
<b>INSURED</b> T & M Associates 11 Tindall Road Middletown NJ 07748 USA	<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
	INSURER A: Lexington Insurance Company		19437
	INSURER B: Employers Insurance Company of Wausau		21458
	INSURER C: Liberty Mutual Fire Ins Co		23035
	INSURER D: National Surety Corporation		21881
	INSURER E: Travelers Property Cas Co of America		25674
INSURER F:			

**COVERAGES**      **CERTIFICATE NUMBER: 570058635950**      **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.      **Limits shown are as requested**

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
C	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC OTHER:			TBZZ11261331025	07/08/2015	07/08/2016	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$100,000 MED EXP (Any one person) \$5,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000
D	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS <input type="checkbox"/> Comprehensive Deduct <input type="checkbox"/> Collision Deduct			MZA 80313916	07/08/2015	07/08/2016	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) Comprehensive Deduct \$1,000
E	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$10,000			ZUP15P4058315NF	07/08/2015	07/08/2016	EACH OCCURRENCE \$10,000,000 AGGREGATE \$10,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	WCCZ11261331035	07/08/2015	07/08/2016	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE-EA EMPLOYEE \$1,000,000 E.L. DISEASE-POLICY LIMIT \$1,000,000
A	E&O-PL-Primary			031428317	04/26/2015	04/26/2016	Per Claim \$7,500,000 Aggregate \$7,500,000 Per Claim Deductible \$250,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
 Evidence of Insurance.

<b>CERTIFICATE HOLDER</b>  T & M Associates 11 Tindall Road Middletown NJ 07748 USA	<b>CANCELLATION</b>  SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE  <i>Aon Risk Services Northeast, Inc.</i>
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Holder Identifier :

Certificate No : 570058635950





# ADDITIONAL REMARKS SCHEDULE

AGENCY Aon Risk Services Northeast, Inc.		NAMED INSURED T & M Associates	
POLICY NUMBER See Certificate Number: 570058635950		EFFECTIVE DATE:	
CARRIER See Certificate Number: 570058635950	NAIC CODE		

**ADDITIONAL REMARKS**

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,  
FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER	
INSURER	
INSURER	
INSURER	

**ADDITIONAL POLICIES** If a policy below does not include limit information, refer to the corresponding policy on the ACORD certificate form for policy limits.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS	
	AUTOMOBILE LIABILITY							
D				MZA 80313916	07/08/2015	07/08/2016	Collision Deductible	\$1,000
	OTHER							
A	E&O-PL-Primary			031428317	04/26/2015	04/26/2016	Aggregate Deductible	\$750,000

**Radnor Township**  
**Public Works and Engineering Departments**  
**Request for Proposal**  
**Design of Stormwater Management & Flood Mitigation**  
**Project at Intersection of Banbury Way / Francis Ave. /**  
**Windsor Ave.**

**I. Request for Proposal:**

Radnor Township is seeking a qualified consultant to provide professional services for the design of a stormwater management and flood mitigation project at the intersection of Banbury Way / Francis Ave. / Windsor Ave. in Wayne, PA.

**Submission Date:**

Proposals must be submitted and updated online through PennBid ([www.pennbid.net](http://www.pennbid.net)). One (1) digital PDF format proposal must be submitted no later than 4:00 PM on Thursday, March 24, 2016 on PennBid. Ten (10) hard copies must be delivered by 4:00 PM on Thursday, March 24, 2016 to:

Radnor Township  
Engineering Department  
Stephen Norcini, PE, Director of Public Works  
301 Iven Avenue  
Wayne, PA 19087

***Proposals submitted after that time and date or proposals that are non-responsive to the requirements of this RFP will not be considered.***

**Pre-Proposal Meeting:**

A pre-proposal meeting will be held on Monday, March 14, 2016 at 10:00 AM at the Radnor Township Municipal Building, 301 Iven Avenue, Wayne, PA 19087.

