

Thanks to those of you who were able to attend the first information session on the new Public Safety Building. If you missed it, there will be two more in March. One of the topics discussed was the need for three apparatus bays in our new building. We, the Princeton Fire/EMS department, thought it might be helpful to describe our vehicles, how we use them, and how we would use the new apparatus bays.

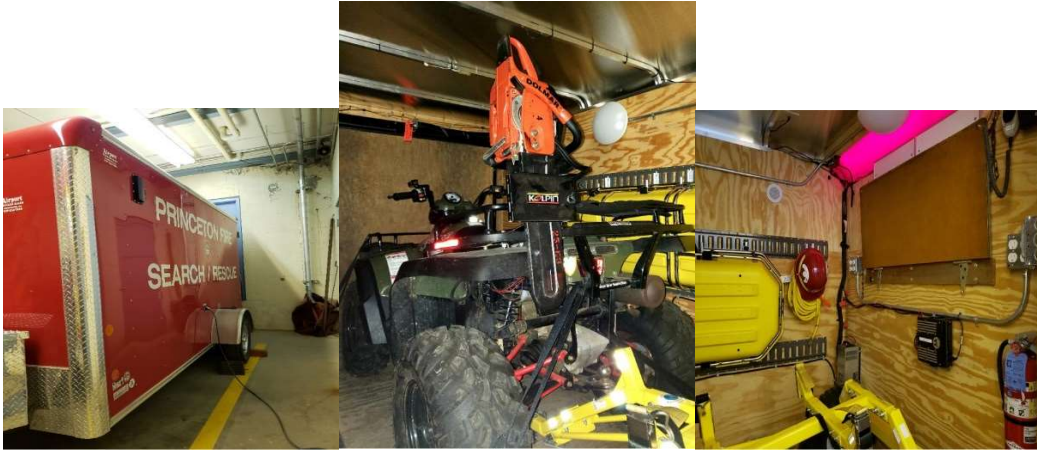
The design for the new building incorporates three drive-through bays. Typically, fire departments don't use these to drive through but instead back vehicles in so that vehicles can exit from both the front and the rear of the apparatus bays. This ensures that a vehicle isn't trapped behind another one, slowing down the response. The bays are deep enough that two vehicles can be parked back-to-back.

The building team has received many questions about why we need so much apparatus space. To answer that, it helps to know a bit about our vehicles and how we respond to various types of events.



This is Headquarters (aka Station 1). From left to right, the bays hold:

1. Fitness equipment: This bay is too close to the edge of the embankment leading down to Rt 62 and the floor and southern wall are too unstable to hold fire apparatus. It has been used for twelve years as the fitness center.
2. Tanker in front, Search & Rescue (S&R) trailer behind: Note that the tanker must be moved before the trailer can be accessed. Not just anyone is qualified to move the tanker. It barely fits in the bay, is tricky to drive even a short way, and has systems that need to be started and stopped in a precise fashion. The tanker primarily is used for water. It carries 2500 gallons. The S&R trailer carries an ATV which is used not only for S&R but also for forestry work. The trailer has sufficient electronics that it functions as a command post for S&R.



3. In the summer, Engine 4 for forestry work. In the winter, Car 25 (command post and personnel transport).



4. Engine 5 (attack piece): This is the first response vehicle to most calls and is used for primary firefighting activities.



5. Ambulance 1 (A1): Class 1 ALS (advanced life support) Transport ambulance.



Engine 4 is transferred to an offsite storage location as soon as there is a danger of freezing temperatures. Car 25 sits outside in the summer where its expensive electronics are at risk of damage from the heat.



This is Station 2 in East Princeton. From left to right, the bays are used for:

1. Ambulance 2 (A2) and Rescue 1: A2 is a Class 5 ALS ambulance. Recue is a multi-purpose rescue vehicle which is also used to refill air packs.



2. Ladder 1: Ladders are used for aerial operations and rescue.



Photo by MEB www.firenews.org

3. Engine 2 (attack piece): This is the first response vehicle to most calls and is used for primary firefighting activities.



Photo by MEB www.firenews.org

4. Engine 1: This vehicle primarily carries water (2500 gallons).



Photo by MEB www.firenews.org

Note that Engine 3, used for forestry, is left outside station 2 for three seasons and is in rented space in the winter. Service 1 is also outside station 2, partially covered, and is used for plowing, forestry, and other utility work.



The Chief's plan for how to use the new building is as follows:



If you compare the picture above with the prior list of what is in Station 1, you will note a few differences:

- The fitness equipment is no longer in an apparatus bay.
- Ladder 1 has moved from Station 2 (Engine 3 is moved from outside into Station 2 with Search & Rescue behind).

