Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Office of Housing, Buildings and Construction
101 Sea Hero Road, Suite 100
Frankfort, Kentucky 40601
Telephone: (502) 573 - 0373

M E M O R A N D U M

TO: Fire Sprinkler System Contractors & All Users of the Kentucky Building Code (KBC)

FROM: Terry M. Slade, Director
OHBC/ Division of Building Code Enforcement

DATE: July 13, 2006

SUBJECT: ***Fire Suppression System Design Requirements***
(KRS 198B.550 to KRS 198B.630)

This memorandum replaces previous correspondence from the Office regarding KRS 198B.550 to 198.630 as it relates to fire protection sprinkler systems and to clarify the necessary procedures for submitting the Fire Suppression Design Criteria and fire protection system shop drawings. The fire protection system shop drawings shall be submitted to the state or local building official having jurisdiction and must adhere to the following:

I. The fire suppression design criteria form shall be submitted with the initial set of architectural plans. The design criteria shall be signed and sealed by a professional engineer registered in the Commonwealth of Kentucky or by a KY licensed certificate holder (who is NICET certified at Level III or IV) of a licensed fire protection contractor. Ref. KRS 198B.565 (1)

Minimum Information Required in Fire Suppression Design Criteria:

1. Available water flow (gpm), static and residual water pressure (psi).
2. Source of water supply and duration it is available.
3. Source of water flow data (person that conducted test) including date and time of test.
4. Anticipated water flow demand.
5. State the specific classification of the hazard(s).
6. The occupancy or use of the building.
7. Specify the type of fire protection system(s).
8. State the specific NFPA standard(s) to be followed.

Note: For your convenience a form is attached for you to submit the above information.

II. Contractor's shop drawings shall be submitted with all of the technical information to show conformance with the specific NFPA standard(s) and the Kentucky Building Code prior to installation of the system; and

1. If a professional engineer has submitted the fire suppression design criteria, then the shop drawings shall be submitted through the professional engineer for his approval and then forwarded to the authority having jurisdiction. Ref. KRS 198B.565(2).

2. If the licensed contractor submitted the design criteria, then the shop drawings shall be submitted directly to the authority having jurisdiction. All drawings shall bear the seals and signature of the licensed certificate holder and the licensed fire protection contractor. Ref. KRS 198B.565(2)(3).

3. All drawings shall bear the seal and signature of the certificate holder of the licensed contractor or a professional engineer and the seal of the licensed contractor. Ref. KRS 198B.585(2).

III. A licensed plumbing contractor may make the installation where there are ten- (10) sprinklers or less in a building or structure served by a domestic water supply, provided the plans have been approved by the authority having jurisdiction and contain the following information:

1. A riser diagram showing the source of the water supply, pipe size and arrangement (must comply with NFPA 13 for hydraulic calculations).

2. Type and size of sprinklers.

3. Two- (2) check valves or a double backflow prevention device installed between the system and the water supply. Ref. KRS 198B.560(4).

Should there be any questions, please feel free to call upon us.

FLOW TEST INFORMATION SHEET

AMERICAN FIRE SPRINKLER ASSOCIATION, INC.

1. Reason for Test: Bid Information ☐ Design Base ☐
   Other _____
2. Location of Property _____ (Address) (City) (State) (County)
3. Date & Time of Test: Date: _____ Time: _____ (am) (pm)
4. Test Conducted by: _____ Name Title Affiliation
5. Test Witnessed by: _____ Name Title Affiliation
6. Source of Water Supply: Gravity ☐ Pump ☐ Other: _____
7. Name of Water District _____ Fire District _____
8. Is water supply provided with PRV STA's Yes ☐ No ☐
   (If so what is PRV outlet setting? _____PSIG
9. **Area Map:** (Draw Sketch showing property location; bounding streets and names, north arrow, hydrant locations and identification numbers, distances from hydrants to property elevations of hydrants and property floors or grade, all water mains and sizes and interconnection valves, etc.)

