

STATE FIRE MARSHAL'S OFFICE

Line of Duty Death Investigation



Investigation Number 02-251-02

Fire-Rescue Officer Vincent Davis

Dallas Fire-Rescue
February 11, 2002

Texas Department of Insurance
Austin, Texas

TABLE OF CONTENTS

| | |
|------------------|---|
| Acknowledgements | 3 |
| Summary | 4 |

The Investigation

| | |
|--|----|
| Introduction | 5 |
| Origin and Cause Investigation | 6 |
| Building Structure and Systems | 9 |
| Fireground Operations | 15 |
| Personal Protective Equipment Evaluation | 17 |

Recommendations

| | |
|-----------------|----|
| Recommendations | 19 |
|-----------------|----|

Appendix

| | |
|---------------------------------|----|
| Timeline of Events | 20 |
| LODD Investigation Document Log | 22 |

ACKNOWLEDGEMENTS

The State Fire Marshal's Office wishes to thank the following entities for their assistance in preparing this report:

- Dallas Fire-Rescue
- Texas Fire Chief's Association
- Dallas Association of Fire Fighters
- Texas Commission on Fire Protection
- Texas State Association of Fire Fighters
- Dallas County Medical Examiner's Office
- U.S. Bureau of Alcohol, Tobacco and Firearms
- National Institute for Occupational Safety and Health

Summary

A wall collapse during a six-alarm fire claimed the life of a veteran Dallas firefighter. The fire occurred at Creekside Hill Apartments, a vacant apartment building undergoing renovation. At 17:29 hours on Monday, February 11, 2002, Dallas Fire-Rescue received a report of a fire from a nearby resident. Initial reports to the fire department were of a visible fire with heavy smoke.

The first alarm assignment of units E26, E14, E36, T26, T36, and Battalion Chief 6 was dispatched. Some of the units observed heavy smoke as they left their stations. E26 arrived at the scene within two minutes and observed a large amount of fire in a two-story apartment building located at 2707 West Ninth Street. Battalion Chief 6 arrived approximately three minutes after the first engine and ordered a second alarm, which was dispatched at 17:33.

As part of the second alarm, E33 was ordered to move up to Station 14. Based on his observation of a large amount of smoke, the Captain of E33 elected to travel directly to the fire in anticipation of a third alarm. The third alarm was transmitted to E49, E33, E16, and T3 at 17:37. E33 arrived at the scene at 17:41, ahead of many of the second alarm companies.

Fire-Rescue Officer Vincent Davis was filling in at unit E33. His normal assignment is at Station 26. Upon the arrival of E33 at the scene, E33's crew, including Davis and Battalion Chief 9 Springer, entered the upper courtyard on the south side of the "figure 8" shaped complex.

A covered breezeway provided access from the lower, north interior courtyard area of the complex to the parking area where E26, T26 and E14 were parked. Four preconnected hoselines from E26 were stretched through the breezeway to the interior of the complex, in use in a defensive attack. Captain Creager, of E33, instructed his crew to follow him to see if they could get another hose line off E14, since all four preconnects on E26 were in use.

E33's crew was under the roof of the breezeway, walking west toward E26 and the parking area when a portion of the roof of the breezeway collapsed upon Firefighters Chuck Womble and Davis. The time of the collapse is estimated to have taken place at approximately 17:47.

E33's Firefighter Womble's legs were trapped under the collapsed roof. Davis was initially thought to have escaped the collapse by running into the courtyard. Rescue efforts to remove Womble from the debris were initiated and he was removed in approximately 15 minutes. He was later taken to a local hospital where he was treated for leg injuries and released. While Womble was being rescued, the Incident Commander, Deputy Chief 807 Mike Zak, called for a personnel accountability report (PAR). Captain Creager called for Davis on his radio with no response.

Davis' boot was located by a firefighter in the rubble. Personnel on the scene quickly dug through the bricks and found Davis in a sitting position with his head and chest pressed down upon his legs. Davis was not breathing when discovered. Resuscitation efforts began immediately and Davis was removed from the debris approximately 28 minutes after the collapse occurred. Aggressive advanced life support procedures were undertaken as Davis was transported to Methodist Central Hospital. Davis was pronounced dead at 18:55. The Dallas County Medical Examiner described the cause of death as "blunt force injuries and traumatic asphyxia."

Fire-Rescue Officer Vincent Davis, age 42, a ten-year veteran of Dallas Fire-Rescue, is survived by his wife and four children.

Introduction

During the evening of Monday, February 11, 2002, Dallas Fire-Rescue (DFR) notified the State Fire Marshal's Office (SFMO) of the line of duty death (LODD) of a firefighter. Deputy State Fire Marshal Clint Williams was initially sent to the scene and arrived later that evening to gather preliminary information and provide assistance. SFMO Chief Inspector Richard Bishop was designated as the SFMO Incident Coordinator and arrived the next morning. In addition to Bishop and Williams, SFMO Chief Investigator Harry Bowers, SFMO Chief Inspector Larry Youngblood, and SFMO Deputy State Fire Marshals Glenn Harris and Gary Dodson were assigned to the investigation.

The DFR investigators stated that Fire-Rescue Officer Vincent Davis had been injured at the fire and had been pronounced dead at Methodist Hospital. Davis' body had been moved to the Dallas County Medical Examiner's Office for autopsy.

SFMO commenced an LODD investigation under the authority of Texas Government Code Section 417.0075. The statute requires SFMO to investigate the circumstances surrounding the death of the firefighter, including the cause and origin of the fire, the condition of the structure, and the suppression operation, to determine the factors that may have contributed to the death of the firefighter. The State Fire Marshal is required to coordinate the investigative efforts of local government officials and may enlist established fire service organizations and private entities to assist in the investigation.

