

2013 ANNUAL REPORT

Prepared For The:

CITY OF GARFIELD HEIGHTS



CUYAHOGA COUNTY
DEPARTMENT OF PUBLIC WORKS

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CUYAHOGA COUNTY DEPARTMENT of PUBLIC WORKS

March 31, 2014

The Honorable Vic Collova City of Garfield Heights 5407 Turney Road Garfield Heights, Ohio 44125

Dear Mayor Collova:

It is with great pride that I present to you the 2013 Annual Report for the Cuyahoga County Department of Public Works Sanitary Division. This report contains a detailed overview of services performed and work completed within your municipality, including operating expenses over the past year. As in previous reports, we have included maps displaying the following: the cleaning and inspection of system mainlines, locations of construction activity, inflow and infiltration areas of study, house visits, and the cleaning and inspection of lateral connections, as it pertains to the service in which we provide to you.

Overall, this year we have cleaned 1,689,015 feet of sewer; video inspected 1,486,118 feet of sewer; made 9,316 house calls; performed 159 smoke/dye tests and completed 2,778 construction repairs on community sewer systems.

Though our labor, material and equipment costs have risen, we have maintained our rates for over five years by improving our efficiencies. We have saved the cities, villages and townships over \$1 million through our increased efficiencies. These savings can be funneled to much needed capital improvement projects.

Respectfully submitted,

Bonita G. Teeuwen, P.E.

Director of Public Works

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MISSION STATEMENT

"To provide and maintain a safe and efficient regional infrastructure system for residents, employees, businesses and visitors through innovative solutions, high-quality workmanship and superior customer service."



OVERVIEW

Originally established in 1919, the Sanitary Engineering Division was created to administer authority in matters of wastewater, storm water, and water supply management. In 2012, the Sanitary Engineering Division (formerly CCSE) became a part of the Cuyahoga County Department of Public Works, and now operates under the County Executive Ed FitzGerald.

Our focus on needs assessment, engineering feasibility studies, maintenance and repair of aging sewer lines, as well as other infrastructure-related issues, has a direct impact on commercial and residential development, job creation, and expanded tax base in the communities served by the Department of Public Works.

This Division is a major source of information and guidance that mayors, municipal engineers, and service directors rely on when making infrastructure decisions within their community. The Division has considerable experience in the maintenance of sanitary and storm sewer lines, many of which are old and have performed beyond their design life. Moreover, the Division has much expertise with respect to wastewater treatment plants and pump stations.

Public Works directs an operation which now encompasses more than 34 communities and maintains nearly 1,200 miles of sanitary sewers, treats millions of gallons of wastewater, operates 51 sewage-pumping stations, and maintains 2 wastewater treatment plants throughout Cuyahoga County. The Division also has agreements with municipal corporations for the establishment, operation, and maintenance of sanitary sewers.

Working in cooperation with the Ohio Environmental Protection Agency (Ohio EPA), the Northeast Ohio Regional Sewer District (NEORSD), the City of Cleveland Division of Water, and the Cuyahoga County Board of Health; the Division manages a Capital Improvement Program (CIP) used for upgrading or replacing the existing infrastructure and for expanding sewers to non-sewered areas. The CIP includes information about project type, location, funding, preliminary engineering, and final plan development.

All operating funds for the Division are created through fees and assessments. The Division does not receive a subsidy through the County General Fund; however, it does use the General Fund's bonding capacity.

The Department of Public Works has been in the forefront of regionalism efforts, and with services provided to over half of the 59 communities within county lines, the office continues to maintain reasonable rates and improved infrastructure throughout the area.

