# United States Fire Administration

## Technical Report Series

# Sprinklers Control Arson Fires in Rack-Storage Warehouse Mt. Prospect, Illinois

**Federal Emergency Management Agency**

**United States Fire Administration**

**National Fire Data Center**

# Sprinklers Control Arson Fires in Rack-Storage Warehouse Mt. Prospect, Illinois (October 16, 1988)

**Investigated by: April Berkol**

**This is Report 030 of the Major Fires Investigation Project conducted by TriData Corporation under contract EMW-88-C-2649 to the United States Fire Administration, Federal Emergency Management Agency.**

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## U.S. Fire Administration Fire Investigations Program

The U.S. Fire Administration develops reports on selected major fires throughout the country. The fires usually invovle multiple deaths or a large loss of property. But the primary criterion for deciding to do a report is whether it will result in significant "lessons learned." In some cases these lessons bring to light new knowledge about fire -- the effect of building construction or contents, human behavior in fire, etc. In other cases, the lessons are not new but are serious enough to highlight once again, with yet another fire tragedy report.

The reports are sent to fire magazines and are distributed at national and regional fire meetings. The International Association of Fire Chiefs assists USFA in disseminating the findings throughout the fire service. On a continuing basis the reports are available on request from USFA.

This body of work provides detailed information on the nature of the fire problem for policymakers who must decide on allocations of resources between fire and other pressing problems, and within the fire service to improve codes and code enforcement, training, public fire education, building technology, and other related areas.

The Fire Administration. which has no regulatory authority, sends an experienced fire investigator into a community after a major incident only after having conferred with the local fire authorities to insure that USFA's assistance and presence would be supportive and in no way interfere with any review of the incident they are themselves conducting. The intent is not to arrive during the event or even immediately after, but rather after the dust settles, so that a complete and objective review of all the important aspects of the incident can be made. Local authorities review USFA's report while it is in draft. The USFA investigator or team is available to local authorities should they wish to request technical assistance for their own investigation.

This report and its recommendations were developed by USFA staff and by TriData Corporation, Arlington, Virginia, its staff and consultants, who are under contract to assist the Fire Administration in carrying out the Fire Reports Program.

The U.S. Fire Administration appreciates the cooperation received from the Mt. Prospect, Illinois Fire Department and Business Services Inc. Particular thanks go to Chief Edward A. Cavello. Deputy Chief Lonnie H. Jackson, Inspector Wallace Kueking, and Fire Protection Engineer R. Paul Valentine.

# Sprinklers Control Arson Fires in Rack-Storage Warehouse Mt. Prospect, Illinois

Investigated by: April L. Berkol

Local Contacts: Deputy Chief Lonnie H. Jackson
Wallace Kueking, Investigator
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Fire Prevention Bureau
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Mt. Prospect, IL 60056

## OVERVIEW

Very early on the morning of October 16, 1988, a private fire alarm monitoring service received a smoke detector alarm from a Mt. Prospect warehouse. The private service then reported the alarm to the Northwest Central Fire Dispatch, which in turn alerted the Mt. Prospect Fire Department.

Upon arrival at the scene, the firefighters inspected the outside of the 49,000 square foot building. At first, the only indication of trouble was a sounding water motor gong. As they completed their walk around the building, they discovered water running out from under a door located at the southwest corner of the one-story structure. At about the same time, a light trail of smoke was observed from the roof area of the southwest corner of the building.

The Fire Department then forced entry from the east side dock entrance. Upon entering the premises, they discovered that a fire had been contained by sprinkler operation to the southwest,corner of the warehouse section of the business. (See Appendix A for Floor Plan.) The responding

SUMMARY OF KEY ISSUES

| Issues | Comments |
|---|---|
| Cause of Fire | Arson to cover a robbery. |
| Extinguishment of Fire | Sprinkler system, with Fire Department overhaul to extinguish smoldering fires. |
| Building and Contents | Building is a Type 2C (BOCA) non-combustible structural steel and concrete structure. The building consists of offices and warehouse section. Storage is on open double steel racks and consists of Class III materials on wooden pallets; some pallets contain encapsulated materials. |
| Fire Protection Equipment | Automatic sprinklers and smoke detectors and hard-held extinguishers were provided. A private service monitored the fire alarm and suppression system. |
| Damage | Final loss to be determined. No casualties or business interruption occurred. |

units then proceeded to extinguish remaining fire, and remove and overhaul palletized paper products from the racks where they were stored. The fire was completely extinguished within 50 minutes of the Mt. Prospect Fire Department's arrival on the scene. Overhaul and salvage activities were completed within approximately 12 hours from arrival on the scene.

Investigation of the fire scene revealed that multiple fires had been set by a person or persons unknown in an effort to cover up a burglary at the business. Successful operation of the overhead sprinkler system and the quick reponse of the Mt. Prospect Fire Department helped prevent a large loss, and no business interruption was experienced as a result of the fire.

## STRUCTURE AND CODES

The Business Services Inc. building was a one-story structure. It contained administrative offices at the northwest end, computer room, break room, and clerical/word processing room on the western side, and a warehouse section with an open steel, double rack storage system with a receiving/shipping area in the remaining space. There were 10 rows of racks. The building is 270 feet by up to 200 feet and is approximately 49,000 square feet overall.

The five-year-old building was located in a high-rent, modern, business park. The construction type was (BOCA) Type 2C, unprotected noncombustible. The facility was a noncombustible structure with metal roof deck on steel joist with pre-cast concrete wall panels on a structural steel frame. The warehouse section is separated from the administrative offices by fire rated construction. Fire rated gypsum wall board partitions serve to separate the computer, break, and word processing rooms from the remainder of the warehouse. The building was accessible to Fire Department vehicles on three sides. A creek ran along the building's northern end.

## FIRE PROTECTION SYSTEMS AND EQUIPMENT

The building was fully sprinklered. The system in the warehouse section consisted of 286 F heads at the ceiling, designed to deliver a density of 0.21 gpm/sq. ft. over 2,000 sq. ft. There were no in-rack sprinklers at the time of the fire. A Fire Department Siamese connection was provided at the southwest corner of the building. Two fire hydrants were located near the structure, one near the southeast corner and the other near the southwest corner. The structure was also equipped with a fully automatic proprietary fire alarm system. Smoke detection was provided in the warehouse area. Fire extinguishers were located on every other structural column within the warehouse space. Smoking was not permitted in this area.

