



Hyattsville Volunteer Fire Department Training

Swift Water Rescue Module



Swift Water Terms

- **Upstream**
 - Upstream is back towards the direction current/flow
- **Downstream**
 - Downstream is the direction the current/flow is going
- **River Left**
 - River Left is the side toward your left hand while your back is to the current/flow
- **River Right**
 - River Right is the side toward your right hand while your back is to the current/flow
- **River Center**
 - River Center is the middle of the flow



Swift Water Rescue Terms (contd.)

- **Drowning:**
 - Obvious to many but that's what we are trying to prevent.
- **Entrapment:**
 - What can get victims/rescuers stuck
- **Trauma:**
 - What can hurt victims/rescuers
- **Hypothermia:**
 - Most water in our local area would be considered cold enough (< 70 deg.) year around to cause Hypothermia (See chart below)
- **Debris:**
 - Top, floating, suspended and bottom



Swift Water Rescue Terms (contd.)

- **Low head Dams:**
 - No one other than Swift Water Rescues Techs should attempt any rescue involving Low Head dams
- **Contaminated Water:**
 - Other than normally running water sources when there is a flood type situation we need to be aware of possible contaminated water such as from septic/sewer systems and ground water run-off
- **Fixed Obstacles:**
 - Bridges abutments, Rocks, Culverts and others
- **Strainers:**
 - Strainers let water pass but not solids to pass through
 - Examples: Barb wire, tree limbs, branches, log jams and fences



Be Prepared

- All Department members need to prepare themselves for the possibility of responding to an incident that may involve swift water rescue.
- Swift water rescue can be both challenging and dangerous, requiring skill, timing and teamwork in order to be effective.
- Remember the time to prepare is now. When we are faced with only minutes to deploy our resources, we must have a well thought out plan to be able to implement an effective rescue with a minimal amount of risk to the first responder.



Be Prepared (contd.)

During inclement weather, make sure that the swift water rescue equipment on the apparatus is in an area that is easily accessible.

- Make certain that members have non-skid sole/shoes, or tennis shoes readily available in case they will be working around the water's edge.
- Personal flotation devices and swift water helmets should also be in a position where they can be quickly donned.
- Rope throw bags and rescue equipment should be pre-rigged and ready for immediate deployment.



When Dispatched...

- It is imperative that companies respond to the location designated by PSC when dispatched on a swift water incident.
- All companies are reminded that during inclement weather, response times may be increased due to associated problems.
- The “average” response time to a rescue site for deployment is approximately five minutes, with an additional three and a half minutes to set-up for a rescue operation.



Rescue Operations: Point Last Seen

- Determine the speed of the flowing water by the use of an in-water visual indicator. (half filled wet water bottle with fire-line tape tail)
- Question witnesses regarding the incident and the victim(s) that may be in the water. The information that will be needed includes:
 - Number of victims in the water
 - Age of victim(s)
 - Time in the water
 - Type/color of clothing
 - Swimming ability of victim(s)
- Search the immediate area for victim(s)
- Relay information downstream to other Rescuers



Rescue Operations: Floatation Site

- Position lookouts facing upstream to search for victim(s) or visual indicator released by point last scene company.
- Prepare to get flotation device to the victim either by lowering or throwing a life ring, consider using fire-line tape to lower the ring.
- Communicate with the in-water victim
 - Reassure victim that rescue efforts are occurring
 - Attempt to get victim into a defensive swimming position
 - Attempt to get victim to self-rescue (swim toward rescuers)
- Relay necessary information downstream
 - Whether the victim has a floatation device
 - Victim's location within the channel
 - Physical condition of the victim



Rescue Operations: Rescue Site

- Understand the capabilities of the on-duty members/crew
- Pre-plan the rescue site and operation-allow for unseen problems
- The large commitment of resources at the rescue site will require cooperation / coordination to be successful.
- Establish 2 rescue points at the site
- Inform the IC when the rescue system is in place
- If the victim(s) get past (downstream) the rescue site, immediately notify the Incident Commander
- Companies shall not leap-frog to a new position unless directed by the IC

Remember under ideal conditions, the average time to set up for rescue operations is over 3:30 minutes.



Swift Water Rescue Teams

- First Responders act independently from the Swift water Teams. First Responder Companies shall not wait for the swift water team to arrive before attempting to conduct a **land based** rescue operation.
- First Responder Companies companies should remain aware of the Team's operating location in the event a Team Member needs rescue assistance.



General Rescue Techniques

- Reach (First Responder Technique)
- Throw (First Responder Technique)
- Row
- Go
- Tow
- Helo



Reach

- This can be done with any long rigid object. Such as a pike pole/hook or ladder. But you can use your imagination. (Low Risk)



Throw

- 80% of moving water rescues are effected using rope bags and other throw devices. A rescuer can "throw" a rope bag or other throw device from a stable platform, or dry land.
- Using a throw bag of rope or floatation device.
(Low risk)



Swift Water Safety

- Personal Floatation Device (PFD), Helmet and Throw Bag when within 10' of the water's edge
- Deploy upstream spotters
- Deploy downstream safeties
- Never put your feet down if you're swept into the water
- Never count on the victim to assist in the rescue



Swift Water Safety (contd.)

- Never tie a rope at a right angle to the current
- Given the choice between a fire helmet and no helmet; pick no helmet
- Never tie a rope to yourself
- Always be ready for self-rescue



Whistle Signals

- 1 Blast
 - Attention: look in direction of whistle
- 2 Blasts
 - Attention: look Up-stream
- 3 Blasts
 - Attention: look Down-stream
- 4 Blasts or Continuous
 - Warning/Emergency: look in direction of whistle



Throw Bags

- Holding
 - Using the small figure “8” on a bite place thumb in bite and have rope go over the back of your hand into your palm.
 - DO NOT WRAP ROPE AROUND HAND!
- Throwing
 - While holding the rope with non-dominate hand and holding the bag strap on the other, swing the bag with rope underhand at or slightly up-stream from your target.
- Retrieval
 - Continue to hold the rope with your non-dominate hand gather up the rope in small (12”) bites until you retrieve the bag. No need to re-stuff the bag unless time permits. Now you will be able to throw the rope as well as the bag. Repeat as needed.



Water Conditions: Dynamic/Moving

- Determining how fast the water is moving can determine different types of rescue. Throwing a stick or other easily visible object in the moving water and recording the time it takes to travel 100 feet.

Seconds	Current (Ft/Sec)	MPH	Knots
5	20	13.6	12
10	10	6.8	6
15	6.7	4.5	4
20	5	3.4	3
25	4	2.7	2.4
50	2	1.3	1.2
100	1	.6	.6



Water Conditions: Force of Moving Water

Current (MPH)	Force on Legs (psi)	Force on Body (psi)
3	16.8	33.6
6	67.2	134
9	151	302
12	269	538



Water Conditions: Temperature

- This chart does not distinguish between moving (dynamic) and still (static) water. But remember the following, A person suddenly immersed in cold water, especially that colder than 50 F, even if unhurt, immediately begins to suffer life threatening problems. Most of the winter local water temperatures average 45 F to 50 F.

Water Temp	Useful Work	Unconscious
32.5° F	< 5 mins	<15 mins
40° F	7:30 mins	30 mins
50° F	15 mins	60 mins
60° F	30 mins	2 hrs
70° F	45 mins	3 hrs



Self Rescue

- PFD/Helmet/Throw bag if within 10' of the water's edge
- Call for HELP!
- Keep feet up, pointed downstream and move your body at a 45 degree angle to the current
- Watch for a throw bag or other rescue device.