**Questions:**

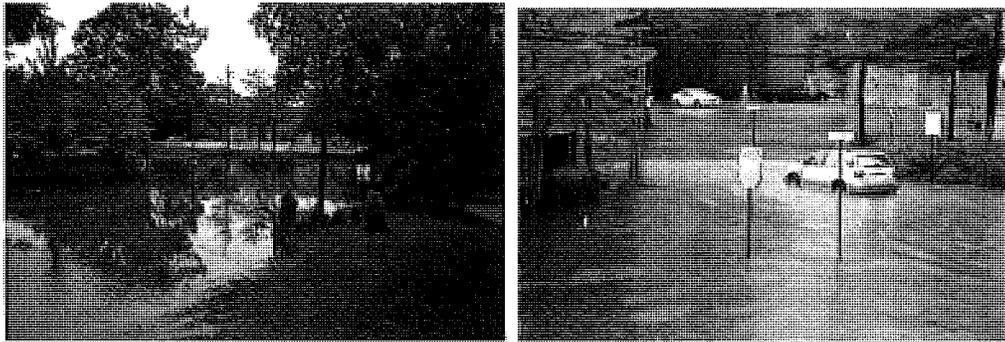
All questions regarding the bid must be submitted using the online form on PennBid ([www.pennbid.net](http://www.pennbid.net)) and by clicking on the "Questions" tab. Questions may be submitted until 12:00 PM on Tuesday, March 22, 2016. Answers will be emailed to the email address(s) registered on PennBid. Questions and answers will also be posted to the PennBid website for all registered users to review. Only questions asked and answered using this process shall be considered addenda to the bid package.

**II. Background:**

As part of a recently completed flood study of the Ithan Creek watershed, the intersection of Banbury Way / Francis Ave / Windsor Ave, which sits near the top of the watershed, was identified as a high risk flood location. In fact, the flooding at this location has been a well-known issue for many years among Radnor Township's staff and residents. In the late 1990's, several large-diameter perforated pipes were installed under Francis Ave, behind the Wawa convenience store, presumably to provide some relief for the flooding

in the area. However, as is apparent from photographs taken a few years ago (Figures 1 and 2), hydrologic modeling, and on-going anecdotal evidence, this area continues to experience significant flooding despite the mitigation project in Francis Ave.

Through the flood study, it was determined that one of the primary causes of the flooding at the intersection is an existing bottle-neck in the storm sewer system, where a 30-inch storm sewer and a 48-inch storm sewer converge at a 15-inch storm sewer on the Wawa parcel. In lieu of installing significant lengths of larger storm sewers along Lancaster Avenue (route 30) in downtown Wayne, the Township and the Stormwater Management Advisory Committee (SWMAC) decided that a new localized stormwater management / flood mitigation project was warranted and therefore a conceptual plan for an underground storage / infiltration facility was developed (Figure 3). The proposed project was conceptually sized to temporarily hold runoff from its contributory drainage area such that the surface flood volume associated with the 25-year, 1-hour storm (2.35 inches) would be greatly reduced if not eliminated. The contributory drainage area to this location is estimated to be 22 acres and consists of mostly residential parcels, with some commercial properties along Route 30 and an office building (with a permeable pavement parking lot) at its upper end (Figure 4).



Figures 1/2. Recent Flooding at Intersection of Banbury Way / Francis Ave / Windsor Ave

