



# POST INCIDENT ANALYSIS

## July 29, 2012



2-Alarm Back-To-Back Townhouses  
18212 Fifeshire Drive  
Gaithersburg MD 20877  
Incident # 12-0084968

Submitted by Battalion Chief John J. Gallo

# 18212 Fifeshire Drive

## Incident Overview

*Note: This post incident analysis is based upon the review of the incident audio tape, interviews with crews who operated at the emergency scene and the review of completed RMS Unit Reports.*

On July 29, 2012, at 2236 hours, Montgomery County Fire and Rescue units responded to 18212 Fifeshire Drive, Gaithersburg, MD for a report of an attic fire in the townhouse. While units were still responding the ECC dropped the Rapid Intervention Dispatch (RID) based on credible information of a working structural fire. ECC receiving additional call from 18113 Kilrush Court reporting fire in their attic as well. Weather conditions at the time of the incident were clear with temperatures in the low 80's with slight winds from the northeast at 6 to 8 MPH.

NCR 701 on scene reporting heavy fire showing at 18212 Fifeshire Drive. Additional information from NCR 701 reporting the rear back-to-back townhouse (18113 Kilrush Court) second unit from the end is also involved in fire and reports all occupants of the original fire structure and exposure are accounted for.

E708's initial on-scene report (IOSR) from the Alpha side of the structure indicates a two-story end unit townhouse with heavy fire showing from the second floor and through the roof. Announces A708 as the two-out; confirming their water supply to be the hydrant in front of 18212 Fifeshire Drive; requesting the RID to be dropped by ECC; establishing command in the attack mode, initiating an aggressive interior attack with a 1 ¾" attack line through the front door.

Volunteer Battalion 705 arrives on scene confirming E708's report. Requesting Task Force and indicating fire showing from the Fifeshire Drive side on the incident as opposed to the Kilrush Court side of the incident. Volunteer Battalion 705 establishing command in his vehicle until the arrival of a Battalion Chief. NCR 701 now reporting fire on the Kilrush Court side. Command than requests a second alarm to operate on 7 Delta to stage at the shopping center just outside of the complex. NCR 701 again communicating to command the urgency to deploy crews to the rear based on deteriorating conditions.

Battalion 703 arrives on the scene and positions vehicle in the driveway of 18216 Fifeshire Drive at the Alpha/Delta corner of the main fire building. BC703 communicates two priorities for command to implement, the evacuation of the fire building and its exposures and high flow elevated streams to contain the fires now reported in 18212 Fifeshire Drive and 18113 Kilrush Court. Volunteer Battalion 705 transfers command to BC703 and relocates to the BC703 vehicle. This becomes the Incident Command Post for the remainder of the incident.

E708 now reports sparking electrical meter on the Alpha side near the front door making entry to the first floor impractical.

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Energized Electrical Panel Adjacent To Front Door

The 18212 Fifeshire Division is established at the original fire building with E708 as the Division Supervisor along with AT708; their objective was to contain and extinguish the fire in the main fire building. Units operated and knocked the bulk of the fire from the exterior with a high volume Blitz Fire hose line and rapidly transitioned into an offensive interior attack with an 1 3/4" pre connect hose line. During the confinement and extinguishment efforts it is determined that the first floor Alpha/Bravo quadrant ceiling dropped about 12" from the center. Further evaluation determined that (3) 2"x4" gusseted wood trusted floor joist failed during the fire. The bottom cords of the (3) 2x4" joist at the gusset plate where the board is joined failed. The joist ran from the front to the rear of the structure unsupported. The joists were 24' on center and failed not from fire exposure but from excess weight. The area along with the Alpha side balcony is isolated due to its threat of collapse. This is due to fire impingement on the structural components. Eventually C703F assumes the supervisory responsibilities and E729, AT703 and E703 rotated through that division.

The Charlie Division is established with at 18113 Kilrush Court with BC705 as the supervisor along with E731, T731, and AT734. The objective of this division is to control and extinguish fires in the rear exposure units. T731 was reassigned from the RID due to its key truck position to provide rear coverage. The Charlie Division accomplished a rapid control of the rear exposures.

The Bravo Exposure Division is established with E734 as the supervisor. Their object was to determine if any extension occurred in 18210 Fifeshire Drive and report their needs to command. The Delta exposure spanned a 30 foot open

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space with large trees and proved not to be a threat. The Bravo Exposure reported no fire penetration and the fire wall still intact.

RS729 assigned to confirm an all clear of the fire building and control the utilities; electric controlled at the panel and later at the meter by PEPCO. This complex did not have a gas feed. PEPCO in the end pulled meters to four units affected by the fire.

E728 assigned as the RIC unit and transitioned to the RID Supervisor with RS703 and M708; the RID units were situated on the Delta side able to respond quickly to either incident side quickly. The RID functioned without an aerial through out the incident.