Water supply for fire hydrants and the building sprinklers was on the Mt. Prospect village fire lines, which are in turn connected to Chicago's lines. The system is deemed very good by the Fire Department.

## FIRE DEPARTMENT EQUIPMENT AND TRAINING

Serving a population of approximately 56,000 village residents, the Mt. Prospect Fire Department employs 64 full-time firefighters and 20 paid-on-call firefighters. The Department enjoys an Insurance Services Office overall rating as a Class 2 department.

The Mt. Prospect Fire Department prides itself on its on-going training programs, which cover courses for State Certification, Apparatus Engineer, Hazardous Materials, Special Rescue, Paramedic/EMT, and Underwater Recovery.

The Department has three fire stations: #12, #13, and #14. Station #13 is the main station and has an engine, aerial truck, squad, ambulance (mobile intensive care unit, as are all Department ambulances), a reserve pumper, and a command vehicle; it has seven men on duty at all times, including the Shift Commander. Station #14 has an engine and an ambulance, with five men on duty each shift. Station #12, which is also the location of the Fire Prevention Bureau, houses the "Fire Boss" twin agent unit

(chemical and AFFF), a front-line engine, an ambulance, a reserve engine, a HazMat van, an Emergency Service Disaster Response van, generator, and a boat for water rescues. Station #12 also has five men on duty at all times. The Fire Prevention Bureau is staffed by a fire protection engineer, two inspectors, the deputy chief, and a secretary. The Department is in the process of adding another inspector.

The Mt. Prospect Fire Department and the members of their Fire Prevention Bureau, headed by Deputy Chief Lonnie H. Jackson, provide public education programs presented to school children and senior citizens' groups throughout the year. A door-to-door campaign over a three year period has achieved a 90 percent level of smoke detector usage in private residences. The Department makes repeat visits to verify and re-educate residents on the use and care of smoke detectors in the home. The Department has won the State Fire Prevention Award for 15 years running. The Department is proud of its record of five years without a death due to fire.

## THE FIRE

First indication of the fire occurred just prior to 0149 on October 16, 1988, when a smoke detector alarm was received by a private alarm monitoring service. This was called into the Northwest Central Fire Dispatch office at 0149. The first units were out of the station at 0150 and arrived on the scene at 0154. The actual ignition is thought to have occurred between 1200 hours, when the last employees left the premises, and 0149, when the smoke detector alarm was recorded.

The first arriving units were from Stations #14 and #13 and consisted of two engines, an aerial truck, the shift commander, and an ambulance. Initially, the crews did not observe any signs of fire other than the ringing water motor gong, water was seen running out from under a door on the southwest corner, near the Fire Department Siamese connection. A second alarm was called in at 0204 summoning Fire Chief Cavello, another ambulance, and Reserve Squad 13. Mutual aid was received from two neighboring towns.

Forced entry was made from the loading dock service entrance on the east side of the building. Engine 13 laid in a 3-inch line from the loading dock side, while Engine 14 gained entry on the west side, laying in a 1 1/2-inch line. Engine 14 also connected to the Fire Department connection to charge the sprinkler system. Ventilation was provided from the roof by Aerial Truck 13.

The first entering firefighters encountered large amounts of smoke. Once the firefighters were able to open the overhead doors to the loading dock, they laid in attack lines. The fire was completely extinguished by 0244 when overhaul activities began. Salvage and overhaul was completed at 1453. A total of 26 personnel, four engines, one aerial truck, and six other vehicles responded to this fire.

Once the fire was brought under control, it was determined that multiple fires had been deliberately set in the southwest corner of the warehouse section. The Fire Department investigator and the Fire Marshal's investigator were called to the scene. Further investigation of the scene revealed that a secure area had been breached and items appeared to be missing from this area. Also, a dollar-bill-changing machine in the break room was found to have been broken into. The Mt. Prospect Police Department was called to the scene upon discovery of the apparent' burglary.

The fires had been intentionally set in paper goods stored on wooden pallets lying in the second aisle between the first row of double racks from the southern end of the building. The fire then spread to packed goods on the lower level of the nearest double rack. In all, approximately five bays of the southern-most double rack, and about three bays of the single width rack system on the southern wall of the building were affected. These bays were damaged due to the heat developed by the fire.

Although the building did not suffer any structural damage, a skylight located above the fire area failed prior to extinguishment. This failure is thought to have occurred soon after the time the first responding units arrived on the scene. This is based on the fact that no outward signs of

fire were observed upon arrival, but once the Fire Department completed its walk around the building, smoke was simultaneously observed from the loading dock area and the roof at the southwestern end of the structure.

Promotional fliers, pamphlets, and brochures used for marketing purposes were stored in the racks. Business Services Inc. was a marketing services company engaged in mass mailings of promotional material. Goods are packed in paper-wrapped bundles or cartons, grouped on wooden pallets, and occasionally encapsulated (covered on both top and sides by plastic sheeting). The storage scheme consists of double racks with storage on four levels up to approximately 20 feet. The goods are reconsidered a Class III commodity by National Fire Protection Association (NFPA) 231C, Rack Storage of Materials. (For an explanation of commodity classification, see Appendix B.)

## DAMAGE ASSESSMENT

Damage from the incident was primarily due to water. A total of 20 heads eventually fused as the sprinkler system operater to contain the fires. Upon entering the premises, the Fire Department noted ankle-deep water throughout. Sprinkler operation and Fire Department operations were limited to the southwestern sections of the building.

It is interesting to note that the sprinkler system design required by NFPA 231C for this type of commodity and storage configuration calls for 286 F heads at the ceiling, with a higher design density, and one level of in-rack sprinklers.

