BACKFLOW PREVENTION ASSEMBLIES (BPA's) SHALL CONFORM TO CLT WATER PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.

1. BACKFLOW PREVENTION ASSEMBLIES (BPA's) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA's.

2. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.

3. INSULATED ENCLOSURE SHALL BE AS SPECIFIED IN CLT WATER ENCLOSURE INFORMATION - HEATED INSULATED ENCLOSURE IS RECOMMENDED. NO INSULATION SHALL BE WRAPPED AROUND BPA.

4. ALL LOCATIONS FOR BPA'S REQUIRE CLT WATER APPROVAL AND MUST BE OUTSIDE OF ZONING SET-BACK/DIRECTLY BEHIND METER.

5. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER- USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.

6. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER- APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

7. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.
ZONING SETBACK

PROPERTY LINE

PUBLIC WATER MAIN

CLT WATER METER

CLT WATER REQUIRED BPA ABOVE GROUND

SEE NOTE #6 & #7

ROAD R/W

TYPICAL LOCATION REQUIREMENT FOR ABOVE GROUND INSTALLATION

N.T.S.

NOTES:
1. BACKFLOW PREVENTION ASSEMBLIES (BPA’s) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA’s.
2. FIRE LINE SERVICES SHALL HAVE OUTSIDE STEM AND YOKE (OS & Y) HANDWHEEL OPERATORS OR BUTTERFLY VALVES, AND LISTED ON APPROVED LIST AS FIRE APPROVED. IF SERVING FIRE SPRINKLERS, TAMPER SWITCHES ARE REQUIRED.
3. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS SPECIFICATION. ALL JOINTS SHALL BE RESTRAINED WITH MEGALUG RESTRANTS OR APPROVED EQUAL.
4. SUPPORT OF ASSEMBLY SHALL BE DESIGNED BY OWNER. 8” - 12” SHALL BE SUPPORTED AT EACH VALVE AND SHALL NOT BLOCK RELIEF VALVE ON DRAIN PORT.
5. INSULATED ENCLOSURE SHALL BE AS SPECIFIED IN CLT WATER ENCLOSURE INFORMATION - HEATED INSULATED ENCLOSURE ARE REQUIRED FOR FIRE LINE SERVICES. NO INSULATION SHALL BE WRAPPED AROUND BPA.
6. ALL LOCATIONS FOR BPA’S REQUIRE CLT WATER APPROVAL AND MUST BE OUTSIDE OF ZONING SET-BACK DIRECTLY BEHIND METER.
7. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER- USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.
8. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER-APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.
9. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.
NOTES:

1. BACKFLOW PREVENTION ASSEMBLIES (BPA's) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA's.

2. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.

3. INSULATED ENCLOSURE SHALL BE AS SPECIFIED IN CLT WATER ENCLOSURE INFORMATION - HEATED INSULATED ENCLOSURE IS RECOMMENDED. NO INSULATION SHALL BE WRAPPED AROUND BPA.

4. ALL LOCATIONS FOR BPA'S REQUIRE CLT WATER APPROVAL AND MUST BE OUTSIDE OF ZONING SET-BACK DIRECTLY BEHIND METER.

5. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.

6. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER-APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

7. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.

TYPICAL LOCATION REQUIREMENT FOR ABOVE GROUND INSTALLATION

N.T.S.
DOUBLE CHECK VALVE ASSEMBLY

SHUT-OFF VALVE #1
SEE NOTE #2

TEST COCK #1

SHUT-OFF VALVE #2
SEE NOTE #2

COVER MUST NOT OSECT VALVE BEING FULLY OPENED

LOWEST POINT

FLOW

DUCTILE IRON PIPE OR TYPE K OR L COPPER TUBING FOR MIN. OF 5' ON EACH END OF ASSEMBLY. SEE NOTE #3

HINGED ACCESS OR REMOVABLE INSULATED ENCLOSURE MEETING ASSE 1900 SPECIFICATIONS ENCLOSURE TO INCLUDE DRAIN PORT(S) PER CLT WATER REQUIREMENT.

SLEEVE REQUIRED (TYP.)

SLEEPER REQUIRED - (TYP.)

RESTRAINED JOINT SEE NOTE #3

MIN. 4" THICK CONCRETE PAD REQUIRED

RESTRAINED JOINT SEE NOTE #3

MIN. 12" MIN. 30" MAX.

