

Brick

Permit Without a Jacket

Permit Number B-963

Construction Permit # B-963

Aug. 2, 1982

Owner . . . Food-A-Rama (Supermarkets, Inc.)

Location . . . Rt. 70 & Chambers Bridge Rd.

Laurelton

Block 701 . . . Lot 7-8, 15-16

Contractor . . . Charles Sorensen

Fee \$2,790.63 . . . Use Comm. Alteration

*C/O 2887A
3/30/83*

BUILDING SUB-CODE INSPECTIONS

Footing Trench *8-2-82 R.M.*

Foundation

Slab *Ed 1/30*

Sheathing

Framing

Insulation

Sheet Rock *Ed 1/30*

Plumbing

Fire Inspection

Final *1-19-83 Ed 1/30*

C.O. Issued

PLUMBING SUB-CODE INSPECTIONS

Slab *8/4/80 D.M. - 8/6/82 - 8/10/82 + 8/12/82 D.M.*

Rough *8/19/82 + 9/7/82 D.M.*

Septic/Sewer *7/19/83 + 7/20/82 D.M.*

Water

Final *3/30/83 D.M.*

Electrical Final

VIOLATIONS

12/2/82 OK for Temporary 30 days

Use reverse side for additional remarks

Certificate of Occupancy

Name Vornado, Inc. - Shop Rite of Bricktown

THIS IS TO CERTIFY that the building erected at Chambers Bridge Road & Rt. 70
Lot No. 7-8, 15-16 Block No. 791 in Brick Township, under Permit No. P-963
issued August 2, 19 82, has been inspected and approved in
accordance with the Zoning and Building Ordinances of the Township of Brick.

Use Group M Maximum Live Load _____
Fire Grading 3 hours Occupancy Load _____

By the issuance of this certificate, neither the Township nor any of its officers or
employees assumes any liability, either express or implied, in connection therewith.

Arthur J. Ciarzo
CONSTRUCTION OFFICIAL

Date March 30, 1983

2887

A

will get

SUB CONTRACTORS				
NAME	TRADE	ADDRESS	ZIP CODE	PHONE #
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

PERSON TO BE IN CHARGE OF CONSTRUCTION

NAME Charles Sorensen 07728
ADDRESS 303 West Main St. Freehold, N.J.

IV. IDENTIFICATION — To be completed by all applicants

	Name	Mailing address — Number, street, city, and State	ZIP code	Tel. No.
1. Owner Agent	<u>Food-A-Land Supermarkets</u>	<u>303 West Main St. Freehold N.J.</u>	<u>07728</u>	<u>462 4700</u>
2. Contractor				
3. Architects	<u>Supra + Fisher Assoc.</u>	<u>1149 Washington Ave. Washington Twp, N.J.</u>	<u>07675</u>	

The owner of this building and the undersigned agree to conform to all applicable laws of Township of Brick and that all required state, county and local prior approvals have been given.

Signature of applicant Charles Sorensen Address 303 W MAIN ST Freehold, NJ Application date

DO NOT WRITE IN THIS SPACE — FOR OFFICE USE ONLY

Approved by Edward Vizzo Date permit issued 2/2/82 Permit Number B963

I agree to construct said building in conformity with the plans and specifications filed with the Construction Official and in compliance with the provisions of the Building Code whether shown on plans or not.

Approved plans must be on job or assessed penalty under 5:23:2.5 (C5)

Finals for Certificates of Occupancy must be called for or assessed penalty under 5:23-27.

JUL 9 1982

BUILDING

CONSTRUCTION PERMIT APPLICATION

BRICK TOWNSHIP, NEW JERSEY

IMPORTANT — Complete ALL items. Mark boxes where applicable

I. LOCATION OF BUILDING	Number and street	Section	Lot	Block
	Chambersburg Rd & NS-70	Laurelton	8	701
	NS	NS		
	E W side of _____ feet E W from intersection of _____			
(Other local geographic, political, or legal subdivision identification)				

II. TYPE AND COST OF BUILDING — All applicants complete Parts A - D

A. TYPE OF IMPROVEMENT		D. PROPOSED USE — For "Wrecking" most recent use	
1 ☐ New buildings 2 ☐ Addition (If residential, enter number of new housing units added, if any, in Part D, 13) 3 ☒ Alteration (See 2 above) 4 ☐ Repair, replacement 5 ☐ Demolition 6 ☐ Moving (relocation) 7 ☐ Garage ☐ Swim Pool ☐ in ☐ out ☐ Fence		Residential 12 ☐ One family 13 ☐ Two or more family — Enter number of units 14 ☐ Transient hotel, motel, or dormitory — Enter number of units 15 ☐ Garage 16 ☐ Carport 17 ☐ Other — Specify _____ _____ _____	
B. OWNERSHIP		Nonresidential	
8 ☒ Private (individual, corporation, nonprofit institution, etc.) 9 ☐ Public (Federal, State, or local government)		18 ☐ Amusement, recreational 19 ☐ Church, other religious 20 ☐ Industrial 21 ☐ Parking garage 22 ☐ Service station, repair garage 23 ☐ Hospital, institutional 24 ☐ Office, bank, professional 25 ☐ Public utility 26 ☐ School, library, other educational 27 ☒ Stores, mercantile 28 ☐ Tanks, towers 29 ☐ Other - Specify _____	

C. COST		Nonresidential — Describe in detail proposed use of buildings, e.g., food processing plant, machine shop, laundry building at hospital, elementary school, secondary school, college, parochial school, parking garage for department store, rental office building, office building at industrial plant. If use of existing building is being changed, enter proposed use. GENERAL MERCHANDISE RETAIL C. M. R. H.
10. Cost of improvement	\$150,000	
To be installed but not included in the above cost		
a. Electrical (# Fixtures, Outlets)	30,000	
b. Plumbing (# of Fixtures)	24,000	
c. Heating, air conditioning		
d. Other (elevator, etc.)		
11. TOTAL COST OF IMPROVEMENT	\$225,000	

III. SELECTED CHARACTERISTICS OF BUILDING —

For new buildings and additions, complete Parts E - I; for wrecking, complete only Part H, for all others skip to IV.

E. PRINCIPAL TYPE OF FRAME		H. DIMENSIONS		FEE COMPUTATIONS	
☐ Masonry (wall bearing) ☐ Wood frame ☒ Structural steel ☐ Reinforced concrete ☐ Other - Specify _____		Number of stories <u>1</u> Total square feet of floor area, all floors, based on exterior dimensions _____ Total land area, sq. ft. _____		VOLUME OF BUILDING <u>22.5 times 7.50.</u> BUILDING SUB CODE <u>1.687.50</u> ELECTRICAL CODE _____ PLUMBING CODE <u>125</u> PLAN REVIEW <u>181.25</u> CERTIFICATE OF OCCUPANCY <u>271.88</u> STATE TRAINING FUND _____ CONSTRUCTION _____ PERMIT FEE <u>2296.88</u>	
F. TYPE OF HEATING SYSTEM		1. RESIDENTIAL BUILDING ONLY			
Specify <u>GAS R.T.U.</u>		Number of bedrooms _____			
Air Cond. Yes ☒ No ☐		Number of bathrooms { Full _____ Partial _____			
G. TYPE OF SEWERAGE DISPOSAL					
☒ Public ☐ Individual					

SEE REVERSE

B1056

22265.63
check

SUB CONTRACTORS				
NAME	TRADE	ADDRESS	ZIP CODE	PHONE #
1. TO BE DETERMINED				
2. C. RAIMONDO	DRY WALL-INTERIOR DEMOLITION	1412 BERGEN BLVD ST LEE N.J.		461-5550
3. JAMES NAIMO	PLUMBING PLUMBING	9034 TOWNELLE AVE N. BERGEN		863-0541
4. B. B. SPRINKLER	SPRINKLER	120 GEORGE'S RD N. BRUNS WICK		249-1984
5.				
6.				
7.				
8.				

PERSON TO BE IN CHARGE OF CONSTRUCTION

NAME MORRIE WAITZADDRESS 20 GLOVER AVE. NORWALK, CT. 06852/203.846.1641

IV. IDENTIFICATION — To be completed by all applicants

	Name	Mailing address — Number, street, city, and State	ZIP code	Tel. No.
1. Owner Agent	CALDOR INC.	20 GLOVER AVE. NORWALK, CT.	06852	203 846.1641
2. Contractor	CALDOR INC.	20 GLOVER AVE. NORWALK, CT	06852	↓
3. Architects	JOHN TEGLER CALDOR INC.	20 GLOVER AVE. NORWALK, CT	06852	↓

The owner of this building and the undersigned agree to conform to all applicable laws of Township of Brick and that all required state, county and local prior approvals have been given.

Signature of applicant <i>Morrie Waitz</i>	Address 20 GLOVER AVE. NORWALK, CT.	Application date 7/9/82
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DO NOT WRITE IN THIS SPACE — FOR OFFICE USE ONLY

Approved by <i>Edward S. Sigo</i>	Date permit issued 8/10/82	Permit Number B1056
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I agree to construct said building in conformity with the plans and specifications filed with the Construction Official and in compliance with the provisions of the Building Code whether shown on plans or not.

**THE BRICK TOWNSHIP
MUNICIPAL UTILITIES AUTHORITY**

1551 HIGHWAY 88 WEST
BRICKTOWN, NEW JERSEY 08723

CERTIFICATE OF COMPLIANCE

Date..... October 14, 1982

NAME..... Caldor's

ADDRESS..... Hwy. 70 & Chambersbridge Road

PROPERTY LOCATION..... Hwy. 70 & Chambersbridge Road

Account No..... K326400 Block..... 701 Lot..... 4

I hereby certify that the above applicant has complied with all Rules
and Regulations of this Authority and has paid all required fees and charges.

For the Authority..... *Karen Serden*

Art Cierzo

13E-1

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Recommendations for

Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems

NFPA 13E — 1978

1978 Edition of NFPA 13E

This document was prepared by the Technical Committee on Standpipes and Outside Protection and this present edition was adopted by the Association on May 18, 1978 at its Annual Meeting in Anaheim, California. It was released by the Standards Council on June 6, 1978. It supersedes the 1973 edition and all previous editions. Changes other than editorial are denoted by a vertical line in the margin of the pages in which they appear.

Origin and Development of NFPA 13E

The NFPA adopted in 1933 an informative brochure, prepared by the Committee on Field Practice, Use of Automatic Sprinklers by Fire Departments. This was published as a separate pamphlet and reprinted in 1936. The work formerly carried on by the Committee on Field Practice was distributed to a number of new committees in 1938 and at that time the Committee on Standpipes and Outside Protection was given responsibility for this brochure. A subcommittee of the Committees on Standpipes and Outside Protection, Automatic Sprinklers, Fire Department Equipment and Fire Service Training prepared a revision, Fire Department Operations in Protected Properties, which, on recommendation of the four committees, was adopted as an informative report at the NFPA Annual Meeting, Detroit, May 16, 1961. The informative report was published and circulated as a separate pamphlet No. SP1 — 1961, but was not included in the annual volumes of the National Fire Codes. It was amended in 1966, 1973 and 1978.

Recommendations for Fire Department Operations in Properties Protected by Sprinklers and Standpipe Systems, NFPA 13E was adopted with minor revisions by the NFPA at its 1966 Annual Meeting on recommendation of the Committee on Standpipes and Outside Protection.

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Recommendations for

Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems

NFPA 13E-1978

Introduction

0-1 Many properties have private fire protection equipment provided both to protect lives and preserve property values. Such protection includes sprinkler systems and standpipe systems. Each year fire departments respond to thousands of alarms in properties having such protection. These properties are located not only in areas protected by paid departments but also in areas protected by call and volunteer departments. If the private protection equipment is to do the job for which it is designed, it is essential that fire departments:

(a) Make plans for operations in properties so protected. This calls for inspection by responsible fire department personnel and what is termed in the fire service, "prefire planning," including consultation and cooperation with the property emergency fire organization.

(b) Develop standard procedures for operating at fires in protected properties so that the private fire protection facilities will be used to maximum efficiency.

