

Day 1

Mine Rescue

Judges Book

Team Name _____

Team Number _____

Judges Name _____

Day 1 Alabama State Contest

Thank you for responding to our call for help. Something has happened in the mine and we cannot contact the 3 missing miners. The tracking system indicates that they are still on the section.

The exhaust fan stopped at 6:00 AM. The monitoring system indicated that it had stalled. It has been restarted and is running. Samples are being taken every 20 minutes at the fan. The last one indicated there was 200 PPM CO, 0.1% CH₄, and 20.1% O₂. The fan must remain running to ventilate the rest of the mine.

The rest of the mine has been explored and is safe to ventilate through. This section was driving towards the north bleeder entries. The map is not up to date.

The proper authorities have been notified. Medical personnel are on the scene. A back up team is available.

Day 1 Alabama State Contest

Problem

Find the missing miners and bring any survivors to the fresh air base.

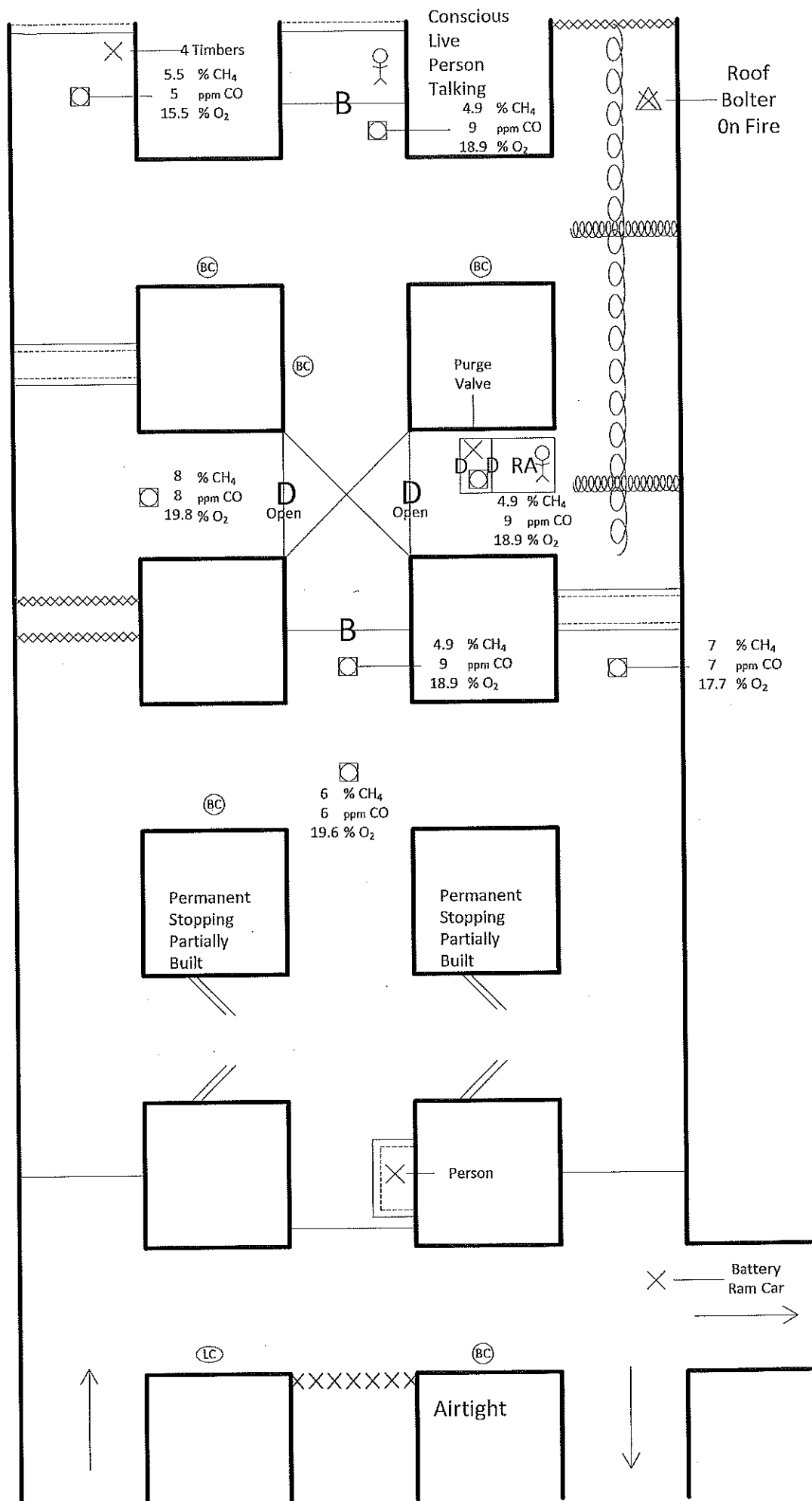
The fan cannot be stopped, stalled, or reversed.

