

Project Location:

Ward 5 – 4115 Hoffman Road

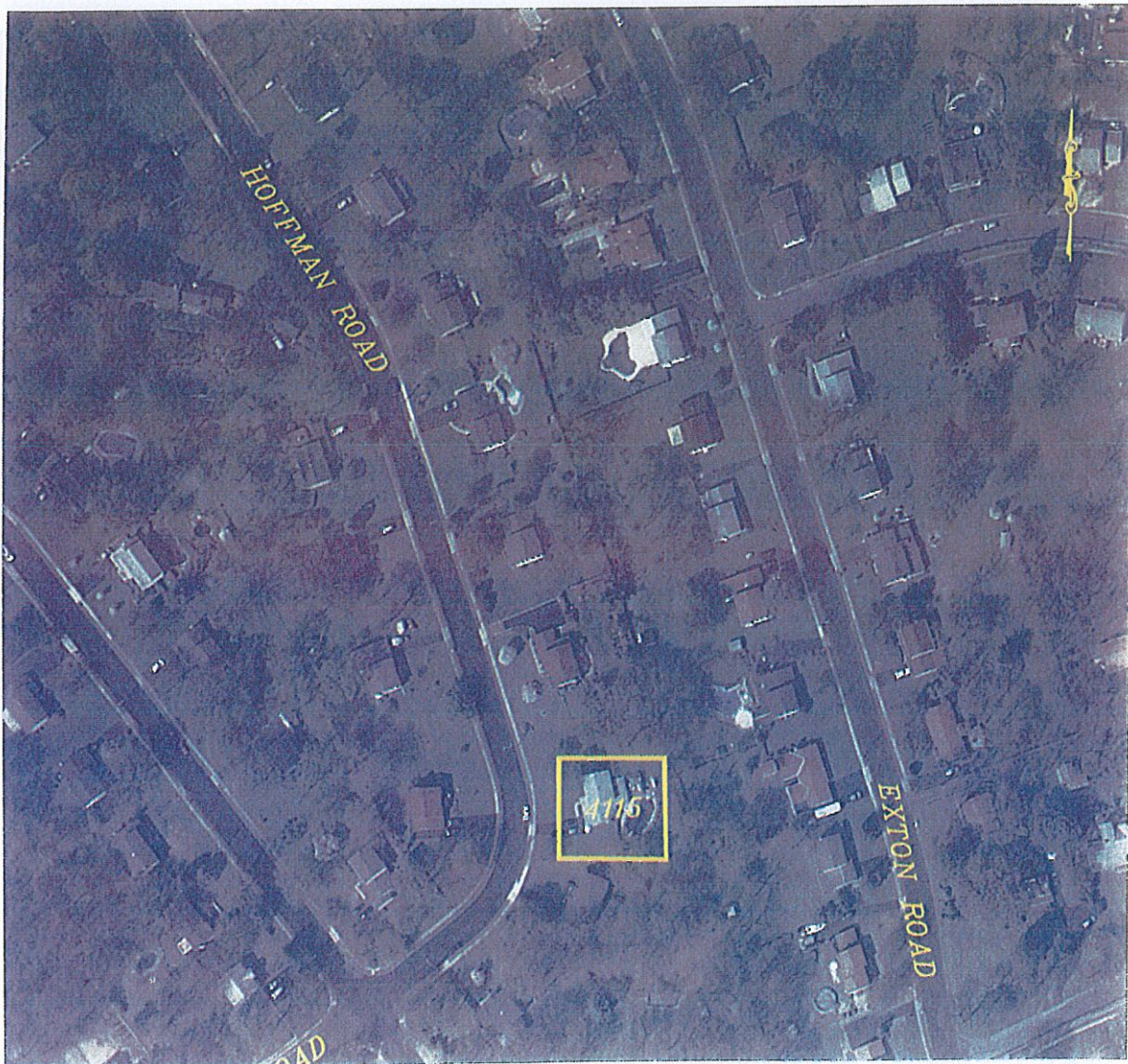
Description of Problem:

Yard flooding occurs due to lack of positive drainage on the highlighted property.

Potential Remedy:

This issue is a dispute between neighbors involving private property. The residents must first determine what is causing the issue and then hire a contractor to perform the work necessary to correct the problem.

Estimated Project Cost: \$10,000



SCALE: 1"=200'

Project Location:

Ward 5 –3800 Meyer Lane

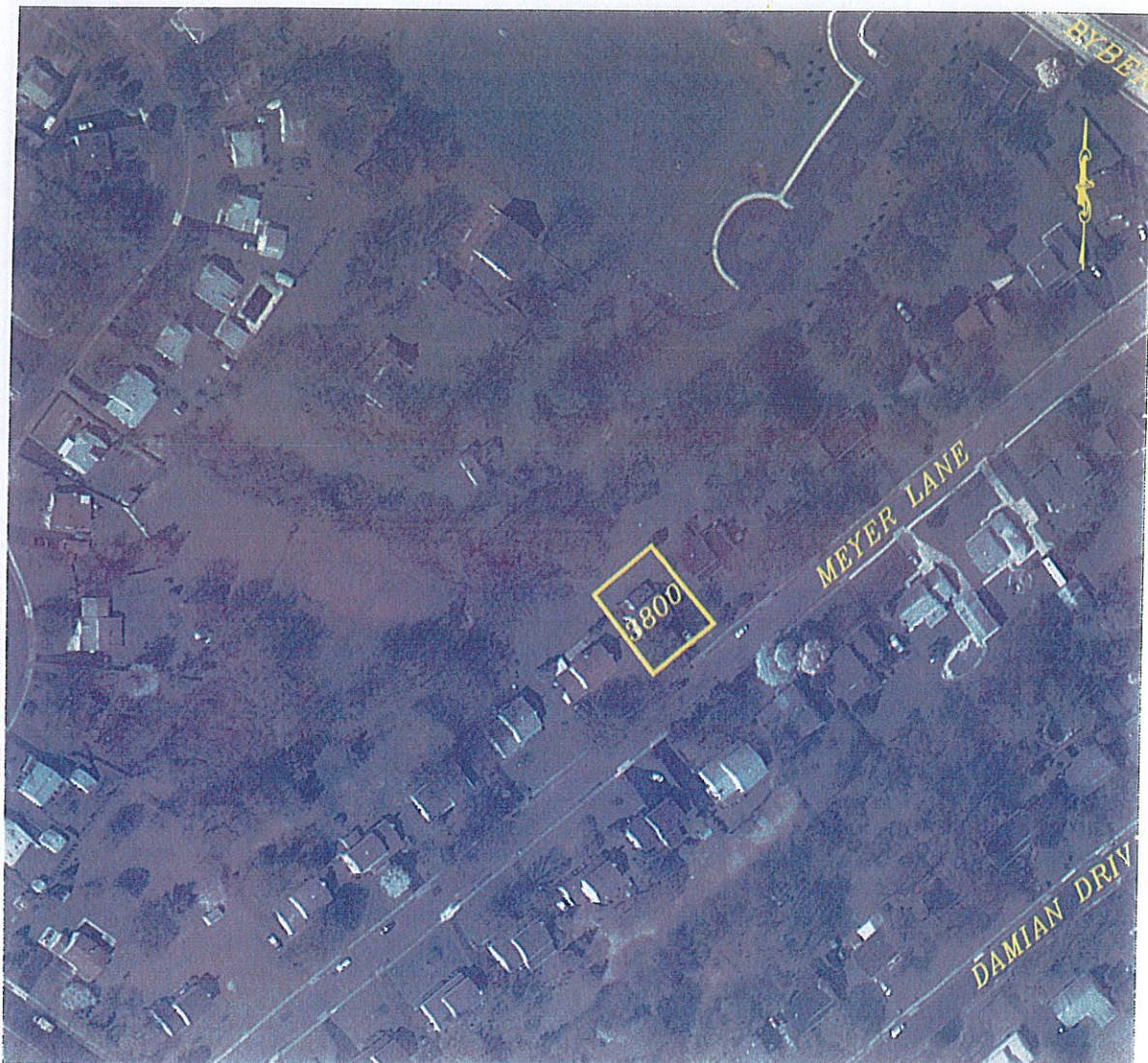
Description of Problem:

Water ponds in rear yards adjacent to Boileau Park.

Potential Remedy:

The adjacent creek should be inspected to ensure that no obstructions exist that are inhibiting the flow of water within the stream channel. The Township could investigate and see if any corrective grading could be done on the park property to divert water away from the private residences.

Estimated Project Cost: \$10,000



SCALE: 1"=200'

Project Location:

Ward 6 – 2105 Huntingdon Road

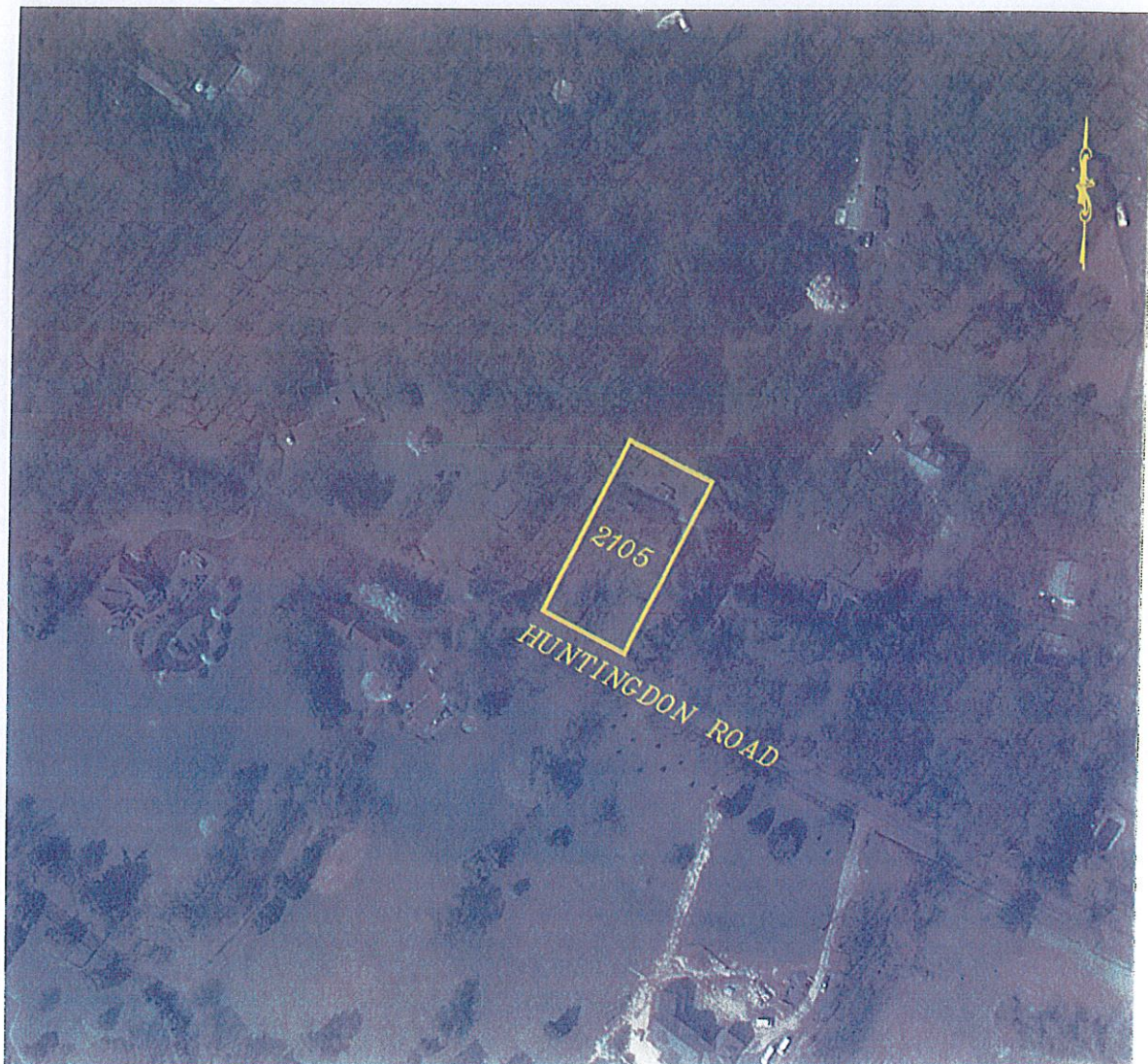
Description of Problem:

Private Road flooding occurs and as a result there is a dispute between neighbors as to what is causing the issue.

Potential Remedy:

The flooding is occurring on private property and the neighbors need to come to an agreement on what is causing the issue and then take the steps necessary to correct the problem.

Estimated Project Cost: NA



SCALE: 1"=200'

Project Location:

Ward 1 – Evans Circle & Quigley Road

Description of Problem:

Grading issue in rear yards of private residences along Evans Circle and Quigley Road causes poor drainage / standing water.

Potential Remedy:

Minor grading in rear yards to promote positive drainage as was initially intended when the houses were built. Additionally, yard drains could be installed within the rear yards and tied into the existing storm sewer system that runs from Evans Circle to Edge Hill Road.

