

Canada's Core Public Infrastructure Survey, 2016

Potable Water Assets

CSA00001

This organization does not own or lease this asset.

CONFIDENTIAL once completed.

Si vous préférez recevoir ce document en français, veuillez nous appeler au numéro sans frais suivant :

**This information is collected under the authority of the *Statistics Act*, Revised Statutes of Canada, 1985, Chapter S-19.
COMPLETION OF THIS QUESTIONNAIRE IS A LEGAL REQUIREMENT UNDER THIS ACT.**

The purpose of this survey

Statistics Canada is undertaking this survey to provide useful statistical information on the stock, condition, performance and asset management strategies of Canada's core public infrastructure assets owned or leased by the various levels of government and Indigenous entities.

The information compiled by this survey will be used by analysts and policy-makers to better understand the current condition of Canada's core infrastructure. This will enable all levels of government to develop policies to support the efforts in improving Canada's core public infrastructure and help monitor and report progress on achievement of desired outcomes. Your information may also be used by Statistics Canada for other statistical and research purposes.

Confidentiality

Statistics Canada is prohibited by law from releasing any information it collects which could identify any person, business, or organization, unless consent has been given by the respondent or as permitted by the *Statistics Act*. Statistics Canada will use the information from this survey for statistical purposes.

Data-sharing agreements

To reduce respondent burden, Statistics Canada has entered into data-sharing agreements with provincial and territorial statistical agencies and other government organizations, which have agreed to keep the data confidential and use them only for statistical purposes. Statistics Canada will only share data from this survey with those organizations that have demonstrated a requirement to use the data.

Section 11 of the *Statistics Act* provides for the sharing of information with provincial and territorial statistical agencies that meet certain conditions. These agencies must have the legislative authority to collect the same information, on a mandatory basis, and the legislation must provide substantially the same provisions for confidentiality and penalties for disclosure of confidential information as the *Statistics Act*. Because these agencies have the legal authority to compel businesses to provide the same information, consent is not requested and businesses may not object to the sharing of the data.

For this survey, there are **Section 11** agreements with the provincial and territorial statistical agencies of Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Yukon. The shared data will be limited to information pertaining to business establishments located within the jurisdiction of the respective province or territory.

Section 12 of the *Statistics Act* provides for the sharing of information with federal, provincial or territorial government organizations. Under **Section 12**, you may refuse to share your information with any of these organizations by writing a letter of objection to the Chief Statistician and returning it with the completed questionnaire. Please specify the organizations with which you do not want to share your data.

For this survey, there are **Section 12** agreements with the statistical agencies of Prince Edward Island, Northwest Territories and Nunavut, as well as with Infrastructure Canada.

For agreements with provincial and territorial government organizations, the shared data will be limited to information pertaining to business establishments located within the jurisdiction of the respective province or territory.

Record linkages

To enhance the data from this survey, Statistics Canada may combine it with information from other surveys or from administrative sources.

Further Information

If you require assistance regarding this survey, please contact Statistics Canada by telephone at

Statistics Canada advises you that there could be a risk of disclosure during facsimile or e-mail. However, upon receipt, Statistics Canada will provide the guaranteed level of protection afforded to all information collected under the authority of the *Statistics Act*.

Who should complete this questionnaire?

Canada's Core Public Infrastructure Survey should be coordinated by the organization's asset manager who will ensure that each asset specific questionnaire is completed by its respective manager.

Please return the questionnaire within 21 days.

Please mail the completed questionnaire in the enclosed envelope or fax it to Statistics Canada at 1-888-883-7999.

If you are unable to complete within 21 days **OR** if you need help, call us at

Statistics Canada, Operations and Integration Division, 150 Tunney's Pasture Driveway, Ottawa, Ontario K1A 0T6

Visit our website, www.statcan.gc.ca



Reporting instructions

- Please print in ink.
- Please report for reference year 2016.
- **Report** dollar amounts in **Canadian dollars**.
- **Exclude** sales tax.
- Percentages should be rounded to whole numbers.
- When precise figures are not available, please provide your best estimates.

Information for Survey Participant

Canada's core public infrastructure can vary within each municipality in Canada as a result of size of population, geographic location and overall economic condition. Canada's core public infrastructure survey will be measuring the following key components within the municipality: asset ownership; asset management planning; overall condition of core public asset infrastructure and overall performance of these core public assets.

Organization refers to municipal, regional, provincial, federal government or Indigenous entities (such as a Band council) who own a core public infrastructure.

Own refers to assets owned by your organization as well as assets leased by your organization through a capital lease agreement.