SLOPE GROUND AWAY FROM COVER

CITY OF CHARLOTTE DEPARTMENT

ZONING SETBACK

CLT WATER REQUIRED BPA ABOVE GROUND

CLT WATER - REQUIRED BACKFLOW PREVENTER.

CLT WATER - APPROVED BACKFLOW PREVENTER.

8. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CHARLOTTE WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

9. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.

NOTES:

1. BACKFLOW PREVENTION ASSEMBLIES (BPA's) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA's.

2. FIRE LINE SERVICES SHALL HAVE OUTSIDE STEM AND YOKE (OS & Y) HANDWHEEL OPERATORS OR BUTTERFLY VALVES, AND LISTED ON APPROVED LIST AS FIRE APPROVED. IF SERVING FIRE SPRINKLERS, TAMPER SWITCHES ARE REQUIRED.

3. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS SPECIFICATION. ALL JOINTS SHALL BE RESTRAINED WITH MEGALUG RESTRAINTS OR APPROVED EQUAL.

4. SUPPORT OF ASSEMBLY SHALL BE DESIGNED BY OWNER, 8" - 12" SHALL BE SUPPORTED AT EACH VALVE.

5. INSULATED ENCLOSURE SHALL BE AS SPECIFIED IN CLT WATER ENCLOSURE INFORMATION - HEATED INSULATED ENCLOSURE ARE REQUIRED FOR FIRE LINE SERVICES. NO INSULATION SHALL BE WRAPPED AROUND BPA.

6. ALL LOCATIONS FOR BPA'S REQUIRE CLT WATER APPROVAL AND MUST BE OUTSIDE OF ZONING SET-BACK DIRECTLY BEHIND METER.

7. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.

8. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CHARLOTTE WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

9. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.
NOTES:
1. BACKFLOW PREVENTION ASSEMBLIES (BPA's) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA's.
2. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.
3. VAULT, DOORS OR COVERS AND SUPPORT OF ASSEMBLY SHALL BE DESIGNED BY OWNER AND AS REQUIRED.
4. DRAIN INLET MAY BE PROVIDED AS SHOWN OR AS FLOOR DRAIN.
5. ALL LOCATIONS FOR BPA'S REQUIRE CLT WATER APPROVAL.
6. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.
7. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.
8. INSTALLATIONS INTENDED FOR ADDRESSEND CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.
1. BACKFLOW PREVENTION ASSEMBLIES (BPA's) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA's.

2. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.

3. VAULT, DOORS OR COVERS AND SUPPORT OF ASSEMBLY SHALL BE DESIGNED BY OWNER AND AS REQUIRED.

4. DRAIN INLET MAY BE PROVIDED AS SHOWN OR AS FLOOR DRAIN.

5. ALL LOCATIONS FOR BPA'S REQUIRE CLT WATER APPROVAL.

6. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER- USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.

7. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

8. INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.
PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.

ALL LOCATIONS FOR BPA'S REQUIRE CLT WATER APPROVAL.

ASSEMBLIES SHALL BE INSTALLED UPRIGHT AND IN THE HORIZONTAL POSITION.

VAULT AND SUPPORT OF ASSEMBLY SHALL BE DESIGNED BY OWNER, PLAN VIEW

ELEVATION VIEW

4" DIA. DRAIN BY GRAVITY TO ATMOSPHERE AS REQUIRED BY CLT WATER SPECIFICATIONS. SEE NOTE #7

FINISHED GRADE TO BE SLOPED AWAY FROM COVER

8" MIN. WHEN VALVE IS FULLY OPEN

6" DIA. DRAIN TO ATMOSPHERE

ELEVATION VIEW

SLEEVE REQUIRED (TYP.)

TEST COCK #1

SHUT-OFF VALVE #1

SEE NOTE #2

FLOW

COVER

PLAN VIEW

6" DIA. DRAIN TO ATMOSPHERE

SLEEVE REQUIRED (TYP.)

TEST COCK #1

SHUT-OFF VALVE #1

SEE NOTE #2

FLOW

STOP

DRAIN FROM BACKFLOW VAULT

CATCH BASKET WITH GRATE

TOP OF DISCHARGING STORM PIPE

COVER

TYPICAL LOCATION REQUIREMENT FOR BELOW GROUND INSTALLATION

N.T.S.

