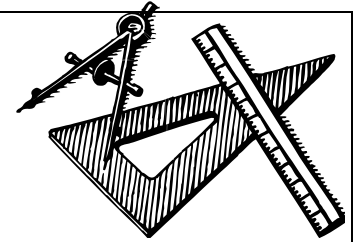


PETERS TOWNSHIP ENGINEERING DEPARTMENT ANNUAL REPORT FOR 2020



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, and represent the Township on various regulatory issues. In 2020, the extensive transportation improvements required to support the development of the former Rolling Hills Country Club property were completed on time and within budget. With completion of this first phase of development, the Engineering Department's focus turned to construction of Rolling Hills Park and supporting infrastructure. In addition to these major capital projects involving the construction of new facilities, 2020 marked another year filled with replacement and maintenance of existing assets for which Peters Township is responsible. Also, Private Land Development within the Township continues to thrive. In 2020, even with the COVID pandemic limiting some aspects of workflows, the Engineering Department assisted with moving the Township agenda significantly forward. Based on the approved Capital Budget for 2021 and private development projects in the pipeline, this coming year will be a challenge.

2020 Staff

Mark A. Zemaitis, P.E. – Director of Engineering
Jason R. DiLoreto, E.I.T. – Assistant Township Engineer
Vinh Q. Ly – Geographic Information Systems (GIS) Coordinator

Design, Permitting, & Construction Pages 1 - 6

New facilities / assets

- Rolling Hills Transportation Improvements
- Rolling Hills Park
- Rolling Hills Aquatics Center
- Briarcliff Open Space – Floodplain Restoration project
- Pelipetz Parking Lot

Expansions/Upgrades of existing facilities/assets

- Storm sewers: Redwood Drive, Fineview Drive

- Traffic Signals: Valleybrook, Center Church, Gallery, & Waterdam
- Parks: Venetia Park & Peterswood Park ADA Upgrades

Replacements/Maintenance of existing facilities/assets

- Street Resurfacing
- Street Rejuvenation
- Street Crack Sealing
- Gas Mains (Columbia) – no significant replacements in 2020
- Water Mains (PA American) – Thompsonville, Sunridge, Fineview, Grandview, Williams, Center Church, Bellwalt, Kimber
- Storm sewers – Shady Lane, Judith Drive, Hidden Valley Manor pond outfall, Robinhood Lane, Gateshead Drive

Regulatory Compliance Page 7

- Peters Lake dam inspection & Emergency Action Plan
- MS4 Permit

Major Engineering Dept. Initiatives - 2020 Page 7 - 8

- 3-year Resurfacing Plan
- Aerial Mapping project

Departmental support Page 8 – 9

- Street Opening Permits – 95 Permits issued in 2019
- Database updates / Asset Management – outfalls, SWM facilities, pavement management system, traffic signs
- Permits & reviews
- Private Land Developments
- Customer service

