TOWN OF BATAVIA WATER DEPARTMENT

BACKFLOW PREVENTION DEVICE APPLICATION

Requirements of New York State Department of Health (NYSDOH) and Town of Batavia Water Department (TOBWD): Provide a full electronic copy of all application materials in PDF format. NOTE: If the lettered sub-item is not applicable (N/A), a negative response is required. This completed checklist document becomes a required part of the design professionals' Engineers' Report to evidence consideration or inclusion of the indicated design concerns. NOTE: TOBWD requires Reduced Pressure Zone (RPZ) devices on all commercial use type services, with Reduced Pressure Zone Detector Assemblies (RPDA) (with detector meter registers recording in U.S. Gallons) with Operating Stem and Yoke (OS&Y) valves on combined or fire services, Post Indicator Valves (PIV) on all buried fire line valves and fire service and combined service meter bypass valves. NOTE: Water meters in underground vaults must have waterproof, hermetically sealed registers with remote readers (Call for water meter specifications).

PLEASE CALL - TOWN OF BATAVIA ENGINEERING DEPARTMENT FOR ASSISTANCE !

☐ **1. Letter of Transmittal**

a. Listing all information that have been electronically submitted for the containment device submittal.

☐ **2. Application (DOH-347 Form)**

☐ a. All items 1 through 12 completed with all information that is applicable to the project.

☐ b. Item #5 answered specifically. Information for two parallel devices may be listed on one form.

☐ c. Items 13 -14: #13 is **Hazardous**, based generally on commercial type usage, #14 is for TOBWD, (See information ****** on page #3 of this document); **signature block in item #14 is for TOBWD.**

☐ **3. Site Plan** - (**to scale or w/dimensions**) of the facility containing, but not limited to the following:

☐ c. Property line(s), a North direction arrow, **state benchmark Elevation and Datum used.**

☐ d. All Buildings and other notable structures.

☐ e. Size and location of public water mains and any available Auxiliary Water Supply.

☐ f. All fire, domestic and combination water services (to include items to be installed by TOBWD):

1. Size of Corporation Stop, Tapping Sleeve or Saddle w/Valve.
2. Size of Service Line within the Right of Way (R.O.W.).
3. Size of the Curb Stop or Line Valve at R.O.W.

NOTE: PIV's are required on all underground fire line valves and on the meter bypass valve if the water service is a combined (or separate fire) service.

NOTE: The main water service meter shall be located on the customer's property at the R.O.W. within one pipe length, without joints: Call Town of Batavia (TOB) Engineering Department for clarification.

☐ g. Meter Vault and Cover, both with manufacturer and model number shown or noted.

☐ h. Fire Sprinkler System (Note: Containment Devices on Fire Services require a detector meter).

1. Show riser details (may be submitted as a separate sheet and must include: Name & address of the facility, **design engineer's or architect's original stamp & signature**).
2. State **AWWA M-14 old classification** with **new recommended** Containment Protection

NOTE: TOBWD follows the latest AWWA Manual M-14, Third Edition 2004.

NOTE: Include all information on any Fire Suppression System /Jockey/Booster Pump(s) if used.

☐ i. On site yard piping and hydrants, both fire hydrants and any frost proof hydrants.

NOTE: Frost Proof Hydrants shall meet **A.S.S.E. Sanitary Yard Hydrant Standard 1057.**

☐ j. Fire Department Connection(s) with point of connection to the fire service line shown; also note potential drafting intake sites (ponds, etc.) or available water sources within 1700'.

☐ k. Interconnection(s) and any other Water Source Available.

☐ l. All irrigation systems, protection if any, types of system, any pumps used or chemigation.

☐ m. Proposed location of back-flow preventer(s) and protective enclosures (with descriptions).

☐ n. State if the site is in 100-year flood plain. Show curvilinear contours and/or elevations of the centerline, vault cover and vault floor, finish floor and top of protective enclosure slab.

☐ o. Designers stamp and signature (**always originals**), the design must be done by a New York State (N.Y.S.) Licensed Professional Engineer (P.E.) or a N.Y.S. Registered Architect (R.A.).