ZONING SETBACK

CLT WATER - REQUIRED BPA BELOW GRND. SEE NOTE #8 & #9

CLT WATER - REQUIRED BACKFLOW PREVENTER

DRINK

PROPERTY LINE

PUBLIC WATER MAIN

ROAD R/W

COVERAGE

SLEEVE REQUIRED (TYP.)

TOTAL DETAIL SHOWN ABOVE. NO TIE IN TO STORMWATER PIPE OR PUBLIC CATCH BASIN / MANHOLE WILL BE ACCEPTED.

NOTES:

1. BACKFLOW PREVENTION ASSEMBLIES (BPA’s) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA, AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA’s.

2. FIRE LINE SERVICES SHALL HAVE OUTSIDE STEM AND YOKE (OS & Y) HANDWHEEL OPERATORS OR BUTTERFLY VALVES, AND LISTED ON APPROVED LIST AS FIRE APPROVED. IF SERVING FIRE SPRINKLERS, TAMPER SWITCHES ARE REQUIRED.

3. ASSEMBLIES SHALL BE INSTALLED UPRIGHT AND IN THE HORIZONTAL POSITION.

4. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.

5. VAULT AND SUPPORT OF ASSEMBLY SHALL BE DESIGNED BY OWNER, 8" - 12" SHALL BE SUPPORTED AT EACH VALVE.

6. ACCESS DOORS SHALL BE AS SPECIFIED IN CLT WATER WATER DETAILS #23, 25, OR 28 OR APPROVED EQUAL.

7. DRAINAGE INLET MAY BE PROVIDED AS SHOWN OR AS FLOOR DRAIN.

8. ALL LOCATIONS FOR BPA’s REQUIRE CLT WATER APPROVAL.

9. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.

10. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

11. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.
NOTES:

1. INDOOR INSTALLATION SHALL ONLY BE PERMITTED IN CASES WHERE ADEQUATE SPACE FOR THE BACKFLOW PREVENTION ASSEMBLY IS NOT AVAILABLE OUTSIDE. CLT WATER WILL REVIEW ON A CASE BY CASE BASIS.

2. BACKFLOW PREVENTION ASSEMBLIES (BPA’s) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA’s.

3. ASSEMBLIES SHALL BE INSTALLED UPRIGHT AND IN THE HORIZONTAL POSITION.

4. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.

5. SUPPORT FOR ASSEMBLY SHALL BE DESIGNED BY OWNER AS REQUIRED.

6. AN AIR GAP DRAIN IS RECOMMENDED TO REDUCE SPLASHING OF MINOR DISCHARGES FROM THE RELIEF VALVE DRAIN PORT.

7. INDOOR INSTALLATION OF RPs SHOULD PROVIDE FOR DRAINAGE CAPABLE OF HANDLING IN EXCESS OF THE MAXIMUM DISCHARGE RATE EXPECTED BY THE BACKFLOW ASSEMBLY MANUFACTURER.

8. ALL LOCATIONS FOR BPA’S REQUIRE CLT WATER APPROVAL.

9. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.

10. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

11. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.
REDUCED PRESSURE PRINCIPLE ASSEMBLY (RP), 2½" - 12" INDOOR

1. INDOOR INSTALLATION SHALL ONLY BE PERMITTED IN CASES WHERE ADEQUATE SPACE FOR THE BACKFLOW PREVENTION ASSEMBLY IS NOT AVAILABLE OUTSIDE. CLT WATER WILL REVIEW ON A CASE-BY-CASE BASIS.

2. BACKFLOW PREVENTION ASSEMBLIES (BPA's) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA's.

3. FIRE LINE INSTALLATIONS SHALL HAVE OUTSIDE STEM AND YOKE (OS&Y) HANDWHEEL OPERATORS OR BUTTERFLY VALVES, AND LISTED ON APPROVED LIST AS FIRE APPROVED. IF SERVING FIRE SPRINKLERS, TAMPER SWITCHES ARE REQUIRED.

4. ASSEMBLIES SHALL BE INSTALLED UPRIGHT AND IN THE HORIZONTAL POSITION.

5. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.

6. SUPPORT FOR ASSEMBLY SHALL BE DESIGNED BY OWNER. 8" - 12" SHALL BE SUPPORTED AT EACH VALVE AND SHALL NOT BLOCK RELIEF VALVE ON DRAIN PORT.

