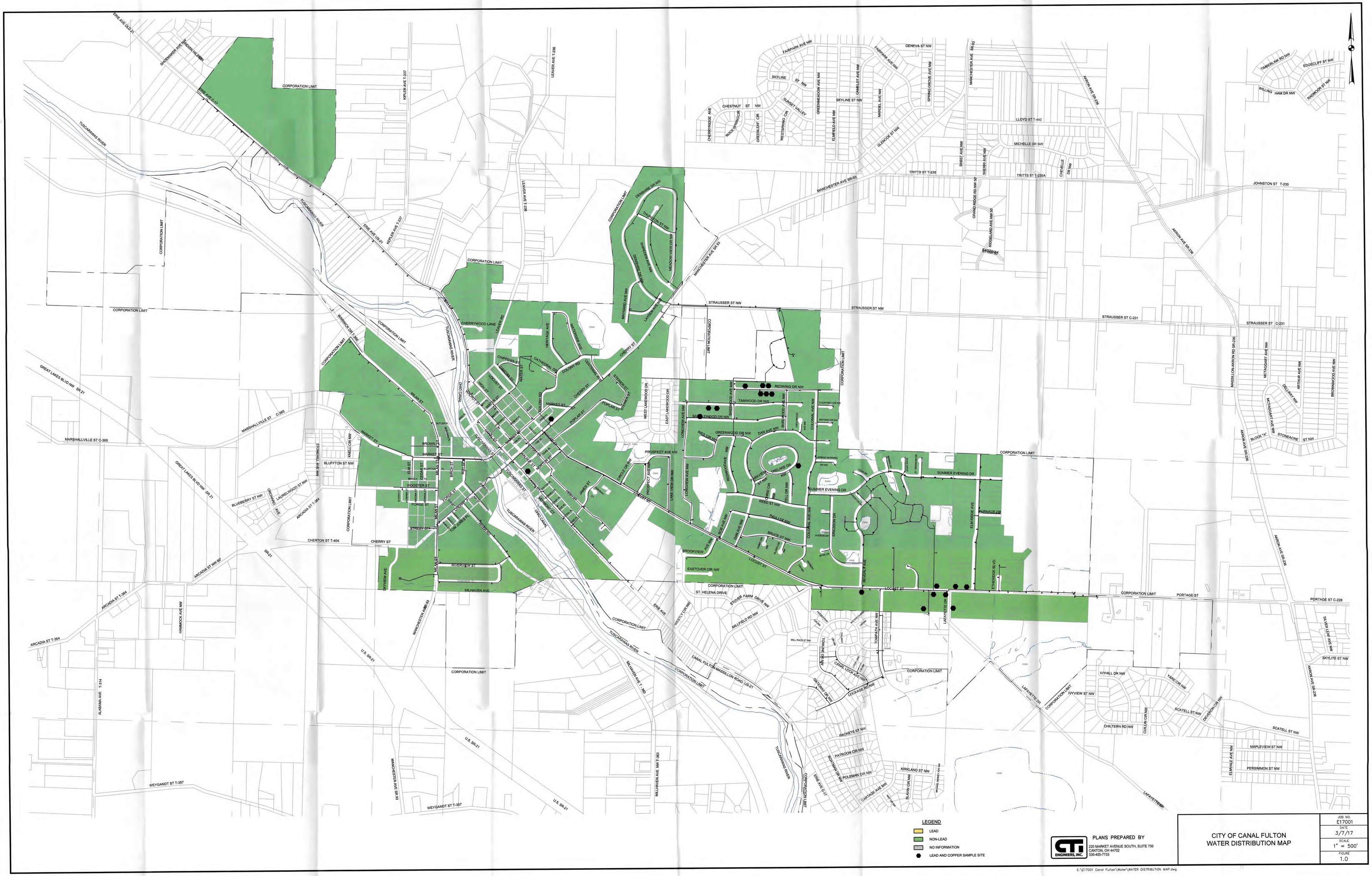

CTI ENGINEERS, INC.
One Cascade Plaza
Suite 710
Akron, Ohio 44308
Phone 330.294.5996
Fax 330.315.0945
www.ctiengr.com

