

PETERS TOWNSHIP – ENGINEERING DEPARTMENT



Rolling Hills Park - October 2022

ANNUAL REPORT 2022

2022 ENGINEERING DEPARTMENT STAFF

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PREFACE

The Engineering Department is primarily responsible to design and manage certain capital projects involving Township facilities & infrastructure, manage engineering consultants, provide support to other departments (such as Planning & Building Inspection, Public Works, Parks & Recreation and Administration), and represent the Township on various regulatory issues. In 2022, the first phase of development of Rolling Hills Park was completed, following the extensive transportation network and infrastructure improvements that were completed to support the Park & High School in 2020. In addition to this major capital project involving the construction of new facilities, 2022 marked another year filled with replacement and maintenance of existing public infrastructure and assets for which Peters Township is responsible. An infusion of American Rescue Plan Funds from the Federal Government allowed the Township to initiate several long-standing roadway & storm sewer improvement projects above and beyond what would normally be considered in the budget.

Looking ahead at 2023, Private Land Development within the Township continues to absolutely thrive, with several major housing plans under construction and several others being proposed. Once again, the remaining American Rescue Plan funds will allow the Township to undertake several large infrastructure replacement/improvement projects involving roads and storm sewers that would not normally be considered due to budget constraints. Based on the magnitude and scope of approved Capital Projects for 2023, the number and size of private development projects under construction and in the pipeline, and the ever-increasing demand for customer service, this coming year (and every year for the foreseeable future) will be a significant challenge.

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Design, Permitting, & Construction (new facilities/assets)

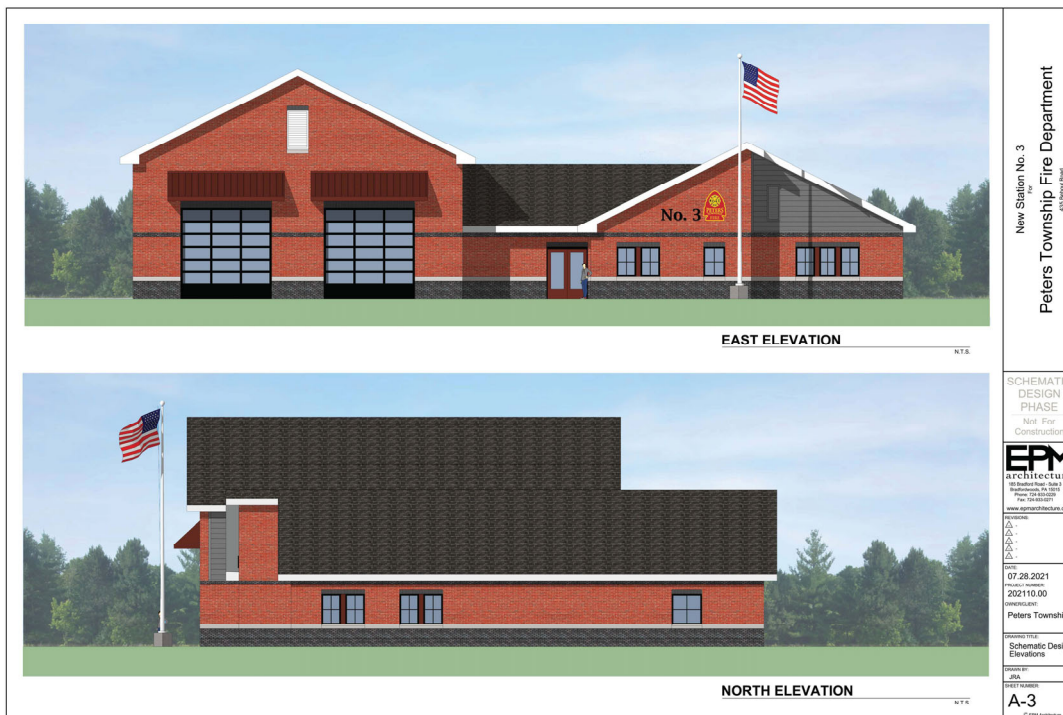
Rolling Hills Park –

Phase 1:

Site work, building construction, and playground installation for Phase 1 of the new park was substantially completed in 2022. Three pavilions, a restroom, a maintenance building, an artificial turf multi-purpose area, two observation decks, a one mile long paved connector trail to Arrowhead, a shared-use trail with the park, and a two acre ‘Great Lawn’ are among the features of this first phase of park development.