7. AN AIR GAP DRAIN IS RECOMMENDED TO REDUCE SPLASHING OF MINOR DISCHARGES FROM THE RELIEF VALVE DRAIN PORT.

8. INDOOR INSTALLATION OF RP'S SHOULD PROVIDE FOR DRAINAGE CAPABLE OF HANDLING IN EXCESS OF THE MAXIMUM DISCHARGE RATE EXPECTED BY THE BACKFLOW ASSEMBLY MANUFACTURER.

9. ALL LOCATIONS FOR BPA'S REQUIRE CLT WATER APPROVAL.

10. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.

11. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

12. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.

NOTES:

- See Table in Specifications for Minimum Drain Sizes for RP Indoor Installations
- See Note #5
- See Note #6
- See Note #7
- See Note #8
- See Note #9 & #10

CLT Water Required BPA

CLT Water Meter

Public Water Main

Typical Location Requirement for Inside Installation
1. INDOOR INSTALLATION SHALL ONLY BE PERMITTED IN CASES WHERE ADEQUATE SPACE FOR THE BACKFLOW PREVENTION ASSEMBLY IS NOT AVAILABLE OUTSIDE. CLT WATER WILL REVIEW ON A CASE BY CASE BASIS.

2. BACKFLOW PREVENTION ASSEMBLIES (BPA’s) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA’s.

3. ASSEMBLIES SHALL BE INSTALLED UPRIGHT AND IN THE HORIZONTAL POSITION.

4. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.

5. SUPPORT FOR ASSEMBLY SHALL BE DESIGNED BY OWNER AS REQUIRED.

6. ALL LOCATIONS FOR BPA’S REQUIRE CLT WATER APPROVAL.

7. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.

8. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

9. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.

NOTES:

SUPPORT FOR ASSEMBLY SHALL BE DESIGNED BY OWNER AS REQUIRED.

TYPICAL LOCATION REQUIREMENT FOR INSIDE INSTALLATION

N.T.S.
NOTES:

1. INDOOR INSTALLATION SHALL ONLY BE PERMITTED IN CASES WHERE ADEQUATE SPACE FOR THE BACKFLOW PREVENTION ASSEMBLY IS NOT AVAILABLE OUTSIDE. CLT WATER WILL REVIEW ON A CASE BY CASE BASIS.

2. BACKFLOW PREVENTION ASSEMBLIES (BPA’s) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA’s.

3. FIRE LINE INSTALLATIONS SHALL HAVE OUTSIDE STEM AND YOKE (OS&Y) HANDWHEEL OPERATORS OR BUTTERFLY VALVES, AND LISTED ON APPROVED LIST AS FIRE APPROVED. IF SERVING FIRE SPRINKLERS, TAMPER SWITCHES ARE REQUIRED.

4. ASSEMBLIES SHALL BE INSTALLED UPRIGHT AND IN THE HORIZONTAL POSITION.

5. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS.

6. SUPPORT FOR ASSEMBLY SHALL BE DESIGNED BY OWNER, 8” - 12” SHALL BE SUPPORTED AT EACH VALVE.

7. ALL LOCATIONS FOR BPA’S REQUIRE CLT WATER APPROVAL.

8. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER - USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.

9. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER-APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

10. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.
PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS. IF USING PVC PIPE / FITTINGS, ALL LOCATIONS FOR BPA’S REQUIRE CLT WATER APPROVAL AND MUST BE
1. 2. 3. 4. 5. 6. REMOVABLE INSULATED ENCLOSURE MEETING ASSE 1060 SPECIFICATIONS.

ZONING SETBACK PROPERTY LINE
PUBLIC WATER MAIN
ROAD R/W
CLT WATER METER

SHUT-OFF VALVE #1
CHECK VALVE #2
CHECK VALVE #1
SHUT-OFF VALVE #2
FLOW
TEST COCK #1
MIN. 4” THICK #67 WASHED STONE OR CONCRETE PAD
MIN. 4’ THICK TYPE K OR L COPPER TUBING PIPE. 1” MIN. GALVANIZED STEEL PIPE OR SCH. 40 PVC PIPE WITH SCH. 80 PVC FITTINGS. SEE NOTE #2
LOWEST POINT OR RELIEF VALVE OUTLET
EXPECTED POINT
SLOPE GROUND AWAY FROM COVER (TYP.)
HINGED ACCESS OR REMOVABLE INSULATED ENCLOSURE TO INCLUDE DRAIN PORT(S) PER CLT WATER REQUIREMENTS.

