

ENGINEERING DEPARTMENT

2022 ANNUAL REPORT



City Engineer: Dale Vandersommen, P.E.

4/1/2023

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DEPARTMENT'S MISSION STATEMENT

The mission of the City of Lorain Engineering Department is to provide expedient technical engineering services and advice to all city departments, the administration, and the general public. Generally the technical support is related to design, inspection, and contract administration of public improvements and subdivisions, plan review, grading, draining and general construction information.

ENGINEERING DEPARTMENT STAFF



The Engineering Department is comprised of Professional Engineers, Professional Surveyors, Engineering Aides, an Engineer in Training, a Contract and Prevailing Wage Administrator, a Storm Water Manager, a Technical Administrative Assistant, and an Intern.

- Eric Baker, GIS Administrator
 - Specialist in GIS base mapping, GIS analysis, remote sensing, photogrammetry, LiDAR, orthophotography, aerotriangulation, statistical analysis, imagery analysis and physical/environmental geography.
 - Certifications:
 - Geographic Information Systems professional (GISP)
 - Education:
 - Bachelor of Science, Geography, Penn State University Post Baccalaureate Certificate, GIS, Geographical Information Systems, Penn State University

ENGINEERING DEPARTMENT STAFF -CONT

- Gwen Frey, Intern
 - Ms. Frey is pursuing a bachelor of Civil Engineering at Cleveland State University. Expected to graduate in spring 2025.
- Kathryn Golden, CPMSM, CFM, Stormwater Manager

Mrs. Golden has over 19 years of experience in the stormwater and water quality field. Her responsibilities include the administration of the oversite and management of the storm sewer system, \$30 million of environmental restoration grants, overseeing the design and development of the Black River Dredge Reuse Facility, managing the City's MS4 Stormwater program, and floodplain administration. Ms. Golden's previous experience includes private sector consulting, water quality, stormwater, and wastewater planning in Clark County, Nevada, and watershed coordination in Lorain County, Ohio.

 - Certifications:
 - Municipal Separate Storm Sewer Management
 - Floodplain Management
 - Education:
 - Bachelor of Science, Urban and Regional Planning, Geography, and Environmental Science, Miami University
 - Master of Public Administration, University of Nevada, Las Vegas
- Doug Hasel, P.S., Engineer III
 - Certifications:
 - Certificate of Registration Professional Surveyor State of Ohio
 - Education:
 - Bachelor of Science, Surveying and Mapping, University of Akron
- Elva Martes, Technical Administrative Assistant
 - Mrs. Martes has over 26 years of experience in municipal office and technical assistance in public works projects. She is responsible for the daily administrative and technical operations of the City Engineer's Office, including ordinances, departmental budget, permitting, and payroll. She is the key communications coordinator in our public response services.
 - Certifications:
 - EPA Water Supply Class I
- Katherine McGannon, Engineering Aide III
 - Ms. McGannon has over 9 years experience in public works projects. She serves the department as an inspector. She provides expertise in construction inspection of road, sewer, bridge rehabilitation, subdivision, new construction, sidewalk/apron, laterals, etc. Also, she provides expertise in project quantification and quality assurance of plan designs. She also has over 20 years of survey experience.
 - Certifications:
 - ODOT Roads Scholar Level III
 - ODOT Bridge Inspector Level II
 - ACI Field Testing Technician Grade I

ENGINEERING DEPARTMENT STAFF -CONT

- Nick Murray, E.I.T., Utilities Engineer II
 - Mr. Murray is our newest hire and serves the department as a utilities engineer. He has 6 years of experience as a wastewater treatment operator at Black River WWTP. He provides expertise in the construction and maintenance of water, sanitary, and stormwater infrastructure.
 - Certifications:
 - OEPA Wastewater Treatment, Class III
 - Education:
 - Bachelor of Chemical Engineering, University of Dayton
 - Master of Environmental Engineering, Cleveland State University (ongoing)
- Seth Schilling, Engineering Aide III
 - Mr. Schilling has over 15 years of experience in public works projects. He serves the department as an inspector. He provides expertise in construction inspection of road, sewer, bridge rehabilitation, new construction, sidewalk/apron, laterals, etc.
 - Certifications:
 - ODOT Roads Scholar Level III
 - ODOT Bridge Inspector Level I
 - ACI Field Testing Technician Grade I
 - EPA Wastewater Class I
 - PACP, MACP, LACP Certification
 - Backflow Prevention
- Veronica A Newsome, P.E., Engineer III
 - Mrs. Newsome serves as one of the design engineers for the City of Lorain. Her technical background includes a wide variety of municipal infrastructure and capital improvements projects.
 - Certifications:
 - ODOT Bridge Inspector Level I
 - ACI Field Testing Technician Grade I
 - Education:
 - Associate of Applied Science, Architectural and Construction Engineering, Cuyahoga Community College
 - Bachelor of Arts, Historic Preservation, Ursuline College
 - Bachelor of Civil Engineering, Cleveland State University
 - Master of Civil Engineering, Cleveland State University
- Adam Pellegrini, P.E., Engineer III
 - Mr. Pellegrini serves as one of the design engineers for the City of Lorain. His technical background includes a wide variety of municipal infrastructure and capital improvements projects.
 - Education:
 - Bachelor of Civil Engineering, The Ohio State University

