



Illinois Department of Natural Resources

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2012 Annual Water Use Audit Form (LMO-2)

This form must be completed by all Category IA and IIB Permittees for each annual water use accounting year running from October 1, 2011 through September 30, 2012. This form must be submitted to the Department by January 7, 2013.

Section I - General Information

Name, address and phone number of Permittee:

County: _____

Name, address and phone number of the contact person for the Permittee:

e-mail address _____

Authorized Official _____

Title: _____

Date: _____

Please provide leak survey information and population estimates for the last year.

Population: _____ Number of existing households: _____

The Illinois Department of Natural Resources is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Chapter 19, Section 120.2 of the Illinois Revised Statutes. Disclosure of this information is required. Failure to provide any information will result in this form not being processed. This form has been approved by the Forms Management Center, CMS.

Section II - Water Use Audit

Enter the amount of water pumped and utilized for each item shown below. All amounts entered in this section must be in units of million gallons per day (mgd) rounded off to three decimal places. Conversion calculations are provided for your use in Section IV.

A. Pumpage Data

Water bought or received from the following distribution systems:

1. Lake Michigan Pumpage	_____	mgd
2. Shallow Aquifer Pumpage	_____	mgd
3. Deep Aquifer Pumpage	_____	mgd
4. Total Pumpage (add lines 1, 2 & 3)	_____	mgd
5. Water Treatment Use	_____	mgd
6. Gross Annual Pumpage (subtract line 5 from line 4)	_____	mgd

Water sold or provided to any other distribution systems (enter the name of each system and the amount sold or provided to that system on lines 7 through 12). If additional lines are required, attach an additional sheet listing each system and amount.

7	_____	mgd
8	_____	mgd
9	_____	mgd
10	_____	mgd
11	_____	mgd
12	_____	mgd
13. Total (add lines 7-12 and any additional amounts)	_____	mgd
14. Net Annual Pumpage (subtract line 13 from line 6)	_____	mgd

B. Uses

	Metered	Unmetered	Total
15. Residential	_____	_____	mgd
16. Commercial and Manufacturing	_____	_____	mgd
17. Municipal	_____	_____	mgd
18. Construction	_____	_____	mgd
19. Total Uses (add Total lines 15 through 18)	_____	_____	mgd
20. Percentage of Total Use to Net Annual Pumpage (divide line 19 by line 14 and multiply by 100)	_____		%

C. Hydrant Uses

21. Firefighting and Training	_____	mgd
22. Water Main Flushing	_____	mgd
23. Sewer Cleaning	_____	mgd
24. Street Cleaning	_____	mgd
25. Construction	_____	mgd
26. Other (attach explanation)	_____	mgd
27. Total Hydrant Use (add lines 21 through 26)	_____	mgd

Section II - Water Use Audit (continued)

28. Percentage of Hydrant Use to Net Annual Pumpage (divide line 27 by line 14 and multiply by 100)	_____ %
29. Department allowed maximum for Hydrant Use	_____ 1.0 %
30. Excessive hydrant use (subtract line 29 from line 28). If the percentage is greater than 0.0, attach an explanation. [see Rule 730.307 (e)]	_____ %
D. Unavoidable Leakage and Unaccounted for Flow	
31. Maximum Unavoidable Leakage (Do worksheet in Section III; enter amount from line 10 of the worksheet)	_____ mgd
32. Percentage of Maximum Unavoidable Leakage to Net Annual Pumpage (divide line 31 by line 14 and multiply by 100)	_____ %
33. Total Accounted for Flow (add lines 19, 27 and 31)	_____ mgd
34. Percentage of Total Accounted for Flow to Net Annual Pumpage (divide line 33 by line 14 and multiply by 100)	_____ %
35. Total Unaccounted for Flow (subtract amount on line 33 from line 14)	_____ mgd
36. Percentage of Total Unaccounted for Flow to Net Annual Pumpage (divide line 35 by line 14 and multiply by 100)	_____ %

Please Check Your Calculations

The sum of lines 33 and 35 should equal line 14. If they do not equal, recheck your calculations.

The sum of lines 34 and 36 should equal approximately 100%. If not, check calculations.

Section III - Maximum Unavoidable Leakage Worksheet

Complete the following calculations to determine your maximum unavoidable leakage.

Enter the appropriate amounts in the space provided.

A. Cast Iron Pipes With Lead Joints

Age of Pipes	Miles of Pipe	Leakage Rate	Maximum Unavoidable Leakage
1. 60 yrs. or greater		x 3,000 g/d/mi =	_____ g/d
2. 40-60 yrs.		x 2,500 g/d/mi =	_____ g/d
3. 20-40 yrs.		x 2,000 g/d/mi =	_____ g/d
4. 20 yrs. or less		x 1,500 g/d/mi =	_____ g/d

B. All Other Types of Pipes and Joints

Age of Pipes	Miles of Pipe	Leakage Rate	Maximum Unavoidable Leakage
5. 60 yrs. or greater		x 2,500 g/d/mi =	_____ g/d
6. 40-60 yrs.		x 2,000 g/d/mi =	_____ g/d
7. 20-40 yrs.		x 1,500 g/d/mi =	_____ g/d
8. 20 yrs. or less		x 1,000 g/d/mi =	_____ g/d
9. Total Miles	_____	Total Leakage	_____ g/d
10. Total Maximum Unavoidable Leakage, in mgd (divide total leakage on line 9 by 1,000,000) (Enter this amount on line 31 of "Section II - Water Use Audit")			_____ mgd

Section IV - Conversion Table

Below are conversion calculations to convert the most commonly used units to units of million gallons per day (mgd).

To convert cubic feet per year (cf) to (mgd) use:

$$(cf \times 7.48) / 1,000,000 / 365 = \text{mgd}$$

To convert gallons per year (g) to (mgd) use:

$$g / 1,000,000 / 365$$

To convert gallons per day (g/d) to (mgd) use:

$$(g/d) / 1,000,000$$

To convert million gallons per year (mg) to (mgd) use:

$$mg / 365 = \text{mgd}$$

