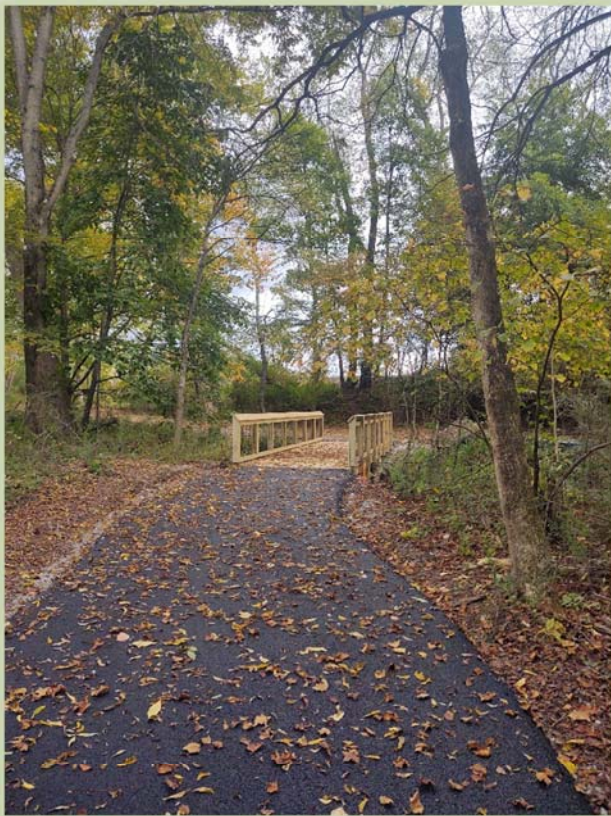


CITY OF WOOSTER  
DIVISION OF ENGINEERING  
2021 Annual Report



**Clear Creek Park**  
**Simonson Construction Services**

Prepared by:  
Roger Kobilarcsik, P.E. – City Engineer  
Amy Hamilton – Administrative Assistant  
February 2022

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**Summary & Narrative**

## **Division of Engineering 2021 Annual Report Executive Summary**

The 2021 Annual Report for the Division of Engineering is contained in the following pages. The intent of this report is to summarize roles and responsibilities of the Division of Engineering, as well as describe the major projects and activities accomplished by the Division of Engineering for the year ending December 31, 2021. Hopefully, this report will provide information that can be used for City organizational, development and infrastructure planning for the coming years.

The Division of Engineering has attempted to meet the City's mission in the most cost-effective way possible. Most infrastructure projects are designed, managed, and inspected in-house by Engineering Division staff, keeping average fees for professional services at 0.78% for 2021. The industry average for design and professional engineering costs is 8% to 11% of the estimated construction costs. The value of engineering services provided by the Engineering Division for projects was over \$1,682,728 in 2021.

The Engineering Division managed over 20 major infrastructure projects in 2021. The total dollar value of construction projects completed or under construction in 2021 was over \$10,412,410. Approximately 40% of the contracts finalized in 2021 came in at or under the contractors' bid price. The division diligently tracks and records quantities, materials stored and other aspects of construction management to ensure the city does not incur unjustified overages.

The Engineering Division is responsible for managing the replacement and improvement of the City's infrastructure. Including construction and development in 2021, the City now has over 472 miles of piping in its utility system and over 137 miles of roadway in its transportation system; 70% of the utility infrastructure is older than 20 years.

The Engineering Division also reviews and issues permits for all utility and site work construction activity in the City, as well as enforcing the city's site development regulations and storm water management regulations. The Engineering Division issued 201 permits in 2021 compared to 179 in 2020.

The Engineering Division is also the City's representative for Ohio811 and is responsible for locating and marking all city-owned utilities whenever requested by contractors and proposed development. These requests have consistently numbered over 2,000 each year since 1991. In 2021 our staff processed 2,977 Ohio811 requests. Per state law, not only are we responsible for physically marking the locations, but we also are responsible for responding to requests electronically. The Engineering Division, along with PPM Traffic, use WEBTMS software to note whether the locations have been marked, have no conflict or if it is a design ticket.

The Engineering Division is also responsible for all mapping, parcel data, addressing, utility information, and traffic control data that is contained in the City's Geographic Information System, or GIS. This information is updated and used by multiple divisions within the city on a daily basis for project planning, design, and maintenance of the City's infrastructure. It is also available to the public through the city's website.

## Division of Engineering Mission Statement and Objectives

**Mission:** Our mission in the City of Wooster, Division of Engineering is to plan, advise, administer, oversee implementation of and document all public works improvements and subdivision development with the aim of providing these services cost-effectively and timely while protecting the public health, safety, and welfare.

**2021 Objectives:** To continue to manage the City’s infrastructure construction and documentation in a way that will provide adequate service to residents, sustain development, and allow for intelligent infrastructure planning. The Division of Engineering attempts to balance the infrastructure needs of the City with the financial resources available. At the same time, current and future development and its associated demands are considered when attempting to develop a strategic plan for infrastructure improvements. The Division strives to provide design engineering services and construction monitoring to keep the outside engineering costs below the 8.5% industry average. We accomplished this goal in 2021 with a 0.78% average.

**Personnel:**

<i>Name</i>	<i>Title</i>	<i>Years Experience</i>
Roger Kobilarcsik	City Engineer, Licensed Professional Engineer	32
John Rice	Staff Engineer, Licensed Professional Engineer	15
Amy Hamilton	Administrative Assistant/Contract Specialist	5
Lance Cole	Project Manager	29
Spencer Gray	Engineering Technician/Drafter	37
Andy Gregory	Engineering Technician/GIS Technician	15
Dave Case	Inspector II, Assoc. Degree Civil Eng. Technology	28
Matt Hill	Inspector II, ODOT Right-of-Way Certification	37
Tim Leach	Inspector II, Assoc. Degree Civil Eng.	12

**Operations:**

O&M costs have remained steady over the past several years. The Division is on a regular schedule for replacing and/or upgrading computer equipment. Inspectors use tablets in the field to access the GIS system and inspection software.

**Capital:**

The current system of infrastructure project prioritization is primarily reactive. Capital improvement projects are currently implemented as portions of the system fail, in response to regulatory mandates, in an effort to avoid lawsuits, or are complaint driven. Funds are limited and the result is that the most needed projects are not always addressed.

Wooster’s Infrastructure Strategic Plan indicates the following funding needs:

- ▶ 73 projects planned for construction from 2022-2025
- ▶ \$21,220,155 in Roadway
- ▶ \$6,920,000 in Water
- ▶ \$16,245,000 in Sewer
- ▶ \$3,470,000 in Storm

The most pressing needs within the next two years are as follows:

1. Water Distribution and Storage – Replacing existing mains and maintenance of water tanks
  - a. Funding Needs in 2022 = \$1,825,000
  - b. Funding Needs in 2023 = \$2,400,000
2. Sewer Collection – Upgrades at the WRRF and Lift Stations
  - a. Funding Needs in 2022 = \$6,335,000
  - b. Funding Needs in 2023 = \$4,575,000
3. Roadways – Paving, traffic signals, streetscape, road reconstruction
  - a. Funding Needs in 2022 = \$8,376,000
  - b. Funding Needs in 2023 = \$7,084,914
4. Storm Sewer – Culvert and storm sewer replacements
  - a. Funding Needs in 2022 = \$1,500,000
  - b. Funding Needs in 2023 = \$580,000

The Engineering Division aggressively seeks outside funding sources in an effort to offset the high costs of infrastructure improvements. The City received \$1,028,092 in grant and loan money in 2021 from various sources such as ODOT, Ohio Public Works Commission, Clean Ohio, Nature Works, and CDBG. These funds have been applied to water system projects, traffic signals, roadway (including reconstruction and resurfacing), and recreation projects.

The chart below details the actual dollars received from the various sources in 2021.

**2020 Funding Received**

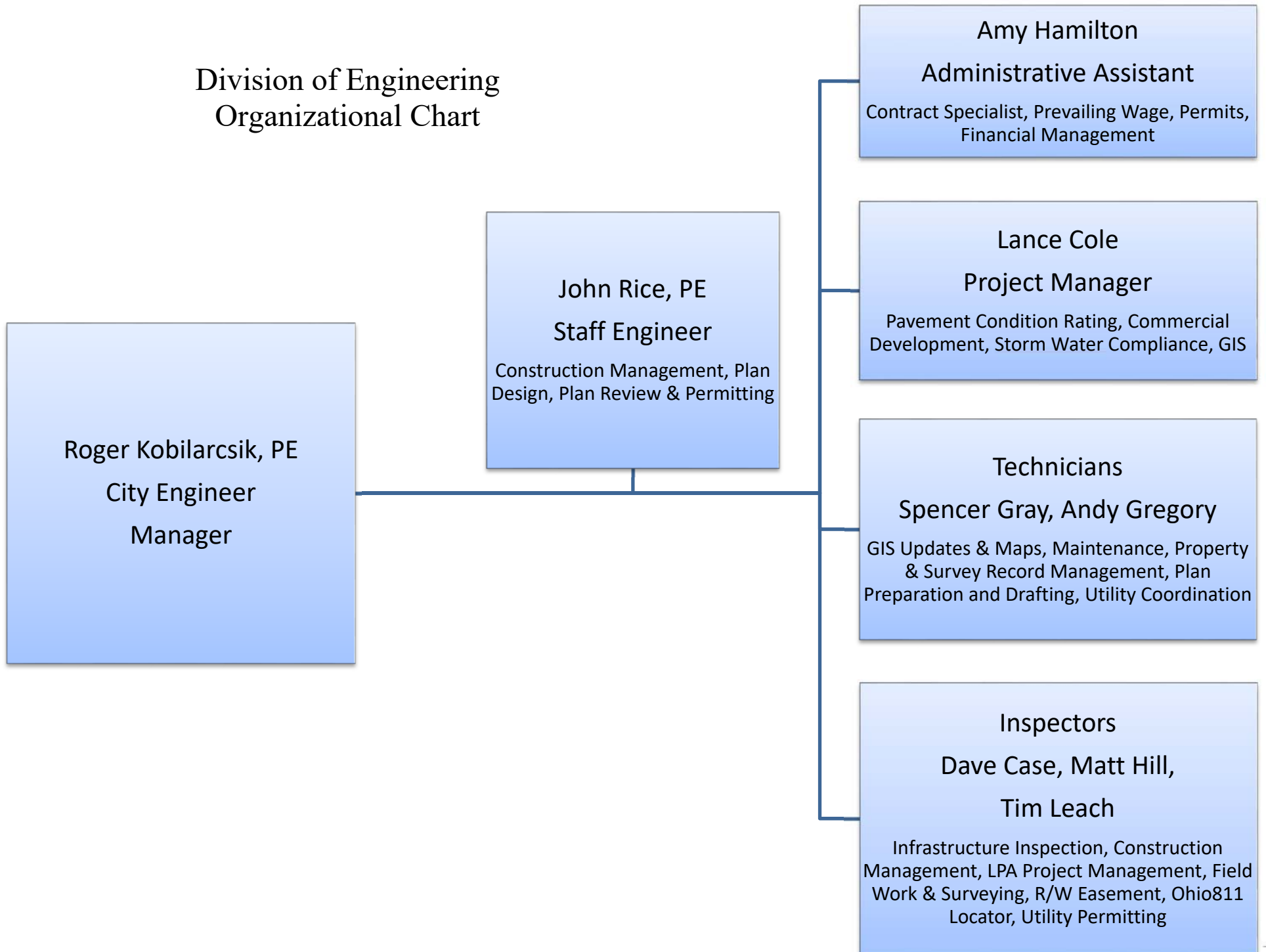
Project	Bid Price	Final Project Cost	Funding Source	Funding Received
W. Highland Ave. Reconstruction	\$1,094,229	Under Construction	OPWC	\$250,000
Sunset Lane Reconstruction	\$678,230	\$717,742	OPWC	\$250,000
SRTS Melrose Drive Sidewalks	\$231,482	\$210,885	ODOT	\$210,885
Bike Path Loop 2	\$914,972	Under Construction	ODOT	\$512,442
WAY-VAR Wooster Streets	\$1,053,789	\$973,018	ODOT	\$532,752
				<u>\$1,756,079</u>
			Total Grant	\$1,673,469