The purpose of this text is to cover three types of private fire protection equipment as follows:

Chapter 1 suggests procedures for fire department operations in properties protected by automatic sprinklers;

Chapter 2 suggests procedures for fire department operations at properties having outside sprinkler systems for exposure protection; and

Chapter 3 suggests procedures for fire department operations in buildings having standpipe systems.

0-2 Units. Metric units of measurement in this standard are in accordance with the modernized metric system known as the International System of Units (SI). Two units (liter and bar), outside of but recognized by SI, are commonly used in international fire protection. These units are listed in Table 0-2 with conversion factors.

0-2.1 If a value for measurement as given in this standard is followed by an equivalent value in other units, the first stated is to be regarded as the requirement. A given equivalent value may be approximate.

Table 0-2

Name of Unit	Unit Symbol	Conversion Factor
liter	l	1 gal. = 3.785 l
cubic decimetre	dm ³	1 gal. = 3.785 dm ³
pascal	Pa	1 psi = 6894.757 Pa
bar	bar	1 psi = 0.0689 bar
bar	bar	1 bar = 10 ⁵ Pa

For additional conversions and information, see ASTM E 380-76, *Standard for Metric Practice*. (See Appendix A.)

Chapter 1 Automatic Sprinkler Systems

1-1 General.

1-1.1 Complete details on the installation of all approved types of sprinkler systems and the care and maintenance of sprinkler systems are covered by the following: NFPA 13, *Standard for Installation of Sprinkler Systems*, and NFPA 13A, *Care and Maintenance of Sprinkler Systems* (see Appendix A).

1-1.2 The National Fire Protection Association records of more than 100,000 fires over an 80-year period show that automatic sprinkler protection is over 95 percent effective. The actual percentage of successful performance is probably higher, since many small fires extinguished by one or two sprinklers go unreported. The small percentage of fires in which operation of automatic sprinklers is unsatisfactory is responsible for a large percentage of the losses in sprinklered properties.

1-1.3 There are two principal causes of unsatisfactory sprinkler performance: closed valve in water supply line and inadequate water delivered to the sprinkler system. Unsatisfactory sprinkler performance from these causes can be reduced by intelligent fire department planning and operations, if the fire department is called soon enough. Every fire department training program should include a course on the fundamentals of sprinkler systems.

1-1.4 Automatic sprinkler protection is designed to put water on a fire automatically without waiting for human operation. If the automatic sprinkler system should not completely extinguish the fire, it can ordinarily be depended upon to hold a fire in check at the point of origin and give an alarm so that proper measures may be taken to complete extinguishment.

1-2 Inspection and Prefire Planning.

1-2.1 Success of fire department operations at fires in properties protected by automatic sprinklers will generally reflect the adequacy of the fire department inspections and plans made in advance of an emergency. Unless the fire department officers, who will be in direct charge of operations at a particular property, are fully familiar with plant layout, general occupancy hazards and processes, and the nature and operation of private fire protection equipment, unnecessarily large losses may be expected.

1-2.2 In properties protected by automatic sprinklers, fire officers, including the chief of the district and officers assigned to first due companies, should know:

(a) The buildings and nature of occupancies protected by automatic sprinklers, the extent of this protection, and the type of sprinkler systems;

(b) The water supply to the sprinklers, including the source and type of supply, the volume and pressure normally available;

(c) The location of all sprinkler control valves, what each valve controls, and the consequence of shutting off any valve;

(d) The location of fire department connections to sprinkler systems, the specific area each connection serves, and the water supply, hose and pumper layout that will be used to feed the sprinkler connections.

1-2.3 In prefire planning of operations in sprinklered buildings, perhaps the most important step is preparation of a sketch of the sprinkler water supply system. This should be prepared by the fire department officers who will be concerned with operations at actual fires. In order to be fully familiar with the sprinkler system, it is very important that the officers making these sketches for fire department operations study the actual water supply piping to the sprinklers from the source to the sprinkler risers, noting on the sketch all controlling valves with indication as to the type of valve and what each controls. Water supply may be from city mains; plant fire pump, gravity tank or pressure tank, or a combination of these.

1-2.4 Where supply is from a fire pump it is important to note the source of suction, the type of power for the pump and arrangement for starting the pump.

NOTE: See NFPA 20, *Standard for the Installation of Centrifugal Fire Pumps* (see Appendix A).

1-2.5 For all types of water supplies, it is important that the fire flow and pressure available be determined by appropriate flow tests. Where the water supplying the sprinklers is limited, it should be obvious that diversion of water to large hose streams [approximately 250 gpm (946 l/min) each] may make the sprinklers ineffective. By studying the water supply connections and piping, fire department personnel will realize that the sprinkler system automatically delivers the water directly to every potential fire area with the maximum efficiency.

1-2.6 In many cases the organization carrying fire insurance on a sprinklered property has the information needed to prepare the fire department sketches. Such information may be available through the property owner. In some instances the fire department inspectors may find that the plant engineer or other plant official has available detailed plans or information on the sprinkler layout; however, experience has shown that often such plans are not up to

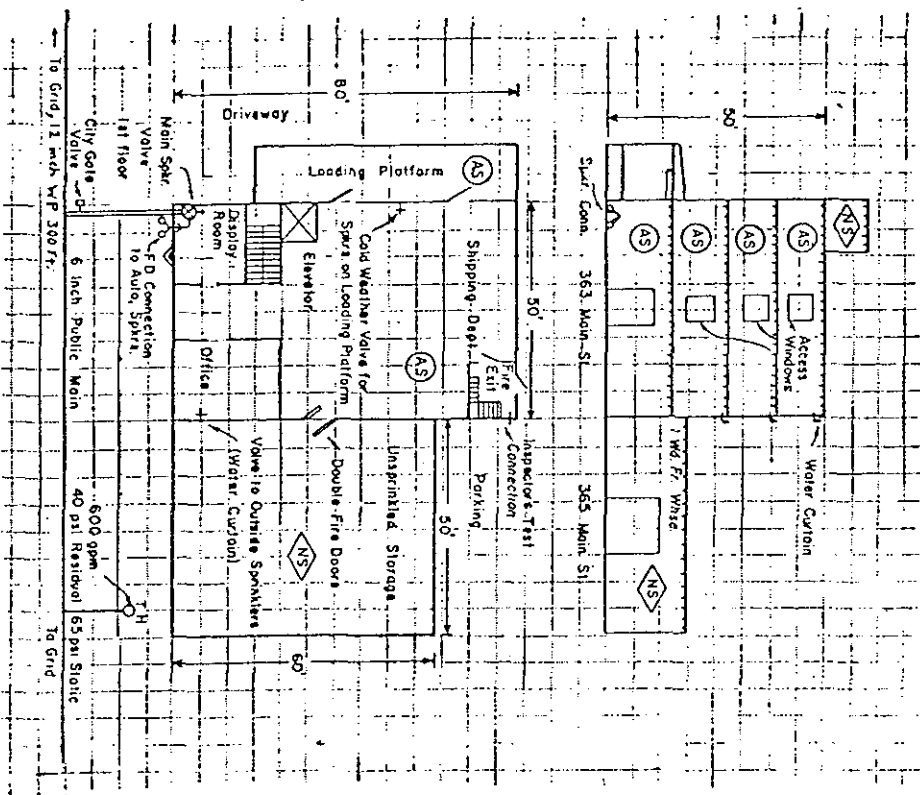
date and may be inaccurate. By making their own sketches, the fire department will not only have up-to-date information but will be familiar with the layout of the plant's fire protection. Also, on many occasions inspectors have found closed valves or otherwise impaired protection that could only be located by regular inspections.

NOTE: Figure 1-2.6(a) is a suggested form which may be useful to fire departments inspecting sprinklered properties.

1-2.7 Arrangements should be made with the property owner for entering the building as quickly as possible when the building is unattended. If such arrangements are made, the necessity for using forcible entry equipment may be reduced and damage from the use of such equipment avoided.

Figure 1-2.6(a). Suggested Inspection Form
for Sprinklered Properties.

Name of Plant	Fire Inspection District No.
Location	Fire Alarm Code No.
Description of Property	
Plant Official Responsible for Sprinklers	
Phone	
Type of Automatic Sprinkler System (Wet, Dry, Deluge, etc.)	
No. Sprinkler Heads	Size of Connection to Main
Spare Sprinkler Heads Available	Stored
Automatic Sprinkler Valves:	Controlling
Location	Type
Cold Weather Valve	
Water Supplies to Sprinklers:	Pressure Tank
Public Main	Volume in Storage
Private Fire Pump	Residual Pressure
Static Pressure	psi
Post Indicator Valve Location	gpm Available at
Fire Department Connections:	
Location	
Company Assigned to Pump into Sprinkler on First Alarm	
Hydrant to be Used (normal procedure)	
Supplemental Pumper Supply Available	
Sprinkler Alarm Devices:	
Local Waterflow	Master Alarm Box
Central Station	Other
Supervised by	
Guard Service:	
Remarks: Include any pertinent special information that may affect fire department operations	
Inspected by	Approved by
	Date



Notes:

303 Main St., a 4-story, brick-joist, protected by wet pipe sprinkler system supplied by 6-inch public water main. FD connection on front of building. Main control valve in display room from end of 1st floor (left side). Valve for manual operation of water curtain in office on 1st floor (right side of entrance). Cold weather valve for sprinklers on loading platform in shipping room between doors. Inspector's test connection at right hand rear of shipping room on 1st floor. In event of fire in unsprinklered section: Make certain fire doors are closed. Operate water curtain. Place charged hose line to cover fire door opening. Pump into fire department connection.

Prefire Planning:

Notes on FD operation at 363 Main St. Main Building—4 story brick; 50 x 80; wood-jointed floors; protected by wet pipe automatic sprinkler system supplied by 6-inch public water main. FD sprinkler connection at left side of front wall. Nearest hydrant 70 feet from front door and 90 feet from sprinkler connection. (Note: In the event the fire is in unsprinklered wood-frame warehouse, it might not be possible to connect pumper directly to this hydrant. Main sprinkler control valve is in display room at right of main entrance on 1st floor. Inspector's test connection is in rear fire exit tower. Automatic sprinklers on loading platform are controlled by cold weather valve between doors on left-hand side of shipping department. Valve controlling outside (manually operated) water curtain is located in office at right-hand side of main entrance.

For SI Units

1 in.	=	25.4 mm
1 ft.	=	0.3048 m
1 gpm	=	3.785 l/min
1 psi	=	0.0689 bars

Special procedure in event of fire in unsprinklered warehouse at 365 Main St.

1. Operate valve controlling water curtain on main building.
2. Check to see that fire doors are closed between buildings.
3. Pump into fire department sprinkler connection in main building. (Do not use hydrant in front of fire for this purpose.)
4. Run charged line to guard fire door openings into main building.
5. Make certain that all windows are closed through which smoke or fire could enter main plant.

1-3 Water Supply for Fire Fighting.

1-3.1 The effectiveness of automatic sprinkler protection, like most other fire fighting operations, depends in large measure upon the adequacy of the water supply. Sprinklers put water on fires faster and with greater effect than manually applied hose streams and thus are generally the most effective means of getting water on a fire. From the fire department's point of view it is like having lines laid and spray nozzles placed in advance, always ready in case of fire.

