



HILTON HEAD ISLAND FIRE RESCUE POLICIES & PROCEDURES

202.001 Firefighter Candidate Physical Ability Assessment

Section 200 Personnel

Sub Section – 202 New Employee

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Latest Review/Update: New

CFAI Reference:

OSHA Reference:

Purpose and Scope:

The purpose of the Firefighter Candidate Physical Ability Assessment (FCPAA) is to ensure that all firefighter candidates are physically able to engage in activities that employees will be expected to perform as part of their normal duties. This procedure sets forth the parameters of each event in the assessment to include event disqualification, suggested exercises, preparation tips for each, and instructions for the proctors.

Definitions:

Health and Safety Requirements - At any time the FCPAA is being administered, a minimum of a two-person ALS Medic unit shall be on-site capable of immediate treatment and transport. On duty personnel can be utilized, but cannot actively participate in the assessment or assigned as a proctor. The Lead Proctor shall act as or designate a site Safety Officer from available personnel. The site Safety Officer is responsible for oversight of all aspects related to the safety and the PPE of the assessment.

Cardio-Respiratory Fitness- Cardio-respiratory fitness is the ability of the heart to deliver oxygen to the muscles and other tissues. This is called aerobic power. Simply stated, the ability to perform an exercise and/or physical work is directly dependent upon how well the body delivers oxygen to the working muscles. A physically fit person will be able to deliver large amounts of oxygen to the muscles and therefore be capable of prolonged muscular exercise (e.g., fighting fires). In comparison, an individual who is not considered physically fit will not be capable of delivering adequate amounts of oxygen to the muscles, and therefore will fatigue quickly and be forced to stop working much sooner.

Muscular Strength - Strength can be defined as the ability to apply force. Since nearly all movements are performed against some resistance, a certain degree of muscular strength is needed to perform any activity. Firefighters must be able to perform activities against much greater resistance than the average individual. Therefore, the firefighter must have good muscular strength and endurance to effectively and safely handle the firefighting equipment and perform the duties required of a firefighter.

Body Conditioning - An excess accumulation of body fat is undesirable for a variety of reasons. From a medical standpoint, excessive body fat has been implicated as a risk factor in several diseases, including heart disease, high blood pressure, and diabetes. Therefore, a reduction in excess fat is desirable. Since firefighting requires a near-maximum effort from the heart and other related muscles, additional fat weight adds an extra burden to the cardiovascular system. As the majority of firefighter deaths are attributed to cardiovascular disease, including heart attacks and sudden cardiac death, the decrease in excessive body fat and increase of cardio-respiratory fitness is paramount to maintaining a healthy and productive lifestyle.

Developing Your Fitness- Cardiovascular training and weight training are two activities that can be used in a physical fitness training program to help develop cardio-respiratory fitness and muscular strength. There are several ways to devise a physical fitness training program. One way is to join a gym or spa where a fitness specialist can help you design a training routine to fit your needs. Another method, which is less expensive and

can accomplish the same thing, is by designing your own program. Remember that both methods work, but only if you train conscientiously, aggressively, and consistently. Your chances for passing will be greatly increased if adequate preparatory physical training has taken place. **It is the responsibility of the individual to verify with your healthcare provider whether or not it is safe for you to take the test.**

Policy / Procedures:

Description of the Firefighter Candidate Physical Ability Assessment

The FCPAA consists of seven events that must be performed in a specified order. Each event must be completed **correctly** before moving on to the next event. The first two events, #1 (Aerial Climb) and #2 (Confined Space Simulation) will be performed by all firefighter candidates before completing the timed portion of the FCPAA and will not be subject to time constraints as to increase speed on these events would possibly put the candidates at risk of injury. Events #3 through #7 will be subjected to time constraints. All events must be completed consecutively. There is no time limit for each individual event, but all events (3-7) must be completed in 6 minutes and 36 seconds or less.

Each event in the FCPAA is explained later in this document. The firefighter needs to review these events prior to taking the assessment in order to properly prepare. The individual events are as follows:

Untimed Events

Event #1 – Aerial Climb

Event #2– Confined Space Simulation

Timed Events

Event #3 – Stair Climb/Equipment Shuttle

Event #4 – Simulated Ladder Extension

Event #5 – Forcible Entry Simulation

Event #6 – Charged Line Advance

Event #7 – Victim Rescue – Mannequin Drag

The firefighter needs to review these events prior to taking the assessment in order to properly prepare.

