



# Carroll County Department of Fire & EMS

<b>Standard Operating Procedure: 4.06</b>	<b>Effective Date: September 30, 2023</b>
<b>Subject: Structural Firefighting</b>	<b>Section: Fire Rescue Operations</b>
<b>Authorized: Chief Michael Robinson, Director</b>	<b>Revision Date: N/A</b>

## I. PURPOSE

To identify the unit responsibilities for units arriving on “Structure” or “Box” assignments in hydrated and non-hydranted areas in Carroll County, MD

## II. DEFINITIONS

**360 Circle Check:** A **360-degree** inspection of the outside of a structure or other hazard area intended to develop situational awareness by physically walking all four sides of the structure.

**Advanced Life Support (ALS)** – Highest level of emergency medical care available through administration of advanced level interventions.

**AED:** Automated External Defibrillator

**Attack Tanker:** The first arriving tanker that positions as close as possible to the first engine to provide ample water for the initial attack.

**Defensive attack:** is when fire suppression efforts are conducted from the exterior of the structure, considering exposures.

**IC:** Incident Commander

**Initial On-Scene Report (IOSR):** A report provided by the first arriving unit to each side of a structure that provides a situation assessment.

**LCAN:** Progress report given by interior or another operational sector. acronym stands for Location, Conditions, Actions, and Needs.

**Nurse Tanker(s):** A tanker operation that arriving tankers pump their water off into a

clappered siamese attached to a supply line.

**Offensive attack:** is when crews are actively suppressing fire in a forward offensive manner into the structure.

**PPE SOP 7-1:** Personal Protective Equipment

**RIC:** Rapid intervention crew

**RID:** Rapid intervention dispatch

**RIG:** Rapid intervention group

**Special Service Unit:** Dispatched Ladder, Tower, Truck, Rescue or Rescue Squad.

**Strategy:** Refers to one of three actions used to combat a structure fire in this policy.

**SUR:** Situational update report given by first arriving unit officers following a completed **360** circle check.

**Transitional attack:** is when actions are taken to suppress fire load from the exterior of the structure and transition to an offensive attack.

**Two Out:** refer to Two In - Two Out policy

### III. PROCEDURES

#### A. Initial size up

1. **Initial on-scene Status Report (IOSR):** The first arriving Primary Unit Officer in both the front *side "Alpha"* and the rear *side "Charlie"* of the structure must provide an Initial On-scene Status Report (**IOSR**) for that side.
  - Address confirmation (only for first arriving unit).
  - The arrival side of the structure.
  - The number of stories.
  - The type of occupancy.
  - Conditions evident; and
  - Any other pertinent information.
  - Announce Command
2. **360 Circle Check:** Structural firefighting operations must begin with the development of situational awareness (360-degree size up) by physically walking all four sides of the structure unless the size or configuration of the structure prevents the timely completion.

3. The first arriving Primary Unit Officer must announce by radio if they are not able to complete a **360-degree circle check**.

The **360-circle check** must consider the:

- Location and status of the occupants
- Construction type of the structure/construction hazards.
- Building occupancy type.
- Status of exterior exposures.
- Location of the fire (**The presence of a basement and conditions must be reported**)
- Likely flow paths.
- Paths of entry and egress.
- Paths of fire extension.
- Impact of the weather, especially the wind.
- Presence of hazards such as inground pools, arcing power lines, security bars etc.

4. Occupant status is described in one of three ways.
  - a. The occupants are accounted for. (All out of hazard area and safe)
  - b. The occupants are not accounted for. (Unable to confirm everyone is out)
  - c. The occupants are known to be trapped. (Witnesses or 911 caller advise someone is trapped).

*(The **ISOR** and **SUR** are separate reports. The **SUR** requires occupant status information which is likely not available when the **ISOR** is provided.)*

5. All additional reports will follow the Location-Conditions-Actions-Needs (**LCAN**) report.
6. Unit Officers are responsible for maintaining crew integrity and accountability of personnel.
7. EMS crews arriving first on structure fires will first assess and identify occupants and potential victims. No entry shall be made into any structure without full **PPE** in place regardless of conditions.

