

RE: Special Connection for Fire Service

Dear Customer,

Enclosed please find the following:

1. Data sheet for proposed fire service installation (*Attachment A*).
2. Specifications for fire service installation (*Attachment B*). Installation must be performed in accordance with these requirements.
3. Domestic Service Verification Form (*Attachment C*). This form must be returned with plans and other required documents. The purpose of the Domestic Service Verification Form is to inform you that application for domestic service is a separate process and to provide you with contact information for your domestic service application in the event that you have not already applied for domestic service.

Please read all information carefully. Complete the enclosed forms and return them along with plans and other required documents.

Mail to:

Kentucky American Water
ATTN: Fire Service Specialists
2300 Richmond Road
Lexington KY 40502

Upon receiving this information, we will perform an engineering survey and evaluate your water requirements. After evaluation, an Application for Special Connection will be prepared and sent to you for execution and you will be advised of the amount of deposit required.

If you have questions, please call 859.335.3822.

Sincerely,

Kentucky American Water

Enclosures

KENTUCKY AMERICAN WATER
Data Sheet for Private Fire Protection Service

CUSTOMER INFORMATIONName of Customer _____ Attn _____
(Legal name for which contracts are being prepared)

Mailing Address _____

Service Address _____

Who is the contact person for the Customer? _____ Phone Number _____

FIRE SERVICE INFORMATION

1. Size of connection _____
2. Proposed start date for installation of customer water facilities _____
3. The building to be served by the private fire protection service will be used as _____
4. The building will have a roof construction of _____
5. The building will be constructed of _____
6. There will be _____ floors in the structure to be protected.
7. There will be _____ square feet requiring fire protection.
8. There will be _____ sprinkler heads in the building.
9. There will be _____ hose closets in the building.
10. The maximum height of sprinkler heads or hose closets above ground level will be _____ feet.
11. There will be _____ hydrants as part of this system surrounding the building. (Note: The various Authorities Having Jurisdiction in Kentucky American Water's service territory may have requirements concerning the spacing of fire hydrants relative to the location of the fire department connection and around the fire service loop. Include any requested fire hydrants on your plans or include the legend, "Additional hydrants not required per the Authority Having Jurisdiction." Make inquiry to the Authority Having Jurisdiction regarding requirements for periodic testing of privately owned hydrants.)
12. Fire Pump: Yes ___ No ___ (If yes, complete information below):
 Data: _____ GPM at _____ total head.
 (Also, include copy of the design pump curve. A certified pump curve is to be submitted after pump is certified by the manufacturer. Submit written verification that the pump will be equipped with low suction pressure sustaining valve set to maintain 25 psi suction.)
 Pump curve is included: Yes _____ No _____ (check one)
 Pressure sustaining valve letter is included: Yes _____ No _____ (check one)
13. Fire flow requirements: _____ GPM at _____ psi residual pressure at the service connection to the water main at ground elevation of _____ (Note: Calculations for fire flows for the overall system are subject to the approval of the Authority Having Jurisdiction. The overall system includes the sprinkler system, hydrants behind the fire service connection, meters and backflow prevention devices.)
14. Five sets of site utility and sprinkler plans (to scale; 1:200 maximum) are enclosed. Yes _____ No _____ (check one)
15. Contractor for fire service (Name, address, phone #) _____
16. Who will pay the deposit? (Name, address, phone #) _____

BACKFLOW PREVENTER INFORMATION

1. Will any chemical or anti-freeze be added to water lines? Yes _____ No _____ (check one)
 (NOTE: If chemicals or anti-freeze are added at any later date, customer **MUST** notify Kentucky American Water).
2. Installation will include (check one): FCCCHR Approved Double Check Detector Assembly (DCDA) _____
 FCCCHR Approved Reduced Pressure Principle Detector Assembly (RPDA) _____
3. Manufacturer _____ Model _____ Size _____
4. Proposed orientation (check one): Horizontal (H) ___; Vertical Up (VU) ___; Vertical Down (VD) ___; Other _____ (List orientation)

THIS DOCUMENT PREPARED BY: _____ DATE: _____

CUSTOMER'S SIGNATURE: _____ DATE: _____

KENTUCKY AMERICAN WATER

SPECIFICATIONS FOR FIRE SERVICE INSTALLATION (APPLICATION FOR SPECIAL CONNECTION)

Dear Applicant:

The following information has been prepared to help you in the design and installation of your private water facilities. This information is basically a summary of information contained in the Kentucky American Water Pipeline Installation Specifications (a copy will be provided on request) and the Application for Special Connection Agreement, which will be mailed to you for completion at a later date.