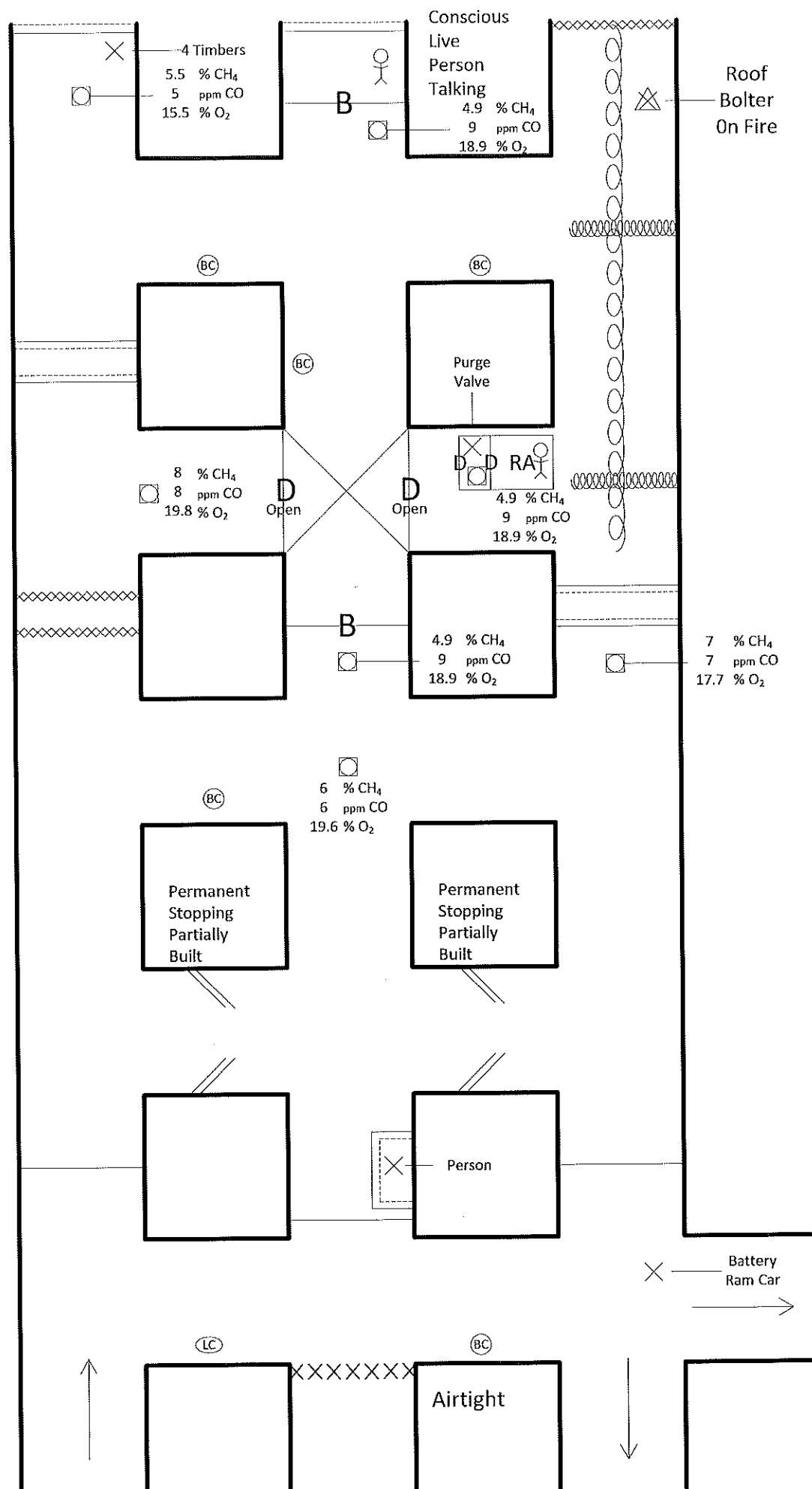
The back up team may be used barefaced in the Fresh Air base.

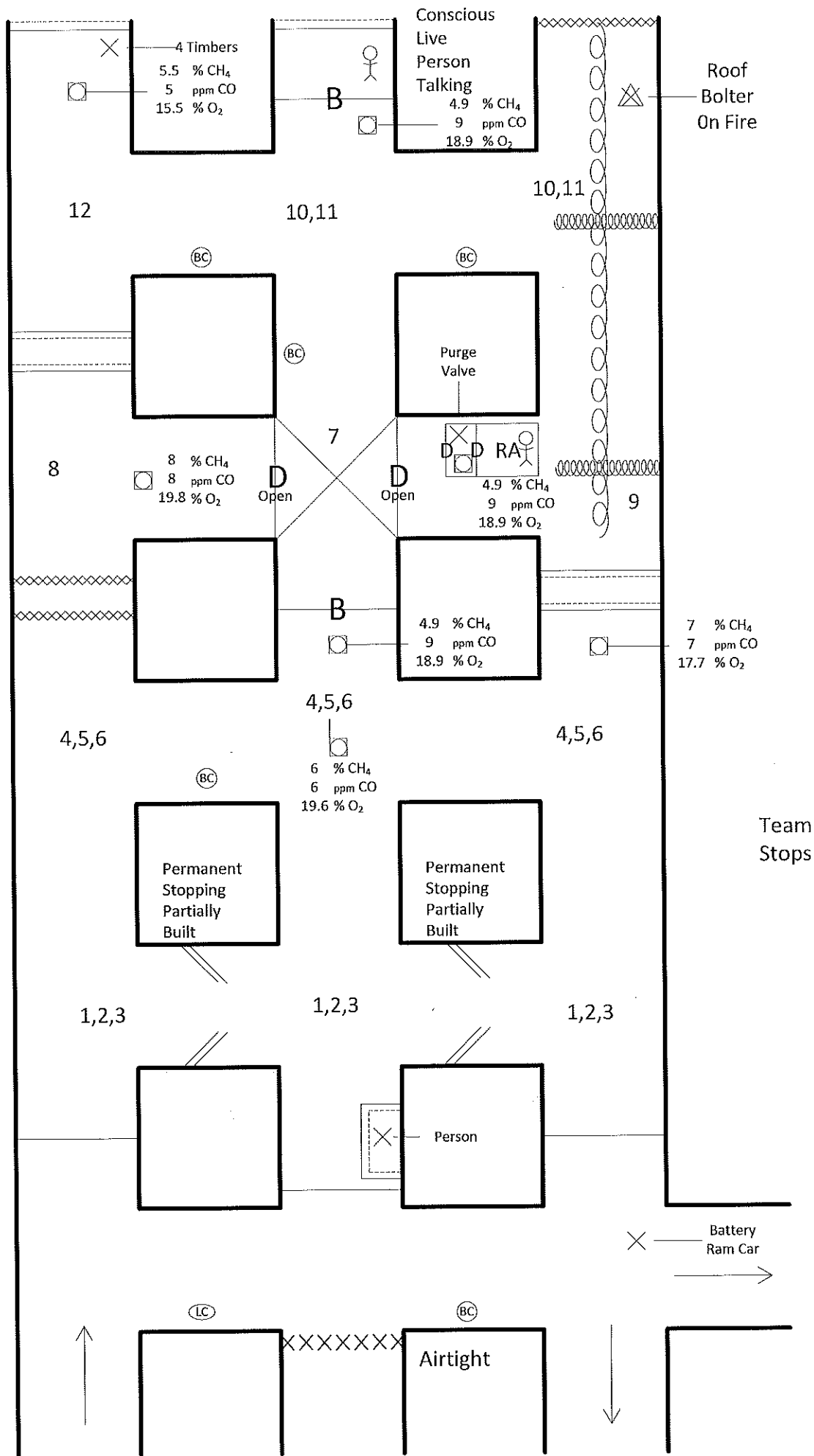
You have 75 minutes to work the problem.