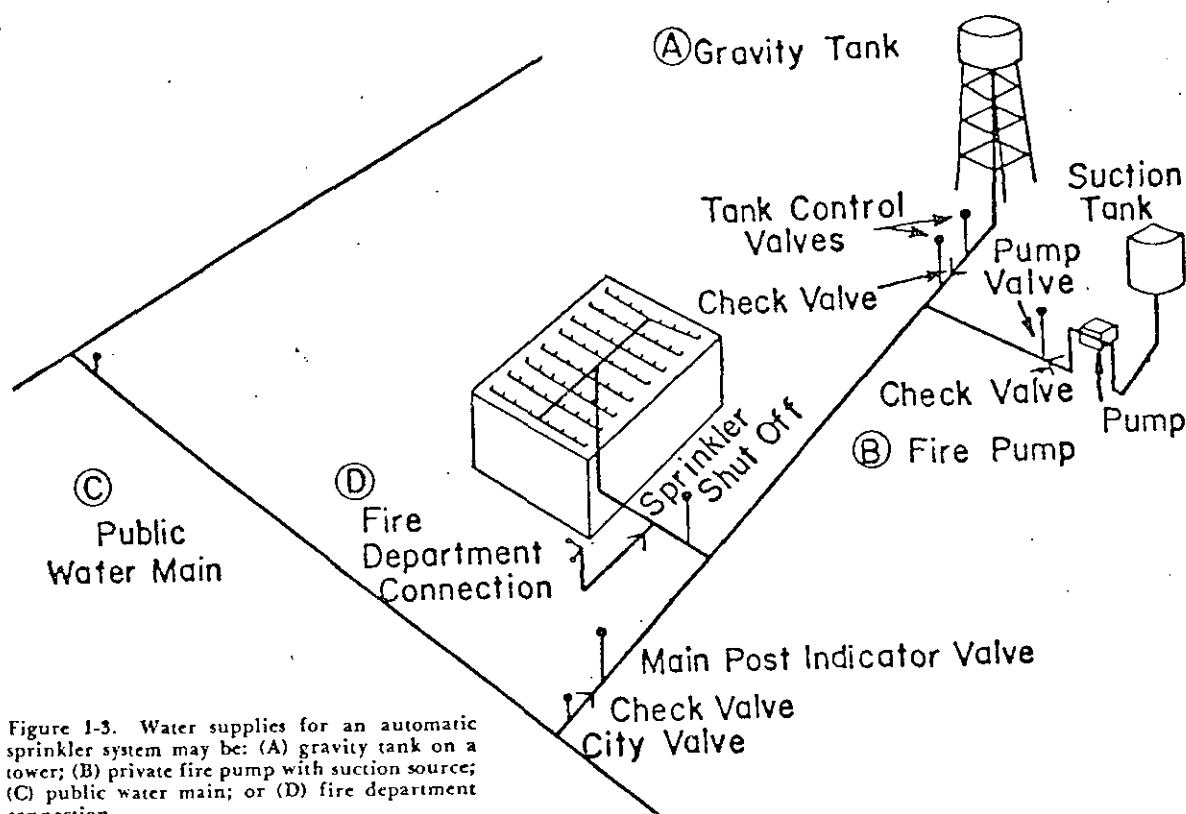


Figure 1-3. Water supplies for an automatic sprinkler system may be: (A) gravity tank on a tower; (B) private fire pump with suction source; (C) public water main; or (D) fire department connection.

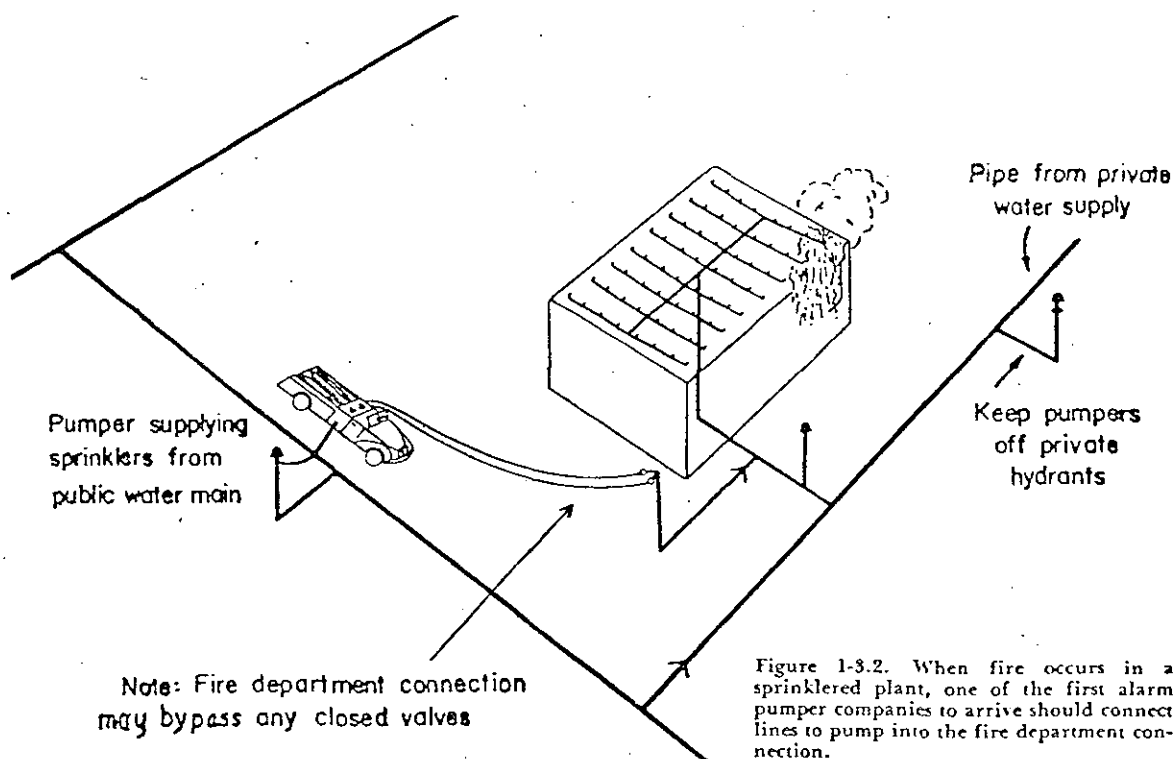


Figure 1-3.2. When fire occurs in a sprinklered plant, one of the first alarm pumper companies to arrive should connect lines to pump into the fire department connection.

1-3.2 In fighting fires in sprinklered buildings, it is important to make certain the sprinklers get plenty of water at good pressure. This means that the prefire planning must be concerned with sources of water supply and where pumps will be located. Each situation must be worked out on its own merits. However, the fire department should avoid competing with the sprinklers for water supply for hose streams. The water for hose streams should not come from mains supplying sprinklers unless the mains are known to have sufficient capacity and pressure for both sprinklers and hose streams. Otherwise, as shown in Figure 1-3.2, water for hose streams should come from another water main or from a pump at draft. It is generally considered poor practice to attach pumps to hydrants on private water systems.

1-3.3 Contrariwise, it is generally good practice to pump promptly into private water mains supplying sprinklers to boost the flow normally available. Some private water systems have fire department connections at the property line near public hydrants. In some instances, instead of a standard fire department connection a "reverse hydrant" is installed so that lines from a pumper at the city hydrant can pump into the private hydrant. The reverse hydrant has swivel connections on the 2½-inch hose connections rather than the usual male outlets. A regular private hydrant may be used for the same purpose by attaching double female connections to several outlets. Where fire protection equipment has different threads from the local fire department hose thread, this fact should be determined by the inspector and suitable adapters provided. The prefire planning and routine inspection should make certain that access to the private fire protection supply connections is not blocked by yard storage, security fences, railroad sidings or other obstructions that could delay connection of fire department supply lines. In some cases it has been found necessary to obtain the cooperation of plant management in relocating or extending the fire department connections to a more convenient location. Periodic inspections of piping between the fire department connection and the check valve are recommended, using a hydrostatic test where necessary.

1-4 Fireground Operations in Sprinklered Properties.

1-4.1 It is most important that each fire department responding to properties having automatic sprinkler protection have standard operating procedures developed for handling fires in sprinklered buildings. It is the duty of the officer in charge at the fire to see that these procedures are carried out as promptly and efficiently as possible. For the best results the standard operating procedures should be in the nature of guidelines or general good practice and not hard and fast rules which rob the fireground commander of responsibility and initiative.

1-4.2 When responding to a fire in a sprinklered property it is important that fire fighting operations be based upon a thorough knowledge of the property resulting from prior inspection and "prefire planning" (see 1-2).

1-4.3 On arrival of the first officer, size-up of the fire situation is the first prerequisite of good operation. A fire fighter should be sent immediately to see that control valves are fully opened. Pumper lines should always be connected to the fire department connection as quickly as possible to supply adequate volume and pressure to the sprinkler system in the fire area. Additional lines should be stretched to the fire area.

1-4.4 If no fire or smoke is visible, it is likely that the fire is very small and either one or two sprinklers have extinguished the fire or the sprinklers have not yet operated. If an outside water motor gong is operating or the alarm was received as a central or remote station sprinkler waterflow signal, it is evident that water is or has been flowing from sprinklers (or in the case of dry pipe sprinkler systems, has entered the system if the dry pipe valve has tripped prematurely or accidentally). Where water vapor is visible it is evident that the sprinklers have operated and probably have the fire under control or in check. Prompt action should be taken to complete extinguishment to reduce damage. If black smoke and flame are visible, it may be that sprinklers are not operating or that the supply valve is closed.

1-4.5 The following are good practice suggestions for the guidance of chiefs or officers in charge of fire department operations in sprinklered buildings:

- (a) Immediately send a fire fighter to the proper control valve to:
 1. Determine that the valve is fully open. (Valves are designed to show open or closed positions.)
 2. Open the valve if it has been closed. (One possible exception would be where valve is "tagged for repairs.")
 3. Shut the valve only when ordered to do so by the officer in charge.
 4. Remain at the valve so that in the event of rekindling or any detected extension of fire, the valve can be reopened immediately.

NOTE: The man assigned to the valve should take a light and portable radio so that no time will be lost in transmitting orders to open or close the valve. He should remain at the valve until orders are given for the company to make up and return to quarters.

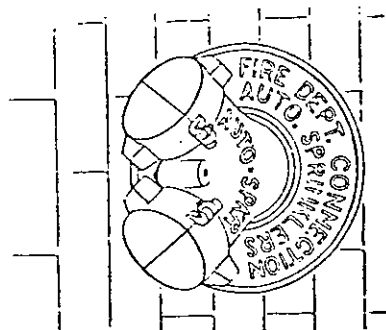


Figure 1-4.5(a). Typical fire department connection to automatic sprinkler systems mounted on building wall showing 2 1/2-inch intakes which would be supplied by lines from one of the first responding pumpers.

(b) Immediately send a fire fighter to verify that water supplies (fire pumps, booster pumps, etc.) are in full service with all discharge and suction valves open.

(c) One of the first alarm pumper companies on arriving at the fire should immediately connect two lines to the proper sprinkler fire department connection and start pumping at about 150 pounds per square inch (10.3 bars) [see Figure 1-4.5(a)]. If there is more than one sprinkler system in the fire area, pumpers should be connected to provide adequate pressure and volume to each sprinkler system that may be in operation.

NOTE: Pumpers should not be connected to hydrants on private water systems unless such systems are designed to maintain the flow needed by fire department pumps in addition to that required by sprinklers or other private fire protection facilities. Use of pumpers on private hydrants has on a number of occasions deprived private fire protection facilities, including sprinklers, of their water supply resulting in heavy damage or total losses.

Two 2 1/2-inch pumper lines can effectively supply 20 to 25 sprinkler heads. If 3-inch or other large hose is available, this should be used to take advantage of the available pumper capacity. If it is obvious that a serious fire is in progress, as much water as possible should be pumped into the sprinkler connection. This can be done by attaching a siamese hose fitting to one inlet of the automatic sprinkler fire department connection to permit the use of a third hose line or by increasing pressure at the pump to 175 or 200 pounds per square inch (12.1 to 13.8 bars) if the hydrant flow and pumper capacity make this possible.

