

ENGINEERING DEPARTMENT

2021 ANNUAL REPORT



City Engineer: Dale Vandersommen, P.E.

3/30/2022

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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, a Contract and Prevailing Wage Administrator, a Storm Water Manager, and a Technical Administrative Assistant.

- Elva Martes, Technical Administrative Assistant
 - Mrs. Martes has over 25 years 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
- 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)

ENGINEERING DEPARTMENT STAFF –CONT

- Education:
 - Bachelor of Science, Geography, Penn State University
 - Post Baccalaureate Certificate, GIS, Geographical Information Systems, Penn State University
- Kathryn Golden, CPMSM, CFM, Stormwater Manager
 - Mrs. Golden has over 18 years of experience in the stormwater and water quality field. Her responsibilities include the administration of \$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
- Katherine McGannon, Engineering Aide III
 - Ms. McGannon has over 8 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
- Seth Schilling, Engineering Aide III
 - Mr. Schilling has over 15 years 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:

ENGINEERING DEPARTMENT STAFF –CONT

- 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
- 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 30 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
- Dale Vandersommen, P.E., City Engineer

ENGINEERING DEPARTMENT STAFF –CONT

- Mr. Vandersommen has over 26 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 285 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 all department construction contracts and bidding
- Preparation of all department service contracts
- Applies for all OPWC project funding
- Applies for all NOACA/ODOT project funding

DUTIES AND FUNCTIONS – CONT

- Applies for all ODNR 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
- 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

DUTIES AND FUNCTIONS – CONT

- 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

CITIZEN INFORMATION

Citizen 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:

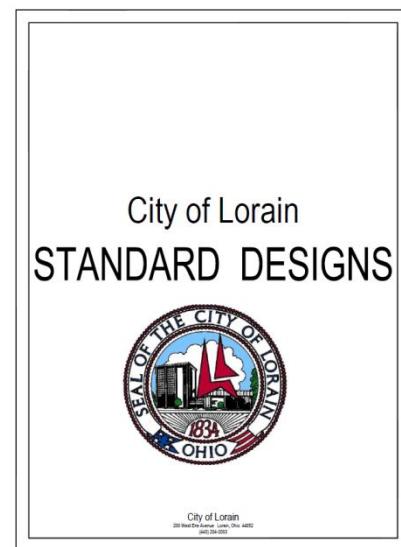
- 8Drainage complaints, grading
- 3 Drainage complaints, alley, yard, downspout/underdrain
- 3Right of Way Obstructions

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.



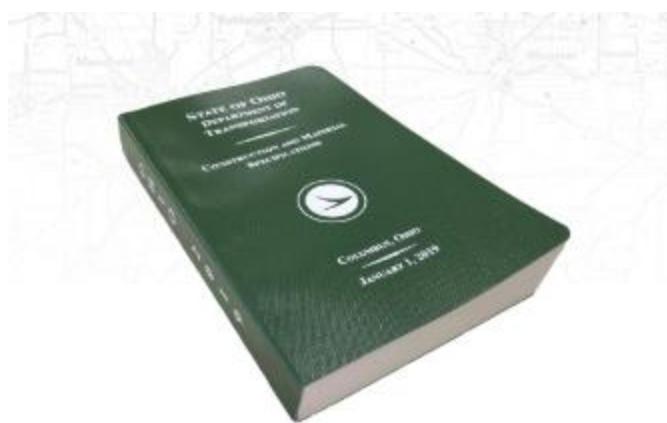
PROJECTS

OHIO PUBLIC WORKS COMMISSION (OPWC)

OPWC provides financing for local public infrastructure improvements through both the State Capital Improvement Program (SCIP) and 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 2021.

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 is planned for construction 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.

The Engineering Department is working with the administration and ODOT to address this issue.

EAST 28TH STREET

East 28th Street will be removed and replaced from Grove Avenue to Tacoma Avenue in Summer of 2022.

There are several right of way issues that have been addressed by sending letters to the residents. ODOT requires all Right of Way issues be addressed prior to work beginning.

STATE ROUTE 58 – LEAVITT ROAD

State Route 58/Leavitt Road was resurfaced in 2021. The bike lanes were extended down to US6 – West Erie Avenue. Norfolk Southern replaced the entire rail crossing at State Route 58 during the project.