—N—						

10. Flow Test Data

FLOW AT HYDR. NO.	STATIC AT HYDR NO.	STATIC PSIG	RESIDUAL PSIG	FLOW GPM	OUTLET COEFFICIENT	ADJUSTED GPM

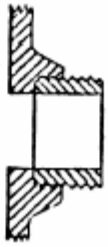
11. See reverse side for graph

12. Signed _____

    Witness _____

Form No. 102
American Fire Sprinkler Association, Inc.
11325 Pegasus, Suite S-220
Dallas, Texas 75238
(214) 349-5965

Outlet Square and projecting into Barrel Coef. 0.70



Outlet Square and Sharp Coef. 0.80

Outlet Smooth and Rounded Coef. 0.90

WATER FLOW TEST SUMMARY SHEET

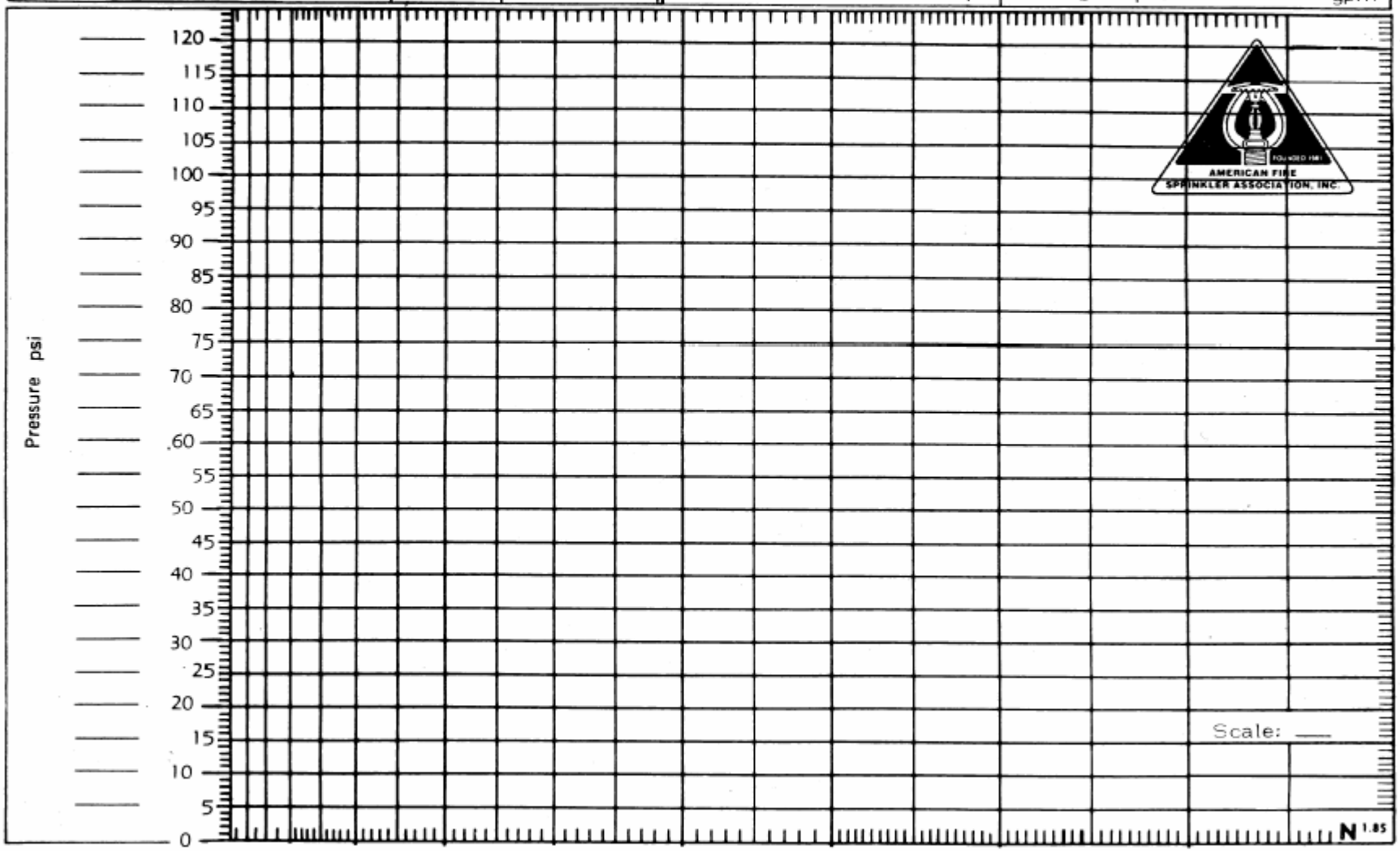
Hydrant No.	Outlet I.D. inches	Pitot Press. psi	Flow gpm	Residual psi
1				
2				
3				
Total Flow				