TYPE K OR L COPPER TUBING PIPE. 1” MIN. GALVANIZED STEEL PIPE OR SCH. 40 PVC PIPE WITH SCH. 80 PVC FITTINGS. SEE NOTE #2

ZONING SETBACK
PUBLIC WATER MAIN
ROAD R/W
CLT WATER METER

TYPICAL LOCATION REQUIREMENT FOR ABOVE GROUND INSTALLATION
N.T.S.

NOTES:
1. BACKFLOW PREVENTION ASSEMBLIES (BPA’s) SHALL CONFORM TO CLT WATER SPECIFICATIONS. SHUT-OFF VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTIONS OF SHUT-OFF VALVES ARE PERMITTED. REFER TO CLT WATER APPROVED LIST OF BPA’s.

2. PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN CLT WATER STANDARDS & SPECIFICATIONS. IF USING PVC PIPE / FITTINGS, VERTICAL SUPPORT IS REQUIRED AND HORIZONTAL BRACING IS RECOMMENDED.

3. INSULATED ENCLOSURE SHALL BE AS SPECIFIED IN CLT WATER ENCLOSURE INFORMATION - HEATED INSULATED ENCLOSURE IS RECOMMENDED. NO INSULATION SHALL BE WRAPPED AROUND BPA.

4. ALL LOCATIONS FOR BPA’s REQUIRE CLT WATER APPROVAL AND MUST BE OUTSIDE OF ZONING SET-BACK DIRECTLY BEHIND METER.

5. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER-USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS CLT WATER - REQUIRED BACKFLOW PREVENTER.

6. EACH CLT WATER-REQUIRED BPA IS REQUIRED TO BE TESTED BY A CLT WATER - APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE. TEST RESULTS SHALL BE SUBMITTED TO CLT WATER WITHIN 30 DAYS AND TESTED ANNUALLY THEREAFTER SUBMITTING RESULTS TO CLT WATER.

7. ALL INSTALLATIONS INTENDED FOR ADDRESSING CLT WATER REQUIREMENTS, REQUIRE PRIOR APPROVAL FROM THE APPROPRIATE CLT WATER BACKFLOW INSPECTOR.

CLT WATER REQUIRED BPA ABOVE GROUND

N.T.S.
**Double Check Valve Assembly (DC) 3/4" & 1" Above Ground**

1. **Backflow Prevention Assemblies (BPA's)** shall conform to CLT Water Specifications. Shut-off valves are specific to each approved BPA and no substitutions of shut-off valves are permitted. Refer to CLT Water Approved List of BPA's.

2. Pipe material and fittings shall be as specified in CLT Water Standards & Specifications.

3. Insulated enclosure shall be as specified in CLT Water Enclosure Information. Heated insulated enclosure is recommended. No insulation shall be wrapped around BPA.

4. All locations for BPA's require CLT Water approval and must be outside of zoning set-back directly behind meter.

5. There shall be no taps, piping branches, unapproved bypass piping, hydrants, fire dept. connection points, or other water - using appurtenances connected to the supply line between any water meter and its CLT Water - required backflow preventer.

6. Each CLT Water-required BPA is required to be tested by a CLT Water - approved certified tester prior to placing the water system in service. Test results shall be submitted to CLT Water within 30 days and tested annually thereafter submitting results to CLT Water.

7. All installations intended for addressing CLT Water requirements, require prior approval from the appropriate CLT Water Backflow Inspector.

**Notes:**

- Backflow prevention assemblies (BPA's) shall conform to CLT Water specifications. Shut-off valves are specific to each approved BPA and no substitutions of shut-off valves are permitted. Refer to CLT Water approved list of BPA's.
- Pipe material and fittings shall be as specified in CLT Water Standards & Specifications.
- Insulated enclosure shall be as specified in CLT Water enclosure information. Heated insulated enclosure is recommended. No insulation shall be wrapped around BPA.
- All locations for BPA's require CLT Water approval and must be outside of zoning set-back directly behind meter.
- There shall be no taps, piping branches, unapproved bypass piping, hydrants, fire department connection points, or other water - using appurtenances connected to the supply line between any water meter and its CLT Water - required backflow preventer.
- Each CLT Water-required BPA is required to be tested by a CLT Water - approved certified tester prior to placing the water system in service. Test results shall be submitted to CLT Water within 30 days and tested annually thereafter submitting results to CLT Water.
- All installations intended for addressing CLT Water requirements require prior approval from the appropriate CLT Water backflow inspector.

**Typical Location Requirement for Above Ground Installation**

N.T.S.