

- PA-I-1. Please indicate whether PWD has a program through which community members can access assistance to replace private lead lines. If and to the extent such a program exists, please provide:
- a. The policies and procedures for eligibility and enrollment in that private lead line replacement program?
 - b. A copy of PWD's written policies, training materials, and other written documents which describe the policies and procedures for the private lead line replacement program.
- PA-I-2. If and to the extent PWD has a private lead line replacement program, provide an itemized budget for the program for the current fiscal year or for the immediately subsequent fiscal year.
- PA-I-3. If and to the extent that PWD has a private lead line replacement program, please provide a detailed description of how PWD promotes the program. Separately provide a copy of all written correspondence and/or marketing materials used to inform consumers about the availability of the private lead line replacement program.
- PA-I-4. By month, for each month January 2018 to present, please provide the number of customers who have enrolled in PWD's private lead line replace program, along with the cumulative number of customers who have enrolled in the program.
- PA-I-5. Please identify the number of lead service lines in PWD's system.
- PA-I-6. Please describe how the estimate in the immediately preceding response was calculated. Provide all documents relied on in preparing the estimate, including any lead service line inventories.
- PA-I-7. Identify the number of galvanized steel service lines in PWD's system.
- PA-I-8. Please describe how the estimate in the immediately preceding response was calculated. Provide all documents relied on in preparing the estimate, including any galvanized steel service line inventories.
- PA-I-9. Identify the number of copper service lines in PWD's system.
- PA-I-10. Please describe how the estimate in the immediately preceding response was calculated. Provide all documents relied on in preparing the estimate, including any copper service line inventories.

- PA-I-11. Identify the number of service lines in PWD's system of unknown composition.
- PA-I-12. Please describe how the estimate in the immediately preceding response was calculated. Provide all documents relied on in preparing the estimate.
- PA-I-13. Has PWD completed a materials evaluation to identify the composition of construction materials present in PWD's distribution system as described in 40 C.F.R. §§ 141.86(a)(1), 141.42(d)? Please provide this evaluation and all documents relied on in preparing the evaluation.
- PA-I-14. Describe how and when PWD plans to supplement or update its most recently completed materials evaluation. Please provide all documents relied on in preparing any supplemental or updated materials evaluations.
- PA-I-15. Please provide all maps and data, including global information system (GIS) data, related to the locations of service lines in PWD's system composed of:
- a. Lead;
 - b. Galvanized steel;
 - c. Copper; or
 - d. Unknown material.
- PA-I-16. Identify and describe all methods PWD has used since June 30, 2018 to determine the composition of service lines in its system, including but not limited to review of construction records, curb-box inspections, and excavations.
- PA-I-17. Please identify how many service lines PWD has examined using each of the methods identified in response to the immediately preceding data request?
- PA-I-18. Please describe any "construction records" PWD is relying on to identify service line composition, including but not limited to the number of construction records PWD has and the source of these records. Separately provide all documents related to the accuracy or reliability of these construction records.
- PA-I-19. Describe any procedures or protocols PWD follows if its review of construction records indicates that a service line is made of:
- a. Lead;
 - b. Galvanized steel;
 - c. Copper; or
 - d. Unknown material.

- PA-I-20. Please identify how many curb-box inspections PWD has completed since June 30, 2018 (by month)?
- PA-I-21. Please provide all documents regarding the accuracy or reliability of curb-box inspections in identifying the composition of service lines.
- PA-I-22. Please provide all maps and data, including GIS data, related to the locations of curb-box inspections completed since June 30, 2018.
- PA-I-23. Please provide a detailed description, along with all written documentation, of how PWD selects the addresses where it conducts curb-box inspections?
- PA-I-24. Please provide a detailed description of how PWD decides the order or priority of addresses where it conducts curb-box inspections? Please provide all documents relating to how PWD orders or prioritizes addresses for inspection.
- PA-I-25. For curb-box inspections completed since June 30, 2018:
- a. Identify how many were completed using PWD-employee work crews;
 - b. Provide the average cost per inspection for inspections conducted by PWD-employed work crews;
 - c. Please describe how the average cost in (b) was calculated and provide any documents used in preparing the calculation;
 - d. Identify how many inspections were completed by contractors;
 - e. Please identify each contractor used by PWD for inspections;
 - f. For each contractor in (d) provide the number of inspections and the average cost per inspection;
 - g. Please describe how the average costs in (f) were calculated and provide any documents used in preparing the calculations;
- PA-I-26. For curb-box inspections completed since June 30, 2018, please provide:
- a. The number of lead service lines identified;
 - b. The number of galvanized steel service lines identified;
 - c. The number of copper service lines identified;
 - d. The number of service lines composed of any other material identified;
 - e. The number of service lines for which inspections were inconclusive.
- PA-I-27. Describe the procedures or protocols followed by PWD if the curb-box inspection:
- a. Identifies a lead service line;
 - b. Identifies a galvanized steel service line;