Asset ownership

Potable water assets include the following:

Non-linear potable water system assets include: water treatment facilities; water reservoirs (including dams) before intake; storage tanks after intake not part of a treatment plant; and water pump stations owned by your organization or leased by your organization through a capital lease agreement. **Exclude** water treatment facility high or low lift pump stations.

Water treatment facilities include all water treatment facilities owned by your organization or leased by your organization through a capital lease agreement.

Reservoir: A pond, lake, or basin (natural or artificial) that stores, regulates, or controls water. Include the number of reservoirs and water towers within the distribution, transmission, or integrated system owned by your organization or leased by your organization through a capital lease agreement.

Pump stations include pump stations within the non-linear potable water system owned by your organization, as well as all pump stations leased by your organization through a capital lease agreement.

Linear potable water system assets (pipes) include: local water pipes (diameter less than 416 mm) and transmission pipes (diameter greater than or equal to 416mm) owned by your organization or leased by your organization through a capital lease agreement. **Exclude** service connections, hydrant leads and standpipe leads.

Local water pipes include all connecting pipes, of diameter less than 416 mm, between pump stations, rechlorination facilities and storage facilities if these are located within the distribution system.

Transmission pipes include all connecting pipes, of diameter greater than or equal to 416mm, between pump stations, rechlorination facilities and storage facilities when located between the source and the treatment plant or between the treatment plant and the distribution system.

Inventory and physical assessment of potable water assets

1. In 2016, did your organization provide potable water services to other municipalities or organizations?

Potable water services includes any non-linear or linear potable water system assets.

C3A01101

1 Yes → Please list these municipalities or organizations:

C3A01201	C3A01211
C3A01202	C3A01212
C3A01203	C3A01213
C3A01204	C3A01214
C3A01205	C3A01215
C3A01206	C3A01216
C3A01207	C3A01217
C3A01208	C3A01218
C3A01209	C3A01219
C3A01210	C3A01220

3 No

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4. As of December 31, 2016, indicate the count/kilometres distribution of your potable water assets inventory based on the year of completed construction.

Each selected asset for questions 2 and 3 should have a count/kilometre distribution below.

		Year of completed construction						
		2016	2010 to 2015	2000 to 2009	1970 to 1999	1940 to 1969	Prior to 1940	Do not know
		Count						
Non-linear potable water assets								
	C3C04101	C3C04201	C3C04301	C3C04401	C3C04501	C3C04601	C3C04701	
Water treatment facilities	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	C3C04102	C3C04202	C3C04302	C3C04402	C3C04502	C3C04602	C3C04702	
Water reservoirs (including dams) before intake	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	C3C04103	C3C04203	C3C04303	C3C04403	C3C04503	C3C04603	C3C04703	
Storage tanks after intake not part of a treatment plant	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	C3C04104	C3C04204	C3C04304	C3C04404	C3C04504	C3C04604	C3C04704	
Water pump stations	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
		Kilometres						
Linear potable water assets								
	C3C04105	C3C04205	C3C04305	C3C04405	C3C04505	C3C04605	C3C04705	
Local water pipes (diameter less than 416 mm)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	C3C04106	C3C04206	C3C04306	C3C04406	C3C04506	C3C04606	C3C04706	
Transmission pipes (diameter greater than or equal to 416 mm)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	C3C04107	C3C04207	C3C04307	C3C04407	C3C04507	C3C04607	C3C04707	
Pipes of unknown diameter	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

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5. What is the condition assessment cycle for your potable water assets?

Condition assessment cycle: The period of time required to assess all the assets of a particular type owned by the organization as well as all of the assets of a particular type leased by the organization through a capital lease agreement.

Please select one condition assessment cycle per asset.

		Condition assessment cycle						
		1 year	2 years	3 to 5 years	5 to 10 years	More than 10 years	Does not apply	Do not know
Non-linear potable water assets								
Water treatment facilities	C3D05101	01	02	03	04	05	06	07
Water reservoirs (including dams) before intake	C3D05102	01	02	03	04	05	06	07
Storage tanks after intake not part of a treatment plant	C3D05103	01	02	03	04	05	06	07
Water pump stations	C3D05104	01	02	03	04	05	06	07
Linear potable water assets								
Local water pipes (diameter less than 416 mm)	C3D05105	01	02	03	04	05	06	07
Transmission pipes (diameter greater than or equal to 416 mm)	C3D05106	01	02	03	04	05	06	07
Pipes of unknown diameter	C3D05107	01	02	03	04	05	06	07

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6. Please indicate the assessment tool used to complete the physical condition assessment of your organization's potable water assets in 2016.