Rolling Hills Park - October 2022



New Fire Station #3:

Bids for the new Fire Station #3 were opened in March 2022. The successful bidder was TBI Contracting. From May 2022 until the end of the year, the site was under construction. EPM Architecture (the designer of record) assisted with the administration of the project, which was substantially complete in January 2023.

Building elevation rendering - new Fire Station #3 - Bebout Road

Design & Construction (expansions/upgrades)

Venetia Baseball Fields: The Peters Township Baseball Association contracted with Mackin Engineering to design and manage construction for the conversion of an existing multipurpose field into baseball diamond fields, with the addition of dugouts and other amenities. Because the Township owns the property, the actual construction contract was between the Township and the contractor, Slusarczyk Excavating. The project was completed in spring 2022.



Design & Construction (replacements)



Rutledge Drive following completion of binder course - August 2022

Street Resurfacing Program: All or portions of nineteen (19) different streets were paved by Mele & Mele & Sons, Inc. in 2022. PAWC also resurfaced four (4) streets and the Township contractually paved Laurel & Maplewood, bringing the total 2022 resurfacing to roughly 6.5 miles of roadway. As part of the resurfacing effort, work to rehabilitate deteriorating catch basins and CMP cross-pipes was performed where necessary. Project design and management was done in-house by the Assistant Township Engineer, who is NECEPT certified in asphalt inspection. Mele began in June and was substantially complete in September. Total project cost was approximately \$1.5 million.

Street Rejuvenation Program: The rejuvenator program was continued in 2022 at a cost of \$ 146,000. The work performed by Pavement Technology Inc. included the application of Reclamite on all or portions of 34 roadways paved in 2019 and 2021 (1-year and 3-year cycle), totaling 10 miles of roadway and 142,000 square yards of pavement.

Rec Center Parking & Trail: The Township contracted with A. Liberoni, Inc. to resurface the front parking lot of the CRC, replace the concrete entrance patio, as well as resurface 3,500 feet of connector trail from the CRC to the Arrowhead Trail. Design, bid, and project management was performed in-house. The project was completed in summer 2022 at a total cost of \$215,000.



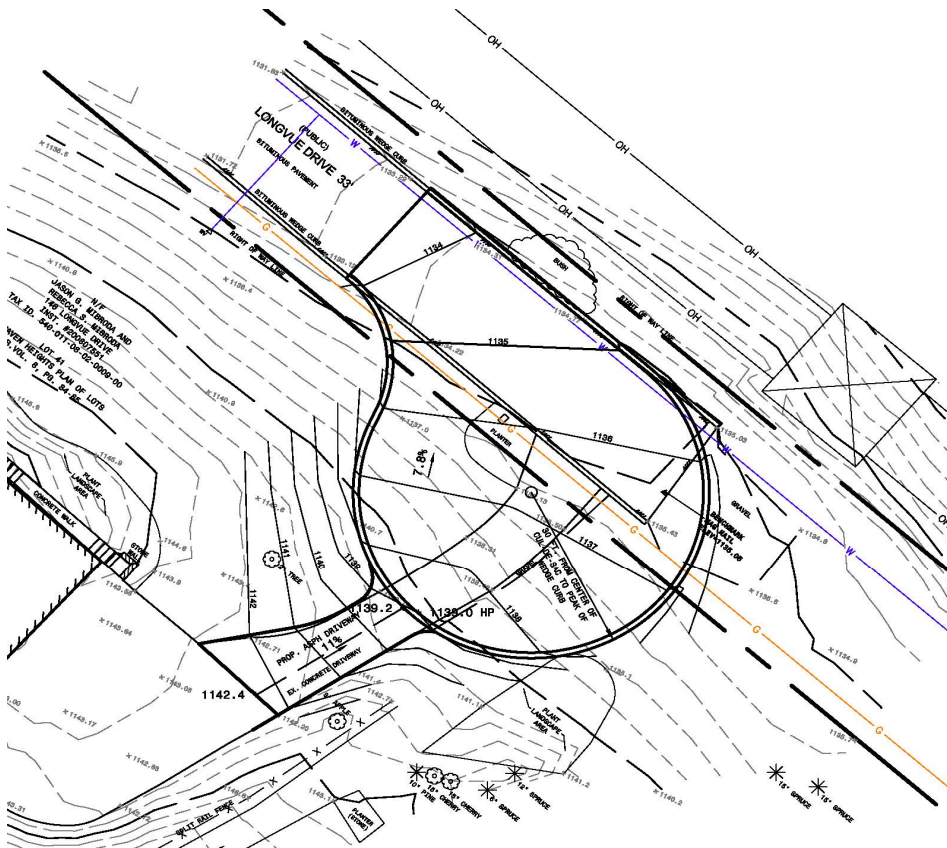
Connector path to Arrowhead Trail - newly paved June 2022