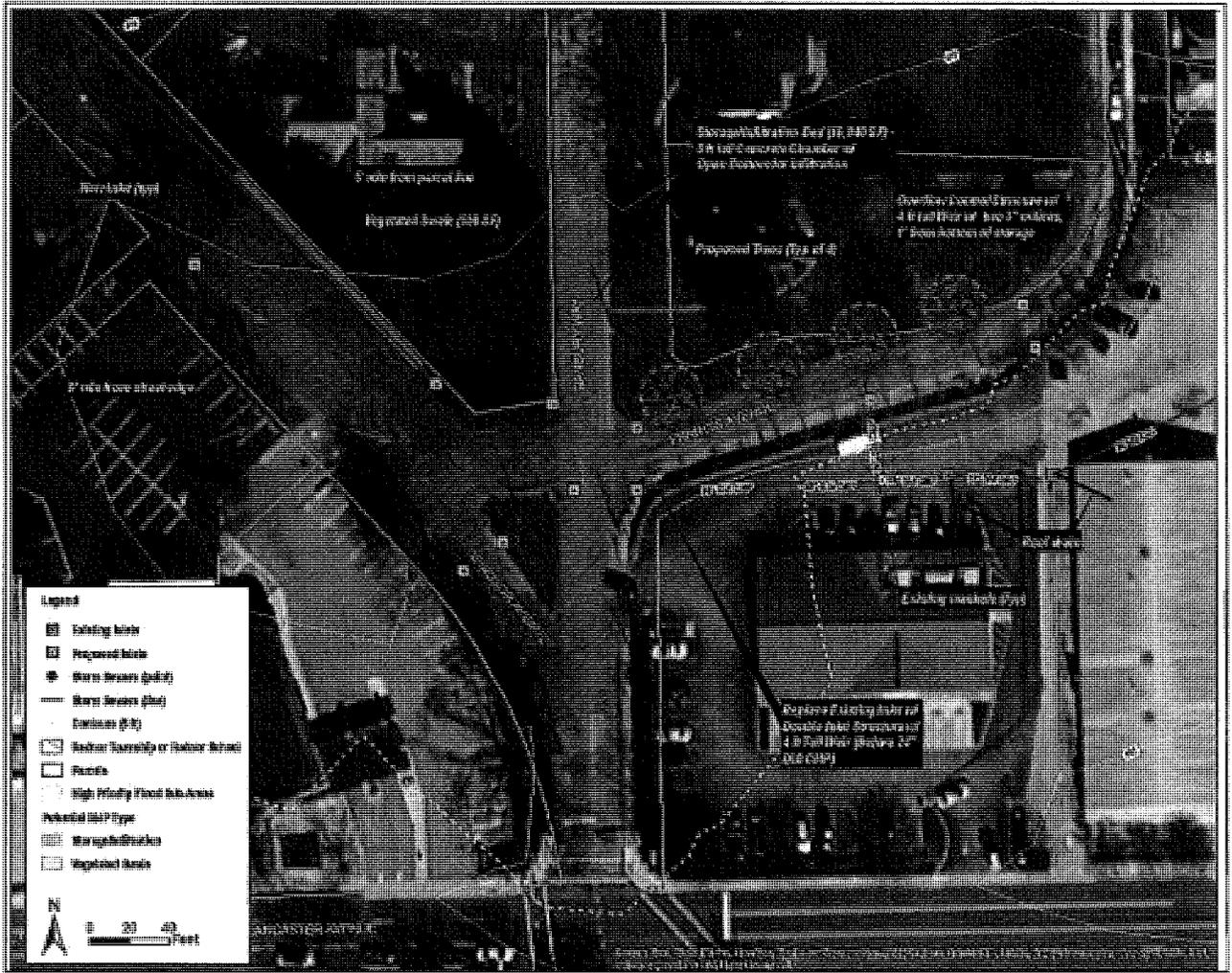


Figure 3. Conceptual Stormwater Management / Flood Mitigation Project at Intersection of Banbury Way / Francis Ave / Windsor Ave (25-year, 1-hour storage)