Licensing & Continuing Education Page 9

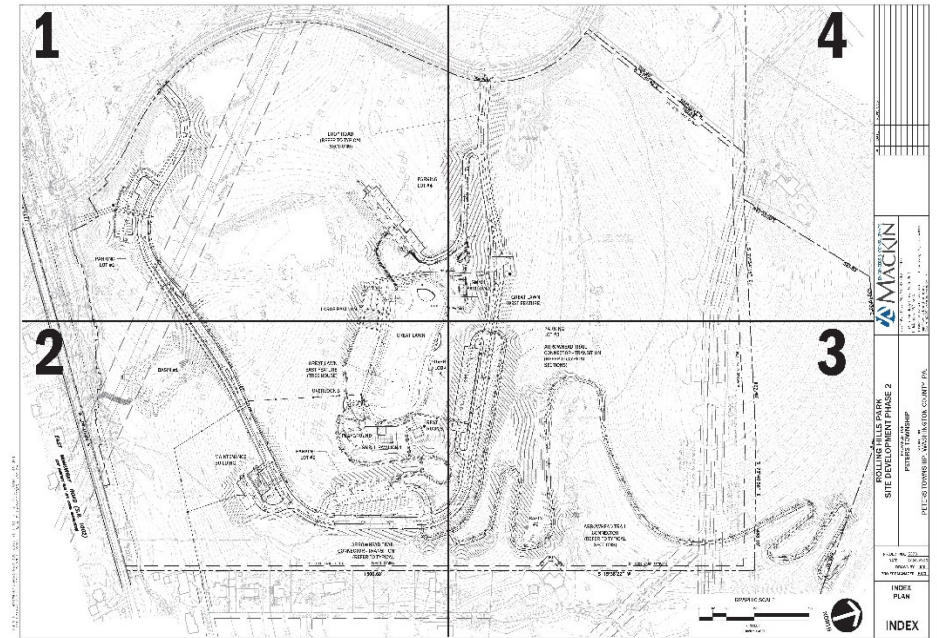
Outside Consulting Page 9

Design & Construction (new facilities/assets)

Rolling Hills Transportation Improvements: Concurrent with approval of permits from PennDOT, bids to re-align approximately 1,500 feet of East McMurray Road and create a new signalized intersection at its intersection with Rolling Hills Drive were opened in February. The low bidder was A. Liberoni, Inc. with a price of \$ 2.4 million. Construction commenced in June with stream relocation, earthwork, and utilities occurring over the summer. Roadway work was completed in September and October with traffic signal work being completed in December. The intersection and Rolling Hills Drive was open to the public on December 22nd.