Construction of new cul-de-sac - July 2022

Laurel & Maplewood Drive Reconstruction:

These two roads were some of the last ‘minimum maintenance roads’ left over from when the Township adopted them in the early 1970s. The water mains on these roads were replaced by PAWC in spring 2022, then, the Township’s contractor, A. Liberoni, Inc., installed drainage, widened, and paved these roads in the summer/fall of 2022. This difficult project took significant effort to complete, but, the resulting road is a major improvement. As part of the project, a permanent cul-de-sac was installed at the terminus of Laurel Drive.



Design for new cul-de-sac at terminus of Longvue Drive

Longvue Drive cul-de-sac:

Longvue Drive is one of the last 'minimum maintenance roads' left over from when the Township adopted them in the early 1970s. The water main on Longvue is scheduled to be replaced by PAWC in spring 2023, then, the Township's contractor will install drainage, widen, and pave. In anticipation of this project, the Township Engineering Department designed a badly needed cul-de-sac at the current terminus of the road. The installation of this cul-de-sac will take place prior to paving in summer 2023.

Utility Company projects 2022:

Although funded by the utilities companies themselves, these infrastructure replacements can consume a significant portion of Township staff time on construction coordination, communications to the public, and spot inspection of the street openings and other project components within the public rights-of-way. In 2022, a part-time right-of-way inspector was hired to keep up with the demands of the many projects that occurred. The contracted inspector's wages are paid by the utility companies through Street Opening Permit fees.

Gas main replacements 2022: Columbia Gas had several major replacement projects underway in 2022, specifically, in the Thompsonville, Old Washington / Devonshire / Joyce / Ammons Drive / Valleybrook areas of the Township. Peoples Gas replaced a main on a portion of Robinhood Drive in early 2022. Another active year by Columbia Gas is anticipated in 2023 with a major project in the McGrann Hills section of the Township as well as completion of the work initiated in 2022. TC Energy is proposing work on a transmission main on Turkeyfoot Road in early 2023.

Water main replacements 2022:

Pennsylvania American Water Company replaced mains on Laurel, Maplewood, Bell, Lightholder, and Sheffield Lane in 2022. For 2023, PAWC intends to replace mains on West Edgewood, Brookdale Circle, Longvue, and Jomat Drives.

Storm sewer projects:

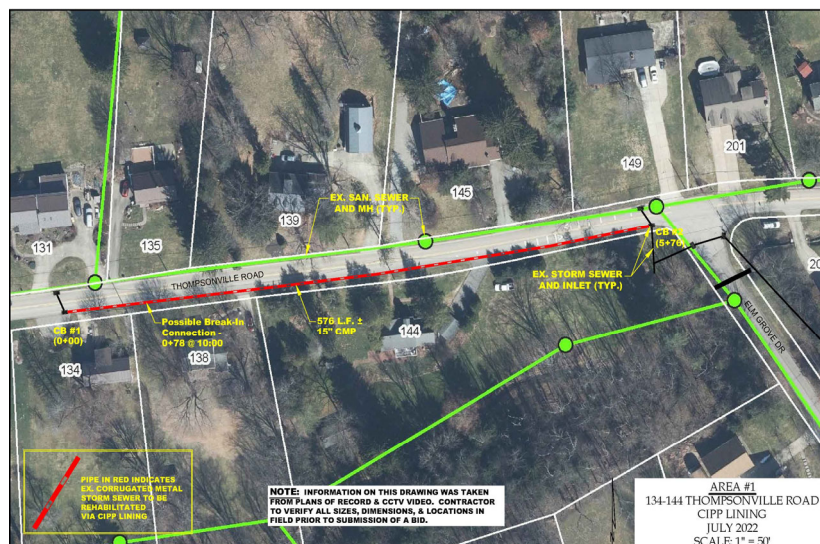
Open Cut Excavation: No stand-alone open cut excavation projects were planned for 2022, but, an emergency repair had to be completed on Sandcreek Drive in late-August. Our Public Works Department discovered a collapsed 24-inch diameter storm sewer that services the entire Hidden Valley Manor development. Slusarczyk Excavating was engaged on an emergency basis to provide labor and equipment to complete the repair.