## **B. Tactical Considerations:**

1. Fire Suppression: The status of the fire, including smoke conditions, and the stability of the structure must be continuously compared against the strategy, incident objectives, and tactics to ensure maximum effectiveness.

Personnel must consider the survivability of occupants as part of the ongoing scene evaluation.

- a. Fire suppression should begin on the lowest level of the structure where fire is present.
- b. When a fire is primarily concentrated on the outside of a structure, fire suppression should begin on the outside.

- c. Interior firefighting shall not occur directly above uncontrolled fires in structures unless the occupants are known to be trapped and operating above the fire is required to preserve life.
- d. Consider fire flow paths while deploying initial attack lines and conducting ventilation.
- e. Once committed to an interior attack position, the primary attack line must be provided a backup line until the fire is controlled, except as necessary to preserve life.
- f. In general, only two attack lines should be stretched through anyone opening. (Must maintain awareness of opposing hose lines)
- g. An engine company arriving before special services must be prepared to force entry into structures.

## 2. Basement Fires

- a. Whenever a fire is determined to be below the primary entry grade, i.e., a basement fire, the initial attack should be from the exterior basement entrance if there is one and access to it is reasonable.
- b. If there is no exterior basement entrance, the initial attack should use any available exterior opening, e.g., windows to darken the fire prior to any interior operation if access to it is reasonable.
- c. Crews descending stairs to attack a basement fire must immediately notify command and must be prepared to relocate to another position if they encounter any of the following conditions,
  - Flame over along the entry path not immediately suppressed by water flow
  - High heat along the entry path not immediately suppressed by water flow.
  - Fire along the entry path is not immediately suppressed by water flow. Whenever an interior attack is made on fire below the entry grade, only personnel essential to the fire attack are to be along the entry path.
- d. Stairs must always remain clear for egress.
- e. All structures shall be considered to have a basement until determined otherwise.

## 3. Interior Searches:

- a. Whenever the size up supports an interior fire attack operation a search of the structure must occur as well.
- b. Whenever possible, the secondary search of any given area should not be completed by the same crews that conducted the primary search.
- c. When a specific unit is tasked with ensuring that a systematic search has been completed, unit officers are not relieved from searching areas as they move through the structure.

## 4. Standpipe and Sprinkler Systems:

- a. Standpipes must be charged immediately to the required pressure for the reported fire location.
- b. Sprinkler systems must be charged immediately if they are part of

the standpipe system. Otherwise, they must be charged to the required pressure when:

- (i) Smoke or fire is visible.
- (ii) The water flow alarm sounding; or
- (iii) The officer in charge directs it to be done.

Drivers must advise **IC** via radio when systems are charged.

### Rural Water Supply

- a. Establish a water supply officer early in the incident for non-hydrant areas.
  - b. The first arriving engine should quickly decide on a plan to get apparatus back long driveways. Considering room for a second engine, attack tanker and aerial access.
  - c. Folding tanks should not be used for fire flows under 500 gpm.
6. Units taking positions at reported structure fires must avoid parking in potential collapse zones.
8. Personnel must avoid doing any unnecessary damage to a structure or contents.
9. Additional resources and actions if needed:
- a. Anytime an **IDLH** is present the **RID** should be requested early.
  - b. When a second or greater alarm is requested the **IC** shall identify a staging area for those units when requested if necessary.
  - c. Once a “working fire” is confirmed and until a stationary command post is established, incident communications must be limited to critical incident needs such as water supply and occupant status.