☐ **4. Plumbing Floor Plan** - (**to scale or w/dimensions**) A Plan View or a partial plan view showing the location and area floor plan and indicating:

- ☐ a. Water Services and all piping, **with all pipe and fitting materials and types shown or noted.**
- ☐ b. Name and address of facility.
- ☐ c. Water Meter layout (with piping detail showing two (2) full port isolating valves**, a Dresser Style 131 Dismantling Joint (or equal) (epoxy coated w/stainless steel hardware)** is required with large (+2") diameter meters (close coupled to the meter strainer (between the meter isolating valves), and PRV if required by TOBWD, etc.), **NOTE: Soldered (sweat) joints are not permitted prior to the containment device or PRV**; **OS&Y Listed Gate Valves are required as meter isolating valves on Combined and/or Fire Service installations, with Post Indicator Valves (PIV's) on all underground control and bypass valves, Contact TOBWD with any questions.**
- ☐ d. Proposed back-flow preventer(s), with any strainers and/or pressure regulating valves.
- ☐ e. Booster pump and/or fire pump system(s) (show any Fire Pump and/or "Jockey" Pump, etc.).
- ☐ f. Floor drain(s), size, manufacturer's name and model **with percent of clear opening of grate**. If the drain line discharges to daylight, a rodent screen **(w/ percent of clear opening)** is required. **Drainage plan must follow the NYSDOH 1992 Supplement to the 1981 Cross Connection Control Manual**.
- ☐ g. All nearby objects (electrical items, boilers, chillers, water cooled jacketed equipment, storage tanks, fire pumps, jockey pumps, fire sprinkler risers, protective guard rails, pipe bollards, electronics, etc.).
- ☐ h. All required clearance dimensions must be shown w/direction of flow (and Air Gaps and Air Breaks).
- ☐ i. Device manufacturer, model number & size, shown or noted, in the plan view or cross section. Use of an "Or Equal" may require a formal design change and amended submittal.
- ☐ j. All piping, fittings, valves, strainers, water meter, **pressure regulating valve**, appurtenances, retaining rods, pipe supports, thrust blocking, pipe restraints/supports, etc. in plan view or vertical cross section.
- ☐ k. Designers stamp (seal) and signature (All originals on each sheet, not signature or stamp copies!).

☐ **5. Vertical Cross Section(s) Plan** - Elevation view (**to scale or w/dimensions**) of the proposed installation with elevations from and of the floor, ceiling, and outside grade (to include finish grade pitch). To include:

- ☐ a. All required clearance, centerline and **air gap** dimensions for the device(s) shown or noted.
- ☐ b. All size(s), pipe type(s), routing of floor drains, discharge connection, and all drainage piping, with **percent of slope** or **pitch per foot** of drain piping shown or noted. Also, indicate the elevation of the differential pressure relief valve discharge outlet, the elevation of the top of hatch and floor of vault (pit) (if used), the top of the floor drain grate, and the invert of the open end of the discharge drainage piping, if run to "day light". Describe drain termination Floor Drain or Drainage piping per NYSDOH.
- ☐ c. Plan for heat & light. Show all electrical info/circuits (GFIC & in-use outlet covers required).
- ☐ d. Indicate direction of flow and labeling for all piping and appurtenances, etc. (see Section 4. above), shown in the vertical cross section and/or the plumbing plan. Show any section lines.
- ☐ e. Designers stamp (seal) and signature (All originals on each sheet, not signature or stamp copies!).

☐ **6. Engineer's Report** - each of which shall contain a copy of this Design Approval Criteria Form and shall include:

- ☐ a. The general uses of water in the facility.
- ☐ b. Size and descriptions of all fire, domestic and combination water services to the facility.
- ☐ c. Number of floors within the facility; indicate floor level and location of containment device.
- ☐ d. Actual or estimated maximum flow demand (volume in GPM and pressure in PSI).
- ☐ e. System Pressure: existing and estimated after the containment device installation.
- ☐ f. Description of the Fire Sprinkler System (Type)- state the AWWA Manual M-14 (20043rd Edition) recommended protection. (State if containment protection exists, with device manufacturer & model).
- ☐ g. Description of the proposed installation of the containment device(s). Describe the drainage planned. **Note: state the maximum discharge rate of the RPZ differential pressure relief valve(s) (DPRV) and drain and grate adequacy.** Address: the lighting, heating, protective enclosure information, access to the unit (to include any required stabilized vehicle access), sq. footage of the floor level where the device is to be located, and if in a basement or vault (pit), the volume (CF) of that location.
- ☐ h. Will adequate delivery pressure and volume be available? Answer the following questions:
  - ☐ 1. After the installation of the proposed containment device(s), will the net positive suction head (NPSH) required for the proper operation of the booster pump system be adequate?
  - ☐ 2. After the installation of the containment device(s) in the suction line to the booster pump system, or on the water service, will the water system and/or the booster pump system, operate to deliver an adequate supply at peak demand to the highest elevation, the most remote fixture and/or any other operation requiring a certain pressure? **NOTE**: Section 604 of The Plumbing Code of New York State requires the **minimum** pressure at water outlets at all times to be: Fixture: non-flush

valve @ 8 PSI, Fixture: flush valve @ 15 PSI. Follow NFPA Guidelines for Fire & Jockey Pumps.