ENGINEERING DEPARTMENT STAFF -CONT

- Jessica Potter, Civil Engineer I
 - Ms. Potter serves as one of the design engineers for the City of Lorain. Her technical background includes a wide variety of municipal infrastructure and capital improvements projects. Jessica has over 5 years of survey experience. She was honorably discharged from the USAF as a senior airman after 6 years of service in civil engineering.
 - Certifications:
 - ODOT Bridge Inspector Level I
 - ACI Field Testing Technician Grade I
 - CESSWI
 - Education:
 - Associate of Arts, Lorain County Community College
 - Associate of Civil Engineering, Concrete Specialization, Rhodes College
- Guy Singer, P.E., Deputy Director of Engineering
 - Mr. Singer has over 31 years of experience in municipal infrastructure and capital improvements projects.
 - Education:
 - Bachelor of Civil Engineering, Case Western Reserve University
 - Master of Civil Engineering, Cleveland State University
 - EPA Wastewater Operator Class II
- Dale Vandersommen, P.E., City Engineer
 - Mr. Vandersommen has over 28 years of experience in municipal infrastructure and capital improvements projects. He directs the Engineering Department and key personnel on their assignments and requirements of their scope of work.
 - Certifications:
 - Certified Professional in Erosion and Sediment Control
 - Certified Professional in Storm Water Quality
 - ODOT Bridge Inspector Level I and Level II
 - EPA Wastewater Operator Class III
 - Education:
 - Bachelor in Engineering, The Ohio State University

ENGINEERING DEPARTMENT RESPONSIBILITIES

The Engineering Department is responsible for approximately 290 miles of public right-of-way, bridges, and culverts. The Engineering Department's responsibilities include design, construction management, permitting, and construction inspection of roadways, bridges, culverts, and sewer systems in the City of Lorain.

DUTIES AND FUNCTIONS

- Inspection of sidewalks and aprons
- Inspection of storm sewer and sanitary sewer connections, sanitary backflow preventers
- Inspection of new subdivisions
- Inspection of all public works projects
- Construction management and inspection of all Engineering Department projects for paving, sewer, storm, etc.
- Construction management and inspection for city ODOT-LPA projects funded by NOACA
- Design and engineering of roadway paving, storm, sanitary, and water projects
- Design and engineering of simple waterfront structures
- Design and engineering of parking lots
- Project manager for all OPWC projects
- Preparation of engineering department construction contracts and bidding
- Preparation of engineering department service contracts
- Applies for all OPWC project funding
- Applies for all NOACA/ODOT project funding
- Applies for all CMAG/ODOD project funding
- Keeps and maintains records of all sanitary and storm sewer connection locations
- Keeps and maintains records for all public improvements
- Performs records research for external engineers and surveyors
- Operates pavement management system
- GIS mapping and data input for all city departments
- Liaison to ODOT projects
- Liaison to USACE projects
- Planning for annual roadway rehabilitation projects
- Prepares Request for Qualification packages
- Prepares Request for Proposal packages
- Property Surveying
- Construction Surveying
- Obstruction and topographic surveying
- GPS surveying

DUTIES AND FUNCTIONS – CONT

- Hydrographic surveying
- Property description writing
- Clerical work
- Data entry and scanning of current records
- Digitization of paper records
- Stormwater Management
- Oversees Best Management Practice for stormwater run off
- Prepares petitions for street and alley vacations
- Prepares petitions for paving projects
- Prepares city permit applications for submission to EPA and USACE
- Prepares application for ODNR permits, including submerged land leases
- Reviews plans for new subdivisions
- Reviews plans for commercial sites
- Reviews plans for Lorain City school sites
- Reviews lot split submissions
- Site plan reviews for drainage, etc.
- Engineering and surveying for all other city departments
- Issues permits and collects fees for sidewalk, storm, sanitary, and water connections; apron and pavement openings
- Collects fees for plan reviews, lot split reviews
- Prepares ordinances
- Operates material testing lab for Portland cement concrete; sampling, testing, and destructive testing
- Prepares estimates for paving, storm, sanitary, and water
- Prepares annual capital improvements projects budget for Engineering Department projects
- Annual inspection of all city bridges and culverts
- Preparation of Developers' Agreements and collects fees for inspection
- Approves plats for new subdivision
- Issues and collects fees for sewer digger licenses
- Collects, deposits, and issues refunds for grading deposits held in trust
- Maintains address atlas and assigns address in city
- Assists general public and contractors in locating storm and sanitary connections

- Enforces EPA regulations, permit acquisition, permit to install, construction permits, and municipal separate storm sewer system permits
- Education administrator for storm water
- Public involvement coordinator for storm water issues
- FEMA grant administrator
- Flood zone administrator
- OUPS location coordinator
- Prepares NDPEs Storm Water Permit and Annual Report
- Approves new street names and assigns addresses
- Monitors air testing on new sanitary sewer installations
- Monitors mandrel testing on new sanitary sewer installations
- Environmental & Brownfield Remediation

CITIZEN INFORMATION

Citizens can request information from the COL Engineering Department; including the grading of their property, drainage concerns, main sewer, and lateral locations back up information, etc.

The Engineering Department maintains web pages for all roadway projects to inform citizens on current projects. These web pages are available on the COL website under Engineering.

Also, the Engineering Department maintains the COL Utilities Projects on the COL website and in the COL Engineering Department. This information provides details on current COL utilities projects, including, but not limited to project area, project schedule, project cost, and environmental reviews by agencies such as the Ohio Environmental Protection Agency (OEPA) and Ohio Department of Natural Resources (ODNR).

INVESTIGATIONS

Field investigations are carried out when the situation warrants it.

