

2005

WATER DISTRIBUTION ANNUAL REPORT



CITY OF FINDLAY WATER DISTRIBUTION DEPARTMENT

136 N. BLANCHARD ST.

FINDLAY, OHIO 45840

The City of Findlay Water Distribution Department consists of 15 full time employees.

- 1 Maintenance Supervisor
- 1 Secretary
- 1 Waterline Maintenance Worker IV
- 2 Waterline Maintenance Worker III
- 7 Waterline Maintenance Worker II
- 1 Water Meter Repairman
- 1 Waterline Maintenance Technician
- 1 Waterline Maintenance Technician Asst.

Collectively, the Water Distribution Department totals 225 years of service.

Members of the Water Distribution staff

Steve Hill-Maintenance Supervisor

Betty Jones-Secretary

Mike Courtney-Waterline Maintenance Worker IV

Dan Perry-Waterline Maintenance Worker III

John Blide-Waterline Maintenance Worker III

Marty Hough-Waterline Maintenance Worker II

Tim Fryinger- Waterline Maintenance Technician

Jeff Kolhoff-Waterline Maintenance Worker II

Ken Paul-Waterline Maintenance Worker II

Jeff Betts-Waterline Maintenance Worker II

Larry Pocock-Waterline Maintenance Worker II

Robert Wagner-Waterline Maintenance Technician Asst.

Jerry Peterson-Water Meter Repairman

Bryan Miller-Waterline Maintenance Worker II

Mike Rader- Waterline Maintenance Worker II

DEPARTMENT RESPONSIBILITIES

At the end of 2005 the City of Findlay's Water Distribution Department was responsible for 292.31 miles of city water main. There are 18,631 water service connections, meter settings, and 2,180 fire hydrants.

From a newspaper article dated August 1968 there were 154 miles of city water main, adding an average of 3.73 miles per year over the 37-year period. There were 5,250 water service connections, for an average of 361.64 new service connections per year over the 37-year period, and 797 fire hydrants for an average of 37.37 new hydrants per year installed over the 37-year period.

The department also documents all activities handled including major activities such as: installation of water lines, water taps, service line renewals, main break repairs, hydrant repairs, locating of water lines for other utilities and contractors, repairs to streets, driveways, and sidewalks damaged by our activities, inspections of water service line installations, collection of bacteria samples for new water line installations and leak detection, review of all proposed construction plans, to make sure the proposed water lines are in compliance with Ohio EPA rules and regulations and AWWA Standards, and maintenance and minor repairs to the department's vehicles and equipment.

The Department also assists other departments upon request and performs many other activities too numerous to list.

NEW EQUIPMENT PURCHASED 2005



Traded in 2004 model LB-75 X - tra Vator for 2005 model LB-75 X-tra Vator.
Cost \$ 4,715.00

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Cost \$ 4,715.00

Purchased a 2005 International 2 ton Dump Truck
Cost of \$ 66,868



LEAK DETECTION PROGRAM



The yearly leak detection survey of the water distribution system revealed 43 concealed underground leaks. Had it not been for the continuation of this program these leaks would not have been discovered.

The estimated water loss from these leaks would have been 140,242.5 gallons per day. At current water rates, of \$ 2.00 per hundred cubic feet water only charge, the estimated financial loss would have been \$280,485.00 for the year. This equipment was used to check other leaks that were reported. If it had not been for the continued use of this in-house program, we would not have realized many hours of time saved, not to mention many unnecessary excavations that would have occurred.



Since the implementation of the program in January of 1990, this department has found a total of 482 underground leaks, for an average of 32.1 leaks found per year. Estimated gallons per day saved throughout the operation of this program would be 4,810,399 gallons per day

The leak detection equipment is Fluid Conservation Systems 2001 Tri-Correlator. Five employees took the weeklong training course and were taught how to recognize leak sounds and how to use the computer to correlate the leaks. These employees were Tim Frysinger, Larry Pockock, Bob Wagner, Ken Paul and Jeff Betts.