- c. Identifies a copper service line; or
- d. Is inconclusive.

PA-I-28. How many curb-box inspections does PWD plan to conduct after July 1, 2020 (by month)?

- PA-I-29. For curb-box inspections PWD expects to complete after January 1, 2020:
- a. Identify how many PWD expects to complete using PWD-employee work crews.
 - b. Provide the expected average cost per inspection for inspections conducted by PWD-employee work crews. Please describe how the average cost was calculated and provide any documents used in preparing the calculation.
 - c. Identify how many inspections PWD expects to complete using contractors.
 - d. Identify each contractor PWD intends to use.
 - e. For each contractor in (d), provide the number of lead service lines PWD expects the contractor to inspect, and the expected average cost per inspection. Please describe how the average cost was calculated and provide any documents used in preparing the calculation.
 - f. Provide any requests for proposal or contracts relating to all inspections to be conducted after January 1, 2020.

PA-I-30. Does PWD notify a customer before it conducts a curb-box inspection? If so, please describe how.

PA-I-31. Please provide all notification materials PWD distributes to customers prior to a curb-box inspection.

PA-I-32. Does PWD notify a customer of the results of a curb-box inspection of a service line? If so, please describe how.

PA-I-33. Please provide all notification materials PWD distributes to customers after completion of a curb-box inspection.

PA-I-34. Identify how many excavations PWD has conducted to determine the composition of a service line since June 30, 2018.

PA-I-35. Does PWD have maps or data on the locations of excavations conducted to determine the composition of a service line completed since June 30, 2018? Please provide all maps and data, including GIS data, related to the locations of such inspections.

PA-I-36. For the excavations to determine the composition of a service line completed since June 30, 2018, please identify:

- a. The number of lead service lines identified;
- b. The number of galvanized steel service lines identified;
- c. The number of copper service lines identified;
- d. The number of service lines composed of any other material identified;
- e. The number of service lines for which excavations were inconclusive.

PA-I-37. Describe the procedures followed by PWD if an excavation to determine the composition of a service line:

- a. Identifies a lead service line;
- b. Identifies a galvanized steel service line;
- c. Identifies a copper service line; or
- d. Is inconclusive.

PA-I-38. Of the excavations to determine the composition of a service line completed since June 30, 2018:

- a. Identify how many were completed using PWD-employee work crews.
- b. Provide the average cost per excavation using PWD-employee work crews.
- c. Identify how many were completed by contractors.
- d. Identify each contractor PWD used.
- e. For each contractor in (d), provide the number of excavations and the average cost per excavation.
- f. Provide any requests for proposal or contracts relating to all excavations completed since June 30, 2018.

PA-I-39. Identify the number of public-side lead service line replacements PWD completed since June 30, 2018 (by month).

PA-I-40. Identify the number of private-side lead service line replacements PWD completed since June 30, 2018 (by month).

PA-I-41. When PWD replaces both the private-side and public-side lead service line at an address, is that counted by PWD as two service line replacements?

PA-I-42. Identify the number of addresses for which PWD has replaced both the private-side and public-side lead service line since June 30, 2018.

PA-I-43. Does PWD conduct partial lead service line replacements?