Date: Time: Cont. No.

Cont. Name:

Address:

Static Press: psi Flow @ 20 psi gpm



Scale A	100	200	300	400	500	600	700	800	900	1000
Scale B	200	400	600	800	1000	1200	1400	1600	1800	2000
Scale C	400	800	1200	1600	2000	2400	2800	3200	3600	4000

Water Flow gpm

AMERICAN FIRE SPRINKLER ASSOCIATION, INC.
11325 Pegasus, Suite S-220
Dallas, Texas 75238

KENTUCKY OHBC/ BCE FIRE SUPPRESSION DESIGN CRITERIA WORKSHEET

FIRE SUPPRESSION DESIGN CRITERIA

CASE NUMBER [1]: _____ DATE: _____

PROJECT OR FACILITY NAME: _____

STREET ADDRESS: _____

CITY: _____ COUNTY: _____

WATER FLOW INFORMATION: (See work sheet on reverse side)

STATIC: _____PSI

RESIDUAL: _____PSI

WATER FLOW: _____GPM

DURATION: [2] _____MIN

SOURCE OF WATER SUPPLY: [3] _____

SOURCE OF WATER FLOW DATA: [4] _____

DATE AND TIME OF WATER FLOW TEST: [5] _____

ANTICIPATED WATER DEMAND: [6] _____PSI

_____GPM

CLASSIFICATION OF HAZARD(S): [7] _____

_____

OCCUPANCY OF BUILDING: [8] _____

SPECIFIC TYPES OF SUPPRESSION SYSTEM(S): _____

_____

NFPA STANDARD(S) FOLLOWED IN DESIGN: [9] _____

EXPLANATORY NOTES:

1. CASE NUMBER: (if known) This number is assigned by OHBC upon first plan submittal.
2. DURATION: The length of time that the water source is capable of providing adequate water during a fire condition
3. SOURCE OF WATER SUPPLY: Tank, Lake, Etc.
4. SOURCE OF WATER FLOW DATA: Person or persons who conducted test.
5. DATA AND TIME OF WATER FLOW TEST: Water flow test shall have been conducted within the past six months.
6. ANTICIPATED WATER DEMAND: Minimum water and pressure required to operate this system.
7. HAZARD CLASSIFICATION: Light, Ordinary Group 1, 2, 3, Extra Hazard Group 1, 2; Commodity Type (Rack/Piled)
8. OCCUPANCY OF BUILDING: Mercantile, Restaurant, Office, School, Industrial Plant, etc.
9. NFPA STANDARD(S) FOLLOWED IN DESIGN: 13, 14, 15, 22, 24 etc.

I _____, verify that the fire suppression design criteria is in accordance with all applicable codes and standards adopted by the Commonwealth and that the water flow information noted above is true and accurate. I further acknowledge that I have reviewed the anticipated water demand for this system and find the actual water flow and pressure adequate to serve this system. It is understood that I will be responsible for the approval of the final shop drawings prior to their submittal to the Division of Building Codes Enforcement:

COMPANY: _____

STREET: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE: _____

AFFIX SEAL AND SIGNATURE HERE