The following information must be submitted to Kentucky American Water for evaluation before a request for a Special Connection will be considered. To assist you in preparing your application, check-off spaces are provided following each requirement below.

1. A fully completed Data Sheet for Private Fire Protection Service____. Customer should first determine the location and size of the water main from which service is to be taken by calling the Kentucky American Water Fire Service Installation Department at 859.335.3822.
2. Five (5) copies of drawings (to scale; 1:200 maximum)____ showing separate fire service lines____ and domestic lines____ from the Kentucky American Water main to the building. At a minimum these plans need to include the proposed facilities____, the water main____, fire hydrants____ and backflow prevention devices____. Drawings must also include the location of buildings____ and the location and a detail of the double check detector assembly or reduced pressure principle detector assembly to be installed____(With any additive to the system, an approved reduced pressure principle detector assembly, built above ground, is required). A vicinity sketch showing the nearest cross streets is also required____. If possible, show the nearest cross street on your scale drawing____. If this is not possible, note on your drawings the distance in feet from the location of the proposed fire service tap on the Kentucky American Water main to the immediately adjacent curb line of the nearest cross street____.
3. The drawings shall include a schedule of materials to be used____. These materials shall be in accordance with those approved for use by Kentucky American Water (Refer to "Material Requirements" included in the package).
4. A copy of the manufacturer's specification sheet for the backflow preventer that is being installed____. Note that the backflow preventer must be approved by the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California (FCCCHR) as to manufacturer/model and orientation of installation.
5. The drawings shall contain a statement that, "All work is to be done in accordance with Kentucky American Water Pipeline Installation Specifications and the Application for Special Connection and is subject to inspection and approval of Kentucky American Water prior to backfilling____."
6. Plans will be reviewed by Kentucky American Water and, if approved, will be stamped "Approved" and dated. One approved copy of the drawings will be returned to the party submitting the request. The remaining copies will be retained for use by Kentucky American Water for work order development, field inspections and fire flow tests, if required. One copy will be forwarded to the Kentucky American Water Cross-connection Supervisor. If corrections are required, they will be so noted on the drawings and returned to the applicant for correction.

The following criteria must be met before construction can begin and during construction:

1. A Kentucky American Water task order will not be processed for approval until the owner has submitted the deposit and required paperwork.
2. Installation of the fire service will be scheduled after materials are received. Materials will be ordered upon receipt of the required deposit and completed paperwork. There is a delivery time of approximately 30 days for materials.
3. All private facilities must be available for inspection during installation by the Kentucky American Water Engineering/Network Department and by the Kentucky American Water Cross-Connection Control Department.
4. All facilities must be installed and approved by Kentucky American Water as well as the other Authorities Having Jurisdiction prior to initiation of service by Kentucky American Water.
5. The contractor installing the private facilities must have a Kentucky American Water approved copy of the plans on hand at all times

Other:

1. Kentucky American Water will locate and set an indicator post and valve at the property line abutting the water main, usually behind the sidewalk. The owner's sprinkler contractor will make the tie-in.
2. Customer is responsible for any future maintenance of the facilities beyond the indicator post to the private facilities. The indicator post and valves will be maintained by Kentucky American Water at the expense of the owner.
3. The backflow preventer is subject to annual testing at the expense of the owner.
4. Fire systems that require a pump will have a suitable pressure sustaining valve installed by and at the expense of the owner.

General steps in Fire Service Installation Process:

1. Fire Service plans and fully completed data sheet along with other required information are submitted to Kentucky American Water by Customer or representative.
2. When approved, the plans are sent to the Kentucky American Water drafting department for preparation of a drawing to include the proposed facilities.
3. The drawing is forwarded to the Fire Service Specialists for field inspection
4. After field inspection, the project is bid.
5. After the bid is awarded, a cost estimate is prepared and sent to the Customer along with an Application for Special Connection.
6. After the deposit and executed Application for Special Connection are returned to Kentucky American Water, materials for the project are ordered and installation is scheduled.