## 2021 Funding Received

<b>Project</b>	<b>Bid Price</b>	<b>Final Project Cost</b>	<b>Funding Source</b>	<b>Funding Received</b>
Lincoln Street Waterline	\$503,265	\$520,353	CDBG	\$247,787
2020 Waterline Replacement	\$1,095,771	\$1,161,358	OPWC	\$385,814
WAY-VAR Wooster Streets FY21	\$537,082	\$493,114	ODOT	\$394,491
				<u>\$1,028,092</u>
			Total Grant	\$1,028,092



# Division of Engineering Organizational Chart





## **Storm Water Management - 2021**

The Division of Engineering is responsible for the City's Storm Water Management Plan and Municipal Separate Storm Sewer System (MS4) mandated by the Ohio EPA. The program entails managing a minimum of six control measures.

- 1) **PUBLIC EDUCATION AND OUTREACH:** The City has formed and maintained a cooperative agreement with Wayne County Soil and Water Conservation District (Wayne SWCD) to educate students and the general public in environmental conservation through programs such as Freddie the Fish, Tree-Mendous Trees, and Tony the Trashbag. The in-school education program was suspended in 2021 because of COVID. Continuation of the program is planned for the future.

The City has also continued several outreach programs to educate residents within the City. These programs included informational letters to residents that maintain septic systems within the City limits called Home Septic Treatment Systems (HSTS) and educational flyers on an annual basis to residents who receive public water, storm, and sanitary services. The City also maintains a public website that provides information to users about the City's stormwater system, how and where to dispose of materials that could impact public waterways, and users can submit stormwater complaints via the web interface directly to the City Engineer and others involved.

- 2) **PUBLIC INVOLVEMENT AND PARTICIPATION:** The College of Wooster, OARDC, and various service organizations partner with the City's Parks Department in park clean-up activities, tree planting, and trail projects. Our website provides links for local information on recycling and connecting users to the Stark-Tuscarawas-Wayne Joint Solid Waste Management District. The City is actively looking for methods to increase public involvement and participation.
- 3) **ILLICIT DISCHARGE DETECTION AND EDUCATION:** The Engineering Division is responsible for locating, mapping, and updating the City's stormwater system onto the GIS. Comprehensive inventories of all public and private outfalls (discharge points of the stormwater system), culverts, HSTS, and permanent Best Management Practices (BMP) are being completed to facilitate the management of these assets and compliance with Ohio EPA permits guidelines. The Engineering Division is completing a comprehensive review of the existing data and making significant modifications to how data is stored to meet new Ohio EPA permit requirements.

The City has formed a cooperative with the Wayne County Health Department Environmental Health Unit to ensure compliance with Ohio EPA requirements about Home Septic Treatment Systems (HSTS) within the City. The Health Department performs regular inspections of the fifty-six (50) identified systems within the City and ensures the owners are on a regular maintenance program. Non-compliant systems must connect to the City sanitary network when available, initiate repairs when feasible, or upgrade to a non-discharging system meeting current EPA requirements.

All HSTS located in the City limits have been inspected and confirmed to be in working order and on a scheduled maintenance plan per EPA requirements. All systems found to be inoperable have been repaired, replaced, or are in the process of implementing repairs and connecting to the City network. In 2021, one system was connected to the City network because of failure, and five (5) locations were connected as part of the West Liberty sanitary sewer extension project. Three (3) business locations, with individual treatment systems, are being reviewed with the Ohio EPA as a business are required to be permitted by the Ohio EPA and do not fall under the jurisdiction of the Wayne County Environmental Health Department.

The City maintains numerous programs to aid in the detecting, preventing, and monitoring the stormwater system in terms of illicit discharge. These programs include smoke testing of areas that have been identified as possible contributors to an illicit discharge. City performed inspections of more than 500 outfalls for signs of contamination, environmental stress, overall structural condition, and proper function. Video inspection of the storm and sanitary systems to evaluate possible infiltration and damage and tree root infestation. The Engineering Division performs annual dry weather screenings to identify other areas possibly requiring further investigation. The City has implemented a new flow monitoring program to establish baseline flow of natural and artificial drainage areas within the City. This monitoring can also be utilized in illicit discharge detection.

- 4) **CONSTRUCTION SITE RUNOFF CONTROL:** This year, thirteen (13) new National Pollution Discharge Elimination System NPDES permits were issued by the Ohio EPA for projects larger than one acre within the City of Wooster MS4. The Engineering Division is responsible for reviewing the plans for these permits, monitoring construction activities for new and previously issued permits, and ensuring compliance with Ohio EPA regulations. The City Project Manager inspects and monitors an average of twenty (20) sites per month for compliance to their approved Storm Water Pollution Prevention Plan (SWP3), proper installation and maintenance of BMPs, and issues notices of noncompliance and violation notices as needed to meet EPA regulations.

The Engineering Division is continuing to incorporate NPDES permit data into the City GIS system to assist in tracking the progress of active NPDES permits and providing historical data for previously issued permits. This effort has been undertaken to meet new requirements of the most recent issuance of the City's MS4 permit and Ohio EPA requirements.

- 5) **POST CONSTRUCTION STORMWATER MANAGEMENT:** The City has completed an inventory of known post-construction stormwater management controls totaling 362 units to date throughout the City. Eighty-five (85) percent of the sites are private commercial locations, and the majority of the remaining fifteen (15) percent are residential developments. cursory site visits have been performed, by the City, of all private units to evaluate the general condition of the stormwater controls and maintenance status. Approximately thirty (30) percent of the private units require extensive maintenance and repair, and forty (40) percent need general maintenance. Public units are inspected and maintained by the City on an annual basis.

The maintenance and inspection by the owner of post-construction stormwater management controls have been a requirement of the Ohio EPA general stormwater permit since 1992. In December 2016, the City was mandated by the Ohio EPA to enforce this requirement as units were not being maintained, resulting in substantial downstream impacts. During 2017 the City worked with the Ohio EPA to develop a program comprised of annual inspection reporting requirements by the owner to the City and professional engineering inspection requirements every five (5) years. The engineer shall issue an engineering certification and corrective requirements on behalf of the owner. This program was to be finalized during 2018, and the first owner/professional inspection reports need to be submitted to the City by May 31<sup>st</sup> of 2019. However, this program implementation has been delayed because the final issuance of the Ohio EPA Municipal Separate Storm Sewer Systems (MS4) permit was not completed until April 2021.

- 6) **POLLUTION PREVENTION/GOOD HOUSEKEEPING:** In 2013, the City implemented a Stormwater Pollution Prevention Plan for the Wooster Service Center as part of the City's MS4 permit. The plan addresses service center activities, methods to minimize exposure, good housekeeping, spill prevention and response, surface water runoff management, waste and garbage management, and

dust generation control. The plan is jointly managed by PPM and Engineering to implement training, inspections, documentation, and meet compliance requirements. The Stormwater Pollution Prevention Plan for the Wooster Service Center is due for renewal in 2019. Several new quantifiable programs are being implemented to control salt application during the winter season and manage roadway sweeping debris to minimize environmental impacts.

During 2022/2023 the City will continue to implement modifications to the stormwater management plan to meet current and forthcoming Ohio EPA requirements. These are outlined below:

- 1) February 2022 – Finalize identifying post-construction stormwater management controls and determine ownership. Send initial letters to the owners informing them of their obligations and reporting requirements.
- 2) March 2022 – Update the City of Wooster stormwater management plan to meet the new Ohio EPA Municipal Separate Storm Sewer Systems (MS4) permit
- 3) April 2022 – Submit the City of Wooster updated stormwater management plan to the Ohio EPA for final approval.
- 4) April/May 2022 – Ohio EPA to finalize the new Ohio General Stormwater Permit for MS4. The City is required to implement the new requirements effective immediately upon issuance. The City will inform contractors, developers, and design firms of the forthcoming changes as information become available. The proposed significant modifications to the permit include:
  - a. All reported data to the Ohio EPA and City goals shall be based on quantifiable numbers rather than projected estimates. The City shall be accountable for meeting our goals or revising our stormwater management plan.
  - b. Ohio Department of Natural Resources is finalizing local stream evaluations and will be issuing requirements to improve the condition of streams found to be substandard. These requirements will need to be incorporated into the City stormwater management plan when applicable
  - c. The Ohio EPA is still revising the Ohio Rainwater and Land Development Manual to meet the current Ohio EPA General Stormwater Permit Requirements. The City is making regular updates to our stormwater management plan and Site Development Manual to comply with new requirements.
- 5) May 2020 – Second notice to be sent to Owners of post-construction stormwater management controls informing them of their obligations and first required reporting to be completed by May 2020.
- 6) June to August 2020 – begin evaluating estimated stormwater unit (ESU) calculations utilizing new 2021 imagery to determine the current City average ESU and billable ESUs for commercial sites.
- 7) July 2020 – Annual Ohio EPA audit and site visits.
- 8) December 2020 – To comply with Ohio EPA requirements, the City must have the following programs in place before December 31st, 2022.
  - a. Submit a revised stormwater management plan addressing the new MS4 stormwater permit requirements

- b. Finalize the post-construction stormwater management control inventory and inspection program.
  - c. Maintain active and historical Ohio EPA general stormwater permit records and inspection data available in a physical or digital form.
  - d. Finalize implementation of the Home Septic Treatment Systems (HSTS) inventory within the City and ensure the units are on a scheduled maintenance program.
- 9) January 2023 – Tentatively, the first annual stormwater control inspections reports will be due for 2022 by private entities. The deadline may be delayed until 2023 to allow sufficient time for private entities to implement an inspection program.
- 10) February 2023 – Owners who fail to provide the required post-construction stormwater management control inspections, maintenance, and documentation shall be issued a Notice of Violation by the City and given 30 days to correct the issue. Failure to respond shall result in:
- a. The owner will lose any stormwater ESU credits/discounts for commercial establishments receiving these discounts for one year and resolving all issues.
  - b. The City shall retain a qualified individual to perform regular or professional inspections and charge the owner(s) for these services via utility billing or tax assessment.
  - c. Provide the owner 30 days to complete any needed repairs before the City retains a contractor to complete the work and bill/assess the owner(s).