Volunteer Battalion 705 and C703B along with SA700 assumed the Incident Scene Safety Officer functions covering the Alpha, Charlie and Bravo exposures.

The fire was declared under control and the incident downsized to hold E708, E753, E703, E731, AT708, T731, and 2 EMS units. 13 residents displaced by the fire. Of the 13 displaced residence, only three required Red Cross assistance. Fire Code evaluated the fire building and exposures and posted three structures – 18212 Fifeshire Drive, and 18111 and 18113 Kilrush Court.

FEI determined the fire to be electrical in nature starting in the attic near a light fixture. Damage is assessed at \$250,000 to the structure and \$25,000 to its contents. Once the origin and cause was determined by FEI, fire crews conducted an extensive overhaul and salvage operation. Due to the structural issues, access was limited and extensive foam solution is utilized to ensure the fire is completely extinguished. An exit interview was conducted by command with the home owners and the scene was turned over to a restoration company hired by their insurance carrier.

## 18212 Fifeshire Drive

### Structure/Site Layout



Back-To-Back  
Townhouses

1040 sqft.

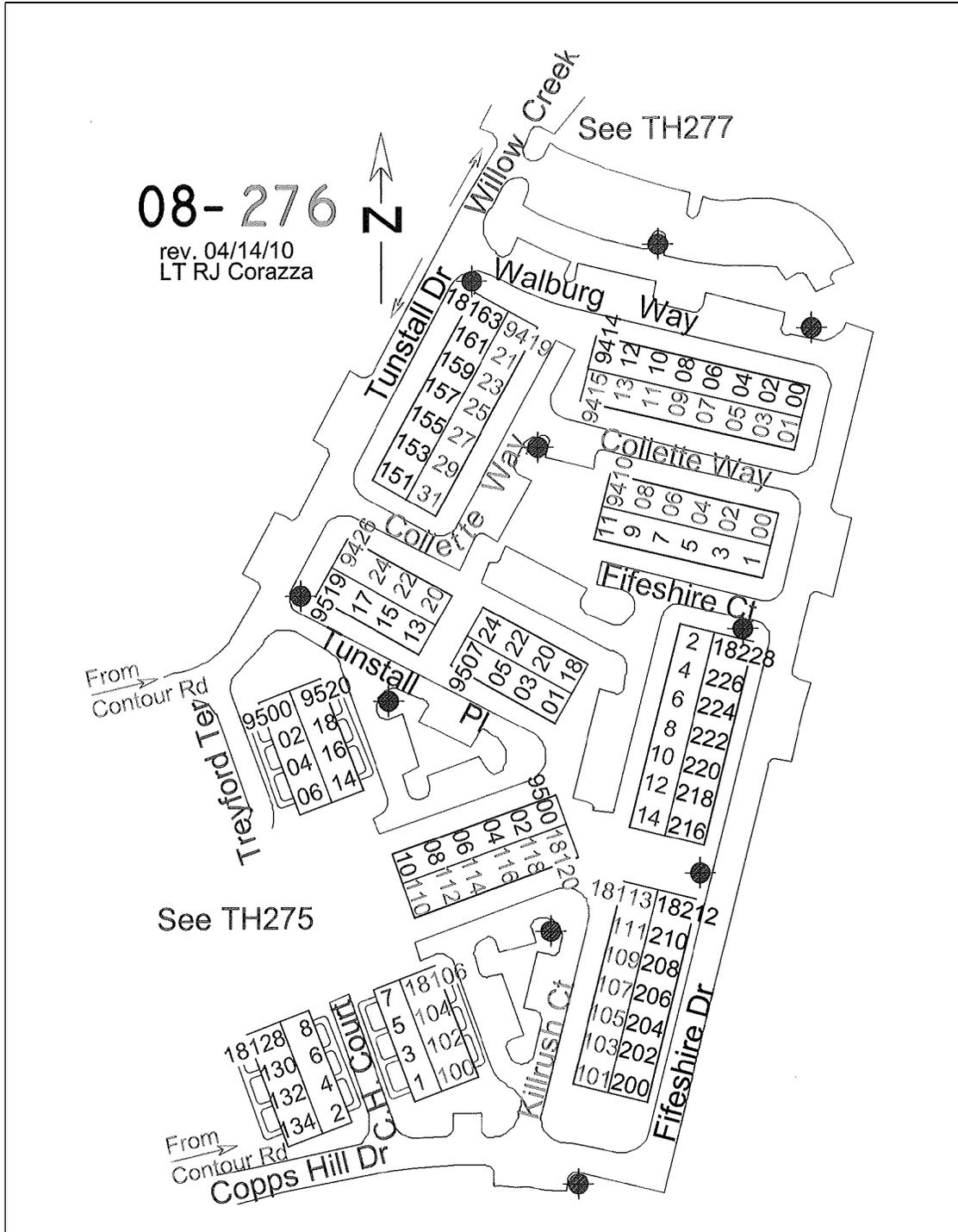
Built in 1985

Lightweight  
engineered  
construction

Composite roof  
shingle/alumin  
siding

- The structure at 18212 Fifeshire Drive makes up a larger complex of back-to-back residential townhouse which includes multiple addresses such as Fifeshire Drive/Court, Kilrush Court, and Copps Hill Drive.
- All the buildings involved in this incident are of type V construction, the entire structure are constructed of wood or any other approved material. Type V is sub-divided into protected and unprotected, depending upon the protection provided for the various structural elements. We are all familiar with light-weight, wood frame construction and the dangers that they present.
- The roof assembly was constructed of composite roof shingles with a 2"x4" wood truss roof assembly. The floor systems consisted of a 2"x4" gusseted truss assembly spaced on 24" centers.
- The exterior covering is an aluminum siding style.
- From the address sides, the buildings present a two-story view with a balcony.
- Complex map last updated by Lieutenant Corazza on April 14, 2012.

# 18212 Fifeshire Drive



Complex Map

18212 Fifeshire Drive



Alpha Side – 18212 Fifeshire Drive



Bravo Exposure – 18210 Fifeshire Drive



Delta Side – 18212 Fifeshire Drive



Command Post - 18216 Fifeshire Drive



Charlie Side – 18113 Kilrush Court



Charlie Side Exposures on Kilrush Ct

## 18212 Fifeshire Drive



Charlie Side – Water Supply and Access



Delta Side – Water Supply & No Access



Alpha Side – Water Supply & Access

### **Fire Code History**

A review of the past and current fire code requirements for the structure revealed no code compliance history for this townhouse complex. The structure is a non-sprinklered building with operational battery powered smoke detectors on each level.