### C. Response in a Hydranted Area:

**(Unit assignments for the structure fire SOP are based on order of arrival which must be announced by radio when a unit arrives and assumes the responsibility's other than which they were dispatched.)**

**(IC and unit officers have the responsibility to communicate any deviations to this policy via radio)**

#### 1. First Arriving Engine

- a. Unit – Begins the water supply process by laying a supply line from the closest fire hydrant or split laying to side Alpha or most appropriate location for fire attack. Reserve adequate space for the first aerial. Connect to the Fire Department Connection and/or standpipe, if closest to this side. (Advise the **IC** when FDC and/or standpipe is charged.)
- b. Unit Officer – Give primary water supply instructions via the radio, if positioning is not on side Alpha advise other units via the radio, transmit an **IOSR**, establish or transfer command if not in place, conduct a **360**, advise if

the structure has a basement and report initial conditions of the basement and the location of any exterior basement entrance if indicated, give a **SUR** when **360** is completed, request additional resources, identify a “**2-out**” team, identify the **strategic mode** and point of entry.

**Basement Fires: Whenever fire is determined to be below the primary entry grade i.e.: a basement fire the initial attack should be made from the exterior basement entrance if there is one and access to it is reasonable.**

- c. Crew – Advance the appropriate size primary attack line to the fire floor/entry point, force entry, and begin fire attack/confinement, rescue victims, protect exposures as appropriate.
- d. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, tools, hand lights, hose, **TIC**, and other equipment appropriate for the construction of the structure and the tactics being deployed.

## 2. Second Arriving Engine

- a. Unit – Ensure the completion of, and expand, the water supply for the first arriving engine. Position the unit at the first engine’s water supply.
- b. Crew- Immediately establish a “**2-out**” team. If a “**2-out**” team is already in place, assist the first engine with deploying the primary attack line if needed, advance a second attack line as directed by the **IC** or prepare to perform a primary search/rescue of victims if no aerial or rescue squad is on the scene and occupants are known to be trapped.
- c. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, tools, hand lights, hose, and other hand tools appropriate for the construction of the structure and the tactics being deployed.

## 3. Third Arriving Engine

- a. Unit – Secure a second water supply by laying a supply line from the next closest fire hydrant or split laying to side Charlie or most appropriate location opposite the first due engine, leaving room for the second aerial device. Connect to the Fire Department Connection and/or standpipe, if closest to this side. (Advise the **IC** when FDC/ standpipe is charged.)
- b. Officer - Give an **IOSR** for Side Charlie or side opposite first due engine if possible. Deploy additional attack line to side Charlie or the exposure. complete a physical **360** of the structure if not completed by the first arriving officer.
- c. Crew – Deploy the appropriate size attack line to side Charlie, the floor above the fire or the next appropriate exposure and begin fire attack/confinement, rescue victims, protect exposures as appropriate.

- d. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, tools, hand lights, **TIC**, hose, and other hand tools appropriate for the construction of the structure and the tactics being deployed.

#### 4. Fourth Arriving Engine

- a. Unit - Ensure the completion of, or expand, if necessary, the water supply for the third arriving engine.
- b. Unit Officer – Become the **RIC** and perform a size-up of the structure to rescue downed firefighters if needed. (Unit officer will be **RIC** officer, will advise the **IC** when **RIC** is in place.)
- c. Crew –Position where the **RIC** is assigned with appropriate RIT equipment and a hose line for RIT. Relieve the initial **Two-Out**. (Apparatus drivers will dress and support crew with **RIC** duties if not needed for water supply.)
- d. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, **TIC**, tools, hand lights, hose, and designated RIT Tools, Spare RIT air, and other equipment appropriate for the construction of the structure and the tactics being deployed.

#### 5. Fifth Arriving Engine

- a. Unit - Assist with or complete any water supply issues as necessary, otherwise remain in an uncommitted location.
- b. Crew - Report to the command post and stand by for assignment. (Apparatus drivers will dress and support crew if not needed for water supply.)
- c. Equipment - All personnel must wear full **PPE**. Equipment should include portable radios, tools, hand lights, hose, **TIC**, and other equipment appropriate for the construction of the structure and the tactics being deployed.

#### 6. First Arriving Aerial

- a. Unit – Position on side Alpha or on side of first engine
- b. Crew – Provide forced entry, provide secondary/emergency means of egress with ground ladders, primary search, and rescue of occupants, provide coordinated ventilation with the attack crew, secure utilities, assist with salvage, overhaul, and lighting, utilize the aerial to gain access to the roof or most appropriate floor and communicate their conditions to the **IC**.
- c. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, ladders, tools, hand lights, **TIC** and other equipment appropriate

for the construction of the structure and the tactics being deployed.