## 2021 INFRASTRUCTURE PROJECT NARRATIVE


The Engineering Division managed more than 20 major projects in 2021. Roadway and sanitary sewer projects accounted for the majority of the \$10,412,410 in infrastructure improvements. The staff of nine designed, inspected and administered three waterline projects, five sanitary projects, seven roadway or sidewalk projects, three storm sewer projects, and two miscellaneous projects.

The following pages give a brief synopsis of our 2021 major infrastructure projects.



## 2021 Projects Completed or Under Construction

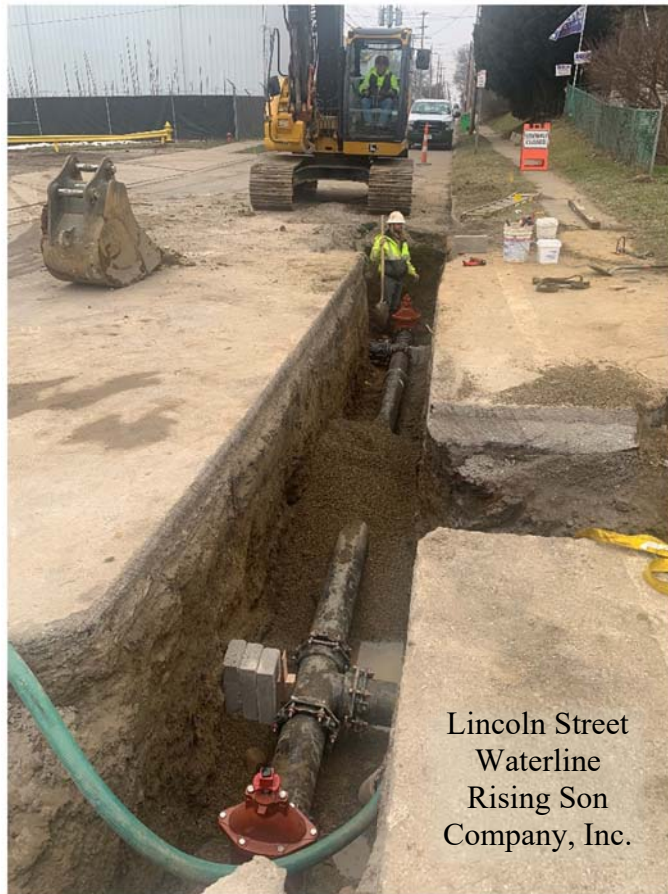
### **ROADWAY – SIDEWALK PROJECTS - (7 projects - \$3,737,410 Estimated Construction Costs)**

<p>2021 Wooster Street Resurfacing</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: January 2021</li> <li>• Estimate: \$700,000</li> <li>• Contractor: Kokosing Construction Co.</li> <li>• Bid Price: \$630,154</li> <li>• Final Cost: \$745,265</li> <li>• Completed: August 2021</li> </ul>	<p>WAY-VAR Wooster Streets FY21</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: ODOT &amp; Local</li> <li>• Bid Date: December 2020</li> <li>• Estimate: \$675,000</li> <li>• Contractor: Melway Paving Co., Inc.</li> <li>• Bid Price: \$537,082</li> <li>• Final Cost: \$493,114</li> <li>• Completed: August 2021</li> </ul>	<p>Beall Avenue Crosswalk Removal</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: May 2021</li> <li>• Estimate: \$175,000</li> <li>• Contractor: Chagrin Valley Paving</li> <li>• Bid Price: \$186,656</li> <li>• Final Cost: \$195,309</li> <li>• Completed: September 2021</li> </ul>
<p>Buchholz &amp; Greensview Concrete Pavement Repairs</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: February 2021</li> <li>• Estimate: \$300,000</li> <li>• Contractor: TR Snyder Construction</li> <li>• Bid Price: \$242,959</li> <li>• Final Cost: \$492,856</li> <li>• Completed: December 2021</li> </ul>	<p>Daisy Way Extension</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: August 2020</li> <li>• Estimate: \$976,000</li> <li>• Contractor: Fechko Excavating</li> <li>• Bid Price: \$767,940</li> <li>• Final Cost: \$881,058</li> <li>• Completed: August 2021</li> </ul>	<p>Sidewalk Improvements</p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local, CAP</li> <li>• Bid Date: April 2020</li> <li>• Estimate: \$49,500</li> <li>• Contractor: Sloan Concrete &amp; TR Snyder Construction</li> <li>• Quoted Price: \$45,000</li> <li>• Final Cost: \$46,279</li> <li>• Completed: September 2021</li> </ul>
<p>Wooster Bike Loop Phase 2</p> <ul style="list-style-type: none"> <li>• Designed: Poggemeyer</li> <li>• Funding: Local, ODOT</li> <li>• Contractor: S.E.T., Inc.</li> <li>• Estimate: \$861,910</li> <li>• Bid Price: \$914,972</li> <li>• Final Cost: \$854,492</li> <li>• Completed: March 2021</li> </ul>	 <p style="text-align: center;">Daisy Way Extension Fechko Excavating</p>	



## 2021 Projects Completed or Under Construction

<b>WATER PROJECTS</b>		
(3 projects - \$2,025,000 Estimated Construction Costs)		
<p><b>2020 Waterline Replacements</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local, OPWC</li> <li>• Bid Date: February 2021</li> <li>• Estimate: \$1,100,000</li> <li>• Contractor: Palmer &amp; Son Excavating, Ltd.</li> <li>• Bid Price: \$1,095,771</li> <li>• Final Cost: \$1,161,358</li> <li>• Completed: October 2021</li> </ul>	<p><b>Lincoln Street Waterline</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local, CDBG</li> <li>• Bid Date: August 2020</li> <li>• Estimate: \$600,000</li> <li>• Contractor: Rising Son Co., Inc.</li> <li>• Bid Price: \$503,265</li> <li>• Final Cost: \$520,353</li> <li>• Completed: June 2021</li> </ul>	<p><b>WTP Solids Contact Clarifier Painting</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: February 2020</li> <li>• Estimate: \$325,000</li> <li>• Contractor: Mohon Blastings &amp; Coatings</li> <li>• Bid Price: \$254,000</li> <li>• Final Cost: \$254,000</li> <li>• Completed: January 2021</li> </ul>



Lincoln Street  
Waterline  
Rising Son  
Company, Inc.



## 2021 Projects Completed or Under Construction

<b>SANITARY SEWER PROJECTS</b> (5 projects - \$2,710,000 in Estimated Construction Costs)		
<p><b>2021 Sanitary Sewer Lining</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: July 2021</li> <li>• Estimate: \$240,000</li> <li>• Contractor: Insituform Technologies</li> <li>• Bid Price: \$187,529</li> <li>• Under Construction</li> </ul>	<p><b>Five L Farm Utility Extension</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: May 2021</li> <li>• Estimate: \$272,500</li> <li>• Contractor: G.E. Baker Construction</li> <li>• Bid Price: \$263,460</li> <li>• Final Cost: \$258,334</li> <li>• Completed: December 2021</li> </ul>	<p><b>WRRF Sludge Storage Tank</b></p> <ul style="list-style-type: none"> <li>• Designed: Green Arrow Engineering</li> <li>• Funding: Local</li> <li>• Bid Date: April 2020</li> <li>• Estimate: \$2,000,000</li> <li>• Contractor: Bogner Construction</li> <li>• Bid Price: \$2,270,000</li> <li>• Final Cost: \$2,223,456</li> <li>• Completed: August 2021</li> </ul>
<p><b>N. Walnut Street Sanitary Sewer Replacement</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$55,000</li> <li>• Contractor: Dirt Dawg Excavating, LLC</li> <li>• Bid Date: October 2021</li> <li>• Bid Price: \$68,164</li> <li>• Under Construction</li> </ul>	<p><b>Stibbs Street Sanitary Sewer Replacement</b></p> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$142,500</li> <li>• Contractor: Dirt Dawg Excavating, LLC</li> <li>• Bid Date: October 2021</li> <li>• Bid Price: \$152,566</li> <li>• Under Construction</li> </ul>	



N. Walnut Street Sanitary Sewer  
Dirt Dawg Excavating, LLC

## 2021 Projects Completed or Under Construction

<b>STORM SEWER PROJECTS</b>			(3 projects - \$140,000 Estimated Construction Costs)
<b>Cleveland Road Storm Sewer</b> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$80,000</li> <li>• Bid Date: July 2021</li> <li>• Contractor: Dirt Dawg Excavating, LLC</li> <li>• Bid Price: \$102,501</li> <li>• Final Cost: \$90,789</li> <li>• Completed: November 2021</li> </ul>	<b>Friar Tuck Storm Sewer</b> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$35,000</li> <li>• Quoted Price: \$33,830</li> <li>• Contractor: Palmer &amp; Son Excavating, Ltd.</li> <li>• Final Cost: \$40,230</li> <li>• Completed: December 2021</li> </ul>	<b>Woodcrest Drive Storm Sewer Replacement</b> <ul style="list-style-type: none"> <li>• Designed: Engineering</li> <li>• Funding: Local</li> <li>• Estimate: \$25,000</li> <li>• Contractor: Palmer &amp; Son Excavating, Ltd.</li> <li>• Quoted Price: \$22,235</li> <li>• Final Cost: \$19,475</li> <li>• Completed: August 2021</li> </ul>	





## 2021 Projects Completed or Under Construction

### **MISCELLANEOUS PROJECTS** (2 projects - \$1,770,000 Estimated Construction Costs)

#### Downtown Streetscape Phase 3

- Designed: OHM
- Funding: Local
- Bid Date: February 2021
- Estimate: \$900,000
- Contractor: Shrock Premier Custom Construction
- Bid Price: \$786,258
- Under Construction

#### Clear Creek Park

- Designed: Environmental Design Group
- Funding: Local, OPWC, & ODNR
- Estimate: \$870,000
- Bid Date: June 2020
- Contractor: Simonson Construction
- Bid Price: \$916,847
- Under Construction