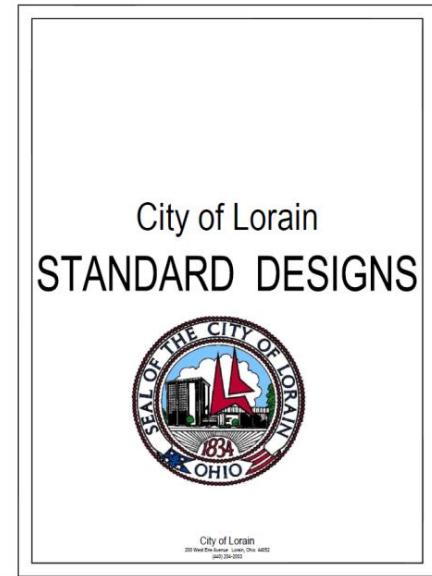
2021 Investigations include:

- 6 Drainage complaints, grading
- 3 Drainage complaints, alley, yard, downspout/underdrain
- 2 Right of Way Obstructions

STANDARD DESIGNS

The Engineering Department updates the City of Lorain Standard Designs and Specifications for roadway and new construction to provide guidance to developers, engineers, surveyors, contractors, public and private utilities, various city departments, and private property owners. Design standards include sanitary, storm, pavement, and miscellaneous items that those mentioned are expected to follow designs.

City of Lorain contract work shall be governed by all provisions set forth in the State of Ohio Department of Transportation Construction and Material Specifications, current version, and any other supplemental specifications per individual project contract documents.



PROJECTS

US DEPARTMENT OF TRANSPORTATION (USDOT)

The Bipartisan Infrastructure Deal (BIL) will rebuild America's roads, bridges and rails, expand access to clean drinking water, ensure every American has access to high-speed internet, tackle the climate crisis, advance environmental justice, and invest in communities that have too often been left behind.

RAISE GRANT AND RECONNECTING COMMUNITIES

The E. 36th Street Improvements project will provide increased safety, environmental benefits, economic opportunity, flood mitigation, and increased mobility and connectivity to this diverse area. The City requested a \$1,500,000 planning grant to design approximately 3.3 miles of new and improved roadway and multi-use path, to design, install and utilize roadside green infrastructure along this route, and to address over a mile of degraded stormwater channel adjacent to E. 36th Street in an area already impacted

by significant flooding. These requests were unsuccessful in 2022 but will be reapplied for in 2023.

STRENGTHENING MOBILITY AND REVOLUTIONIZING TRANSPORTATION (SMART) GRANT

The BIL established the Strengthening Mobility and Revolutionizing Transportation (SMART) discretionary grant program with \$100 million appropriated annually for fiscal years 2022-2026.

The City of Lorain requested (\$1,606,900.00) 100% funding to install smart signal equipment, purchase software service packages, construction, and develop base signal timing plans. Award notification is anticipated by June 2023.

OHIO PUBLIC WORKS COMMISSION (OPWC)

OPWC provides financing for local public infrastructure improvements through both the State Capital Improvement Program (SCIP) the Local Transportation Improvement Program (LTIP). SCIP is a grant/loan program for roads, bridges, water supply, wastewater treatment, storm water collection, and solid waste disposal. LTIP is a grant program for roads and bridges only. See Exhibit A for a list of projects completed with OPWC funding in 2022.



and

for

OHIO DEPARTMENT OF TRANSPORTATION (ODOT)

We are collaborative partners with ODOT who oversees Interstate, State and US routes. ODOT oversees the planning, engineering, and construction of many of the major roadways, bridges, and culverts on the state transportation system.

EAST 36TH STREET

Project was completed in the Summer of 2022. Our office applied for and received federal funding (80% federal/20% local) for the rehabilitation of East

36th Street from Globe to Grove, along the East 36th Street ditch. Total project cost was \$402,430.23.

EAST 28TH STREET

East 28th Street was removed and replaced from Grove Avenue to Tacoma Avenue in the Summer of 2022. Total project cost was \$827,590.90.

CITY OF LORAIN INTER-DEPARTMENTAL PROJECTS

WATER DISTRIBUTION DEPARTMENT PARKING LOT

The parking lot at the Water Distribution Department at 2111 W Park Drive was removed, replaced, and expanded, including in improved storm sewer infrastructure in the Summer of 2022. This project was designed and the construction was inspected and administered by the Engineering Department. Total project cost was \$588,880.20.

PARK IMPROVEMENT PROJECTS

The Engineering Department provided design and construction layout services to assist the Public Properties Department in equipment upgrades at Fairless Park and Garfield Park.

SAFETY FUNDING

STATE ROUTE 58 – LEAVITT ROAD SIGNALIZATION AND SAFETY STUDY

A signalization study was performed on State Route 58/Leavitt Road in 2022. This signalization study was to evaluate the signal timing along SR 58 from the Drug Mart/SR 58 intersection to Tower Blvd/SR 58 intersection.

ODOT will supply signalization controller equipment in 2023 as part of the signalization timing project.

The signalization study also found pedestrian accommodations at the intersection of Tower Blvd/SR 58 to be inadequate. An abbreviated safety funding request will be completed in March 2023.

LOR 611- SIGNAL UPGRADES

The City of Lorain was awarded (\$1,107,500.00) 90/10 funding to remove and replace the signalization at 3 intersections: SR611/SR58, SR611/Oberlin Ave, and SR611/Washington Ave. Construction to occur in 2023. Design and Right of way acquisitions occurred in 2022.

LOR-58-25.5 SAFETY STUDY – N. LEAVITT AND TOWER BLVD.

The City of Lorain was awarded funding for ODOT to study the intersection of N. Leavitt and Tower Blvd in 2021. It was found that upgrades are required at the intersection. A formal safety application for a full signal rebuild at Tower Blvd/SR 58 will be submitted in August of 2023.