#### 7. Second Arriving Special Service

- a. Unit – Position on side Charlie or opposite first arriving truck if accessible
- b. Crew – Support forced entry and coordinated ventilation, if necessary, provide secondary/emergency means of egress with ground ladders, utilize the aerial to gain access to the roof or most appropriate floor and communicate their conditions to the **IC**, assist with primary search of occupants, if necessary, utilities, and perform secondary search.
- c. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, ladders, tools, hand lights, **TIC** and other equipment appropriate for the construction of the structure and the tactics being deployed.

#### 8. First Arriving Rescue Squad

- a. Unit – Position on side Alpha, if possible, but out of the way. Provide scene lighting if necessary. Will position as the second arriving Special Service if the first due aerial is already on scene.
- b. Crew – Perform duties of the first arriving aerial when the rescue squad is first on scene. When not first on scene, report to the command post for assignment.
- c. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, tools, hand lights, **TIC** and other equipment appropriate for the construction of the structure and the tactics being deployed.

#### 9. First Arriving EMS Transport Unit

(Structure fires with reports of rescue will have an additional **ALS** transport unit dispatched)

- a. Unit – Shall be parked out of the way and in a position to transport patients.
- b. Crew – Identify and assess the welfare of any occupants and provide aid and shelter if needed. Prepare to transport injured firefighters and/or civilians if needed. Establish an Aid and or Rehab Station if directed by the **IC**. Support the **IC** as required. If the crew is assigned as the “**2-out**” team, they must dress in full **PPE** and be positioned at the entry point. Once the second due engine arrives and is in place the EMS crew should transition back to the first arriving EMS duties.
- c. Equipment – Litter, oxygen equipment, **AED**, Aid-Bag, towels, ice packs, water cooler and cups, appropriate level of **PPE**.



10. First Arriving Command Officer (with command vehicle) (hydrant and non-hydrant)

- a. Stationary Command Post - Must attempt to position in a way that allows a view of at least two sides of the structure from the command post
- b. Must use a tactical worksheet to track the incident objectives, resource allocation, and progress towards established objectives; and
- c. Must ensure that the changes in strategy are deliberate and communicated.
- d. Establish a collecting point for personal accountability tags.
- e. If assuming command announce the location and provide a **SUR**
- f. Additional arriving duty officers, utilities and POV's will park out of the way not to impede responding apparatus. Report to the command post for assignment.

D. Response in Non Hydranted Area:

First Arriving Engine

- a. Unit – Begins the water supply process by laying a supply line (with clappered Siamese) to Side Alpha or appropriate location for fire attack. Reserve adequate space for the first due aerial and tanker if possible. Connect to the Fire Department Connection/standpipe if closest to this side. (Advise IC when FDC/standpipe is charged) (May proceed to side Alpha without laying a supply line for rapid fire attack or to leave the driveway open for additional apparatus. This must be communicated on the radio.)
- b. Unit Officer - Give primary water supply and fill site instructions, if positioning is not on side Alpha advise other units via radio, transmit an **IOSR**, establish or transfer command if not in place, conduct a **360**, advise if the structure has a basement and report initial conditions of the basement and the location of any exterior basement entrance if indicated, give a **SUR** when **360** is completed, request additional resources, identify a “**2-out**” team, identify the **strategic mode** and point of entry.

**Basement Fires: Whenever fire is determined to be below the primary entry grade i.e.: a basement fire the initial attack should be made from the exterior basement entrance if there is one and access to it is reasonable.**

- c. Crew – Advance the appropriate size hose line to the entry point and begin fire attack/confinement, rescue victims, protect exposures as appropriate.
- d. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, tools, hand lights, **TIC**, hose, and other equipment appropriate for the construction of the structure and the tactics being deployed.