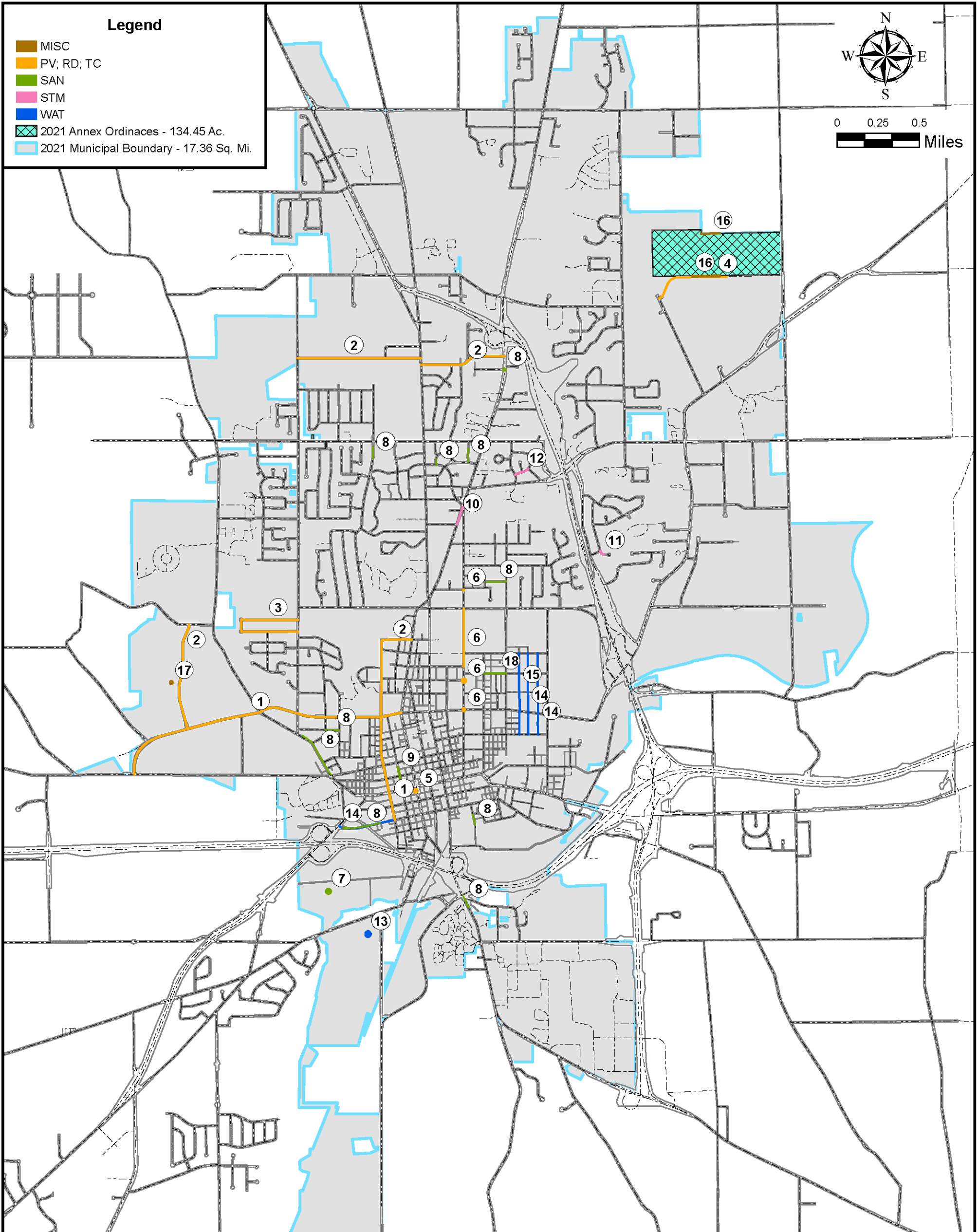
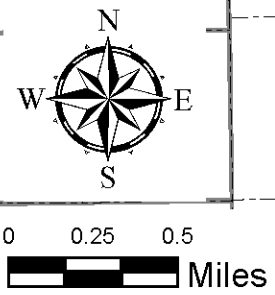
Downtown Streetscape Phase 3  
Shrock Premier Custom Construction

## **INFRASTRUCTURE PROJECTS SCHEDULED/PLANNED FOR 2022:**

1. **WAY-VAR Wooster Streets FY22:** Melway Paving was awarded the contract for this project, which will be primarily funded by ODOT Large Cities funds, and includes resurfacing Beall Avenue (Liberty to Bloomington Drive), Cleveland Road (Quinby to Elm), and S. Columbus Avenue (Corp limit to Liberty Street). The contract price is \$1,025,028.13.
2. **2022 Wooster Streets Resurfacing:** This project includes resurfacing of portions of Christmas Run Blvd., Morgan Street, Saunders Drive, and McKinley Street (North of Bowman). The estimated cost of this project is \$925,000 and bids will be opened on January 25, 2022. Work should be completed by the end of August 2022.
3. **West Milltown Road Turn Lanes:** The project involves the addition of right turn lanes on W. Milltown Road just west of the intersection with SR 83. The contract was awarded to Grassbaugh LLC for \$318,099 and should be completed by September 2022.
4. **Kieffer Street Waterline Replacement:** This project involves the replacement of the waterline serving Kieffer Street from Beall to Sandalwood. The estimated construction cost of the waterline is \$600,000 and bids will be opened in February 2022.
5. **2021-2022 Wooster Concrete Pavement Replacement:** D.L. Smith Concrete was awarded the contract to replace approximately 14,586 square yards of concrete pavement on various streets. The contract price is \$1,236,250 and the work should be completed by November 2022.
6. **Bever/Henry/South & Market/Henry/South Traffic Signals:** Perram Electric will replace the traffic signals at the intersections of Bever/Henry, Bever/South, Market/Henry, and Market/South and will also install pedestrian crossing signals at these intersections. Perram's contract price is \$611,450 and the completion date is November 2022.
7. **Industrial Park Water Tank Painting:** This project includes interior and exterior painting, tank repair work, and cathodic protection replacement for the 250,000 gallon elevated water tank on Old Airport Road. D&M Painting Corporation was awarded the contract for a price of \$280,540. The tank work should be completed by August 2022.
8. **N. Bauer Road Waterline Replacement:** This project requires installation of approximately 1,042 feet of 8" ductile iron water pipe, including valves and hydrants, and approximately 5 water service reconnections. Dirt Dawg Excavating was awarded the contract for a bid price of \$128,764. Work should be completed by June 2022.
9. **South Street Waterline Replacement:** Palmer & Son Excavating was awarded this contract, which consists of the installation of approximately 1,222 feet of 12" ductile iron water pipe, including valves and hydrants, a railroad crossing, and approximately 13 water service reconnections. Their bid price was \$341,179 and the waterline should be completed by June 2022.
10. **Melrose Drive Reconstruction:** Melrose Drive will be reconstructed from Milltown Road north to Smithville-Western Road. The project includes, but is not limited to, road widening, paving, installing storm sewer, catch basins, manholes, curbs, gutters, sidewalks, drive approaches, and a multi-use path. In addition to grant funding from OPWC, the City will use money from both General Fund and Enterprise Funds, as well as assessments from residents benefitting from the project. The construction estimate is \$3,860,000 and the project is planned for bidding in Spring 2022.

**Legend**

- MISC
- PV; RD; TC
- SAN
- STM
- WAT
- 2021 Annex Ordinances - 134.45 Ac.
- 2021 Municipal Boundary - 17.36 Sq. Mi.



**2021 City Infrastructure Projects**

Completed or In-Progress 1/1/2021 to 12/31/2021

Completed Projects					
#	PROJECT NAME	DESCRIPTION	CONSTRUCTION DATES	PRIMARY FUNDING SOURCE	YEAR
1	WAY-VAR Wooster Streets FY21	Paving	Completed Aug, 2021	ODOT, Local	2021
2	2021 Wooster Street Resurfacing Project	Paving	Completed Oct, 2021	Local	2021
3	Buchholz Dr & Greensview Dr Concrete Pavement Repairs	Concrete Repairs	Completed Dec, 2021	Local	2021
4	Daisy Way Extension	Construct Roadway	Completed Aug, 2021	Local, TID	2021
5	Downtown Streetscape Phase 3	Development	Completed Dec, 2021	Local	2021
6	Beall Avenue Crosswalk Removal	Replacement	Completed Sept, 2021	Local	2021
7	WRRF - Sludge Storage Tank	Construct Sludge Storage Tank	Completed Aug, 2021	Local	2021
8	2021 Sanitary Sewer Lining	Sanitary Lining	Completed Dec, 2021	Local	2021
9	N. Walnut Street Sanitary Sewer Replacement	Sanitary Sewer Replacement	Completed Nov, 2021	Local	2021
10	Cleveland Road Storm Sewer	Storm Sewer Improvements	Completed Nov, 2021	Local	2021
11	Woodcrest Drive Storm Sewer Replacement	Storm Sewer Improvement	Completed Aug, 2021	Local	2021
12	Friar Tuck Circle Storm Sewer	Storm Sewer Replacement	Completed Dec, 2021	Local	2021
13	WTP Solids Contact Clarifier Painting	Painting	Completed Jan, 2021	Local	2021
14	2020 Waterline Replacements (Henry, McKinley & Washington)	Waterline Replacements	Completed Oct, 2021	Local, OPWC	2021
15	Lincoln Street Waterline Replacement	Waterline Replacement	Completed June, 2021	Local	2021
16	Five L Farm Utility Extension	Sanitary and Water Improvements	Completed Sept, 2021	Local	2021
17	Clear Creek Park	Development	Completed Dec, 2021	Local	2021
In-Progress Projects					
#	PROJECT NAME	DESCRIPTION	CONSTRUCTION DATES	PRIMARY FUNDING SOURCE	YEAR
18	Stibbs Street Sanitary Sewer Replacement	Sanitary Sewer Replacement	Under Construction	Local	2021



**CITY OF WOOSTER**  
**DIVISION OF ENGINEERING**  
 235 N. MAIN ST. WOOSTER, OH 44691  
 TEL: (330) 263-3251 FAX: (330) 263-3283  
 70021 V. <3D LARC2K CTY INCHES> \*kobilasak@woosteroh.com

## Private Developments

### 1. Private Subdivisions/Commercial Property under Construction:

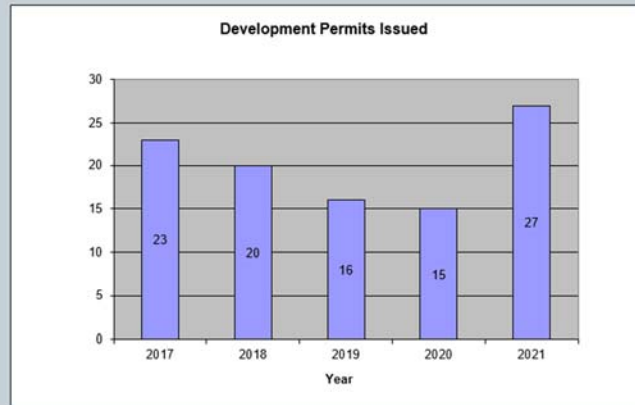
The Engineering Division saw 12 more Development Permits issued in 2021 (27) as compared to 2020 (15). New construction projects and additions to existing facilities made up a majority of the work.

Permits for the construction of Meijer, Menard's, Wooster Brush Facility, FedEx Distribution Facility, and the Wooster Innovation Center for Frito Lay top the list in terms of largest development projects. All five projects are new construction.

All private developments require oversight and permit approval from the City Engineering Division for compliance with the Wooster Site Development and Improvement Regulations. The Engineering Division reviews all plans and provided inspection of all these developments.