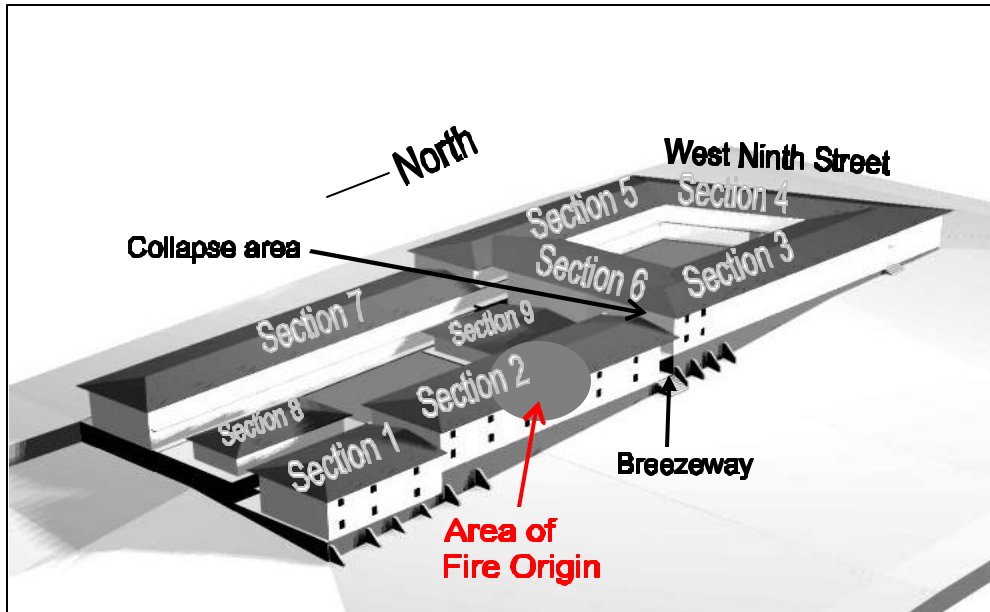
Investigators from the DFR Arson and Investigation Division requested the assistance of the U.S. Bureau of Alcohol, Tobacco and Firearms (BATF) and the State Fire Marshal's Office (SFMO) in investigating the fire, which involved several buildings in an apartment complex undergoing renovation. A BATF National Response Team and two command vehicles were dispatched to the scene to assist DFR and SFMO with the fire investigation.

The investigation began with a meeting of all investigative personnel from DFR, SFMO, and BATF. An overview of the fire scene and a review of DFR records of the incident was conducted.

The SFMO Incident Coordinator also requested assistance from the SFMO Fireground Tactics Task Force. Members of the Texas Fire Chief's Association assisted in reviewing fireground operations at the incident.

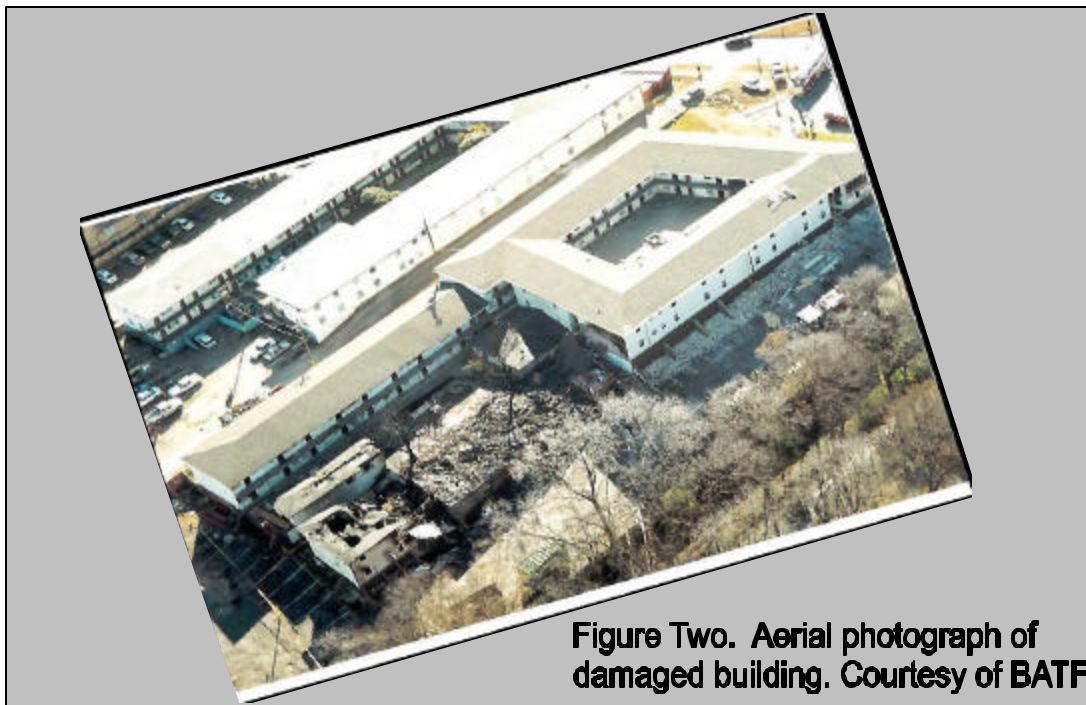
The Texas Commission on Fire Protection (TCFP) was requested to assist in the evaluation of the personal protective equipment of the firefighter. The National Institute for Occupational Safety and Health (NIOSH) Fire Fighter Fatality Investigation and Prevention Program was notified.

Origin and Cause Investigation



**Figure One. Rendering of apartment complex.
Courtesy of Dallas Fire-Rescue.
Notations by SFMO.**

The apartment complex is located on sloping ground (14.2% to 16.6% grade) with the north side being the lowest side. For report purposes, the building has been divided into nine sections. This roughly "figure 8" shaped building has both enclosed and open courtyards. **(Figure One)**