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## 2. Second Arriving Engine

- a. Unit – Ensure the completion of, or expand as directed or if necessary, the primary water supply for the first arriving engine. Position back the driveway to supply the first due engine with tank water leaving room for the first arriving truck and tanker if possible.
- b. Unit Officer - Establish command if not in place or assume command if indicated by first due engine.
- c. Crew- Immediately establish a “**2-out**” team. If a “**2-out**” team is in place, advance a second attack line as directed by the **IC** or prepare to perform a primary search if no special service is on the scene. Communicate their locations to the **IC**, conduct primary search if rescue squad is not at location, begin checking for extension once bulk of fire is knocked down.
- d. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, tools, hand lights, **TIC**, hose, and other hand tools appropriate for the construction of the structure and the tactics being deployed.

## 3. Third Arriving Engine

- a. Unit – Prepare to pump the primary supply line via clappered Siamese. Consider setting up a dump site in an appropriate area that will not block lane access to the structure, if the fire flow is expected to exceed 500 gpm. (Position and complete first arriving engines water supply plan if indicated)
- b. Officer - Give an **IOSR** for side Charlie or side opposite first due engine and report to the floor above the fire or the next appropriate exposure.
- c. Crew – Advance the appropriate size hand line to the floor above the fire or the next appropriate exposure and begin fire attack/confinement, rescue victims, protect exposures as appropriate.
- d. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, tools, hand lights, **TIC**, hose, and other hand tools appropriate for

the construction of the structure and the tactics being deployed.

#### 4. Fourth Arriving Engine

- a. Unit - Driver may assist with water supply/dump site as needed.  
*(If not needed for water supply, drivers must wear full PPE and assist with crew responsibilities.)*
- b. Unit Officer – Become the **RIC** and perform a size-up of the structure to rescue downed firefighters if needed. (Unit officer becomes **RIC** officer)
- c. Crew –Position where the **RIC** is assigned with appropriate RIT equipment and a hose line. Relieve the initial **Two-Out**. (Apparatus drivers shall dress and support crew with **RIC** duties if not needed for water supply.)
- d. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, thermal imaging camera, tools, hand lights, hose, and designated RIT Tools and other equipment appropriate tool for the construction of the structure and the tactics being deployed.

#### 5. Fifth Arriving Engine

- a. Unit - Assist with establishing a fill site for water shuttle or relay operations as directed by the first due engine or **IC**. Must set-up supply lines with the ability to connect to two tankers at once, (filling one at a time) in the water supply shuttle.
- b. Unit Officer- Become the fill site officer. **IC** or water supply officer must be notified when the primary fill site is ready.
- c. Crew - Assist with establishing a fill site.
- d. Equipment - Proper hose and adapters needed for primary fill site.

#### 6. First Arriving Aerial

- a. Unit – Position on side Alpha or side of first engine.
- b. Crew – Provide forced entry, provide secondary/emergency means of egress with ground ladders, primary search, and rescue of occupants, provide coordinated ventilation with the attack crew, secure utilities, assist with salvage, overhaul, and lighting, utilize the aerial to gain access to the roof or most appropriate floor and communicate their conditions to the **IC**.
- c. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, ladders, tools, hand lights, **TIC** and other equipment appropriate for the construction of the structure and the tactics being deployed.

#### 7. Second Arriving Special Service

- a. Unit – Position on side Charlie or opposite first due truck if accessible
- b. Crew – Crew – Support forced entry and coordinated ventilation, if necessary, provide secondary/emergency means of egress with ground ladders, utilize the aerial to gain access to the roof or most appropriate floor and communicate their conditions to the **IC**, assist with primary search of occupants, if necessary, utilities, and perform secondary search.
- c. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, ladders, tools, hand lights, **TIC** and other equipment appropriate for the construction of the structure and the tactics being deployed.

#### 8. First Arriving Rescue Squad

- a. Unit – Position on side Alpha, if possible, but out of the way. Provide scene lighting if necessary. Will position as the second arriving Special Service if the first due aerial is already on scene.
- b. Crew – Perform duties of the first arriving aerial when the rescue squad is first on scene. When not first on scene, report to the command post for assignment.
- c. Equipment – All personnel must wear full **PPE**. Equipment should include portable radios, tools, hand lights, **TIC** and other equipment appropriate for the construction of the structure and the tactics being deployed.