City of Wooster Engineering Development Permits						2021
DEVELOP. #	PERMIT NO.	PROJECT NO.	NAME / DESCRIPTION	SITE IMP.S COST ESTIMATE	PERMIT FEE	DATE RECEIVED
1	DP-21-1		Lowry Student Center Renovation 2021	\$ 25,000	\$ 5,029	03/05/21
2	DP-21-2		Tartan Ridge Phase 3	\$ 200,000	\$ 8,251	03/08/21
3	DP-21-3		E-Pak Manufacturing - Phase 1	\$ 10,000	\$ 1,938	03/08/21
4	DP-21-4		Hospice alt and add 2021	\$ 150,000	\$ 3,187	03/19/21
5	DP-21-5		GOJO Waste/Water Expansion	\$ 600,000	\$ 500	03/19/21
6	DP-21-6		E-Pak Manufacturing Phase 2	\$ 25,001	\$ 4,832	04/12/21
7	DP-21-7		Wooster Innovation Center - Frito Lay	\$ 11,000,000	\$ 25,062	04/27/21
8	DP-21-8		Menard's Store Construction	\$ 8,000,000	\$ 29,157	05/27/21
9	DP-21-9		Panda Express New Build	\$ 950,000	\$ 2,498	06/03/21
10	DP-21-10		OSU Wooster Pathways	\$ 370,000	\$ 1,731	06/09/21
11	DP-21-11		Belmont Crossings Utilities	\$ 3,500,000	\$ 40,332	06/11/21
12	DP-21-12		Minglewood 2021 Alt	\$ 10,000	\$ 934	07/12/21
13	DP-21-13		WCS Melrose Drainage	\$ 26,650	\$ 150	07/20/21
14	DP-21-14		East Liberty 15,824 SF Mixed Use Building	\$ 10,000	\$ 2,497	07/23/21
15	DP-21-16		Wooster Supply HP Upgrade - Phase 1	\$ 100,000	\$ 2,605	08/12/21
16	DP-21-17		Venture Blvd Office - Warehouse new 10,800 SF building	\$ 100,000	\$ 5,278	09/02/21
17	DP-21-18		Wooster Brush Facility - 2021	\$ 6,000,000	\$ 15,929	09/20/21
18	DP-21-19		Subway new 2,030 SF building	\$ 500,000	\$ 2,636	09/23/21
19	DP-21-20		180 Community Crossroads Storage Building	\$ 40,000	\$ 500	09/28/21
20	DP-21-23		Wooster Supply HP Upgrade - Phase 2	\$ 100,000	\$ 13,552	10/20/21
21	DP-21-21		Wooster Youth Baseball Fields	\$ 20,000	\$ 4,176	10/14/21
22	DP-21-22		Wendy's Beall Ave 2021 alt	\$ 900,000	\$ 1,255	10/19/21
23	DP-21-24		Daisy Brand Finished Goods Cooler Expansion	\$ 1,000,000	\$ 5,712	10/22/21
24	DP-21-25		180 Residential Facility 2021	\$ 775,000	\$ 4,128	10/28/21
25	DP-21-26		Akron-Long Fitness Ctr	\$ 25,000	\$ 3,813	11/17/21
26	DP-21-27		FedEx Distribution Facility	\$ 50,000,000	\$ 47,160	11/30/21
27	DP-21-28		Meijer Grocery/Gas Station Construction	\$ 10,000,000	\$ 17,916	12/23/21
				<b>\$ 94,436,651</b>	<b>\$ 250,759</b>	

## 2017 – 2021 Development Permits



### **ENGINEERING FEES AND REVENUES:**

The following table details the revenues received by the Division of Engineering from 2017 through 2021.

	2017	2018	2019	2020	2021
Single Inspection	\$7,450.00	\$6,750.00	\$11,400.00	\$6,550.00	\$6,450.00
Construction Inspection	\$21,826.81	\$33,768.00	\$16,588.62	\$17,563.15	\$61,213.25
Plan Review Fee	\$63,017.33	\$45,827.00	\$37,896.00	\$34,015.50	\$81,072.00
Plan Copies	\$3,140.13	\$5,140.22	\$5,124.00	\$3,036.00	\$3,627.62
Yard Pipe Permit	\$0.00	\$0.00	\$0.00	\$130.00	\$0.00
Sanitary Sewer Permit	\$320.00	\$1,300.00	\$2,080.00	\$2,370.00	\$1,170.00
San. Sewer Availability Charge	\$51,538.96	\$30,884.00	\$31,720.00	\$52,718.25	\$41,979.20
Water Availability	\$5,066.60	\$31,748.00	\$30,480.00	\$66,452.64	\$49,450.00
Water Service Permit	\$240.00	\$2,901.00	\$1,560.00	\$1,870.00	\$520.00
Development Permit Waiver	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>TOTAL FEES COLLECTED</b>	<b>\$152,599.83</b>	<b>\$158,318.22</b>	<b>\$136,848.62</b>	<b>\$184,705.54</b>	<b>\$245,482.07</b>



<b>Permissive Tax Revenue:</b>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2020</u>
	<b>\$118,655.12</b>	<b>\$75,339.07*</b>	<b>\$110,878.88</b>	<b>\$136,603.28</b>	<b>\$115,064.85</b>

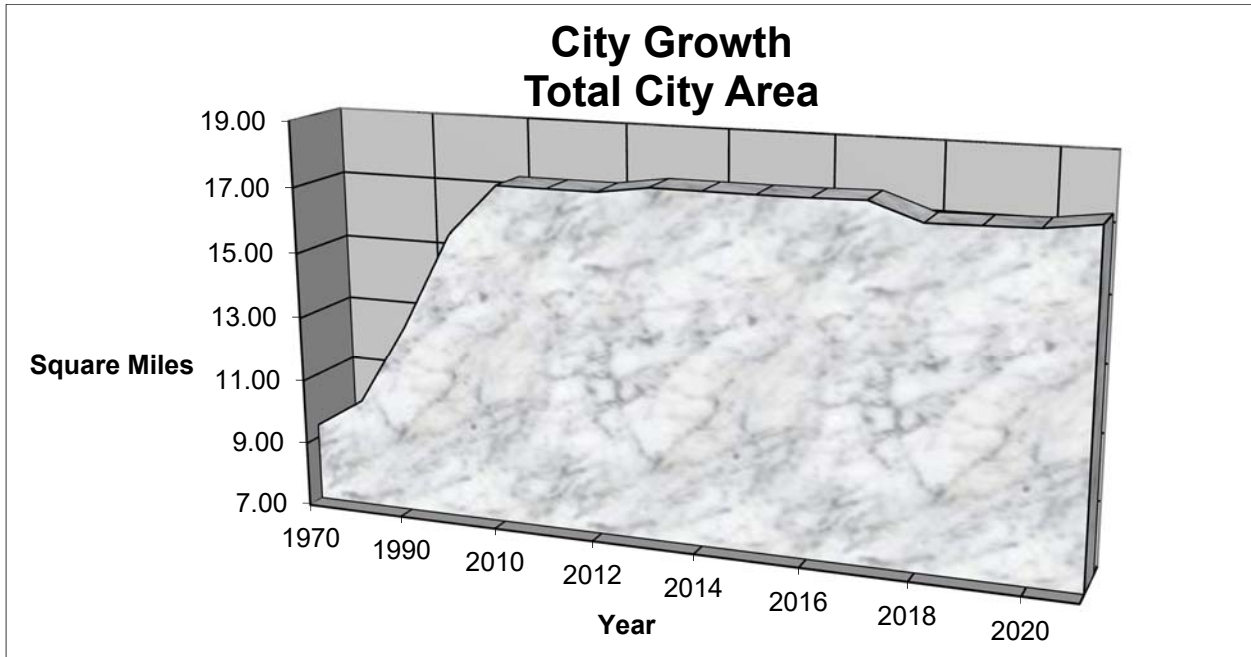
\*The Wayne County Engineer began sending reports on a quarterly basis in 2018.

Permissive tax revenue represents the portion of the state vehicle license tax received by the City. These funds are released to the City based on roadway construction expenditures for projects managed by the Division of Engineering. The Division requests disbursement of these funds when they become available. The total funds requested and released from 1969 to December 2021 is \$5,114,251.25.

**ODOT Reimbursement: \$ 1,031,064.04**

The Engineering Division requests reimbursement from ODOT for construction on ODOT funded projects. The City had two projects (paving and bike path) that had reimbursable costs in 2021.

**City Growth Statistics**



### City Growth Information

Year	City Population		City Area	City Streets
1990	22,427	(a)	12.8222 Sq. Mi.	106.42 Miles
2000	24,811	(a)	15.767 Sq. Mi.	120.41 Miles
2010	26,119	(a)	17.334 Sq. Mi.	133.10 Miles
2011	26,397	(b)	17.334 Sq. Mi.	133.10 Miles
2012	26,677	(b)	17.336 Sq. Mi.	133.10 Miles
2013	26,961	(b)	17.557 Sq. MI	133.78 Miles
2014	27,247	(b)	17.557 Sq. MI	133.78 Miles
2015	27,537	(b)	17.557 Sq. MI	133.78 Miles
2016	27,830	(b)	17.567 Sq. MI	133.78 Miles
2017	27,023	(c)	17.604 Sq. MI	135.33 Miles
2018	26,618	(c)	17.081 Sq. MI (d)	136.48 Miles
2019	26,560	(c)	17.115 Sq. MI	136.56 Miles
2020	26,394	(c)	17.155 Sq. MI	136.85 Miles
2021	27,232	(c)	17.36 Sq. Mi.	137.03 Miles

(a) Census (b) Estimated from Housing Starts

(c) This figures comes from the Census Bureau and does not include a full count of undergraduate students at the College of Wooster and ATI.

(d) GIS mapping allowed for a more accurate calculation of historical map areas.

## City Area Statistics

City Area				
Year	Increases (Acres)	Total Acres	Total Square Miles	% Increase
1970		6,609.310	9.390	0
1980	(1.579)	6,607.731	10.325	-0.024
1990	1,598.039	8,205.770	12.822	24.184
2000	1,885.355	10,091.125	15.767	22.976
2010	1,002.414	11,093.539	17.334	9.934
2011	0.000	11,093.539	17.334	0.000
2012	1.610	11,095.149	17.336	0.015
2013	141.202	11,236.351	17.557	1.273
2014	0.000	11,236.351	17.557	0.000
2015	0.000	11,236.351	17.557	0.000
2016	6.690	11,243.041	17.567	0.060
2017	94.560	11,266.747	17.604	0.841
2018	162.490	10,931.84	17.081	-0.523
2019	21.77	10,953.60	17.115	0.199
2020	25.85	10,979.20	17.155	0.236
2021	134.445	11,112.45	17.363	1.227

GIS mapping allowed for a more accurate calculation of historical map areas.