- PA-I-44. Identify the number of partial lead service line replacements PWD completed since June 30, 2018 (by month).
- PA-I-45. Does PWD have maps or data on the locations of lead service line replacements completed since June 30, 2018? Please provide all maps and data, including GIS data, related to the locations of such replacements.
- PA-I-46. How does PWD select the addresses where it conducts service line replacements? Please provide all documents relating to how PWD selects locations for these replacements.
- PA-I-47. How does PWD decide the order or priority of lead service line replacements? Please provide all documents relating to how PWD ordered or prioritized locations for these replacements.
- PA-I-48. For lead service line replacements since June 30, 2018:
- a. Identify the number of lead service lines replaced by PWD-employee work crews.
 - b. Provide the average cost per replacement for lead service lines replaced by PWD-employee work crews.
 - c. Please describe how the average cost in (b) was calculated and provide any documents used in preparing the calculation.
 - d. Identify the number of lead service lines replaced by contractors.
 - e. Identify each contractor used by PWD to replace lead service lines
 - f. For each contractor in (d), provide the number of lead service lines replaced and the average cost per replacement.
 - g. Please describe how the average costs in (f) were calculated and provide any documents used in preparing the calculations.
 - h. Provide any requests for proposal or contracts relating to replacements completed since June 30, 2018.
- PA-I-49. Please describe all financial assistance provided to customers for private-side lead service line replacements conducted since June 30, 2018.
- PA-I-50. For all private-side lead service line replacements performed since June 30, 2018, please identify:
- a. How many were provided at no charge to the homeowner under the replacement program
 - b. Please provide a list of how many were funded through each program or funding sources used;

- PA-I-51. Please describe how PWD notifies customers of their eligibility for private-side service line replacement? Please provide all notification documents distributed to customers.
- PA-I-52. Please describe PWD's efforts to obtain a customer's permission or consent for private-side service line replacement. Please provide all permission or consent documents distributed to customers.
- PA-I-53. Please describe all information PWD provides to customers after a service line replacement is complete. Please provide all documents given to customers following service line replacement, including but not limited to any information on water flushing and tap water testing for lead.
- PA-I-54. Does PWD provide filters to customers after service line replacement?
- PA-I-55. Does PWD provide replacement filter cartridges to customers after service line replacement?
- PA-I-56. If, following lead service line replacement, PWD provides customers with filters, replacement cartridges, or both:
- a. Identify how many filters are provided to each customer;
 - b. Identify how many replacement cartridges are provided to each customer;
 - c. Identify how the filter and replacement cartridge(s) are given to the customer (e.g. in person, left at the door);
 - d. Identify whether the filters and replacement cartridges are provided to customers free-of-charge;
 - e. Identify whether PWD provides any instructions, recommendations, or assistance for filter installation and use after service line replacement and, if so, please provide all related documents;
 - f. Identify whether PWD attempts to verify that the customer has installed or is using the filter as directed by the manufacturer, and if so, how;
 - g. Identify whether a customer who has had a service line replaced may request additional replacement cartridge(s) or filter(s) from PWD and, if so, how and for how long after replacement.
 - h. How much does each filter cost?
 - i. How much does each cartridge cost?
- PA-I-57. If, following lead service line replacement, PWD provides customers with filters, replacement cartridges, or both:

- a. How many customers received filters since June 30, 2018, disaggregated by month?
- b. How many customers received replacement cartridges since June 30, 2018, disaggregated by month?
- c. How much has PWD spent on such filters and cartridges since June 30, 2018, disaggregated by month?

PA-I-58. Describe all measures PWD takes to restore private property disturbed or damaged during service line replacement, including but not limited to lawns, driveways, steps, or walls.

PA-I-59. What is the average cost per replacement of the restoration measures described in response to the immediately preceding request?

PA-I-60. Does PWD replace galvanized steel service lines as part of its service line replacement program? If no, please explain why.

PA-I-61. If the answer to the immediately preceding request is no, did PWD consider replacing galvanized steel service lines through its service line replacement program? If so, please provide all documents PWD considered in deciding whether to include galvanized steel service lines in its service line replacement program.

PA-I-62. Please describe PWD's plans to replace lead service lines after July 1, 2020, including the expected number of service lines to be replaced and PWD's expected schedule for replacements.

PA-I-63. Has PWD selected the addresses where it will replace service lines after July 1, 2020?

PA-I-64. Does PWD have maps or data on the locations of lead service line replacements scheduled for replacement after July 1, 2018? Please provide all maps and data, including GIS data, related to the locations of service lines scheduled for replacement.

PA-I-65. Does PWD intend to provide any financial assistance to customers for private-side lead service line replacements to be conducted after July 1, 2020? Please provide a description of this assistance, including any funds that PWD has allocated or expects to allocate for this assistance.