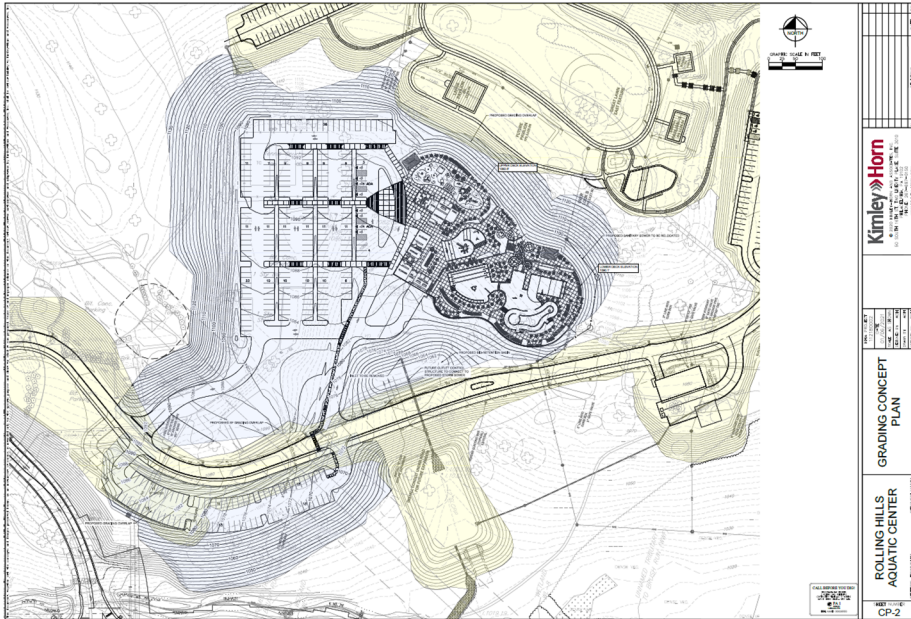


New Traffic signal / intersection of Rolling Hills Drive – Dec. 2020



Design plans for Rolling Hills Park – Phase 1

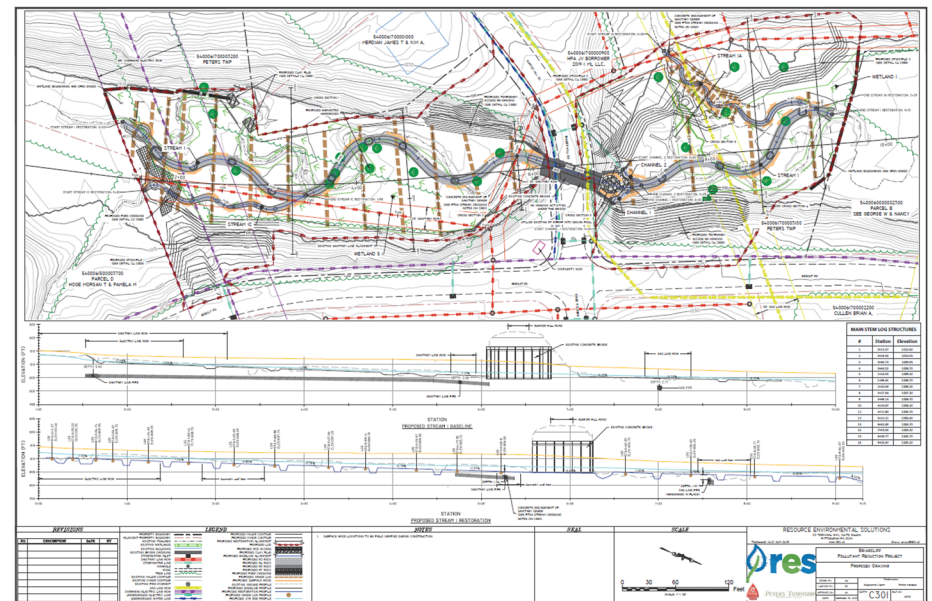
Rolling Hills Park – Phase 1: The design & permitting of the Loop Road, Great Lawn area, Public Works facility, several parking lots, restroom, pavilions, Arrowhead Trail connector, and all utility extensions progressed throughout 2020 and bids were let in October. The successful bidder was A. Liberoni, Inc. with a price of roughly \$ 7 million. Liberoni is currently under contract and has started site preparation work and surveying layout. Earthwork will likely begin in late-winter 2021. The site work for the project is scheduled to be complete by late-2021, with the building component of the project complete by Memorial Day 2022.



Progress print of Aquatics Center site plan

Rolling Hills Park – Aquatics Center: In 2020, a Request for Proposals was developed and consultants interviewed to design an Aquatics Center to be located in Rolling Hills Park. Kimmel-Bogrett Architects and their team of aquatics consultants, business planners, & civil and mechanical engineers was chosen to undertake the design. An aquatics center committee was formed made up of community stakeholders to guide the design process. By the end of 2020, design had progressed to a level where the actual engineering and permitting could begin in early 2021, making it possible for a potential bid letting in the spring.

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. Request for Proposals for professional services to design and permit a Floodplain Restoration Project were advertised in fall 2019. Consultant interviews occurred in early 2020, with the selected consultant being Resource Environmental Solutions (RES). Throughout 2020 RES progressed with design and permitting through the PaDEP, Washington County Conservation District, and US Army Corps of Engineers. In 2021, the course of action is to secure the necessary permits and apply for grant funding to assist with the costs of this significant project.



Excerpt from Briarcliff Open Space Floodplain Restoration Plans

Pelipetz Parking Lot: In 2020, it was realized that the popular location for Arrowhead Trail parking at St. Petersburg Center could be in jeopardy. As such, an alternate location for potential parking was identified and a layout performed on paper and in the field. Clearing for the lot was completed in 2020 and the construction of the lot will be done in 2021 in-house by our Public Works Department.



Design & Construction (expansions/upgrades)

Storm sewer extensions – Redwood Drive: To cure a chronic drainage problem on Redwood Drive, a storm sewer system extension was designed and constructed in-house in early-summer.