SAFETY FUNDING

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 to occur 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. This safety study is being incorporated into the Lorain SR58 Corridor study in 2022.

LOR 111611 SR2/SR58 SIGNAL TIMING PROJECT

The City of Lorain was awarded funding for ODOT to study the signal timing of various intersections on SR58 in 2022.

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.

PEDESTRIAN SYSTEMIC SAFETY APPLICATION

ODOT district 3 requested that the City of Lorain create an application for pedestrian safety from the newly established pedestrian safety project

funding source. This project is in cooperation with ODOT District 12, Cleveland.

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.

SAFE ROUTES TO SCHOOL (SRTS)

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 2021 – 611 SIDEWALKS – PID 109068

Work was completed for the 2018 SRTS grant of \$185,553.97 from the Ohio Department of Transportation (ODOT) for sidewalks on SR611-West 21st Street from Oakdale Avenue to Leavitt Road to remove and replace sidewalks past their useful life. Project bid and awarded to Terminal Ready mix. Work was completed November 2021.



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 will be completed Summer of 2022.

Lorain Active Transportation Plan (ATP) 2021 Progress Report

Progress made in 2021 for better walking and bicycling experiences in Lorain, and what to expect in 2022.

\$1,295,528.25

Total leveraged funding.

Since 2017 we have leveraged a total of \$2,866,107.95 from grants and other outside sources.



2 community walks

- 12 people total attended
- 2 newspapers provided media coverage.

1 Temporary Demonstration

Painted green squares in the bike lanes on E. 31st St. to increase their visibility.

Since 2018, ATP partners completed two other temporary improvements:

- Broadway Ave. pocket parks
- Washington Ave. bike lanes



20 bicycle & pedestrian crashes

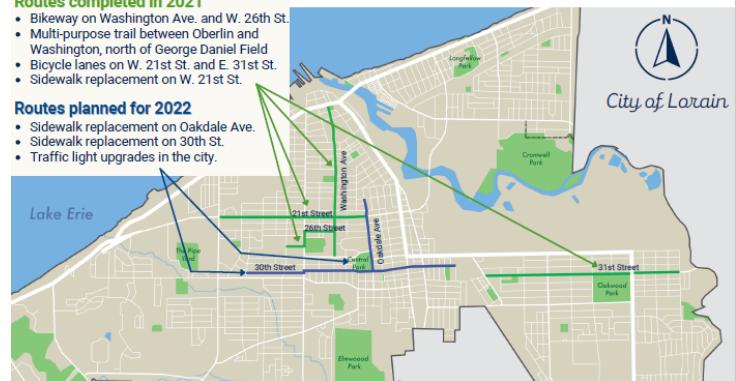
- 2 crashes were fatal
- 5 crashes had serious injuries

Routes completed in 2021

- Bikeway on Washington Ave. and W. 26th St.
- Multi-purpose trail between Oberlin and Washington, north of George Daniel Field
- Bicycle lanes on W. 21st St. and E. 31st St.
- Sidewalk replacement on W. 21st St.

Routes planned for 2022

- Sidewalk replacement on Oakdale Ave.
- Sidewalk replacement on 30th St.
- Traffic light upgrades in the city.



LORAIN **connected**

View the Lorain ATP:
CityofLorain.org/500/Active-Transportation-Planning

Questions: HealthEd@loraincountyhealth.com

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.

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 3 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.

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. TLCI awards will occur in spring of 2021.

TLCI 2022 INFRASTRUCTURE APPLICATION – TLCI 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. TLCI awards will occur in spring of 2022.

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.

WASHINGTON AVENUE BIKEWAY



Work continues for the 2017 CMAQ grant of \$179,500.00 grant for restriping portions of West 26th Street and Washington Avenue to add bike lanes, and constructing a 10-foot wide paved bike path along the south side of West 24th Street between Oberlin Avenue and Washington Avenue. Contract bid and awarded to Terminal

Ready Mix. Work will conclude in Spring of 2022.

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.

CMAQ 2021 INFRASTRUCTURE APPLICATION – WESTSIDE COMMUNITY CONNECTIVITY PROJECT

The City of Lorain applied for infrastructure funding in 2022 for sidewalks on the West side of Lorain. The application was made at the urging of the 8th Ward councilman, Josh Thornsberry, who is concerned about lack of connectivity in this area of his ward. CMAQ awards will occur in spring of 2022.