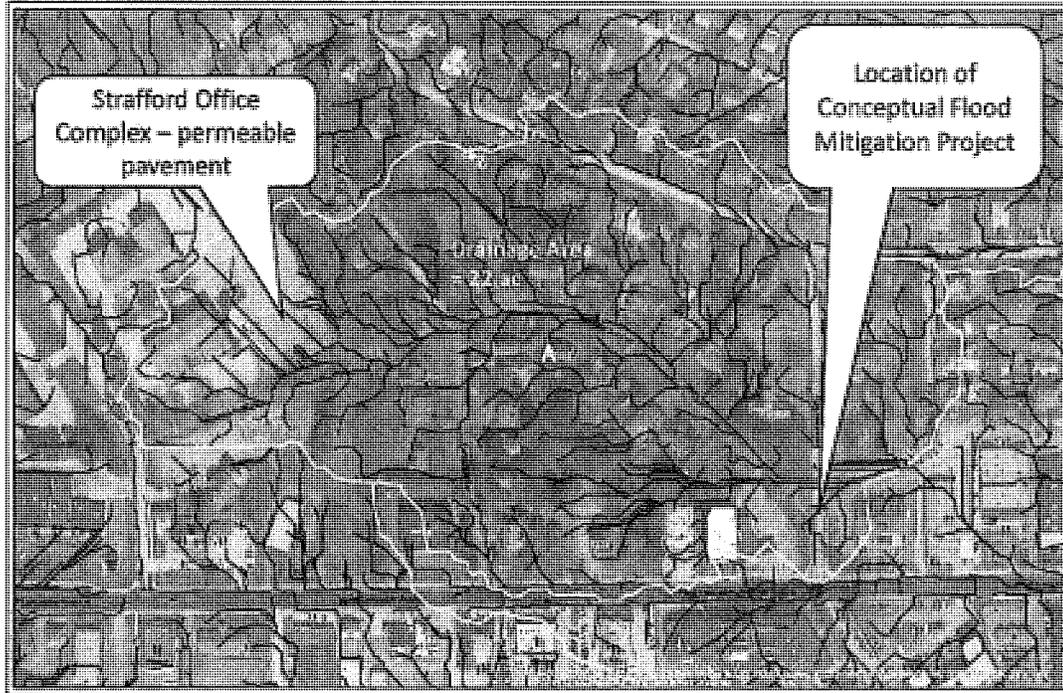


Figure 4. Estimated Drainage Area to Conceptual Stormwater Management / Flood Mitigation Project at Banbury Way / Francis Ave / Windsor Ave

### **III. Scope of Work:**

The main objective of this scope of work is to provide the following services: site surveying / base plan preparation, geotechnical investigations, conceptual design verification / value engineering, permitting, and other activities necessary for the preparation of construction-level design documents. As conceived, the stormwater management / flood mitigation project at the intersection of Banbury Way / Francis Ave / Windsor Ave will consist of a 16,840 square foot underground stormwater storage / infiltration facility constructed of open-bottomed concrete chambers (5 feet tall; StormTrap or approved equal) in an aggregate envelope. This facility was conceptually sized with a total storage capacity of approximately 84,200 cubic feet (excluding storage within the voids of the stone envelope), which was the required volume to eliminate surface flooding at that location for the 25-year, 1-hour storm (2.35 inches), based on USEPA SWMM modeling. In addition to the storage system, the conceptual design also included several new inlets (with adequate pretreatment provided in the form of filter inserts and sediment sumps), at least two outlet control structures with connections to the existing storm sewers, four new street trees on Francis Ave, and a 550 square foot vegetated swale on Windsor Ave (to provide additional water quality and pretreatment). The conceptual plan also assumed that the existing stormwater management system in Francis Ave would be removed.

#### **Task 1: Base Plan Development and Geotechnical Investigations**

Under this task, the consultant will perform the following pre-design services: site survey / base plan development and geotechnical investigations. These services will allow the consultant to verify and/or suggest modifications to the conceptual design in Task 2.

### *Task 1a: Site Survey and Base Plan Development*

The consultant will conduct a topographical and planimetric survey of the project vicinity and then translate the collected survey data into a base plan that graphically depicts the existing site conditions. The developed base plan should include all information necessary for developing detailed and accurate construction documents in Task 3. At a minimum, the base plan should include the following information: one foot contours, detailed spot elevations, valves, vents, poles, hydrants, catch basins, manholes, poles, signs, trees and other significant vegetation, edge of pavement, curb lines, striping and other pavement markings, and right-of-way lines.