Check all that apply for each potable water asset owned or leased by your organization.

Each selected asset for questions 2 and 3 should have a physical condition assessment below.

	1. Based on detailed inspection and analysis guidelines or procedures	2. Based on municipal representative experience working with asset	3. Using proxy information such as age of material, soil environment and estimated service life	4. Do not know
Non-linear potable water assets				
Water treatment facilities	C3E06101 <input type="checkbox"/>	C3E06201 <input type="checkbox"/>	C3E06301 <input type="checkbox"/>	C3E06401 <input type="checkbox"/>
Water reservoirs (including dams) before intake	C3E06102 <input type="checkbox"/>	C3E06202 <input type="checkbox"/>	C3E06302 <input type="checkbox"/>	C3E06402 <input type="checkbox"/>
Storage tanks after intake not part of a treatment plant	C3E06103 <input type="checkbox"/>	C3E06203 <input type="checkbox"/>	C3E06303 <input type="checkbox"/>	C3E06403 <input type="checkbox"/>
Water pump stations	C3E06104 <input type="checkbox"/>	C3E06204 <input type="checkbox"/>	C3E06304 <input type="checkbox"/>	C3E06404 <input type="checkbox"/>
Linear potable water assets				
Local water pipes (diameter less than 416 mm)	C3E06105 <input type="checkbox"/>	C3E06205 <input type="checkbox"/>	C3E06305 <input type="checkbox"/>	C3E06405 <input type="checkbox"/>
Transmission pipes (diameter greater than or equal to 416 mm)	C3E06106 <input type="checkbox"/>	C3E06206 <input type="checkbox"/>	C3E06306 <input type="checkbox"/>	C3E06406 <input type="checkbox"/>
Pipes of unknown diameter	C3E06107 <input type="checkbox"/>	C3E06207 <input type="checkbox"/>	C3E06307 <input type="checkbox"/>	C3E06407 <input type="checkbox"/>

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**7. In 2016, what was the overall physical condition of your organization's potable water assets?
Please indicate the percentage distribution of your potable water assets by using the following condition rating scale.**

Very poor: The asset is unfit for sustained service. Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable.

Poor: Increasing potential of affecting service. The asset is approaching end of service life; condition below standard and a large portion of system exhibits significant deterioration.

Fair: The asset requires attention. The assets show signs of deterioration and some elements exhibit deficiencies.

Good: The asset is adequate. Acceptable, generally within mid stage of expected service life.

Very good: Asset is fit for the future. Well maintained, good condition, new or recently rehabilitated.

Each selected asset for questions 2 and 3 should have a percent distribution below.

Each reporting asset must total to 100%.

	Very poor	Poor	Fair	Good	Very good	Do not know	Total
	%						
Non-linear potable water assets							
Water treatment facilities	C3F07101 	C3F07201 	C3F07301 	C3F07401 	C3F07501 	C3F07601 	100%
Water reservoirs (including dams) before intake	C3F07102 	C3F07202 	C3F07302 	C3F07402 	C3F07502 	C3F07602 	100%
Storage tanks after intake not part of a treatment plant	C3F07103 	C3F07203 	C3F07303 	C3F07403 	C3F07503 	C3F07603 	100%
Water pump stations	C3F07104 	C3F07204 	C3F07304 	C3F07404 	C3F07504 	C3F07604 	100%
Linear potable water assets							
Local water pipes (diameter less than 416 mm)	C3F07105 	C3F07205 	C3F07305 	C3F07405 	C3F07505 	C3F07605 	100%
Transmission pipes (diameter greater than or equal to 416 mm)	C3F07106 	C3F07206 	C3F07306 	C3F07406 	C3F07506 	C3F07606 	100%
Pipes of unknown diameter	C3F07107 	C3F07207 	C3F07307 	C3F07407 	C3F07507 	C3F07607 	100%

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Asset management and performance

8. Does your organization have a potable water asset management plan?

An **Asset Management Plan** defines how a group of assets is to be managed over a period of time. The asset management plan describes the characteristics and condition of infrastructure assets, the levels of service expected from them, planned actions to ensure the assets are providing the expected level of service, and financing strategies to implement the planned actions.

C3G08101

- 1 Yes
- 3 No → Please go to question 10

9. How often does your organization update the current potable water asset management plan?

Mark one only.

C3G09101

- 1 Every year
- 2 Every two to four years
- 3 Every five years or more
- 4 Does not update
- 5 Other – please specify

C3G09205

- 6 Do not know

→ Please go to question 11

10. When does your organization plan on implementing a potable water asset management plan?

Mark one only.