Summary of Sprinkler Protection Issues - Actual versus Required

| ACTUAL | REQUIRED (NFPA 231C) |
|---|---|
| 1 286 F sprinkler heads at the ceiling | 1 286 F sprinkler heads at the ceiling |
| 2 No in rack sprinkler heads | 2 One level of in rack sprinkler heads rated at 165 F |
| 3 A design density of 0.21 gpm/sq. ft over most remote 2,000 sq. ft. | 3 A design density of 0.28 gpm/sq. ft over most remote 2,000 sq. ft. |

Although the system as actually designed and installed contained this fire, it is likely that fewer heads would have operated and the fire might have been contained by in-rack sprinklers if they had been present. This would predictably have limited the degree of water damage. Although a final dollar value was unavailable at the time of this report, the fire loss estimates place it at over one million dollars.

Successful operation of the sprinkler system, and the efficient manner in which the Fire Department attacked the fire, prevented it from spreading into the adjacent data processing rooms. These areas were found with several inches of water on the floor; however, no damage was suffered by any of the equipment.

LESSONS LEARNED

1. A well organized monitoring and alarm reporting system enables fires to be responded to earlier in their progress.

The smooth interaction'of the private monitoring system with the Northwest Central Fire Dispatch Center, which actually coordinates all fire departments in the surrounding villages, was instrumental in the outcome of this incident.

2. Even thouqh the sprinkler system was not designed to handle the commodity type and storaqe configuration employed, it contained the fire.

An excessive number of heads fused as the system attempted to cope with the set fires. The combination of a prompt alarm and effective fire department response produced a favorable outcome in this incident. The lack of in-rack sprinklers and the lower design density might have been ineffective in confining the fire under different circumstances.

3. There may be a need for providing some means of protectinq sprinkler system valves from vandals.

An interesting outcome of this fire is that though the fires were set to hide a burglary, the perpetrator could have caused considerably more damage if he/she had shut down the sprinkler system. The fires were set within 20 feet of the easily accessible sprinkler valve.

4. Business owners need to be educated about the value of good fire prevention practices as well as sprinkler system and Fire Department operations.

One of the positive results of the incident has been the heightened awareness of the business owner with regard to Fire Department operations. Previously, the owner assumed that Fire Department personnel, in their attack and overhaul, would cause increased levels of loss and damage. This fire and the Fire Department's subsequent actions to aid in the clean-up of the scene proved that to be untrue.

This fire brought Business Services Inc. and the Fire Department closer. The incident also dispelled the owner's false belief that, in a fire, all heads of a sprinkler system would operate simultaneously. The business owner admits to a heightened awareness and concern for codes and standards, to whit, maintaining clear aisle widths between racks, clearing of combustible debris, and, in general, conforming to recommended storage practices. As the owner stated, before the fire, the objective was to

maximize the use of the high-rent storage space at the expense of good fire prevention practices.

5. When a business depends heavily on its data processing capabilities, an increased level of protection for its computers and related equipment is good business sense.

The fire increased the owners general awareness of fire safety. Also, the business owner asserted that they were fortunate not to have lost any of their data processing capabilities in this incident and were now considering a Halon system for this sensitive area.

# APPENDICES

A. Floor Plan of Structure; shows locations from which Berkol photos were taken.

B. Explanation of Storage Commodity Classifications per NFPA 231C.

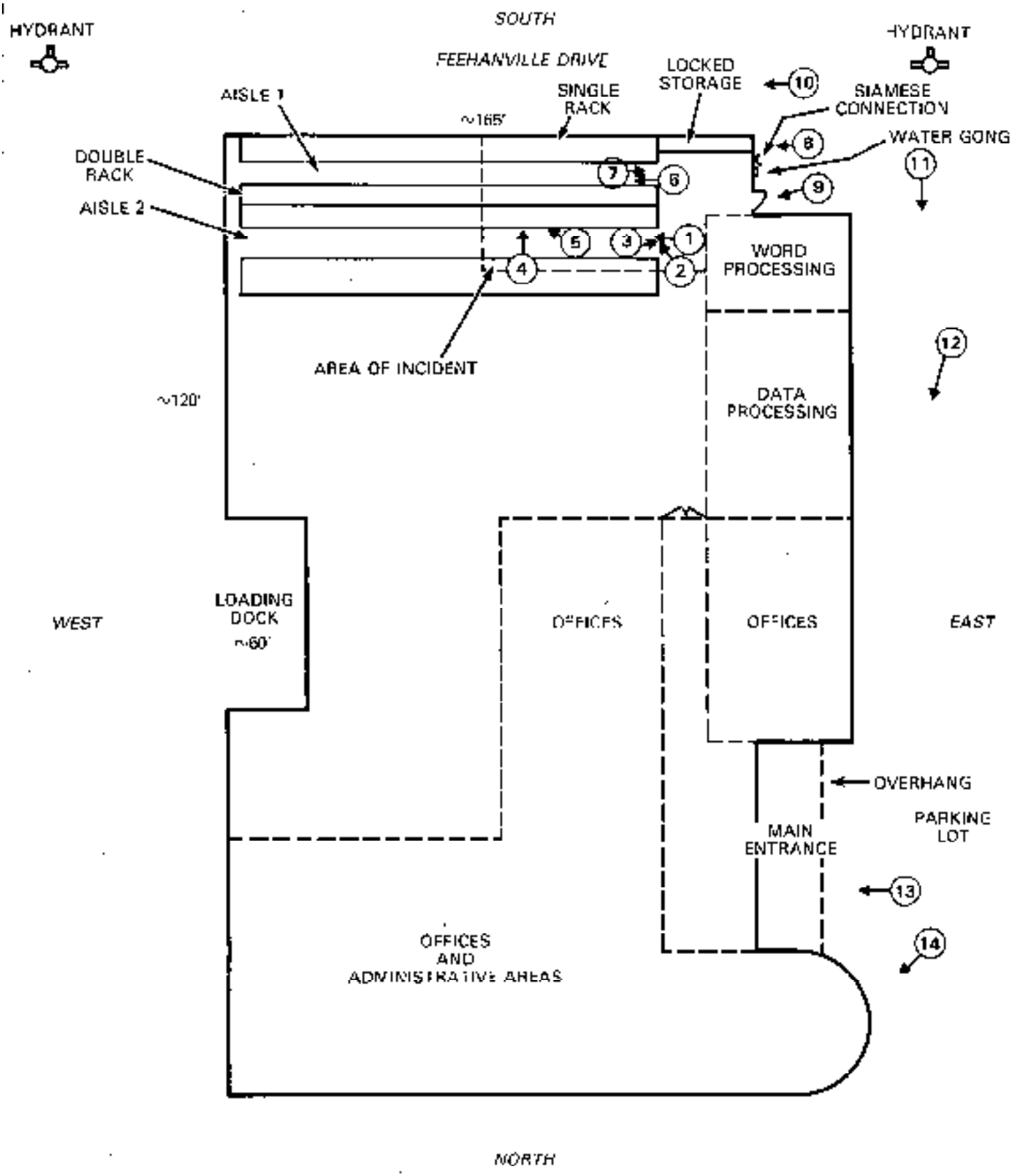
C. Floor Plan of Structure, showing fire area.