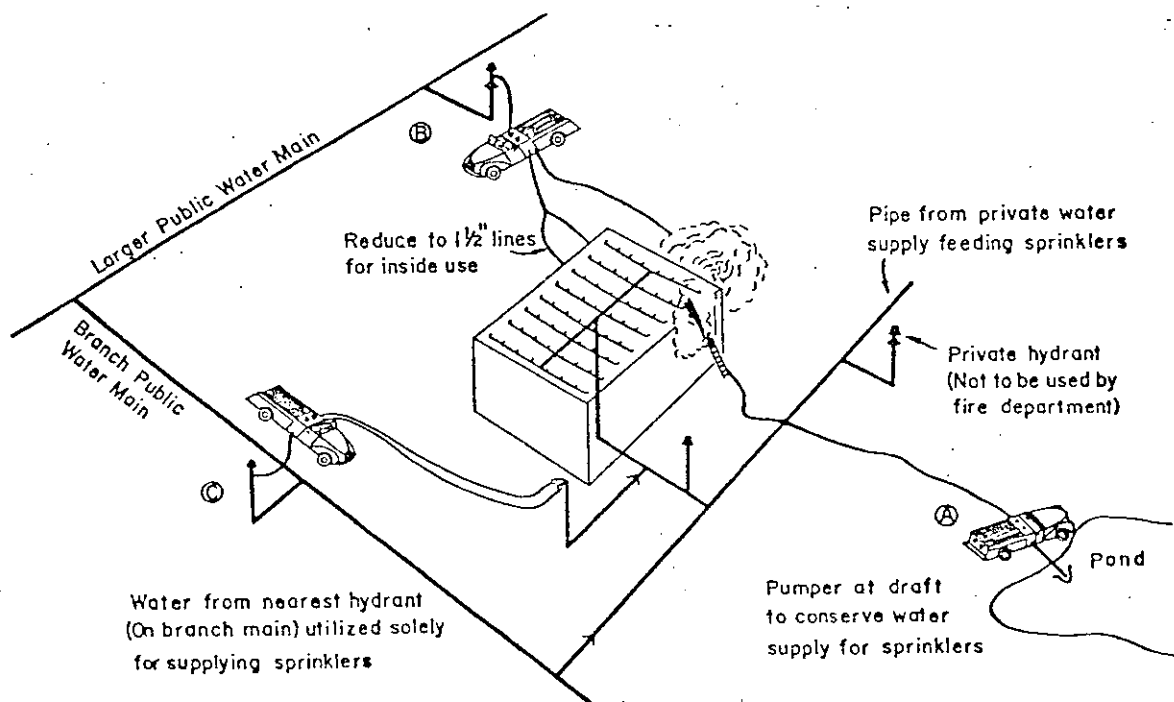


Figure 1-4.5(b). Where hose streams must be used, water must be taken from sources that do not reduce the sprinklered protection. Pumpers should be supplied either by: (A) drafting from static sources; (B) connecting to water mains not needed for sprinkler supply; (C) connecting to large mains which flow tests have indicated are inadequate to supply both sprinklers and the required hose streams.

[750 gallons-per-minute (2839 l/min) pumpers are designed to give 525 gallons per minute (1987 l/min) at 200 pounds per square inch (13.8 bars) at draft and 1,000 gallons-per-minute (3785 l/min) pumpers provide 700 gallons per minute (2650 l/min) at 200 pounds per square inch (13.8 bars) at draft. Higher flows may be obtained from good hydrants.]

The sprinkler fire department connection on a single sprinkler system is generally on the system side of the main control valve [see Figure 1-4, 5(c)]. In such cases, the fire department pumper can immediately provide pressure to the system whether the main sprinkler control valve is open or not. In the case, however, of a building protected by more than one sprinkler system, the fire department connection is usually located at a point between the gate valve controlling the water supply and the gate valves controlling the individual systems. Therefore, closure of a gate valve controlling one of the individual systems would deprive that particular system of the use of the fire department connection. Gate valves are not permitted to be installed in the direct line from the fire department connection.

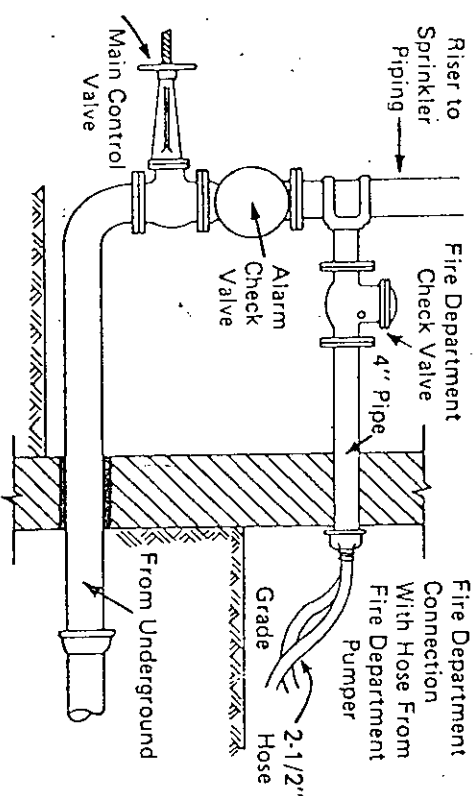


Figure 1-4, 5(c). The fire department connection is generally arranged so that water can be pumped to the sprinklers even though the main sprinkler control valve and sprinkler shutoff valve happen to be closed. Also, the use of the fire department pump makes it possible to provide better pressures for the sprinklers than is normally available from a gravity tank or city main.

(d) An officer should immediately be ordered to the fire area to determine the location and extent of fire. He will determine whether sprinklers have extinguished the fire or are holding the fire under control. He will check for any possible extension of fire both horizontally or vertically including concealed spaces. He should have a portable radio so that he can immediately report to the officer in charge. Where there are sectional or floor valves he should make certain that these are open. In such cases when the fire is extinguished, sprinklers may be shut off at the sectional or floor valve without shutting off the entire system. The inspection records should indicate the location of such valves. In all cases, the officer in charge must use good judgment before he orders any sprinkler system valve to be closed.

(e) As quickly as possible and before any sprinkler valve is closed, hose lines should be used to prevent any extension of fire and to complete extinguishment. In general, 1½-inch hose with combination spray nozzles can be used for this purpose. These lines are not only more efficient for interior fire fighting but discharge 50 to 100 gallons per minute (189 to 379 l/min) as compared with 200 to 250 gallons per minute (757 to 946 l/min) from 2½-inch lines. The smaller lines thus divert less of the available water from the sprinkler system and reduce water damage. As a general rule, it is much more effective to distribute water through the sprinkler system. Hose streams will be required to merely mop up and extinguish fire in concealed spaces out of reach of sprinklers. Where the fire area is on upper floors or otherwise remote from the fire department apparatus it may be desirable to also use standpipe equipment as discussed elsewhere in this text. From a fire fighter's point of view, the effect of the sprinklers may be compared with the well-known effect of spray nozzles.

(f) The ladder company, squad company, or other unit performing "truck" duties should be ordered to ventilate the fire area as needed in order that there be no delay in advancing hose lines to complete extinguishment. Windows should be opened promptly in the fire area. Smoke removal fans should be used as necessary. If a serious fire is found to be in progress, full fire department ventilation procedures including opening of skylights and roofs may be indicated provided that charged hose lines are available to immediately attack the fire.

(g) Only when the fire is completely extinguished should sprinklers be shut off. If it becomes necessary to enter the fire area to mop up residual fire, it is important to have charged hose lines in place and provide adequate ventilation. If there is a sectional or floor valve, this should be closed. However, if the only control is at

the main valve, the order should be sent by radio or messenger to the men stationed at this valve. Orders should also be given to the pump operator to shut down the lines connected to the fire department connection as these by-pass the main valve, and in the absence of a floor valve, water will flow until the pump discharge gates are closed.

Where only a few sprinkler heads are operating, sprinkler tongs or tapered wooden wedges may be used to immediately stop the flow from the opened heads. This use of tongs or wedges keeps the system in operation (but not the individual sprinkler heads in which the tongs are inserted) and is sometimes a faster operation than shutting the control valve (see Figure 1-5.1).

(h) As soon as manpower permits, salvage operations should be started.

NOTE: Salvage techniques are described in the pamphlet on Fire Department Salvage Operations published by the American Insurance Association (formerly National Board of Fire Underwriters), 85 John Street, New York, NY 10038.

(i) When overhauling is completed so that there is no possible danger of rekindling requiring use of sprinklers, the lines from the pumper to the sprinkler system fire department connection may be ordered disconnected.

Figures 1-3.2 and 1-4.5(b) show the proper placement and use of fire department pumps and hose streams at fires in sprinklered properties.

1-5 Restoring Protection.

1-5.1 When possible, sprinkler protection should be restored by installing new heads of the proper type and rating. Orders should then be given to the man at the valve to turn on the water. If new heads are not immediately available, the sprinkler tongs or wedges may be left in place until the heads are replaced so that protection may be promptly restored. If the temperature is below freezing and adequate heat cannot be maintained, the piping must be drained until heat can be restored or until air pressure is restored to a dry-pipe system and the sprinkler dry valve has been reset. If there is no sight glass to indicate when a system is drained, a man should be directed to check the flow from the drain. Whenever possible, the fire department should not leave the scene until the system has been placed back in operation.

NOTE: NFPA 1901, *Standard for Automotive Fire Apparatus* (see Appendix A), calls for 12 assorted sprinkler heads, 6 sprinkler stoppers or wedges, and 2 sprinkler head wrenches to be carried on ladder trucks or other apparatus equipped for salvage work. The wrenches must be suitable for servicing the various types of sprinkler heads. The sprinkler heads carried should include standard types for both upright use where piping is exposed and pendent use where piping is concealed. All fire departments, regardless of size and type of organization, whether

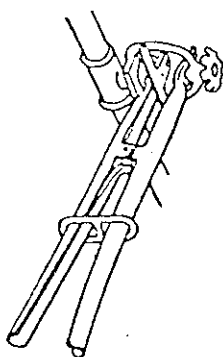


Figure 1-5.1. One variety of sprinkler stop or tongs.

paid or volunteer, should have available a supply of automatic sprinkler heads for use as replacement after the fire is extinguished. Such supply of sprinkler heads should be of various degree ratings and marked to be readily identifiable as replacements. Mechanical tongs or wedges of hardwood or similar material, if used to stop flow while the system is being shut off and drained, should be replaced immediately with proper sprinklers. (See NFPA *Industrial Fire Brigades Training Manual*.) (See Appendix A.)

1-5.2 Ordinarily, fire departments do not pump air into a dry-pipe system or reset dry valves or deluge valves. This is the responsibility of the property owner or his sprinkler contractor.

1-5.3 Unless there is a representative of the owner or occupant on the premises, the officer in charge should direct the fire alarm operator to notify the owner or authorized representative that the sprinklers have operated and that protection should be restored. If there is central station supervision of valves, that company should be contacted if a runner has not arrived before the fire department is ready to leave the premises.

NOTE: Where automatic sprinkler protection cannot be restored and no representative of the owner or occupant is present, it is good practice to leave a fire fighter on the premises as a watchman so that sprinklers can be turned on promptly should a fire rekindle or another fire occur. If any appreciable amount of burning has occurred in the building or stock that might cause rekindling, it is good practice to leave a detail with a watch line until the private protection is restored.

1-6. After the Fire.

1-6.1 Many large losses have occurred in sprinklered buildings when subsequent fires occurred before sprinkler protection was restored. Protection should be restored, if possible, before the department leaves the scene. If this is not possible, the fire department job at a fire in a sprinklered property is not completed when the apparatus returns to quarters. It is very important to follow up with an inspection to see that normal protection is completely restored.

1-6.2 Each fire department should have a regular method for following up on restoration of automatic sprinkler protection. This may be handled by the fire prevention bureau, by the officers of the

fire company in the district where the fire occurred or by the chief of the district. A good practice frequently followed is for the chief in charge at the fire to revisit the property several hours later to follow up on the situation to make certain that protection has been restored. This often provides an opportunity to obtain additional information relative to the circumstances of the fire and make suggestions to the occupants both as to fire prevention and action to be taken in the event of future fires.

1-6.3 It is also very important that the officer in charge include with his fire report essential data regarding the operation of the sprinkler system. This should always include notation of which company connected to the sprinkler fire department connection and pumped into the sprinkler system and the effect of the sprinkler operation on the fire. Any equipment such as hose streams or extinguishers used in controlling the fire should be noted. If the sprinklers were shut off or not operating properly, this should be reported and the reasons given.