C3G10101

- 1 In one year
- 2 In two to four years
- 3 In five years or more
- 4 Other – please specify

C3G10204

- 5 Do not plan to implement an asset management plan
- 6 Do not know

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11. What type of asset management information system does your organization use to manage your potable water assets?

Mark all that apply.

- C3G11101 Custom asset management software
- C3G11102 Off-the-shelf asset management software
- C3G11103 Spreadsheet
- C3G11104 Paper records
- C3G11105 Other – please specify
C3G11205
- C3G11106 No asset management information system
- C3G11107 Do not know

12. How many drinking water advisories did your organization issue in 2016?

Mark one only.

- C3G12101
- 1 None → Please go to question 15
- 2 One
- 3 2 to 5
- 4 6 to 10
- 5 11 to 20
- 6 More than 20
- 7 Data not collected → Please go to question 15
- 8 Do not know → Please go to question 15

13. Out of these drinking water advisories, how many were precautionary in nature?

Precautionary assessment: An initial assessment, that is temporary in nature, indicating possible harmful effects for human health.

Mark one only.

- C3G13101
- 1 None
- 2 One
- 3 2 to 5
- 4 6 to 10
- 5 11 to 20
- 6 More than 20
- 7 Data not collected
- 8 Do not know

14. Excluding precautionary drinking water advisories, how many exceeded 15 days?

Mark one only.

C3G14101

- 1 None
- 2 One
- 3 2 to 5
- 4 6 to 10
- 5 11 to 20
- 6 More than 20
- 7 Data not collected
- 8 Do not know

15. Has your organization implemented a full cost-recovery strategy for potable water services?

Full Cost-Recovery: Recovering full costs provided within the user rates charged to customers of the system.

Full costs: Includes operating costs, financing costs, renewal and replacement costs, and improvement costs associated with extracting, treating, or distributing water to the public and such other costs which may be specified by regulation.

C3G15101

- 1 Yes → Please go to question 17
- 3 No → Please go to question 16

16. When does your organization plan on implementing a full cost-recovery strategy for potable water services?

Mark one only.

C3G16101

- 1 Never
- 2 1 year
- 3 2 to 3 years
- 4 4 to 5 years
- 5 More than 5 years
- 6 Other – please specify

C3G16206

- 7 Do not know

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**17. In 2016, what was the total energy consumed by your organization for producing and distributing potable water?
Please indicate the unit of measure.**

C3G17101

C3G17102

- 1 Gigawatt hours (GWh)
2 Megawatt hours (MWh)
3 Kilowatt hours (KWh)

18. In 2016, of the water produced and distributed by your organization, what was the total consumption of water by users?

C3G18101 Cubic metres

C3G18102 Do not know

19. In 2016, what was the total consumption of water by your organization?

C3G19101 Cubic metres

C3G19102 Do not know

20. Does your organization require water meters for new homes?

C3G20101

- 1 Yes
3 No

21. Does your organization plan to outfit existing homes with new water meters where none currently exist?

C3G21101

- 1 Yes
3 No

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Assets value and expenses of potable water

22. What is the 2016 estimated replacement value, required renewal budget, and actual renewal budget of potable water assets owned by your organization?

Estimated replacement value: the approximate cost at the present time required to replace an asset, including demolition costs.

Does not include land costs or overhead such as administration.

2016 required renewal budget: the budget required for rehabilitation, reconstruction, or replacement of the assets to bring rating of all assets to a rating of "good" within the 2016 reference year. These include any activities which increase the performance or capacity of existing fixed assets or significantly extend their previously expected service lives.

2016 actual renewal budget: the actual funds spent for the rehabilitation, reconstruction a replacement of the assets. These include any activities which increase the performance or capacity of existing fixed assets or significantly extend their previously expected service lives.

Required renewal budget and actual renewal budget does not include cost of regular maintenance and repairs. Maintenance and repairs: Ordinary maintenance and repairs of fixed assets are activities that owners or users of fixed assets are obliged to undertake periodically in order to be able to utilise assets over their expected service lives (they are current costs that cannot be avoided if the fixed assets are to continue to be used). Maintenance and repairs do not change the fixed asset or its performance, but simply maintain it in good working order or restore it to its previous condition in the event of a breakdown.

Each asset should correspond to question 2 and 3.

