

Distribution System Materials Inventory



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Distribution System Materials Inventory

- Rule 1604(c)(ii): The materials inventory under this subsection shall identify whether and where construction materials listed in 40 C.F.R. §141.42(d) are present in the **pipng, storage structure, pumps, and controls** used to deliver water to the public, **including service lines**.
- 40 C.F.R. §141.42(d):
 - Lead from piping, solder, caulking, interior lining of distribution mains, alloys, and home plumbing.
 - Copper from piping and alloys, service lines, and home plumbing.
 - Galvanized piping, service lines, and home plumbing.
 - Ferrous piping materials such as cast iron and steel.
 - Asbestos cement pipe.

Distribution System Materials Inventory

- Every water supply is required to create a DSMI
 - Preliminary DSMI due January 1, 2020
 - **Complete** DSMI due January 1, 2025
- DSMI's are to be living documents that are updated continuously and reported to the department every 5 years
- DSMI's can help supplies identify lead service lines and possible sampling locations



Preliminary DSMI

- Supplies have different starting points
- Goal is to gather existing information and submit a summary
 1. Generalized determinations based on construction age, codes, practices, ordinances and records maintenance procedures
 2. Identify, compile, and summarize detailed service connection records
 3. **Document the basis for determinations.**
 4. Determine format for record-keeping including on-going maintenance
 5. Submit narrative and summary form (to be finalized) to EGLE
 6. Continue to update records based on field work, new information, etc.

Preliminary DSMI Information Sources

- Plumbing codes;
- Plumbing permits;
- Distribution maps and drawings;
- Inspection and maintenance records;
- Meter installation records;
- Standard operating procedures;
- Operation and maintenance manuals;
- Permit files;
- Existing water quality data;
- Interviews with senior personnel, building inspectors, and retirees; and
- Community survey

Summary Information

- For Service Lines:
 - Building Types
 - # Single Family Residences
 - # Multi-Family Residences
 - # Public or Commercial Buildings
 - Materials
 - Lead
 - Galvanized Steel
 - Copper
 - Plastic
 - Other
- Basis of Determination
 - Records Only
 - Field Inspection
 - Other

Preliminary DSMI Form

Form is available online at www.Michigan.gov/lcr

Due to Department by January 1, 2020

| Estimated Number of Service Connections by Service Line Material A service line includes any section of pipe from the water main to the building plumbing at the first shut-off valve inside the building, or 18 inches inside the building, whichever is shorter. | | | | | | |
|--|---|----------------------|-------------------------------------|---------------------|--|---------|
| Any Portion Contains Lead | Contains Galvanized Previously Connected to Lead* | Unknown | | | Contains neither Lead, nor Galvanized Previously Connected to Lead | Total** |
| | | Likely Contains Lead | Likely Does <u>Not</u> Contain Lead | Material(s) Unknown | | |
| | | | | | | |

*If a galvanized line is still connected to lead, it is a lead service line and must be counted in the first column.

**The total number should equal the total number of potable water service lines in your water supply (residential, commercial, industrial, other).

Preliminary DSMI Questions

3. Describe the sources of information used to obtain data.

4. Describe your level of confidence in the sources of information

5. How common is it to find discrepancies in your service line data?

Example: services we expected to be lead turn out to be copper.

Does this happen; Frequently, Occasionally, Seldom, Never

6. In general, characterize the composition of lead service lines

Full lines, partials, goosenecks

Examples of Good Information to Keep

| Partial LSL Material Types | Number |
|----------------------------|--------|
| LSL + Galvanized | 125 |
| LSL + Copper | 196 |
| LSL + Plastic | 0 |
| LSL + Other | 0 |

| LSL Types | Number |
|----------------|--------|
| Full LSL | 225 |
| Partial LSL | 321 |
| Gooseneck only | 54 |

Complete DSMI

Plan to get to a completed DSMI should be based on the Preliminary DSMI

Nuances of the Complete DSMI to note:

- Not Lead Service Lines – based on building records, documented institutional practices and/or visual verification
- Lead Service Lines – average of 5% must be removed each year on average
- Unknown Service Lines – Assumed to be LSLs, keep working to verify. These are added into the number of lines that must be replaced.

Big Questions for EGLE:

- What statistically valid strategies will be acceptable for verifying that subsets of homes do not have LSLs?
- How do we determine which existing records are acceptable documentation and which need verification?
- Others

Example of a Complete Inventory Spreadsheet

| ID | Bldg Type | Age | Private SL | | Public SL | | Gooseneck | |
|--------|-----------|-----|------------|--------|-----------|--------|-----------|--------|
| | | | Material | Source | Material | Source | Material | Source |
| 123456 | S | 1 | C | R | L | F | L | F |
| 123457 | M | 3 | C | R | C | R | C | R |

| Building Type | Code | Material | Code | Source | Code | Age | Code |
|-------------------------|------|------------|------|-----------------------|------|-------------|------|
| Single Family Residence | S | Lead | L | Records Only | R | <1960 | 1 |
| Multi-Family Residence | M | Galvanized | G | Field Inspection Only | F | 1960 – 1988 | 2 |
| Public Building | P | Copper | C | Record Validation | V | 1989 – 2014 | 3 |
| Commercial Building | C | Plastic | P | Record Invalidation | I | >2014 | 4 |
| | | Other | O | | | | |