1-6.4 A fire department report of fire in a sprinklered building should include pertinent additional information regarding automatic sprinkler operation such as:

- Number of sprinkler heads operating
- Location of heads operating
- Result of sprinkler operation
- Reason for any unsatisfactory operation
- What member of department was assigned to check control valve?
- Was valve closed after fire? Who ordered valve closed?
- Is sprinkler protection fully restored?
- By whom?
- Did the private water supply to sprinklers operate satisfactorily?
- Was water pumped into system?
- Did fire department connect to sprinkler system?
- If not, why not?
- Company connected to sprinkler system: Engine number
- Number of sprinkler heads replaced by fire department
- Type of heads installed
- Was representative of management notified?

1-6.5 Of course, the fire report will also indicate other fire fighting equipment, such as hose streams used on the fire. In addition, a company that has pumped into a sprinkler system should prepare a detailed report including orders received, lines connected to sprinklers, water supply used, pressure maintained, and length of time sprinklers were supplied.

Chapter 2 Outside Sprinklers for Protection Against Exposure Fires

2-1 General.

2-1.1 Many buildings or properties having a severe exposure problem are equipped with outside or external sprinkler systems designed to provide a water curtain capable of shielding the property from fires in other buildings or in storage areas. Most of these systems are designed for manual operation. Some are thermostatically operated, open-head systems. Some are specially designed sprinkler heads on pipes extending from a wet- or dry-pipe sprinkler system inside the building and so placed as to protect window openings.

2-1.2 Sprinkler heads for outside protection are specially designed for water curtain effect and when properly used should prevent an exposure fire from entering the building. Heads having various size orifices are available. Small orifice sprinklers ($\frac{1}{4}$ -inch, $\frac{5}{16}$ -inch, and $\frac{3}{8}$ -inch) [6.4, 7.9 and 9.5 mm] are used when windows are narrow or recessed or where the water supply is limited. Large orifice sprinklers are used for more serious hazards where water supply permits. NFPA 13, *Standard for Installation of Sprinkler Systems*, specifies the size of risers and pipes necessary to supply the various sizes of sprinkler heads required (see *Appendix A*).

2-2 Prefire Planning. The important things the fire department must know in planning operations in properties having outside sprinklers are the following:

- (a) Is the system automatically or manually operated?
- (b) If the system is automatically operated, where are the control valves used to shut off the sprinklers?
- (c) If the system is manually operated, where are the control valves for turning the system on and off and who is responsible for operation of the valves?
- (d) What water supplies are provided for the outside sprinklers?
- (e) Is there a fire department connection for pumping into the outside sprinklers? [See *Figure 1-2.6(b)*.]

2-3 Water Supply for Fire Fighting. A sketch should be prepared showing the location of the control valves, the fire department supply connections, and the hydrants to be used for pumping into the system. Where there is an exposure fire problem it must be

assumed that there may be a major fire which will also require a number of hose streams for manual fire fighting. There may also be standard automatic sprinkler systems in the fire area which must also be supplied with lines from pumps.

2-4 Fireground Operations Involving Outside Sprinklers.

2-4.1 The purpose of outside sprinkler systems is to prevent extension of fires to exposed properties. It is the duty of the officer in charge of the fire to see that these systems are used to fulfill their intended purpose. To do this it is necessary that the officer in charge know of the existence of the system and how it is supplied with water. Next to the saving of life, one of the first responsibilities of the fire department is the protection of exposures. The proper use of outside sprinklers helps the department to carry out this responsibility.

2-4.2 The officer in charge should ascertain as quickly as possible whether outside sprinklers are operating. If the system is manually operated, a fire fighter should be sent to the valve to open the valve immediately in the event the outside sprinklers are needed. In some cases there will be several valves controlling different exposed parts of the protected buildings and it is important to open the correct valves. Care must be taken to conserve water supply by shutting off the outside sprinklers when they are no longer needed.

2-4.3 The officer in charge should:

- (a) Make certain that sufficient help is called to handle a serious exposure fire.
- (b) Send a man to the proper control valve with orders to turn on the outside sprinklers as necessary.
- (c) Order an engine company to pump into the fire department connection supplying the outside sprinklers.
- (d) Order men into the exposed buildings on each side to see that all windows are closed and that fire has not extended into the buildings concerned.
- (e) If the exposure is severe, set up fire department lines in the exposed buildings using standpipe facilities if available.
- (f) Send men to the roof to make certain that no part of the roof structure has ignited.
- (g) Begin salvage operations in exposed buildings.
- (h) Order outside sprinklers shut off and drained when no longer needed.

Chapter 3 Properties Protected by Standpipe Systems

3-1 General.

3-1.1 Many properties have standpipe systems serving fire hose outlets in various parts of one or more buildings. Standpipe systems of various types may be used by the fire department to place streams in service quickly in areas that cannot be reached conveniently with hose lines directly connected to pumps or hydrants outside of buildings. Unfortunately, in some cases fire departments have ignored the availability of standpipe systems and have established no inspection or operational procedures for their effective use.

3-1.2 Complete details regarding standpipe systems appear in NFPA 14, *Standard for the Installation of Standpipes and Hose Systems* (see *Appendix A*). There are three classes of standpipe service. Class I is designed for use by fire departments and those trained in handling heavy fire streams (2½-inch hose and hose connections). Class II is designed for use primarily by the building occupants until the arrival of the fire department (1½-inch hose and hose connections). Class III is designed for use by either fire departments and those trained in handling heavy hose streams (2½-inch hose) or by the building occupants (1½-inch hose).

3-2 Inspection and Prefire Planning.

3-2.1 The procedure for fire department study of standpipe systems is in many ways similar to that of automatic sprinkler systems. The inspector must determine the source and reliability of water supply and follow the piping, noting the control valves. However, instead of sprinkler heads the system supplies outlets for hose streams.

3-2.2 Where the fire department is required to supply hose outlets several hundred feet from the fire department connection, plans must be made in advance to provide the required pressure and fire flow based upon the size, length of pipe, the maximum height of standpipe outlets and the number of streams that are to be supplied.

3-3 Water Supply for Fire Fighting.

3-3.1 Pressure gages are required for each discharge pipe from a fire pump or public main, at the pressure tank, at the air pump

Figure 3-2.1. Suggested Inspection Form for Properties Having Fire Standpipe Systems.

Name of Plant	Fire Inspection District No.		
Location	Fire Alarm Code No.	No. of Stories	
Description of Property			
Plant Official Responsible for Standpipe System			
Phone			
Type of Standpipe Systems:	No. of Risers	Location of	
First Aid Standpipe for Occupants	No. of Hose Outlets	Location of	
Size of Risers			
Valves Controlling Standpipes			
Fire Dept. Standpipes	No. of Risers	Size of Risers	
No. of Hose Outlets	Location of Valves Controlling Stand-		
pipes			
Water Supplies to Standpipes:	Pressure Tank		
Gravity Tank			
Volume in Storage			
Fire Pumps: Manual or Automatic Operation	Location		
Capacity			
Public Water Main	Static Pressure		
Private Water Main	Static Pressure		
gpm Available at	Residual Pressure at	Elevation	
Fire Department Connections:			
Location of Connections			
Standpipe Supplied:	Fire Dept.		
First Aid			
Company Assigned to Pump into Standpipe System on First Alarm			
Hydrant to be Used (normal procedure)			
Supplemental Pumper Supply Available			
Hose Provided at Standpipe Outlets:	Length		
Type	Condition		
Size			
Any Special Hose Threads or Adapters Provided?	Spray		
Type of Nozzle Provided: Straight Stream			
Are Standpipes Interconnected?			
Standpipe Waterflow Alarm Devices			
Remarks: includes any pertinent special information that may affect fire department operations			
Inspected by	Approved by	Date	

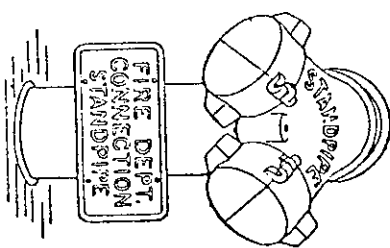


Figure 3-3.2. Typical fire department standpipe connection showing 2½-inch intakes which would be supplied by lines from one of the first responding pumps.

supplying a pressure tank, and at the top of each riser unless the risers are interconnected at the top where a single gage is satisfactory. Gages must have suitable drain valves and be protected against freezing. The inspector should note the static pressure on each gage and ascertain that valves controlling flow to standpipes are open. Where pressure for a standpipe is from a private fire pump, it may be desirable to have the pump started and observe the pressure at the top of the riser.

3.3.2 Where there is a fire department connection it should be closely inspected to see that it is free of obstruction and to determine the hose layout that will be necessary to pump into the system from the nearest hydrant. If the connection has screw-type caps, these should be removed and the threads inspected to determine that these match the fire department hose thread. The threads may be lubricated with flaked graphite if necessary. If the fire department connection is recessed in a building wall, make certain that hose can be attached and properly tightened. Some fire departments have found it necessary to carry special fittings for this purpose.

3-3.3 NFPA 14, *Standard for Installation of Standpipe and Hose Systems* (see *Appendix A*), requires that where standpipes are connected to public water supplies there preferably should be a post indicator valve of approved type not less than 40 feet (12.2 m) from the building protected or at least placed where it will be readily accessible and not subject to damage. Where post indicator valves cannot be used, underground gates should conform to the above requirements as far as practicable.

3-3.4 Fire department connections are required to have a check valve in the building or in a valve pit but must not have a gate valve which could prevent pumping water into the system. The check valve should have an automatic ball drip to drain the piping between the fire department connection and the check valve following use.

3-3.5 Each hose station should be inspected to see that the fire hose is in proper position on the racks and is properly attached to the standpipe outlet. The nozzle should be attached to the hose and the orifice must be unobstructed. The inspector must look for signs of leakage near the hose valve as moisture will hasten the deterioration of standpipe hose. If the hose has already deteriorated, prompt replacement should be ordered.

3-3.6 The inspector should also make certain that the standpipe outlets are located so as to give the desired coverage with the hose provided. New partitions may have been installed which make it impossible to reach some areas with hose streams. This consideration should also be a routine part of the fire inspector's review of building alteration plans submitted for a building permit. Generally, building alteration plans submitted for a building permit. Generally, not over 100 feet (30.4 m) of 1½-inch or 2½-inch fire hose should be attached to the standpipe outlets.

3-3.7 NFPA 14, *Standard for Installation of Standpipe and Hose Systems* (see *Appendix A*), calls for limitation of pressure at standpipe outlets, including those with connected fire hose. These pressure regulating devices are generally preset at 100 pounds per square inch (6.9 bars) at the outlet. These devices are not adjustable for higher pressures unless specified by the local fire department for Class I and Class III systems. In older standpipe systems, pressure control was achieved by inserting a disc having a restricting orifice of the required size. Such discs generally were not provided where 2½-inch standpipe outlets were for fire department use only. However, for Class III (2½-inch hose outlets and 1½-inch hose) systems equipped with such restrictions, the inspector should determine if they adversely affect the supply available for fire department use.

3-3.8 When inspecting hose outlets, make certain that both the 1½-inch hose thread and the 2½-inch hose thread, where provided, fit the local fire department thread. Frequently, 1½-inch standpipe outlets have iron pipe thread instead of the coarser fire department thread. It may be found that the local fire hose will not fit the 2½-inch standpipe thread. Some cities require that the necessary adapters be wired to each outlet ready for emergency use. In other cities having this problem the adapters are carried on the fire department apparatus.

3-4 Fireground Operations Involving Standpipe Systems.

3-4.1 Fire department operations in buildings with standpipe systems designed to supply fire department hose streams require carefully planned operating procedures as do operations in buildings protected by automatic sprinklers. Many buildings will have both sprinkler systems and standpipes.

3-4.2 In some cases fire departments have failed to make use of fire department standpipes because no positive procedures for standpipe operation had been adopted by the department concerned. In general, where a fire is not more than three or four stories above street grade and where the building is of moderate size, the fastest and surest procedure is to advance fire department hose lines directly from the fire department apparatus to the seat of the fire using stairways, fire ladders, fire escapes and hose hoists as required. However, where fires occur on floors above the reach of ground or aerial ladders and where valuable time will be lost in stretching lines up stairways, standpipes should be utilized, and careful planning is necessary for successful operations.