## 2021 Annexations

No.	Description	Date	Area
1	903 W. Highland Ave	3/2/2021	0.23 Acres
2	N. Geyers Chapel Road & Daisy Way	3/16/2021	134.215 Acres

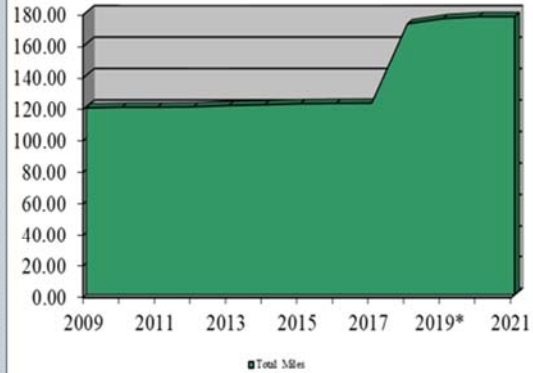
**Utility Statistics**

# Sanitary Sewer Mileage

## Sanitary Sewer Mileage

Year	Increase in Miles	Total Miles	% Increase
2009	1.73	119.31	1.47%
2010	0.46	119.77	0.39%
2011	0.00	119.77	0.00%
2012	0.21	119.98	0.18%
2013	0.92	120.90	0.77%
2014	0.45	121.35	0.37%
2015	0.66	122.01	0.54%
2016	0.21	122.22	0.17%
2017	0.13	122.35	0.11%
2018	0.00	172.75	0.00%
2019*	3.30	176.05	1.91%
2020	1.27	177.32	0.72%
2021	0.01	177.33	0.01%

## Sanitary Sewer Total Mileage



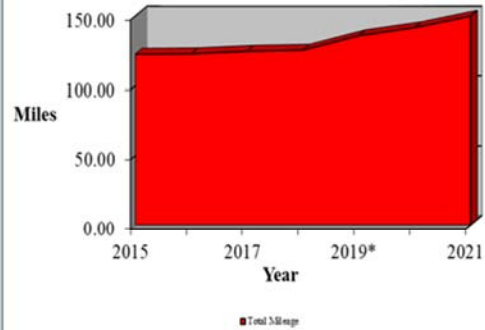
\*New technology allows for more accurate measurements. The measurement for 2019 includes new mains located in 2019.

# Storm Sewer Mileage

## Storm Sewer Mileage

Year	Increase in Miles	Total Mileage	% Increase
2009	2.51	118.89	2.16%
2010	0.10	118.99	0.08%
2011	0.48	119.47	0.40%
2012	0.59	120.06	0.49%
2013	0.34	120.40	0.28%
2014	2.04	122.44	1.69%
2015	0.01	122.45	0.01%
2016	0.33	122.78	0.27%
2017	0.00	124.61	0.00%
2018	0.75	125.36	0.60%
2019*	10.36	135.72	8.26%
2020	5.79	141.51	4.27%
2021	8.26	149.77	5.84%

## Storm Sewer Total Miles



\*New technology allows for more accurate measurement. Quantity reflects new mains and mains located in 2019

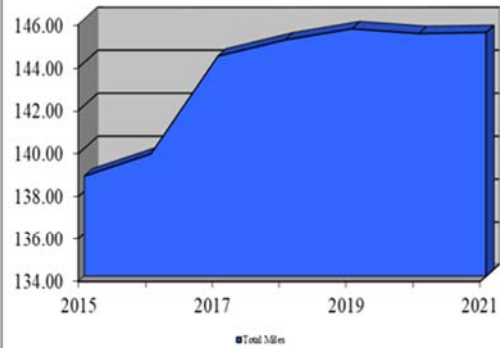
# Waterline Mileage

## Waterline Mileage

Year	Increase in Miles	Total Miles	% Increase
2009	3.68	133.03	2.84%
2010	0.05	133.08	0.04%
2011	0.71	133.79	0.53%
2012	0.52	134.31	0.39%
2013	1.20	135.51	0.89%
2014	1.08	136.59	0.80%
2015	2.12	138.71	1.55%
2016	1.04	139.75	0.75%
2017	0.00	144.30	0.00%
2018	0.75	145.05	0.52%
2019	0.52	145.57	0.36%
2020	-0.22	145.35	-0.15%
2021	0.05	145.40	0.03%

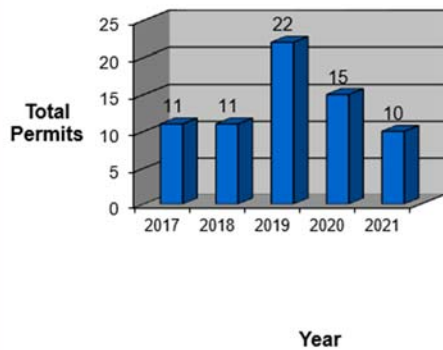
\*New technology allows for more accurate measurement. The total for 2017 was adjusted to reflect a correction in measurements.

## Waterline Total Mileage

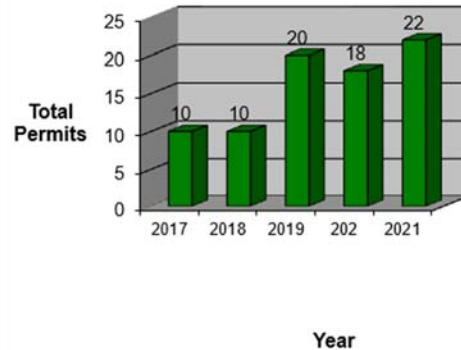


# 2021 Permits

## Water Permits



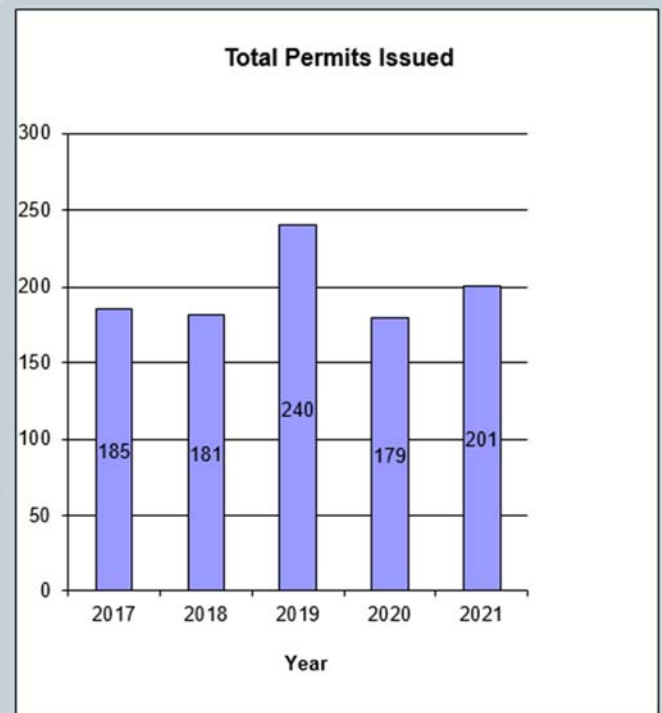
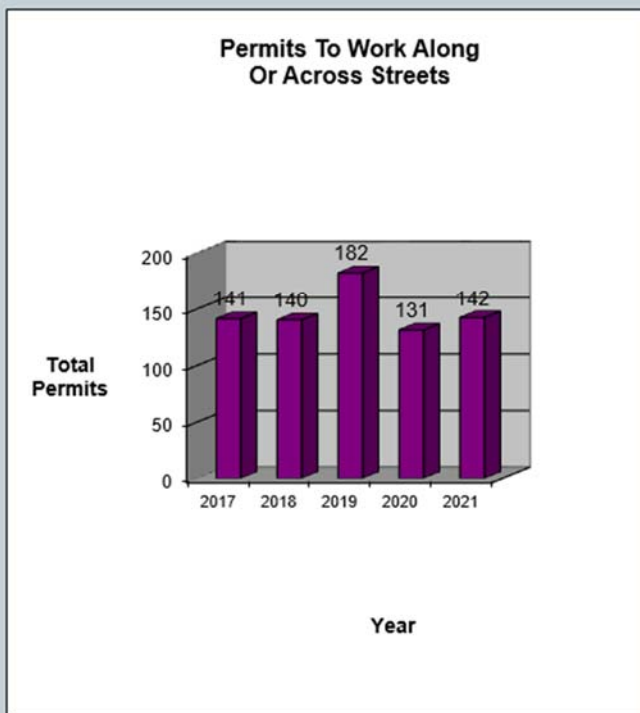
## Sewer Permits





Water and Sewer Permits remain fairly level throughout the years; however, in the past few years we saw several large new developments and new constructions that required water and sanitary permits. Permits are issued for these utilities for any new development or whenever the need for a replacement or repair becomes necessary to a homeowner or business. Our inspectors are on-site to make sure the contractor follows the City's Standards and to help the contractor with any questions or problems that might arise during the project.

## Work in the Right-of-Way



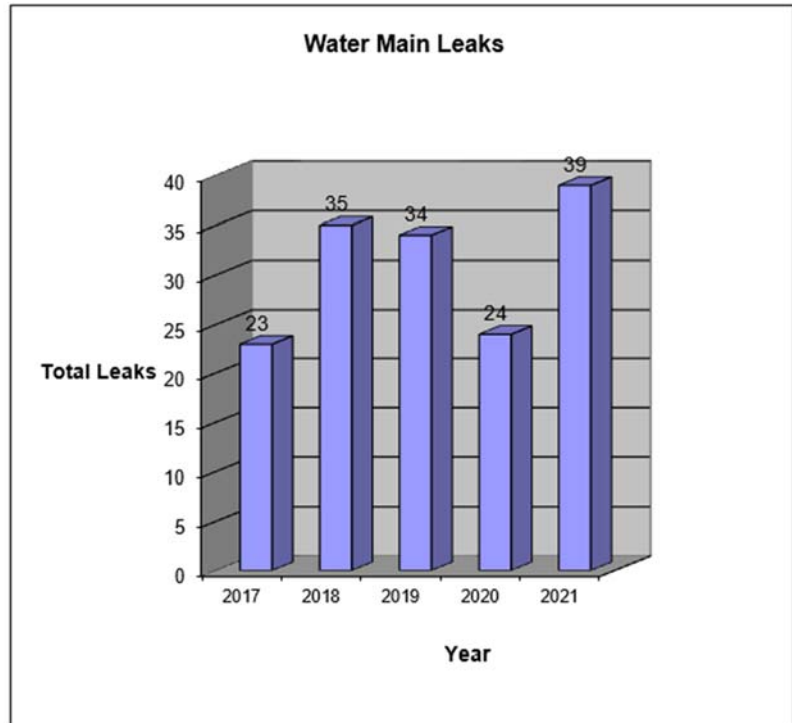
Dominion Energy Ohio continues to be the primary company obtaining Right-of-Way Permits. The company is in the process of improving their infrastructure throughout the city and replacing their main lines. Right-of-way permits are required any time there will be work along the City's streets and/or across the street and also now includes the installation of small cell towers. These permits ensure the City can monitor restoration of the area after the contractor has completed the project.

## 2021 Water Main Leaks

The City currently maintains over 140 miles of waterline.