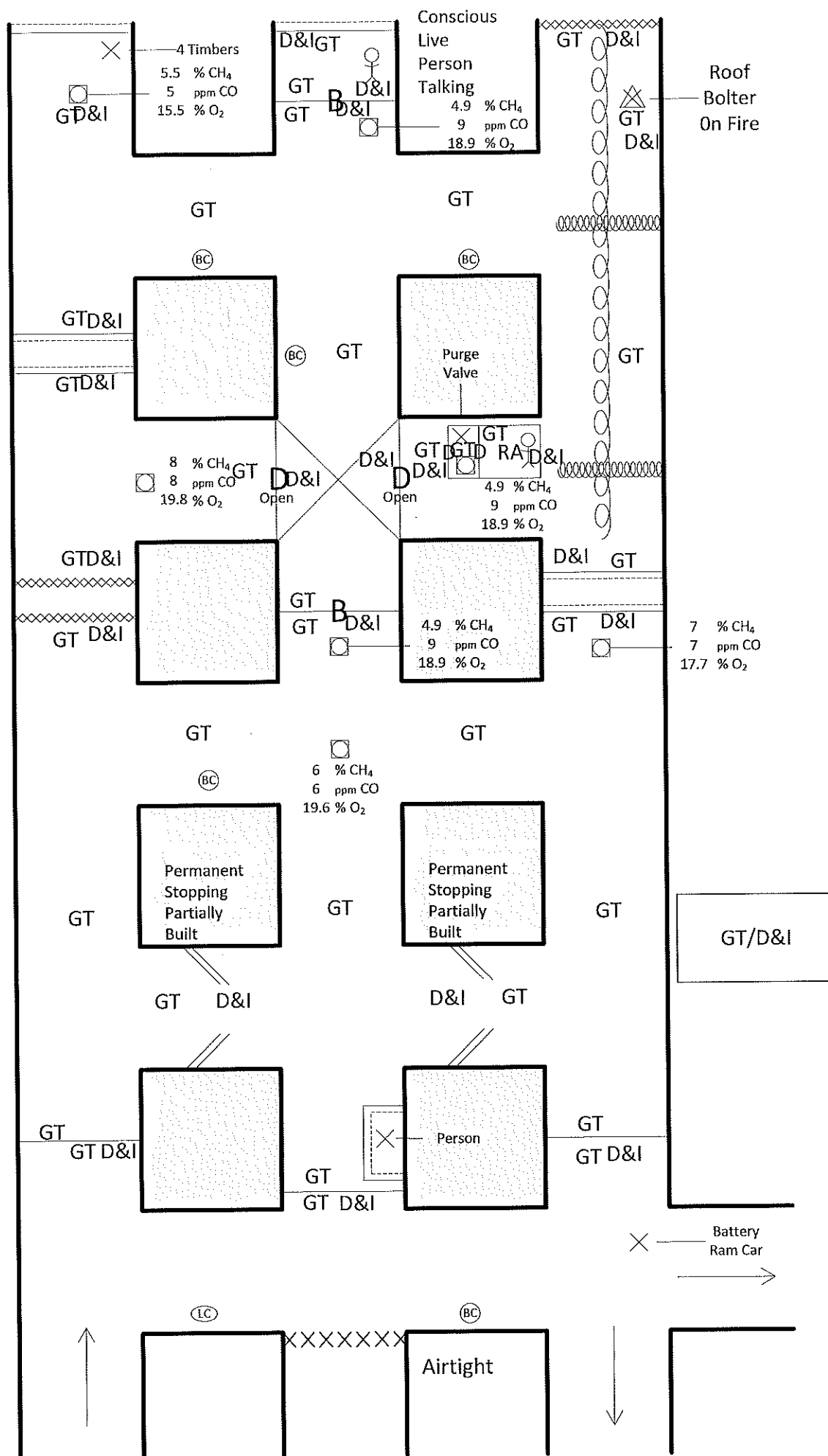
Day 1 Patient Statement (both places)