The FCPAA is designed to reflect on-the-job situations that are encountered by a Firefighter. Prior to beginning the assessment, the participant will walk two full laps around the Training Center to facilitate a warm-up period. Personal protective equipment (PPE) – a safety or firefighting helmet and leather gloves are required to be worn during the FCPAA.

Candidates will be issued this equipment prior to the start of the FCPAA. If a candidate wishes to provide his or her own PPE, then it must be approved by both the FCPAA Coordinator and the FCPAA Safety Officer prior to starting the FCPAA. The use of personal PPE cannot provide the candidate an advantage over another candidate. If the FCPAA Coordinator determines that an advantage exists, the personal PPE will be disallowed. The candidate will be required to wear a weighted vest throughout all timed events. The vest has an approximate weight of 40 pounds simulating the weight of firefighting protective gear. Shirts, pants and shoes may be worn as determined by the candidate. However, no clothing will be permitted that may be deemed offensive to the Fire Department staff or the other candidates participating in the FCPAA. While it is recommended that the candidates wear safety shoes, sneakers will be allowed. The Town of Hilton Head Island assumes no responsibility for injuries from not wearing safety shoes.

- All candidates will be given instruction prior to participating in the FCPAA. All candidates will be walked through the FCPAA and given an explanation as to the expectations for each event.

- Time starts for events #3 thru #7 with “ready-begin” to begin the assessment and the time is stopped when the FCPAA candidate crosses the finish line of the Victim Rescue event with the entire mannequin across the finish line. Any candidate finishing after **6 minutes and 36 seconds** will be considered to have not successfully completed the FCPAA. Any candidate that finishes with a time that is over the allotted time by less than ten seconds (<6:46) will get an opportunity to retest the same day at a time to be determined by the Lead Proctor.
- There are minimum guidelines for each event. If for any reason the candidate is unable to meet the guidelines for a particular event, he or she may immediately repeat that event. However, the clock will not be stopped and any time spent repeating an event will be included in the total time.
- The FCPAA is scored on a Pass/Fail basis. There is no advantage to completing the assessment faster than the allotted time. Actual times will be recorded and retained for record-keeping purposes only. The time limit is determined by a variety of factors to include previous results, Committee input, Department Physician input, and any other pertinent findings that are deemed to be relevant. Each event is listed by number and name. This is followed by a description of the event’s intent, a description of the event itself, and a description of any automatic disqualifications. The proctor’s instructions are provided so that the candidate will know what instructions he or she will be receiving. There are suggested exercises as well as preparation tips for the candidate’s use.
- The assessment will be conducted by persons trained in the administration of this assessment and designated by the Deputy Chief of Operations. The Assessment Coordinator shall be responsible for the overall assessment process and shall make all final decisions and resolve any conflicts. The Assessment Safety Officer shall monitor the use of PPE and be responsible for the overall safety of the candidates.
- The Medical Group shall be responsible for monitoring the candidates throughout the FCPAA. If at any time during the FCPAA, the Medical Group recognizes signs of distress or is informed of symptoms relating to distress by the candidate, the FCPAA will be suspended. Medical evaluation per Fire Rescue ALS Protocol standards will be initiated to include possible transport to the Hilton Head Hospital Emergency Department.
- A proctor shall be assigned to an individual candidate and follow the candidate through the FCPAA. He or she will be responsible for ensuring that all candidates are provided fair and equal treatment at each event in the assessment. The proctor shall also document performance records.
- After completing the timed portion of the FCPAA the candidate will be required to take off the PPE and weight vest and immediately walk two full laps around the Training Center to facilitate a cool down unless in immediate distress. If the candidate is deemed in distress, established protocols should be initiated.
- The firefighter candidate will sign a *Waiver of Liability and Claim for Injury* document <http://intranet/forms/fire/training/FCPAAWaiver.pdf>, prior to the beginning of the FCPAA. It is the responsibility of the candidate to train for the FCPAA and seek medical clearance to take such an assessment.