Estimated Project Cost: \$10,000



SCALE: 1"=200'

Project Location:

Ward 1 – Inman Terrace near Frazier Avenue

Description of Problem:

Flooding occurs in the rear yard of the highlighted property on Inman Terrace. Property is down slope of the apartment complex and receives flow from the adjacent site. Property owner believes that recent grading performed on his neighbor's property is the cause of the problem, which has begun within the past year or two.

Potential Remedy:

Problem exists on private property. Residents would need to agree on a solution and hire a contractor to perform remedial grading in order to correct the problem.

Estimated Project Cost: \$10,000



SCALE: 1"=200'

Project Location:

Ward 2 – Parkside & Sycamore Avenue

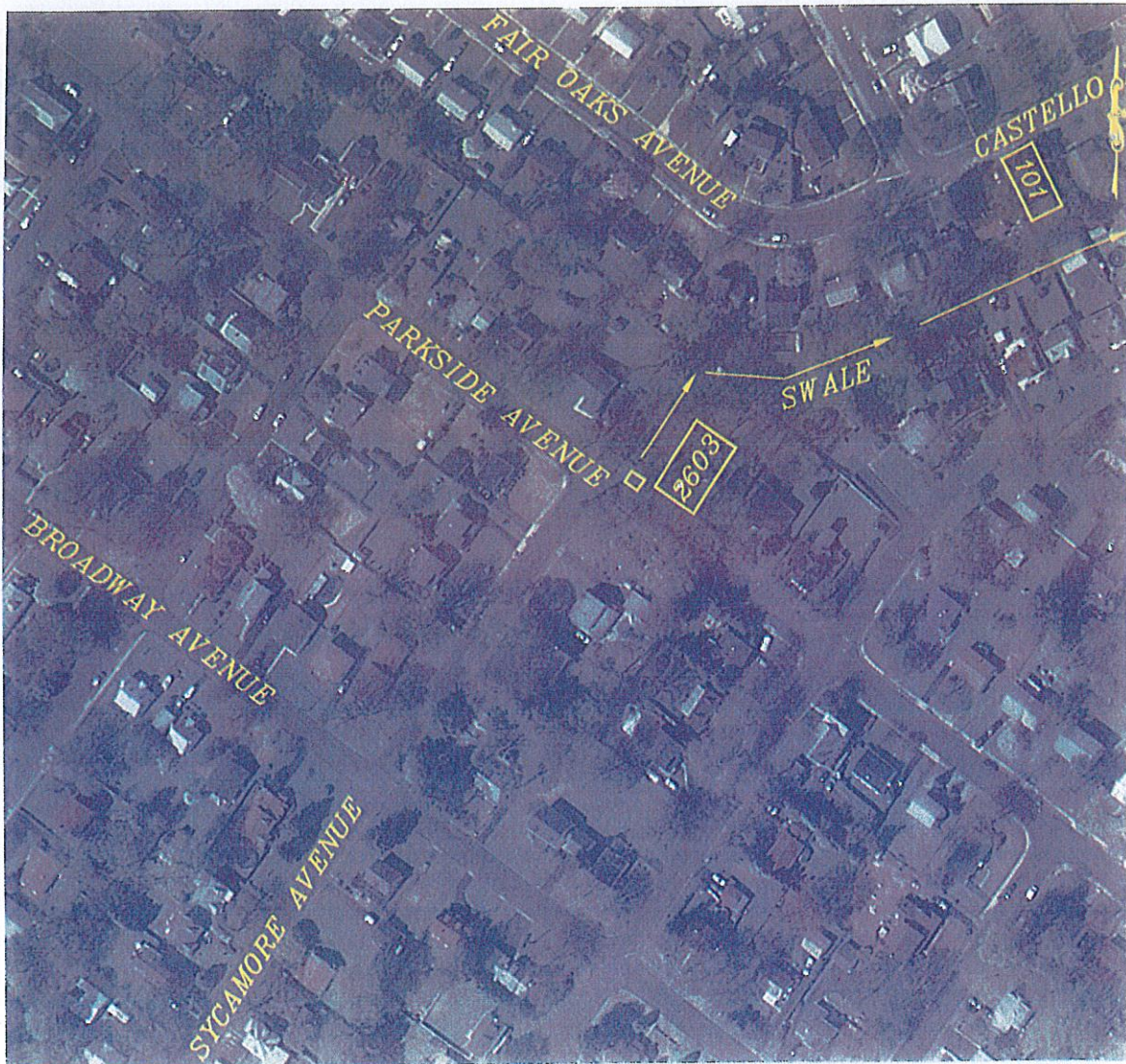
Description of Problem:

The existing inlet located along Parkside Avenue (2603) discharges to a swale that runs along common back yards of the properties on Parkside Avenue, Fair Oaks Avenue, and Continental Road. The swale eventually runs into Hatboro and its discharge location is unknown.

Potential Remedy:

Grading needs to be performed within this area to create a better defined swale. Additionally, the residents in the area must be vigilant in keeping the swale clear of all debris or other obstructions that may hinder the flow of water.

Estimated Project Cost: \$10,000



SCALE: 1"=200'

Project Location:

Ward 2 – Castello Avenue near Lynne Avenue

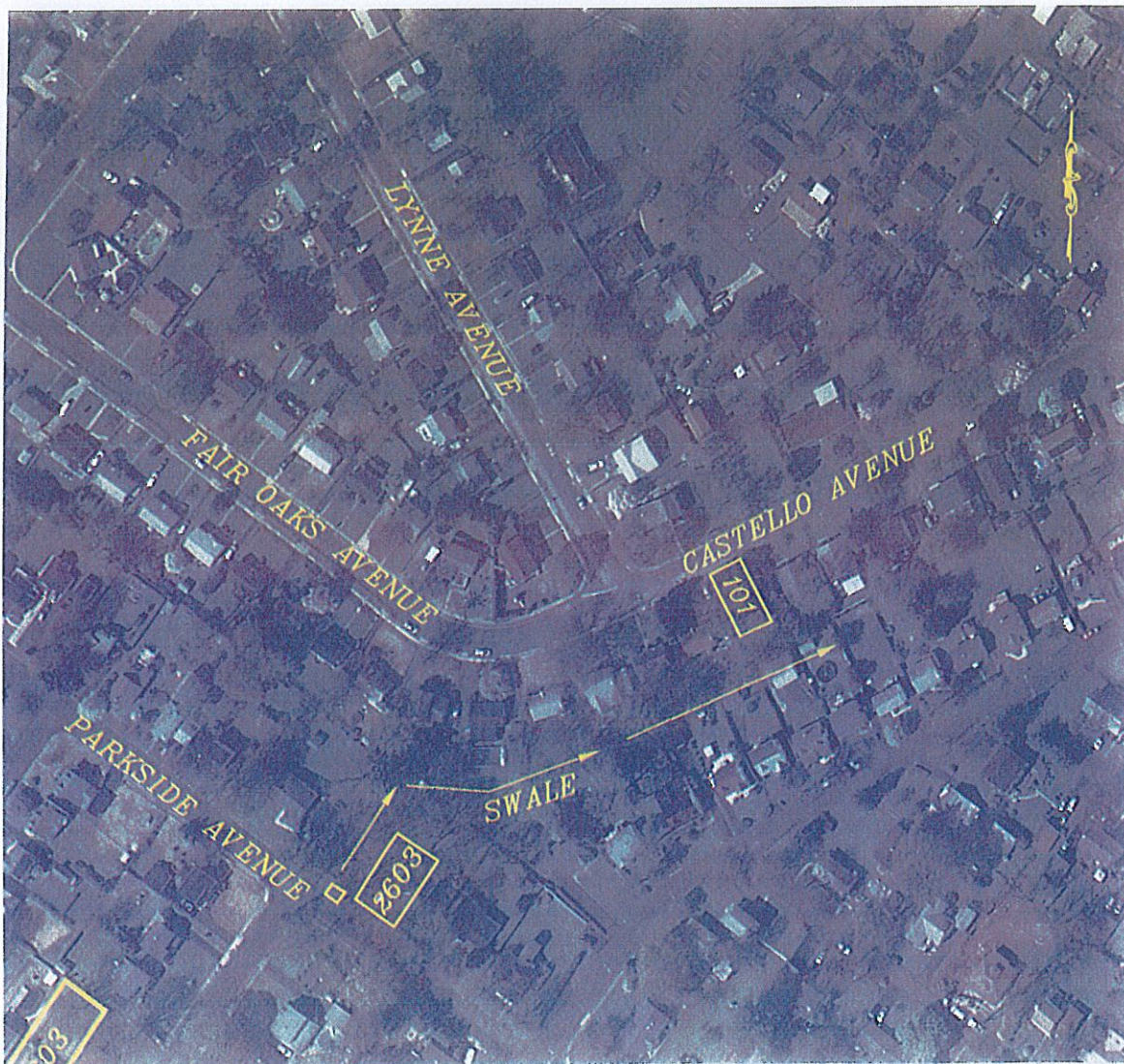
Description of Problem:

Inlet located in the vicinity of 101 Castello Avenue discharges to a swale located along the common rear yards of the residences along Castello Avenue and Continental Road. This is the same swale that is causing the issue at 2603 Parkside Avenue.

Potential Remedy:

Grading should be performed in this area to create a more defined swale. Additionally, residents need to ensure that the swale is properly maintained by removing all debris and other obstructions on a regular basis.

Estimated Project Cost: \$10,000



SCALE: 1"=200'

Project Location:

Ward 2 – Blair Mill Road between Broadway & Parkside

Description of Problem:

Rear yard flooding occurs in swale that runs from Broadway Avenue to Parkside Avenue.

Potential Remedy:

Swale is on private property, minor grading could be done to ensure that swale is as defined as possible through this area. Residents should ensure that all debris and obstructions are removed from the swale on a regular basis.

Estimated Project Cost: \$10,000



SCALE: 1"=200'

Project Location:

Ward 3 – Commerce Avenue Apartments

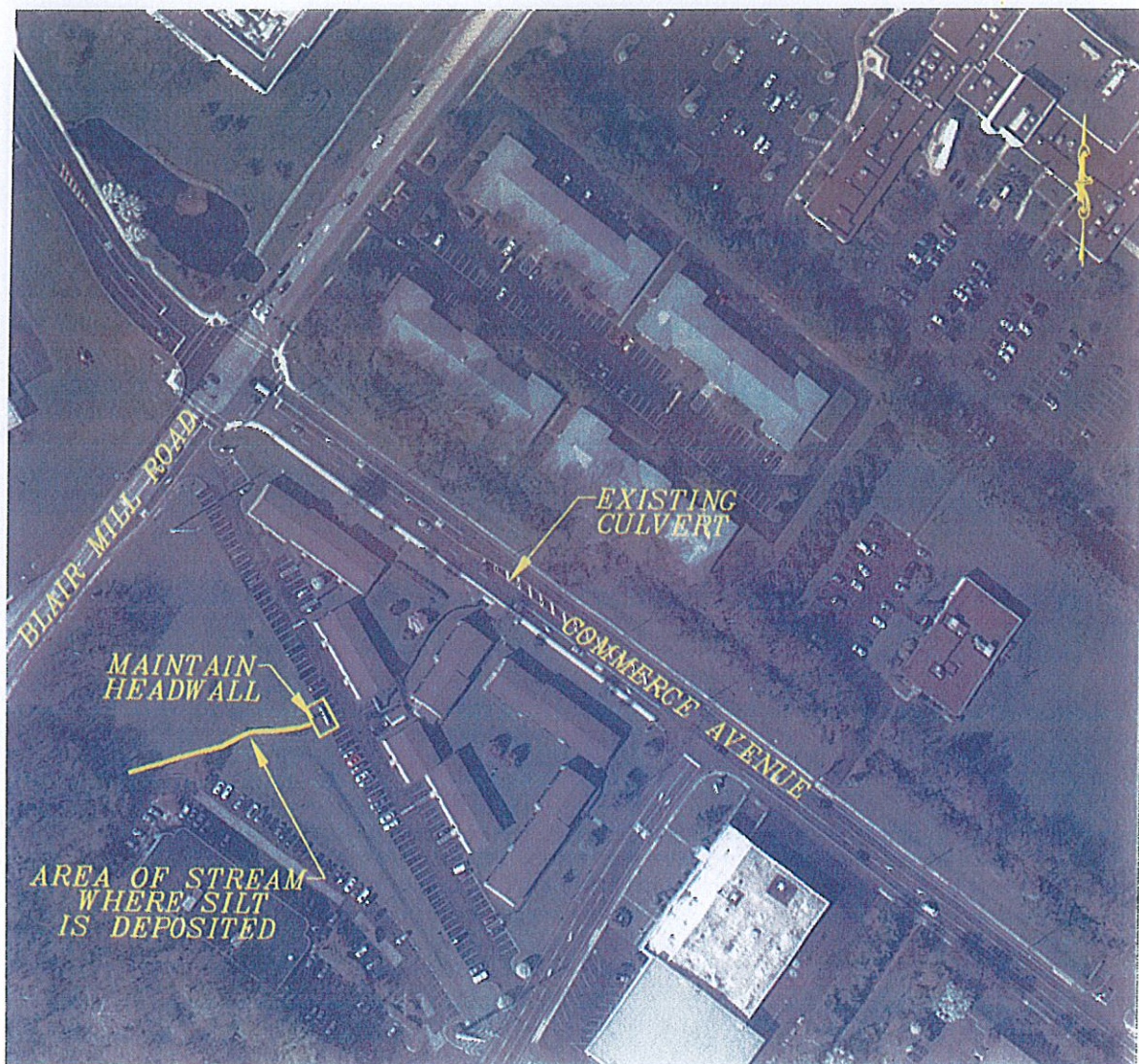
Description of Problem:

Stream erosion and flooding occurs on the site in the area of the existing headwall.