Sand Creek Drive - Emergency storm sewer repair Sept 2022

Cured-in-Place storm sewer lining:

In summer 2022, the Engineering Department prepared bidding documents for the cured-in-place lining of deteriorated pipe systems on Thompsonville Road, Heritage Meadows Drive, and McCombs Road. In October, Insight Pipe Contracting completed the lining of these systems using Cured-in-Place Pipe trenchless technology. This method of lining drastically reduced the project footprint and amount of disturbance. The project was completed at a cost of \$ 117,000.



Excerpt from bidding documents - Thompsonville CIPP project

Detention Pond Rehabilitations 2022:

Typically, we strive to rehabilitate several older Township-owned stormwater detention ponds annually. These facilities tend to accumulate sediment over time and become choked in with vegetation if not maintained. In 2022, the Engineering Department prepared bidding documents for the rehabilitation of four (4) ponds: Old Trail 8, Canterwood, Starwood, & Green Meadow. Mullen Excavating completed the work in October.



Starwood Pond - post rehab



Waterdam Traffic Signal repairs

Traffic Signal repairs

2022: The Waterdam/SR19 signal was damaged in December 2021 by a vehicle impact. Our signal maintenance contractor, Traffic Control Equipment & Services, erected temporary bracing to keep the signal functional throughout 2022. Due to supply chain issues, the replacement equipment did not arrive until fall and TCE&S installed those parts in November. Also, TCE&S replaced two deteriorated pedestrian poles at the Old Oak/SR19 signal in December. Finally, TCE&S performed routine replacement of malfunctioning signal equipment throughout the Township as needed in 2022.

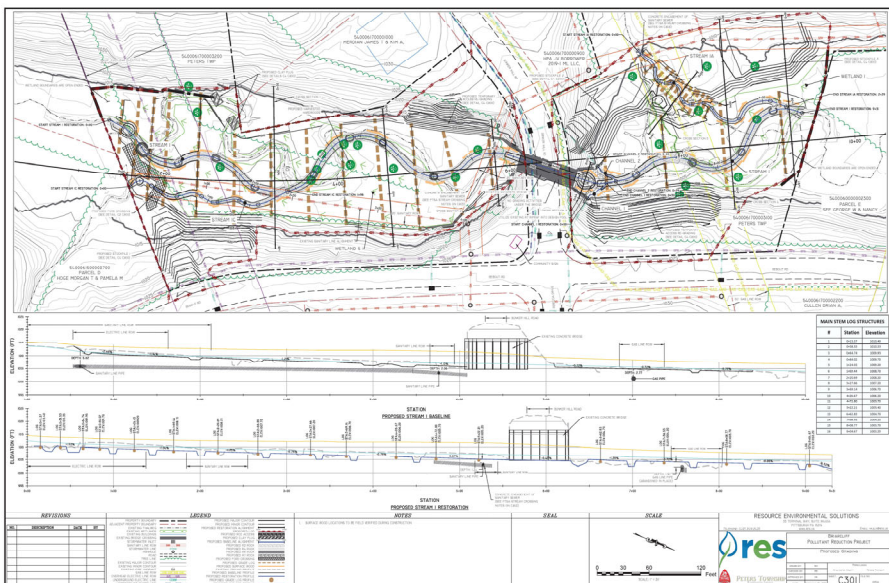
Regulatory Compliance



Peters Lake Spillway - Sept 2022

Peters Lake Dam inspection: Due to its size and hazard potential classification, the Peters Lake dam requires annual inspection by the PaDEP and was inspected by the Engineering Department in October 2021. A report filed with the DEP stated that no significant deficiencies were found.

Peters Lake Spillway Capacity Augmentation project: Continuing progress toward the directive from the PaDEP to increase the spillway capacity to handle the Probable Maximum Precipitation event (PMP) was made in 2022. The Township's consultant Rizzo International, finalized the Alternatives Analysis for options to increase spillway capacity and this report was forwarded to PaDEP for their review.