Construction of storm sewer system on Redwood Drive

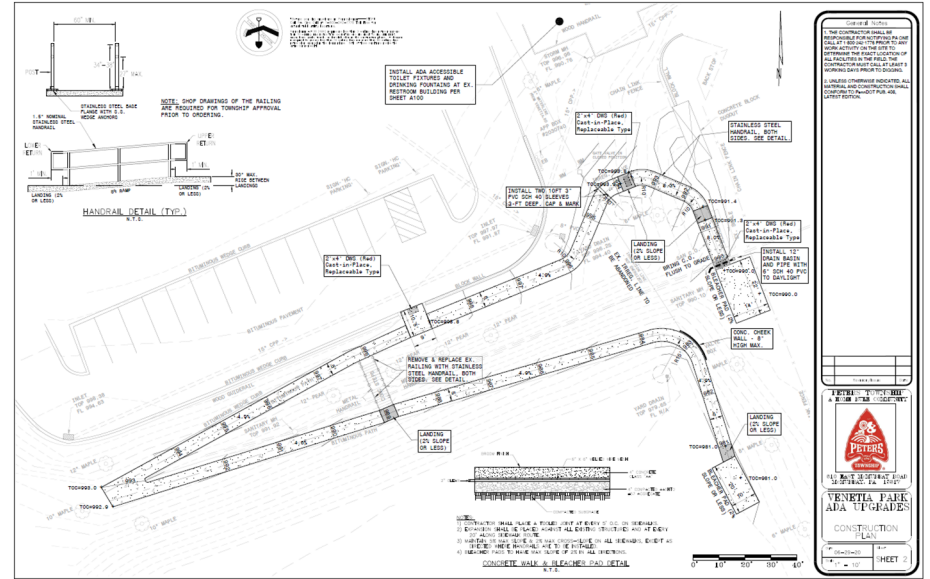
Fineview Drive – As part of a larger contract awarded to Slusarczyk Excavating, a storm sewer was extended off of the end of Fineview Drive (west) to remedy a long-standing drainage issue in this area.

Traffic Signal Upgrades: As part of the Green Light Go grants that the Township received from PennDOT, equipment upgrades to the existing signals at Center Church Road and Valley Brook Road on the East McMurray corridor were installed in early 2020. Also, at the Valleybrook/McMurray intersection, the extending of the existing right-turn lane for traffic traveling eastbound on East McMurray Road was constructed in May under a contract with M.A. Facchiano Contracting. Finally, long awaited upgrades to the signal controller at Waterdam Road and the signal heads at SR 19 & Valleybrook were performed by PennDOT’s contractor (Bronder Technical Services) late in 2020.



Completed turning lane extension at Valleybrook/E McM

Park ADA Upgrades: The Township received a DCED grant to make ADA improvements to Peterswood Park as well as a CBDG Grant for Venetia Park. The Peterswood project (\$300,000) was designed by Mackin Engineering and went under construction in December with Murin & Murn as the contractor. The Venetia project (\$ 105,000) was designed in-house and will go out for bid in early-2021.



ADA Walkway/Ramp design at Venetia Park



ADA Walkway/Ramp construction at Peterswood Park – Dec. 2020

Design & Construction (replacements)

Street Resurfacing Program: All or portions of fourteen (14) different streets were paved by Independent Enterprises in 2020, totaling roughly 4.6 miles. As part of the resurfacing effort, work to rehabilitate deteriorating catch basins and CMP cross-pipes was performed where necessary. All inspection of the work was done in-house by the Assistant Township Engineer, who is NECEPT certified in asphalt inspection. Independent began in May and was substantially complete by late-August. The final cost of Independent's contract was approximately \$ 1.5 million.



Paving speed hump on Oakwood Road

Street rejuvenation program: The rejuvenator program was continued in 2020 at a cost of \$ 125,000. The work performed by Pavement Technology Inc. included the application of Reclamite on all or portions of 42 roadways paved in 2017 and 2019 (1-year and 3-year cycle), totaling 9.75 miles of roadway and 139,163 square yards of pavement.

Crack sealing program: The work in 2020 was performed by Russell Standard Corporation at a total cost of \$ 24,000. The project scope was comprised of streets paved in 2016 (4 years old). Overall, 53,691 linear feet of crack sealing was performed on 27 roadways covering 6.1 miles of pavement. Based on our last four years of experience with the program, 8,500 linear feet of crack sealing per mile of roadway will be used as a guide to estimate scopes of work on future crack sealing projects.

Gas main replacements: Columbia Gas took a respite from major gas main replacement projects in 2020 and simply did pavement restoration of a portion of Thompsonville Road disturbed by 2019 work.