D. Mount Prospect Fire Department Organizational Chart.

E. Chicagoland area map locating Mt. Prospect.

F. Mount Prospect Fire Department Fire Incident Report.

G. List of Slides and photographs, followed by selected reproductions. (Slides and photographs are included with the master report at the U.S. Fire Administration.)


HYDRANT
SOUTH
FEEHANVILLE DRIVE
HYDRANT
LOCKED STORAGE
10
SIAMESE CONNECTION
AISLE 1
SINGLE RACK
~165'
8
WATER GONG
11
DOUBLE RACK
7
6
9
AISLE 2
5
3
1
WORD PROCESSING
4
2
AREA OF INCIDENT
12
~120'
DATA PROCESSING
LOADING DOCK
~60'
WEST
OFFICES
OFFICES
EAST
OVERHANG
PARKING LOT
MAIN ENTRANCE
13
14
OFFICES AND ADMINISTRATIVE AREAS
NORTH
CREEK
17
072-9-21-89-7

## Explahation of Storage Commodity Classifications per NFPA 231C

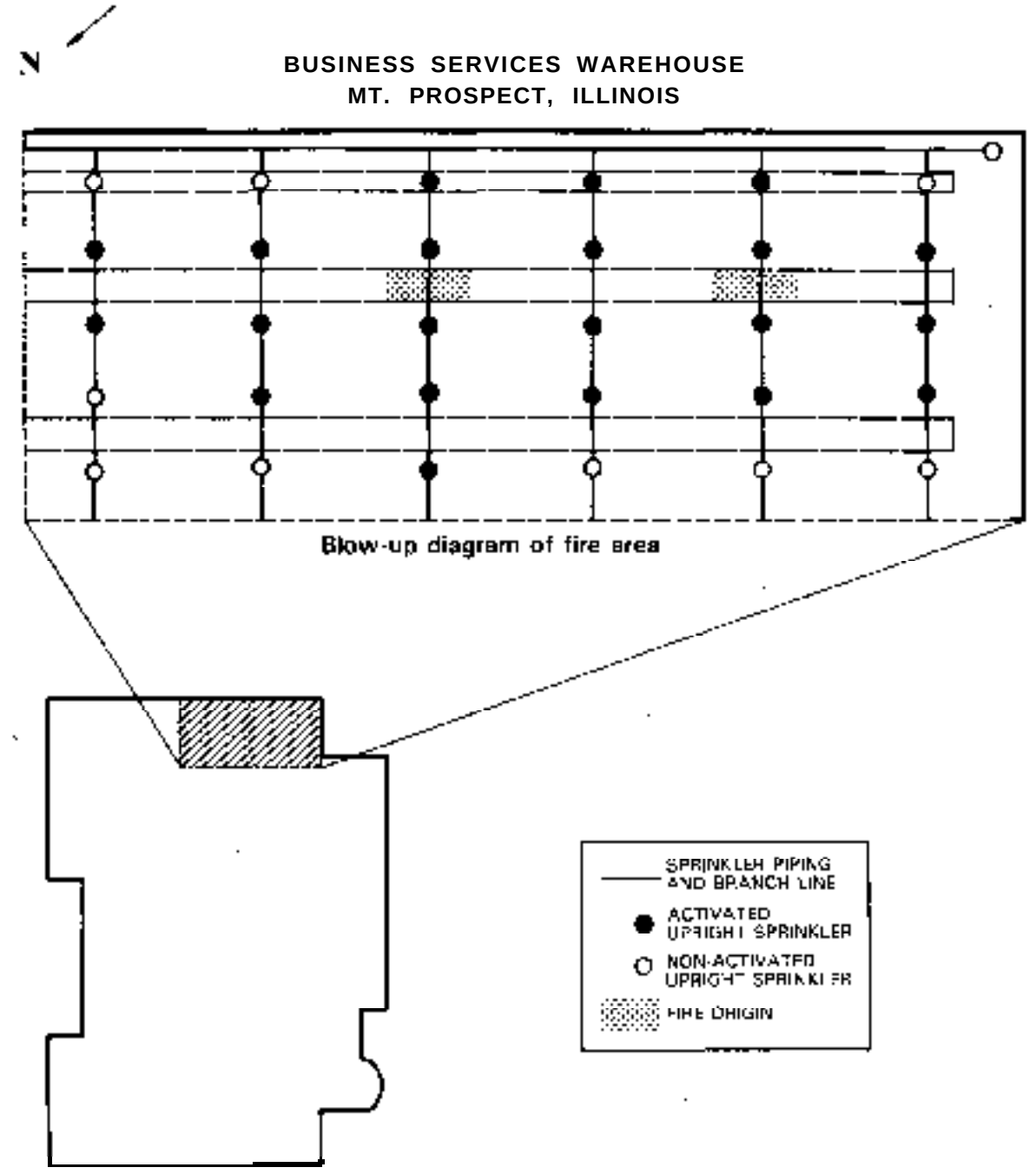
Class I commodities are essentially non-combustible items, i.e. metal products, glass, foods and the like.

Class II commodities are Class I commodities in slatted wooden crates,. solid wooden boxes, and the like on wood pallets, i.e. light bulbs, beer, wine, thinly coated fine wire and the like.

Class III commodities are ordinary combustibles such as wood, paper, natural fiber cloth, and Group C plastics such (PVC, urea formaldehyde etc.) on wooden pallets.

The commodity type in this storage space consisted of pamphlets, brochures and similar promotional paper products, packed cartons, stacked on wooden pallets of which some were partially encapsulated in plastic sheet.