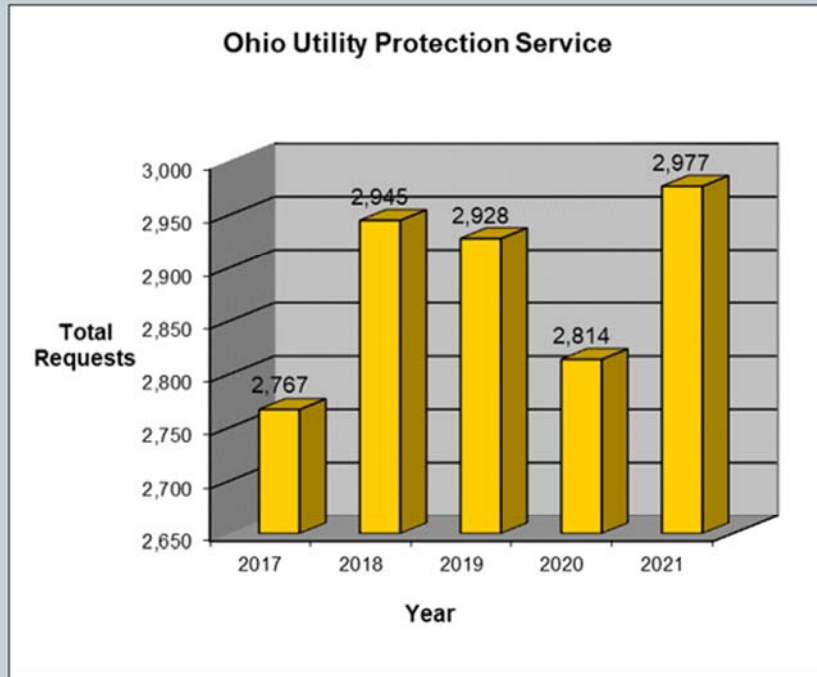
Waterline replacements for 2021 include the areas of:

McKinley, W. Henry, Washington, and Lincoln



The number of water breaks in 2021 increased from 2020. The City has increased its effort to locate main line leaks and breaks to more accurately quantify the amount of unaccounted for water.

# 2021 OHIO811

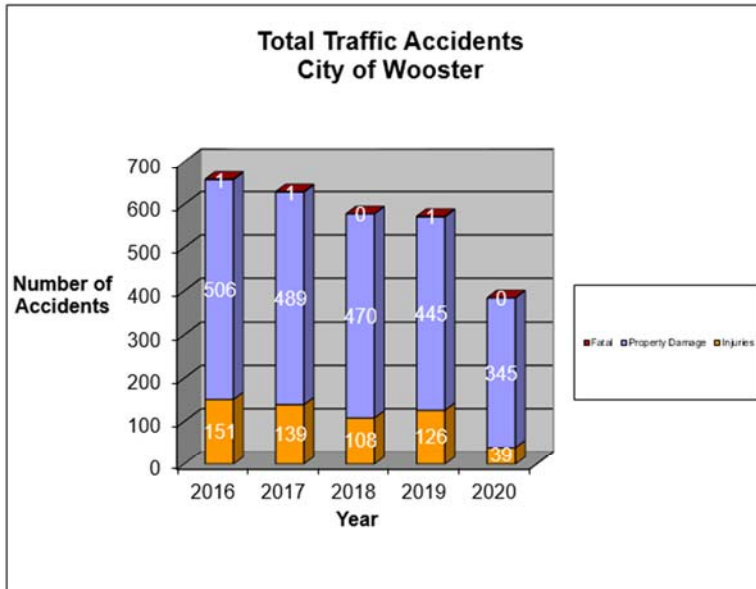


OHIO811 (formerly known as the Ohio Utility Protection Service, or OUPS) location notices have remained fairly steady as contractors and residents call 811 to notify OHIO811 of anticipated digging. Our inspector marks the requests within 48 hours of receiving the notice if any of the City's utilities would be affected by the excavation. Our inspector is also responsible for emergency OHIO811 locations such as water line breaks or gas line ruptures. Each notification is also recorded in the WEBTMS software, which tracks the notifications and the positive response (outcome) for each ticket.

**Traffic Statistics**

## 2016-2020 Comparison

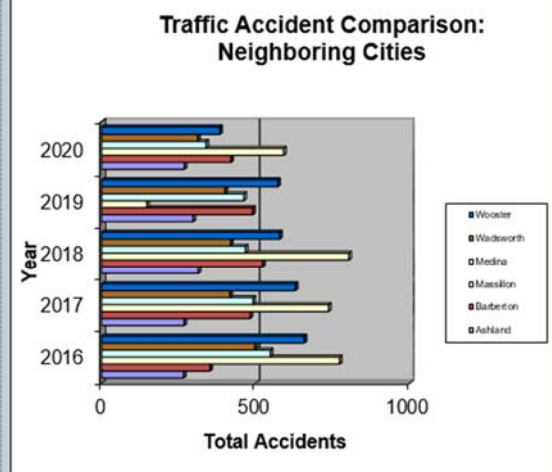
Data is compiled from the Ohio Department of Public Safety's "Ohio Traffic Crash Facts"



## 2016-2020 Total Crashes

**Traffic Accident Comparison  
Totals By Neighboring Cities**

Year	Ashland	Barberton	Massillon	Medina	Wadsworth	Wooster
2016	266	352	773	548	498	658
2017	268	482	737	492	417	629
2018	314	523	803	467	419	578
2019	297	491	147	462	401	572
2020	269	420	591	339	312	384

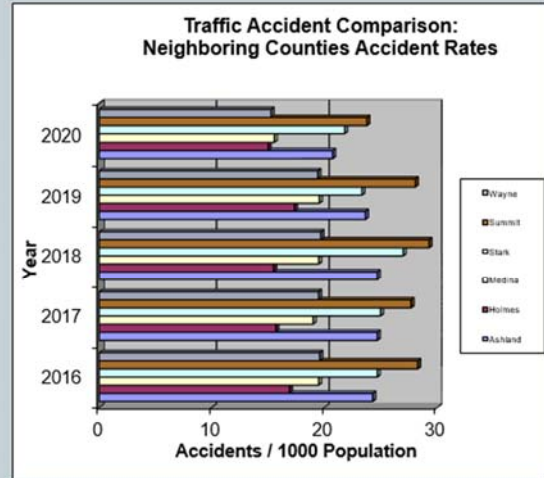


# County Crash Comparison

Rates per 1000 based on  
2020 U.S. Census

Traffic Accident Comparison  
Rates by Neighboring Counties

Year	Accidents Per 1000 People					
	Ashland	Holmes	Medina	Stark	Summit	Wayne
2016	24.3	16.9	19.5	24.7	28.3	19.6
2017	24.7	15.7	19	25	27.7	19.5
2018	24.7	15.5	19.5	27	29.3	19.7
2019	23.66	17.35	19.55	23.34	28.09	19.42
2020	20.74	15.01	15.56	21.81	23.78	15.27



**Engineering Design Statistics**

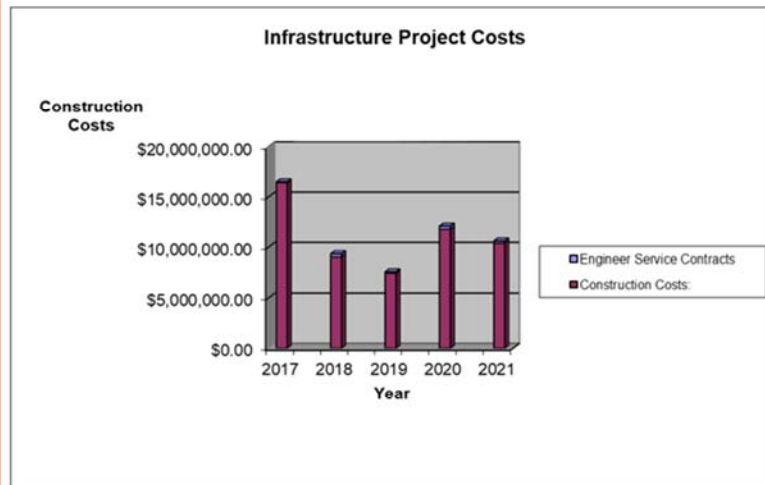


## Project Cost over the years

The Engineering Division oversaw \$10,412,410 of infrastructure construction projects in 2021.

Outside design contracts totaled \$217,000.

The ratio between outside design contracts and our construction projects remains fairly constant throughout the years.

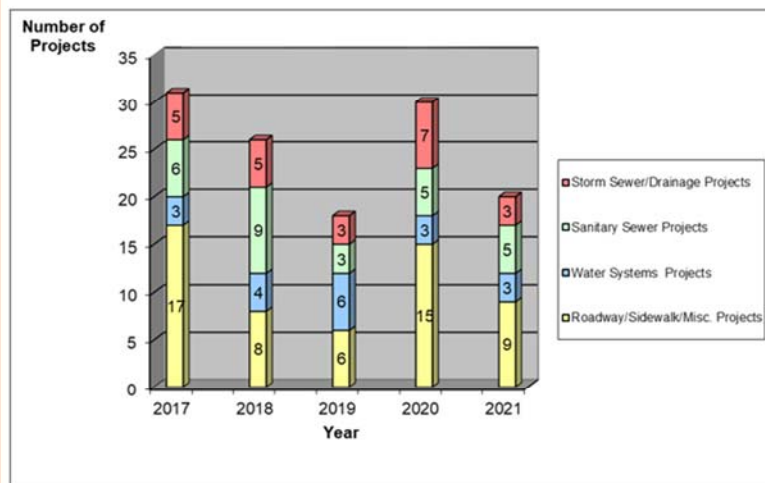


## 2021 Breakout for Types of Projects

The Division of Engineering staff designed 16 of the 20 projects for 2021.

Our ability to keep design work in-house enables us to stay below the industry average of 8% to 11% for design costs.

2021 saw our design cost average to be 2.1%.