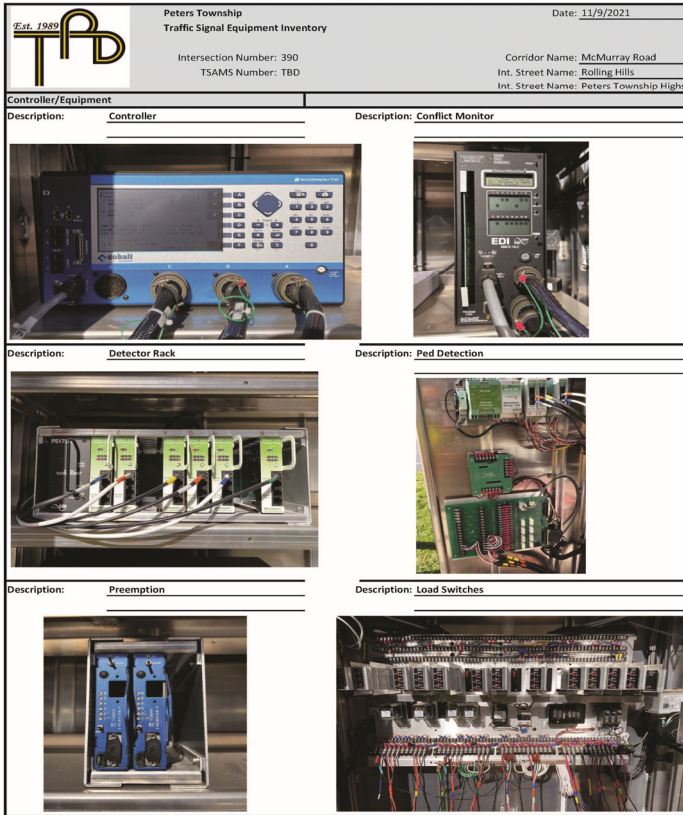


Excerpt from Briarcliff Floodplain plans

Briarcliff Open Space – Floodplain Restoration Project: As part of the Township's regulatory obligations in its MS4 Permit, projects to remove sediment and phosphorus from the Brush Run watershed must be completed over the next five permit cycles (5 year cycles). The first of these projects is planned in the Briarcliff Open Space parcel owned by the Township. In 2022, all Federal & State permits were received. Currently, the course of action is to secure the necessary permits and apply for grant funding to potentially assist with the costs of this significant project.

MS4 Permit - PRP Plans: The required Annual Report summarizing MS4 activities for the previous year was transmitted to PaDEP in September 2022. Routine activities to support the six ‘minimum control measures’ were completed throughout 2022, including screening of outfalls, inspection of stormwater detention ponds and underground tanks, street sweeping, employee training, ...etc.

