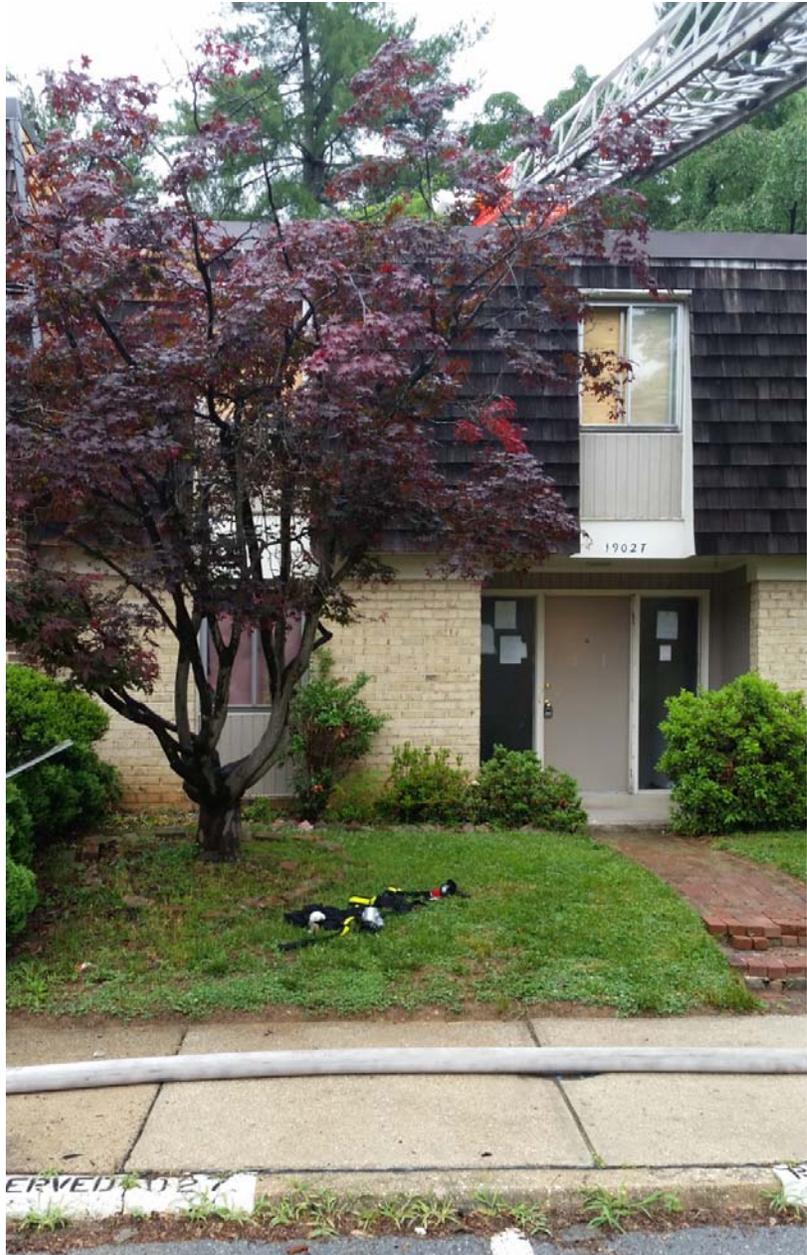




MONTGOMERY COUNTY FIRE AND RESCUE SERVICE POST INCIDENT ANALYSIS

Townhouse Fire
19027 Colfield Court
December 13, 2014
Box Area 8-3
Captain Patrick Stanton



MCFRS POST-INCIDENT ANALYSIS

19027 Coltfeld Court

Summary

On 12/13/2014 units were dispatched for a townhouse fire at 19027 Coltfeld Court in Gaithersburg, Box Area 08-03. Units arrived on the scene with a working fire in a vacant unit under renovation with significant extension into the void spaces of 19029 Coltfeld Court (Exposure Bravo). A second alarm was called for, but the only units used were the first alarm and the first engine and truck from the second alarm. The fire was extinguished with damage to the fire building structure and to the structure and contents of the exposure building. There were no fire department or civilian casualties as a result of this incident.