Potential Remedy:

Stream and headwall are on private property and need to be maintained by the owner. The area just upstream of the headwall should be cleared of all debris and obstructions, accumulated silt may need to be removed. The Township has replaced the culvert under Commerce Avenue within the last 10-15 years.

Estimated Project Cost: \$25,000



SCALE: 1"=200'

Project Location:

Ward 3 – 401 & 403 Crown Street

Description of Problem:

Yard flooding occurs at 401 & 403 Crown Street due to offsite drainage and poorly defined and maintained swales.

Potential Remedy:

The swale on the east side of 401 Crown Street needs to be maintained properly and all debris and obstructions should be removed on a regular basis. Additionally, minor grading could be performed on both properties to ensure that runoff reaches the swale and is safely conveyed around the residences.

Estimated Project Cost: \$10,000



SCALE: 1"=200'

Project Location:

Ward 6 – Huntingdon Road & Masons Mill Road

Description of Problem:

Flooding occurs on the private property highlighted below. There is a small culvert in the rear of the property that could be removed to increase flow capacity of the adjacent channel. The larger problem is that the property is down hill of large open area (June-Feit) that has no stormwater controls.

Potential Remedy:

A stormwater basin could be implemented on the June-Feit property to reduce the peak flow within the adjacent channel. Additionally, if curbing were installed along Huntingdon Road, it could help to direct water away from the private property.

Estimated Project Cost: \$25,000



SCALE: 1"=200'

Project Location:

Ward 4 – Dogwood Lane

Description of Problem:

Rear yards of residences along Bartram Road and Dogwood Lane experience flooding issues.

Potential Remedy:

Grading could be performed on the private properties to try and achieve positive drainage towards Bartram Road. Additionally, yard drains could be installed in natural low areas within the rear yards and tied into the existing storm sewer system.

Estimated Project Cost: \$25,000



SCALE: 1"=200'

Project Location:

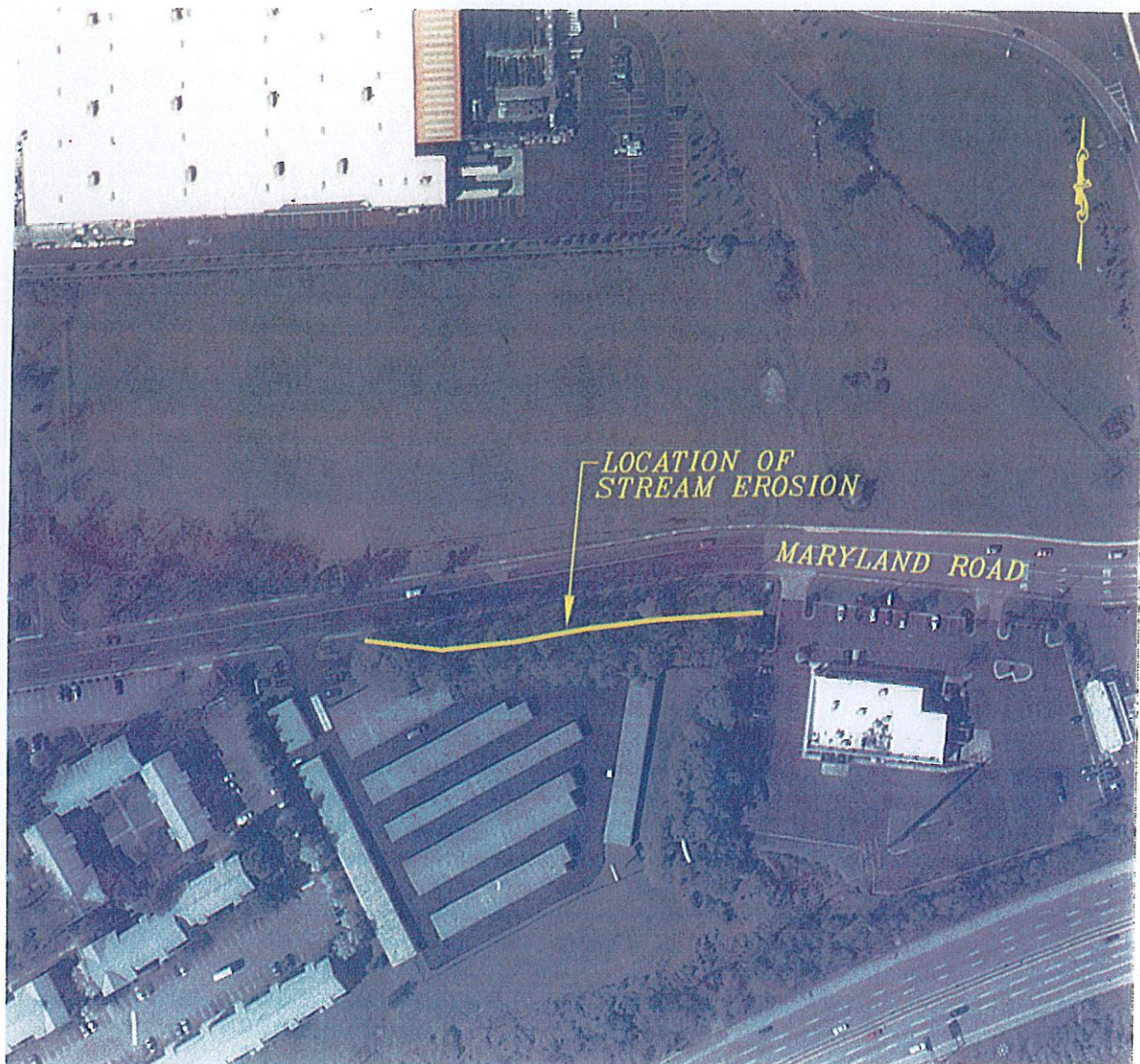
Ward 4 – Maryland Road

Description of Problem:

Stream erosion has occurred between Route 611 and storage units.