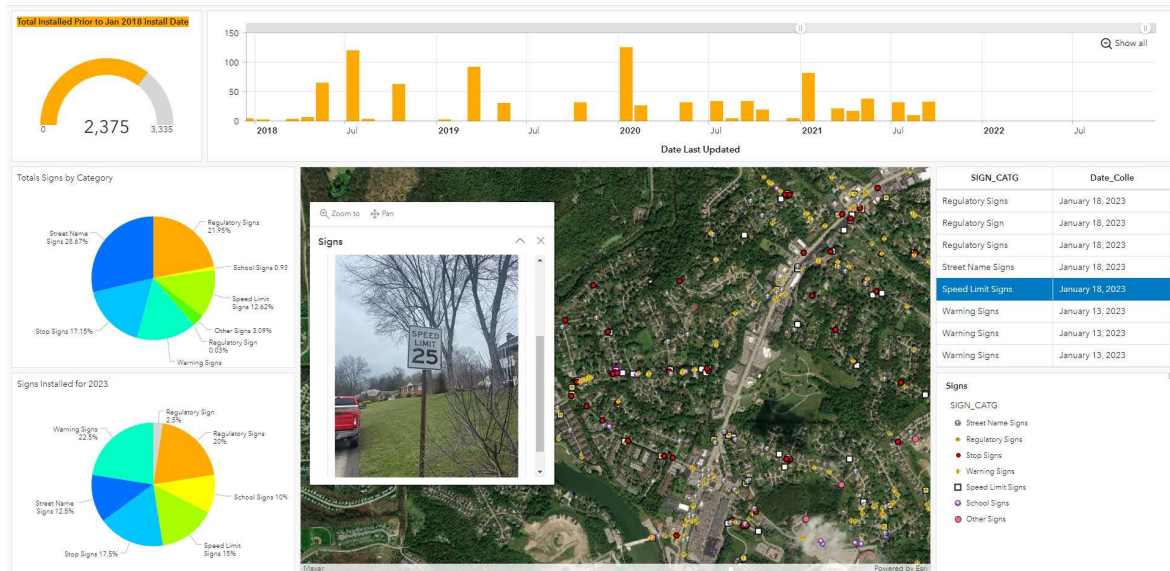
Major Initiatives - 2022



Excerpt from signal equipment inventory

Traffic Signal Asset Management

plan: The Township owns and operates fifteen traffic signals, varying in age from two (2) to forty (40+) years old. Our Traffic Engineer, Traffic Planning & Design, Inc., was engaged to complete an inventory of existing signal equipment and components as well as develop a capital replacement plan for our aging signals. TPD completed this Plan in 2022 and, as a result, a Capital Replacement Plan for the signals along the Route 19 corridor was developed and implemented in the 2023 budget



Geographic Information System: The Township’s GIS Coordinator maintained and updated many important geo-databases and tracked and mapped assets in 2022. Creation of an automated system to update our Traffic Sign Inventory through the Public Works Department and development of a ‘dashboard’ to track and generate reports was a major initiative in 2022/2023. A beta version of the system was up and running by the end of 2022, which will be tested and refined in 2023.

Departmental Support

Street Opening Permits: A substantial amount of utility replacements occurred in 2022. Eighty five (85) permits were issued in 2022 with total fees collected of approximately \$ 13,300. Columbia Gas had thirty (30) permits issued, Pennsylvania American Water had forty-two (42), Peoples Gas had five (5), while communications companies plus Private Contractors totaled eight (8).