MATERIAL REQUIREMENTS

Pipe Material Requirements

DUCTILE IRON PIPE 4" THROUGH 12"

Ductile iron pipe shall be Class 50 with a rated working pressure of 350 psi and conform to the latest standards as adopted by the American National Standards Institute, Inc. (ANSI), and the American Water Work Association (AWWA). Specifically, ductile iron pipe shall conform to ANSI/AWWA C151/A21.51.

The pipe shall be coated outside with a bituminous coating in accordance with ANSI/AWWA C151/A21.51. The pipe interior shall be cement mortar lined and seal coated in compliance with the latest revision of ANSI/AWWA C104/A21.4. The cement mortar lining shall be double thickness.

PVC PIPE 4" THROUGH 12"

PVC pipe shall conform to the latest edition of AWWA Standard C900 with elastomeric-gasket couplings in accordance with this standard. The use of solvent cement connection shall not be allowed.

Pipe shall be furnished with cast iron pipe equivalent outside diameter and the pressure class shall be at least 150 psi.

All pipe sized 3" and less shall be of Class 250 PVC.

FITTINGS

Gray-Iron and Ductile-Iron Fittings 4" through 12"

Fittings shall be gray-iron or ductile-iron conforming to ANSI/AWWA C110/A21.10. (Ductile-iron fittings meeting the requirements of ANSI/AWWA C153/A21.53 T are acceptable where applicable.) All fittings are to be mechanical joint. The use of solvent cement connections shall not be allowed.

Gate Valves 3" through 12"

Gate valves shall be iron body resilient seated, or double disc, parallel seats, bronze mounted, rubber 'O' ring packing seals, and conforming to AWWA C509. All valves shall have openings through the body of the same circular area as that of the pipe to which they are attached. A valve box is to be installed over each valve. For details, refer to the Kentucky American Water Pipeline Installation Specifications.

All valves shall be designated for an operating pressure of 200 pounds per square inch (psi) unless otherwise directed by Kentucky American Water.

All valves shall have mechanical joint ends unless otherwise designated on the plans and approved by Kentucky American Water.

Gate Valves 2" and Smaller

Gate valves 2" and smaller that are not in the meter pits must be cast iron body valves with 2" square operating nuts. Such valves shall be installed in valve boxes. Underground valves smaller than 2" are to be of brass, curb stop type, placed in valve boxes. (Note: Brass wheel gate valves are unacceptable in underground installations.) Valve arrangement must be approved by Kentucky American Water.

Please refer to the Kentucky American Water Pipeline Installation Specifications for valve box installation diagram.