- Reduce the number of flooded basements by decreasing mainline blockage, minimize the inflow/infiltration of storm water in the sanitary system, and evaluate the structural integrity of entire sewerage system;
- Increase efficiency to reduce operating cost and produce more available funding for capital improvement projects;
- Operate wastewater treatment plants in compliance of National Pollution Discharge Elimination System (NPDES) permit parameters;
- Provide guidelines for new construction through use of Uniform Standards for Sewerage Improvements;
- Review and approve new improvement plans; and
- Provide infrastructure needs assessment for communities.
- Capital improvement planning
- Plan review and approval of all new sewer improvements within the County sewer districts
- Construction management
- Geographic information systems (GIS)
- Project design
- Engineering analysis (required for operation of facilities and the collection system)
- Operational checks (EPA permit compliance)
- Operation and maintenance of wastewater treatment plants and pumping stations
- Inspection of new wastewater collection and transportation systems within County sewer districts
- Issuance of connection permits
- Issuance of sewer builders' licenses
- Development, implementation and monitoring of safety guidelines

GOALS
OF THE PUBLIC
WORKS
DEPARTMENT

ENGINEERING SERVICES

FACILITIES
OPERATION &
MAINTENANCE

ADMINISTRATIVE SUPPORT SERVICES

In addition to the extensive maintenance services we offer, our administrative support includes the following:

- Capacity, Management, Operation, and Maintenance (CMOM) Program as regulated through the US
 EPA to help prevent Sanitary Sewer Overflows (SSO's)
- Maps and spatial analysis for design and service management
- Geographical information systems for development and implementation
- Record keeping, as-built plans and test tee location
- Fiscal oversight of annual operating budget and capital improvement budget
- Grant and loan administration
- Licensing and permitting of over 200 contractors
- Inspection of sewers and project oversight
- Design and review of construction projects and analysis of field testing

Maintenance Services

Treatment Lateral Plant & Lateral & 24-Hour Cleaning Mainline Smoke Digital Pump Mainline Call (From Sewer & Dye Video Station Test Tee Out Sewer Maintenance Inspection Cleaning Testing to Services Repair Mainline) Operation

SUMMARY OF SERVICE DELIVERY

- High-pressure jetting of street sewer from the right-of-way, approximately 1,200 miles of sanitary sewers.
- Point repairs as well as capital improvement projects
- Cleaning of line from right-of-way to the house, approximately 7,500 houses annually
- Inflow and Infiltration testing and solutions
- Televising of lines for identifying possible failures or deficiencies
- Licensed wastewater operators to monitor the condition of the treatment plants and pumping stations, as well as implement upgrades and preventative maintenance.
- Emergency maintenance and 24- hour on-call team for resident issues

INTERNAL STRUCTURE OF THE DIVISION

SEWER MAINTENANCE

The Sewer Maintenance section provides a full-service program to clean, evaluate, maintain structural integrity, and perform construction on sanitary and storm sewers. The general program consists of cleaning all sanitary sewers every three years and televising all sanitary sewers every six years, which is well within the NEORSD's



"Best Management Practices" guidelines.

The Division cleans approximately 7,500 house connections annually. The goal is to reduce basement flooding through inflow/infiltration reduction, reduce blocked mains, clean service connections and maximize sewer capacity.

The Department of Public Works has an Inflow and Infiltration section within the Lateral Service Department. This section uses various tools; flow meters to monitor sanitary mainlines during both dry and wet weather conditions as well measuring wastewater flows coming into treatment plants and water flows in storm sewers. Smoke and dye testing can isolate areas affected by excessive volumes of clean runoff into the sanitary sewer system. When used

in unison, meters can detect extraneous water while smoke and dye testing can identify illegal downspout connections. Meters can also detect rainwater infiltrating through the ground and into sanitary sewers through bad pipe joints and cracked or broken pipe.

ENGINEERING

The Engineering Section provides technical services to its customers including capital project planning, grant and loan administration, design engineering, construction management, and inspection of sanitary and storm sewers, pump stations, and wastewater treatment facilities.

This section oversees capital construction projects that include financing in the forms of grants and loans obtained from the State of Ohio, as well as saving through maintenance efficiencies. These funds are utilized for lining, repairing, replacing, and rehabilitating existing sanitary and storm sewerage systems.

The Engineering Section reviews design plans for approximately eighty-five construction projects per year on behalf of thirty-four communities. It also coordinates and analyzes the results of field testing and flow monitoring in order to detect and eliminate storm water inflow/ infiltration from the sanitary sewer system. In addition, the Engineering Section maintains files and legal libraries of pertinent federal, state, and local regulations and renders technical assistance to other sections regarding these regulations.