The consultant shall also perform a Pennsylvania One Call request (also required for task 1b) for the site and field locate utility markings placed in the field by the respective member utilities. The consultant shall then depict on the base plan the underground utilities respective to their above ground locations and compare them to documentation received through the One Call system.

All work to be performed will be completed in accordance with the latest edition of the Manual of Practice for Professional Land Surveyors in the Commonwealth of Pennsylvania, as prepared by the Pennsylvania Society of Professional Land Surveyors, as applicable.

As part of this proposal, the consultant submit a survey schematic for approval by the Township. The survey limits should be sufficient to cover the proposed area of the stormwater management / flood mitigation project, as well as some additional area on all sides of it.

#### Deliverables:

- 1: Base plan of project site in both PDF (signed and sealed by PA-licensed surveyor) and CAD formats for Township review/approval

### *Task 1b: Geotechnical Investigations*

The consultant shall conduct geotechnical investigations of the site in the form of at least three borehole infiltration tests (5-10 feet deep) and four borings (20-25 feet deep). These investigations shall closely follow the requirements of Philadelphia Water's Geotechnical Testing Guidelines (see Attachment F here: [http://phillywatersheds.org/doc/GSI/GSI\\_Design\\_Requirements\\_&\\_Guidelines\\_Packet\\_5-15-2015.pdf](http://phillywatersheds.org/doc/GSI/GSI_Design_Requirements_&_Guidelines_Packet_5-15-2015.pdf)). Prior to conducting these investigations, the consultant shall submit a geotechnical test location map for Township approval.

The consultant shall deliver the results of these investigations in the form of a brief report. The report should also include an interpretation of these results in the context of how they will affect the conceptual stormwater management / flood mitigation project and include recommendations for improving the design and/or mitigating any perceived concerns.

#### Deliverables:

- 1: Geotechnical test location map for Township approval prior to conducting tests
- 2: Geotechnical report with final as-conducted test location map, boring logs, soil characteristics, and raw and resultant infiltration test results; report shall adhere to the requirements of Philadelphia Water's Geotechnical Testing Guidelines (attached)

## Task 2: Conceptual Design Verification

In this task, the consultant will utilize the findings of Tasks 1a and 1b to verify and/or recommend modifications to the conceptual design.

### *Task 2a: Review and Recommend Modifications to Conceptual Design*

The consultant shall review the conceptual design in relation to potential challenges and/or conflicts uncovered from the preceding site survey and geotechnical investigations. Specifically, the consultant shall focus on the following factors and their potential impacts on the design of the proposed stormwater management / flood mitigation facility: alignments and depths of existing utilities, limiting soil horizons (e.g., bedrock and groundwater), and any other existing limiting site conditions. The consultant will then make recommendations for modifying the conceptual design in order to either avoid completely or work around the potential conflicts. As part of this task, the consultant shall also make any other recommendations it believes will enhance the expected performance and/or cost-effectiveness (capital and maintenance) of the conceptual design, including the use of alternative storage media and consideration of green stormwater infrastructure (GSI) technologies such as bioretention, permeable pavements, or vegetated swales.

#### Deliverables:

1: Technical memorandum summarizing review and recommended modifications to conceptual design

### *Task 2b: Further Investigation of Bioretention Concept / Permanent Road Closure*

In this task, the consultant shall investigate the feasibility, potential benefits, costs, and challenges associated with converting one of the two connecting spurs between Windsor Ave and Banbury Way to a bioretention facility or other GSI. As shown in Figure 5, a draft version of the conceptual design proposed closing off the southern junction of Windsor Ave and Banbury Way and implementing a bioretention facility in its place. This concept also entailed widening the northern junction as necessary for adequate turning and vehicle movement. The consultant shall further investigate the feasibility of this option, as well as that of converting the northern junction to a bioretention facility as an alternative strategy. As part of this investigation, the consultant shall consider the impacts to localized traffic flow and turning. It is anticipated that this task will entail a high-level feasibility assessment, rather than detailed engineering and/or analysis.