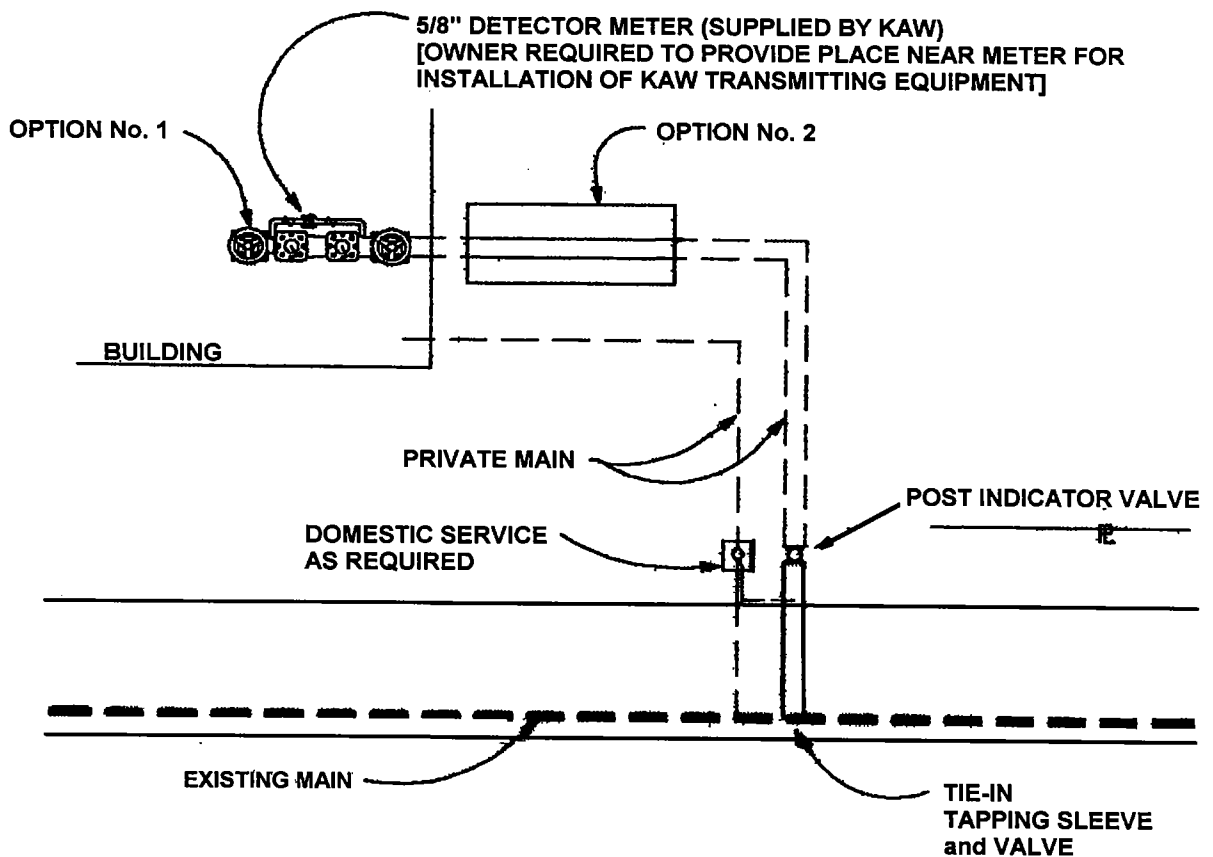
Domestic Services & Settings

Water necessary for use other than fire protection will be supplied through a domestic service and setting. These services will be sized according to the needs of the facility for which application is made.

FIRE SERVICE INSTALLATION DIAGRAM

LEGEND:

- OPTION No. 1 - BACKFLOW DETECTOR ASSEMBLY INSTALLED INSIDE BUILDING
- OPTION No. 2 - BACKFLOW DETECTOR ASSEMBLY INSTALLED OUTSIDE BUILDING IN VAULT.
[NOTE: ABOVE GROUND INSTALLATION REQUIRED FOR AN R.P. DEVICE]
- BOTH OPTIONS WILL BE INSTALLED PER KAW SPECIFICATIONS (ATTACHED)



NOTES:

1. OWNER WILL TEST AND INSPECT BACKFLOW DETECTOR ASSEMBLY ANNUALLY.

INSTALLATION SPECIFICATIONS FOR BACKFLOW PREVENTER

INSIDE BUILDING INSTALLATION

Horizontal Installation:

- Minimum clearance from lowest point of device to floor – 12”
- Maximum clearance from lowest point of device to floor – 36”
- Adequate clearance from valves to ceiling or other piping for valve operation and maintenance (refer to manufacturer’s specs)
- 12” minimum clearance on one side from widest outside of device to wall or other piping
- 24” minimum clearance on opposite side from widest outside of device to wall or other piping
- Adequate clearance from walls on each end for operation of valves and maintenance; minimum 12”

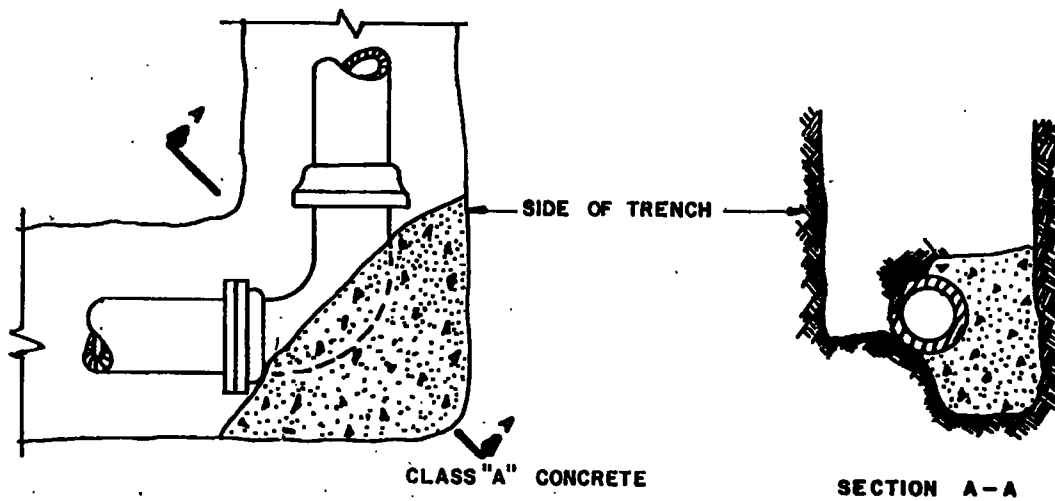
Vertical Installation (Backflow preventer must be approved by the FCCCHR for vertical installation):