■ INSPECTION/PERMITS

The Inspection and Permit section operates in 34 suburban communities. This section's major functions include: the licensing, bonding and permitting over 200 contractors, construction inspection of sanitary and storm sewers; which includes: residential, commercial, and industrial; along with the inspection of wastewater treatment plants and pumping stations. This section also maintains the permanent records for sewerage construction projects and provides information to all County departments, engineering consulting firms, contractors, and the public.

ENVIRONMENTAL SERVICES

Wastewater Treatment Plants

The County operated 2 wastewater treatment package plants. These facilities treated 147 million gallons of wastewater per year. The standards are set for each facility by the Ohio EPA through the National Pollution Discharge Elimination System (NPDES) permit. The support staff consists of wastewater operators licensed by the Ohio EPA who monitor the conditions of the plants and make necessary process adjustments to meet the NPDES permit.



Pumping Stations

The County operates 51 pumping stations throughout the 34 service communities. A Supervisory Control and Data Acquisition (SCADA) system monitors 41 of the stations. The system provides alarms and operational status through a central computer that is accessed from a remote computer providing 24 hour monitoring. It is our goal to upgrade all County operated pump stations and to expand the SCADA system to all new projects. Our maintenance staff consists of professional mechanics enabling us to repair most problems in-house, therefore keeping costs down. Their preventive maintenance program and dedication to the job has reduced emergency call-outs and overflows.

ENVIRONMENTAL SERVICES, continued

Capacity, Management, Operation, and Maintenance Program (CMOM)

The CMOM Program is a set of "best management practices" that have been developed by the industry and are applied over the life cycle of the collection system. It is these general practices that are taken into consideration when a system is being reviewed by a Federal or State agency. Improvement and recommendations are provided by such agencies based on deficiencies identified in the sanitary sewer system.

The United States EPA contacted our agency in July of 2009 in response to our CMOM's Report. In general, our Management, Maintenance and Operational processes meet the standard of the United States EPA. The main issue identified by them as a deficiency relate to any sanitary sewer overflows (SSO's). As we work with the communities to eliminate these overflows, the United States EPA has notified us that we have eliminated the noted deficiencies to our CMOM's Report and that we are in compliance with these "best management practices".



INFORMATION TECHNOLOGY

The Information Technology (IT) Section provides computer and analytical support to internal end users and communities within the Department. It is responsible for the design, implementation and maintenance of geographical map-based and other relational database systems, as well as guiding data acquisition tasks throughout the Division. In addition, the computerized mapping program catalogues the location of sewer systems and performs analysis on spatial data. This ability supports the planning, designing, and maintenance of sewer systems, as well as ensuring user fees are appropriately assessed and collected. Furthermore, the mapping program now features attached permits and engineering drawings.

In 2012 the IT Section completed 24 new computer installations according to the County's cyclical replacement policy. The IT Section also assisted in the removal of multiple personal printers in favor of centralized and efficient print centers;

improved the engineers' access to the Geographic Information System and related analytical tools; and continues to assist internal departments with moving to a more digital, paperless record keeping system.

FINANCE SECTION

The Finance Section provides support services to various units within the Public Works Department. Automat-



ed cost accounting programs and systems ensure accurate tracking and monitoring of expenditures, revenues, rate structures and other data that provide planning for capital projects and operational budgets. All systems and programs are operated under generally accepted accounting principles.

The Finance Section oversees an annual sanitary operating budget in excess of \$14 million and an annual capital improvement budget of \$5- \$10 million. The capital improvement plan is administered by this section and revenues, as well as expenditures, are approved and monitored for each individual improvement. Finance is responsible for accounts receivable, accounts payable, cost accounting, audit, inventory control, vehicle inventory management, capital project financing, purchasing, and the assessment of users fees.