### **Communications**

The incident was dispatched for fire in the attic. Prior to the first unit's arrival, ECC indicates the occupants kept returning into the structure for pets. An additional call from 18113 Kilrush Court, which backs to the fire building, reports a fire in their attic. ECC dispatches the Rapid Intervention Company based on credible information of a working fire.

The incident is assigned to 7-Charlie talk group with second alarm and staged units on 7-Delta. The 7-Charlie operator did an exceptional job of communicating a complex expanding incident with an overwhelming queue of pertinent radio communiqués requiring updates or repeating. The initial incident command seamlessly moved from his vehicle to the Battalion platform to establish the incident command post. During this transition no radio transmissions were lost or

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delayed. Radio reception was good and the Vehicle Repeater System (VRS) was not needed or engaged.

### **Pre-Emergency Planning**

There is no pre-fire plan for the structure other than the Town House Map drawn and revised by Lieutenant Corazza on April 14, 2010 (Town House Map 08-276). This map was available and utilized during the incident in the Command Post via the Mobile Data Computer.

### **Staging**

The 2<sup>nd</sup> Alarm units were staged at Contour Road and Odenhall Avenue and assigned to the 7-Delta talk group. During the incident, a second FS8 box is dispatched at 204 Lee Street. Command releases E722, EW717, AT703, and AT723 from staging to respond to Lee Street. Units investigating determine the smoke in the area to be related to the Fifeshire Drive townhouse incident. Units released from the second FS8 box returned to the staging area once clear of Lee Street.

### **Support Functions**

Incident Rehab is initiated early into the incident at the Delta side grassy knoll between 18212 and 18216 Fifeshire Drive. EMS700 coordinated with M708, M708B, and A708 to ensure all personnel rotated and cleared Rehab. MAU733 and Canteen 708 worked in union with the Rehab Group to ensure proper personal are hydrated and SCBA cylinder are on hand for service.

13 residents are displaced by the town house fire. Of the 13 displaced occupants, only three require Red Cross assistance. Fire Code Inspector 715 (MFF Dingle) evaluated the fire building and effected exposures and posted for no occupancy three structures – 18212 Fifeshire Drive, and 18111 and 18113 Kilrush Court.

Functions with outside agencies were properly coordinated (i.e. MCPD, Red Cross, and Power Company). This townhouse complex was an all electric service neighborhood. No natural gas service found to any effected structures. The power company pulled the outside electrical meters from 18212, 18216 Fifeshire Drive, and 18113 Kilrush Court.

### **Safety**

A708 is assigned as the Standby Team by the Officer of E708. A708 released to assist with rehab once E728 arrived on location. E728 assigned as the RIC unit and transitioned to the RID Supervisor with RS703 and M708; the RID units were situated on the Delta side able to respond quickly to either incident side quickly.