#### 9. First Arriving EMS Transport Unit

- a. Unit – Shall be parked out of the way in a position to transport patients.
- b. Crew – Identify and assess the welfare of any occupants, provide aid and shelter if needed. Prepare to transport injured firefighters and/or civilians if needed. Establish a Rehab Station if directed by the **IC**. Support the **IC** as required. Crew may be assigned as the “**2-out**” team if qualified.
- c. Equipment – Litter, oxygen equipment, **AED**, Aide-Bag, towels, ice packs, water cooler and cups, appropriate level of **PPE**.

#### 10. First Arriving Water Supply Unit

- a. Unit - Establish the primary fill site for water shuttle or relay operations as directed by the first due engine or **IC**. (Do not respond directly to the incident scene unless advised to do so by the **IC**). Must set-up supply lines with the

ability to connect to two tankers at once, (filling one at a time) in the water supply shuttle. (Work with the fifth due engine).

- b. Crew – Assist in setting up the fill site
- c. Equipment – Proper hose and adapters needed for fill site operations.

#### 11. First Arriving Tanker

- a. Unit – Position as close to the first arriving engine and function as the **attack tanker**, provide water for the initial fire attack.
- b. Crew – Assist in enhancing the primary water supply.
- c. Equipment – Necessary appliances to assure an adequate and uninterrupted water supply.

#### 12. Second Arriving Tanker

- a. Unit – Position at the dump site and supply the clappered siamese to the incident. Begin to fill the folding tank when advised by the water supply officer. Prepare to become part of the tanker shuttle.
- b. Crew – Assist in establishing a folding tank/shuttle operation, assist driver and dump site/fill site as needed.
- c. Equipment – Folding tank and necessary appliances to assure an adequate and uninterrupted water supply.

#### 13. Third Arriving Tanker

- a. Unit – Position at the dump site and supply the clappered Siamese to the fireground. Begin to fill the folding tank when advised by the water supply officer. Prepare to become part of the tanker shuttle.
- b. Crew – Assist in establishing a folding tank/shuttle operation, assist the driver and dump site/fill site as needed.
- c. Equipment – Folding tank and necessary appliances to assure an adequate and uninterrupted water supply.

#### 14. Additional Arriving Tankers

- a. Unit - Position at the clappered siamese or the dump site and fill the folding tank(s) as necessary. If folding tank operation is not up and running, supply the clappered siamese to support the fireground. Become part of the tanker shuttle

- b. Crew - Assist with dump site and fill site operations (Additional Engine Tankers arriving with extra personnel to assist with fire ground operations should report to the command post.)
- c. It is imperative that a minimum of one travel lane be left clear for water supply operations.

## **E. Rapid Intervention Dispatch Assignment**

### **1. Engine and Truck or Rescue Squad**

- a. Units - Position out of the way and report to the **RIC** officer and fill out the **RIG**. The fourth arriving engine officer shall be the **RIG** officer.
- b. Crew - Report to the **RIC** and assist with filling out as the **RIG**. (All personnel arriving on the **RID** will be used for the **RIG**).
- c. Equipment - All personnel must wear full **PPE**. Equipment should include portable radios, **TIC**, tools, hand lights, hose, RIT pack for emergency air, tools for RIT, stokes basket, saws, and other equipment appropriate tools for the construction of the structure and the tactics being deployed.

### **2. Rapid Intervention ALS Unit**

- a. Unit - Position out of the way in a location where the crew can transport an injured firefighter if necessary.
- b. Crew -Report to the **RIG** officer (Fourth arriving Engine)
- c. Equipment – Full **PPE** as needed, Litter (Stretcher), oxygen, ALS equipment, **AED**, Aid Bag, and other appropriate equipment.

## **IV. RECISION**

This Standard Operating Procedure rescinds all directives regarding Structural Firefighting or similar content previously issued for personnel of the Carroll County Fire/EMS Department.