March 8, 2017

Ms. Patricia Vanah
Ohio EPA-NEDO DDAGW
2110 E. Aurora Road
Twinsburg, OH 44087

Subject: Lead (Pb) Service Line Mapping Report
City of Canal Fulton, Stark County, Ohio
PWS ID: OH7600912
CTI project No. E17001

Dear Ms. Vanah:

There are no known lead service lines located within the Canal Fulton water distribution system. The enclosed report was prepared by CTI Engineers, Inc. and is hereby submitted to the Ohio EPA Northeast District Office (NEDO) Division of Drinking and Groundwaters (DDAGW) on behalf of the Canal Fulton City PWS (PWS ID: OH7600912) in Stark County, Ohio.

The report, and included Distribution Map, are intended to meet the requirements of Ohio House Bill (HB) 512 which requires community water systems to identify and map areas of the distribution system that are known to contain lead water service lines.

We have also sent digital (PDF) copies of the report and Map to the Ohio Department of Health (BEH@odh.ohio.gov) and Ohio Department of Jobs and Family Services (called and sent to Angela Kaiser at Angela.Kaiser@jfs.ohio.gov).

If you have any questions and/or need additional information, please contact me at 330-294-5996 or email dkohlmeier@ctiengr.com.

Sincerely,

David B. Kohlmeier, P.E.
Project Manager

cc: Mr. George Lukinac, Utilities Superintendant
Mr. Mark Cozy, City Manager
William A. Dorman, P.E., City Engineer
File

VERIFICATION FORM FOR COMMUNITY PUBLIC WATER SYSTEMS CLAIMING NO LEAD SERVICE LINES

The owner or operator of all community public water systems must identify and map areas of their distribution system that are known or are likely to contain lead service lines. Systems must submit a copy of the applicable map to the Ohio Department of Health and the Ohio Department of Job and Family Services. Systems must also submit a report to the director containing at least both of the following: (1) The applicable map with narrative, and (2) A list of sampling locations used to collect samples as required by Ohio Revised Code (ORC) Section 6109.121 and any rules adopted thereunder, including contact information for the owner and occupant of each sampling site.

Should a water system determine no lead service lines exist in their distribution system, they must provide information stating they reviewed, at the minimum, historical permit records and local ordinances, distribution maintenance records and information pertaining to installation dates or materials for all services lines. This information must be verified below.

I HEREBY CERTIFY THAT THE FOLLOWING METHOD(S) WERE USED TO DETERMINE NO LEAD SERVICE LINES EXIST IN THIS WATER SYSTEM'S DISTRIBUTION SYSTEM, AS REQUIRED BY ORC 6109.121(F):

LEAD SERVICE LINE VERIFICATION
This PWS states they have no lead service lines and has reviewed the following information (select one or more of the following):
☒ Historical permit records and/or local ordinances
☐ Distribution maintenance records (i.e. meter replacement, waterline break repairs)
☒ Information pertaining to installation dates for all service lines (i.e. after 1986 when lead services lines were banned)
☒ Service line material of all service lines is known (i.e. all service lines are known to be PVC) (COPPER) (FEW GALVANIZED)

George A. Lukinac 4-6-2017

Signature of Responsible Person Date

George A. Lukinac, Utilities Superintendent

Printed Name and Title of Responsible Person

PWS NAME: CANAL FULTON
PWS ID: OH7600912
COUNTY: STARK

For Ohio EPA use only:

Date Verification Rec'd: _____

RECEIVED
APR 10 2017

BY: .....

Lead Mapping Verification Form Revised 2/14/17

City of Canal Fulton

Lead (Pb) Service Line Mapping Report

March, 2017

Prepared By:

CTI ENGINEERS, INC.

Practical Innovation, By Design®

CTI Project No. E17001

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(330) 315-0945 Fax
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TABLE OF CONTENTS

APPENDICES

LIST OF ABBREVIATIONS

CTI ..... CTI Engineers, Inc.