Event #1 – AERIAL LADDER CLIMB (un-timed)

Intent

- Firefighters frequently work from elevated positions or heights during fires, rescues and service calls. Elevators may not be available or dangerous to use due to fire conditions, requiring the firefighter to utilize aerial ladders to perform rescues, and advance equipment and hose. This event assesses the candidate’s ability to climb a ladder, presence or absence of acrophobia, muscular strength, balance, and cardiovascular endurance as it relates to working from these types of locations.

Description

- For this event, the candidate will climb an apparatus mounted aerial ladder at full extension and elevated to 70 degrees above horizontal. When instructed by the proctor, the candidate will begin climbing the aerial, completing both full ascent and descent. The candidate will be attached to a Class II harness system and belay system with a safety line extending through the top of the ladder and anchored by safety personnel on the ground. The candidate must not stop more than 3 times and not more than 30 seconds at any one given time.

Disqualification

- The candidate will be disqualified and not allowed to continue the FCPAA if he or she stops more than 3 times or for more than 30 seconds at any one given time. Disqualification will also occur if the full length of the ladder is not climbed, or if the belay system is activated.

Preparatory Exercises

- Leg presses, lunges, leg curls, leg extensions, calf raises, stair climbing, walking or jogging.

Preparation Tips

- To prepare for this event the candidate may want to practice climbing ladders, stairwells, or use a mechanical climbing machine the equivalent distance in this event with a weighted backpack. This event is not timed so do not rush.

Proctor's Instructions

- *You will climb to the top of the ladder and wave to the proctor on the ground with one hand. When told to do so you should descend the ladder. While this event is not timed, you must not stop more than 3 times and for not more than 30 seconds at any one given time. If you exceed the stopping requirements you will be disqualified and not allowed to continue. If we have to use the belay system during your ascent or descent you will be disqualified and not allowed to continue. Are there any questions?*

Event #2 – CONFINED SPACE SIMULATION (un-timed):

Intent

- Firefighters must routinely enter unfamiliar surroundings, crawl through smoke, search for victims and locate hidden fires. It is critical that during such high stress and limited visibility operations the firefighter does not lose the awareness of his or her surroundings. This event assesses the Candidate's ability to maintain spatial orientation in a low visibility environment and helps to assure that the Candidate does not suffer from the effects of claustrophobia (fear of confined spaces) and/or achluophobia (fear of darkness).

Description

- The candidate will be assisted with donning an SCBA mask. The view of the candidate will be obstructed via a lens cover on the SCBA. The candidate will wear only the SCBA mask and breathe ambient air. The candidate must enter the Conex Box Maze through Door B into the tunnel feature and crawl on hands and



knees, exiting the tunnel through Door G, then exiting the Conex Box Maze through Door 3. The maze is approximately 40 linear feet and consists of dimensions of various sizes from 7.5' by 7.5' to 2 feet high by 2 ½ feet wide. The candidate will tour the course prior to entry with the proctor. The candidate will be able to view the entirety of the course, and during the tour, the candidate will be able to ask the proctor questions to clarify the rules and expectations of the event.

Disqualification

- The candidate must repeat the event if he/ she reverses position and exits the maze on the entry side, or voluntary requests to exit through the emergency access Door C of the tunnel. Failure to ultimately reach the exit of the maze or request by the candidate to discontinue the event results in an automatic disqualification.

Suggested Exercises

- Leg presses, lunges, leg curls, leg extensions, calf raises, stair climbing, walking or jogging.

Preparation Tips

- To prepare for this event the candidate may want to practice orientation and relaxation in light deficient and confining spaces.

Proctor's Instructions

- *(TOUR) You will now tour the Conex Box Maze course. You will enter through Door B into the maze tunnel, follow the left hand wall to Exit Door G, and continue to follow the left hand wall to exit the Conex Box Maze course through Door 3. Do you have any questions?*

(EVENT) When told to proceed you will crawl through the tunnel, do not stop until you exit the other end of the tunnel, and proceed out Door 3. Maintaining contact with the left hand wall will direct you to the exit. Once I tell you to stop you may take the mask off. Are there any questions? ... (Wait for a response.) (Help the candidate put on knee pads and the mask. Obscure the candidate's vision and help him/her down to all fours.) Proceed.

Once the candidate has completed all the events, he/she will be notified of their pass/fail status and directed to the next phase of the hiring process if required.

Event #3 – STAIR CLIMB/EQUIPMENT SHUTTLE (beginning of timed events)

Intent

- This event assesses the candidate's muscular strength, endurance, balance, and cardiovascular fitness.