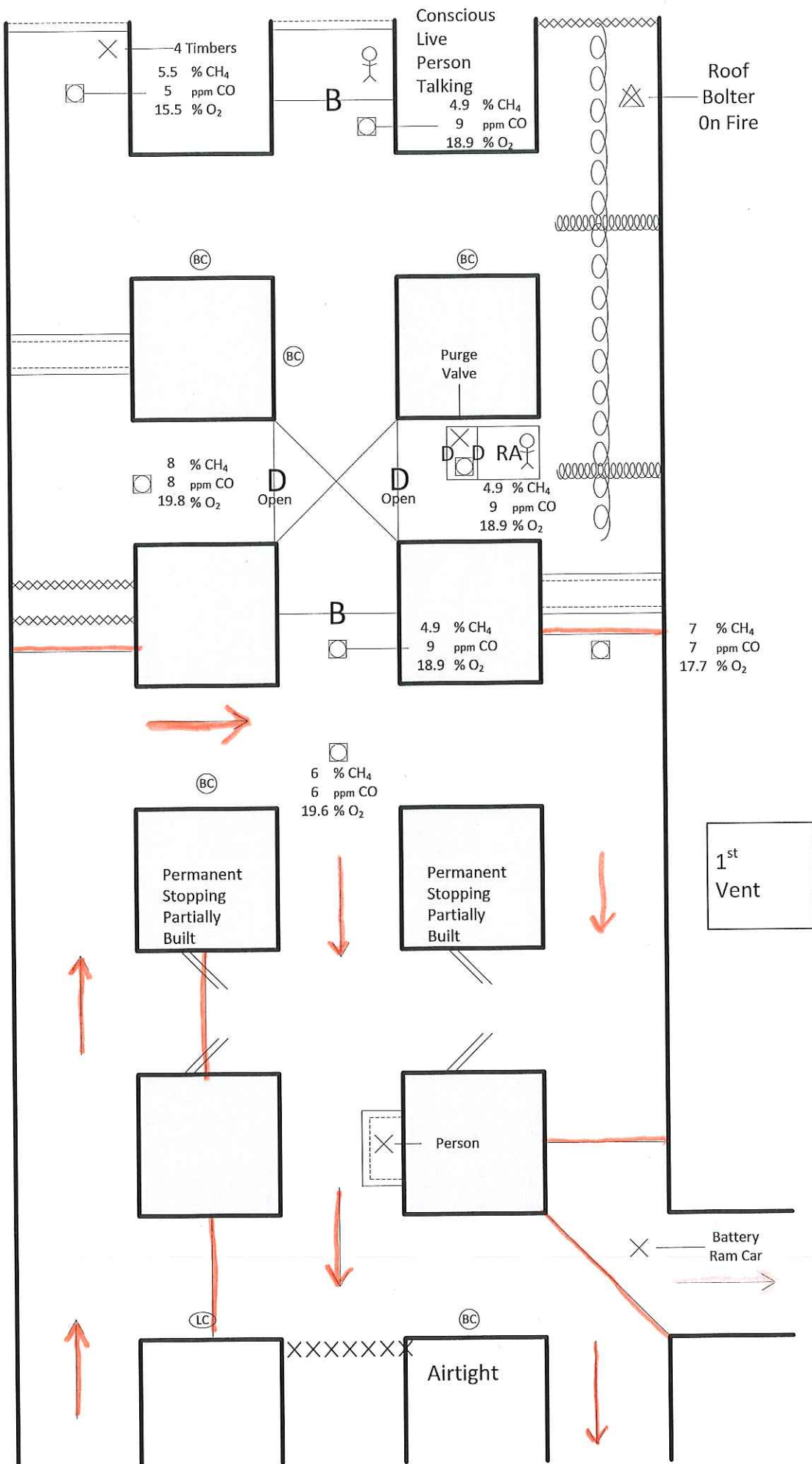
Help! Get me out.