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 2021. Surveys have also been done on active job sites that were constructed in 2021 to improve design and functionality of those jobs.

The following are some additional surveys:

UTILITIES

- Survey design storm outfall E. Erie Ave.

- Survey & design parking lot for the distribution garage of the City of Lorain Utilities Department.

STREET DEPARTMENT

- Research, survey and stake various alley right of ways to clarify obstructions.
- Research, survey storm drainage at Elmwood Cemetery.
- Survey Pipeyard Field for outfield drainage update.

SAFETY/SERVICE DIRECTOR

- Research, survey and record additional parcels acquired by the City of Lorain
- Survey &split parcels at River Bend Dr.
- Survey and estimate cost for Root Rd.

SAFETY/SERVICE DIRECTOR

- Survey and estimate Central Park parking lot
- Survey and design Harrison Academy parking lot and playground
- Prepare various legal descriptions for parcel transfer.

GRADING APPROVALS

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

- Preliminary Grade Approvals: 117
- Certified Grade Approvals: 136

PLAT REVIEW

The following plat reviews were performed by our Professional Surveyor:

- Cornerstone #5
- Sandy Springs #1

LOT SPLITS REVIEWED

- Leavitt Rd n/o Meister.
- Chelsa consolidation of 6 lots.
- Concord Dr.
- Bascule Dr.
- W. Erie @ Wallace Dr.

LOT SPLITS PREPARED

- River Bend Industrial Park

EASEMENTS REVIEWED

Research waterline easement Orchard Hill, S. Broadway at SR. 2.

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 2021 the Engineering Department performed the following inspections:

CONCRETE- INSPECTION

- Sidewalk – 646
- Apron - 368
- Open Pavement – 176
- Catch Basin/ Manhole – 76

STORM SEWER AND SANITARYSEWER – INSPECTION

- Sanitary – 244
- Storm – 159



NEWSUBDIVISIONS– INSPECTION

- The Crossings at Martin's Run Sub. No. 4- Created 30 new lots. Ward 8
- Sandy Springs Subdivision No 2- Created 28 new lots. Ward 8

PROJECTS– INSPECTION

- OPWC Round 34 A- Street rehabilitation of King Ave., W. 26th St, G. St., and W. 35th
- OPWC Round 34 B- Street Rehabilitation of Redbud Pl., Rosecrest Dr., E. 34th St., E. 41st St., and Lexington Ave.
- SR 611 Sidewalk Improvements (Leavitt Rd to Oakdale Ave) LOR-Lorain SRTS PID 109068
- Bicycle Improvements (Washington Avenue Bikeway) LOR-Lorain CMAQ PID 108526

PAVEMENT MANAGEMENT RATINGS

In 2020, Engineering contracted with StreetScan Inc. to rate all city streets and create a comprehensive geographic database of pavement condition and maintenance needs. All streets have been rated. Engineering is also utilizing software developed by StreetScan Inc., called StreetLogix to develop master planning. In 2021, Engineering has:

- Prepared a multi-year roadway capital improvement plan
- Created a crack sealing plan and other maintenance tools for the Street Department
- Develop the public facing and online tools for viewing city-wide street conditions and planned projects.

In 2022, engineering will have the 5-year plan validated and approved by council for both contracted work administered by the Engineering Department and asphalt resurfacing performed by the Streets Department.

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

- Purchase of Street Materials 2021
- Demolition of 4 properties 1225/1227 W. 2nd St, 2518 Caroline Ave, 2528 E. 37th St, and 3174 Caroline Ave
- Water Distribution Building Renovations
- Cooper Foster Park Dr and Ashwood Blvd Water Distribution Spot Repairs
- OPWC Round 34A Road Rehabilitation
- OPWC Round 34B Road Rehabilitation
- Oakwood Park Pool Substantial Rehabilitation

- Senior Center Lot Paving
- Black River AOC Remediation and Restoration Program – SEEP Remediation System Improvements
- 2615 East Erie Ave Stormwater Outfall Improvement Project
- LOR-611 Signals Design
- 2021 Sewer Lining Project – year IV
- Martin’s Run Ecological Restoration Project
- Aquatic Habitat Restoration Project River Miles 4.6-4.85
- LOR – Safe Routes to School – Central Lorain Sidewalks
- LOR – East 28th Street Road Rehabilitation