	2016		
	Estimated replacement value	Required renewal budget	Actual renewal budget
Thousands of dollars (000's)			
Non-linear potable water assets			
Water treatment facilities	C3H22101 \$ <input type="text"/> ,000	C3H22201 \$ <input type="text"/> ,000	C3H22301 \$ <input type="text"/> ,000
Water reservoirs (including dams) before intake	C3H22102 \$ <input type="text"/> ,000	C3H22202 \$ <input type="text"/> ,000	C3H22302 \$ <input type="text"/> ,000
Storage tanks after intake not part of a treatment plant	C3H22103 \$ <input type="text"/> ,000	C3H22203 \$ <input type="text"/> ,000	C3H22303 \$ <input type="text"/> ,000
Water pump stations	C3H22104 \$ <input type="text"/> ,000	C3H22204 \$ <input type="text"/> ,000	C3H22304 \$ <input type="text"/> ,000
Linear potable water assets			
Local water pipes (diameter less than 416 mm)	C3H22105 \$ <input type="text"/> ,000	C3H22205 \$ <input type="text"/> ,000	C3H22305 \$ <input type="text"/> ,000
Transmission pipes (diameter greater than or equal to 416 mm)	C3H22106 \$ <input type="text"/> ,000	C3H22206 \$ <input type="text"/> ,000	C3H22306 \$ <input type="text"/> ,000
Pipes of unknown diameter	C3H22107 \$ <input type="text"/> ,000	C3H22207 \$ <input type="text"/> ,000	C3H22307 \$ <input type="text"/> ,000

Potable water assets include the following:

Non-linear potable water system assets include: water treatment facilities; water reservoirs (including dams) before intake; storage tanks after intake not part of a treatment plant; and water pump stations owned by your organization or leased by your organization through a capital lease agreement. **Exclude** water treatment facility high or low lift pump stations.

Water treatment facilities include all water treatment facilities owned by your organization or leased by your organization through a capital lease agreement.

Reservoir: A pond, lake, or basin (natural or artificial) that stores, regulates, or controls water. Include the number of reservoirs and water towers within the distribution, transmission, or integrated system owned by your organization or leased by your organization through a capital lease agreement.

Pump stations include pump stations within the non-linear potable water system owned by your organization, as well as all pump stations leased by your organization through a capital lease agreement.

Linear potable water system assets (pipes) include: local water pipes (diameter less than 416 mm) and transmission pipes (diameter greater than or equal to 416mm) owned by your organization or leased by your organization through a capital lease agreement. **Exclude** service connections, hydrant leads and standpipe leads.

Local water pipes include all connecting pipes, of diameter less than 416 mm, between pump stations, rechlorination facilities and storage facilities if these are located within the distribution system.

Transmission pipes include all connecting pipes, of diameter greater than or equal to 416mm, between pump stations, rechlorination facilities and storage facilities when located between the source and the treatment plant or between the treatment plant and the distribution system.

Condition assessment cycle: The period of time required to assess all the assets of a particular type owned by the organization as well as all of the assets of a particular type leased by the organization through a capital lease agreement.

Asset Management Plan: defines how a group of assets is to be managed over a period of time. The asset management plan describes the characteristics and condition of infrastructure assets, the levels of service expected from them, planned actions to ensure the assets are providing the expected level of service, and financing strategies to implement the planned actions.

Full cost recovery: Recovering full costs provided within the user rates charged to customers of the system.

Full costs includes operating costs, financing costs, renewal and replacement costs, and improvement costs associated with extracting, treating, or distributing water to the public and such other costs which may be specified by regulation.

Estimated replacement value: the approximate cost at the present time required to replace an asset, including demolition costs. **Does not include** land costs or overhead such as administration.

2016 required renewal budget: the budget required for rehabilitation, reconstruction, or replacement of the assets to bring rating of all assets to a rating of "good" within the 2016 reference year. These include any activities which increase the performance or capacity of existing fixed assets or significantly extend their previously expected service lives.

Does not include cost of regular maintenance and repairs.

2016 actual renewal budget: the actual funds spent for the rehabilitation, reconstruction a replacement of the assets. These include any activities which increase the performance or capacity of existing fixed assets or significantly extend their previously expected service lives. **Does not include** cost of regular maintenance and repairs.

Maintenance and repairs: Ordinary maintenance and repairs of fixed assets are activities that owners or users of fixed assets are obliged to undertake periodically in order to be able to utilise assets over their expected service lives (they are current costs that cannot be avoided if the fixed assets are to continue to be used). Maintenance and repairs do not change the fixed asset or its performance, but simply maintain it in good working order or restore it to its previous condition in the event of a breakdown.