Description

- For this event, the candidate will ascend the tower stairs to the fourth floor twice and transfer two different pieces of firefighting equipment. On the first trip to the fourth floor the candidate will take the department's standard 1 ¾" high rise pack as stored on the engine. On the second trip



the candidate will take a salvage cover to the fourth floor. The candidate will start the test with the high rise pack already in the carrying position. The time begins when the proctor says “Go” or “Begin”. The candidate will step on the designated spot on the fourth floor and place the hose and salvage cover on the ground. The candidate may ascend at any rate of climb. The candidate must touch every step on the descent. The candidate must use the handrail on the ascent and descent

Disqualification

- The candidate will be disqualified and not allowed to continue the FCPAA if he/she is unable to finish the event. Skipping steps on the way down or not using the hand rails in either direction will constitute a disqualification.

Suggested Exercises

- Leg presses, lunges, leg curls, leg extensions, calf raises, stair climbing, walking or jogging.

Preparation Tips

- To prepare for this event the candidate may want to practice climbing stairwells or use a mechanical climbing machine the equivalent distance in this event with a weighted backpack.

Proctor's Instructions

- *When I say “Go” you must start up the stairs and carry the high rise pack to the fourth floor. The time begins on “Go”. When you get to the fourth floor, step on the blue dot and then place the high rise pack on the ground. Return to the ground floor touching every step and using the handrails. Retrieve the salvage cover and return to the fourth floor. Once on the fourth floor, step on the blue dot and place the cover on the ground. Return to the ground floor by walking down the stairs, touching every step. You must use the handrail ascending and descending the stairs. Move to Event #2.*

Event #4 – SIMULATED LADDER EXTENSION

Intent

- Firefighters use ladders of various lengths for a variety of different reasons, including rescue, fire attack, ventilation, and other fire ground operations. This event tests upper body strength, hand-eye coordination, endurance, and handgrip strength required to complete such tasks. This event simulates the raising of a 35 ft. extension ladder to 70% of its working distance.

Description

- The candidate will stand 5 feet from a rolled hose weighing 50 pounds. The candidate will raise the hose to a height of 24 feet and then lower it back to the ground. The hose must be raised and lowered using a hand-over-hand method.

Disqualification

- The candidate will have to repeat the event if both feet leave the ground at once, the rolled hose falls uncontrollably, the hose roll is lowered without instruction, or a hand-over-hand method is not properly utilized (rope slips through gloves). Failure to follow the parameters during a second attempt will result in automatic failure. If the candidate must repeat the event, time will not be stopped. Failure to manipulate the hose roll and rope the entire 24’ up and down in a safe and controlled manner will result in an automatic failure.



Suggested Exercises

- Lat pull-downs, pull-ups, seated rowing, military presses, and walking or jogging

Preparation Tips

- To prepare for this event, the candidate may attach a 50 pound weighted bag to one end of a rope threaded through a pulley or hung over a smooth round wooden or metal pole. The pole or pulley should be located approximately 24' above the ground. The weighted bag should move freely. The candidate can practice pulling the weighted bag up to the top of the pole or pulley and back down again always using a hand-over-hand movement throughout the process. Maintaining control of the bag and being able to raise it the full 24' is critical.

Proctor's Instructions

- *You must raise the hose roll using a hand over hand method to its full height. You must maintain full control of the rope at all times. Once the knot reaches the pulley you may then lower the roll controlling the rope during the descent. At no time can you allow the rope to slip through your gloves and you must keep at least one foot in contact with the ground at all times. You will only get one warning. You will then proceed to the next event. Are there any questions?*

Event #5 – FORCIBLE ENTRY SIMULATION

Intent

- Firefighters routinely encounter situations where they must cut openings into roofs, floors, walls and a variety of other surfaces. This event tests muscular strength and endurance and concentrates on upper body strength and balance in a simulated breaching exercise.

Description

- The candidate will simulate cutting a ventilation hole by moving a 160 lb. steel I-beam 5 feet with an 8 pound shot mallet. The candidate will stand on the sled runners with feet apart, lift the mallet, and strike the end of the I-beam as many times necessary to move it 5 feet across the sled. The event will end once the 160 lb. I-beam has moved 5 feet.



