ENGINEER'S REPORT

FOR THE

INSTALLATION OF

BACKFLOW PREVENTION DEVICES

FOR

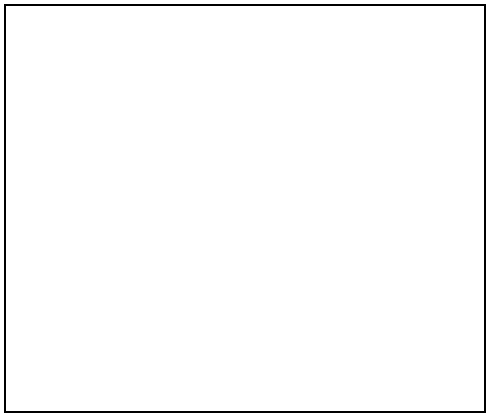

Table of Contents (Pick Options)

INSERT FORM DOH-347 HERE

GENERAL CONDITIONS

I. **SCOPE OF WORK:**

A.

II. **BACKFLOW PREVENTER INSTALLATION AREA:**

A.

III. **PROPOSED BACKFLOW PREVENTION INSTALLATION:**

A. Clearances will be provided as follows:

1. An 18 in. minimum clearance between the floor and the bottom of the relief valve.

2. A minimum of 36 inches clear in front of the devices.

B. Relief valve piping will discharge split between exterior and interior with an air gap.

C. All discharge ports will be arranged so as not to discharge water on electrical equipment. When discharging to the exterior, no water shall discharge onto a pedestrian or traffic surface.

IV. **REFERENCES:**

A. New York State Department of Health Manual "Cross Connection Control."

B. Plumbing Code of New York State, Part 608.

V. **MISCELLANEOUS:**

A.

VI. **SUMMARY:**

A.

ENGINEER'S REPORT
TO DETERMINE HAZARDOUS NON-HAZARDOUS USE

1. Facility/Project Classification (check all that apply):

- ☐ Residential Multi Family: No. Of Units _____
- ☐ Single Retail Store
- ☐ Multiple Retail Stores/Plazas
- ☐ Single Business
- ☐ Multiple Business, Professional/Office Building
- ☐ Food Service/Restaurant
- ☐ Laundromat/Dry Cleaners

- ☐ Warehouse/Distribution Center: Please describe what is warehoused and/or distributed at the facility

  _____

- ☐ Manufacturing: Please describe the type of manufacturing and what is manufactured at the facility

  _____

- ☐ Industrial: Please describe the type of industrial facility

  _____

- ☐ Hotel/Motel: No. Of Rooms ___
- ☐ Car Wash
- ☐ Medical Center/Nursing Home/Hospital
- ☐ Funeral Home
- ☐ School/Public/Private
- ☐ Country Club/Golf Course
- ☐ Church
- ☐ Nurseries/Garden Store
- ☐ Health Club/Community Centers
- ☐ Automotive Sales/Service Center
- ☐ Grocers
- ☐ Other _____

1A. How Many stories (floors) will the facility have? _____

1B. What is the Square Footage of floor space at the facility? _____

2. Please list <u>all</u> uses of public water within the facility including <u>all</u> equipment of fixtures, (internal plumbing in the facility) which are connected to the public water supply, (attach additional sheet(s) if necessary.

   _____

3. Please give a detailed description of the Heating and Cooling system and any connections they may have to the internal domestic plumbing in the facility.

   _____

	Y	N	
3A.	☐	☐	Will the heating/cooling system be directly connected (e.g. make-up line for boiler/cooling, etc.) to the internal domestic plumbing? (If yes answer question 3B and 3C; if No go to question 4.)
3B.	☐	☐	Will the heating/cooling system use or be set up to use automatic chemical feed equipment and/or chemical feed tanks for additive chemicals such as antifreeze, de-scaler, conditioners, cleaning agents, etc.?
3C.	☐	☐	Will the make-up line have any backflow containment device (Reduced Pressure Zone (RPZ), Double Check Valve, Check Valve, etc.) installed on it as a means of internal containment?

4. What is the maximum domestic flow rate (GPM)?_____
What is the average monthly consumption? (Gallons)? ____
What is the average annual consumption: (Gallons)? _____

4A. What is the size of the domestic service? ____

5. Will the facility/project receive domestic water supply from a secondary source, such as:

Y	N	
☐	☐	Well
☐	☐	Cistern
☐	☐	Other Municipal Water System
☐	☐	Other _____

6. Please indicate method of Sewage Disposal.

- ☐ Private Septic
- ☐ Public Sewer
- ☐ Other _____

	Y	N	
7.	☐	☐	Will the facility require a booster pump on the domestic service? If so, what will the pressure (psi) be in the Authority's main at the point of connection during maximum flow? _____
8.	☐	☐	Will the facility have a fire service? (If Yes answer questions 8A through 8G, if No go to Question 9.)
8A.	☐	☐	Will the fire service have nay antifreeze loops of chemical fire retardants?
8B.	☐	☐	Will the fire service have a fire pump? If so what will the pressure (psi) be in the Authority's main at the point of connection during maximum flow? ____
8C.	☐	☐	Is the facility located within 1700 feet of an alternative source of water (detention pond, lake, river, canal, etc.) from which fire equipment could draw from in the event of fire?