PA-I-66. For how long does PWD intend to provide financial assistance for private-side lead service line replacement?

- PA-I-67. For lead service lines to be replaced after July 1, 2020:
- a. Identify the number of lead service lines PWD expects to replace using PWD-employee work crews.
 - b. Provide the expected average cost per replacement for lead service lines replaced by PWD-employee work crews.
 - c. Please describe how the average cost in (b) was calculated and provide any documents used in preparing the calculation.
 - d. Identify the number of lead service lines PWD expects to replace using contractors.
 - e. Identify each contractor PWD expects to use to replace service lines.
 - f. For each contractor in (d), provide the number of lead service lines PWD expects the contractor to replace and the expected average cost per replacement.
 - g. Please describe how the average costs in (f) were calculated and provide any documents used in preparing the calculations.
 - h. Provide any requests for proposal or contracts relating to replacements expected after July 1, 2020.

PA-I-68. Does PWD intend to continue replacing lead service lines if tap-water monitoring conducted pursuant to the Lead and Copper Rule, 40 C.F.R. § 141.80 et seq., shows lead concentrations below 15 parts per billion at the 90th percentile for two consecutive six-month monitoring periods? Please describe these plans.

- PA-I-69. Please indicate whether PWD has been directed pursuant to any order, or has entered into any agreement, within the past five years, to replace a prescribed number of lead service lines in total or per time period.
- a. If so, provide all such orders and/or agreements containing such an obligation.
 - b. If so, please provide the number of lead services lines by month (or other period if other than months) PWD is obligated to replace pursuant to the order and/or agreement.
 - c. If so, please provide the number of lead service lines replaced by month during the period which such order and/or agreement has been in effect.

PA-I-70. Provide an itemized budget for any allocation of PWD's current fiscal year construction budget to a lead-line program.

PA-I-71. Please indicate how much of PWD's budget for lead service line replacement in the current fiscal year has been spent as of March 1, 2020.

- PA-I-72. How much of PWD's budget for lead service line replacement in the current fiscal year remains available for replacements conducted after March 1, 2020?
- PA-I-73. Provide an itemized budget for PWD's lead service line replacement program for the immediately upcoming fiscal year.
- PA-I-74. Provide an itemized budget for PWD's curb-box inspections in the current fiscal year.
- PA-I-75. Provide an itemized budget for PWD's curb-box inspections in the immediately upcoming fiscal year.
- PA-I-76. Please provide itemized budgets for PWD's lead and copper monitoring programs for 2020 and 2021.
- PA-I-77. Please provide the results of all PWD lead and copper monitoring conducted between January 1, 2016 and the present. For each monitoring period, please include a breakdown of the total number of sites tested, the location of each site, and the monitoring result for each site.
- PA-I-78. Please describe PWD's plans for lead and copper monitoring for the July 1, 2020 through December 31, 2021 periods. Please include a breakdown of the total number of sites to be tested, the location of each site, any sampling schedules.
- PA-I-79. Describe the sample collection methods PWD uses to conduct lead and copper monitoring. (See 40 C.F.R. § 141.86(b).) Please provide copies of all written instructions PWD distributes to customers that collect samples for PWD's lead and copper monitoring program.
- PA-I-80. Does PWD have a pool of targeted sampling sites for lead and copper monitoring? (See 40 C.F.R. § 141.86(a)(1).) If yes, how did it create this pool?
- PA-I-81. How does PWD verify that its sampling pool for lead and copper monitoring targets homes with a high risk of lead contamination? (See 40 C.F.R. § 141.86(a)(3)-(8).)
- PA-I-82. Does PWD use the same sampling pool for each monitoring period? (See 40 C.F.R. § 141.86(b)(4).) If not, please explain why not.
- PA-I-83. How does PWD choose sampling sites within its sampling pool? (See 40 C.F.R. § 141.86(b)(4).)