AGREEMENTS

- Residential Solid Waste Collection, Disposal, and Recycling Services

REQUEST FOR QUALIFICATIONS

- Water Treatment Plant Improvement Project
- 2021 Qualifications Statement from Interested Professional Engineering, Architectural, and Surveying
- RFP – City hall Relocation Feasibility Analysis

PLAN REVIEW

The Engineering Department is responsible for reviewing plans impacting the public right-of-way. 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 Boast Design Build
- Meijer Outlot C
- Wellnow
- Projects administered by other agencies
 - Redhill Waterline
 - Sanitary or Storm Sewers modifications
 - County/State Improvement Projects
 - Utility Replacement (gas, fiberoptics, 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
 - 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
 - Lead Service Line Replacement Program
 - Construction administration
 - Red Hill Boosted Pressure System and Water Main Improvements
- **Sanitary System Rehabilitation**
 - Planning and prioritization of sanitary sewer system improvements
 - Design administration
 - Sewer and Manhole Rehab (CIPP lining) Year 5
 - Construction administration
 - Sewer and Manhole Rehab (CIPP lining) Years3 & 4

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

RESIDENTIAL ADDRESS ASSIGNMENTS

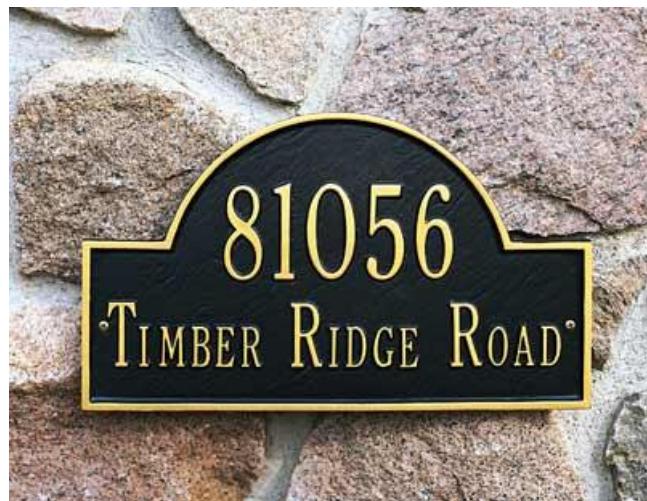
Cornerstone No. 5

Sandy Springs No. 2

The Crossings at Martins Run
No. 4

The Crossings at Martins Run
No. 5

The Crossings at Martins Run
No. 6



City of Lorain Public GIS



Utilities

This map contains Utility Assets for the City of Lorain.



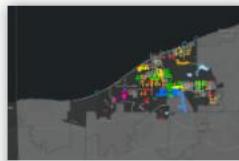
Pavement Evaluation

This map contains Pavement Evaluation scores for the City of Lorain.



Zoning

This map contains Zoning information for the City of Lorain. Parcel information included in this..



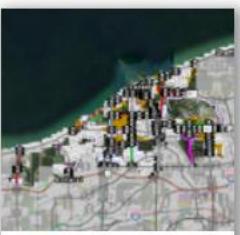
Projects

This map contains information related to current projects within the City of Lorain.



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 Mapping System (GIS) and general mapping is 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 agency such as 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

STORMWATER MANAGEMENT

- Implemented and managed the requirements of the City of Lorain Stormwater Management Program.
- Performed 822 storm water inspections on 177 sublots and 9 commercial sites within the City issuing 410 violation notices and 16 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.
- Developed a new City of Lorain Stormwater Management Plan (SWMP), a document outlining the City's program compliance and 5-year stormwater management plans.
- Continued communication with City departments and facilities to ensure all facilities within the City are brought into compliance with minimum storm water standards.

- Began 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 will be 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 will establish and preserve approximately 19 acre-feet of runoff retention, storage, and treatment.