Water main replacements: Pennsylvania American Water Company had an abundance of projects to replace aging, leak-prone mains in Peters in 2020. Multiple contractors for PAWC completed projects on Fawn Valley, Lynbrook, Wilhaven, Hemlock, Center Church, Grandview, Fineview, Sunridge, and Williams Drives. Although funded by the utilities companies themselves, these infrastructure replacements can consume a significant portion of Township staff time on schedule coordination, communications to the public, and spot inspection of the street openings and other project components within the public rights-of-way. A part-time right-of-way inspector was hired during the spring / summer of 2020 to keep up with the demands of this many projects. The inspector's wages are paid by the utility companies through permit fees.

Storm sewer replacements: As part of the contract award to Slusarczyk Excavating in May, three (3) deteriorated corrugated metal pipe systems were replaced on Judith, Hidden Valley, and Robinhood Drives. Slusarczyk completed the work in October at a final cost of approximately \$ 130,000, which included the previously mentioned extension on Fineview Drive.



Deteriorated metal pipe removed from Judith Drive

Storm Sewer Rehabilitations – Slip lining: In winter 2020, Engineering prepared bidding documents and accepted bids for the slip lining of roughly 150 feet of deteriorated corrugated metal culvert on underneath Shady Lane. Due to access and property issues, a bid was awarded, in June, to State Pipe Services in the amount of \$ 67,000. This difficult project was completed in August within budget and without disruption to the neighborhood.



Slip lining operations on Shady Lane

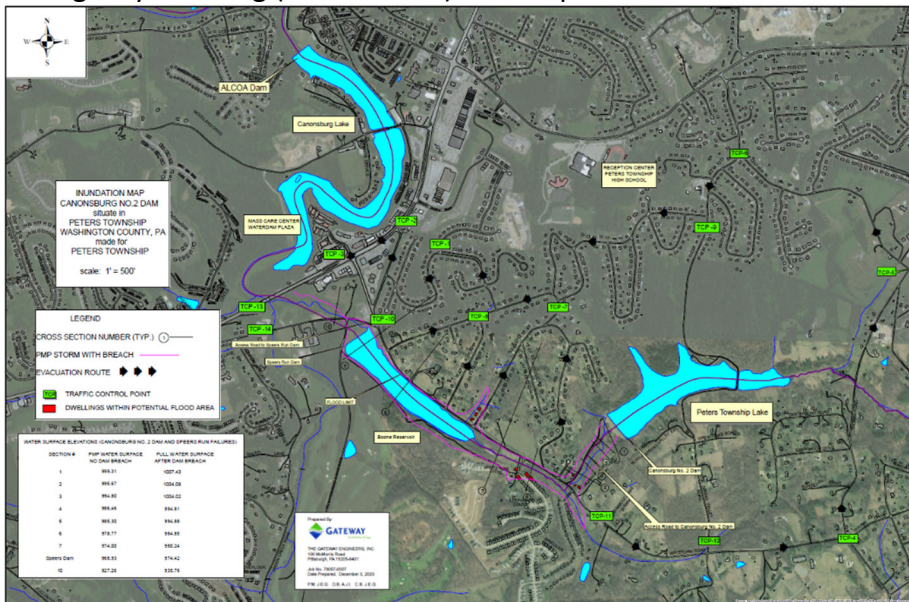


Yard restoration on Robinhood Drive following sewer replacement

Regulatory Compliance

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 2020. A report filed with the DEP stated that no significant deficiencies were found.

Peters Lake Emergency Action Plan (EAP): The EAP for Peters Lake Dam was updated and uploaded into the State’s Comprehensive Emergency Planning (CEMPlanner) on-line platform in November.