☐ 3. Does the booster pump system have a pressure cutoff switch in the suction line? What is the pressure setting of the switch? An existing or proposed cutoff switch must be set at:
For a cutoff switch where a device is located upstream of the booster pump(s): 10 PSI.
For a cutoff switch where a device is located downstream of the booster pump(s): 20 PSI.

☐ i. Does this facility need dual or multiple containment devices in parallel or in a manifold?

☐ 1. Does this facility need a continuous, uninterrupted water supply ? **YES:** ☐ **NO:** ☐

☐ j. The elevation and location of the 100 year flood plain in relation to the facility. A Reduced Pressure Zone (RPZ) back-flow preventer must generally be installed 1' above the 100-year flood plain elevation at the RPZ location (measured from the elevation of the differential pressure relief valve discharge outlet), or higher depending on the invert elevation of the discharge end of the drain piping. The invert of which must also be at least **1'** above the high water level (HWL) of the 100-Year Flood elevation at the point of daylight discharge. Cold air infiltration should be prevented by installing a flap type valve, i.e.: **"Tideflex"** or equal. Pipe Stanchions: TOLCO Electro-Galvanized, SS or equal.

☐ k. An inventory of any existing containment devices to include: the make, model, size and serial number of each device. Current annual test reports must also be submitted. The degree of hazard for these services must be determined to insure that the device provides the correct containment protection. State the (NYSDOH & TOBWD) approval status of all existing devices including any being replaced.

☐ l. Enclose a copy (five (5) in total) of this completed document as part of the Engineer's Report. **NOTE:** Any items left blank, **to include a lack of N/A for Not Applicable**, or items not shown or noted on the plans, or addressed in the Engineer's Report could delay the approval process.

☐ m. A statement that it is the owner's responsibility to keep snow or other obstructions clear of any drain ports or exterior drains for the RPZ device, and to maintain the installation and drainage system in continued compliance, to include vault or pit installations and hatches.

☐ n. A statement that all protective enclosures shall be designed with security measures such as locking doors and panels, **flow alarms or flow indicator lights**, power indicator lights, etc.

☐ o. A Design Provision for **thermal expansion, water hammer and supply pressure fluctuation**.

☐ p. Designers stamp (seal) and signature (All originals on each sheet, not signature or stamp copies!).

This completed document is part of the Submittal Application Engineer's Report for the installation of containment protection for:

Owner/Water Customer: _____Telephone: _____

Project Name/Description/Type and Size of Device(s): _____

Address: _____

Designer: _____Telephone: _____

Company/Firm: _____

Address: _____

Signature, Date and Stamp (Seal) of the Designer (New York State Licensed P.E. or R.A.):

_____Date_____ (Stamp/Seal)

The foregoing points of this document are provided as a checklist to give the designer some criteria information that must be thoroughly considered and included in the design development of a containment installation. The responses and ultimate design remain the sole responsibility of the designer, and should indicate to the reviewer that the stated points have been adequately considered. The New York State Department Of Health (NYSDOH) Manual on Cross Connection Control (Jan., 1981) with Supplement (Jan., 1992), the most current: Plumbing Code of New York State, New York State Sanitary Code, National Fire Protection Association (NFPA), The National Electric Code (NEC), NYSDOH, OSHA and EPA Regulations, American Water Works Association (AWWA) M-14 (3rd. Edition), other governing statutes and standards, and the Standards and Requirements of the Town of Batavia Water Department (TOBWD), the Code of the Town of Batavia (TOB) (see: www.townofbatavia.com**), NYSDOH PWS-14, the NYSDOH website at **www.health.state.ny.us,** and the Genesee County Health Department (GCHD) should **ALL** be used in developing a design, effecting the installation and continued compliance. Specifically, the NYSDOH Supplement dated Jan., 1992, requires an initial (and subsequent annual) (NYSDOH Form 1013 Part A) certification test of the device by a NYSDOH certified tester, and a certification by the **Designer** (NYSDOH Form 1013 Part B), that the installation was installed **exactly** as approved. Submittals will be reviewed and approved by Steven J. Mountain, PE, Town Engineer, TOBWD as the Delegated Local Approval Authority for the NYSDOH. Incomplete, inaccurate, or poorly proofread submittals will require correction **prior** to consideration. **All** conditions for final TOBWD/NYSDOH approval must be followed and the installation always maintained in full compliance by the water customer. **PLEASE CALL Steven Mountain, PHONE: 585-343-1729, ext 220, Direct FAX: 585-343-8461.**

Town of Batavia Engineering Department, 3833 West Main Street Road, Batavia, New York 14020 TEL.: 585-343-1729, FAX: 585-343-8461