LOR 611 SAFETY STUDY

The City of Lorain was awarded funding for ODOT to study the 611 Corridor from Broadway to SR611 Colorado Avenue in 2022. A formal application was made in August 2022. Funding for a full signal rebuild and slip lane removal (\$696,000) 90/10 was awarded in Winter 2022. Design work is slated to begin in April 2023.

PEDESTRIAN SYSTEMIC SAFETY APPLICATION

The City of Lorain created an application for pedestrian safety from the newly established pedestrian safety project funding source. This project includes 26 locations throughout the City of Lorain. Project funding application (\$1,926,108) 90/10 was in December 2022. Award notification is anticipated in spring 2023.

SAFE ROUTES TO SCHOOL (SRTS)

Lorain Active Transportation Plan (ATP) 2022 Progress Report

Progress made in 2022 for better walking and bicycling experiences in Lorain, and what to expect in 2023.



\$2,137,895.73

Total leveraged funding.

Since 2017 we have leveraged a total of \$3,545,950.91 from grants and other outside sources.



7 roads observed for bike & pedestrian tallies

1 park constructed

- New Fairless Park & playground equipment built in South Lorain
- Located between Fairless Dr., Tacoma Ave., Andover Ave., and Goble Dr.
- 3 minute walk from Helen Steiner Rice Elementary School
- 5 minute walk from Southview Middle School



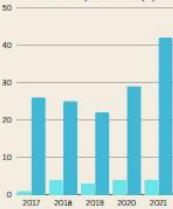
1 Walk to School Day

- Successfully completed at Steven Dohanos Elementary

Since 2017, ATP partners completed seven other Walk to School Days in Lorain.

Crash Data

- Crashes resulting in fatalities and serious injuries have decreased since 2021.



Routes completed in 2022

- Oakdale Avenue from West 17th St. to West 30th St.
- West 30th St. from Marshall Ave. to Broadway Ave.
- East 30th St. from Broadway Ave. to Clifton Ave.

Projects planned for 2023

- Signal and pedestrian improvements at Leavitt Rd., Oberlin Ave., Washington Ave., and Admiral King, Hawthorne, and Garfield Elementary Schools
- Road diet from Arkansas Ave. to SR611 overpass on US6
- HAWK installation at Lakeview Beach

LORAIN
connected

View the Lorain ATP:
CityofLorain.org/500/Active-Transportation-Planning
Questions: HealthEd@loraincountyhealth.com



The purpose of Safe Routes to School is to encourage and enable students in grades K-8 to walk or ride their bicycle to school. Projects can be either engineering (improved crossings, sidewalks, etc.) or non-engineering (education and encouragement programs). Since the program began in 2018, walking and bicycling to school has increased in Ohio communities with active Safe Routes to School (SRTS) programs. The responsibility of a safe route to school is ultimately shared by the user, government agencies, elected officials, and safety advocates.



SRTS 2022 – OAKDALE AND 30TH STREET SIDEWALKS – PID 110932

Work continues for the 2019 SRTS grant of \$399,122.69 from the Ohio Department of Transportation (ODOT) for sidewalks on Oakdale Avenue from West 30th Street to West 17th Street and 30th Street from Marshall Ave to Clifton Ave to remove and replace sidewalks past their useful life. Project bid and awarded to Smith Paving and Excavating. Work was completed Summer of 2022. Total project cost was \$355,598.16.

SRTS 2023 – SAFE AND COMFORTABLE SCHOOL ZONES – PID 113537

In 2020 the City of Lorain was awarded a grant of \$396,554.37 from the Ohio Department of Transportation (ODOT) for improved pedestrian accommodations at 3 elementary schools: Admiral King, Hawthorne, and Garfield.

These improvements would include: Removal and replacement of sidewalks that are beyond their useful life and/or are not up to current design standards, removal and replacement of non-compliant ADA curb ramps, installation of

new “SCHOOL” crossing paint, installation of word on pavement “SLOW” at midblock of school sites, update existing school zone signage to meet new Ohio MUTCD standard, installation of new digital speed limit signs prior to school zone areas. Work will be completed in the Summer of 2023.

**SRTS 2024 – SAFE AND COMFORTABLE SCHOOL ZONES – EAST
LORAIN - PID 115380**

In 2021 the City of Lorain was awarded a grant of \$190,078.25 from the Ohio Department of Transportation (ODOT) for improved pedestrian accommodations at 2 elementary schools: Larkmoor and Longfellow.

These improvements would include: removal and replacement of sidewalks that are beyond their useful life and/or are not up to current design standards, removal and replacement of non-compliant ADA curb ramps, installation of new “SCHOOL” crossing paint, installation of word on pavement “SLOW” at midblock of school sites, update existing school zone signage to meet new Ohio MUTCD standard, installation of new digital speed limit signs prior to school zone areas. Work will be completed in the Summer of 2024.

**SRTS 2025 – CONNECTING COMMUNITIES – CLEARVIEW - PID
117559**

In 2022 the City of Lorain was awarded a grant of \$390,842.96 from the Ohio Department of Transportation (ODOT) for improved pedestrian accommodations in the Clearview school district within Central/South Lorain. Serving Durling Middle School, Horizon Science Academy, and Steven Dohanos Elementary School.

These improvements would include: Removal and replacement of sidewalks that are beyond their useful life and/or are not up to current design standards, installation of new sidewalk where currently none exist, removal and replacement of non-compliant ADA curb ramps, installation of new “SCHOOL” crossing paint, installation of word on pavement “SLOW” at midblock of school sites, installation of a Rapid Rectangular Flashing Beacon (RRFB), and update existing school zone signage to meet new Ohio MUTCD standard. Work will be completed in the Summer of 2025.