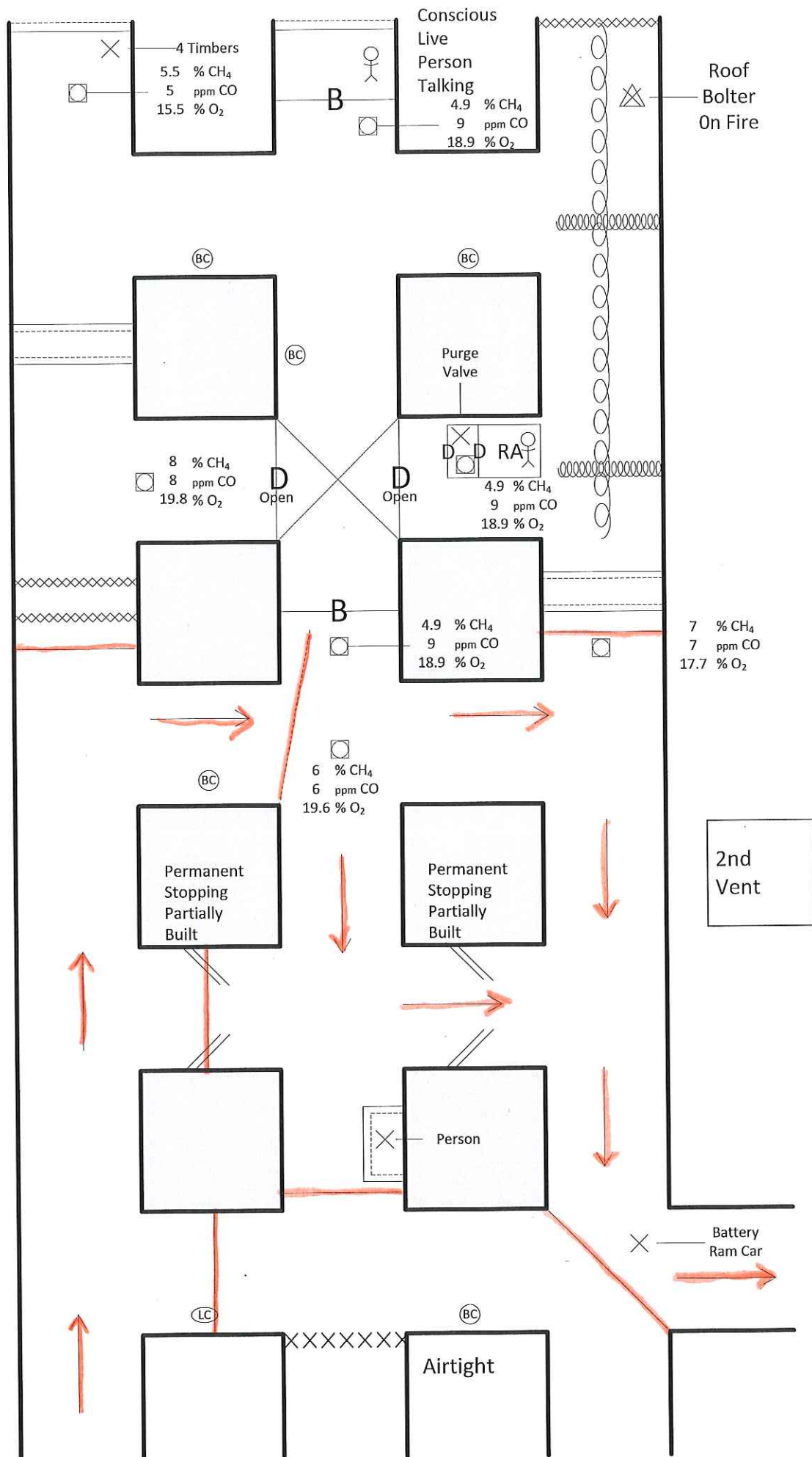


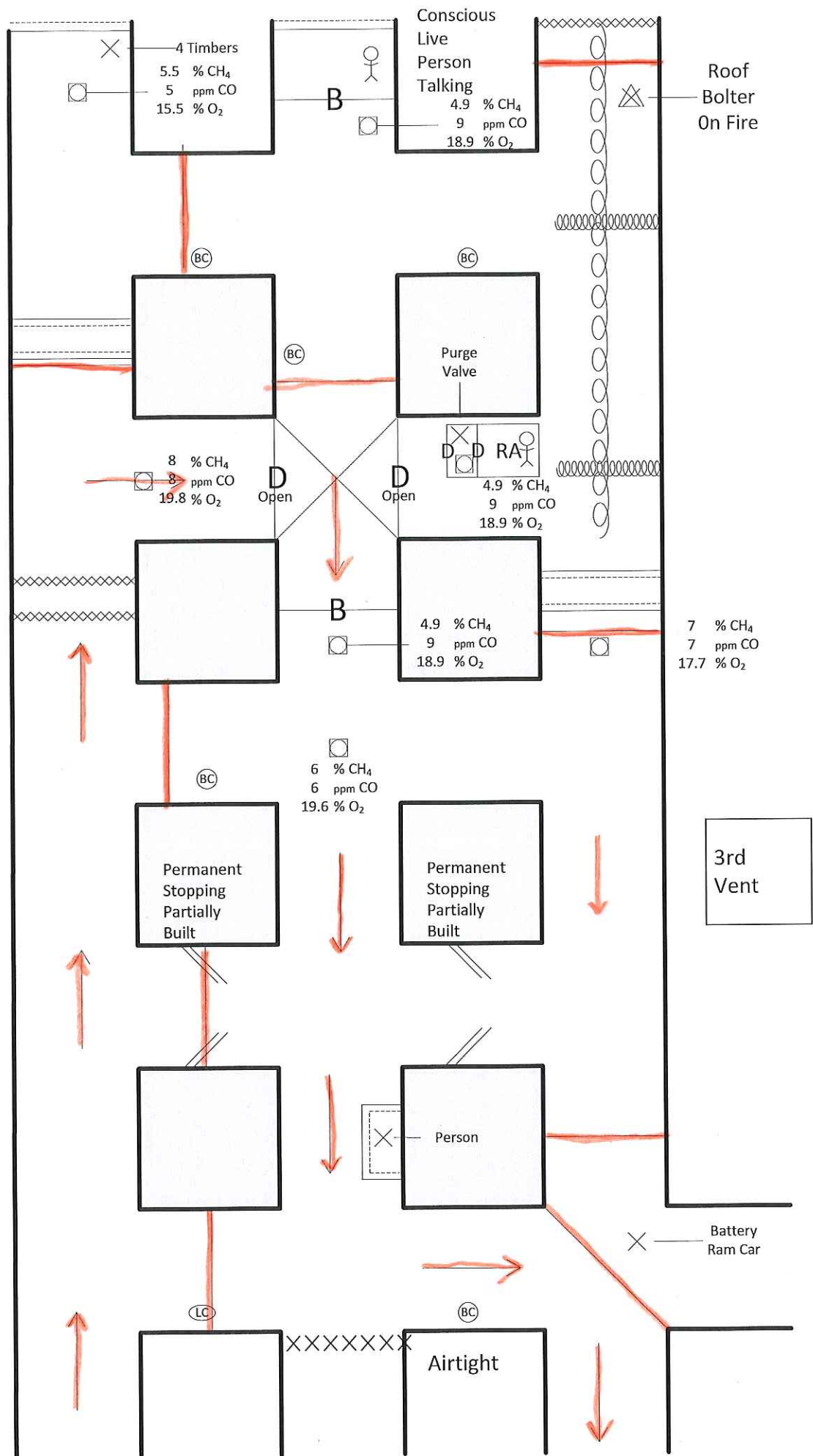


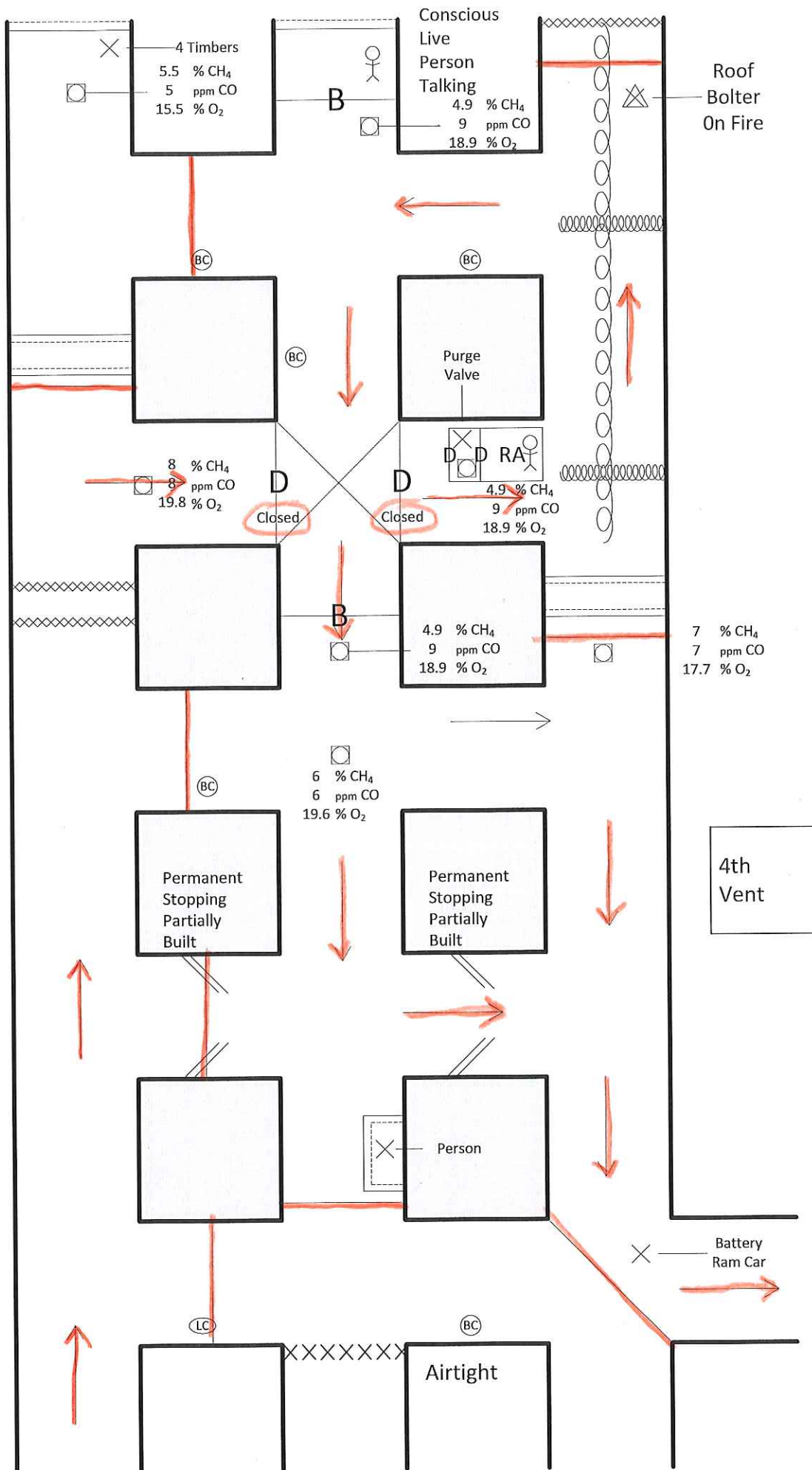


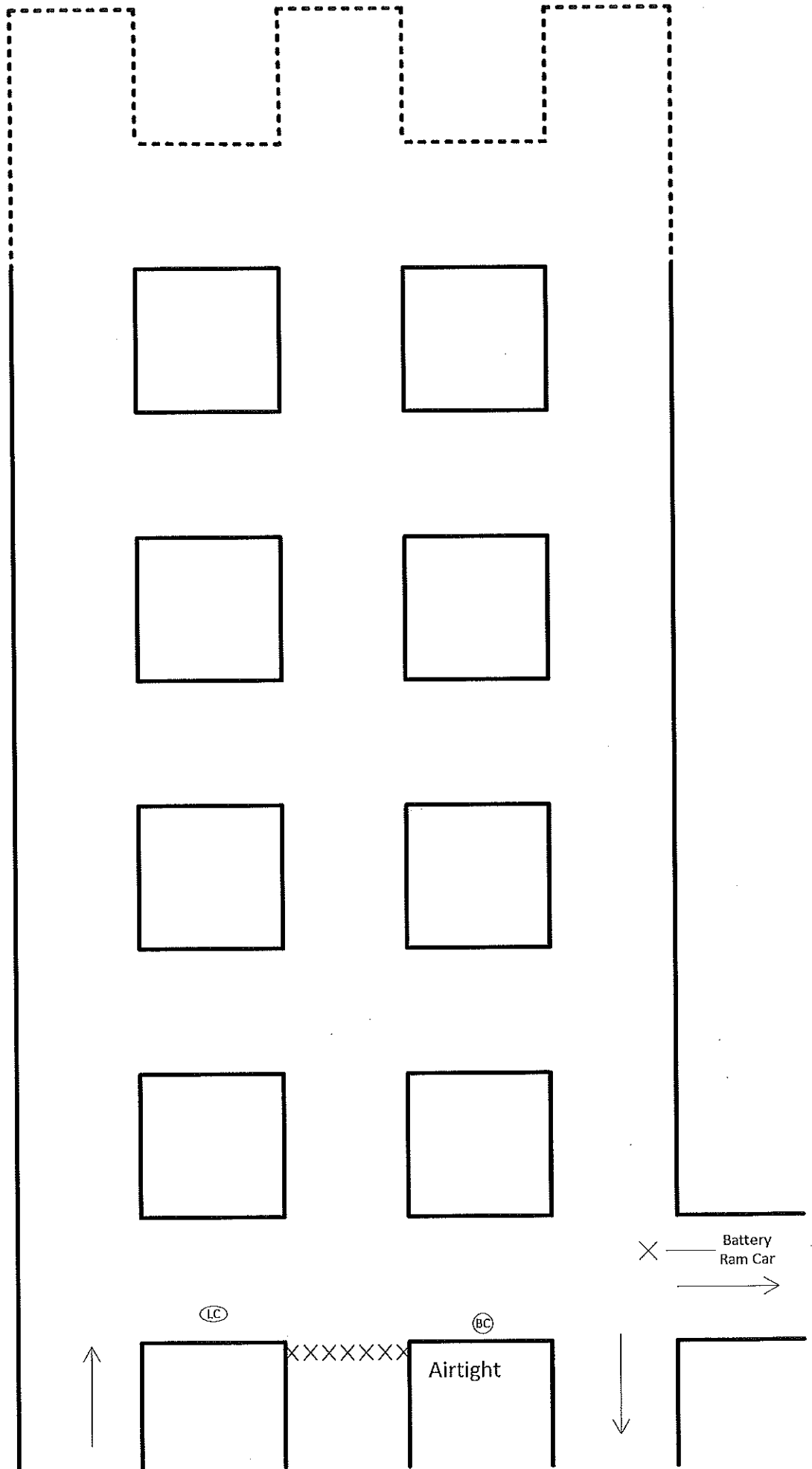


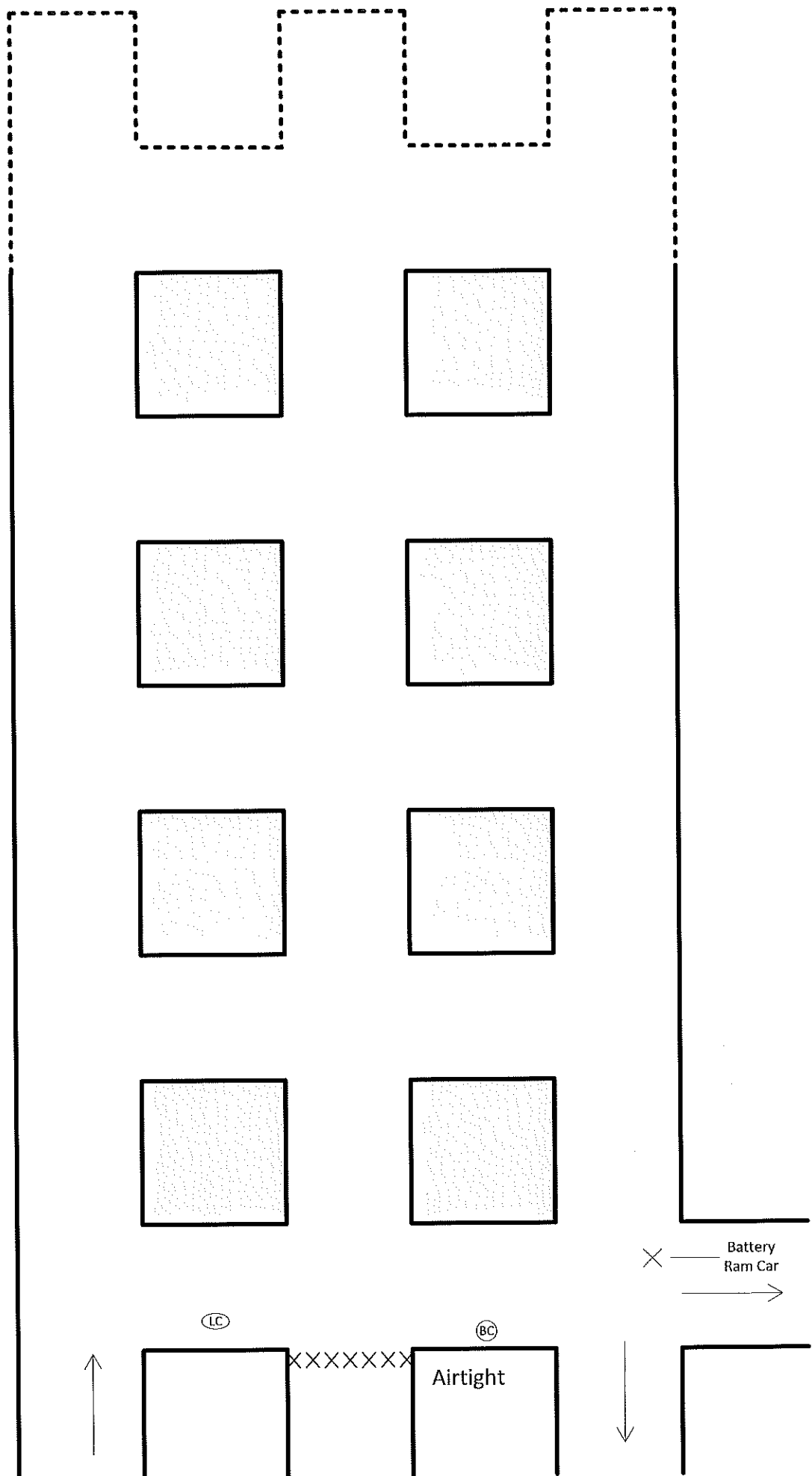












Steps to work Day 1 problem

The section is airlocked to begin the problem. The map is a projection and connects to the bleeders. Teams will have to airlock in and keep the section airlocked until ready for ventilation. May airlock either 1 or 3. There is not enough room to do so in #2.

- When the team advances to the first crosscut they must tie all the way across before advancing to the next crosscut. 1 to 3 or 3 to 1 doesn't matter as long as they go all the way across.
- Team can now advance up any entry to the 2nd crosscut. Again they have to tie all the way across. There is no response behind the barricade.
- The gas in #3 at the unsafe roof is now stopped by the gas test required at the condition (new rule). That will come into play inby.
- Team must ventilate the barricade at this point. They cannot break the airlock to the FAB until they have sealed the unsafe in #3 and the caved in #1. If they break the airlock before building the two stoppings all of the gases inby will move through an unexplored area resulting in many discounts.