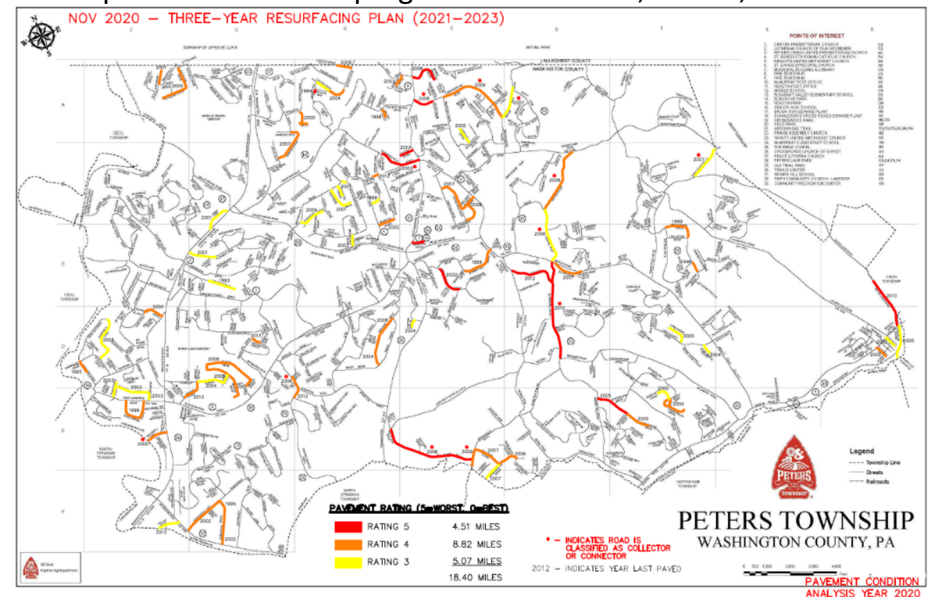
Dam Breach Inundation Map from Peters Lake EAP

MS4 Permit, TMDL, PRP Plans: The required Annual Report summarizing MS4 activities for the previous year was transmitted to PaDEP in September 2020. Routine activities to support the six ‘minimum control measures’ were completed throughout 2020, including screening of outfalls, inspection of stormwater detention

ponds and underground tanks, street sweeping, employee training, ...etc.

Major Initiatives – 2020

3-year Street Resurfacing Plan: Traditionally, every three years, the Engineering Department had conducted surveys of all 116 miles of Township road segments. In 2020, to reduce the amount of time and resources required, we contracted with a new company called RoadBotics. Based out of Carnegie Mellon University, they have developed a software and rating algorithm that rates roads through an automated process which involves driving the road with an electronic camera and uploading the data to their on-line platform. From the information provided by RoadBotics, institutional knowledge of the road network, and future budget projections, a 3-year plan for the resurfacing of township streets was produced. This plan was finalized by the Engineering Department in late-2020 and will be used as a tool to develop annual road programs for 2021, 2022, and 2023.



Three (3) Year Resurfacing Plan 2021 - 2023

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 2019 and will be up for expiration in 2021. I am attending seminars and continuing education events as time permits to meet the necessary PDH requirements for the period from 2019 to 2021.

Outside Consulting

Primary Consulting Engineer: The Gateway Engineer's primary role in 2020 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, Pemberly Manor, Sugarbrooke Plan of Lots, Hamlet of Springdale Phase 7, Justabout Farms, Juniper Woods, and Westbury Plan of Lots during 2020. Gateway also performed surveying of several property

line issues involving Township land and surveying of existing conditions for a road project on Galley Road.

Traffic Engineer - Traffic Planning and Design (TPD): After accepting proposals from qualified firms in the spring of 2020, TPD was re-appointed as the Township's Traffic Engineer. TPD worked on the Green Light-Go projects, performed several Township-requested studies of traffic issues, traffic counts, general review of traffic issues involving land developments, and initiated work on construction plans for Galley Road paving improvements.

Herbert, Rolland, and Grubic (HRG): Was contracted to provide part time construction management support services for the Rolling Hills Transportation Improvements project.

Mackin Engineering: Was continued to provide design & permitting services for the Rolling Hills Park Site Development project. As well, they were engaged to provide part time construction observation services for this project.

Lennon, Smith, Souleret Engineering (LSSE): They are currently the Township's Alternate Consulting Engineer and provide review of Gateway Engineer's work if they elect to work for a private entity within the Township. In 2019 & 2020, Gateway prepared land development plans for the Pemberly Manor Plan of Lots off of Sugar Camp Road. Therefore, LSSE was engaged to review these plans and correspond with the Planning Department regarding their comments.

GeoDecisions: They are the Township's GIS consultant and mainly assisted with support and licensing following the migration to the new GePlan-Web platform in 2019.