8D. What is the size of the fire service? _____

8E. What is the maximum flow rate of the fire service? _____

8F. What is the type of fire system? Check All that apply.

- ☐ Wet System (Internal)
- ☐ Dry System (Internal
- ☐ Private Fire Hydrant (External)
- ☐ Pumper (Siamese) connection (External)
- ☐ Other _____

8G. What is the AWWA Manual-14 Classification of the fire system? _____

Y N

9. ☐ ☐ Will the facility have an underground irrigation (lawn sprinkle) system?

10 With respect to the facility, what is the degree of Hazard of potential cross connection contaminants used, stored or processed at the facility. (Read Definition A at the end of this form before answering this question.)

- ☐ Non-Hazardous
- ☐ Aesthetically Objectionable
- ☐ Hazardous

Why?

_____

11. With respect to the Domestic Service, what is the potential for cross connection and subsequent backflow to occur? (Read Definition B at the end of this form before answering this question.)

- ☐ Low
- ☐ Moderate
- ☐ High

Why?

_____

12. Date of Report completion. _____

NOTE: If available, please submit a Plumbing floor Plan for each floor of the facility.

Definition "A" Degree of Hazard of Potential Contaminants

Hazardous

During the course of business, the facility may use, process or store significant amounts of contaminants that would be considered Toxic to Human Health if they were introduced into the public water supply (e.g. toxic chemicals, toxic dyes, acids, alkalis, toxic detergents, bacterial cultures, blood & tissue waste, solvents, toxic insecticides & herbicides, antifreezes, sewage, etc.)

Aesthetically Objectionable

During the course of business, the facility does not use contaminants that are considered Toxic, but may use, process or store significant amounts of contaminants that if introduced into the public water supply may affect the taste, temperature, odor, color and/or the aesthetic features of the public water supply. (e.g. office buildings, retail stores, commercial establishments utilizing public water for rest room and drinking fountains, private homes, etc.).

Definition "B" Potential for cross connection/Backflow to Occur

High

Domestic water use within the facility is directly connected (hard tapped) into equipment that have no internal backflow devices that would prevent direct contact with potential contaminants (e.g. tanks with water inlets below the flood rim overflow, aspirators, lawn irrigation, chemical injecting/mixing equipment, etc.). The concept being that any occurrence of backflow (back pressure or back siphonage) would directly pull or push contaminants unimpeded back into the public water supply.

Moderate

Domestic water use within a facility is directly connected (hard tapped) into equipment that have internal backflow devices installed on them such as air gaps, vacuum breakers, check valves, reduced pressure zone devices, (e.g. commercial dish washers, commercial garbage disposal, tanks with proper air gap on the inlet line, sprayers and aspirators with built in vacuum breakers, HVAC make-up lines with RPZ/check valves installed on them, etc.). The concept being that given an occurrence of backflow (back pressure of back siphonage) contaminants would be pulled of pushed back into the public water supply only if the internal backflow containment device on a piece of equipment (internal containment) fail first.

Minimal

Domestic water use within the facility is not directly connected (hard tapped) into equipment that may come into contact with potential contaminants. (e.g. rest rooms, slop sinks, drinking fountains, hose bibbs, etc.). The concept being that during an occurrence of backflow (back siphonage, back pressure) the internal plumbing would first have to be modified to create a cross connection (e.g. hose added to slop sink outlet, garden hose attached to hose bibb, etc.) for contaminants to be pulled or pushed back into the public water supply.

Please complete the following for this facility:

Owner

Name: _____

Address: _____

_____

Contact Person: _____
Telephone Number: _____

Site Plan Engineer (Prepares Site Plan)

Name: _____

Address: _____

_____

Contact Person: _____
Telephone Number: _____

Mechanical Engineer (Prepares Inside Plumbing

Name: _____

Address: _____

_____

Contact Person: _____
Telephone Number: _____

Contractor (if known)

Name: _____

Address: _____

_____

Contact Person: _____
Telephone Number: _____

ENGINEER'S REPORT
FOR APPROVAL OF REDUCED PRESSURE ZONE BACKFLOW PREVENTER

	Y	N	
1.	☐	☐	Does the Facility require a continuous water supply? (If yes dual Backflow Preventers will be required.)
2.	☐	☐	Is the Facility located within the 100-year flood plain? (A Reduced Pressure Zone (RPZ) Backflow prevention device must be 12 inches above the 100-year flood plain.)

3. What is the water pressure (psi) at the facility upstream and downstream of the proposed backflow prevention device(s) both domestic and fire during maximum flow conditions?

Domestic RPZ ☐ NA Check if Domestic Service has been determined to be non-hazardous.)

_____ Upstream (PSI) Make and Model No. Of Proposed RPZ _____

_____ Downstream (PSI) Maximum Domestic Demand (GPM) _____

Fire Service RPZ ☐ NA (Check if there is no Fire Service or if the Fire Service has been determined to be non-hazardous.)

_____ Upstream (PSI) Make and Model No. Of Proposed RPZ _____

_____ Downstream (PSI) Maximum Fire Flow Demand (GPM) = _____

Document2
Updated 01/23/2009