- Minimum clearance from horizontal bottom of device to wall – 12”
- Maximum clearance to vertical bottom of device from floor – 36”
- Adequate clearance from valves to walls or other piping for valve operation and maintenance (refer to manufacturer’s specs)
- 12” minimum clearance on one side from widest outside of device to wall or other piping
- 24” minimum clearance on opposite side from widest outside of device to wall or other piping
- Adequate clearance from floor and ceiling for operation of valves and maintenance, minimum 12”

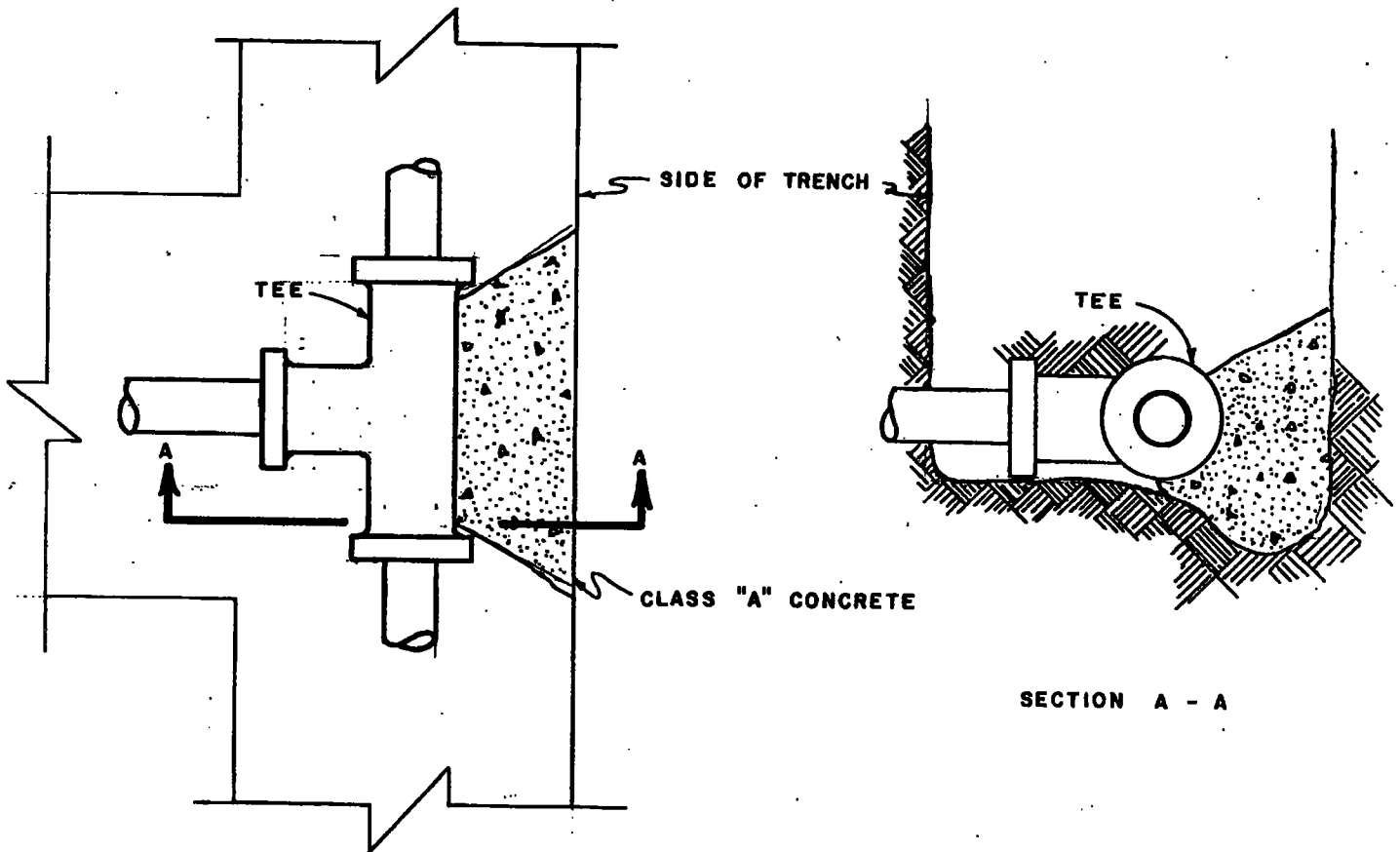
VAULT INSTALLATION (Horizontal installation only)