Weather Effects

The weather was cool with temps in the 40's; winds were very light and had no effect on fire conditions.

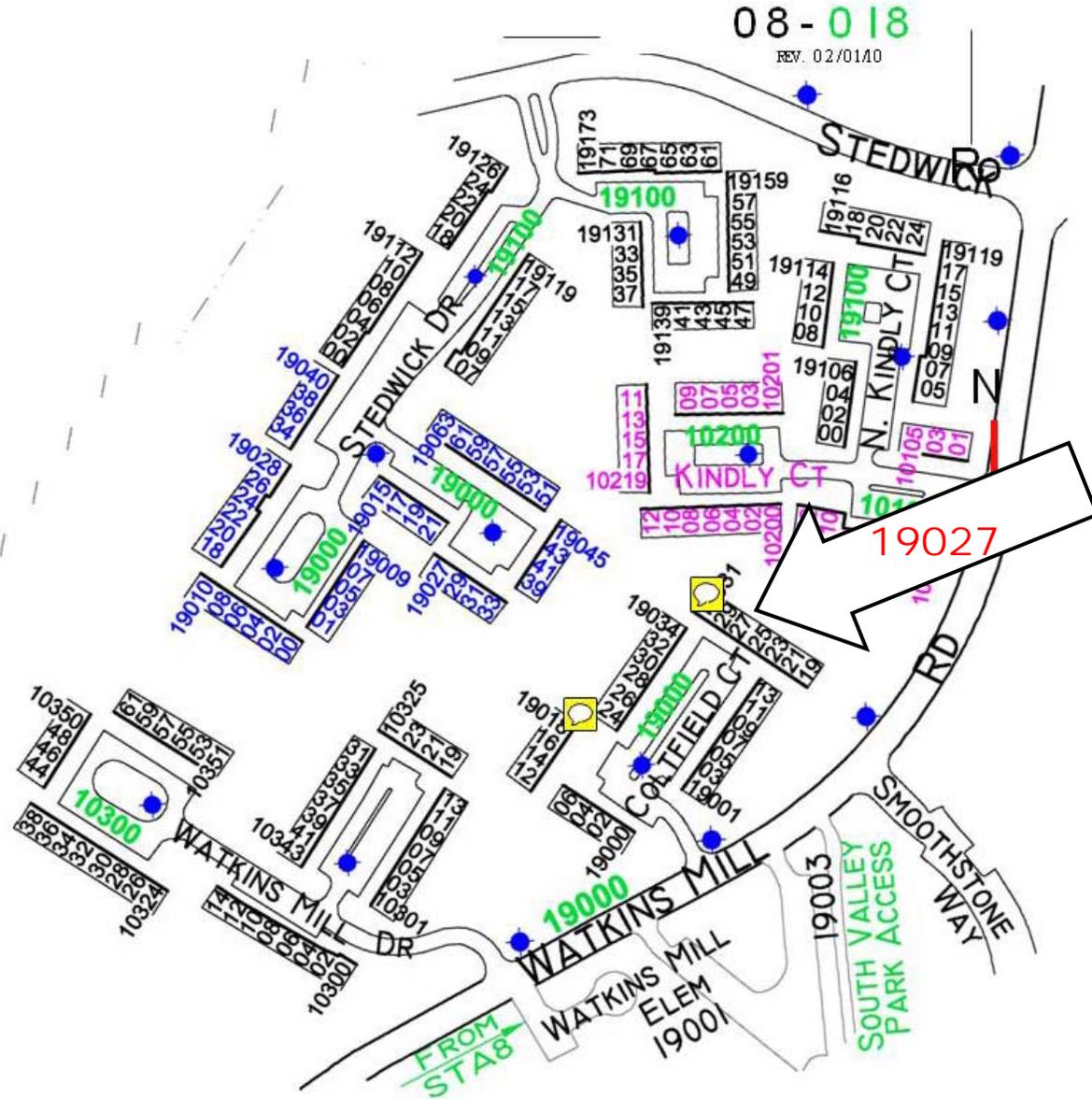
Structure Information

19027 Coltfeld Court is a middle of the row townhouse constructed in 1968 (Truilla, 2014). The 2 story with finished basement townhouse is constructed with ordinary residential materials with solid wood 2" x 4" and 2" x 8" support beams, a shake roof front on the second floor with a brick veneer on the first floor wall front and a flat roof. There is no exterior access to the basement. The unit has no residential sprinklers, is served by residential power from PEPCO, and has natural gas heat. There were no overhead wire obstructions on Side Alpha of the structure. Access to Side Charlie of the building was limited by fencing and landscaped trees and shrubbery.

The unit was under renovation, with apparent electrical and plumbing work going on in quadrants Bravo and Charlie of the second floor where the fire originated. The drywall had been removed and the wall area was opened, and in the unoccupied building these factors gave the fire time to build in the void space. The unit where the fire originated shares a common wall space with the Exposure Bravo occupancy with no fire stopping between the units. There were no smoke detectors sounding at the arrival of fire rescue personnel in the fire building (the residence was unoccupied) but there were working detectors in 19029 Coltfeld Court.

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Prior to Arrival

The calling party was a resident of 19029 Coltfeld Court (Exposure Bravo) who noted smoke coming from the fire building. The residents of 19029 were advised to evacuate their townhouse by ECC. The door to the fire building was locked and no one answered when the caller knocked to determine if the workers were still inside the house. The three residents of 19029 evacuated to their vehicle in the parking area through the duration of the incident.

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Dispatch and Initial Communications

At the time of the 911 call, Paramedic Engine 708 and Paramedic Tower 708 were running an automatic fire alarm and out of position. While the call was being processed, the Bravo operator polled Paramedic Engine 708 and asked if they could clear the AFA for box alarm. Paramedic Engine 708 advised to put them on the box and hold the tower on the alarm. This was occurring while the call was being pre-alerted on 7 Alpha. The pre-alert was updated, and the dispatch at 21:40 that followed had the running order of:

Paramedic Engine 708, Paramedic Engine 734, Engine 753, Paramedic Engine 728, Engine 729, Truck 734, Truck 731, Rescue Squad 729, Rescue Squad 729, Ambulance 708, Battalion Chief 705, Battalion Chief 703, the Gaithersburg and Rockville Duty Officers.

ECC also pre-emptively sent the Rapid Intervention Dispatch at 21:41 based on the reports of the callers and the belief that there was a working incident and IDLH. The RID consisted of:

Truck 735, Rescue Squad 717, Medic 708.

Communications throughout the incident were generally good, with some garbled transmissions caused by Breathing Apparatus muffling sounds and some unacknowledged transmissions. Units generally also maintained radio discipline, although there were some major inconsistencies with the terminology used to identify sectors, which are addressed later.

Access Issues and the Geography of the Property

The court has townhouses arraigned around the "L" shaped entry roadway from Watkins Mill Road with parking in front of all buildings limiting access to large vehicles. The leg of the "L" where 19027 sits has a 4 foot center median strip dividing the access into the court where 19027 is located. At the time of the fire, a majority of the parking spaces in the development were occupied, but the fire lanes were clear and there was access for apparatus to Side Alpha of the fire building. There was no vehicle access to side Charlie of the townhouse row. Once the first engine and truck (Truck 734 took position and supply line for Paramedic Engine 734 were charged, there was no access for more apparatus to Side Alpha. The command post was established in the BC705 buggy which was pulled onto the median strip on Side Alpha approximately 50 feet from the fire building.

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The "Box Map" of the development and court was adequate for access and identification of the addresses for the designation of locations. The attached diagrams of the development will show:

1. Box Map 08-018 showing the development showing the water supply point for the first engine, the locations of the Command Post, and 1st engine and truck placement.
2. Zoom of the Box Map to show the units involved and the labeling of structures as understood by the Incident Commander.
3. Google earth screenshot of the neighborhood showing limited access to

Side Charlie of the dispatched address as well as the access to the development from Watkins Mill Road.