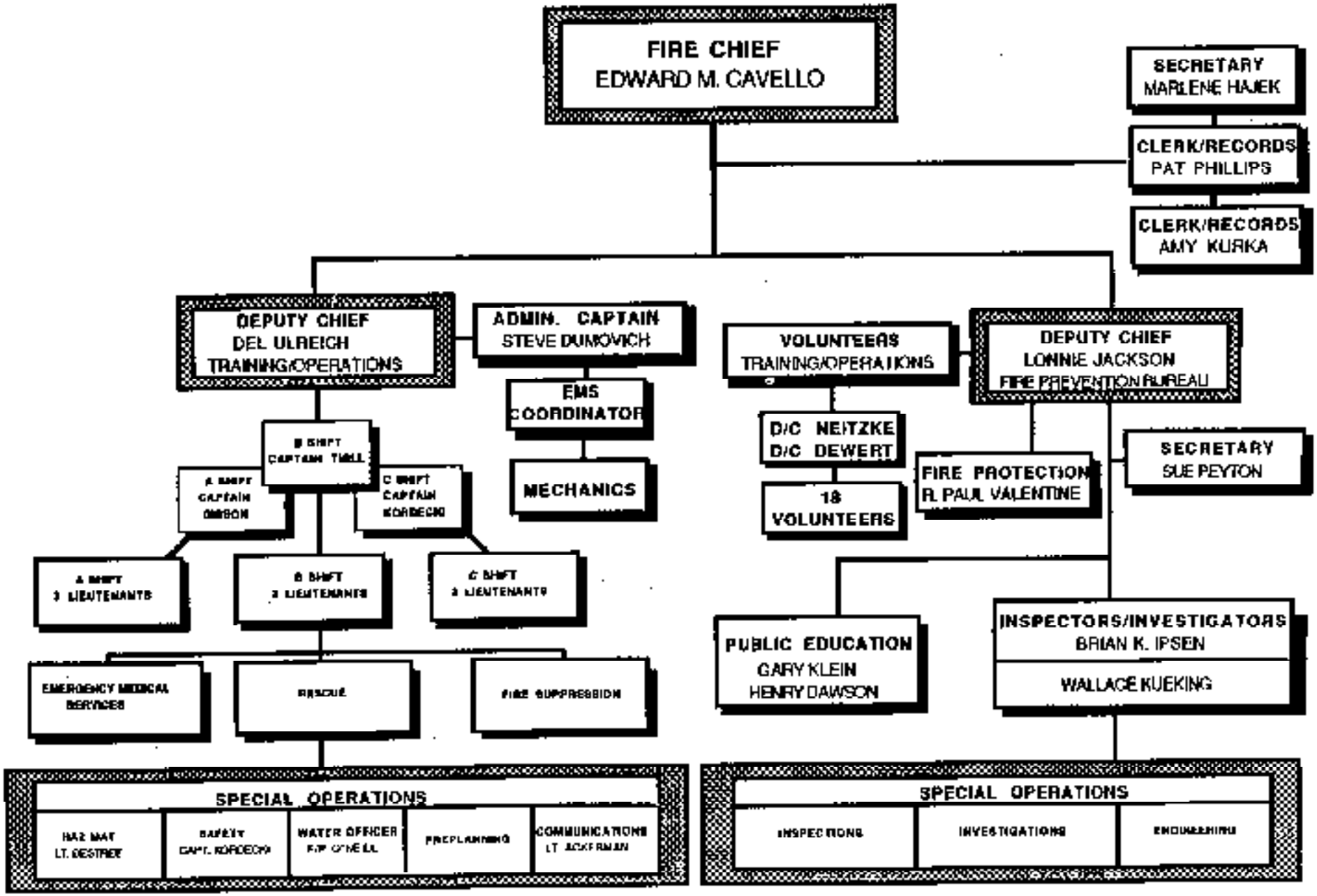
This information is included for informational purposes only. Complete information of sprinkler requirements for rack storage can be found in NFPA 231C, Rack Storage of Materials.