DDAGW ..... Division of Drinking and Groundwaters (Ohio EPA)

EPA ..... Environmental Protection Agency

gpm ..... gallons per minute

HB ..... House Bill

NEDO ..... Northeast District Offfice (of the Ohio EPA)

Pb ..... Lead

PWS ..... Public Water System

SMP ..... Sample Monitoring Point

LIST OF FIGURES & TABLES

1.0 INTRODUCTION AND BACKGROUND

This report was prepared by CTI Engineers, Inc. and is hereby submitted to the Ohio EPA Northeast District Office (NEDO) Division of Drinking and Groundwaters (DDAGW) on behalf of the Canal Fulton City PWS (PWS ID: OH7600912) in Stark County, Ohio. The report is intended to meet the requirements of Ohio House Bill (HB) 512 which requires community water systems to identify and map areas of the distribution system that are known to contain lead water service lines.

HB 512 requires the following to be included in this submittal: 1.) a map of the distribution system (See pocket map holder following this report); 2.) a list of the system lead (Pb) and copper (Cu) sampling locations (See Table in Section 4.0); and 3.) a narrative describing any lead or records of lead service lines in the water system (See Section 2.0).

2.0 NARRATIVE

There are no known lead service lines located within the Canal Fulton water distribution system. The system has approximately 21 miles of water main with over 2,000 water service connections and they are all believed to be made of copper with the exception of a few remaining galvanized iron services in the older part of town. The system has 2 water storage tanks constructed in 1986 and 1994.

Historical records indicate that the oldest water mains in the system were installed circa 1911 along with the original Village Pump House (water plant) located along the south bank of the Tuscarawas River just west of the Cherry Street Bridge. These original mains were cast iron or steel. Very little of the old steel water mains remain. Most of these old cast iron and steel mains in the old Village system were replaced in the 1980s and 1990s.

A review of the City's Water Connection Permits was performed. Available permit records date back to 1974. A copy of a typical connection Permit is included in Appendix A. Permits do not normally indicate materials of construction and no records have been identified to date indicating any lead service lines.

Appendix B shows an excerpt from the Village of Canal Fulton Water and Sewer Rules and Regulations. These were codified into the City ordinances in 1975. The material required for all service lines was Type "K" copper. All of the service lines installed after that date were inspected by the Village and City and are known to be Type "K" copper. It is estimated that over 1/2 of the homes in the City were constructed after 1970 and therefore the City is relatively certain that these all have Type "K" copper services.

Appendix C shows a map of the Village Water Distribution System as it existed in 1970. Most of these older mains have since been replaced with DIP waterlines between 1980 and 2016.

The following individuals were interviewed for information regarding lead service lines:

1. George Lukinac, Utilities Superintendant 1997 - present
2. Dan Mayberry, Service Director (1997-2015), Utility Supt. (1974-1997).
3. Jeff Boak, Assistant Supt. (employed by City 1986 - present)
4. John Belford, Zoning Inspector
5. Scott Fellmeth, Law Director

None of the above individuals are aware of any lead service lines in the City's current distribution system. It is thought that Dan Mayberry, George Lukinac and Jeff Boak have visually inspected every water meter in the City over the past 25 years and believe nearly all of the current service lines are made of Type K copper with the exception of a few galvanized iron service lines that remain in the old Village system constructed prior to 1970. Historically three (3) known lead services have been discovered in the Village system, but all three of those lines were removed and replaced years ago. Additional information was researched and gathered from the City Archives and Water Plant files for this report.

Scratch tests were performed at all of the water meter locations in the City in 1992 when the Ohio EPA required "Material Surveys" to be performed as part of meeting the initial requirements for the Lead and Copper Rule. These scratch tests revealed only a few galvanized services and no lead services at that time.

The most likely locations to find any lead services, if they existed, would be in the old Village area although none have been discovered. Some of these buildings were constructed prior to 1911.

3.0 LEAD SERVICE LINE MAP

Attached (rear pocket) is a map of the City water distribution system. There are no known lead service lines so none are shown on the map. Approximate locations of the of current Lead and Copper SMP sites are shown on the map for general information.