Disqualification

- Failure to move the sled the required 5 feet will be considered an automatic failure. The shot mallet must be used in a safe manner at all times and shall be placed beside the apparatus at the end of the event.

Suggested Exercises

- Lat pull-down, lunges, seated leg press, bench press, rowing, curls, triceps extension, military presses, and walking or jogging.

Preparation Tips

- This is an extremely demanding physical event. To prepare for this event, the candidate may practice chopping wood while wearing a backpack of approximately 40 pounds.

Proctor's Instructions

- *You need to stand on each runner with your legs spread slightly. Take the mallet, and keeping both feet on the runners, strike the sled. Continue striking the sled until you are told to stop. Set the mallet down, do not drop it, and proceed to the next event. If you drop the hammer during the event, pick up the mallet and continue. Are there any questions?*

Event #6 – CHARGED LINE ADVANCE:

Intent

- Firefighters routinely advance both charged and uncharged hose lines about the fire scene. This event tests leg and lower body strength, balance, and endurance when advancing a charged 1.75” hose line.

Description

- The candidate will pick up a charged section of the 1.75” hose line and place it over either shoulder. This section of hose will be 150 feet in length. The line will be charged and the nozzle taped closed. The candidate will advance the nozzle 90 feet until the nozzle has crossed the finish line. The candidate will then place the nozzle on the ground.



Disqualification

- The candidate will have to repeat the event if he or she does not complete the 90-foot advance. If the nozzle is dropped or the candidate falls prior to the nozzle crossing the finish line, he or she will be allowed to continue, but time will not be stopped. Failure to manipulate the section of hose the required 90 feet will be considered an automatic disqualification.

Suggested Exercises

- Lunges, seated leg presses, leg curls, interval training, leg extension, calf raises, walking or jogging.

Preparation Tips

- To prepare for this event, the candidate might tie a 20-foot rope to a bag or object weighing approximately 150 pounds. The candidate may then throw the end of the rope over your shoulder, grasp it, and drag the weight a distance of 100 feet. Keep in mind that the weight of the charged line increases as you approach the finish line due to increased friction between the hose and operating surface. That will not be the case when dragging a bag. The candidate may want to progressively increase the weight of the training bag.

Proctor's Instructions

- *You will need to place the nozzle and hose line over whichever shoulder is comfortable. Drag the hose line in a straight line. When the nozzle is advanced over the finish line and I say stop, you may set the nozzle down and proceed to the next event. Do not drop the nozzle. Are there any questions?*

Event #7 – Victim Rescue – MANNEQUIN DRAG:

Intent

- The most important task a firefighter may face is rescuing an unconscious or unresponsive person from a hazardous environment. This event tests the total body muscular strength, power, and stamina required to drag an unconscious or unresponsive victim to safety.

Description

- The candidate must drag a rescue mannequin weighing approximately 165 pounds a distance of 75 feet. The mannequin will be in a supine position at the start of the exercise. The candidate grasps a 165-pound mannequin by the strap secured around the torso of the mannequin. The mannequin will be dragged in a backward, linear fashion around 1 obstacle until the entire mannequin crosses the finish line. The candidate is permitted to drop and release the mannequin to adjust his/her grip. The entire mannequin must be dragged across the finish line. Once the proctor advises the candidate that the mannequin has passed the finish line, the mannequin may be released. The proctor will not assist the candidate by manipulating the mannequin in any fashion.



Disqualification

- Failure to move the rescue mannequin across the finish line is an automatic disqualification.

Suggested Exercises

- Lunges, seated leg press, curls, handgrip strength exercises, walking or jogging.

Preparation Tips

- To prepare for this event, the candidate may practice dragging a duffel bag weighing 165 pounds for short distances working up to a distance of at least 75 feet.

Proctor's Instructions

- *You will grasp the strap connected to the mannequin and prepare to drag the mannequin. When I say begin, walk backward and drag the mannequin around the one obstacle to the finish line. When I tell you to stop, release the strap attached to the mannequin. If you stop dragging the mannequin before the finish line, you may re-adjust your grip and continue. Are there any questions?*

After completing the timed portion of the FCPAA the candidate will be required to take off the PPE and weight vest and immediately walk two full laps around the Training Center to facilitate a cool down unless in immediate distress. If the candidate is deemed in distress, **the candidate will be evaluated by the Medical Group and established protocols should be initiated.**

Training Center Layout and Diagram