3-4.3 Where standpipe systems are provided having fire department connections, it is important that lines from a pumper supplied by a public main be connected at once and charged to the pressure required to give the desired working pressure on the standpipe outlets to be used. Where there are several independent standpipes for fire department use in the fire area, each standpipe should be charged. Where a sprinkler fire department connection is also provided, it may be necessary to supply the standpipe connection by the pumper arriving next after the one used to supply the sprinklers.

3-4.4 Entrance pressure at the standpipe fire department connection should start at approximately 100 pounds per square inch (6.9 bars) to supply solid stream nozzles at elevations up to 100 feet (30.4 m) and 150 psi (10.3 bars) to supply fire department spray nozzles requiring 100 psi (6.9 bars) nozzle pressure. For elevations above 100 feet (30.4 m), 5 pounds per square inch (0.3 bars) should be added for each additional floor. The water head to be overcome in pumping vertically, termed "back pressure" by the fire service, is 43.3 psi per 100 feet (9.8 bars/100 m).

(a) Fire department standpipe outlets are usually located in stair towers so that fire fighters can work from the stairway into the fire area. A basic rule in standpipe operations is to connect the fire department hose to an outlet a floor below the fire and advance the line up one flight of stairs. This is done so that an intense fire on the "fire floor" will not drive fire fighters away from the standpipe connection and cause loss of water supply. Where additional lines are

Appendix A

This Appendix is not a part of this NFPA document, but is included for information purposes only.

A-1 NFPA Standards, Guides and Manuals. This publication makes reference to the following NFPA documents and the year dates shown indicate the latest edition available. They are available from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.

- (a) NFPA 13-1976, *Standard for the Installation of Sprinkler Systems.*
- (b) NFPA 13A-1976, *Recommended Practice for the Care and Maintenance of Sprinkler Systems.*
- (c) NFPA 14-1978, *Standard for the Installation of Standpipe and Hose Systems.*
- (d) NFPA 20-1978, *Standard for the Installation of Centrifugal Fire Pumps.*
- (e) NFPA 1901-1975, *Standard for Automotive Fire Apparatus.*
- (f) NFPA SPP-13A-1977, *Industrial Fire Brigades Training Manual.*

A-2 Other Codes and Standards. This publication makes reference to the following standard and the year date shown indicates the latest edition available.

- It is available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania.
- (a) ASTM E 380-76, *Standard for Metric Practice.*

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Standard for the

Operation and Maintenance of National Standard Steam Fire Pumps

NFPA 21 — 1975

This Standard, Operation and Maintenance of National Standard Steam Fire Pumps, was first prepared by the NFPA Committee on Fire Pumps and adopted by the Association in 1937. Since many steam fire pumps are still in service, the standard was reconfirmed in 1963 and at the 1975 Fall Meeting of the Association in Pittsburgh, PA.

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This list represents the membership of the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred.



EST. 1880

United States Testing Company, Inc.

Engineering Services Division

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REPORT OF TEST

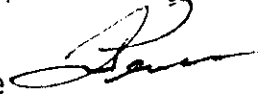
ARMSTRONG CORK COMPANY
2500 COLUMBIA AVENUE
LANCASTER, PA. 17604

FEBRUARY 20, 1980

PROJECT

CRITICAL RADIANT FLUX OF
FLOOR COVERING SYSTEMS

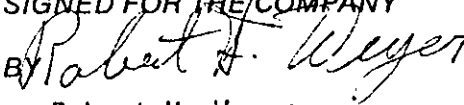
Testing Supervised by:

Frank Pepe 
Assistant Vice President
Engineering Division

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TEST REPORT NO. 77495-5

SIGNED FOR THE COMPANY

BY 

Robert H. Weyer
Senior Project Engineer
Fire Technology Section

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SAMPLE IDENTIFICATION:

One (1) sample of carpet was submitted and identified by the Client as:

Lot 173-1: Carpet Quality 728 "First Meeting"
Cut/Uncut Pile Construction, Nylon
Roll # 37856-04B
Primary Back - Polypropylene
Secondary Back - Jute



UNITED STATES TESTING COMPANY, INC.

PREPARATION AND CONDITIONING:

Armstrong Carpet Adhesive No. 3 was applied to three (3) 10" x 42" sections of A/C board. The carpet was laid over the adhesive, rolled, and allowed to cure.

The specimens were conditioned at $70^{\circ} \pm 5^{\circ}\text{F}$ and 50 percent Relative Humidity.

TEST PROCEDURE:

The test chamber was thoroughly pre-heated and allowed to stabilize with the radiant panel at a black body temperature of $500 \pm 5^{\circ}\text{C}$. The pilot burner was ignited and the specimen inserted into the chamber. After a two minute pre-heat, the pilot burner flame was placed in contact with the specimen for ten minutes, then removed. The test was continued until all flaming ceased. The distance burned was measured and converted to Critical Radiant Heat Flux at flame out.

The operation of the test chamber was checked by performing a flux profile measurement at the 40 cm point on the day of the test.



UNITED STATES TESTING COMPANY, INC.

TEST RESULTS:

The test results, determined in accordance with the prescribed method of Critical Radiant Heat Flux, are as follows:

<u>Test Specimen</u>	<u>*Critical Radiant Heat Flux Watts/cm²</u>
1	0.63
2	Greater than 1.07
3	Greater than 1.07
Average	Greater than 1.07

*See graph appended at the end of this report.

OBSERVATIONS:

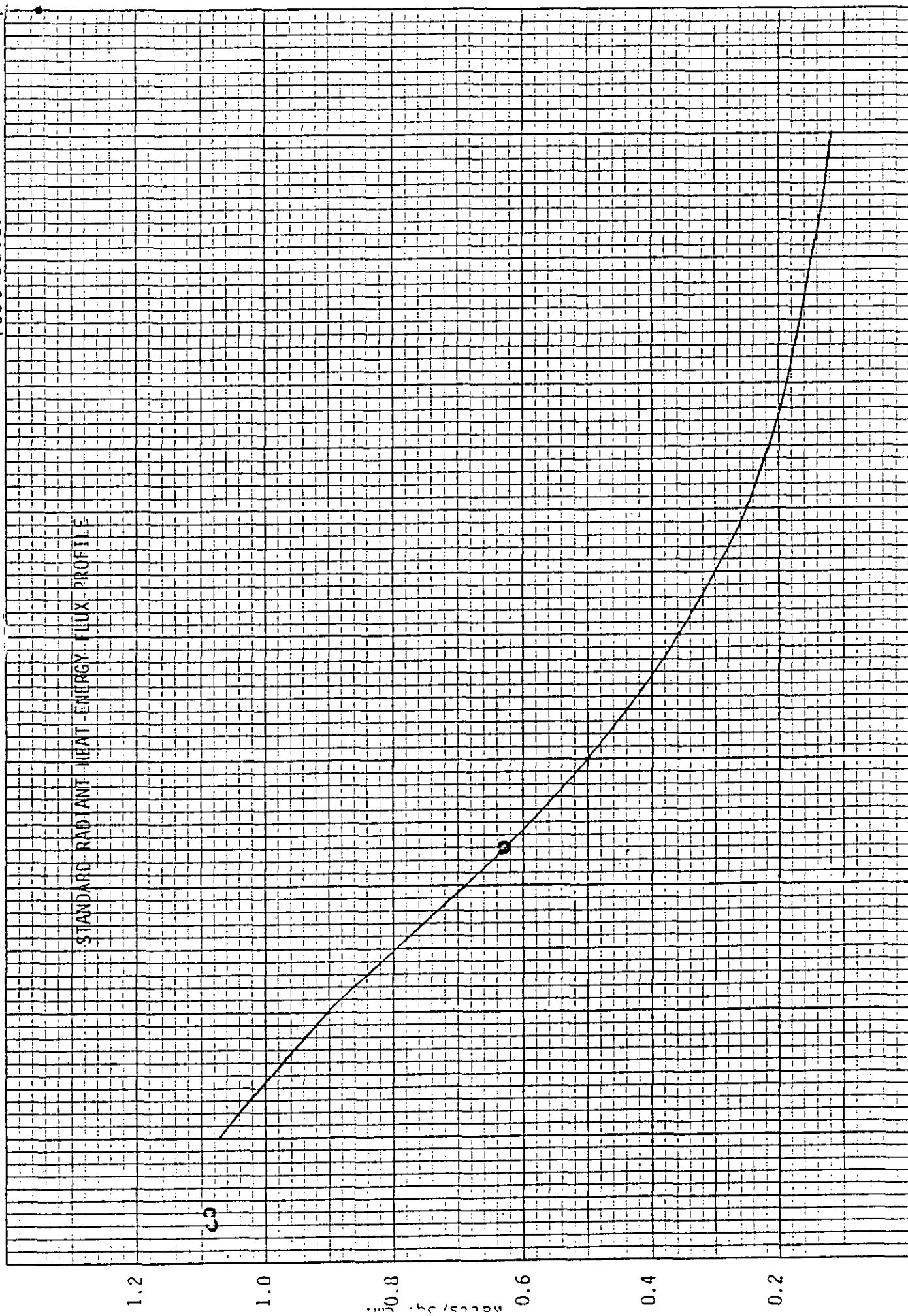
Ignition was noted along with charring, melting, and bubbling of the specimens upon pilot contact. The specimens burned a maximum distance of 33.2 cm in 34.6 minutes, 3.0 cm in 12.0 minutes, and 4.0 cm in 12.0 minutes, respectively.

Lot 173-3 "First Meeting"

Sample 000 using # 3 adhesive

Test Date: 12-28-79

STANDARD RADIANT HEAT ENERGY FLUX PROFILE





RECEIVED

OCT 08 1982

DIV. OF INSPECTION

October 6, 1982

Mr. Ed Izzo, Sub. Code Office
Township of Bricktown
401 Chamberbridge Road
Bricktown, NJ 08723

Dear Mr. Izzo:

We have been asked to provide you with flammability information on our 728 First Meeting which is being considered for installation in Caldor #82 in Bricktown, New Jersey.

728 First Meeting has been tested by a recognized independent laboratory in accordance with Federal Test Method Standard No. 372, "Test for Critical Radiant Flux of Carpet Flooring Systems (Floor Radiant Panel Test)" and was found to have an average critical radiant flux (CRF) of greater than 0.45 W/cm² when tested to simulate a direct bond installation. The actual data are reported in United States Testing Company, Inc. Report No. 77495-5 which is attached for your review.

Please note the United States Testing Company, Inc. statement on page 1 of the report. We shall appreciate it if you will review this data consistent with the outlined policy. Please contact me if I may be of further assistance.

Very truly yours,

A handwritten signature in cursive script, reading "Michael C. Pijar".

Michael C. Pijar
Supervisor, Product Standards
and Certification
Quality Assurance Department

JMW

Enclosure (original only)

Clark Township Construction Permit Application for Plumbing

1. LOCATION

NUMBER and STREET	SECTION	LOT	BLOCK
Rt. 70 Chambers Bridge Road		7-15	701

PROPOSED USE

Caldor - Department Store

2. TYPE of IMPROVEMENT ☐ NEW BUILDING ☒ ALTERATION ☐ ADDITIONAL FIXTURES
☐ WELL ☐ SEPTIC ☒ SEWER (B.T.M.U.A.) ☒ WATER (B.T.M.U.A.)