Interactive Map Application.

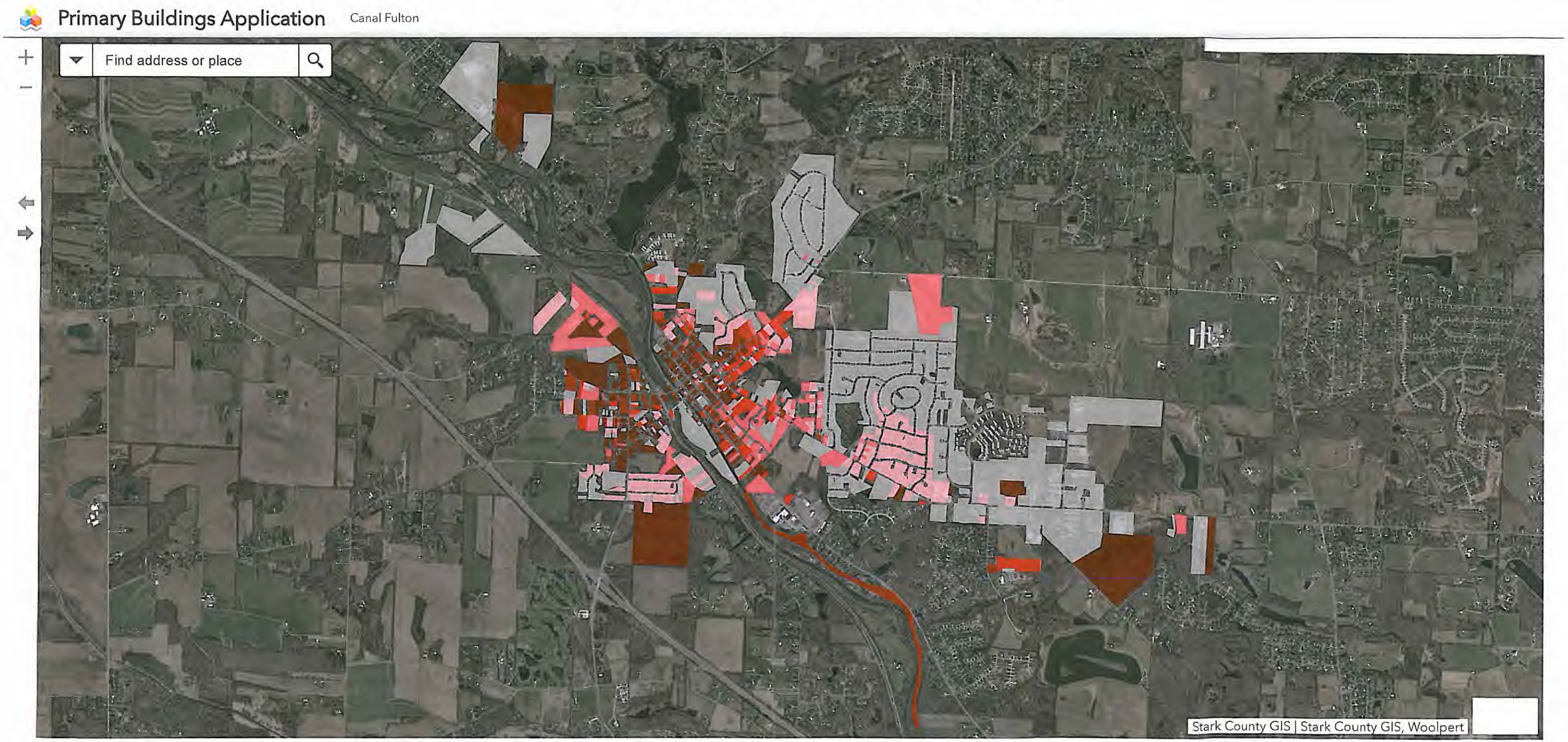
In addition to the map of the distribution system, Stark County GIS Department has prepared an interactive map of the City showing building ages on each lot within the City that can be used to help identify potential lead service lines. A screen shot of the interactive map is shown in the Figure 3.1 on the next page. The link below connects to a web application showing the parcels within Canal Fulton that contain a primary building. Once the map is zoomed in, labels appear within the parcels. Parcels built since 1975 are shown as grey. A parcel with any shade of red was built during or before 1975. The darker the shade of red, the older the building. Clicking on an individual parcel opens a pop-up showing limited information about the building.