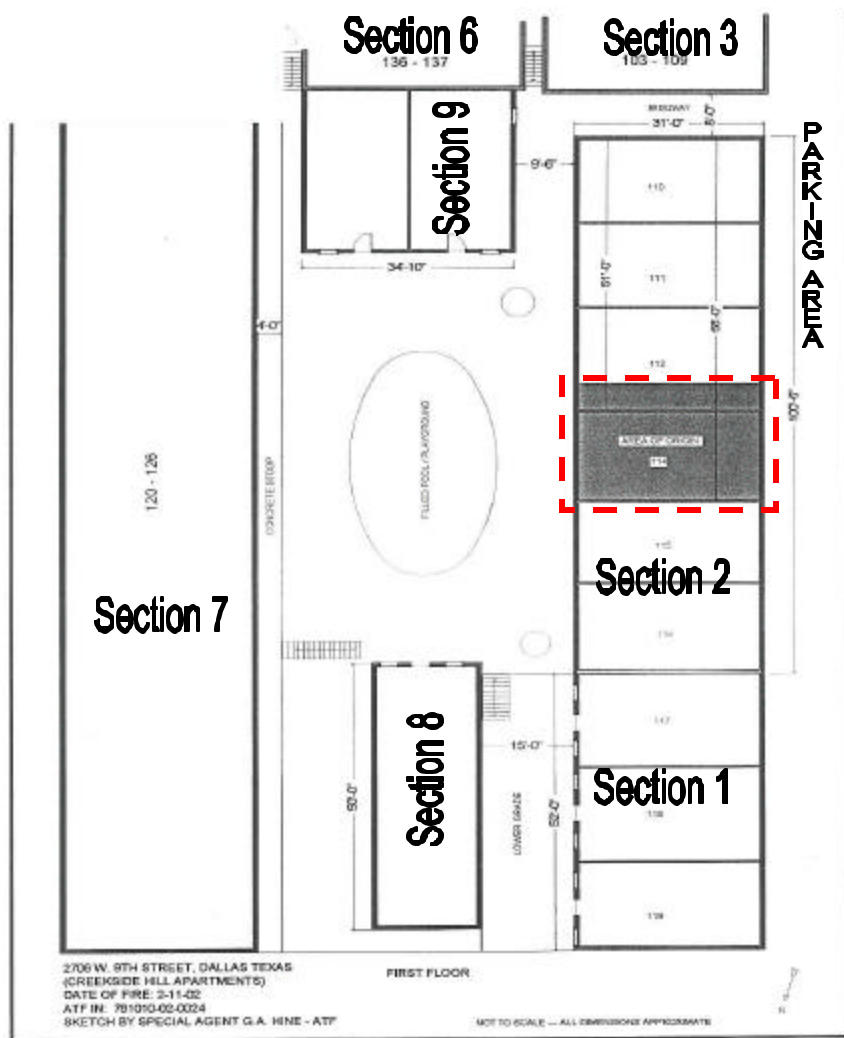


**Figure Two. Aerial photograph of
damaged building. Courtesy of BATF**

The origin and cause investigation commenced on February 13, 2002 with the removal of some parts of the sections adjacent to the main fire section of Building #2. The nature of this debris removal caused some destruction of the fire scene, but was required to provide a safe working environment for all personnel. Multiple photographs of the areas affected by the debris removal were taken prior to demolition.

Section 2, north of the breezeway had totally collapsed. A portion of Section 1, north of the grade change, was standing but was heavily damaged. **(Figure Two)** Sections 8 and 9, located north and south of the open courtyard/play area sustained extensive damage from radiant heat.

Investigators determined the fire originated in the area of apartment 114 in section 2 of building 2. **(Figure Three)** This building was undergoing extensive renovation. Cutting of metal guard rails with cutting torches and pipe soldering operations using open flame torches had been conducted in the building in the areas of apartments 114 and 214 on the afternoon of the day of the fire.



**Figure Three. Building Floor Plan
Courtesy of BATF.
Notations by SFMO.**



Figure Four. Charred wood observed in adjacent building undergoing renovation.



Figure Five. Charred wood observed in adjacent building undergoing renovation.

Evidence of careless cutting and pipe soldering operations was observed in adjacent buildings under renovation by the same contractor. **(Figures Four and Five)** Many areas of charred wood were observed where copper pipes had been sweat-soldered by the renovation contractor's employees. These areas of charred wood had the potential for smoldering for long periods before breaking out into open flame. Pipe soldering operations with open flame torches have been attributed to the fire cause of many large-loss fires.

On March 25, 2002 the DFR Arson and Fire Investigation Division ruled the fire as accidental in origin, with the probable cause being "careless use of an open flame device."

Building Structure and Systems

Construction

Creekside Hill Apartments is composed of several sections of one and two-story apartments, with balcony access on floors located above grade. The complex is built on a moderately sloping parcel of land (14.2% to 16.6% grade) which creates three distinct changes of grade level in the complex. **(See Figure One)**

The building construction is similar to Type V construction as described in NFPA 220, *Types of Building Construction*. The building was constructed in 1963. Wood frame platform construction on concrete foundations was used. Second floor joists were of nominal 2" X 10" lumber with conventional wood plank floor decking. The buildings had gable roofs constructed with sawn rafters. Rafters were nailed together. Nailing plates, such as used in modern truss rafter construction, were not used.



The walls of the apartments were originally covered with gypsum drywall, but the drywall had been removed from many apartments during the renovation process, exposing the wood structural members of the building. Replacement of deteriorated load bearing wood structural members was in progress and temporary "T"-shaped floor jacks were in use. **(Figure Six)** At least one burned "T-jack" was recovered from the fire debris.

The exposed wood structural members, combined with multiple horizontal and vertical openings, led to rapid fire spread through the structure after ignition. Temporary braces for load bearing walls, combined with the rapid failure of other exposed structural members led to a progressive collapse of section 2 of Building 2.

Figure Six. "T"-shaped floor jack found in area adjacent to fire.

HVAC Water Supply Piping

The apartments in the complex contained individual fan-coil ventilation units connected to copper water piping supplying heated and chilled water from a central utility plant in the complex. The horizontal water piping was located in the attic of the involved section 2 of the building and the piping was vertically teed off to individual apartments.

There is a significant change of grade from the south end of Section 2 to the north end of Section 3. Proceeding south from Section 2, the water supply piping first passed through a double wythe (Each continuous vertical section of masonry one unit in thickness) veneer brick wall, extended horizontally through a continuation of the peaked roof over the breezeway between Sections 2 and 3, and entered a double wythe brick veneer wall of adjacent section 3. The piping made a 90-degree turn to the vertical and continued vertically in a void behind the double wythe brick veneer wall toward the attic area of Section 3, where the piping turned again and took on a horizontal aspect. **(Figure Seven)**