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Had the incident escalated and elevated water streams been needed, then positioning another aerial in the court would have been difficult, as well as supplying multiple master streams would have involved hand jacking several hundred feet of hose from Watkins Mill Road hydrants.

Initial Unit Arrival

Responding units exchanged water supply instructions in accordance with the SSFF policy, Paramedic Engine 708 to Paramedic Engine 734 for the hydrant at the bend of the "L" in the court at 19024 Coltfeld Court and Paramedic Engine 728 to Engine 729 for the hydrant at the intersection of Coltfeld Court and Watkins Mill Road. Paramedic Engine 708 also designated Ambulance 708 as the initial "two out", which they acknowledged via radio prior to arrival. Due to Paramedic Engine 708 being out of position, the first unit to arrive on the scene was Ambulance 708, which gave an on scene report of a townhouse with smoke showing. Ambulance 708 positioned their unit out of the travel lane in a no parking zone to allow apparatus access just off the Watkins Mill Rd entrance to the court.

Approaching the scene, Paramedic Engine 708 recognized that Paramedic Engine 734 would be first arriving, and advised Paramedic Engine 734 to take the first due and hand jack a line to Paramedic Engine 708 at the hydrant in the court. Paramedic Engine 734 arrived on the scene, giving a report of a two story townhouse with smoke showing from the second floor on Side Alpha, and established Command in the attack mode. Truck 734 nosed in next to the engine on Side Alpha, while Battalion 705 took position on the center island on Side Alpha and took Command from Paramedic Engine 734 by radio, making a report of a 2 story middle-of-the-row townhouse with smoke showing from the second floor on side Alpha.

Risk Assessment: RA RECEO-VS Model

Upon arrival, conditions were grey smoke from the 2nd floor coming through the cedar shake over the second floor wall of the reported structure and the Exposure Bravo building, with no visible fire. The smoke did not appear to be under great pressure and there was no evidence of impending flashover from Side Alpha. There was no visible smoke or fire from the first floor. Conditions appeared to be within a safe margin for an aggressive interior attack. Initial reports of all occupants out of the structure were balanced with indications of a fire in the walls and possibility of extension into adjacent units. Due to the fact that the fire involved two dwellings and the rapid depletion of all resources on the scene, Command requested a Second Alarm to stage to ensure adequate manpower should the incident evolve or extend further.

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Units Assignments and Tactics

Command designated Paramedic Engine 734 as “Division 1” with Truck 734. Paramedic Engine 708 gave a report from the rear of two story townhouse with a basement with no exterior access to the basement, smoke showing from the second story and smoke from the second story of Exposure Bravo. Paramedic Engine 728 was assigned to assist in 19027, and Paramedic Engine 734 advised they were attacking the fire on Division 2. There was a slight delay in establishing a water supply due to hand jacking the supply line and multiple lines being pulled and supplied by the first engine. Engine 729 was sent to Division 2 to assist and back up the initial fire attack.

Engine 753 assumed the Rapid Intervention Group on Side Alpha. Battalion 703 and Volunteer Battalion 703 arrived on the scene and assumed support roles with Battalion 703 functioning as a Recon officer and Volunteer Battalion 703 taking the initial role of “Safety”.

Paramedic Engine 708 advised that they had probable extension to Exposure Bravo, and was assigned to that Division and was assigned as the Division Supervisor. This is a deviation from the Safe Structural Firefighting Policy where the second engine backs up the initial attack line, but in the attempt to confine the fire, it was necessary to deviate. After a face-to-face with command, Truck 731 was also assigned to Exposure Bravo.

Rescue Squad 729 was used to check for extension into the “Bravo 2 exposure” and Exposure Delta (which were clear). Engine 735 was assigned to take a line to the roof using Truck 734 aerial to ensure that we had access to all of the void spaces to ensure there was no further extension of the fire.

Rescue Squad 729 confirmed searches in the exposures, and Paramedic Engine 734 confirmed searches in the origin building. There was a delay in determining an “all clear” in both the reported address and the Bravo exposure as most units assumed that since the original structure was under renovation it was unoccupied and the family in the Bravo exposure was accounted for upon arrival.