https://starkcountyohio.maps.arcgis.com/apps/webappviewer/index.html?id=e9e3dacb9f08412b826f8996677f99a5

Additional layers can be turned on within the Layer List tab. The Parcel Data layer includes information about the parcel. The Parcel Boundaries layer displays the boundaries of all parcels within Stark County. There is also a layer displaying our aerial imagery from 2016.

Tools for the application can be found in the upper right corner. The Filter tool allows filtering the parcels by the year the primary building was built. Parcels can be filtered before a certain year or between two years. The Bookmark tools allows for bookmarks to be saved for the application. The Select tool allows for the parcels to be selected and their data to be exported to a csv. The Add Data widget allows for additional layers to be added to the application.

Figure 3.1 - Building Age Map



4.0 SAMPLING LOCATIONS

A table showing the current twenty (20) Lead and Copper Sample Monitoring Point (SMP) addresses is included on the following page. This SMP table was required to be included with this report. The SMP sites have also been added to the Water Distribution Map for reference.

Appendix A

Typical Permit

For Water Connection

DAVE K. [illegible] find.

PERMIT FOR WATER CONNECTION

VILLAGE OF CANAL FULTON, OHIO

BOARD OF PUBLIC AFFAIRS NUMBER_____

ADDRESS:_____ ← 710 DAN AVE.

TOWNSHIP (if applicable)_____

LOT NO._____IN VILLAGE

OR

LOT NO._____IN _____ALLOTMENT (if in Township)

SIZE OF SERVICE_____inches in diameter

SIZE OF METER_____inches

NUMBER OF METERS TO BE INSTALLED:_____

CONNECTION FEE: NUMBER OF METERS X $150.00 = $_____

APPLICATION

(to be filed in triplicate)

The undersigned hereby ask permission to connect to the water distribution system at the above described location and agree to comply with the Village's Rules and Regulations regarding the installation of said service. We agree that we will be responsible for any damage or claims of any nature arising out of the construction of said connection, or the excavation therefor, and will warrant and defend the Village of Canal Fulton, its officer and agents, against all such damages or claims, that we will furnish and maintain proper barricades and lights for the protection of the public and that we will immediately refill and resurface all excavations and all settlements that may occur within one year from the acceptance of the work, and will pay to the Village the cost of clearing up, removal of dirt or rubbish, refilling or resurfacing ordered or done by the Board of Public Affairs within one year over or around the excavation for this connection.

Sketches and descriptions of present and proposed plumbing to be connected, also approximate location of proposed connection, are submitted herewith and are complete and correct.

NOTE: Water billing will begin as soon as the meter is set.

_____
Owner of property above described

Date:_____,19_____

(10-23-1974)

By:_____
Licensed Contractor

Permission is hereby granted for the water connection, above described, to be constructed under the conditions stated.

Date:_____,19_____

(JUNE 8, 1976)

_____
Village Clerk

Appendix B

Canal Fulton Water And Sewer Regulations - 1975 (Excerpt)

THE VILLAGE OF CANAL FULTON, OHIO

WATER AND SEWER RULES AND REGULATIONS

On June 17, 1975, the Village Council adopted the Water and Sewer Rules and Regulations as contained herein and as referred to in Ordinance No. 13-75, effective date June 17, 1975. Subsequent amendments were adopted December 22, 1975. Regulations were re-typed February, 1985.

1.00 APPROVALS

1.01 All plans and specifications for water and sanitary sewer extensions shall be submitted to the Village Engineer, in duplicate, by a professional engineer who is registered in the State of Ohio; upon approval by the Village Engineer, five (5) sets of plans and specifications shall be submitted to Ohio E.P.A. by the design engineer for approval. No construction shall begin until approval is received from Ohio E.P.A. and upon 24 hour notification to the Village Engineer.