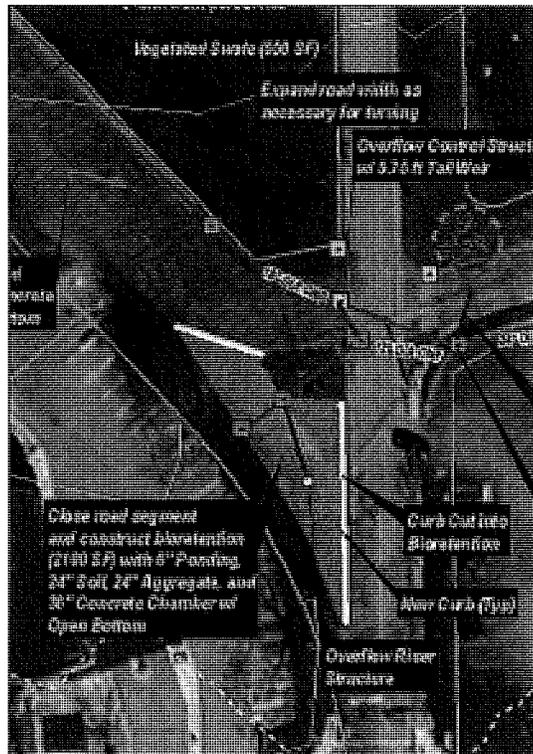


Figure 5. Draft Version of Conceptual Design with Road Closure/Bioretention Facility

Deliverables:

1: Technical memorandum summarizing the feasibility, potential benefits, costs, and challenges associated with closing off a segment of Windsor Ave and implementing GSI.

**Task 3: Development of Construction Documentation**

The consultant shall develop construction documentation for the conceptual stormwater management / flood mitigation system, incorporating the approved (by the Township, SWMAC, and the Stormwater Program Administrator (SPA)) modifications from Task 2. The consultant shall assume three design submissions (60%, 90%, and 100%) and include those deliverables noted below. At a minimum, the consultant shall assume development of the following design drawings, some of which can be combined as appropriate: existing conditions / demolition, erosion and sediment control, site / drainage, traffic control, planting / landscape, cross-sections / profiles (as necessary), and details.

The consultant shall focus on designing a cost-effective, practical, constructible, and maintainable stormwater / flood mitigation project. To this end, the consultant shall prepare, at each design stage, a brief technical memorandum summarizing the stormwater management benefits of the project and the anticipated construction costs. In addition, the consultant shall prepare an operation and maintenance plan for this project, including the required activities and their associated frequency.

The consultant shall include in its proposal time to incorporate Township review comments for the 60% and 90% design submissions. In addition, the consultant shall be responsible for identifying and obtaining all applicable permits and approvals for this project.

**Deliverables:**

- 1: Construction-level design drawings, CAD and PDF (60%, 90%, and 100% submissions)
- 2: Construction specifications, Word and PDF (90% and 100% submissions)
- 3: Construction cost estimate (60%, 90%, and 100% submissions)
- 4: Technical memorandum summarizing the project characteristics (drainage area, footprint, depth, storage volume, and pre- and post-construction runoff volumes and peak rates; 60%, 90%, and 100% submissions)
- 5: Operation and maintenance recommendations (100% submission)
- 6: Documentation of Township review comments received at 60% and 90% submissions and proposed responses to each

**IV. Additional submission requirements and assumptions:**

1. At a minimum, include the following meetings in your proposed pricing and schedule:
  - One (1) kick-off meeting with representatives of the Township, the SWMAC, and the SPA
  - One (1) presentation on your findings related to Task 2 at a regularly scheduled monthly SWMAC meeting
  - Three (3) additional project status meetings with representatives of the Township, the SWMAC, and the SPA
2. The selected consultant shall perform work in accordance with best industry practices and Radnor Township regulations.
3. Submit clear and concise responses to this Request for Proposal. Responses of excessive length are discouraged.
4. Address all items as specified in this Request for Proposal. Proposals must conform to the format and content requirements outlined herein. Failure to adhere to this format or to address all items specified may disqualify a consultant from further consideration.

