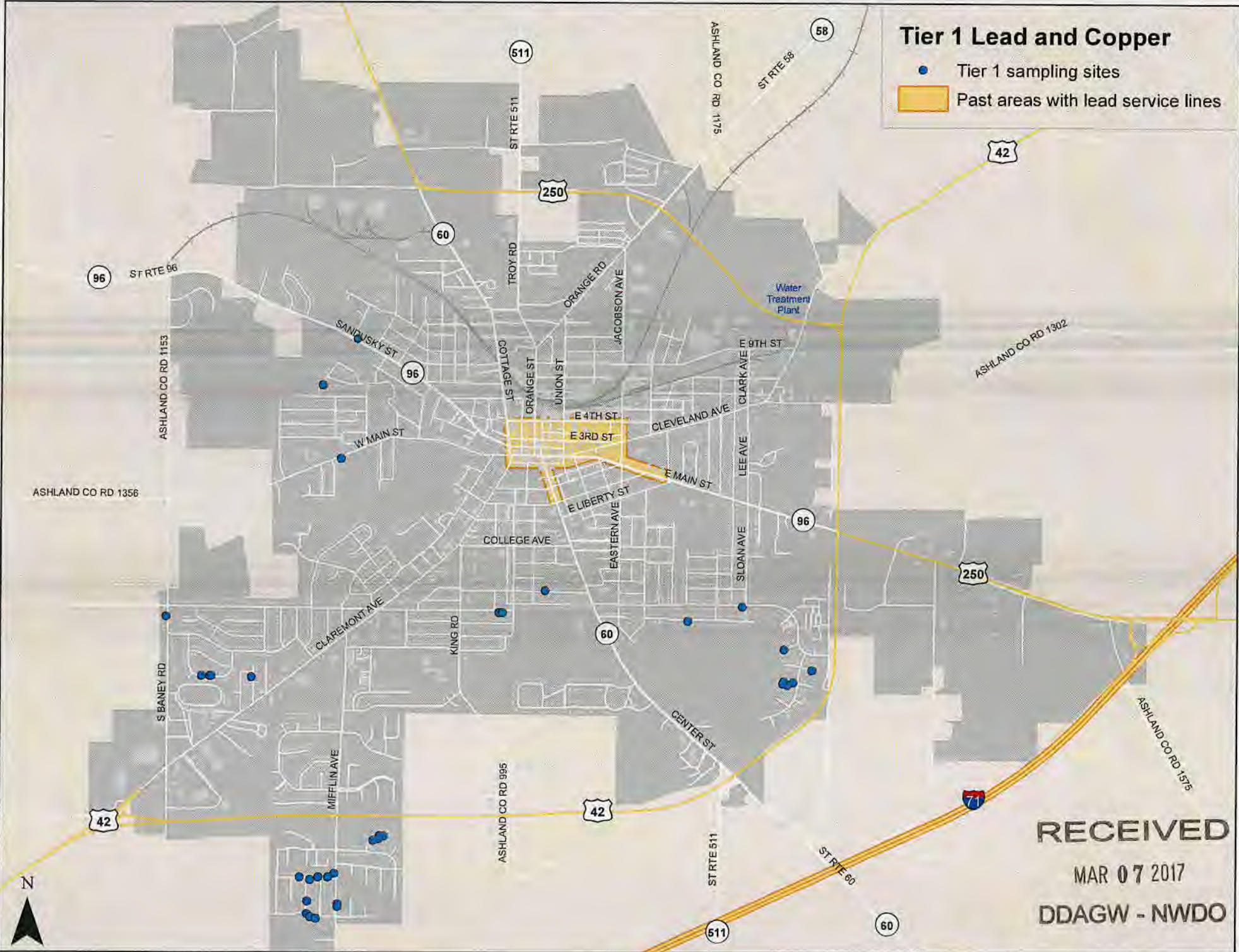


RE: ASHLAND CITY  
Report  
Drinking Water Program  
Ashland County  
PWS ID: OH0300112

# Tier 1 Lead and Copper

- Tier 1 sampling sites
- ▭ Past areas with lead service lines



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### **Lead Service Connections in Ashland**

While extremely rare, lead service connections were used in the city of Ashland for drinking water. Unlike larger cities that used lead for service lines to connect mains to houses, Ashland used lead service lines exclusively for larger service connections. In all known instances, small lead lines were joined together to adapt to a larger service pipe. These connections consisted of a series of small taps made into the cast iron main. The lead pipes were attached to the taps and then they were joined to a larger diameter manifold that was connected together to a larger pipe. These connections ranged from as simple as two lead pipes joined together to as many as 8 or more depending on the desired size of the larger pipe. Pictured below is one of the removed lead service connections. In this example, 8 lead lines were connected together in a manifold arrangement. From this junction a larger steel pipe carried water to the building.