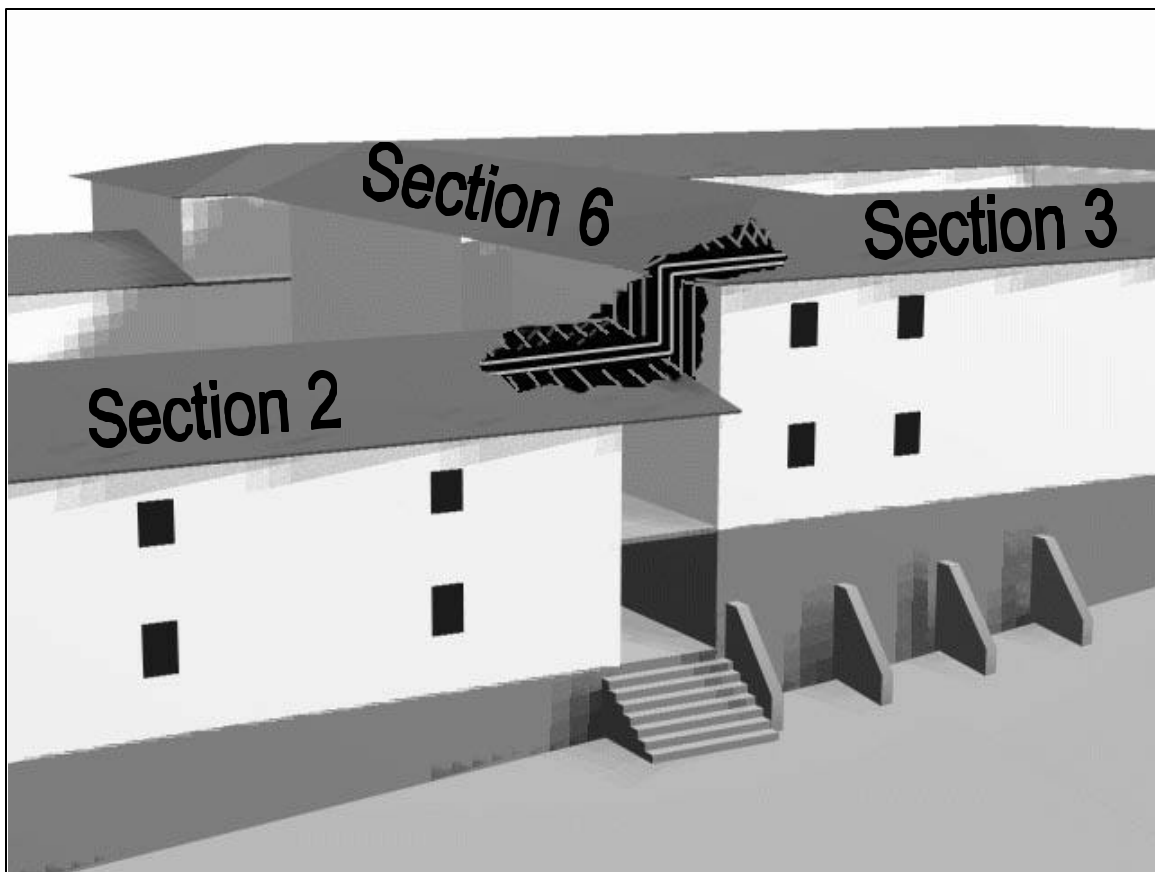


Figure Seven. Arrangement of HVAC piping in attics and wall. Illustration provided by Dallas Fire-Rescue. Notations by SFMO

An 8 foot wide by 31 foot long open breezeway located at the grade change separates Section 2 from Section 3. The breezeway has a roof constructed of 2" x 10" joists attached to ribbon boards with inverted metal rafter hangers. The ribbon boards are attached to the brick veneer walls of the adjacent buildings with lag bolts and expansion bolts. The west end of the breezeway roof and ledger boards had suffered significant deterioration from exposure to weather and the wood could be crumbled by hand.

A small, second floor storage area was created by construction of the breezeway roof and the continuation of the peaked roof from Section 2 to a point where it butted against the north wall of Section 3. The roof of the breezeway also served as a platform for staging of construction materials and plumbing fixtures for the second floor of the west central section of the building. These materials and fixtures contributed to the dead load on the breezeway roof.

As part of the renovation project, all brick had been stripped from the west side of Section 3 and had been replaced by composition siding. **(Figure Eight)** This eliminated the tie-in between the double wythe brick veneer wall on the north end of Section 3 and the double wythe brick veneer on the west side of Section 3 that provided some structural stability. This created a freestanding double wythe wall over 15 feet tall that was separated from the structural members of Section 3 by a void of several inches.



Figure Eight. Southeast end of Section 3 showing brick removal. Photo by BATF.

The falling bricks impacted upon the breezeway roof, shearing the ribbon board from the west end of the south wall causing a lean-to type collapse as the breezeway roof, still firmly attached on the north side, rotated downward. **(Figure Nine)** The falling breezeway roof impacted upon E 33's Vincent Davis' head and shoulders, driving him to a sitting position. Bricks continued to fall, completely covering Davis with bricks and wood. The falling breezeway roof knocked down E33's Chuck Womble and pinned his leg. Womble was located in the void space of the lean-to collapse and was shielded from most of the bricks. **(Figures Ten/Eleven)** E33 Captain Creager was grazed by the falling bricks and knocked down the breezeway steps, and onto his knees in the west parking area.