OHIO WATER DEVELOPMENT AUTHORITY (OWDA)

OWDA provides financial assistance for environmental infrastructure from the sale of municipal revenue bonds through loans to local governments in Ohio and from issuance of industrial revenue bonds for qualified projects in Ohio.

DIVISION OF ENVIRONMENTAL AND FINANCIAL ASSISTANCE (DEFA)

Through the Water Pollution Control Loan Fund (WPCLF), DEFA provides financial and technical assistance to public or private applicants for planning, design and construction of a wide variety of projects to protect or improve the quality of Ohio's water resources. Similarly, through the Water Supply Revolving Loan Account (WSRLA), DEFA assists applicants with projects that address human health and failing drinking water infrastructure needs.

COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)

The Community Development Block Grant (CDBG) Entitlement Program provides annual grants on a formula basis to entitled cities and counties to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low- and moderate-income (LMI) persons. The program is authorized under Title 1 of the Housing and Community Development Act of 1974, Public Law 93-383, as amended; 42 U.S.C.-530.1 et seq.

Each year Building, Housing, and Planning allocates HUD funding for LMI areas and Engineering either applies that to its local share in an LMI street in its on-going road program or designs and administers additional contracts to rehabilitated street in LMI areas.

Additionally, the Engineering Department assisted the Building, Housing and Planning Department in utilizing CDBG Funds to repave and update the parking lot and playground area of the Harrison Cultural Community Centre.

TRANSPORTATION FOR LIVABLE COMMUNITIES INITIATIVE (TLCI)

NOACA's Transportation for Livable Communities Initiative (TLCI) provides assistance to communities and public agencies for integrated transportation and land use planning and projects that strengthen community livability.

TLCI 2020 PLANNING APPLICATION – EAST 28TH STREET CORRIDOR

The City of Lorain applied for a Planning study of the East 28th Street corridor (SR57) in 2020. The application was made at the urging of the 6th Ward councilman, Rey Carrion, who is concerned about the future of the East 28th Street Corridor. NOACA will select the consultants in the Spring of 2023.

TLGI 2022 INFRASTRUCTURE APPLICATION – TLGI BEACHSCAPE

The City of Lorain applied infrastructure funding in 2022 for bike lanes from downtown Lorain to the underpass at SR611. The application was made at the urging of the 7th Ward councilman, Cory Shawver, stated that residents were uncomfortable cycling from downtown Lorain to Lakeview Park and points further west. Project will be constructed in the Summer of 2023.

CONGESTION MITIGATION AND AIR QUALITY (CMAQ)

The Congestion Mitigation and Air Quality (CMAQ) program provides federal funding statewide for transportation projects located in the largest urban areas of Ohio that improve congestion and air quality.

The purpose of the CMAQ program is to fund transportation projects or programs that will contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide (CO), and particulate matter (both PM10 and PM2.5).

The CMAQ program supports two important goals of the U.S. Department of Transportation (Department): improving air quality and relieving congestion. The CMAQ program provides funding for a broad array of tools to accomplish these goals. By choosing to fund or sponsor a CMAQ project, a State or local government, transit agency, or other eligible project sponsor can improve air quality and make progress toward achieving attainment status and ensuring compliance with the transportation conformity provisions of the Clean Air Act (CAA). Projects are awarded at 80% federal share with 20% local share.



LORAIN TRAFFIC SIGNALS

This project will provide new traffic control hardware for nine signalized intersections and a complete replacement of one signal. The locations vary along the Broadway and

Elyria Avenue corridor. These signals will communicate and use GPS coordination to minimize wait times to improve air quality. Project will be constructed in the Summer of 2023.

SURVEY / RIGHT OF WAY

SURVEYING

The Engineering Department performs construction, topographic, hydrographic, boundary, quantity, right of way, obstruction, and GPS surveys. Surveying is required for all engineered plans and is the first step in a properly designed project. Surveys performed for the city have assisted in settling legal issues, clarified right of way, determined boundary limits for city owned properties, and have accelerated the timeline of public works projects allowing both city employees and hired contractors to complete public works projects on time.

Larger surveys have been completed on several roadways to begin construction in 2022. Surveys have also been done on active job sites that were constructed in 2022 to improve design and functionality of those jobs.

The following are some additional surveys:

UTILITIES

- Survey and update storm facilities on Meister w/o Leavitt.
- Survey & construct parking lot for the distribution garage of the City of Lorain Utilities Department.
- Survey and plan city dewatering pad.

STREET DEPARTMENT

- Survey and update storm infrastructure at Campana Park.
- Grading W. 38th e/o Cambridge
- Grading W. 39th e/o Cambridge
- E. 23rd St. right of way
- Baumhart Rd drainage
- Survey Root Rd. drainage

SAFETY/SERVICE DIRECTOR

- Research Devon Springs history.
- Survey Willow Park drainage
- Research Cromwell Park & Riverbend Industrial Park for development.

GRADING APPROVALS

Preliminary Grade review for drainage. Certified Grade review for occupancy.

- Preliminary Grade Approvals: 78
- Certified Grade Approvals: 98

PLAT REVIEW

The following plat reviews were performed by our Professional Surveyor:

- Cornerstone #1, #2 & #4
- Sandy Springs #3

LOT SPLITS REVIEWED

- Broadway @ 17th St
- Arizona Ave. @ Anchor Lane
- 5401 Baumhart Rd.
- Long S/o W. 9th
- S. Broadway s/o Cooper Foster.