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The RID functioned without an aerial through out the incident. Volunteer Battalion 705 and C703B along with SA700 assumed the Incident Scene Safety Officer functions covering the Alpha, Charlie and Bravo exposures.



*Note: The floor systems in the alpha/bravo quadrants consisted of a 2"x4" gusseted truss assembly spaced on 24" centers. This assembly ran from the front to the rear unsupported. This floor system failed at the 2"x4" wood connection and the metal gusset holding the system together. The failure was not contributed to exposure to fire. Firefighters must expect this whole townhouse complex is designed in the same manner and to expect early failure of the floor structure based on poor design.*

### **Accountability**

Crews are accounted for utilizing the Incident Tactical Worksheet and the Daily Line-Up form carried in the Battalion 703 vehicle. Additionally, crews are accounted for utilizing the required accountability roll call (PAR) based on the required Incident Duration Reminders (IDR) timeline.



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## Lessons Learned

The 2011 Fire Chief's Training Initiative regarding Risk/Benefit Analysis is contributing in a positive way regarding initial tactical action by first arriving crews in a well developed, rapidly expanding incident. These are the incidents that do not fit into the standard operating procedures that govern unit officer's normal decision making process. When faced with these challenging scenarios, the first unit officer must initiate the command sequence and then communicate immediate tactical priorities to other arriving units. The officer on E708 provided a textbook initial on-scene report and clearly communicated his tactical action plan.

It is clear that unit officers and their drivers must anticipate and understand the need to provide heavy flow (GPM) and elevated streams immediately upon arrival. It also is understood that in this Type V, lightweight, engineered structure with limited access, that transitioning from an exterior high flow defensive attack to stabilize fire growth and rapidly transitioning to an interior offensive attack is becoming an effective strategy. Failure to take into consideration the high thermal heat release and the effects it's having on structural elements will continue to place firefighters in harms way.

Later arriving engine companies must ensure and expand the water supply to support fire attack. Regardless if the first or fourth due engines reports having its own hydrant; the later arriving engines charged with this mission must not fail to deliver. This methodology ensures redundancy of supply and increases tactical solutions when faced with a well developed, rapidly expanding fire environment.

This fire demonstrates the value of 4-person staffing and its increased effectiveness. Both the engine and tower from the first due fire station responded with 4-person staffing. This allows for simultaneous tactical operations which successfully stabilized the fire ground. This is also true for other crews that operated with more than required staffing. This staffing decision is helping with the division of labor and is providing better oversight of crews by their officers. Hose line management during the initial attack was rapid and well disciplined. E708 simultaneously deployed and placed in-service both the Blitz Fire and a 1 ¾" attack line. This early and aggressive interior attack by initial crews accomplished immediate improvement to interior conditions in both the fire building and its exposures.

Unfortunately neither the first nor the second due aerial towers positioned to be initially effective. This complex was narrow and difficult to maneuver. To overcome this shortfall, T731, the RID truck, was reassigned to the Charlie Division. T731 positioned to the rear of the initial fire building on 18113 Kilrush Court. This was a tactical decision made by command based on the information of three townhouses potential involved in fire. With a rapidly advancing fire in a

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congested environment, apparatus positioning provides a tactical advantage that is difficult to overcome.

The overall crew integrity during this incident was good. There remains room for improvement. Crews must remain together during interior operations at structure fires. Crews must exit a structure and report to rehab as a team. Unit officers must communicate their expectations for accounting for their apparatus drivers if they are not working physically with their officer. The ability to maintain accountability throughout an incident depends on unit officers providing the leadership and discipline to ensure their crews remain intact at all times.

The use of CAFS or foam solution proved effective during the overhaul phase of the fire. The main fire building suffered heavy fire damage to the roof assembly and structural failure to the second floor joist assembly. This coupled with a large amount of furniture and storage items made safe access to remove all items affected by fire impractical. The hard work of crews to search for extension and the effectiveness of the foam solution allowed a level of confidence that the fire was completely extinguished.

### **Conclusion**

The successful outcome of this incident was driven by the positive initial action of the first arriving units to effectively conduct a proper risk analysis on a well developed, rapidly advancing fire involving three townhouses. The first due engine officer delivered a calm and well delivered on scene report that established a tone for the entire incident. Crews executed basic skills to accomplish their tactical objectives. Companies demonstrated the discipline to initiate a quick defensive fire attack while positioning themselves to transition to an aggressive interior attack once conditions warranted the change. A critical factor that cannot be underscored is the relationship or synergy a station delivers to a scene when they arrive as a whole (engine, truck, ambulance from the same station). This was demonstrated by the force Company's 08, 31, and 34 delivered on the initial alarm and RID.

This fire was controlled by the first alarm companies with second alarm units providing relief as units rotated through rehab. No civilian or firefighter injuries were sustained during this incident. One cat remains missing.

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