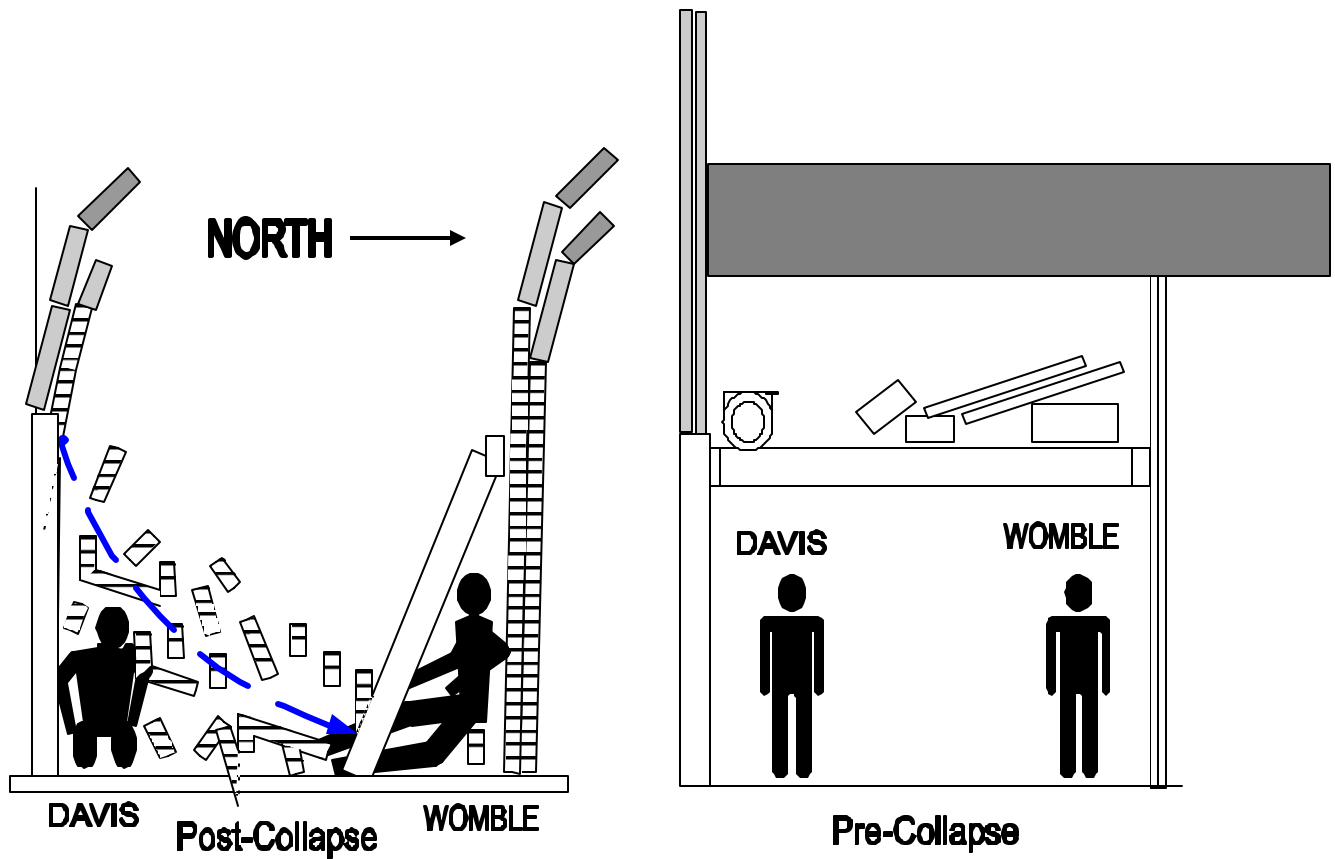


Figure Nine. Graphic depicting wall and breezeway roof collapse.

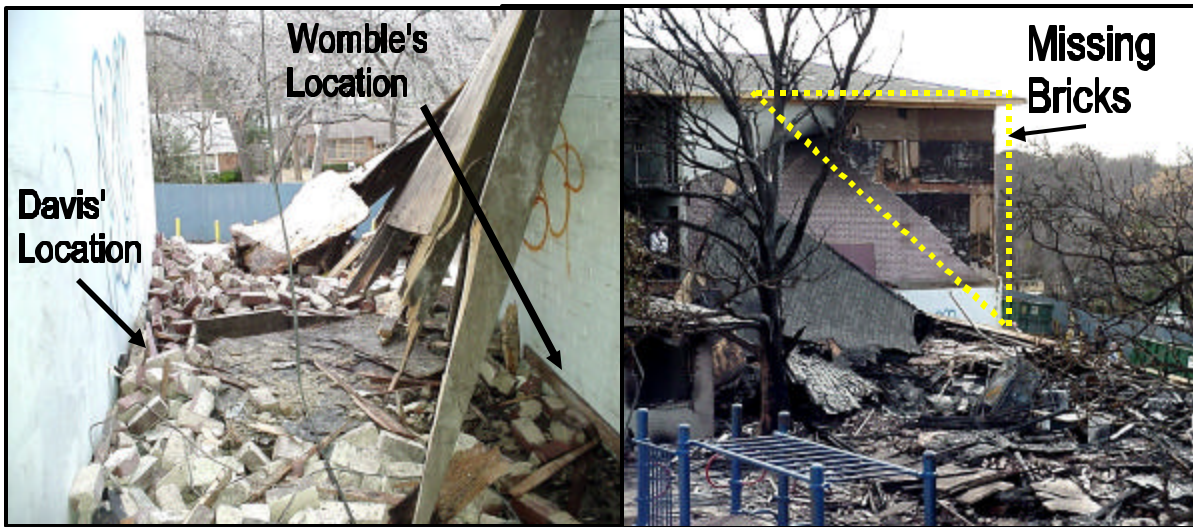


Figure Ten. Breezeway collapse area

Figure Eleven. Area from where bricks fell onto the breezeway.



Figure Twelve. HVAC pipes on north end of Section 3.

Section 2 progressively collapsed from fire damage and as it collapsed, the framework of Section 2 shifted toward the north. The shifting of the collapsing section to the north exerted a lateral tension on the horizontal water supply piping for the ventilation system. When the south part of Section 2 collapsed, the south double wythe brick veneer wall fell to the north and impacted on the horizontal piping. This suddenly increased the tension on the water supply piping where it entered the double wythe brick veneer wall of Section 3. The lower part of the vertical section of piping was suddenly pulled several inches toward the north. **(Figure 12)**

Means of Egress

Means of egress from upper floors of the building are by open balconies leading to open metal stairways. Ground floor apartments open directly to the outside. Sleeping rooms have a window that opens for use as a secondary means of escape.

Features of Fire Protection

The building is not equipped with a fire alarm or fire sprinkler system.

Building and Systems Performance and Human Factors during the Fire

The fire was determined to have originated in the area of apartment 114 of Section 2. Apartments in this area had gypsum drywall removed as part of the renovations of electrical and plumbing systems. Wood structural members were exposed to direct flame contact. Some load bearing structural members may have been temporarily replaced with jacking posts as rotten studs were replaced. The jacking posts that were observed in other areas undergoing renovation provided only minimal support for the building. **(Figure Thirteen)**



Figure Thirteen. Jacking posts used in second floor of adjacent building undergoing renovation.

As fire and smoke rapidly spread vertically and horizontally from the area of origin, adjacent apartments on the first and second floor ignited. Southwest winds pushed the flames from the center of Section 2 toward Section 1. Radiant heat ignited Sections 8 and 9 and caused some damage to Section 7. **(See Figure One for section identification)**

There were no residents in any section of Building 2. The only persons in the immediate area of the fire were members of Dallas Fire-Rescue.

Fireground Operations

NOTE: The following sequence of events was developed from known times of events based on radio transmissions timestamps, firefighter witness statements, and comparison of video news footage. Those events with known times are identified. Events without discrete times are approximated in the sequence of events based on firefighter statements regarding their individual actions and observations at the fire.