**V. Minimum Requirements:**

In order to be considered for this work, the consultant shall have designed at least three (3) similar stormwater management / flood mitigation and/or stormwater management projects in similar settings. In addition, the consultant shall have designed at least two (2) projects that incorporated green infrastructure stormwater management facilities, such as bioretention. The project examples that the consultant chooses to include must have been constructed and functional for at least two (2) years.

**VI. Submission Requirements:**

1. Name of firm, and length of time doing business as that firm
2. Address of firm (including all relevant offices)
3. Point of Contact, including phone number and email
4. Transmittal letter

5. Proposed approach to complete the scope of work
6. Background, Experience, and Differentiating Factors in relation to the tasks outlined and demonstrating the minimum requirements noted above, including references with a valid/current email and phone number
7. Personnel/Professional Qualifications and Organizational Chart for this project; in addition to engineers, project team must include at least one landscape architect and one transportation engineer
8. Any sub consultants and their specific tasks, who must also provide items 1-3 and 6
9. Pricing: anticipated hours and rates for all team members and ancillary services, not-to-exceed costs including expenses, for all tasks listed in the scope of work
10. Proposed Schedule, with anticipated dates for each task deliverable
11. Insurance limits for Professional Services
12. Current capacity to provide the required work in a timely manner (availability of proposed staff to begin work immediately upon notice to proceed)
13. Ten (10) hard copies of your cost proposal and one digital copy in PDF format.

**VII. Selection Criteria:**

The SWMAC and Township will base its selection on criteria that will include, but not be limited to the following:

1. Ability or capacity to perform the requested work and meet the needs of Radnor Township: 25%
2. Prior experience of firm and staff with respect to the requested work: 25%
3. Quality and efficiency of proposed scope of work: 20%
4. Value to Township: 20%
5. Proposed schedule: 10%

**VIII. Proposal Timetable:**

Pre-Proposal Meeting.....Monday, March 14, 2016, 10:00AM  
 Close of Submission of Questions.....Tuesday, March 22, 2016, 12:00PM  
 Proposals Due.....Thursday, March 24, 2016, 4:00PM  
 Possible Award Date.....Monday, April 25, 2016

**IX. Attachments:**

1. Concept plan for stormwater management / flood mitigation project at intersection of Banbury Way / Francis Ave / Windsor Ave (25-year, 1-hour storage)
2. Design Drawings of Francis Avenue Drainage Improvements (Pennoni Associates, 1997)
3. SWMM model input files to be provided to selected consultant (upon request)

Radnor Township Public Works and Engineering Departments

Cost Estimate Form

for

Design of Stormwater Management & Flood Mitigation Project at Intersection  
of Banbury Way / Francis Ave / Windsor Ave

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Description	Cost / Hours
Task 1A. Site Survey and Base Plan Development	_____
Task 1B. Geotechnical Investigations	_____
Task 2A. Review and Recommend Modifications to Conceptual Design	_____
Task 2B. Further Investigation of Bioretention / Road Closure	_____
Task 3. Development of Construction Documentation	_____

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Submitted by:

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FIRM	ADDRESS
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AUTHORIZED SIGNATURE	PHONE & EMAIL	DATE
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TO BE EXECUTED BY RADNOR TOWNSHIP IF AWARDED

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Robert A. Zienkowski Township Manager/Secretary	Date
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