Street Name	From Limit	To Limit	Jurisdiction	Status	Class	Mileage	Last Paved	Method	Previous	Length (ft)	Segment #	Survey	Width	Sh Type	Sh Width	Hood	Inlets no	Inlets w/	PCI	CMP?	Review1	Review2	Crack Seal Yr	Crack Seal Yr	Year?
888 Village Green Dr 2	Evergreen Dr	Terminus	Public	Full Status	Local	0.110	2004	New		581	826	200000	20	6	2	0	4	93							
889 W Edgewood Drive 1	Brookside Rd	Brookside Cir	Public	Full Status	Local	0.099	2014	MHP 3.5"	1992	313	541	100607	17.5	6	1.5	2	0	100			2015	2017	2018	991	x
890 W Edgewood Drive 2	Brookside Cir	Rahway Rd	Public	Full Status	Local	0.163	2014	MHP 3.5"	1992	859	457	100606	18.5	6	1.5	3	0	100			2015	2017	2018	991	x
891 W Edgewood Drive 3	Rahway Rd	HSR 204	Public	Full Status	Local	0.045	2014	MHP 3.5"	1992	237	456	100602	18.5	6	1.5	1	0	98			2015	2017	2018	991	x
892 W Edgewood Drive 4	HSR 204	Georgetown Ct	Public	Full Status	Local	0.050	2014	Sc<O 1.5"	1992	160	1211	100603	20.5	6	1.5	0	2	98			2015	2017	2018	991	x
893 W Edgewood Drive 5	Georgetown Ct	Terminus	Public	Full Status	Local	0.070	2014	Sc<O 1.5"	1992	371	455	100604	20	6	1.5	0	3	98			2015	2017	2018	991	x
894 Wallace Drive	E McMurray Rd	Terminus	Private	Private	Private	0.100	N/A			528	1106	200000													
895 Walnut Drive 1	Rouser Mill Rd	Walnut Dr	Public	Full Status	Local	0.174	2003	New		918	1028	101629	20	6	2	0	4	74							
896 Walnut Drive 2	Walnut Dr	HSR 216	Public	Full Status	Local	0.179	2003	New		944	880	101630	20	6	2	0	4	78							
897 Walnut Drive 3	HSR 216	Chevrolet Ct	Public	Full Status	Local	0.175	2003	New		911	1212	101631	20	6	2	0	4	74							
898 Walnut Drive 4	Chevrolet Ct	HSR 202	Public	Full Status	Local	0.051	2004	New		289	885	101632	20	6	2	0	0	76							
899 Walnut Drive 5	HSR 302	Berry Ln	Public	Full Status	Local	0.043	2005	New		227	1223	101633	20	6	2	0	2	90							
900 Walnut Drive 6	Berry Ln	Cypress Ct	Public	Full Status	Local	0.132	2005	New		688	1083	101635	20	6	2	0	4	82							
901 Walnut Drive 7	Cypress Ct	HSR 315	Public	Full Status	Local	0.048	2005	New		255	878	101637	20	6	2	0	0	74							
902 Walnut curve a	HSR 345	Walnut Dr	Public	Full Status	Local	0.091	2003	New		499	1424	101638	20	6	2	0	4	91							
903 Wellington Cir	Bremen Ln	Terminus	Public	Full Status	Local	0.048	2011	Sc<O 1.5"	1983	261	530	101318	20	6	1.5	0	2	97							
904 Waterdam Plaza Dr	Roue 19	Terminus	Private	Private	Private	0.110	N/A			633	729	200000													
905 Waterfall Way	Thompsonville Rd	Nancy Ct	Public	Full Status	Local	0.084	2010	M 1.5" P 2"	1991 New	443	436	100430	20	6	2	0	2	90							
906 Waterdale Dr	McDowney	Terminus	Private	Private	Private	0.301	N/A			1589	709	200000													
907 Welbourn Dr 1	Terminus	Merrifield Dr	Public	Full Status	Local	0.082	2016	New		431	1237		20	6	2	2	2	98							
908 Welbourn Dr 2	Merrifield Dr	Whispering Herge	Public	Full Status	Local	0.067	2016	New		354	1238		20	6	5	2	0	100			2017	2019			
909 Wellington Circle 1	Braeburn Drive	Crimson Lane	Public	Full Status	Local	0.067	2013	New		460	1144	101140	20	6	2	2	0	83			2016				
910 Wellington Circle 2	Crimson Lane	Braeburn Drive	Public	Full Status	Local	0.341	Wearing Not Yet In	New		1800	1147		20	6	2	10	2	100							
911 Whispering Heights Ln 1	Terminus	Welbourn Dr	Public	Full Status	Local	0.075	2016	New		387	1239		20	6	2	0	1	100			2017	2019			
912 Whispering Heights Ln 2	Terminus	Welbourn Dr	Public	Full Status	Local	0.070	2016	New		370	1240		20	6	2	0	2	100			2017	2019			
913 Wills Brar Dr	Harwood Dr	Terminus	Public	Full Status	Local	0.178	2004	New		940	1078	101819	20	6	2	2	4	63							
914 Wilbourn Dr 1	Center Church Rd	Longvue Dr	Public	Full Status	Local	0.150	2004	MHP	1989	793	739	101126	17.5	6	2	2	0	55			2007	2011			
915 Wilbourn Dr 2	Longvue Dr	HSR 105	Public	Full Status	Local	0.020	2004	MHP	1989	107	512	101225	17.5	6	3	0	0	77			2007	2011			
916 Wilbourn Dr 3	HSR 105	Gateshead Dr	Public	Full Status	Local	0.032	N/A			147	1225	101701	20	5	2.75	2	3	61							
917 Will Scarlett Rd 1	King Richard Dr	Terminus (W)	Public	Full Status	Local	0.135	2011	MHP 3.5"	1995	715	339	100925	18	5	2	1	2	94							
918 Will Scarlett Rd 2	King Richard Dr	Terminus (E)	Public	Full Status	Local	0.303	2016	MHP 3.5"	2000	1400	840	100926	21	5	1	1	4	100			2017	2019			
919 Williams Ave	Center Church Rd	Clubview Dr	Public	Full Status	Local	0.185	2019	MHP 3.5"	2002	1503	159	101151	19	6	1.5	1	3	100							
920 Willoughby Ct	Golden Eagle Dr	Terminus	Public	Full Status	Local	0.090	2004	New		473	1080	101895	20	6	2	0	5	88							
921 Willow Dr	Center Dr	Terminus	Public	Full Status	Local	0.113	2016	MHP 3.5"	2000	647	605	101118	19.5	6	1.5	1	1	100			2017	2019			
922 Willow Ln	Bremen Ln	N. Heide Ln	Public	Full Status	Local	0.088	2011	Sc<O 1.5"	1983	467	91	101315	21	6	1.5	0	2	65							
923 Windermere Ct 1	Lexington Dr	Terminus (N)	Public	Full Status	Local	0.116	2002	New		1138	1059	101446	20	6	2	0	7	77							
924 Windermere Ct 2	Lexington Dr	Terminus (S)	Public	Full Status	Local	0.263	2002	New		1389	889	101445	20	6	2	0	6	65							
925 Windsor Ct	Buckingham Dr	Terminus	Public	Full Status	Local	0.057	2012	New		300	1117	400000	20	6	2	2	1	91							
926 Winona Ct	Conford Dr	Terminus	Public	Full Status	Local	0.123	2017	New		650	1264		20	6	2	5	0	100			2018				