Potential Remedy:

The length of stream where the erosion has occurred is highlighted below. A project could be implemented to stabilize the banks and correct the existing issue, however; the stabilization project will not help any of the existing flooding problems in the area.

Estimated Project Cost: \$100K - \$500K

SCALE: 1"=200'

VIII. Potential Ways to Address Stormwater Management Improvements

In addition to identifying existing stormwater problems and how to attempt to alleviate them, the Township can explore other ways to implement stormwater management improvements from a larger watershed wide perspective:

1. *Ground Level Incentive Program* – The Township could provide incentives to individual residents who chose to willingly implement BMPs on their property. Incentives could be waiver of all permit or review fees or could include a small percentage contribution towards the BMP installation.
2. *Rain Barrel Program* – Some local municipalities provide their resident's rain barrels at a reduced cost. The municipality pre-buys the barrels in bulk at a discounted price and then resells them to residents. One drawback of this program is the Township doesn't have significant storage space at this time.
3. *Developer Incentive Program* – The Township could implement an incentive program for developers that provides the developer with reduced building permit fees or increased density if the developer exceeds the requirements of the Township Stormwater Management Ordinance. Careful consideration, in conjunction with the Solicitor's office, would be required to implement such a program that would still protect the Township from development that doesn't meet the community's goals.
4. *Construct or retrofit BMPs on Township Lands* – See Section X of this report for a listing of the potential sites that BMPs could be installed on Township lands as well as a priority rating system to determine the order in which BMPs should be implemented when funding becomes available.
5. *Construct or retrofit BMPs on Private Property* – See Section X of this report for a listing of all the potential sites that BMPs could be installed on private property as well as a priority rating system to determine the order in which BMPs should be implemented when funding becomes available. The priority rating system for Private Property BMPs is more complicated since the land owner needs to be involved in implementation.
6. *Implement Green Infrastructure within Township ROWs* – As outlined in a presentation to the Community Development Committee back in February 2011, there are numerous ways to implement stormwater improvements within the confines of the existing street network. Although no one improvement will make an immediate difference to overall flooding in the Township, the cumulative effect of many projects will be beneficial. Many of these improvements could be incorporated into other initiatives that are funded by grants that don't historically pay for stormwater improvements. Green Infrastructure improvements to the streetscape include: porous pavement, rain gardens, street trees, disconnected roof drains, porous concrete, etc.

7. *No-mow Low-mow Areas* – The Township could identify areas within the existing park system to reseed with natural seed mix that doesn't require frequent mowing. Often these areas are located adjacent to streams as part of the riparian buffer. The buffer serves to reduce volume and improve water quality. Further, the reduced mowing results in less operation & maintenance costs for the Township.
8. *Tree Replacement Fund* – Money from the Township's existing Tree Replacement Fund (as of January 2013 the fund contained roughly \$94,000) can be utilized in stormwater management projects specifically where plantings are needed in BMPs such as rain gardens, basin retrofits, riparian buffer restoration, stream bank stabilization, etc.
9. *Public Education* – Continue to educate the public on stormwater management by keeping stormwater as an agenda item on the Community Development Committee meeting, information on the website, information on the cable channel, email alerts, education signage when new BMPs are installed, the Township newsletter, etc.
10. *Stormwater Committee* – The Township could amend their by-laws to create a new committee focused solely on stormwater management issues.
11. *Innovative Funding & Partnering Sources* – As described in the next section, there are numerous potential funding and partnering sources available to Upper Moreland. Some have been previously explored, while others have not. Although some partners and funding sources are more obvious, all potential options should be exhausted since the task of reducing flooding and implementing stormwater management improvements is a large undertaking over many years across many geographic, municipal and political boundaries.

IX. Potential Funding Sources & Partnering Opportunities

In order to achieve the goals set forth in the *Stormwater Management Improvement Implementation Plan*, Upper Moreland will need to grow partnerships with various entities that share the burden of flooding caused by the insufficient stormwater management infrastructure within the Township and other adjacent municipalities. The cost of designing and implementing stormwater management projects is often very high and although Upper Moreland is committed to taking the steps needed to help alleviate the frequency and severity of flooding within the township and surrounding communities, partnerships and grant opportunities must be explored to generate the funding necessary to make a measurable impact on the specific goals identified within this report. The following is a list of funding and/or partnership opportunities that have been identified as potential sources to help implement stormwater management facilities and programs:

A. Available Grants

1. *PennVest* – Grant funding and low interest loans are available through PennVest, which has been empowered by the Pennsylvania Infrastructure Investment Authority Act 16 of 1988 to administer and finance the Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF). The average project size is 1.5 million, but can be up to 11 million for one municipality or 20 million for multiple municipalities.
2. *Pennsylvania Redevelopment Assistance Capital Program (RACP)* – RACP is a Commonwealth grant program administered by the Office of Budget for the acquisition and construction of economic, cultural, or civic improvement projects. RACP projects must have a total cost of at least \$1 million and the Township must provide a 50% match (doesn't allow for in-kind contributions) and the project must occur in an industrial or commercial area. Additionally, engineering, legal, and administration costs are not eligible for reimbursement under the terms of the RACP grant program. Under the current RACP program standalone stormwater projects aren't viewed as favorably as other projects.
3. *H2O PA (Water Supply, Sanitary Sewer and Storm Water Projects)* – Grant funding is available for storm water projects with a total cost of \$500,000 or more with a 50% match from the Township. Unlike the RACP grant, the Township match for the H2O PA grant may come from another funding source, including PennVest. Additionally, design and administrative costs are reimbursable under the terms of the H2O PA grant. However, "shovel ready" projects are more desirable and historically have been the only projects selected to receive funding.
4. *Local Municipal Resources and Development Program (LMRDP)* – Local municipalities are eligible to receive funding through the LMRDP for projects that will improve the quality of life within the community.
5. *Floodplain Land Use Assistance Programs* – Funding is available to local governments to encourage the proper use of land and the management of floodplain land within the municipality. Grants through this program typically require the municipality to match 50% of the grant amount.
6. *Growing Greener Grant* – Funding is available from the Department of Environmental Protection through the Growing Greener program for infrastructure improvements such as drinking water, wastewater, or stormwater. Grants through this program will require the municipality to match a portion of the grant amount (minimum 15%).
7. *DCNR Conservation & Recreation Grant* – Funding is available through DCNR. Eligible projects must include development of parks and recreation, but can also include stormwater improvements. The grant requires a 50% match which can be comprised of "in-kind" contributions such as design costs, Township labor, donations, etc.