**DIVISION OF ENGINEERING**  
**2021 Project Summary**  
**(Projects Designed or Constructed in 2021)**

PROJECT	DESIGNER/CONSULTANT	DESIGN COST	CONTRACTOR	ESTIMATED CONST. COST	BID PRICE	FINAL COST	Contract Balance	% Complete	Retainage
2020 Waterline Replacements	Wooster Engineering	\$0	Palmer & Son Excavating, Ltd.	\$1,100,000	\$1,095,771	\$1,161,358	\$0	100%	\$0
2021 Sanitary Sewer Lining	Wooster Engineering	\$0	Insituform Technologies	\$240,000	\$187,529	UC	\$12,327	99%	\$7,501
2021 Wooster Streets Resurfacing	Wooster Engineering	\$0	Kokosing Construction	\$700,000	\$630,154	\$745,265	\$0	100%	\$0
Beall Avenue Crosswalk Removal	Wooster Engineering	\$0	Chagrin Valley Paving	\$175,000	\$186,656	\$195,309	\$0	100%	\$0
Buchholz Dr & Greensview Dr Concrete Pavement Repairs	Wooster Engineering	\$0	TR Snyder Construction	\$300,000	\$242,959	\$492,856	\$0	100%	\$0
Clear Creek Park	Environmental Design Group	\$35,000	Simonson Construction Services, Inc.	\$900,000	\$916,847	UC	\$9,000	93%	\$9,000
Cleveland Road Storm Sewer	Wooster Engineering	\$0	Dirt Dawg Excavating	\$80,000	\$102,501	\$90,789	\$0	100%	\$0
Daisy Way Extension	Wooster Engineering	\$0	Fechko Excavating	\$976,000	\$767,940	\$881,058	\$0	100%	\$0
Downtown Streetscape Phase 3	OHM	\$35,000	Shrock Premier Custom Construction	\$900,000	\$786,258	UC	\$62,901	85%	\$62,901
Five L Farm Utility Extension	Wooster Engineering	\$0	G.E. Baker Construction	\$272,500	\$263,460	\$258,334	\$0	100%	\$0
Friar Tuck Circle Storm Sewer	Wooster Engineering	\$0	Palmer & Son Excavating, Ltd.	\$35,000	\$33,830	\$40,230	\$0	100%	\$0
Lincoln Street Waterline	Wooster Engineering	\$0	Rising Son Company, Inc.	\$600,000	\$503,265	\$520,353	\$0	100%	\$0
N. Walnut Street Sanitary Sewer Replacement	Wooster Engineering	\$0	Dirt Dawg Excavating	\$55,000	\$68,164	UC	\$4,915	99%	\$3,518
Sidewalk Improvements	Wooster Engineering	\$0	TR Snyder Construction/Sloan Concrete	\$49,500	\$45,000	\$46,279	\$0	100%	\$0
Stibbs Street Sanitary Sewer Replacement	Wooster Engineering	\$0	Dirt Dawg Excavating	\$142,500	\$152,566	UC	\$81,564	50%	\$6,103
WAY-VAR Wooster Streets FY21	Wooster Engineering	\$0	Melway Paving Company	\$675,000	\$537,082	\$493,114	\$0	100%	\$0
Woodcrest Drive Storm Sewer Replacement	Wooster Engineering	\$0	Palmer & Son Excavating, Ltd.	\$25,000	\$22,235	\$19,475	\$0	100%	\$0
Wooster Bike Loop Phase 2	Poggemeyer	\$97,000	S.E.T., Inc.	\$861,910	\$914,972	\$854,492	\$0	100%	\$0
WRRF Sludge Storage Tank	Green Arrow Engineering	\$50,000	Bogner Construction	\$2,000,000	\$2,270,000	\$2,223,456	\$0	100%	\$0
WTP Solids Contact Clarifier Painting	Wooster Engineering	\$0	Mohon Blasting & Coatings	\$325,000	\$254,000	\$254,000	\$0	100%	\$0
UC=Under Construction									
<b>Subtotals</b>		<b>\$217,000</b>		<b>\$10,412,410</b>	<b>\$9,981,187</b>	<b>\$8,276,368</b>	\$170,707		\$89,022

PROJECT	DESIGNER/CONSULTANT	DESIGN COST	CONTRACTOR	ESTIMATED CONST. COST	BID PRICE	STATUS
2021-2022 Wooster Concrete Pavement Replacement	Wooster Engineering	\$0	DL Smith Concrete, LLC	\$1,315,000	\$1,236,250	DC
2022 Wooster Streets Resurfacing	Wooster Engineering	\$0	Melway Paving Co, Inc.	\$925,000	\$799,173	DC
Bever/Henry/South Traffic Signals	Burgess & Niple	\$19,000	Perram Electric	\$320,000	\$251,045	DC
Christmas Run Blvd/Brookside Dr Sanitary Sewer Relocation	Wooster Engineering	\$0	Dirt Dawg Excavating	\$74,000	\$73,871	DC
IP Water Tank Painting	Wooster Engineering	\$0	D&M Painting	\$400,000	\$280,540	DC
Kieffer Street Waterline Replacement	Wooster Engineering	\$0	Dirt Dawg Excavating	\$600,000	\$547,095	DC
N. Bauer Road Waterline Replacement	Wooster Engineering	\$0	Dirt Dawg Excavating	\$150,000	\$128,764	DC
Market/Henry/South Traffic Signals	Poggemeyer	\$20,000	Perram Electric	\$320,000	\$360,405	DC
South Street Waterline Replacement	Wooster Engineering	\$0	Palmer & Son Excavating	\$305,000	\$341,179	DC
W. Milltown Rd. Right Turn Lanes	Wooster Engineering	\$0	Grassbaugh, LLC	\$225,000	\$318,099	DC
WAY-VAR Wooster Streets FY22	Wooster Engineering	\$0	Melway Paving Co, Inc.	\$1,050,000	\$1,025,028	DC
DC=Design Complete						
<b>Subtotals</b>		<b>\$39,000</b>		<b>\$5,684,000</b>	<b>\$ 5,361,449</b>	

Fire Station #1 Renovation	Mull & Weithman	\$286,714				UD
WAY-VAR Wooster Streets FY23	Wooster Engineering	\$0				UD
North Well Field #3 Replacement	Wooster Engineering	\$0				UD
Melrose Drive Reconstruction Phase 2	Wooster Engineering	\$0		\$3,860,000		UD
UD = Under Design						
<b>Subtotals</b>		<b>\$286,714</b>		<b>\$3,860,000</b>		

Note: Engineering consultant services and construction costs shown in this table represent totals to date. Actual expenditures occurred over several years.

\$ 19,956,410

## Engineering Value Calculations

Project	Design Cost	2021 Design	2020 Design	2019 Design	2018 Design	2017 Design	Engineer's	Contractor	Bid	Final	2021 Const.
		Costs Paid	Costs Paid	Costs Paid	Costs Paid	Costs Paid	Estimate		Price	Cost	Payments
2020 Waterline Replacements	0						\$1,100,000	Palmer & Son Excavating. Ltd.	\$1,095,771	\$1,161,358	\$892,365
2021 Sanitary Sewer Lining	0						\$240,000	Insituform Technologies	\$187,529	UC	\$175,201
2021 Wooster Streets Resurfacing	0						\$700,000	Kokosing Construction	\$630,154	\$745,265	\$630,153
Beall Avenue Crosswalk Removal	\$0						\$175,000	Chagrin Valley Paving	\$186,656	\$195,309	\$195,308
Buchholz Dr & Greensview Dr Concrete Pavement Repairs	\$0						\$300,000	TR Snyder Construction	\$242,959	\$492,856	\$400,000
Clear Creek Park	\$70,371			\$33,895	\$36,476		\$900,000	Simonson Construction Services, Inc.	\$916,847	UC	\$31,945
Cleveland Road Storm Sewer	\$0						\$80,000	Dirt Dawg Excavating, LLC	\$102,501	\$90,789	\$90,789
Daisy Way Extension	\$0						\$976,000	Fechko Excavating	\$767,940	\$881,058	\$880,028
Downtown Streetscape Phase 3	\$0						\$900,000	Shrock Premier Custom Construction	\$786,258	UC	\$723,358
Five L Farm Utility Extension	\$0						\$272,500	G.E. Baker Construction	\$263,460	\$258,234	\$248,922
Friar Tuck Circle Storm Sewer	\$0						\$35,000	Palmer & Son Excavating. Ltd.	\$33,830	\$40,230	\$40,230
Lincoln Street Waterline	\$0						\$600,000	Rising Son Company, Inc.	\$503,265	\$520,353	\$520,363
N. Walnut Street Sanitary Sewer Replacement	\$0						\$55,000	Dirt Dawg Excavating, LLC	\$68,164	UC	\$83,033
Sidewalk Improvements	\$0						\$49,500	Sloan Conrete/TR Snyder Construction	\$45,000	\$46,279	\$46,279
Stibbs Street Sanitary Sewer Replacement	\$0						\$142,500	Dirt Dawg Excavating, LLC	\$152,566	UC	\$71,002
WAY-VAR Wooster Streets FY21	\$0						\$675,000	Melway Paving Company	\$537,082	\$493,114	\$493,114
Woodcrest Drive Storm Sewer Replacement	\$0						\$25,000	Palmer & Son Excavating. Ltd.	\$22,235	\$19,475	\$19,475
Wooster Bike Loop Phase 2	\$101,127		\$1,587	\$1,889	\$16,415	\$81,236	\$861,910	S.E.T., Inc.	\$914,972	\$854,492	\$66,079
WRRF Sludge Storage Tank	\$50,000			\$50,000			\$2,000,000	Bogner Construction	\$2,270,000	\$2,223,456	\$2,316,100
WTP Solids Contact Clarifier Painting	\$0						\$325,000	Mohon Blasting & Coatings	\$254,000	\$254,000	\$98,440
	\$221,498	\$0	\$1,587	\$85,784	\$52,891	\$81,236	\$10,412,410		\$9,981,187		\$8,022,182
Industry Standard for Design Engineering* =	8.5%								\$848,401		

## Engineering Value Calculations

<b>Design Completed</b>				
	Design Cost	2021 Design	2020 Design	Engineer's Estimate
2021-2022 Wooster Concrete Pavement Replacement	\$0			\$1,315,000
2022 Wooster Streets Resurfacing	\$0			\$925,000
Bever/Henry/South Traffic Signals	\$19,000			\$320,000
Christmas Run Blvd/Brookside Dr Sanitary Sewer Relocation	\$0			\$74,000
IP Water Tank Painting	\$0			\$400,000
Kieffer Street Waterline Replacement	\$0			\$600,000
Market/Henry/South Traffic Signals	\$20,000			\$320,000
N. Bauer Road Waterline Replacement	\$0			\$150,000
South Street Waterline Replacement	\$0			\$305,000
W. Milltown Rd. Right Turn Lanes	\$0			\$225,000
WAY-VAR Wooster Streets FY22	\$0			\$1,050,000
	\$39,000	\$0	\$0	\$5,684,000
<b>Under Design</b>				
				Engineer's Estimate
Fire Station #1 Renovation	\$286,714			
WAY-VAR Wooster Streets FY23	\$0			
North Well Field #3 Replacement	\$0			
Melrose Drive Reconstruction Phase 2	\$0			\$3,860,000
	\$286,714	\$0	\$0	\$3,860,000
<b>Preliminary Engineering, Planning &amp; Funding</b>				
Water Projects (1)	\$0			\$2,615,000
Sewer projects (1)	\$0			\$2,277,500
Storm (1)	\$0			\$500,000
Roadway Projects (1)	\$0			\$5,266,000
	\$0			\$10,658,500

<b>Under Construction (2021)</b>		
Value of Construction Engineering	10.00%	\$802,218.21
Design Value Provided in 2021	12.0%	\$75,228.41

<b>Design Completed (2021)</b>	
Value of Design Engineering	\$444,140.00

Consultant Services Paid	% of Construction
Under Construction	2.13%
Design Completed	0.00%
Under Design	0.00%
<b>\$221,497.48</b>	<b>0.78%</b>

**Notes:**  
Fees for Engineering services are based on standard industry rates as established by various regulatory and funding agencies, including ODOT, USDA, EPA and OPWC, as well as recent engineering services proposals.

(1) Sum of construction estimates from the 10 year infrastructure plan.