Average daily pumpage since 1989

1989	6.94 million gallons per day
1990	6.35 million gallons per day
1991	6.75 million gallons per day
1992	6.50 million gallons per day
1993	6.91 million gallons per day
1994	6.89 million gallons per day
1995	6.96 million gallons per day
1996	6.95 million gallons per day
1997	6.71 million gallons per day
1998	6.60 million gallons per day
1999	6.73 million gallons per day
2000	6.38 million gallons per day
2001	6.41 million gallons per day
2002	6.53 million gallons per day
2003	5.96 million gallons per day
2004	6.48 million gallons per day
2005	6.38 million gallons per day

NEW WATER SERVICE CONNECTIONS



From 1990 through 2005, over a fifteen (15) year period, we have added 4,320 new water service connections to our system. This is an average of 288 new water services installed per year. The year 1989 is shown for a comparison to the rate of growth.

1989	140
1990	186
1991	187
1992	162
1993	209
1994	272
1995	245
1996	268
1997	285
1998	346
1999	360
2000	403
2001	293
2002	316
2003	242
2004	275
2005	271

For the year 2005, 190 – ¾ inch services were installed taking 1,849 man-hours and 263.5 backhoe hours, 48 – 1 inch services were installed taking 439.5 man-hours and 54 backhoe hours, 3 - 1 ½ inch services were installed taking 35 man-hours and 4 backhoe hours, 30 - 2 inches services were installed taking 575 man-hours and 72 backhoe hours. There were another 18 additional main line taps, 2 – 4 inch, 9 – 6 inch, 6 – 8 inch, and 1 – 10 inch taking 88 man-hours and 17 backhoe hours.

LINE LOCATING

Combined with the leak-locating program is the line locating program. This program is for locating our water lines for other utilities, contractors, developers and consultants.

We are a member of the Ohio Utilities Protection Service. They send us locates via an OUPS printer and we in turn notify other city departments as needed.

Growth in locates from 1989 to 2005:

1989	222
1990	784
1991	1217
1992	2072
1993	2446
1994	2112
1995	3162
1996	3528
1997	4070
1998	4410
1999	3829
2000	6725
2001	5817
2002	5960
2003	5146
2004	6079
2005	6506

This figures out to be 25.9 locates per day for the 251 working days in a year. At the current rate of growth of our system, locating is going to require the addition of an extra person at least part of the year. Along with line locating, there is also the collection of bacteria samples for testing of new water main installations. There were 156 bacteria samples collected this year.

WATER SERVICE RENEWALS



A total of 134 water services were renewed taking 1375 man-hours and 194 backhoe hours. There were 103 – ¾ inch services, 24 – 1 inch services, 2 – 1-1/2 inch services, and 5 – 2 inch services renewed. This was in conjunction with the annual repaving and water line replacement projects.

From 1990 through 2005 – 3,083 water services have been renewed for an average of 192.7 services being renewed per year.

METER SHOP REPAIRS AND TESTING

Tested	820
Repaired	1,148
Junked	277

LARGE METER TESTING

The large meter testing program continued this past year by field testing 36 large meters. We had 149 hours of labor involved in this procedure. We also ordered the replacement of 29 large meters. These orders were based upon our ability to properly repair and maintain these meters. The replacements are to be Neptune Tru-Flow compound meters. At the end of the year, approximately one half of the meters had been replaced, with the remainder to be done by early summer.

MISCELLANEOUS JOBS

There were 233 different miscellaneous jobs done by water distribution for a total of 1316.25 man-hours with 117.75 backhoe hours: Picked up barricades, stoned holes, locate shut off for plumber, check holes, met with many contractors and customers over water lines, set up arrow boards for Police Department for parades, set fishing docks, dig out holes for Street Department to hot patch, plow snow for Street Department, work gate valves for contractors installing new main lines, install fire hydrant extensions, installed conduit for Traffic Department, and many other miscellaneous jobs too numerous to mention.

GOALS FOR 2006

Finalize a meter comparison and make recommendations to the administration for new radio read meters for the entire city.

Continue to update all waterline maps in house for future reference for GIS and KY Pipe.

Start a valve, locate and exercise program.

Continue with an annual large meter test and repair program.

Continue to renew services in conjunction with the street resurfacing program and the installation of many new services.

I would like to thank the employees of the Water Distribution Staff, who work diligently in meeting the deadlines of this department.