- PA-I-84. If PWD does not collect a tap water sample in the next monitoring period from the same sampling site from which it collected a previous sample, how does PWD select the replacement site? (See 40 C.F.R. § 141.86(b)(4).)
- PA-I-85. Please provide itemized budgets for 2019, 2020 and 2021 for the collection of post-construction samples following lead service line replacement.
- PA-I-86. On average, how long does it take from when a curb box inspection is completed for the customer to be notified of the inspection results?
- PA-I-87. What resources are available to customers with service lines that are composed of lead on the private side only to have those lines replaced at no cost?
- PA-I-88. Does PWD replace lines that are composed of lead on the private side only at no cost to customers as part of its 2020 and/or 2021 lead service line replacement program? If not, why?
- PA-I-89. Did PWD consider including service lines that are composed of lead on the private-side only in its 2020 and/or 2021 lead service line replacement program? If so, please provide all documents relating to this decision.
- PA-I-90. If a curb box inspection yields a result of “unknown” or “not accessible” on either the private or public side of the service line, does PWD excavate the service line to identify service line composition? If not, what does PWD do? Please describe any further action taken by PWD for both the private and public sides of the service line.
- PA-I-91. If a curb box inspection yields a result of “non-lead” on either the private or public side of the service line, does PWD excavate the service line to identify the service line composition? If not, what does PWD do? Please describe any further action taken by PWD for both the private and public sides of the service line.
- PA-I-92. Please indicate whether curb box inspections can be used, standing alone, to positively identify non-lead service lines. If not, please describe any other procedures or protocols PWD follows, other than conducting excavations, if a curb box inspection reveals:
- a. Galvanized steel or iron on either the public or private side of the service line;
 - b. Copper on either the public or private side of the service line;
 - c. Any other non-lead material on either the public or private side of the service line;
- or

d. Unknown material on either the public or private side of the service line.

PA-I-93. Are excavations performed prior to lead service line replacements only, or are they also performed prior to repairs?

PA-I-94. Does PWD provide surface restoration following an excavation performed to verify service line composition?

PA-I-95. Please describe all steps taken by PWD, if any, to encourage customers to complete water sampling following lead service line replacement?

PA-I-96. Please provide by month, for January 1, 2018 to present, the number of customers who have refused to authorize PWD to replace their private-side lead service line free of charge.

PA-I-97. Does PWD track customers' reasons refusing to authorize PWD to replace their private-side lead service line free of charge? If so, please provide any information PWD has collected about those reasons.

PA-I-98. If a customer does not explicitly refuse to allow PWD to replace the customer's private-side lead service line but instead simply does not respond to PWD's efforts to obtain the customer's consent, does PWD proceed with a partial replacement of the public-side service line?

PA-I-99. What steps does PWD take to provide a filter to a customer who receives a partial lead service line replacement after the customer expressly refuses to allow PWD to replace the customer's private-side lead service line?

PA-I-100. What steps does PWD take to provide a filter to a customer who receives a partial lead service line replacement after the customer does not respond to PWD's attempts to obtain the customer's consent to replace the customer's private-side lead service line?

PA-I-101. How many customers who initially received partial lead service line replacements subsequently had their private-side lead service lines replaced at no charge?

PA-I-102. Has PWD estimated the number of customers who have a service line composed of lead on the private side and a non-lead material on the public side? If so, what is PWD's estimate?

PA-I-103. At any time, did a plumbing code, ordinance, or other authority require the use of lead pipes for service line installations in Philadelphia?

PA-I-104. How many partial lead service line replacements has PWD performed on multi-family residences since July 30, 2018?

PA-I-105. For post-replacement samples showing a lead concentration above 100 parts per billion, please describe:

- a. How long it takes PWD to provide the household with bottled water after receiving the sample result; and
- b. How much bottled water PWD provides.

PA-I-106. Does PWD provide water filters to customers with lead levels that exceed 15 parts per billion who have not had their service lines replaced? If so, please identify:

- a. When PWD began providing filters to these customers;
- b. How PWD sends alerts to eligible customers;
- c. Who the filter vendor is;
- d. What type of filter and replacement cartridges are provided, including product name and model number;
- e. How much each filter and replacement cartridge costs;
- f. How many replacement cartridges are provided to each customer; and
- g. How many filters PWD has distributed to date.

PA-I-107. How many times has a curb-box inspection revealed that a public- or private-side service line was made of lead when the historical records for that service line indicated that all or part of it was made of a non-lead material?

PA-I-108. How many times has an excavation revealed that a public- or private-side service line was made of lead when the historical records for that service line indicated that all or part of the service line was made of a non-lead material?