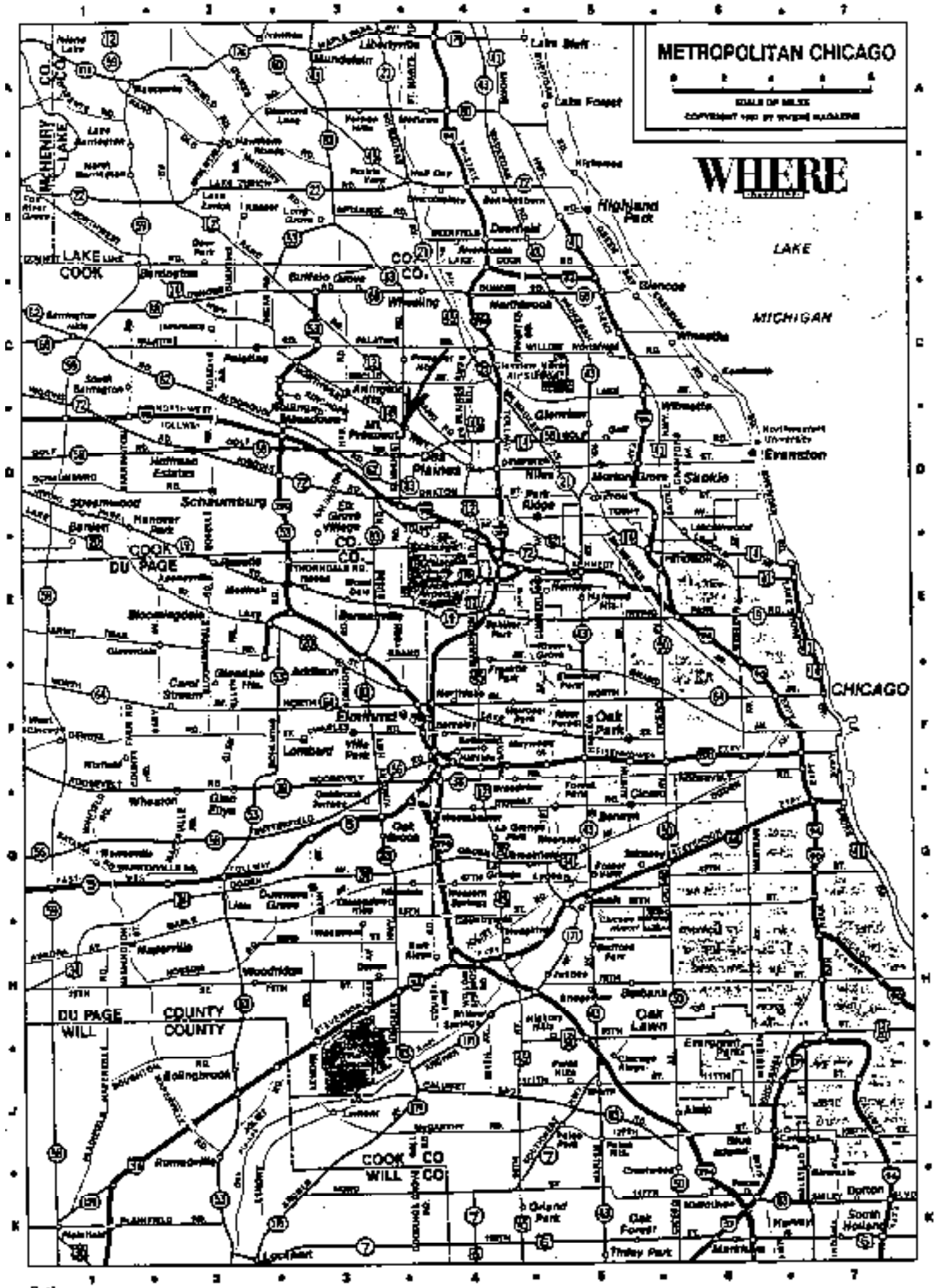



**Outline of building showing fire area**

# MOUNT PROSPECT FIRE DEPARTMENT ORGANIZATIONAL CHART

REVISED 3/88




METROPOLITAN CHICAGO
WHERE
LAKE
MICHIGAN
CHICAGO
COOK
DU PAGE
WILL
COUNTY
Highland Park
Lake Forest
Evanston
Skokie
Schaumburg
Elmhurst
Oak Park
Naperville
Woodridge
Oak Lawn
Orland Park
Tinley Park
Joliet

FIRE INCIDENT REPORT

# MOUNT PROSPECT FIRE DEPARTMENT

112 E. NORTHWEST HIGHWAY MOUNT PROSPECT, ILLINOIS 60056

1 ☐ Owner 2 ☐ Owner

A | FDID: C.M.3 4.2 | INCIDENT NO.: 83-32112 | EXP NO.: 00 | MO.: 10 | DAY: 16 | YEAR: 83 | DAY OF WEEK: Sunday | ALARM TIME: 1/01 STA 81 STA | TIME ARRIVED: | IN SERVICE:

B

TYPE OF SITUATION FOUND
- Structure ☒ 1
- Outside of Structure ☐ 2
- Vehicle ☐ 3
- Trees/Brush/Grass ☐ 14
- Refuse ☐ 15

TYPE OF ACTION TAKEN
- Extinguishment ☒ 1
- Investigation Only ☐ 3

MUTUAL AID
- None ☐
- Received ☒ 1
- From E.G.F.D.

C

FIXED PROPERTY USE
- Not Applicable ☐ 000
- 1-Family Dwelling-Year ☐ 411
- 2-Family Dwelling-Year ☐ 414
- 3-6 Unit Apt/Tenmnt/Flat ☐ 422
- 7-20 Unit Apt/Tenmnt/Flat ☐ 423
- + 20 Unit Apt/Tenmnt/Flat ☐ 424
- Resident Parking/Garage ☐ 681
- Vacant Property ☐ 915
- Open Land/Field ☐ 931
- Vacant Lot ☐ 936
- Railroad Right of Way ☐ 951
- Limit Access/Divid Hwy ☐ 961
- Paved Public Street ☐ 962
- Paved Private St/Way ☐ 963
- Unpaved St/Rd/Path ☐ 964
- Uncovered Parking Area ☐ 965
- Paper Products ☒ 899

IGNITION FACTOR
- Undetermined ☐ 00
- Incendiary-No Civ Disab ☐ 11
- Suspicious-No Civ Disab ☒ 19
- Abandoned Material ☐ 31
- Insects Contr/Open Flame ☐ 34
- Child Playing ☐ 38
- Combstbl/Too Close Heat ☐ 46
- Part Failure/Leak/Break ☐ 31
- Short Circ/Grnd Fault ☐ 54
- Other Elec Failure ☐ 55
- Lack of Maintenance ☐ 56
- Backfire ☐ 57
- Unattended Operation ☐ 73

D

CORRECT ADDRESS: CITY: 602 Feehanville | ZIP CODE: 60056 | CENSUS TRACT: 8702.11.040

E

OCCUPANT LAST NAME: Business | FIRST NAME: Services Inc | M.I.: | TELEPHONE: | ROOM OR APT.:

F

OWNER LAST NAME, FIRST NAME, M.I.: | OWNER ADDRESS: CITY | TELEPHONE:

G

METHOD OF ALARM FROM PUBLIC
- Telephone-Direct ☐ 1
- Private Fire Alarm ☒ 3
- Radio ☐ 4
- Direct Verbal Report ☐ 5
- Telephone Tie-Line ☐ 7

CO MAP GRID: 10A/5 | SHIFT: 1 | # ALARMS: 1

H

NO. FIRE SERVICE PERSONNEL RESPONDED: 16 | NO. ENGINES RESPONDED: 4 | NO. AERIAL APPARATUS RESPONDED: 1 | NO. OTHER VEHICLES RESPONDED: 6

I

NUMBER INCIDENT-RELATED INJURIES: FIRE SERVICE: 0 | OTHER: 0

NUMBER INCIDENT-RELATED FATALITIES: FIRE SERVICE: 0 | OTHER: 0

J

COMPLEX
- Dwelling ☐ 41
- Apartment ☐ 42
- Shopping ☐ 58
- Road ☐ 96
- No Complex ☐ 98
- Warehouse ☒ 50

MOBILE PROPERTY TYPE (If any, do line 5)
- Unascertained ☐ 00
- Not Applicable ☒ 98
- Automobile ☐ 11
- Mobile Home ☐ 17
- Truck over 1 Ton ☐ 21
- Truck-Van Under 1 Ton ☐ 22