Respectfully submitted,

Steven D. Hill
Water Distribution Maintenance Supervisor

LIST OF DEPARTMENTAL ACTIVITIES PERFORMED

Cold Mix repairs temporary patch to street excavations 37 different sites	Man-hours	42	Backhoe Hrs.	7.53
134 gate box repairs	Man-hours	319.5	Backhoe Hrs.	16
1 new gate valves installed	Man-hours	16	Backhoe Hrs.	2
26 gate valves repaired	Man-hours	463	Backhoe Hrs.	80
14 fire hydrants installed or replaced	Man hours	302	Backhoe Hrs.	39

81 fire hydrants repaired	Man-hours	412.5	Backhoe Hrs.	15
11 fire hydrants checked for damage	Man hours	15.75		
2 customers new water service line installation inspections	Man hours	1.25		
18 meter lids replaced	Man hours	22	Backhoe Hrs.	1
89 broken mains varying in sizes from 1 inch and up. Includes regular hours, overtime hours and call out stand-by hours	Man-hours	1032.5	Backhoe Hrs.	137.75
102 leaks checked out	Man-hours	283.5	Backhoe Hrs.	26
12 meters set in	Man-hours	8		
12 meter reductions	Man-hours	18.75		
34 meters taken out	Man-hours	29.75		
17 meters changed	Man-hours	115.25		
21 pressure checks	Man-hours	18.75		
10 turn on service	Man-hours	6		
53 turn off for repairs regular hours, Overtime hours and call out stand-by	Man-hours	40.75		
9 services killed	Man-hours	93	Backhoe Hrs.	12.5
17 rusty water complaints Flushed lines	Man-hours	21		
12 service lines repairs	Man-hours	93	Backhoe Hrs.	9
29 settings lowered	Man-hours	58.5	Backhoe Hrs.	2
20 settings moved	Man-hours	222	Backhoe Hrs.	40
12 settings raised	Man-hours	24.5	Backhoe Hrs.	2
31 settings repaired	Man-hours	70.75	Backhoe Hrs.	3
18 no water calls	Man-hours	27		
8 nipples installed	Man-hours	2.5		

LIST OF DEPARTMENT EQUIPMENT AND ORIGINAL COST

1-2002 Supervisory Vehicle	\$ 15,631.00
1-1995 Maintenance Pick-up Truck equipped with tapping machine and various small tools	\$ 18,200.00
1-1995 Maintenance Pick-up Truck equipped with tapping machine and various small tools	\$ 17,206.00
1-1994 Maintenance Pick-up Truck equipped with tapping machine and various small tools	\$ 17,206.00
1-1987 Maintenance Pick-up Trucks equipped with various small tools 4-wheel drive with plow	\$ 13,407.00
1-2003 Maintenance Pick-up Truck 4 wheel drive	\$ 15,363.00
1-1995 Two Ton Dump Truck	\$ 38,450.00
1-2005 Two Ton Dump Truck	\$ 66,868.00
1-2004 Two Ton Dump Truck	\$ 56,213.00
1-1990 One Ton Dump Truck with snow plow	\$ 19,446.89
1-2000 Dodge Van	\$ 14,977.00
1-2001 Tricorr Leak Detector	\$ 44,000.00
1-2005 LB-75 Ford Backhoe Four wheel drive (2004 model traded in for 2005 model at a cost of \$ 4,715.00)	\$ 49,162.00
1-2005 LB-75 Ford Backhoe (2004 model traded in for 2005 model at a cost of \$ 4,715.00)	\$ 49,162.00
1-2004 LB-75 Ford Backhoe (2003 model traded in for 2004 model at a cost of \$ 4,715.00)	\$ 47,204.00
1-2004 LB-75 Ford Backhoe (2003 model traded in for 2004 model at a cost of \$ 4,715.00)	\$ 47,204.00
1-2004 Vac-Tec vacuum excavator	\$ 34,920.00
1-1988 Air compressor	\$ 9,149.00
1-1989 Air compressor	\$ 10,936.00
1-1991 Air compressor	\$ 7,197.00
1-1975 Welder on wheels	\$ 3,200.00
1-1978 Welder on wheels	\$ 4,173.00
1-1985 24 foot trailer	\$ 6,238.00