These lead service connections have been found in the older sector of Ashland, mainly along the central corridors of the historic districts. These larger connections served large downtown buildings and several larger historic homes. Past repair work have unearthed lead connections to the old High School, National Guard Armory, and other businesses.

From discussions with the current as well as past managers of the water distribution system, they confirmed that they are not aware of any existing lead service lines in use . These leaders were directly involved with maintenance of the water service connections as well as replacement of water meters. Furthermore, they can remember encountering very few lead service lines in the system. In a testament to their scarcity, when they found these lead connections they would carefully excavate them and display them like trophies on the walls of their Maintenance building. Removal and replacement was standard practice due to the difficulty of repair and for public safety.

Additional research into the distribution repair records has several reports of removing and replacing lead service connections. In all of these records, the lead connections had been either removed and replaced or abandoned in place and replaced with new connections.

After a thorough examination of existing curb box records, there appears to be two or three possible lead service connections remaining within the City of Ashland. These records suggest that two private homes and one downtown building may still be served by lead pipes. Without digging up these connections, we can't confirm their existence.

Ashland as well as many other cities, prohibited the use of lead pipes by its codified Ordinances; Ordinance 53-69 explicitly states that "service pipes shall be of type K copper or cast iron." It has not been determined when this ordinance was first administered due to an incomplete set of Codified Ordinances throughout the years.

### **Characteristics of Buildings with Lead Piping, Solders or Fixtures.**

In addition to coming into contact with lead service mains, people can come in contact with lead from lead solder and lead in water fixtures. Over the years, many regulations have been established to lower the amount of lead levels found in plumbing. These regulations along with changes in water treatment, decrease the lead contamination from drinking water sources.

The potential to come in contact with lead is highest in places with possible lead service connections. In Ashland, these places are the oldest sections of the city, comprised mainly of the downtown area where larger buildings dominate. These buildings were mostly commercial

and all were built prior to 1930. These older sections contain the oldest water mains and several of these mains have been replaced. After replacement, the lead service connections were removed.

Copper pipes and tubing was used extensively from 1930 to the present in homes. Since it was durable and simple to install, it was used for small service lines for many homes. In Ashland, only the oldest homes may have a galvanized steel or even rarer, a cast iron service line. Many homes that originally had galvanized pipe have been replaced with newer copper lines. The solder generally used to join the copper pipes contained 50 % lead. This lead solder was banned in 1986.

Houses and facilities built prior to this ban must be considered to have lead solder if copper plumbing is used either within the house or as a service line supplying water to the building. In Ashland, the vast majority of buildings and homes were built prior to 1986. All of these facilities, homes, businesses and buildings are likely going to contain copper pipes and other water fixtures that have small but significant amounts of lead.

In 1998, lead was banned from use in plumbing pipes and fittings. Even so, a lead free fixture could still contain up to 8 percent lead. Many plumbing fixtures and water meters of this period, made of brass or bronze contained lead. Buildings built or refurbished from the 1986 to 1998 period were likely to contain less lead than older buildings. In this respect, lead exposure had been minimized but not completely eliminated. In Ashland, most of these buildings are in housing developments to the south and east side of town.

In 2014, regulations lowered the lead level no more than 0.25%. This applied to all pipes, water meters, plumbing fittings, and fixtures that are used for potable water. Now, all water meters replaced and installed are also lead free. Fixtures used for non potable usage still may contain lead, these include toilets, outdoor watering equipment, and shower valves. In Ashland, many of the new businesses along US 250 should be free from lead. The newly built Ashland Middle school and Reagan elementary school should be free of lead. The most recently built homes throughout the city should also be free of lead.

The Ohio EPA's own description best summarizes the lead situation in Ohio:

“Because it is practically impossible to determine the lead content of an installed fixture, fitting or pipe, it should be assumed that the manufacture or installation date is the primary indicator of the lead content. Therefore, the characteristics of buildings and piping solder or fixtures would be buildings in Ohio built prior to 1998 or that use plumbing material or solder manufactured before 1998 may have materials with greater than 8% lead and are at a higher risk of contributing lead to the drinking water than materials manufactured after 1998. In addition, buildings built and plumbing materials manufactured after 2014 were required to have less than 0.25% lead by weight and have the lowest risk for contributing lead to the drinking water. It should be noted however that, although prohibited, some use of leaded solder or leaded components may have occurred after the prohibitions became effective.”