K

AREA OF ORIGIN
- Undetermined ☐ 00
- Lounge Area ☐ 14
- Sleep Rm Under 5 People ☐ 21
- Kitchen/Cooking Area ☐ 24
- Trash Area/Container ☐ 46
- Garage/Carport/Storage ☐ 47
- Truss Eqp/Passage Area ☐ 61
- Engs Area of Trans Eqp ☐ 63
- Railroad Embankment ☐ 91
- Highway/Public Way/St ☐ 92
- Lawn/Field/Open Area ☐ 94
- Storage Area ☒ 41

EQUIPMENT INVOLVED IN IGNITION (If any, do line 7)
- Undetermined ☐ 00
- Fed. Stazy Lod Htg Unit ☐ 13
- Portable Local Htg Unit ☐ 15
- Chimney, Gas Vent Flu ☐ 16
- Fnd/Stazy Surf Unit ☐ 21
- Open Fire Grill ☐ 28
- Cord, Plug ☐ 47
- Vehicle ☐ 96
- No Equipment Involved ☒ 98

L

FORM OF HEAT OF IGNITION
- Undetermined ☒ 00
- Spark/Ign Fueled Eqp ☐ 11
- Heat/Gas Fueled Eqp ☐ 12
- Spark/Ign Fueled Eqp ☐ 13
- Heat/Ign Fueled Eqp ☐ 14
- Short Circuit-Bet Wnd ☐ 23
- Short Circuit-Unspec ☐ 24
- Overheated Eqp ☐ 27
- Cigarette ☐ 31
- Match ☐ 45
- Open Fire ☐ 47
- Backfire From Engine ☐ 48
- Friction ☐ 51
- Reignition/Returnfire ☐ 55
- Property Oper Elec Eqp ☐ 56
- Fireworks ☐ 65
- Lightning Discharge ☐ 73
- Radiated Heat ☐ 82

TYPE OF MATERIAL IGNITED
- Undetermined ☐ 00
- Gasoline ☐ 23
- Fat/Grease (Food) ☐ 31
- Plastic—Unclassified ☐ 40
- Rubber ☐ 51
- Grass/Leaves ☐ 54
- Sawn Wood ☐ 63
- Unsawed Paper ☐ 67
- Man-Made Fiber ☐ 71
- Cotton/Rayon ☐ 72
- Multiple Types ☒ 99

FORM OF MATERIAL IGNITED
- Undetermined ☐ 00
- Structural Member ☐ 17
- Upholstered Sofa/Chair ☐ 21
- Electrical Wire ☐ 61
- Fuel ☐ 65
- Growing/Living Form ☐ 74
- Rubbish/Trash ☐ 75
- Cooking Material ☐ 76
- Gas/Liquid-From-Pipe ☐ 86
- Multiple Forms ☒ 99

COMPLETE ON ALL INCIDENTS

COMPLETE ON ALL FIRE INCIDENTS

CONTINUED ON REVERSE SIDE

M

Salt Extinguished ☐ 1
Make-Shift Aids ☐ 2
Portable Extinguisher ☐ 3
Precon Hose Tank Water ☐ 5
Precon Hose Hydrant Wtr ☐ 6
House Lines ☒ 7

Grade Level-9 Ft Above ☒ 1
10-19 Ft Above ☐ 2
Below Grnd/Water Level ☐ 8
☐ _

$ 100,000

COMPLETE LINES N — Q FOR STRUCTURE FIRES ONLY

N

NUMBER OF STORIES

☒ 1 ☐ 5
☐ 2 ☐ 6
☐ 3
☐ 4 ☐ _

CONSTRUCTION TYPE

Fire Resistive ☒ 1
Unprotected Ordinary ☐ 6
Protected Wood Frame ☐ 7
Unprotected Wood Frame ☐ 8
☐ _

Q

EXTENT OF FLAME DAMAGE

Object ☐ 1
Part Room ☐ 2
Room ☒ 3
Building ☐ 6
☐ _

EXTENT OF SMOKE DAMAGE

Object ☐ 1
Part Room ☐ 2
Room ☐ 3
Building ☒ 6
☐ _

P

DETECTOR PERFORMANCE

No Detector Present ☐ 8
☐ _

SPRINKLER PERFORMANCE

No Equip Present ☐ 8
☐ _

Q

IF SMOKE SPREAD BEYOND ROOM OF ORIGIN:

TYPE OF MATERIAL GENERATING MOST SMOKE:

Undetermined ☐ 00
Gasoline ☐ 23
Fat/Grease (Food) ☐ 31
Plastic-Unclassified ☐ 40
Rubber ☐ 51
Grass/Leaves ☐ 54
Sawn Wood ☐ 63
Untreated Paper ☐ 67
Man-made Fiber ☐ 71
Cotton/Fabric ☐ 72
Multiple Types ☒ 97
☐ _

AVENUE OF SMOKE TRAVEL

Not Determined/Reported ☐ 0
Corridor ☒ 1
Opening in Construction ☐ 5
No Significant Avenue ☐ 8
☐ _

R

FORM OF MATERIAL GENERATING MOST SMOKE:

Undetermined ☐ 00
Structural Member ☐ 17
Unfastened Sofa/Chair ☐ 21
Electrical Wire ☐ 61
Fuel ☐ 65
Crowing/Living Form ☐ 74
Rubbish/Trash ☐ 75
Cooking Material ☐ 76
Gas Liquid From Pipe ☐ 86
Multiple Form ☒ 97
☐ _

S

| IF VEHICLE PROPERTY | YEAR | MAKE | MODEL | SERIAL NO. | LICENSE NO. |
|---|---|---|---|---|---|
| | | | | | |

T

| IF EQUIPMENT INVOLVED IN IGNITION | YEAR | MAKE | MODEL | SERIAL NO. |
|---|---|---|---|---|
| | | | | |

U

| OFFICER IN CHARGE (NAME, RANK, ASSIGNMENT) | WEATHER | TEMPERATURE | WIND DIRECTION AND VELOCITY |
|---|---|---|---|
| Capt. Gibson | Cloudy | 60° | SW-10 |