1.02 Where water and sanitary sewer construction is to take place in the unincorporated township areas adjacent to the Village Corporation limits, all plans and specifications shall be approved by the Stark County Sanitary Engineer after being approved by the Village Engineer and prior to being submitted to Ohio E.P.A.

1.03 Where water line extensions are less than 500 feet in length, submission to Ohio E.P.A. will not be necessary.

1.04 The design engineer shall furnish the Village Engineer with as-built reproducible tracings which indicate the location of all valves, hydrants, wye branches, end of lateral locations, manhole locations and depths, U S G S elevations, grades and distances between manholes.

The rate of air loss shall then be determined by measuring the time interval required for the internal pressure to decrease from 3.5 to 2.5 pounds per square inch.

The pipe line shall be considered acceptable if the time interval for the 1.0 psi pressure drop is not less than the holding time listed in the following air test tables.

2.05 LATERAL SKETCHES

Sewer Contractors shall provide a sketch indicating the location of the lateral ine as installed with respect to depth, house or building location, etc., as requested on the sewer permit.

3.00 SPECIFICATIONS FOR WATER LINES

3.01 MATERIAL

All water mains shall be ductile cast iron, ASA A 21.50-AWWA H3, cement lined with super bell-tite push-on type joints capable of withstanding 350 psi working pressure.

The minimum size service line for single family dwellings shall be one (1) inch in diameter; the material shall be type "K" copper.

3.02 LOCATION AND GRADES

The water mains shall be laid according to the approved plans with no deviations unless approved by the Village Engineer in writing. The grade of the water mains shall be laid five (5) feet below the "Established Grande" of the street or highway and the Contractor will be required to lay the water main at a deeper depth where streets or highways have not been graded to the "Established Grade" in order to comply with the five (5) foot depth requirement.

3.03 BACKFILLING

Material for backfilling around the pipe and for a distance of 12 inches above the tope of the pipe shall be fine earth, loam, granulated slag or sand, free from stones or hard lumps. The material placed around the pipe and to 12 inches above the pipe shall be tamped in place. Where suitable material is not found along the trench adjacent to the work, the Contractor shall furnish suitable material. The remainder of the backfill shall suit the finish conditions; i.e. suitable for paving, drainage ditch, grass area, etc.

Appendix C

Canal Fulton

Water Distribution Map - 1970

CANAL FULTON, OHIO
WATER DISTRIBUTION REPORT

EXHIBIT I
WATER DISTRIBUTION SYSTEM

SCALE: 1"=500'
SEPT., 1970

BURGESS & NIPLE, LTD.
CONSULTING ENGINEERS

LEGEND

- EXISTING 4" WATER MAINS
- EXISTING 6" & 8" WATER MAINS
- PROPOSED WATER MAINS
- FUTURE WATER MAINS

NO. 4 WELL, 250 G.P.M.
NO. 5 WELL, 250 G.P.M.
NO. 6 WELL, 300 G.P.M.
CHIPPEWA ST.
DAKOTA ST.
PENN-CENTRAL R.R.
BALTIMORE AND OHIO R.R.
OHIO CANAL
TUSCARAWAS RIVER
WATER ST.
HIGH ST.
LOCUST ST.
MARKET ST.
CANAL ST.
NORTON ST.
JAMES ST.
POPLAR ST.
STEINER ST.
S.R. 93
FUTURE 10"
1100'
700'-10"
350'-10"
2900'-10"
CIRCLE DR.
PROSPECT AVE.
LAKEVIEW DR.
BOB AVE.
DAN AVE.
PAULI ST.
BRUCE ST.
COLONIAL AVE.
MILAN ST.
WOOSTER ST.
CHERRY ST.
6"
8"

FUTURE
200,000 GALLON
ELEVATED STORAGE TANK

EXISTING
165,000 GALLON
RESERVOIR