EASEMENTS PREPARED/REVIEWED

- Jaeger Rd behind Kohl's
- USS Ingress/Egress
- Valleyview Dr 2 documents
- W. Erie Ave outfall 2 documents

EASEMENTS PREPARED/REVIEWED

- SR 611 sidewalks 3 documents

INSPECTIONS

Inspection services validate that the work performed complies with the scope detailed in the permit description. The types of inspections vary depending on

the nature of the project. Before a permit can be completed and closed, all required inspections must be approved.

In 2022 the Engineering Department performed the following inspections:

CONCRETE- INSPECTION

- Sidewalk – 281
- Apron - 220
- Open Pavement – 96
- Catch Basin/ Manhole – 50



STORM SEWER AND SANITARYSEWER – INSPECTION

- Sanitary – 188
- Storm –107

NEW SUBDIVISIONS– INSPECTION

- Sandy Springs Subdivision No. 3. Created 45 new lots. Ward 8
- Crossings at Martin's Run Subdivision No. 5 Created 27 new lots. Ward 8
- Crossings at Martin's Run Subdivision No. 6. Created 21 new lots. Ward 8

PROJECTS– INSPECTION

- OPWC Round 35 A - Street rehabilitation of Oxford Dr, Rita Dr, and Ashland Ave.
- OPWC Round 35 B - Street Rehabilitation of Lakeview Dr, Elyria Ave, and Missouri Ave.



PAVEMENT MANAGEMENT RATINGS

Engineering continues to use Streetlogix by StreetScan Inc. to develop capital plans and optimize spending on road

projects. In 2023, the City will re-analyze the condition of every street and update scores accordingly in order to ensure fairness and equity.

CONCRETE TESTING

Concrete testing is performed on all capital improvement projects. Testing is done in accordance with applicable American Society for Testing and Materials (ASTM) standards by an American Concrete Institute (ACI), Certified Concrete Field Technician. A sample is obtained in the field, and then allowed to cure, then compression tested in a lab. Concrete samples are obtained in the field during paving operations as well as other operations where a substantial volume of concrete is being used. Samples are cured for at least 7 days before first compression test is performed. Multiple samples are taken so that compression testing can also be performed at 28 days.

Multiple samples are taken so that compression testing can also be performed at 28 days.

Concrete is said to be fully cured and have developed the majority of its strength at 28 days.

Testing is performed to make sure that what is being specified in plans and contract documents is what is being constructed in the field.



ASTM TESTING PERFORMED

- ASTM C172 - Sampling
- ASTM C143 - Slump
- ASTM C438 - Density
- ASTM C231 - Air Content
- ASTM C31 - Cylinders
-

CONTRACT MANAGEMENT

CONTRACTS

- OPWC Round 35A Road Rehabilitation
- OPWC Round 35B Road Rehabilitation
- Safe Routes to School Central Lorain
- 2022 Sewer Lining Project – Year V
- LOR – Safe Routes to School – Central Lorain Sidewalks
- LOR – East 28th Street Road Rehabilitation
- Lorain E 36th Street Road Rehabilitation

AGREEMENTS

- Lorain 611 Signals, GPD, OR Colan
 - Design, Right-of-Way Design, Right-of-Way Acquisition

REQUEST FOR QUALIFICATIONS

- LOR - Safe Routes to School - Central Lorain Construction Administration
- LOR E 28th Street – Construction Administration
- LOR E 36th Street – Construction Administration
- 2022 Qualifications Statement from Interested Professional Engineering, Architectural, and Surveying

PLAN REVIEW

The Engineering Department is responsible for reviewing plans impacting the public right-of-way. This includes residential subdivisions where the City is accepting new infrastructure such as water mains, sewers, roads and storm management infrastructure. Engineering also reviews and permits new residential and commercial construction to determine proper grade, stormwater management, proper sidewalk and driveway apron configuration, and public utility services such as water and sewer service. Lastly, Engineering reviews projects by third parties such as ODOT or Lorain County within Lorain's Corporate limits. Plans related to any of the following areas must be submitted and reviewed, and approved depending on the nature of the project.

- Residential Subdivision
 - Sandy Springs – Subdivisions 2
 - Sandy Springs – Subdivisions 3

- The Crossings at Martin's Run – Subdivision 4
- The Crossings at Martin's Run – Subdivision 5 & 6
- Eagle Ridge (located within City of Amherst)
- Commercial Buildings
 - Absolute Machinery
 - Bigby Coffee
 - Ergomat
 - Chick-fil-A
 - North Coast Design Build
 - Meijer Outlot C
 - Wellnow
- Projects administered by other agencies
 - Broadway Water Main Replacements by County
 - County/State Improvement Projects
 - Private Utility Replacements (gas, fibreoptics, etc...)

UTILITIES ENGINEERING

The Engineering Department assists the Utilities Department with the planning, design, and construction administration services.