Database updates / Asset management:

Databases for storm sewer outfalls, SWM facilities, traffic signs, and pavement management were updated and maintained in 2022.

Excerpt from pavement management database

Permits & Reviews: In addition to routine interaction with the Planning Department regarding residential and commercial land developments, numerous Grading Permits and On-Lot SWM Approvals were reviewed in-house and issued for single-family residential construction. Residential land developments with significant action in 2022 were Juniper Woods, Westbury, Lutz Farm, Royal Estates, Tuscany II, Justabout Farms, Hamlet of Springdale, Pemberly Manor, and Sugarbrooke. This was in addition to many pre-application conference for proposed development within the Township.

Private Land Developments: Engineering review and/or inspection for private land developments (commercial) was light 2022. Notable commercial developments were:

- Hidden Valley Art Studio (Hidden Valley Road)
- 1781 Club (Scenic Valley Golf Corse)

Customer Service: Current and prospective residents and business owners, builders, developers, real estate agents, public utilities, other government bodies and regulatory agencies are some of the 'customers' of the Township whose needs consume a significant portion of Staff time and resources. Customers needs can be many and varied but typically involve the Engineering Department when they concern grading, drainage, infrastructure, construction projects, property lines, zoning & land development matters, property maintenance, mining, floodplains...etc. As the Township continues to grow, customer service will become more time-intensive.

As always, the Engineering Department worked in-hand with the Township Public Works, Planning, and Park & Recreation Departments to diagnose and solve drainage-related issues, pavement problems, and other resident's concerns involving Township infrastructure and park upgrades.

Licensing & Continuing Education

The State requires Professional Engineers to complete 24 Professional Development Hours (PDH) every two years to maintain their license. My license was renewed in September 2021 and will be up for expiration in 2023. I am attending seminars and continuing education events as time permits to meet the necessary PDH requirements for the period from 2021 to 2023.

Outside Consulting

The Gateway Engineers: Appointed as the Primary Consulting Engineer for the Township, the Gateway Engineer's primary role in 2022 was to review subdivision and land development plans to determine compliance with Township ordinances and inspect the installation of public improvements as those developments are constructed. Gateway was primarily involved with Lutz Farms, Sugarbrooke Plan of Lots, Juniper Woods, Justabout Farms, Hamlet of Springdale Phase 3, and Westbury Plan of Lots during 2022. In 2022, Gateway also completed several surveying projects, designed and bid the Marlboro Drive storm sewer project, provided materials testing and inspection for the new Fire Station, and a geotechnical investigation of the Hidden Valley Road landslide.

Traffic Engineer - Traffic Planning and Design (TPD): Appointed as official Township Traffic Engineer, TPD performed several Township-requested studies of traffic issues, traffic counts, general review of traffic issues involving land developments, and completed work on the traffic signal asset management plan.

Lennon, Smith, Souleret Engineering (LSSE): Appointed as the Alternate Consulting Engineer for the Township, LSSE provides review of Gateway Engineer's work if they elect to work for a private entity within the Township or is assigned review of land development plans or given projects at Staff's discretion. In 2022, LSSE was involved with Pemberly Manor, Royal Estates, and Froebe Farms. Additionally, LSSE was engaged to provide bidding documents and construction inspection for the Laurel & Maplewood Drive improvements project.

Mackin Engineering: Continued to provide limited construction inspection services for the Rolling Hills Park project in 2022.

GeoDecisions: They are the Township's GIS consultant and mainly assisted with support and licensing for their new GeoPlan-Web platform.

EPM Architecture: Completed the design and bidding documents for the new fire station on Bebout Road and performed construction administration for the project.

Lab 8 Designs: Provided architectural services for the Public Works Building Renovations, Fire Station #1 overhead door project, and library carpet project.