8. *County Conservation & Recreation* - Funds are distributed by the County. Funds may be used to acquire lands for recreational or conservation purposes and land damaged or prone to drainage by storms or flooding.
9. *Community Development Block Grant (CDBG)* – This program is only eligible in certain census tracts. The program identifies “Flood Drain Improvements” as a medium priority project. CDBG will pay for 100% of the construction costs of a project and a municipality must pay all the design and soft costs.
10. *Municipal Challenge Grant* – Grants will help support municipal tree inventories, tree planting, and tree care. Grant amount can range from \$1,000 – \$5,000 and require the municipality to match the amount with in-kind services. Planting trees can help reduce the volume of stormwater runoff through evapotranspiration and planting deciduous trees to shade impervious surfaces can help to reduce thermal impacts to the streams throughout the Township.
11. *TreeVitalize* – Funding is available to municipalities for assistance with tree planting programs in public open space, streetscapes, parks, and riparian buffer areas. Planting trees will help reduce stormwater volume and peak rate as well as function to increase stormwater quality.
12. *PA Act 13 Conservation & Recreation Funding* – This newly established program is funded by the Marcellus Shale Impact fees. The fees generated by Act 13 are dispersed to numerous agencies and funds including; Conservation District, Public Utility Commission (PUC), Fish & Boat Commission, PennDOT, DEP, PEMA and the Marcellus Legacy Fund. The Legacy Fund allocates money to; The Commonwealth Financing Authority, Highway Bridge Improvement, Growing Greener, County Conservation & Recreation, PennVEST and DCED.
13. *William Penn Foundation* – The Foundation has a Watershed Protection division whose goal is to protect the supply of clean drinking water within the Delaware watershed. The Foundation contributed significant funding to Temple’s Center for Sustainable Communities efforts to develop an ACT 167 plan for the Pennypack Creek.
14. *Transportation Enhancement (TE) Program* – This grant program provides funding for transportation enhancement projects. Typically the grant is used for traffic improvements and pedestrian and streetscape improvements, but funds can be used to the improve roadway drainage system too. The Township took advantage of this grant program to construct Phase I of the streambank stabilization improvements in Veteran’s Memorial Park. The funding for this grant comes from the federal level and is administered by PennDOT and DVRPC.

15. *Infrastructure Development Program (IDP)* – This program provides grants and low-interest funding for public and private infrastructure improvements. Funding is capped at \$1.25 million per project. The grant requires that new jobs be created based on the level of funding received. Thus, if the Township received funds for a drainage improvement project using this program the Township would need to hire additional staff as part of the program.

B. Township Funds

1. *Stormwater Fund* – The Township has a stormwater fund program that was instituted in 2010. Various developers have made contributions to the fund since its inception and as of the date of this report the fund has approximately \$72,000 available to be utilized for stormwater management projects throughout the Township. Another \$27,000 is committed pending the project moving forward and there are several large projects in the sketch plan phase which will likely make contributions to the fund.
2. *Tree Replacement Fund* – As mentioned in a previous section, money from the Township's existing Tree Replacement Fund can be utilized in stormwater management projects specifically where plantings are needed in BMPs such as rain gardens, basin retrofits, riparian buffer restoration, stream bank stabilization, etc. Also, as the need for stormwater funds grows and the amount of available land to use the tree fund diminishes, the Sub-Committee proposes that moving forward the Township should consider asking developers to contribute money to the stormwater fund in-lieu of the required tree fund contribution. The contributed amount could be a portion of the total that would be required to be contributed to the tree replacement fund (85%). The "discount" would provide incentive for the developer to contribute the money to the stormwater fund.
3. *Public Works Drainage Fund* – Money from the existing Public Works Drainage Fund which is funded in each year's budget can be utilized as a "match" for a grant application or combined with money from the Stormwater Fund to help pay for a smaller project.
4. *Tax Generated Money* – The Township may elect to introduce a slight tax increase as a result of the need to improve the quality of life of Township residents through the rehabilitation of existing stormwater infrastructure and creation of new stormwater management facilities in order to reduce flooding and increase the quality of water within the nearby streams. A tax increase of 1% would have the ability to generate roughly \$50,000 per year that could be utilized for much needed stormwater management upgrades within the Township. A voter referendum could be used to determine if the residents of the Township are in favor of a large capital investment program to generate revenue for stormwater projects. The total cost of all improvements identified in this report totals roughly 28 million dollars.

5. *Liquid Fuels* – The Pennsylvania Liquid Fuels Tax program allows municipalities to utilize the funds for the construction, reconstruction, maintenance, and repair of public roads or streets including culverts and drainage structures within the township owned right-of-way of a public street.
6. *Stormwater Permit Fees* – Upper Moreland Township could implement a stormwater fee program for all building permits similar to Whitpain Township. Whitpain Township implemented a permit fee for all building permits. The program placed a charge for every new square foot of impervious surface proposed. Whitpain's charge was \$2.50 per square foot. The money generated by the program funded a basin retrofit.

As mentioned above, for Upper Moreland Township the total cost of all the stormwater improvements identified in this report totals roughly 28 million dollars. The Township contains 7.5 square miles of surface area. That corresponds to 15 cents per square foot of land area (Not the cost per square foot of impervious area).

7. *Loans* – Some of the agencies which provide the grant programs mentioned above (AMEC, PEC, DCED, etc.) also have low-interest loan programs available too. Loans require the entire amount borrowed to be repaid by the Township.
8. *Bonds* – As the Township has done in the past for other large-scale improvements, the Township could borrow money to raise funding for stormwater management improvements. Like a low-interest loan the money associated with the bond would need to eventually be repaid. Since taxpayer funds would likely be the source of money to repay the bond a voter referendum could be used to determine if the residents of the Township are in favor of a large capital investment program to generate revenue for stormwater projects.