- **Water System Rehabilitation**
 - Planning and prioritization of water system improvements
 - Design administration
 - Year 2 Water Main Replacement Program
 - Year 2 - Lead Service Line Replacement Program
 - Construction administration
 - Red Hill Boosted Pressure System and Water Main Improvements
 - East Lorain Water Main Replacement
 - Water Main Replacement Year 1
 - Vine Ave from E.28 to E.33
 - W.40th St. from Ashland to Oberlin
 - E. 37th St. from Pearl to Lorain
 - Woodward from E.37th to Fulton
 - Year 1 - Lead Service Line Replacement Program
- **Sanitary System Rehabilitation**
 - Planning and prioritization of sanitary sewer system improvements
 - Design administration
 - Construction administration
 - Sewer and Manhole Rehab (CIPP lining) Year 5

TECHNICAL DEVELOPMENT ASSISTANCE

City of Lorain staff offers ongoing technical support to developers, contractors, engineers, builders and property owners within the City of Lorain. This technical assistance is related to:

- Permitting and associated fees
- Standards and design support
- Construction and inspection requirements

NEW RESIDENTIAL ADDRESS ASSIGNMENTS

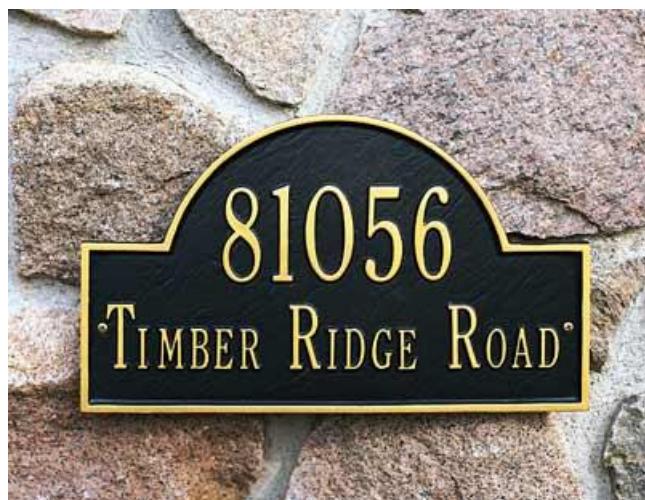
Sandy Springs No. 3

1007 E. 39th Street – New House

NEW COMMERCIAL ADDRESS ASSIGNMENTS

5153 Leavitt Rd. – New Commerical Building – Freddy's Frozen Custard & Steakburgers

7420 Oak Point Rd. – New 3 unit Commercial Building – Starbucks, Crumbl Cookies, retail space



City of Lorain Public GIS



Utilities



Pavement Evaluation



Zoning

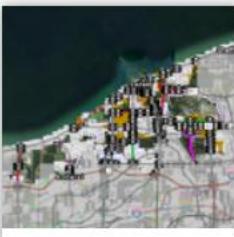


Projects



Council Wards

City of Lorain Council Ward Boundaries



City of Lorain - ODOT, NOACA, OGRIP and ODNR

This web application contains data from ODOT, NOACA, OGRIP, and ODNR

Geographic Information Systems (GIS) and general mapping are managed by the Engineering Department. In 2021, the Engineering Department created a GIS and Mapping “Portal”. This portal allows public access to information about:

- Public Utilities (Water, Sanitary Sewers and Storm Sewers)
- Pavement Condition (Pavement Rating System)
- Zoning Codes
- City Wide Projects (Projects administer by the City of Lorain or other agencies, such as Columbia Gas, within city limits)
- General Ward Maps (showing current and future ward boundaries and council member information).
- Other data managed and maintained by ODOT, NOACA, OGRIP and ODNR within city limits.

MAPPING – CONT

The Engineering Department maintains and updates all data associated with maps within the portal. Engineering performs edits related to:

- Utilities updates such as:
 - Infrastructure in new developments
 - Modifications necessitated by public improvement projects such as water main replacement and sewer lining projects.
 - Updates and modifications to water pressure systems
- Pavement Planning and Improvements
- Zoning changes/updates
- Project updates and status

Engineering will also prepare maps and exhibits on an as needed basis such as:

- Maps requested by Council Members
- Entertainment District maps
- Central Business District Maps
- Active Transportation/TLCI maps
- Towing district maps for Police
- Backflow Area maps for Utilities
- Community Reinvestment Area Maps
- Urban renewal area maps
- Community Development Block Grant Funded Project Maps
- Tax Abatement Area Maps
- Exhibit Maps for Grants for Various Departments
- Training Maps for Lorain Fire Department and Lorain Police Department

STORMWATER MANAGEMENT

- Implemented and managed the requirements of the City of Lorain Stormwater Management Program.
- Performed 567 storm water inspections on 126 sublots and 12 commercial sites within the City issuing 367 violation notices and 39 enforcement actions.
- Performed quarterly site inspections of the following City properties: Compost Facility, Street Department Complex, and Sewer Department Complexes.
- Provided storm water training to employees in the following departments/divisions: Sewer, Landscaping, Water Distribution, and Public Properties.

- Administered the Long Term Operation and Maintenance standards for all existing post-construction BMPs.
- Continued communication with City departments and facilities to ensure all facilities within the City are brought into compliance with minimum storm water standards.
- Completed construction on the Martin's Run Ecological Restoration Project to restore and enhance approximately 16.3 acres of wetland. Within the project site, approximately 1,000 linear feet of the channelized, incised, and severely eroding stream channel was relocated and restored using natural channel design techniques to reduce erosion and sediment loss and reconnect the channel to the floodplain. Completion of this project established and preserved approximately 19 acre-feet of runoff retention, storage, and treatment.