APPENDIX DESCRIPTION*

The following appendices contain a variety of reports representing the services provided to communities in 2013. The Public Works Department follows a manhole-to-manhole, sewer segment-based accounting method for Jet Cleaning and TV Inspection maintenance services. The first two reports contain listings of the collection system cleaned and inspected for the year by street. The following report discloses the more significant projects submitted and reviewed by the Permit and Engineering sections during the year for your community. Smaller review services such as house connections or ongoing, intermittent review of large multi-phase projects spanning several years of development are not shown on this report. The final appendices are from the Finance and Billing section. These reports provide a breakdown of operating expenses, capital project costs contracted for the community, as well as additional services including house visits, inflow/infiltration studies, and construction activity. A map is enclosed showing areas where collection system mainlines were Jet cleaned and TV inspected, construction crew activity locations, house visits and if house lateral connections needed to be cleaned or inspected. The DVD provided contains a PDF file of the map, which can be copied for Adobe Corporation's free reader software is required and can be downloaded from www.adobe.com.

* Please note: These appendix reports are provided only to communities for which the specific service is provided by the Department of Public Works. For example, if regularly scheduled mainline cleaning service is not provided for your community, a map was not produced. Similarly, if project review or capital project management services are not provided to your community, then there is no corresponding report. Certain communities are provided limited maintenance on county improvement mainlines and/or facilities only.



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Community Streets Cleaned*

* No service provided if section is blank

Collection System Jet Cleaning - 2013Garfield Heights

STREET	NUMBER OF SEGMENTS	JET FT
ALVIN	8	1,777
BANGOR	27	6,293
BEECHGROVE AVENUE	3	490
BRUNSWICK	7	1,329
BRUNSWICK EASEMENT	1	180
CENTER DRIVE	1	340
CHRISTINE	12	3,140
CIVIC CENTER EASEMENT	4	830
COOPER AVENUE	3	717
CRANWOOD AVENUE	11	2,152
CRANWOOD PARK	2	581
CRANWOOD PARK BOULEVARD	12	2,731
DANBURY	3	297
EAST 102 STREET	8	1,545
EAST 102ND EASEMENT	2	300
EAST 102ND STREET	4	996
EAST 104TH EASEMENT	1	330
EAST 105TH STREET	2	675
EAST 111TH STREET	4	627
EAST 112TH STREET	1	300
EAST 113TH STREET	6	1,404
EAST 114TH STREET	4	1,290
EAST 115TH STREET	8	1,698
EAST 117TH STREET	8	2,083
EAST 119TH STREET	7	1,706
EAST 122 STREET	3	794
EAST 124TH EASEMENT	2	492
EAST 124TH STREET	2	350
EAST 126 STREET	5	982
EAST 126TH STREET	6	1,562
EAST 128TH STREET	8	1,458
EAST 129TH STREET	4	1,034
EAST 131 STREET	1	318
EAST 131ST STREET	10	2,616
EAST 132ND STREET	3	668
EAST 133 STREET	1	76
EAST 133RD STREET	2	283
EAST 134TH STREET	7	1,148

Collection System Jet Cleaning - 2013Garfield Heights

STREET	NUMBER OF SEGMENTS	JET FT
EAST 135 STREET	1	46
EAST 135TH EASEMENT	2	357
EAST 135TH STREET	10	2,151
EAST 136 STREET	1	370
EAST 136TH STREET	4	580
EAST 138TH STREET	2	385
EAST 139 STREET	2	375
EAST 139TH STREET	11	3,405
EAST 142 STREET	2	709
EAST 85TH	1	437
EAST BOULEVARD	5	1,395
EDGEPARK DRIVE	5	1,224
EVELYN DRIVE	2	393
FORESTDALE AVENUE	9	1,795
FORESTDALE DRIVE	2	50
GARLAND	3	606
GRAND DIVISION EASEMENT	1	114
GRANNIS ROAD	2	610
HILLSIDE AVENUE	2	474
LAWRENCE AVENUE	6	880
LINN	3	601
MAPLEROW	8	2,462
MARGUERITE	1	355
MARY ANN DRIVE	2	362
MCCRACKEN	3	741
MELGROVE	2	640
MOUNTVIEW	5	1,427
NORTH PARKWAY	2	580
OAK PARK BOULEVARD	2	352
OAK STREET	6	1,400
ORCHARD AVENUE	7	1,576
OSBORN	11	3,565
OSBORN EASEMENT	7	1,934
PARK KNOLL DRIVE	8	1,833
PARKWAY DRIVE	2	643
PARKWAY EASEMENT	1	336
RAYMOND EASEMENT	1	155
RAYMOND STREET	1	