ENVIRONMENTAL RESTORATION PROGRAM

- Coordination of the 2021 Black River Summit to be held in September 2021. (cancelled due to Covid)
- Grant management and restoration projects active in 2021 include:
 - Martin's Run Ecological Restoration Project Phase II - Ohio Department of Natural Resources Funding: Secured a \$1,400,000.00 H2Ohio Grant to fund construction.
 - 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.
 - Black River Concern Remediation and Restoration Program- Federal EPA Funding. The funding has provided for the following 2021 activities (\$15,184,138 project award):
 1. Project completion date extended to August 2022.
 2. Continued management of the groundwater treatment system to address contaminant entry into the Black River.
 3. The Seep Remediation System modification began construction.
 4. Substantial Completion of the Black River Reclamation Site restoration work.
 5. The final project to be funded under this award will complete bank restoration between the larger Reclamation site project

and the Seep system was designed and permitting submitted. Projects currently under way.

6. Additional project funding in the amount of \$750,000.00 was requested to finalize coverage at the Black River Reclamation Site.

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, and sanitary and storm sewers repair/replacement and new construction taps for residential and commercial. The following number of permits were issued in 2021:

- Apron and Sidewalk – 526
- Sanitary and Storm Repair/Replace/Check Valve– 90
- Open Pavement –138
- Water Permits (service line insp / meter downsize) – 55
- New Construction (Sewer& Water Tap in) Residential –124*
- New Construction (Sewer& Water Tap in) Commercial –7*
- Commercial Additions (Sewer and/or water) – 5
- Sanitary New Tie-Ins (outside of city) – 7
- Water New Tie-Ins (outside of city) - 1

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

FINANCES

2021 Engineering Collections

Sewer Permits	\$ 28,160.00
Miscellaneous Sales	\$ -
Parkland Trust Fund	\$ 70,770.00
Sewer License Fees	\$ 1,830.00
Deposit Held Trust Fund	\$ 180,506.44
Reimburse Engineering Service	\$ 59,925.00
Inspection Fees Allotment Impr Fund	\$ 59,015.83
Contract	\$ -
Storm Sewer Fees	\$ 180,330.00
Rental Income / Pole Nodes	\$ 1,087.56
Sanitary Tap in Fee	\$ 152,180.00
Sanitary Capital Improv. Fee	\$ 125,611.86
Water Pollution Control Interceptor Fees	\$ 6,073.25
Water - Capital Improvements	\$ 87,892.00
Water - New Main Frontage	\$ -
Service Connection Taps	\$ 136,919.23
Meter Charge	\$ 46,676.00
Manifolds	\$ 1,500.00
Street Excavation	\$ -
Water Works Inspection	\$ 19,250.00
Building Water	\$ 7,488.00
County Sewer Fee (forward to County)	\$ 14,209.23
<hr/>	
Total Collections	\$ 1,179,424.40

EXHIBIT A

OPWC 34 – Planned 2020 work, some delayed to 2021/2022 due to COVID19 and weather constraints

Construction Year	Street	From	To	Scope	Street Rating	Length	Width	Funding Source	Estimated Total Cost	Ward	CDBG
2021/2022	Redbud	West Culdesac	Ashland	Concrete Replacement	37-2017	660	28	OPWC/CDBG	\$ 206,382.00	4	Y
2021/2022	Rosecrest	Timberview	Edgewood	Concrete Replacement	60.8-2017	328	28	OPWC/CDBG	\$ 102,565.60	4	N
Completed 2021	E. 34th	SR 57	Palm Ave	Concrete Replacement	44.3-2019	1262	27.3	OPWC/CDBG	\$ 393,744.00	6	Y
Completed 2021	W 26th	Ashland	Oberlin	Concrete Replacement	52.7-2019	985	27.3	OPWC	\$ 307,320.00	3	N
Completed 2021	E 41st	Palm	Homewood	Mill/Fill, Pvmt Repair, Casting Adj. Curb Ramps, Curb, Underdrains	48-2015?	780	27.3	OPWC	\$ 213,720.00	6	N
2021/2022	G St	Colorado	Iowa	Concrete Replacement	30-2014?	1501	27.3	OPWC	\$ 468,312.00	1	N
2021/2022	King Ave	West Erie	W. 11th St.	Concrete Replacement	44-2014?	738	27.3	OPWC	\$ 230,256.00	7	N
2021/2022	W 35th St	Palm Springs	Ashland	Concrete Replacement	65-2015?	1300	27.3	OPWC	\$ 405,600.00	8	N
Completed 2021	Lexington Ave.	33rd	32nd	Mill/Fill, Pvmt Repair, Casting Adj. Curb Ramps	66-2017	441	27.3	OPWC	\$ 88,200.00	3	N