ENVIRONMENTAL RESTORATION PROGRAM

- Coordination of the 2022 Black River Summit held on May 19th, 2022. The summit was held to highlight the work done to rehabilitate areas along the Black River and look at the future projects still needing to be done.
- Grant management and restoration projects active in 2022 include:
 - Martin's Run Ecological Restoration Project Phase II – Used Ohio Department of Natural Resources H2Ohio Grant of \$1,400,0000 to fund construction. Work was substantially completed in summer 2022.
 - Black River Dredge Reuse Facility – The City continued work under the \$4,000,000.00 Healthy Lake Erie grant award to design and construct an upland dredge dewatering facility to ensure continued navigational dredging of the Black River. An additional \$150,000 was awarded to the City to assist with the pilot project completed under the original award. An additional \$11.75 million in funding has been requested to complete the total site build-out.
 - In 2022, \$15,000,000 was awarded to the City in order to fund the construction of the Black River Dredge Material Dewatering Facility, an approximately 80-acre industrial facility to be owned and operated by the City of Lorain. Construction is planned to begin in summer 2023, with substantial completion planned for July 2024.

- Black River Concern Remediation and Restoration Program was completed in August 2022. Total project award of \$15,184,138 was provided by EPA.
- Additional restoration funding in the amount of \$750,000.00 was awarded to supplement the \$15M 2015 award coverage at the Black River Reclamation Site.

BROWNFIELD REMEDIATION PROGRAM

In 2022, the City of Lorain was awarded the following brownfield redevelopment projects:

- Pellet Terminal Redevelopment Project (\$4,025,899) will remediate contaminated soil from 20+ acres of waterfront property that previously served as an iron ore pellet terminal, preparing the site for mixed-use development. The project will also extend Broadway to the pellet terminal site, provide utilities critical to the long-term development of this area, revamp and repave the entrance to the “Hot Waters” boat launch, and improve traffic flow. This project is currently in design and planned for construction in 2023 and 2024.
- Stove Works Remedial Action Plan Implementation (\$709,167) will remediate onsite contamination in order to prepare the site for future affordable housing. This project is currently in design and planned for construction in 2023.
- St. Joe’s Phase II (\$195,750) was planned to identify onsite contamination and development a Remedial Action Plan to advise future cleanups. This project was awarded in the second quarter of 2022 and completed in December 2022.

LORAIN BLACK RIVER RECLAMATION FACILITY

- Staff managed and operated the City of Lorain Class 4 Composting Facility.
- Onsite staff coordinated with City departments on the movement and management of material into the facility.
- Onsite staff worked to manage and produce leaf humus, topsoil, and mulch.
- Onsite staff assisted in the onsite management and coordination of all environmental restoration projects occurring on the property including the Black River Remediation and Restoration project as well as the Dredge Facility project.

PERMITTING

A permit authorizes a homeowner or contractor to begin the work described on the permit. The Engineering Department issues permits for aprons, sidewalks, open pavement, water service line repair/replacement, sanitary and storm sewers repair/replacement and new construction taps for residential and commercial. The following number of permits were issued in 2022:

- Apron and Sidewalk – 225
- Sanitary and Storm Repair/Replace/Check Valve – 101
- Open Pavement – 54
- Water Permits (repair/replace water service line / meter downsize) – 56
- New Construction (Sewer & Water Tap in) Residential – 85 *
- New Construction (Sewer & Water Tap in) Commercial – 4 *
- Commercial Additions (Sewer and/or water) – 1
- Sanitary New Tie-Ins (outside of city) – 27
- Water New Tie-Ins (outside of city) – 23

*(New Construction Permits include sanitary, storm, water, sidewalk and apron permits)

FINANCES

2022 Engineering Collections

Sewer Permits	\$ 22,435.00
Miscellaneous Sales	\$ -
Parkland Trust Fund	\$ 84,245.00
Sewer License Fees	\$ 2,100.00
Deposit Held Trust Fund	\$ 81,097.00
Reimburse Engineering Service	\$ 36,300.00
Inspection Fees Allotment Impr Fund	\$ 63,022.16
Contract	\$ -
Storm Sewer Fees	\$ 129,550.00
Rental Income / Pole Nodes	\$ 1,087.56
Sanitary Tap in Fee	\$ 141,600.00
Sanitary Capital Improv. Fee	\$ 106,602.10
Water Pollution Control Interceptor Fees	\$ 11,976.92
Water - Capital Improvements	\$ 85,097.36
Water - New Main Frontage	\$ -
Service Connection Taps	\$ 133,858.42
Meter Charge	\$ 49,209.00
Manifolds	\$ 1,708.99
Street Excavation	\$ -
Water Works Inspection	\$ 14,745.00
Compost License	\$ 3,750.00
County Sewer Fee (forward to County)	\$ 46,687.47
<hr/>	
Total Collections	\$ 1,015.071.98

EXHIBIT A

OPWC 35 – Completed 2022 work

Street	From	To	Scope	Length		Width	Estimated Total Cost	Ward	LMI
Elyria Ave	W. 21st	W. 17th	Mill/Fill, Pvmt Repair, Casting Adj, Curb Ramps	1841		44	\$ 654,263.08	2	Y
Ashland	W. 30	W. 35	Concrete Replacement	1430.81		27.3	\$ 492,170.02	4	N
Missouri Ave	East Erie Ave.	Rail road	Concrete Replacement	1700		27.3	\$ 584,766.00	1	N
Oxford Dr	Rita	N. Terminus	Concrete Replacement	900		28	\$ 317,520.00	8	N
Rita	Oxford	Winger	Concrete Replacement	274		28	\$ 96,667.20	8	N
Lakeview Dr	W 11th St	W Erie Ave	Mill/Fill, Pvmt Repair, Casting Adj, Curb Ramps	1204		28	\$ 272,289.23	7	N
							\$ 2,417,675.53		

ODOT – Completed 2022 work

- East 36th Street - \$402,430.23
- East 28th Street - \$827,590.90
- Safe Routes to School – Central Lorain Sidewalks - \$355,598.16