Collection System Jet Cleaning - 2013Garfield Heights

STREET	NUMBER OF SEGMENTS	JET FT
REINDEER	6	1,465
REXWOOD	12	3,181
ROLAND	10	1,682
ROSALIE DRIVE	2	355
ROYAL BOULEVARD	10	2,213
SAYBROOK	9	3,156
SHADY OAK	2	495
SHERWOOD CIRCLE	1	292
SILVER	7	1,538
SOUTH PARKWAY	11	2,465
SOUTHERN	8	1,454
SOUTHERN AVENUE	1	42
THORNHURST	9	2,527
TONSING DRIVE	9	2,384
TURNEY	8	1,560
TURNEY ROAD	1	197
UPPER SUNSET	2	409
UPPER SUNSET EASEMENT	1	305
VERNON	3	797
WILLARD	1	175
WOLF	10	1,584
Grand Total:	471	109,186

Community Streets Inspected*

* No service provided if section is blank

Collection System TV Inspection - 2013

Garfield Heights

STREET	NUMBER OF SEGMENTS	TV FT
ALVIN	3	780
BANGOR	16	3,383
BEECHGROVE AVENUE	2	496
BROADWAY AVENUE	1	0
BRUNSWICK	6	1,292
CENTER DRIVE	1	315
CHRISTINE	11	2,541
CLEARVIEW	1	352
COOPER AVENUE	3	718
CRANWOOD PARK	2	582
CRANWOOD PARK BOULEVARD	10	2,156
CREST	2	612
DRESSLER AVENUE	4	317
EAST 112TH STREET	2	360
EAST 113TH STREET	7	1,705
EAST 114TH STREET	4	1,030
EAST 115TH STREET	6	1,244
EAST 117TH STREET	9	1,863
EAST 119TH STREET	4	1,310
EAST 126TH STREET	5	980
EAST 128TH STREET	4	710
EAST 129TH STREET	4	1,041
EAST 131ST STREET	7	1,508
EAST 132ND STREET	4	986
EAST 134TH STREET	4	978
EAST 135TH STREET	2	329
EAST 136TH STREET	3	295
EAST 139TH STREET	5	979
EAST 86TH	1	249
EDGEPARK DRIVE	2	582
FORESTDALE AVENUE	13	2,524
GARLAND	7	1,452
HENIA CIRCLE	2	231
HILLSIDE AVENUE	2	294
IVY COURT	2	258
KIMBERLY	1	290
LAWRENCE AVENUE	3	456
LINN	3	591

Collection System TV Inspection - 2013Garfield Heights

STREET	NUMBER OF SEGMENTS	TV FT
MAPLEROW	5	1,390
MCCRACKEN	2	461
MELGROVE	1	350
MELGROVE AVENUE	1	285
MOUNTVIEW	4	1,039
OAK STREET	5	306
OLD GRANGER ROAD	1	
ORCHARD AVENUE	2	503
ORCHARD ROAD	1	128
OSBORN	5	1,185
PARK KNOLL DRIVE	14	3,205
PARKWAY DRIVE	2	638
PARKWAY EASEMENT	1	308
PLYMOUTH	1	267
REINDEER	6	1,465
REXWOOD	5	1,575
REXWOOD AVENUE	3	705
ROLAND	5	844
ROYAL BOULEVARD	5	1,120
SAYBROOK	5	1,883
SILVER	6	809
SOUTH PARKWAY	8	1,729
SOUTHERN	8	1,447
THORNHURST	3	910
TONSING DRIVE	4	1,120
TURNEY	7	665
VERNON	3	797
WILLARD	4	1,025
Grand Total:	285	61,948