On February 11, 2002, Dallas Fire-Rescue received a report of a fire alarm from a resident at 2727 West Jefferson in Dallas. At 17:29:29 the first alarm was transmitted to E26, E14, T26, T36, and Battalion Chief 6. Some of the units observed heavy smoke as they left their stations. E26 arrived at the scene at 17:31:29. When Rescue 26 (a paramedic ambulance) arrived at 17:31:41 it reported "A lot of smoke in the rear." This reported caused an automatic dispatch of T 36 and Battalion 1. E26 and T26 (which arrived at 17:33:22) parked west of the breezeway between Sections 2 and 3. E14 arrived at 17:33:59 and laid a 5" supply hose to E26. A second 5" hose was dragged by hand from another hydrant to E14.

The officer commanding E26 observed a large amount of fire in Section 2 (**See Figure One for section identification**) of a two-story apartment building located at 2707 West Ninth Street. Crews from E26, followed shortly later by E14 and T26, took four preconnected 1 ¾" hoselines from E26 to the lower courtyard and initiated a defensive attack in an attempt to prevent the fire from spreading to adjacent buildings. T26 could not raise its aerial device due to the slope of the parking area. A master stream from E26 was used periodically on Section 2. A booster hose line from E26 was used to prevent radiant heat damage to E26 and extinguish spot fires.

Battalion Chief 6 arrived approximately three minutes after the first engine and ordered a second alarm, which was dispatched at 17:33:30.

The second alarm assignment of E15, E52, E45, T15, T49, R15, Battalion Chief 9, Battalion Chief 5, Deputy Chief 807 and a paramedic supervisor was dispatched at 17:33.

As part of the second alarm, E33 was ordered to move up to Station 14. Upon hearing the first alarm and observing heavy smoke in the distance, the crew of E33 donned their protective equipment and was in E33 when the second alarm was dispatched. E33's officer anticipated the fire would go to at least a third alarm and told E33's driver to proceed directly to the fire. E33 arrived at the scene at 17:41., ahead of many of the second alarm companies.

The third alarm was transmitted to E49, E33, E16, and T3 at 17:37.

Fire-Rescue Officer Vincent Davis was filling in at E33. His normal assignment is at Station 26. Upon the arrival of E33 at the scene, Davis and the rest of E33's crew along with Battalion Chief 9 H.A. Springer entered Section 4 on the south side of the "figure 8" shaped complex. As they walked through upper level of the multi-level apartment complex, E33 Captain Curtis Creager checked for extension to Section 3 south of the fire. Creager felt confident the brick wall of Section 3 would hold the fire back and they traveled to the lower level of the complex. BC9 left E33 and proceeded to the Command Post located north of the complex.

A covered breezeway provided access from the north lower interior courtyard area of the complex to the parking area where E26, T26 and E14 were parked. Four preconnected hoselines from E26 were stretched through the breezeway to the interior courtyard of the complex, where they were in use as part of the defensive attack. Captain Creager of E33 instructed his crew to follow him to see if they could get another line off of E14, since all four preconnects on E26 were in use.

E33's crew was under the roof of the breezeway, walking west toward E26 and the parking area. A loud crack was heard above the breezeway and Firefighter Tankskey reversed his direction, running east. A large amount of bricks and a portion of the roof of the breezeway collapsed upon Firefighters Womble and Davis. Captain Creager, nearly out of the breezeway on the west end, was struck a glancing blow by falling bricks and wood and was knocked to his knees into the parking area.

Based on the request for a fourth alarm and television helicopter news footage, the time of the collapse is estimated to have taken place at approximately 17:47. This is approximately six minutes after the arrival of E33, 16 minutes after the first engine (E26) arrived and 18 minutes after the initial report of the fire by 911 call.

After picking himself up, Creager observed Tankskey standing at the east end of the breezeway and asked him if he was all right. Tankskey advised Creager he was OK. Womble called out that he was trapped. When the breezeway roof collapsed under the impact of bricks falling from the north wall of the adjacent building, a lean-to void was formed. Womble was located under this void and was protected from most of the falling material. His legs were trapped under the collapsed roof.

Creager asked Tankskey if he had seen Davis. Tankskey replied that Davis was running east toward him at the time of the collapse and thought he had gotten out OK. Rescue efforts to remove Womble from the debris were initiated. Based on helicopter news footage, Womble was removed from the debris approximately 15 minutes after the collapse.

When Womble was freed from the entrapment, he shook off any assistance and walked from the building to the parking lot. He was later transported to the hospital, treated for leg injuries, and released.

After Womble was rescued, the Incident Commander, Deputy Chief 807 Mike Zak, called for a personnel accountability report (PAR). At this time it was noted that Davis from E33 was missing. He was previously thought to have escaped the collapse and joined up with E26, the engine from his normally assigned station. E33 Captain Creager called for Davis several times during the PAR on his radio and received no response.

Creager and Tankskey from E33 began to look through the waist-deep pile of bricks that had fallen south of the lean-to portion of the collapse and Tankskey found a firefighter's boot.

Personnel on the scene quickly dug through the bricks and found Davis in a sitting position with his head and chest pressed down upon the top of his legs. He was not breathing when discovered. He was not wearing the mask of his self-contained breathing apparatus (SCBA) and the integral SCBA PASS device and a secondary PASS device on Davis' bunker coat had not been turned on.

Resuscitation efforts began immediately and Davis was removed from the debris approximately 28 minutes after the collapse occurred. Aggressive resuscitation efforts and advanced life support procedures were undertaken as Davis was placed in a Dallas Fire-Rescue EMS unit (ambulance) and transported to Methodist Central Hospital. Davis failed to respond to any of the resuscitative efforts and was pronounced dead in the Emergency Room at 18:55., approximately one and one-half hours from the first report of the fire. The Dallas County Medical Examiner declared the cause of death as blunt force injuries and traumatic asphyxia.

After Fire-Rescue Officer Davis was removed from the building, the fire continued to burn in Section 2 and exposed adjacent buildings.

A fourth alarm was dispatched at 17:49:16 to E4, E24, E54 and T43. A fifth alarm was transmitted at 17:50:15 to E47, E38 and E23. A sixth alarm was transmitted at 18:11:15 to E3, E11, E6 and E46. Defensive operations involved use of multiple aerial and engine mounted master streams as well as hoselines. Final extinguishment and mop-up was conducted with hose lines.

The fire was tapped out (placed under control) at 19:46:48, after the commitment of 25 large units of fire apparatus and 100 firefighters to the blaze. One firefighter was transported to the hospital with chest pains. No other injuries were reported.

Personal Protective Equipment Evaluation

The Texas Commission on Fire Protection (TCFP) was requested by the SFMO IC to conduct an evaluation of Fire-Rescue Officer Davis' personal protective equipment for performance and compliance with TCFP rules for regulated fire departments.

