# APPENDIX E - BPCCC Survey and Questionnaires

Water suppliers will have many options available to them to identify cross connections. Below you will find four types of questionnaires that can be used by customers or water system staff to perform cross connection identification surveys.

Section E.1 - Functions as a tool to allow supplier to document surveys performed in the distribution system.

Section E.2 - Functions has a sample written questionnaire and cover letter that suppliers may issue to consumers to identify cross connections at non-single-family service connections.

Section E.3 - Functions as a survey form for small systems which distributions system consist of onsite plumbing known as a water supply system.

Section E.4 - Functions as a survey form for waterworks facilities associated with drinking water production, storage and distribution.

## Sample Cross Connection Identification Survey Form.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date: |  | Time: |  | Surveyor Name: |  |
| Site Name: |  | Site Address: |  |
| Account Number: |  |
| Site Contact: |  | Phone Number: |  | Alt. Phone: |  |
| Business Type: |  |  |  |  |
| Owner/Manager: |  | Mailing Address: |  |
| Phone Number: |  | Alt. Phone: |  |
| E-Mail Address: |  | Fax Number: |  |

|  |  |  |  |
| --- | --- | --- | --- |
| DOMESTIC Meter Number: |  | Size: |  |
| Location: |
| Make: | Model: | SN: |
| Description: |
| Comments: |

|  |  |  |  |
| --- | --- | --- | --- |
| FIRE SUPPRESION SYSTEM: |  | Size: |  |
| Location: |
| Make: | Model: | SN: |
| Description: |
| Comments: |

|  |  |  |  |
| --- | --- | --- | --- |
| IRRIGATION SYSTEM: |  | Size: |  |
| Location: |
| Make: | Model: | SN: |
| Description: |
| Comments: |

|  |  |  |  |
| --- | --- | --- | --- |
| PROCESS Description: |  | Size: |  |
| Location: |
| Make: | Model: | SN: |
| Description: |
| Comments: |

|  |  |  |  |
| --- | --- | --- | --- |
| PROCESS Description: |  | Size: |  |
| Location: |
| Make: | Model: | SN: |
| Description: |
| Comments: |

## Sample Cross Connection Identification Questionnaire and Letter to Consumer.

Protecting You and Your Drinking Water System from Potential Contamination.

Did you know that your drinking water system is susceptible to contamination through water usage in your own building? This can happen when the drinking water system is connected to uses that make the water no longer potable. This is commonly referred to as a cross connection. Common cross connections found in a building are:

Fire Sprinkler Lines, Irrigation Sprinkler Lines, Boilers, Automatic Soap Injectors, Hoses in Sinks, Hose Bibs, Alternate Water Supplies, Swimming Pools, and Display Fountains.

Under certain conditions the unintended reverse flow of fluids can pass through a cross connection and could potentially contaminate the drinking water distribution system presenting an immediate health risk to you and potentially to your neighbors.

Cross connections within buildings cannot always be avoided but they can be controlled. Local jurisdictions require that private buildings be protected from contamination from cross connections in accordance with the local plumbing code. The North Dakota Department of Environmental Quality requires that public water systems control cross connections at all applicable service connections through various assemblies and methods. Cross connections are typically controlled via the use of air gaps, check valves and backflow prevention assemblies.

Under certain circumstances, a private residence may have a cross connection that is not covered under the local plumbing code. North Dakota Century Code 33-17-01-19 requires that your water provider ensure that an adequate backflow prevention assembly is installed at the service connection or at the point where the cross connection is created. The attached questionnaire is intended to provide you with the opportunity to evaluate your building for potential cross connections and ensure that your drinking water system is being protected adequately from potential contamination. It is also intended to allow the water purveyor to identify any cross connections that are not covered under the local plumbing code.

Please note that the NDDEQ not allow anyone to install, maintain or permit an uncontrolled cross connection that is connected to a drinking water system that supplies water to the public. Your building is connected to a water system that supplies water to the public.

**Questionnaire for Cross Connection Identification Survey**

|  |  |
| --- | --- |
| Name on Account: | Account Number: |
| Account Address: |

### Occupancy: Own Rent

1. Meter serves: Homes/Buildings (garage, outbuildings, barns) How many?

Do you have (please mark all that apply):

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Type | Yes/No | Type | Yes/No | Type | Yes/No | Type | Yes/No |
| Underground Sprinkler System |  | Swimming Pool |  | Hot Tub |  | Utility Sinks |  |
| Drip/Soaker/Irrigation System |  | Chemical Irrigation System |  | Solar Energy System |  | Boilers / Closed Loop Hot Water Heaters |  |
| Darkroom Equipment |  | Fire Suppression System  |  | Portable Dialysis Machine |  | Soda Machine |  |
| Auxiliary Water Source (Well, Ditch/Canal) |  | Ghost pipes (unknown connections) |  | Onsite Water Storage  |  | Commercial Dishwasher |  |
| Insecticide Sprayers |  | Cleaning Solution Dispenser |  | Chemical Feed System |  | RV Hook Ups / Connections |  |
| Dump Station |  | Yard Hydrant |  | Water Treatment Plant |  | Storage Tank |  |
| Livestock Water Troughs |  | Water Softener/ Reverse Osmosis |  | Booster Pump |  | Well Pump |  |

3. Do you have outside hose bibs\*\* at your buildings that are used for non-potable purposes? Yes\_\_\_\_\_ No\_\_\_\_\_ How many? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*\* North Dakota Plumbing Code may require that the hose bibs are protected.