INDIVIDUAL MAKING REPORT (IF DIFFERENT FROM ABOVE): Lt. K.B. Clark

F.I.R.S. INVESTIGATION (Y-N): YES

K&B King
INVESTIGATOR NAME

| DEP. F.D. UNITS * | TIME DISPATCHED | TIME ARRIVED | TIME CONTROL. | MANPOWER |
|---|---|---|---|---|
| a. 512 | 01:50 | 01:54 | | 26 |

ESTIMATED VALUE OF PROPERTY $ 2,000,000

*List first due engine in first position (Ex: 512 or 525)

OPTIONAL COMMENT AREA: Upon Arrival Noticed Water Gong Operating. Checked Bld & Found Smoke in Loading dock. Forced Entry Service door NEXT to over head Doors. Open Them and laid 3" to loading dock. Stretched 2 lines from wye as attack lines. (1¾ x 1½). FK Forced w. Sickle Door & laid 1¾ to fire. Much High Stacked Paper Products (200+). Noticed 2 Areas of origin. FK to Roof for Ventilation, E14 on Siamese, E12 head out. Eng 13-14 attack lines. FK is third attack line.

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## LIST OF PHOTOGRAPHS AND SLIDES

Slides and photographs are included with the master report at the U.S. Fire Administration. The pictures on the following pages were made from the items asterisked below.

Provided by Wally Keuking, Mt. Prospect Fire Department

1. Looking due south from first double rack at single rack on south wall. Shows southwest end of single rack and start of locked storage area to its right.

*2. Looking due southwest from the second aisle. The main sprinkler riser is visible just above the firefighter's right hand.

3. Shows damage to goods stored.

4. Shows break room with burglarized change machine.

*5. Looking up aisle three, damage to rear of racks is evident at far end.

6. Main entrance to building.

*7. Typical damage to goods on upper level of racks.

8. Looking due south at door leading to warehouse section. Shows extent of water penetration due to fire.

*9. Data processing room, showing water accumulation on floor.

10. Data processing room. Shows extent of water penetration. No damage to equipment.

11-14. From aisle two showing fire damage to first double rack and single rack at southwest end of warehouse.

15. Looking upwards from aisle two at area of metal deck roof where fire impinged on ceiling.

16. Word processing room. Shows extent of water penetration. No fire damage.

17. From aisle two showing fire damage to storage racks.

*18. Typical fire damage to goods on rack in aisle two.

19. From aisle two, showing fire damage to storage racks.

*20. Failed skylight above aisle one. Note sprinkler piping.

21-30. Shots taken west and due east from aisle two showing extent of fire damage to goods and racks.

*28. Overall view of fire area showing damage to racks.

Taken by A. L. Berkol

31. Looking down aisle two between first two double racks; looking from west to east. Shows new double racks.

32. Looking down aisle two from the southwestern corner of second row of double racks. Shows location of one of the set fires.

33. Looking towards southwestern corner of building from southwestern corner of second double rack. Shows location of sprinkler valve.

34. Looking upwards from mid-section of new portion of first row of double racks. Shows effects of fire on metal roof deck to left of failed skylight.

35. Looking upwards from second row of double racks at roof area affected by fire. Shows effects of fire on metal roof deck.

36. Looking down aisle one to the eastern end of building. Shows new bays of single rack on southern wall of building.

37. Looking due west from aisle one at western wall with locked storage area to left and sprinkler valve dead ahead. Shows sprinkler valve location.

38. Looking due west at southwestern exterior corner of building. Shows location of water gong and Fire Department connection.

*39. Northeast view of exterior of warehouse section showing Fire Department connection and door used to gain entry on west side of building.

40. Looking due east from exterior western corner. Shows precast concrete panel walls of structure.

*41. Looking north along southwestern corner of building. The main entrance is visible at far end of building.

42. Looking due northwest from parking lot towards main entrance. Shows main entrance to building as well as part of the administrative section office windows.

43. Looking due northeast towards main entrance. Shows main entrance to building.

44. Looking Due Northeast at northwestern corner of building. Shows northwest corner of building and the creek which runs east to west at northern end of building.



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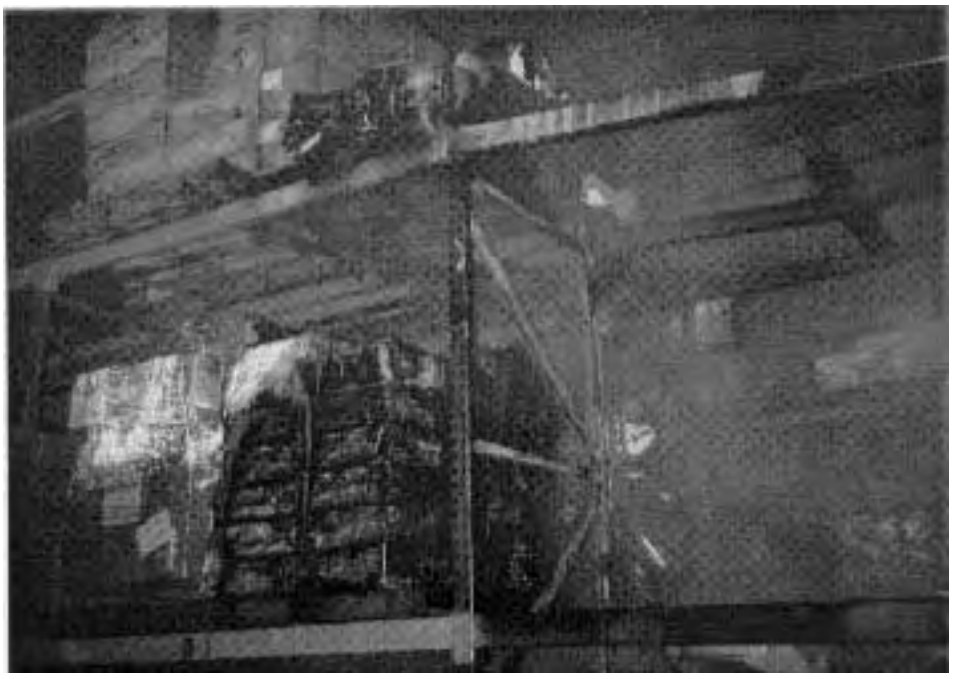

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