The protective equipment was evaluated by TCFP Compliance Officer Miles Skipper for compliance with Texas Administrative Code Title 37, Part 13, Chapters 435.1, *Protective Clothing* and 435.3, *Self-Contained Breathing Apparatus* and NFPA standards adopted by TCFP. Photographs taken during the examination are on file at the Texas Commission on Fire Protection. The TCFP report (SFMO document number 02-251-02-D-66) is located in the reference materials of the SFMO LODD investigation file.

The examination of the protective equipment took place where Fire-Rescue Officer Davis' gear and clothing had been secured in a locked area.

The personal protective equipment examined included a firefighters helmet, fire-resistant hood, bunker coat, bunker pants, short bunker boots, SCBA with integral PASS and facepiece, and an additional PASS clipped to the outside of the coat. There were no gloves to examine.

The Fire-Dex brand fire resistant hood was not compliant with TCFP rules because it did not bear an NFPA label. All other personal protective equipment was in compliance with TCFP rules.

No damage was observed to the bunker coat and pants other than cuts made when the pants were cut off for medical treatment. Davis' station uniform of a Dallas Fire-Rescue T shirt and pants were also cut off by medical personnel. No other damage was observed to the station uniform.

Davis' helmet was scratched and dirty, and when examined, was found with the chinstrap in the stowed position, wrapped around the back of the helmet. **(Figure 14)** Although not a factor in this incident, failure to wear the chinstrap may lead to loss of the helmet during firefighting operations, exposing the user to injury. There was no significant damage observed to the external shell or internal shock-absorbing cap assembly.

The SCBA backpack assembly was severely bent, probably by impact with falling bricks and structural members. **(Figure 15)** Firefighters that found Davis noted he was in a sitting position with outstretched legs and was bent over under the weight of the debris.



Figure 14. Fire helmet with stowed chin strap.



Figure 15. Bent SCBA backpack assembly.

Figures 14 and 15 courtesy of the Texas Commission on Fire Protection.

The SCBA was not subjected to performance testing by NIOSH because it was not in use at the time of the incident.

Fire-Rescue Officer Davis' personal protective equipment was in compliance with the Texas Commission on Fire Protection standards, with the exception of the unlabeled fire resistant hood. There are no state standards for station uniforms.

Dallas Fire-Rescue's written operating procedures for Two In/Two Out, Incident Management, and Personnel Accountability were found to be in compliance with the Texas Commission on Fire Protection requirements. Testing and maintenance records of SCBA were also reviewed.

Recommendations

These recommendations are based upon nationally recognized consensus standards for the fire service. All fire departments should be aware of the content of the standards and should develop programs based on them to increase the level of safety for fire department personnel.

Recommendation 1 - Incident Safety Officer

- Fire departments must provide an accountability system that will provide for a rapid accountability of all personnel.
- An incident safety or accountability officer should be assigned early in the incident to assure that accountability is accomplished. The incident safety officer (ISO) is defined as "an individual appointed to respond to or assigned at an incident scene by the incident commander to perform the duties and responsibilities specified in this standard. This individual can be the health and safety officer or it can be a separate function." NFPA 1521, Sec. 2-1.4.1 states that "an incident safety officer shall be appointed when activities, size, or need occurs."

Recommendation 2 - Required activation of personal alert safety systems

- Fire departments should equip firefighters with, and require them to activate, personal alert safety systems (PASS) devices prior to entering the fireground. SCBA's with Integrated PASS devices should have the air supply turned on, activating the PASS alarm, before entering the fireground.

Recommendation 3 – Establishment of safety zones

- Fire departments should establish safety zones and make a perimeter defensive attack to protect firefighter safety during operations.
- A defensive attack was declared soon after fire suppression activities began. In spite of the defensive attack declaration, firefighters were dispatched into the interior of the courtyard rather than establishing an exterior perimeter to advance the attack. The defensive perimeter should be well back from the danger of any collapse of the structure.

TIMELINE OF OPERATIONS

(page one of two)

2707 West Ninth Street

Dallas, Texas

February 11, 2002

| | |
|----------|---|
| 17:29:29 | First Alarm Assignment-2727 West Jefferson E26, E14, E36, T26, R26, B6 |
| 17:31:29 | E26 on location at actual location 2707 West 9 th Street |
| 17:31:41 | R26 on location, reporting "a lot of smoke in the rear." T36 and B1 are automatically dispatched on report of working fire. |
| 17:32:39 | R26 advises "a lot of fire coming through the roof," calls for second arriving engine to supply water to E26. |
| 17:32:59 | E26 reports a two story flat roofed apartment with fire through the roof. E26 passes command to next arriving officer. |
| 17:33:22 | T26 on location, stages behind E 26 west of involved building. |
| 17:33:59 | E14 on location, lays a 5" supply line to E26. Crew hand lays a second 5" line to E14 from a different fire hydrant. |
| 17:33:49 | B6 on location, requests a second alarm. B6 Command Tech assumes command, northeast of the complex. |
| 17:33:30 | Second alarm assignment-2727 West Jefferson E15, E53, E45, T15, T49, B9, B5. Move-up assignments issued to other units to cover empty stations, including E33. |
| 17:37:46 | Third alarm assignment-2727 West Jefferson E49, E33, E16, T3 |
| 17:41:24 | E33 on location. |
| Unknown | Structural collapse traps E33's Davis and Womble. Estimated time is shortly before transmission of fourth alarm. |
| 17:49:16 | Fourth alarm assignment-2727 West Jefferson E4, E24, E54, T43 |
| 17:50:15 | Fifth alarm assignment-2727 West Jefferson E47, E38, E23 |

TIMELINE OF OPERATIONS

(page two of two)

2707 West Ninth Street

Dallas, Texas

February 11, 2002

| | |
|----------|--|
| Unknown | Approximately 15 minutes after collapse, E33's Chuck Womble is rescued from debris. A Personnel Accountability report is called for. E33's Vincent Davis is found to be missing. |
| Unknown | Estimated 28 minutes after structural collapse, Davis is removed from debris. Resuscitation attempts begin immediately. |
| 18:11:15 | Sixth alarm assignment-2727 West Jefferson E3, E11, E6, E46 |
| Unknown | Davis is transported from the scene in R26 to Methodist Hospital |
| 18:55:?? | Davis pronounced dead at Methodist Hospital |
| 19:46:48 | Fire tapped out-many units held on the scene for mop-up. |