Rescue Squad 729 controlled utilities in the origin building, and Paramedic Engine 708 controlled utilities in Exposure Bravo. PEPCO was requested to come to the scene to confirm electric shutoff, and domestic water to both units to reduce the risk of a broken water pipes.

Engine 729 was pulled from Division 2 to take a line to the roof to open up the void in the roof space that units were having difficulty getting from the interior.

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Units on the second alarm were:

Paramedic Engine 731, Paramedic Engine 717, Paramedic Engine 722, Paramedic Engine 735, Tower 703, Truck 740, Medic 708 Bravo, Air 733, and Canteen708.

A Rapid Intervention Group was established on Side Alpha but not used consisting of Engine 753, Truck 735, Rescue Squad 717 and Medic 708. EMS 703 established a Rehab Group using Ambulance 708, Canteen 708, and Medic 708 for manpower.

Accountability

The Incident Management System was used and units remained together in their operations with good crew integrity. A Personnel Accountability Report was conducted during the operation with all units accounted for.

Cause and Origin

FEI investigated and determined the origin to be in the Bravo quadrant on the second floor in the area of renovation, the cause being electrical.

Critique of Operations

Terminology and Designation of Divisions:

The first personnel to enter the building were initially designated "Division 1", but moved to the 2nd floor to attack the fire. Units assigned to the Bravo Exposure were just termed "Exposure Bravo" regardless of what floor they operated on. As a result, there were some accountability issues with units moving between floors and missions in Exposure Bravo and getting units into the other exposures to check for lateral fire extension. Division 2 (PE734 as the leader) was designated, and then renamed "Fire Attack", which blurred the boundaries of their operations and placed an increased burden on the unit officers.

In an attempt to reduce confusion, Command tried to make assignments using the street numbers of the residences as well as a "Exposure Division" name. But this was cumbersome and had the operation spread beyond checking for extension in the Bravo and Delta exposures of the fire building, it would have been very confusing.

Solutions to consider:

A better solution could have been to create Divisions based on the addresses of the structures ("Division 19027" and "Division 19029") but it would be difficult to maintain locations of crews inside each structure.

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Some structures may be so small that it isn't practical to designate separate Divisions because only a few crews can fit inside.

In such situations, if the units are designated "Fire Attack", they will be a need to provide updates of their locations as they move inside the building, and to ensure accountability, and non-extinguishment tasks may have to be individually assigned.

Ultimately, if crews are changing their locations inside the structure during an incident, the crews and Command will have to spend extra effort to ensure safety and accountability. Communication will need to be specific and precise as to assignments and locations.

Supply Lines and Apparatus Access:

When the first due engine hand-jacked a supply line to the hydrant, it effectively blocked access to one side of the cul-de-sac, while the supply pumper blocked the other lane. If the fire had spread, there would have not been access for an additional aerial to the Alpha/Bravo Corner of the row without shutting down the water supply and moving the supply line. Since there was no other vehicle access to the townhouse row, this might have caused an issue. Unit officers must anticipate escalation of incidents and when possible ensure that access is left for additional units (especially aerial units).

End Summary

This fire was challenging in several aspects. The fire had a good head start and some of the inherent building compartmentalization was compromised by ongoing renovation work in the dispatched unit (19027). The fire had extended into the void spaces between 19027 and 19029 before units arrived on scene. The construction of the townhouses was atypical, having a flat roof with mansard voids and asymmetrical adjoining occupancies. There were also multiple layers of roofing underneath a thick layer of underlayment that concealed voids.

A change in running order was communicated and handled well with the officer of Paramedic Engine 708 realizing that Paramedic Engine 734 would be first arriving.

The bulk of the fire in the dispatched address was quickly knocked using an aggressive interior offensive attack, but due to the extension into the voids in both occupancies a second alarm was requested as all first alarm units were assigned to tasks. Most of the units on the second alarm were not used for operations, and were placed in service shortly after arriving. Handlines of the appropriate size were deployed efficiently into the fire building and exposures and crew integrity was maintained. Terminology issues were minimized by effective crew discipline and communications.