- Engine 4 and Car 25 both have spots inside where they are protected from the weather, secured, and easily accessed.
- Note that we have been renting space during the winter for Engine 3 and Engine 4 to keep them out of the weather. Now they will be in town, under cover, secured, and ready for action when needed.

Structure fires:

When a building is on fire, whether it is a fully-engulfed structure like the 30 Mountain Rd fire or a more contained event like a chimney fire, it is important to get water, equipment, and personnel on scene as quickly as possible. Without hydrants, we rely on water on wheels. Often, the first vehicle to roll is an attack piece (Engine 5 from Station 1 or Engine 2 from Station 2). An attack piece carries water, multiple people, thermal imaging cameras, forceable entry tools, air packs, ladders, jaws of life, CO detector, and other critical equipment. The attack piece is followed quickly by one or more trucks with water. In many events, we need a command vehicle such as Car 25. This is used by the incident commander to coordinate the response, manage communications, and call for additional assistance. A critical piece of the response is management of water: where will it come from, how do you get it to the fire, how do you bring in the tanker, and where will you put the water lines. Often, we will also bring our rescue vehicle in to replenish oxygen packs and provide emergency power and emergency scene lighting. We also roll an ambulance so we are prepared to assist civilians and/or first responders. The ladder truck is vital in chimney fires, but can also be used to vent buildings (cutting holes in roof to let heat out).

With fires, minimizing the response time is critical. ISO (the Insurance Services Office) creates ratings for fire departments and their surrounding communities. The ratings calculate how well-equipped fire departments are to put out fires in that community. The ISO provides this score, often called the "ISO fire score," to companies providing homeowners insurance. One key metric used by ISO is whether or not you can get water on a fire within five minutes. We need to get our first responders to the station (from their homes or wherever they are), into their gear, in the trucks, and to the fire within five minutes. This is one important reason for having two stations in town, positioned centrally in the parts of town they cover. Residences must be within five miles of a fire station or homeowners' insurance policies will become prohibitively expensive or even unobtainable.

Our response vehicles are strategically distributed between the two stations. We can't put all the water tankers in one station. It is better to get one tanker applying water to the fire quickly while another tanker is on its way.

Brush fires:

Brush fires are very prominent in the spring when there are no leaves on the trees (no canopy) and in the summer and fall when things are drying out. Princeton is large at 36 square miles and most of it is dense forest. Engine 3, Engine 4 and the Service truck are equipped to fight forest fires where off-road capability is critical. Princeton has had many large forest fires in the past and all our downed trees are fuel for a future conflagration. Wind has a huge impact on forest fires and it's critical to get on scene quickly to stop fires from spreading. One issue Princeton faces is that we put Engine 3 and Engine 4 into

offsite storage as soon as we risk freezing temperatures. Brush and forest fires can still happen during cold periods without snow on the ground, and having the trucks in storage limits our capacity to respond quickly to rapidly developing fires. The new PSB will allow us to keep our forestry trucks full of water in a heated apparatus bay, and we will therefore be better prepared for these incidents.

Ambulance calls:

Often, our Police are the first on the scene since we have round-the-clock police coverage. We have four officers trained as EMTs. All police vehicles carry defibrillation devices, oxygen, and what is called a “Jump” bag with first aid supplies. As soon as an EMT/Medic can get to the ambulance (A1 preferably but A2 otherwise), it will roll to the incident and other EMTs/Medics will meet them on scene.

Ambulance calls are also very time sensitive. We currently staff our EMS department during the hours of 7 AM to 5 PM with two people, seven days a week. Though those people may not be sitting in a fire station with an ambulance, waiting for a call, they are in Town and one person will have the ambulance with them. For example, one firefighter/EMT might take Car 25 to do a smoke detector inspection at a residence while the other is at the station with the ambulance. They will both respond immediately in the case of an emergency and meet at the scene. These two per diem people have a list of things to do in the stations or in Town while they are waiting for a call. They do smoke detector inspections, check equipment, inventory materials, and even clean bathrooms.

Search and Rescue:

Search and Rescue is common in Princeton because of the Mountain and all the state-held land. It can also be some of the most difficult work for our first responders. Each situation is different, but usually Car 25 hauls the rescue trailer with the ATV. Rescue 1, an ambulance, and an extensive number of personnel are also on scene. The typical trail rescue from Wachusett Mountain will require up to 15 to 20 personnel because carry outs are dangerous, time consuming and extensively exhaustive to the rescuer. If there is an ice rescue and we can get it there, Ladder 1 is quite handy. The ladder can be extended over the ice to provide a safe and stable way to get personnel to the victim.

More information on our vehicles, including pictures, can be found at

<https://www.town.princeton.ma.us/selectboard/files/fire-department-vehicles>, the Princeton Fire Department Facebook page or Northeast Fire News <http://www.firenews.org/mass/p/princeton/princeton.html>