1-1994 18 foot trailer	\$ 4,257.00
1-2002 19 foot trailer	\$ 4,480.00
1-1992 Compact tractor with snow blower, front loader, rear tiller, and mower	\$ 15,870.00
1-1984 Hole hog 3-1/2 inch	\$ 4,975.00
1-2003 Hole hog 3-1/2 inch	\$ 3,395.00
1-1998 Hole hog 3-1/2 inch	\$ 3,500.00
1-2002 Hole hog 3-1/2 inch	\$ 3,575.00
1-2000 Hole hog 3-1/2 inch	\$ 3,300.00
1-1996 Hole hog 7 inch	\$ 5,432.75
1-1989-2 inch electric pump	\$ 325.00
3-1993-3 inch trash pumps	\$ 2,589.99
1-2003-3 inch trash pump	\$ 1,640.88
1-1950-4 inch trash pump	\$ 450.00
1-1997-2 inch pump	\$ 525.00
1-2003-2 inch trash pump	\$ 1,187.00
2-2004-2 inch trash pump	\$ 2,374.00
2-1991 Traffic Control Arrow Boards	\$ 8,500.00
2-1997 Solar Traffic Control Arrow Boards	\$ 9,470.00
1-1966 Large Tapping Machine for taps 4" through 12"	\$ 5,600.00
1-1977 Air motor for large tapping machine	\$ 1,200.00
2-1993 B-101 Tapping Machine for 3/4 inch and 1 inch taps	\$ 3,960.00
1-1995 B-101 Tapping Machine for 3/4 inch and 1 inch taps	\$ 2,124.48
1-1997 B-101 Tapping Machine for 3/4 inch and 1 inch taps	\$ 2,386.79
1-1965 D-4 Drilling machine for 1-1/2 and 2 inch taps	\$ 285.00
1-1990 D-5 Drilling machine for 1-1/2 and 2 inch taps	\$ 1,885.30
1-1983 Valve box locator	\$ 554.06
2-1987 Valve box locators	\$ 883.36
1-1987 Valve box locator	\$ 465.00
1-1987 Valve box locator	\$ 674.00
2-1999 Valve box locator	\$ 1,235.00
1-1985 810 Pipe & Cable locator	\$ 1,610.00
1-1990 410 Pipe & Cable locator	\$ 2,300.00
1-1996 410 Pipe & Cable locator	\$ 2,792.79
1-1965 Hydraulic pipe cutter	\$ 350.00
1-1982 Hydraulic pipe cutter	\$ 450.00
1-2004 Reed Rotary Cutter 6" & 8"	\$ 1,125.00
1-2004 Reed Rotary Cutter 10" & 12"	\$ 1,400.00
1-1987 Universal pipe cutter	\$ 3,888.00
1-1985 16-D Boring Machine	\$ 6,232.25
1-1987 Plate compactor	\$ 1,350.00
1-1991 Power Washer	\$ 3,500.00

3-2003 Power Sweeper	\$ 1,709.70
1-2000-12 inch cut off saw	\$ 823.00
1-1996-14 inch cut off saw	\$ 500.00
1-2000-14 inch cut off saw	\$ 920.00
1-1992 Portable cement mixer	\$ 2,695.00
1-1984 Roto Tiller	\$ 825.00
1-1991 set of trench shoring	\$ 3,240.00
1-1996 set of trench shoring with Sewer Maintenance	\$ 1,776.34
1-1988-2 sets of trench boxes	\$ 9,990.00
1-1989-1 set of trench boxes	\$ 5,140.00
1-1992 Lawn trim mower	\$ 510.00
1-1987 Portable Large meter tester	\$ 1,465.00
1-1968 Portable generator	\$ 450.00
1-1982 Portable generator	\$ 610.00
1-1992 Portable generator	\$ 1,450.00
1-2003 Portable generator	\$ 842.00
1-1974 meter testing Equipment	\$ 652.00
2-1998 Gas monitors	\$ 4,916.00
1-Aluminum Trench Box	\$ 4,566.50
Miscellaneous Small Tools and Office equipment.	