3. PLUMBING FIXTURES

1. WATER CLOSET
2. LAVATORIES
3. BATH TUB
4. SHOWER STALL or DRAIN
5. KITCHEN SINK (FOODS)
6. SLOP SINK
7. LAUNDRY TRAY
8. DISHWASHER
9. WASHING MACHINE
10. URINALS
11. FLOOR DRAIN
12. DRINKING FOUNTAIN
13. FOOD WASTE GRINDER
14. SEWER PUMP or EJECTOR
15. GREASE TRAP
16. OIL SAND SEPARATOR
17. AIR CONDITIONER
REFRIGERATOR WATER COOLED
18. HOT WATER HEATER ☐ OIL
☒ GAS ☒ ELECTRIC
19. DENTAL UNIT
20. LAWN SPRINKLERS
NO. OF HEADS
21. WELL (PRIVATE)
22. WELL PUMP
23. SEPTIC
24. PLUMBING STACKS

NUMBER OF	FEE
5	25
7	35
1	5
1	5
2	10
3	15
2	10
2	10
2	10.00

4. MATERIAL SPECIFICATIONS

BUILDING SEWER	PVC
WATER SERVICE	EXISTING
BUILDING DRAIN	PVC
WASTE	PVC
VENTS	PVC
WATER PIPE	COPPER

5. INSPECTIONS

	DATE	INSPECTOR
SLAB		
ROUGH		
WATER		
SEWER		
FINAL		

6. COMMENTS

PLUMBER Joseph A. Orecchio T/A JAMES V. NAIMO, INC.

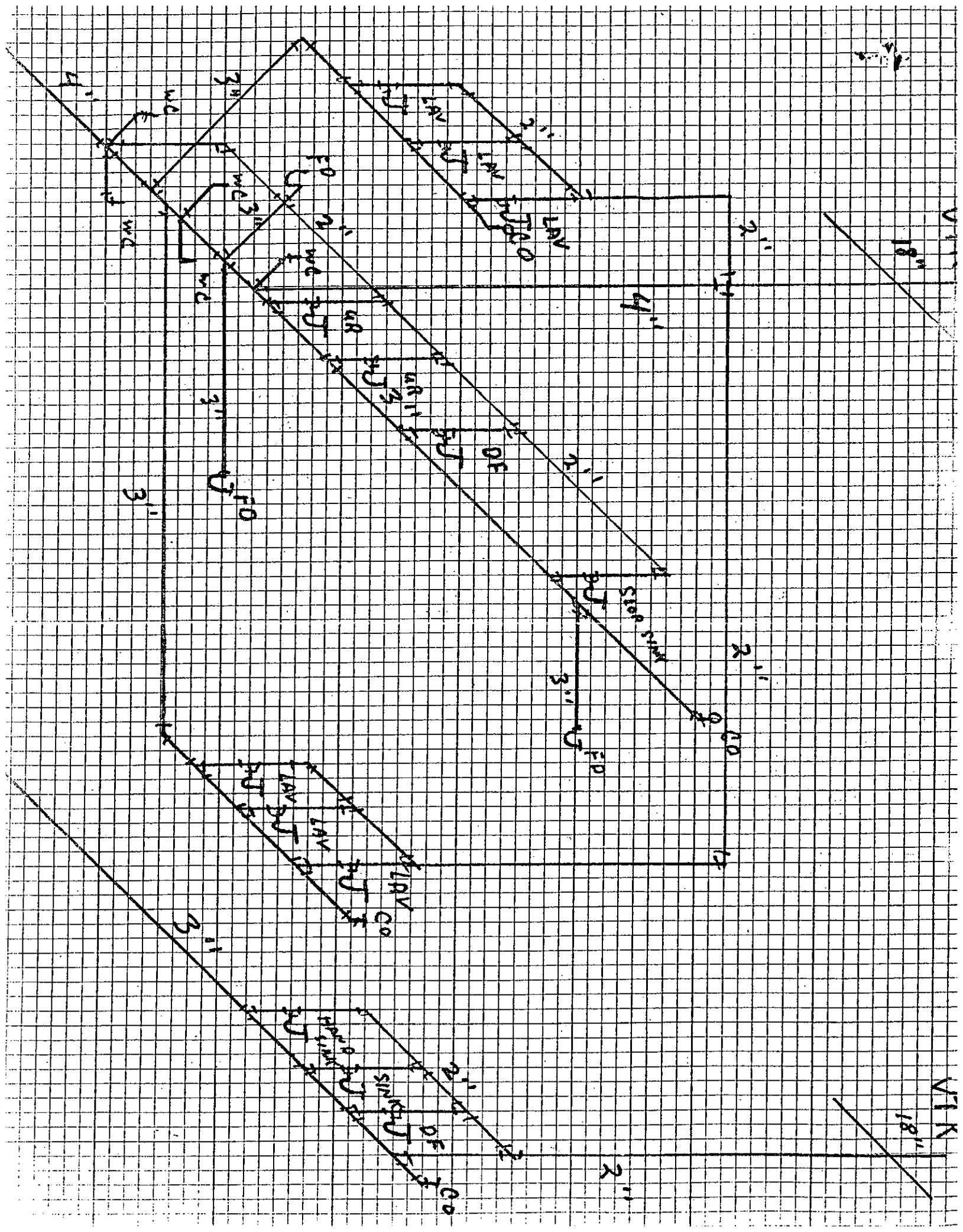
9034 Tonnelle Avenue

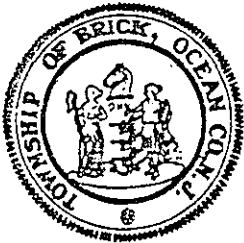
LICENSE 4879 (201) 863-0541-North Bergen, N.J. 07047

PLUMBING FEE \$ 10.50 PERMIT #

7/22/82

131056





Township of Brick

Ocean County, New Jersey

OFFICE OF THE MAYOR
JOHN P. KINNEVY

MUNICIPAL BUILDING, BRICK, N. J. 08723

*Capice
Joe
Ed.
John K*

March 8, 1983

Mr. Joseph Colon, Mgr.
Shoprite
Chambers Bridge Rd./Route #70
Brick, N. J. 08723

Dear Mr. Colon:

We have received requests from residents asking for additional reserved parking areas for our handicapped residents.

Mr. Arthur Cierzo, Construction Official, has advised that he has been in contact with you regarding this. He has advised that you have the required number of reserved parking areas (4). Mr. Cierzo has also brought to my attention the problem you are having with various individuals parking in these restricted slots. By copy of this letter to Joseph Anthony, Director of Public Safety, I am requesting that officers be dispatched immediately upon a call from you to our Police Department.

Any additional handicapped parking slots you could provide will be greatly appreciated by me and many other residents of Brick Township. If you have any questions concerning same, please feel free to contact me.

Very truly yours,

John P. Kinnevy
JOHN P. KINNEVY
Mayor

JPK/njn

cc: Agnes Dello Russo, Bus. Adm.
Arthur Cierzo, Construction Official ✓
Joseph Anthony, Director of Public Safety
Mr. Edward Mabillot, 430 Laurel Ave.
Cedarwood Park, Brick, N.J. 08723



Township of Brick

401 Chambers Bridge Road, Brick, N.J. 08723 (201) 477-3000

Office of
Division of Inspections

November 23, 1982

TO: Arthur J. Cierzo, Construction Official
FROM: Joseph Kelemen, Building Inspector
SUBJECT: Inspection at New Shop Rite Store

I arrived at the Shop Rite Store at approximately 10:15 a.m. on November 22, 1982 and made a preliminary inspection in the presence of Robert Ehrhardt and Harry Cottrell, Fire Inspectors. My findings are as follows:

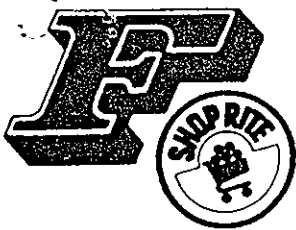
1. The stairway to the manager's office has insufficient headroom. The measurements were 6 feet, 3 inches from the nosing of tread. (B.O.C.A. page 163, Section 816.2.2, Headroom)
2. The manager's office has insufficient ceiling height. Measurements were 6 feet, 8 inches. (B.O.C.A., page 141, 706.5-Ceiling Height)

The field copy of the prints submitted for a construction permit shows the ceiling height to be 7 feet when finished.

In my opinion, I do not know how this violation can be rectified.

JK/wp

cc: Division of Inspections



FOODARAMA SUPERMARKETS, INC.

Box 592, Freehold, New Jersey 07728 • Telephone 201-462-4700

November 23, 1982

Mr. Ed Izzo
Building Inspector
Building Dept.
401 Chambers Bridge Rd.
Bricktown, NJ 08723

RE: SHOPRITE #903 - Bricktown, NJ

Dear Mr. Izzo:

Subsequent to an inspection by Mr. Joe Kellerman On November 22, 1982, there appears to be a problem with the headroom heights in the office mezzanine area.

It was found that we have lower ceiling elevations than shown on the drawings. The reason for this condition seems to be a dimensional discrepancy on the plan.

The mezzanine floor elevation is 12' - 0" as drawn. However, it doesn't leave us with the 7'0" ceiling height that the drawings show. This condition occurred because of the existing structure height. Unfortunately, it wasn't noticable until the mezzanine was built.

At this point with the building scheduled to open in just over a week, we respectfully request a variation to the drawings and following 1981 BOCA codes:

1. Referencing Page 141, Section 706.5, "Ceiling Heights" - The code requires a minimum of 7'-6", we have a ceiling height of 6'-8".
2. Referencing Page 163, Section 816.2.2, "HEADROOM" - The code requires a minimum headroom height of 6'-8", we have 6'-3".

We would like to emphasize that these conditions were in no way intentional and that we are as uncomfortable with them as you are. However, under the circumstances, we sincerely hope you can find it acceptable to issue us with a variation.

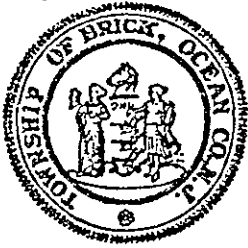
If you have any questions or comments, please do not hesitate to call me.

Very truly yours,

Mario LoGiudice - Director
Technical Services

/ct

cc: Messrs: A. Cierzo, J. Kellerman



Township of Brick

401 Chambers Bridge Road, Brick, N.J. 08723 (201) 477-3000

Office of
Division of Inspections

December 3, 1982

Foodarama Supermarkets, Incorporated
Box 592
Freehold, New Jersey 07728

Re: Shoprite #903, Brick, NJ

Dear Sirs:

You are hereby granted a temporary Certificate of Occupancy for Shoprite Store #903 for a period of thirty (30) days, beginning December 4, 1982 and ending January 4, 1983. During this time the following items will be corrected:

1. The steel welds will be painted.
2. There will be complete compliance with the Ocean County Electrical Bureau.
3. Clarification of interpretation #10 from the Department of Community Affairs. (Plumbing Code)
4. The stairs leading to the manager's office and the ceiling in the manager's office shall be altered to meet the codes for height.
5. There exists a physical cross connection between the rug cleaning equipment and the potable water supply system. The rug cleaning equipment must be disconnected immediately and not used until an approved back flow preventing device is installed on the hot and cold water supply of this equipment.
6. Parking spaces and fire zones have to be painted.
7. The heating system has to be completed.
8. The pump to the sprinkler system has to be hooked up.

Yours truly,

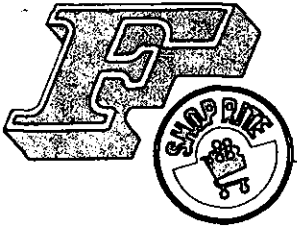
Arthur J. Cierzo
Arthur J. Cierzo
Construction Official

AJC/wp

cc: Tax Assessor
Division of Inspections

[Signature]

Signature of acknowledgement



FOODARAMA SUPERMARKETS, INC.

Box 592, Freehold, New Jersey 07728 • Telephone 201-462-4700

December 1, 1982

Mr. Ed Izzo
Building SubCode Official
Building Dept.
401 Chambers Bridge Rd.
Bricktown, NJ 08723

RE: SHOPRITE #903 - Bricktown, NJ

Dear Mr. Izzo:

This letter is to acknowledge that the office stairway and Manager's office will not be used until corrections as mentioned in your letter of November 30, 1982 are made.

We have contacted the architect to find out why this situation exists and exactly how we can rectify it.

Your cooperation has been very much appreciated.