- Concrete blocks; cores poured solid with concrete; pre-cast is also acceptable
- Reinforced concrete top with a minimum 6” thickness; #5 rebar at 9” each way
- Minimum clearance from lowest bottom of device to vault floor – 12”
- Maximum clearance from lowest bottom of device to vault floor – 36”
- Adequate clearance from valves to ceiling of vault for valve operation and maintenance (refer to manufacturer’s specs)
- 12” minimum clearance on one side from widest outside of device to wall
- 24” minimum clearance on opposite side from widest outside of device to wall
- Length of vault = Complete DCDA or RPDA +valves + all pipe and appurtenances + 12” on each end or more clearance as required for adequate operation of valves and maintenance
- Bilco Door – minimum 30” square
- Any vault 5’ deep and over requires a ladder and a “ladder-up” post
- Maximum depth of vault to be 7’

NOTE: INSTALLATIONS THAT DO NOT MEET THESE SPECIFICATIONS ARE AT RISK OF REJECTION ON POST-INSTALLATION INSPECTION BY THE KENTUCKY AMERICAN WATER CROSS-CONNECTION PREVENTION DEPARTMENT.

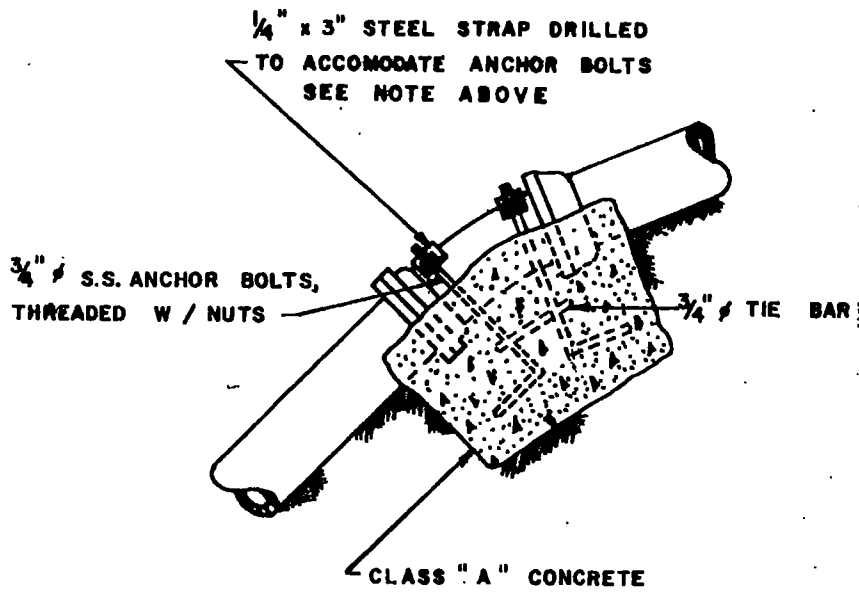


**CONCRETE THRUST BLOCK
FOR
11 $\frac{1}{4}$ °, 22 $\frac{1}{2}$ °, 45°, 90° BENDS**



CONCRETE THRUST BLOCK FOR TEES

NOTE:
PROTECTIVE COATING FOR BOLTS TO BE AS SPECIFIED IN SECTION 15000-2 OF THESE SPECIFICATIONS.



ANCHOR BLOCKS FOR VERTICAL BENDS

KENTUCKY AMERICAN WATER
DOMESTIC SERVICE VERIFICATION FORM

Application is being made for a Fire Service installation at _____.

Domestic Service for this address is as follows:

- Previously applied for and pending installation.
- New service is required. Application will be made by calling the Kentucky American Water Tap Hotline (859.268.6379)
- Currently exists and is adequate for current demand.
- Currently exists, but is not adequate for current/future demand. Application to upsize this service will be made by calling the Kentucky American Water Tap Hotline (859.268.6379)

This verification has been reviewed and Domestic Service for this location is as indicated above.

(CUSTOMER/BUILDER)

(AUTHORIZED SIGNATURE)

(DATE)