Projects Status*

* No service provided if section is blank

CCSE PROJECT REVIEWS

Project Id	Project Name	Project Begin	Municipality	Approved
13-005	DUNKIN DONUTS 5126 TURNEY RD	4-Feb-13	GARFIELD HEIGHTS	YES
13-006	CUY-ROYALVIEW DR. BRIDGE OVER COUNTRYMENS CREEK	12-Feb-13	GARFIELD HEIGHTS	NO
13-035	DUNKIN GRAND	31-Jul-13	GARFIELD HEIGHTS	YES
13-046	TURNEY RD (C.R72)	19-Aug-13	GARFIELD HEIGHTS	NO
13-067	MR. HERO	8-Nov-13	GARFIELD HEIGHTS	YES

Service Program*

* No service provided if section is blank

City of Garfield Heights

<u>Type</u> <u>Community Total</u>

Sanitary Sewers 475,301 Feet

Manholes 2,037 (Approximately)

2013 Service Program

<u>Program</u>	2013 Activity
1) High Pressure Cleaning*	109,186 Feet
2) House Service	1,183 Calls
3) Television Inspection*	61,948 Feet
4) Construction Activities	412 Job(s)
5) Smoke and Dye Testing	0 Test(s)
6) Construction Permits Issued (Commercial) (Residential)	1 7
7) Plan Review	5 Plan(s)
8) Capital Projects	1,048 Feet (Sewer Lines Inspected)

^{*}Information includes footages for sanitary (collection system) and storm sewers.

Community Operating Expenses

City of Garfield Heights

2013 Operating Expenses

	<u>Activity</u>	Cost
1.	Maintenance of Sanitary Sewerage Systems	\$1,013,910
2.	Pump Station Operation and Maintenance	\$11,934
3.	Waste Water Treatment Plant Maintenance	\$ 0
4.	Engineering and/or Inspection	\$89,642
5.	Capital Expenses (See Section A-6 if any)	\$616,868
6.	Sanitary Overhead	\$8,405
	Total Expenses:	\$1,740,759

Community Capital Expenses

* No service provided if section is blank

City of Garfield Heights

2013 Capital Expenses

Grannis/Thraves Sewer Infrastructure Maintenance Rosewood/Banccroft Repair E. 112 th Street Lateral Repair Saybrook Lateral Repair	\$ \$ \$ \$	15,160 101,232 266,221 11,460 9,878
Grand Division Storm Repair	\$	57,195
Wallingford Sewer Repair	\$	20,428
Sewer Repair/ Manhole Rehab. Loan	\$	15,021
North Granger Loan	\$	15,699
Granger Road Lateral Repair	\$	8,480
Catch Basin Reconstruction	\$	6,780
McCracken Storm Local Share	\$	89,314
Total Capital Expenses:	<u>.</u>	<u>\$ 616,868</u>
2013 CDBG Projects		
13111 Cranwood Park Storm Sewer Repair	\$	33,906.23
13138 Forestdale Dr. Lateral Repair	\$	12,492.00
13507 Saybrook Ave. Lateral Repair	\$	11,761.40
Total CDBG Funds Received:		<u>\$ 58,159.63</u>

CONTACT INFORMATION

<u>Address</u>

Cuyahoga County Department of Public Works 6100 West Canal Road Valley View, OH 44125

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Bonita G. Teeuwen, P.E	Director of Public Works
David E. Marquard, P.E.,P.S Design	gn & Construction Administrator
Michael W. Dever, MPA	Maintenance Administrator
Michael W. Chambers, CPA	Fiscal Officer
Bryan J. Hitch	Maintenance Superintendent

Dispatch Office	Dispatch Email	
(216) 443-8201	PWDispatch@cuyahogacounty.us	
Administration	Inspection & Permits	
(216) 443-8215	(216) 443-8211	
Engineering	Sewer Maintenance	
Hugh Blocksidge, P.E., Chief Engineer	Gary Green, Senior Supervisor	
(216) 443-8205	(216) 443-8225	
Lateral Services (House Crews)	Inflow & Infiltration	
John Gribble, Supervisor	Suzanne Britt, Supervisor	
(216) 443-8227	(216) 443-3533	
Construction	Televised Inspection	
Mitch Holt, Supervisor	Todd Swindell, Supervisor	
(216) 443-8229	(216) 443-8224	
Sewer Jetting	Pump Station Operations	
Guy Swindell, Supervisor	William Applegarth, Supervisor	
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