C. Partnerships with Large Land Owners

In order to implement stormwater management projects the Township will need to develop and maintain strong relationships with the largest land owners throughout the municipality. Not only does runoff from large expansive tracts of land contribute to the flooding and drainage issues experienced in the Township, but this land is also large enough to implement considerable BMP improvements on it. In many instances we may find that the installation of a stormwater basin or other BMP on the privately owned property can serve to alleviate flooding on surrounding properties and streams. In some cases a large land owner such as the Pennypack Ecological Restoration Trust (PERT) may have a vested interest in improving the quality of water within the Pennypack Creek through the implementation of stormwater management projects. The following is a list of large land owners that have been identified by the Sub-Committee as possible partners in stormwater projects:

1. *Pennypack Ecological Restoration Trust (PERT)* – As mentioned above PERT is a large land owner within the Township that has a vested interest in preserving the natural resources within the Township. A partnership with PERT could include utilizing their land to install BMPs that would help to reduce flooding within the Pennypack Creek. Also, PERT may be willing to contribute money for the installation of BMPs or riparian buffer restoration on township owned property that will have a positive impact on the Pennypack Creek.
2. *Huntingdon Valley Golf Course* – The golf course provides a unique opportunity for partnership because vegetated BMPs such as rain gardens, constructed wetlands, and wet ponds can be incorporated into the course as natural hazards. The BMPs would function to enhance the golf course as well as provide stormwater volume and rate control to help reduce the frequency and severity of flooding within the surrounding areas.
3. *Upper Moreland School District* – The school district may be interested in teaming up with the Township in an effort to reduce flooding on its various properties by installing BMPs and other stormwater infrastructure. The school district could also use an installed BMP such as a rain garden or porous pavement as a teaching tool to get children interested and aware of the effects of stormwater runoff.
4. *Hatboro-Horsham School District* – For all the reasons stated above regarding the Upper Moreland School District, Hatboro-Horsham may also be interested in participating in projects with the Township.
5. *Upper Moreland Little League* – The little league association owns land throughout the Township that contains athletic fields and associated parking lots. The little league association may be interested in having BMPs installed on their property to help reduce flooding in the community. In many cases playfields can be used as stormwater BMPs during rain events when the athletic activities wouldn't typically be occurring.
6. *Carson-Simpson Farm* – The property is very large and contains acres of undeveloped land located adjacent to the Pennypack Creek and adjacent to Davisville Road which is a major transportation route to get from one side of the Township to another by emergency responders.
7. *Willow Grove Day Camp* - The property is very large and contains acres of undeveloped land located adjacent to the Pennypack Creek and adjacent to Davisville Road which is a major transportation route to get from one side of the Township to another by emergency responders.
8. *June Fete* – The property is very large and contains acres of undeveloped land only used on seldom occasions. The property is located adjacent to the PERT owned land identified previously in the report.

9. *Private Developers* – The Township has a number of private developers that own a large number of parcels within the township. Many of these developers have existing stormwater basins on their properties that are subject to maintenance agreements with the township. The Township could partner with the developer to retrofit the existing basins to provide greater volume and/or naturalize the basins to provide a water quality function. Large private land owners could also be approached to see if there are any opportunities to place additional BMPs on a parcel of land that they may own. This land could be dedicated open space or other land with little to no value to the owner.

D. Authorities, Agencies & Elected Officials

In addition to the various entities that own large portions of land within the Township, there are also many agencies, authorities, and commissions that work throughout the Township and surrounding watersheds that may have interest in creating a partnership to help implement stormwater management facilities. The following is a list of outside agencies, authorities, etc. that the Sub-Committee has identified as possible partners in implementing stormwater management projects:

1. *Upper Moreland-Hatboro Joint Sewer Authority (UMHJSA)* – UMHJSA provides collection, conveyance, and treatment of waste water for all customers within Upper Moreland Township. A major issue for UMHJSA is inflow and infiltration of stormwater into their conveyance systems. The unwanted stormwater flow creates a strain on treatment plants and increases the cost of operation for the facilities. Road flooding during heavy rain events is a major producer of unwanted stormwater inflow into the sanitary sewer system. The authority may be willing to partner with the Township in order to implement stormwater projects that will limit the frequency and severity of the inflow of stormwater into the Authority's system. The Authority also has land at the treatment plant that is currently unused that could be the site of a stormwater management basin.
2. *Philadelphia Water Department (PWD)* – The PWD has a mission to provide safe drinking water to the greater Philadelphia area while also protecting the rivers and streams of the region. The Pennypack Creek is tributary to the Delaware River and connects with the Delaware within Philadelphia city limits. Controlling flow in the Pennypack Creek will have a favorable impact on reducing flooding within the Delaware River and ultimately the City of Philadelphia. For this reason the PWD may be interested in exploring partnership options with Upper Moreland to implement stormwater projects that can reduce the flow within the Pennypack Creek and ultimately the Delaware River. Further, with EPA's mandate to the City of Philadelphia and the millions of dollars to be invested in the coming years to comply with the mandate the PWD should be a very willing partner with available funds to make improvements.

3. *Pennsylvania Department of Transportation (PennDOT)* – Many state owned and maintained highways traverse Upper Moreland Township. These roads contribute a significant amount of uncontrolled stormwater runoff into the Township's storm sewers and streams. A partnership opportunity with PennDOT may be available to install BMPs that could reduce flooding on state highways and in turn increase the quality of travel on the state highways.
4. *Pennsylvania Turnpike Commission* - A portion of the Pennsylvania Turnpike runs through the Township and the Willow Grove Interchange is located in the Township. The Turnpike Commission may be willing to partner with the Township in order to implement stormwater management facilities that will reduce flooding on the roads that lead to the interchange.
5. *Pennsylvania Environmental Council (PEC)* – PEC has a mission to protect and restore the natural and built environments within the state through innovation, collaboration, education, and advocacy. PEC has been involved in implementing stormwater programs in nearby watersheds such as the Wissahickon Creek and partnership opportunities with the Council to develop programs such as rain barrel workshops and stream bank projects within Upper Moreland Township may be possible.
6. *Delaware Valley Insurance Trust (DVIT)* – DVIT provides liability insurance to many municipalities throughout the Delaware Valley including Upper Moreland Township. A partnership with DVIT would be keyed on the idea that reducing the frequency of flooding within the Township would result in a decreased risk of the Township needing to utilize their liability coverage in the event of an accident or death due to flooding caused by insufficient stormwater management infrastructure.
7. *Southeastern Pennsylvania Transportation Authority (SEPTA)* – SEPTA operates a regional rail line and also provides bus service within Upper Moreland Township. A partnership with SEPTA would be based on the idea that reducing flooding on their bus and train routes would serve to increase the level of service and decrease the risk of an accident caused by flood waters. The Township could reach out to SEPTA to determine if there are any specific spots on their bus or train routes within the township that are subject to frequent flooding issues.
8. *Municipal or Regional Stormwater Authority* – Creating a municipal or regional stormwater authority as described in the proposed PA House Bill 1390 would allow funds to be raised through fees paid to the authority based on the amount of runoff that each property owner contributes to the watershed similar to what the City of Philadelphia implemented in recent years. (As mentioned above, a 15 cent per square foot of property owned would generate 28 million dollars.) This approach would force the properties that contribute a large majority of the runoff to bare the burden of installing BMPs to control what is discharging from their properties by paying the largest usage fees. The authority could be only Upper Moreland Township or a partnership with some surrounding municipalities