Very truly yours,

Mario LoGiudice - Director
Technical Services

/ct

cc: Mr. A. Cierzo



Township of Brick

401 Chambers Bridge Road, Brick, N.J. 08723 (201) 477-3000

Office of
Division of Inspections

November 29, 1982

TO: Edward Izzo, Building Sub-Code Official
FROM: Arthur J. Cierzo, Construction Official
SUBJECT: Inspection at New Shop Rite Store

The following is an inspection report of the new Shop Rite Store made by Joseph Kelemen on November 22, 1982, in the presence of Robert Ehrhardt and Harry Cottrell, Fire Inspectors. His findings are as follows:

1. The stairway to the manager's office has insufficient headroom. The measurements were 6 feet, 3 inches from the nosing of tread. (B.O.C.A. page 163, Section 816.2.2, Headroom)
2. The manager's office has insufficient ceiling height. Measurements were 6 feet, 8 inches. (B.O.C.A., page 141, 706.5, Ceiling Height)

The field copy of the prints submitted for a construction permit shows the ceiling height to be 7 feet when finished.

I would like a decision from you in writing regarding this matter.

AJC/wp

cc: Division of Inspections



Township of Brick

401 Chambers Bridge Road, Brick, N.J. 08723 (201) 477-3000

Office of
Division of Inspections

January 12, 1983

To: Donald Metcalf, Sr. Plumbing Inspector
FROM: Arthur J. Cierzo, Construction Official
REF: Vornado

On Thursday at 10 A.M., we will meet with Mr. Morris Scarpa and review the job site.

AJC/tz

cc: Division of Inspections



Township of Brick

401 Chambers Bridge Road, Brick, N.J. 08723 (201) 477-3000

Office of
Division of Inspections

January 3, 1983

Shire Reality
2629 Hwy. # 70
Manasquan, NJ 08736
Attn. Patrick Donohue

Re Fire at 228 Mandalay Road, Brick, NJ
Boarding up. Block 211-A, Lot 20

Sir:

An inspection was made at the above mentioned dwelling.

According to 5:23-2.9, Uniform Construction Code (D) Rules concerning unsafe structures. A vacant building unguarded or open at door or window shall be deemed a fire hazard and unsafe, within the meaning of the regulation.

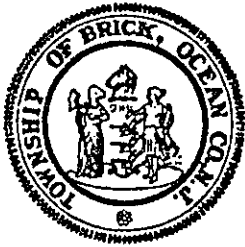
You are hereby notified to board up existing dwelling immediately.

Very truly yours,


Arthur Cierzo
Construction Official

AC/mks
cc: Division of Inspections (3)

Building Inspector



Township of Brick

401 Chambers Bridge Road, Brick, N.J. 08723 (201) 477-3000

Office of
Division of Inspections

December 13, 1982

Robert G. Parvin
Philadelphia Manufacturers Mutual Insurance Company
Plaza Nine, 900 Route Nine
Woodbridge, N.J. 07095

REF: Vornado, Inc.
Index No. 32417.72
Account No. 8-1029

Dear Mr. Parvin:

On December 7, 1982, a meeting was held in my office with Donald Metcalf Senior Plumbing Inspector, to discuss the back flow preventor for the fire protection system.

The decision was reached to remove the siamese connection at the street and add an approved double check assembly, which must conform with the standards of A.S.E. 1015, and A.S.E. 1013 of the Department of Community Affairs Interpretation 10, A.W.W.A..

You have the right to appeal this decision. A copy of the form is being enclosed, however, if you would like to discuss this further, please call prior to your appeal and arrange for an appointment.

Very truly yours,

Arthur J. Cierzo
Arthur J. Cierzo
Construction Official

AJC/tz

cc: Vornado, Inc.
Division of Inspections

Vornado INC.

174 PASSAIC STREET
GARFIELD, N.J. 07026

201-773-4000

RECEIVED

MAR 28 1983

DIV. OF INSPECTION

March 24, 1983

Mr. Arthur J. Cierzo
Construction Offical
Township of Brick
401 Chambersbridge Road
Brick, New Jersey 08723

RE: CALDORS/SHOP-RITE, BRICK, NEW JERSEY

Dear Mr. Cierzo:

Attached please find the Application for Variation, signed as requested.

Sincerely,

VORNADO, INC.

M. Scarpa

Morris Scarpa
Real Estate Coordinator

MS/rpe



Township of Brick

401 Chambers Bridge Road, Brick, N.J. 08723 (201) 477-3000

Office of
Division of Inspections

APPLICATION FOR VARIATION (N.J.A.C. 5:23-2.4)

Date Filed 3/17/83 Plan Number Permit #963

Project Name & Location Shop-Rite --- Caldor's

Owner's Name & Address Vornado Inc., 174 Passaic St., Garfield, N.J.

Architect's Name & Address Morris Waitz, 20 Glorie Ave., Norwalk Conn.

Building Use Group (s) M Building Construction Classification Merchantile 2 A

Building Height in Stories 1 Total Gross Area (One Building) 50,996 - ~~39,683~~ 87,667

The owner of the above premises hereby applies for a variation to Section AWWA-10
of the 523-2.4 Subcode of the New Jersey Uniform Construction Code.

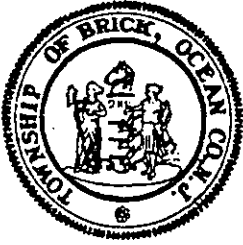
1. Requirements from which variation is sought:
2. Manner in which strict compliance would result in practical difficulties:
3. Nature and extent of practical difficulties:
4. Proposed alternative to requirements (attach architect's drawing):

Muri Seay
Owner or Agent's Signature Vornado
3-24-83 INC.

☒ Approved

Sub-Code Official _____

Construction Official _____



Township of Brick

401 Chambers Bridge Road, Brick, N.J. 08723 (201) 477-3000

Office of
Division of Inspections

November 30, 1982

Foodarama Supermarkets, Incorporated
Box 592
Freehold, New Jersey 07728

Re: Shoprite #903, Brick, NJ

Dear Sirs:

Your office is aware of the inspection made by Mr. Kelemen on November 22, 1982.

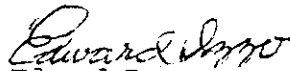
At that time he found the stairway to the manager's office had insufficient headroom. (It has 6', 3" and needs 6', 8" - B.O.C.A., page 163, section 816.2.2)

He also found the manager's office ceiling was of insufficient height. (It has 6', 8" and needs 7' - B.O.C.A., page 141, section 706.5)

Our office cannot accept these two discrepancies as they exist at this time.

Be advised a temporary Certificate of Occupancy will be issued for a period of thirty (30) days, so you may open Store #903 on the scheduled date of December 4, 1982, with the provision that the stairs leading to and the manager's office will not be used until the above violations are corrected.

Yours truly,


Edward Izzo
Sub-Code Official

EI/wp

cc: Division of Inspections (3)



Township of Brick

401 Chambers Bridge Road, Brick, N.J. 08723 (201) 477-3000

Office of
Division of Inspections

December 8, 1982

Mr. Morris Scarpa
Plaza Nine
900 Route Nine
Woodbridge, N.J. 07095

Ref: Vornado, Inc.
Index No. 32417.72
Account No. 8-1029

Dear Mr. Morris:

On December 7, 1982, a meeting was held in my office with Donald Metcalf, Senior Plumbing Inspector, to discuss the back flow preventor for the fire protection system.

The decision was reached to remove the siamese connection at the street and add an approved double check assembly, which must conform with the standards of A.S.E. 1015, and A.S.E. 1013 of the Department of Community Affairs Interpretation 10, A.W.W.A..

You have the right to appeal this decision. A copy of the form is being enclosed, however, if you would like to discuss this further, please call prior to your appeal and arrange for an appointment.

Very truly yours,

Arthur J. Cierzo
Construction Official

AJC/tz

cc: Vornado, Inc.
Division of Inspections

LOT 26. 1426-1 13453

BRICKTOWN

26,000 ϕ CLEAR AREA ¹⁰/₆ 2400.00
IN SALES 1600.00

P. Doors - 4

1 - 6'4"

8. 44"

243' Long High - 18' 8 inch Black.

B 963

Brick Township Construction Permit Application for Plumbing

1. LOCATION

NUMBER and STREET	SECTION	LOT	BLOCK
Rt. 70 Chambers Bridge Road			

PROPOSED USE

SUPERMARKET (FOOD)

2. TYPE of IMPROVEMENT ___ NEW BUILDING ☒ ALTERATION ___ ADDITIONAL FIXTURES

___ WELL ___ SEPTIC ☒ SEWER (B.T.M.U.A.) ☒ WATER (B.T.M.U.A.)

3. PLUMBING FIXTURES

	NUMBER OF	FEE
1. WATER CLOSET	7	35-
2. LAVATORIES	13	65-
3. BATH TUB		
4. SHOWER STALL or DRAIN		
5. KITCHEN SINK (FOODS)	5	25-
6. SLOP SINK	3	15-
7. LAUNDRY TRAY		
8. DISHWASHER		
9. WASHING MACHINE		
10. URINALS	2	10-
11. FLOOR DRAIN	20	100-
12. DRINKING FOUNTAIN	1	
13. FOOD WASTE GRINDER		
14. SEWER PUMP or EJECTOR		
15. GREASE TRAP	3	15-
16. OIL SAND SEPARATOR		
17. AIR CONDITIONER REFRIGERATOR WATER COOLED		
18. HOT WATER HEATER ___ OIL ___ GAS ☒ ELECTRIC	4	20-
19. DENTAL UNIT		
20. LAWN SPRINKLERS NO. OF HEADS		
21. WELL (PRIVATE)		
22. WELL PUMP		
23. SEPTIC		
24. PLUMBING STACKS	19	10.00
25. HUB DRAINS	50	350

4. MATERIAL SPECIFICATIONS

BUILDING SEWER	PVC
WATER SERVICE	EXISTING
BUILDING DRAIN	PVC
WASTE	PVC
VENTS	PVC
WATER PIPE	COPPER

5. INSPECTIONS

	DATE	INSPECTOR
SLAB		
ROUGH		
WATER		
SEWER		
FINAL		

6. COMMENTS

PLUMBER Joseph A. Orecchio T/A JAMES V. NAIMO, INC.

9034 Tonnelle Avenue

LICENSE 4879 (201) 863-0541-North Bergen, N.J. 07047

PLUMBING FEE \$

545

PERMIT #

B963

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PROPERTY OWNER Shop 111E (100.61)
STREET Rt 70
LOT 7, 8, 15, 16 BLOCK 701
ZONING _____ USE GROUP _____
CONTRACTOR JAMES V NAIMO INC LICENSE NUMBER REGISTRATION 4879

WATER MAIN SIZE _____

WATER PRESSURE _____

SEWER MAIN SIZE _____

PLUMBING FIXTURES	NUMBER OF	(sfu) WATER UNITS	(dfu) DRAINAGE UNITS
1. Water Closet	<u>7</u>	(10) <u>70</u>	(6) <u>42</u>
2. Lavatories	<u>13</u>	(2) <u>26</u>	(1) <u>13</u>
3. Bath Tub	_____	() _____	() _____
4. Shower Stall	_____	() _____	() _____
5. Kitchen Sink	<u>5</u>	(3) <u>15</u>	(3) <u>15</u>
6. Service Sink	<u>3</u>	(3) <u>9</u>	(4) <u>12</u>
7. Laundry Tray	_____	() _____	() _____
8. Dishwasher	_____	() _____	() _____
9. Washing Machine	_____	() _____	() _____
10. Urinals	<u>2</u>	(10) <u>20</u>	(6) <u>18</u>
11. Floor Drain	<u>20</u>	() _____	(3) <u>60</u>
12. Drinking Fountain	<u>1</u>	(1) <u>1</u>	() <u>1</u>
13. Air Condition Water Cooled	_____	() _____	() _____
14. Dental Unit	_____	() _____	() _____
15. Lawn Sprinklers Number of Heads	_____	() _____	() _____
16. Fire Sprinklers Number of Heads	_____	() _____	() _____
17. Floor Drain	<u>50</u>	() _____	(3) <u>150</u>
18.	_____	() _____	() _____

Water Supply Units 141 Drainage Units 311

Gallons per minute 50

Inspection Fee _____ Size of Service 2" Size of Service 5"

Approved by [Signature]
Plumbing Inspector

Date 7/15/82