\*\* While not required by NDDEQ or the Plumbing Board it is best industry practice is to protect with a vacuum breaker.

4. Do you have a backflow protection device on your property now? Yes\_\_\_\_\_ No\_\_\_\_\_

5. Do you have any water-using equipment not mentioned above? Yes\_\_\_\_\_ No\_\_\_\_\_ If yes, please describe:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If you marked or answered yes to any of the above are you aware of potential backflow prevention measures being practiced onsite, such as an air gap, check valve or backflow prevention assembly? If so, please explain and include the location of the identified backflow prevention measure:

|  |
| --- |
|  |
|  |
|  |
|  |

Print Name Phone Number .

By signing this document, I acknowledge that to the best of my knowledge the information provided is as accurate as possible.

Signature Date

Please notify this office if any of the above conditions change.

## Sample Cross Connection Identification Survey for Water Supply Systems

|  |  |
| --- | --- |
| Public Water System Name  |  |
| Name of Surveyor |  |
| Date of Survey |  |
| Building Address |  |

1. Do any of your buildings or facilities have (please mark all that apply):

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Type | Yes/No | Type | Yes/No | Type | Yes/No | Type | Yes/No |
| Underground Sprinkler System |  | Swimming Pool |  | Hot Tub |  | Utility Sinks |  |
| Drip/Soaker/Irrigation System |  | Chemical Irrigation System |  | Solar System |  | Boilers / Closed Loop Hot Water Heaters |  |
| Darkroom Equipment |  | Fire Suppression System  |  | Portable Dialysis Machine |  | Soda Machine |  |
| Auxiliary Water Source (Well, Ditch/Canal)(Alternative Irrigation) |  | Ghost pipes (unknown connections) |  | Onsite Water Storage  |  | Commercial Dishwasher |  |
| Insecticide Sprayers |  | Cleaning Solution Dispenser |  | Chemical Feed System |  | Stand Alone Sample Stations |  |
| Dump Station |  | Yard Hydrant |  | Water Treatment Plant |  | Storage Tank |  |
| Water Softener, Reverse Osmosis , Other Treatment |  | Livestock/Water Trough |  | Booster Pump, Well Pump, |  | Waste Connections |  |

1. Do you have a backflow protection device on your property now? Yes No\_\_\_\_\_
2. Do you have any water-using equipment not mentioned above? Yes No**\_\_\_\_**

If yes, please describe:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If you checked any of the above in question 1 or answered yes to any questions, are you aware of potential backflow prevention measures being practiced onsite, such as an air gap, check valve or backflow prevention assembly. If so, please explain and include the location of the identified backflow prevention measure:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Any identified cross connections must be controlled in accordance with the North Dakota Century Code 33.1-17-01-19. The identified cross connection must be controlled within 60 days of discovery. If the cross connection cannot be controlled within 60 days, the Department must be notified. Please note that the installation of assemblies or method within a building’s water supply may require the supplier to obtain plumbing permit from the jurisdiction having authority or the State of North Dakota Plumbing Board.

## Sample Cross Connection Identification Survey for Waterworks

|  |  |
| --- | --- |
| Public Water System Name  |  |
| Name of Surveyor |  |
| Date of Survey |  |
| Building Address/ Waterworks Type |  |

1. Do any of your waterworks have:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Type | Yes/No | Control Assembly or Method |  | Type | Yes/No | Control Assembly or Method |
| House Water Supply |  |  |  | Chemical Feed Systems |  |  |
| Surface Wash |  |  |  | Subsurface Wash |  |  |
| Filter to Waste Collection System |  |  |  | Clean in Place Connection |  |  |
| Irrigation System |  |  |  | Fire Suppression System  |  |  |
| Treatment Bypasses\* |  |  |  | Boilers / Closed Loop Hot Water Heaters |  |  |
| Raw Water Bypasses\*\* |  |  |  | Connections to waste collections systems |  |  |
| Non Potable Water |  |  |  | Yard Hydrant |  |  |
| Water Serving Stations |  |  |  | Stand Alone Sample Stations |  |  |
| Utility Sinks / Cleaning Solution Dispenser |  |  |  | Hose bibs |  |  |

\*Bypasses to treatment (Disinfection, coagulation and filtration must never be bypassed)

\*Bypasses of raw water are not allowed if the water has the potential to be served to the public.

Any identified cross connections must be controlled in accordance with the North Dakota Century Code 33.1-17-01-19. The identified cross connection must be controlled within 60 days of discovery. If the cross connection cannot be controlled within 60 days, the Department must be notified. Please note that the installation of assemblies or method within a buildings water supply may require the supplier to obtain approval from the Department and must be done in accordance with the most recent version of the 10 State Standards. Please consult the Department when controlling identified cross connections.