DOCUMENT LOG

| VOLUME ONE---DOCUMENTS 02-251-02-D-01 TO 02-251-02-D-66 | | |
|---|--------|--|
| Document Number | Source | Description |
| 02-251-02-D-01 | DFR | Fire Alarm Report, 2727 West Jefferson |
| 02-251-02-D-02 | DFR | SCBA, Flashlight, and PASS Daily Inspection Checklist |
| 02-251-02-D-03 | DFR | Personal Protective Attire SOP |
| 02-251-02-D-04 | DFR | 2 in-2 out Procedures SOP |
| 02-251-02-D-05 | DFR | Rescue of Lost or Trapped Firefighters SOP |
| 02-251-02-D-06 | DFR | Evacuation Procedures SOP |
| 02-251-02-D-07 | DFR | Personnel Accountability Procedures SOP |
| 02-251-02-D-08 | DFR | Statement of Chuck Womble, E-33 |
| 02-251-02-D-09 | DFR | Statement of Captain Curtis Creager, E-33 |
| 02-251-02-D-10 | DFR | Statement of Sam Dickey, E-36 |
| 02-251-02-D-11 | DFR | Statement of Vernon Moreland, E-14 |
| 02-251-02-D-12 | DFR | Statement of Kenneth Cooper E-14 |
| 02-251-02-D-13 | DFR | Statement of Gregory Bielefeldt E-14 2/14/02 |
| 02-251-02-D-14 | DFR | Statement of Ennis Hill BC6 |
| 02-251-02-D-15 | DFR | Statement of Captain B.P. Robinson, T-36 |
| 02-251-02-D-16 | DFR | Statement of Luster Wood, T36 |
| 02-251-02-D-17 | DFR | Statement of Raymond Kitchen, T-36 |
| 02-251-02-D-18 | DFR | Statement of Charles Gibbs, T36 |
| 02-251-02-D-19 | DFR | Statement of Captain Larry Williams, T26 |
| 02-251-02-D-20 | DFR | Statement of A. B. Cardinas (?), T 26 |
| 02-251-02-D-21 | DFR | Statement of Martin Kemp, Sr., T 26 |
| 02-251-02-D-22 | DFR | Statement of Robert Cason (?), E-26 |
| 02-251-02-D-23 | DFR | Statement of Lt. Timothy Cigna, E26 |
| 02-251-02-D-24 | DFR | Statement of Daryl Mayfield, T-26 |
| 02-251-02-D-25 | DFR | Statement of unknown firefighter riding # 4 on E26. |
| 02-251-02-D-26 | DFR | Statement of Lt. J.C. McWha. E23 |
| 02-251-02-D-27 | DFR | Statement of R. B. Blackshear, E-23 |
| 02-251-02-D-28 | DFR | Statement of Casey Towery, E-23 |
| 02-251-02-D-29 | DFR | Statement of Scott Hernandez, E-23 |
| 02-251-02-D-30 | DFR | Statement of W.S. Tankskey, E33 |
| 02-251-02-D-31 | DFR | Statement of R. L. Blankenship, E-45 |
| 02-251-02-D-32 | DFR | Statement of Marcus Evans, E15 substituting on E45 |
| 02-251-02-D-33 | DFR | Statement of Julian Almafeser (?), E45 |
| 02-251-02-D-34 | DFR | Statement marked "Draft" of Deputy Chief Mike Zak, 807 |
| 02-251-02-D-35 | DFR | Statement of Battalion 9 Chief H.A. Springer |
| 02-251-02-D-36 | DFR | Statement of M.Scott Hyles, B9 Driver |
| 02-251-02-D-37 | DFR | Statement of Captain Samuel Brown, T49 |
| 02-251-02-D-38 | DFR | Statement of David Brooks, T49 |
| 02-251-02-D-39 | DFR | Statement of Kenneth Thomas, T49 |
| 02-251-02-D-40 | DFR | Statement of Michael Tartt, T49 |
| 02-251-02-D-41 | DFR | Statement of Battalion 5 Chief Linda Stambaugh |

| | | |
|----------------|------|--|
| 02-251-02-D-42 | DFR | Initial Action Report of B5 Linda Stambaugh with diagram |
| 02-251-02-D-43 | DFR | Statement of Michael R. Hood, E52 |
| 02-251-02-D-44 | DFR | Statement of Kenneth Johnson, E52 |
| 02-251-02-D-45 | DFR | Statement of Captain John Colwick, E52 |
| 02-251-02-D-46 | DFR | Statement of J.D. Durrone, R15 |
| 02-251-02-D-47 | DFR | Statement of A.W. Hawkins, R15 |
| 02-251-02-D-48 | DFR | Statement of Captain S.D. Coffman, T15 |
| 02-251-02-D-49 | DFR | Statement of Walter Neal, T15 |
| 02-251-02-D-50 | DFR | Statement of John Ruiz, T15 |
| 02-251-02-D-51 | DFR | Statement of Jeff Hyles, T15 |
| 02-251-02-D-52 | DFR | Statement of Lt. T.N. Carsten, E15 |
| 02-251-02-D-53 | DFR | Statement of Sidney Hutchins, E15 |
| 02-251-02-D-54 | DFR | Statement of Kevin D. Stewart, R18 substituting on E15 |
| 02-251-02-D-55 | ME | Autopsy Report of FRO Vincent Davis |
| 02-251-02-D-56 | DFR | Letter from Arson DC Tom Oney with final determination of fire cause |
| 02-251-02-D-57 | DFR | NIOSH Structure Fire Supplement, partially completed |
| 02-251-02-D-58 | DFR | Large Site Plan of Fire Building |
| 02-251-02-D-59 | DFR | Small Site Plan of Fire Building |
| 02-251-02-D-60 | DFR | Statement of Karen Walker, C807 Driver |
| 02-251-02-D-61 | DFR | Statement of Gregory Bielefeldt E-14 2/17/02 |
| 02-251-02-D-62 | ATF | Floorplan of Apartment 114, Creekside Hill Apartments |
| 02-251-02-D-63 | ATF | Site Plan of 2706 West 9th Street, Creekside Hill Apartments |
| 02-251-02-D-64 | SFMO | SFMO Investigation Report 02-251-02 |
| 02-251-02-D-65 | DFR | Dallas Fire-Rescue Investigation Report-Firefighter Fatality |
| 02-251-02-D-66 | TCFP | TCFP Personal Protective Equipment Evaluation and 3.5" floppy disk of digital photos |