- Once sealed the 1st and second ventilations can be done as shown on the maps. They must isolate the battery before making the first change and isolate the person before making the second change.
- Once ventilation has been completed the team must airlock the barricade. Finding no one behind the barricade, the team can explore to the intersection containing the overcast.
- Team will find a refuge alternative. By rule they must enter the refuge and recover the person. The airlock has an irrespirable gas inside which will require the captain and team member that entered the RA to purge that gas. Once purged they may enter the second chamber and recover the patient.
- The captain must explore to the imaginary line of the next intersection towards #1 and #3. Towards #1 he finds the explosive gas.

- Towards #3 he will not reach the smoke placard located in the intersection. By rule he cannot see it until he breaks the imaginary line of the intersection.
- They must airlock out because of the projected map and not knowing what is inby. They must airlock back in for the same reason.
- Upon reentering the crosscut with the overcast the team must explore to #1 because of the gas in that direction. After exploring the intersection the team finds the back side of the caved and the clear entry. The team knows the extent of the gas.
- The team will now tie across to the #3 entry. When the captain breaks the plain of the intersection he finds the smoke. If they forget the rule requiring a gas test at a condition they may withdraw because of the smoke and explosive mixture and not recognizing the separation. If they do they would be discounted for everything not completed had they explored it correctly.
- If the team should explore unsystematically and tie to #3 first instead of #1 they would have to withdraw because of the smoke and the explosive toward #1 and no known clear air separation. Again the team would be discounted for everything not done had they work it correctly.
- If worked correctly the team is now free to advance to the last open crosscut either up #2(adjacent) or #3.
- When the team reaches the last intersection of #3 they will extinguish the fire and should build at the caved.
- When the team reaches the last intersection of #2 they encounter a barricade with a response.
- The team cannot tie across to #1 at this point because of the response and they can ventilate the barricade at this time. (See vents 3 & 4).
- The team must seal the caved in #3 and the approaches to the last intersection of #1 before breaking the airlock maintained at the first barricade.
- As in the previous two ventilations the team must isolate the battery ram car before making vent 3 and the person in the unsafe roof before making vent 4.

- After ventilating the team must airlock the barricade, recover the patient, airlock out, and proceed to the FAB. The patient does not need apparatus protection.
- When returning into the section the team is searching for timbers to recover the person in the unsafe roof. They must airlock before going to the last intersection in #1.
- The team will find an explosive mixture in by in #1 entry. Because of the smoke into the caved of #3 the captain cannot pass the gas mixture. If he does he would be continuing exploration without a clear air separation (-30).
- The team must airlock out, retreat to the FAB, and stop the clock.
- If the team passes the gas and picks up the timbers they will probably stop on the way out and recover the person in the unsafe roof. I do not feel this is another 30 point discount (double dipping). They should be discounted if they improperly set the timbers or endanger themselves or the person.

