ESCAPE Site Survey Report

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Airports

The team explored three options for basing the C-130 in the Houston area for ESCAPE: NASA at Ellington Field (KEFD), Signature Flight Support (FBO) at Ellington Field, and Sugarland Airport (KSGR). A description of each along with pros and cons will be described in the sections below. It should be noted that none of the places that were visited will require testing or a quarantine period for project participants prior to arrival on site. Any quarantine/testing requirements will be developed as part of the safety protocols.

NASA at Ellington Field (KEFD)
Ellington Field is a joint use civilian/military airfield with two large runaways capable of handling the C-130 aircraft. NASA operates a flight facility at KEFD. On the north side of their property is Hangar 990 which houses WB-57 aircraft as well as a small office building with little occupancy, some workspace, and internet. While the hangar is too small for the C-130 this location would work well for ESCAPE due to its isolation. There is ample parking, a pedestrian gate that the project would have access to, and little activity, except for the WB-57s. The ramp space is large enough to support multiple aircraft, though, so any NASA operations would not impact ESCAPE and vice versa. In addition, there are tie downs on the ramp for the aircraft, if needed. There is also plenty of space for the sea containers and GSE in this area.

*NASA North Area. Potential container locations are shown by the white boxes with blue borders, in this image and all other maps below.*
Hangar 990 and the small office building (front right) that project participants would have access to. View is from the ramp area where the C-130 would park.

Closer view of the office building.

Most of NASA’s operations are at the south end of the field, where they have multiple aircraft staged along with office buildings and hangars. Also in that area is a large shelter that they use to store the Guppy aircraft when it is on site. The shelter is open on both ends but would provide cover for the C-130 should we need to get it out of the elements temporarily or if large scale work needs to be done (e.g. replacing an engine or a prop). It is not feasible as an operations area, though, due to NASA’s regular flight activity. The ramp is somewhat crowded and quite busy, so operating from the north end would be preferable to minimize the project’s impact on NASA.
Because NASA is a secure facility getting access will be more difficult, especially for foreign nationals. All project participants will be required to submit personal information and get cleared for badge access. NASA will need this information at least 45 days in advance. There will be additional requirements for foreign nationals, and they may require a NASA escort.

Jet fuel will be procured through the fixed base operator and they can fuel in the aircraft on the NASA ramp so we will not have to move the C-130 for fueling.

**Signature Flight Support at Ellington Field**

Signature Flight Support is the fixed base operator (FBO) at KEFD. They have a terminal building and a few medium sized hangars. There is no hangar or shelter large enough for the C-130, but it may be possible to make an arrangement with NASA should it be required for heavy maintenance. Ramp space is available but is likely to be somewhat busy due to its proximity to the FBO terminal. The terminal building has office space upstairs, a briefing room, and internet available, but will also have more people in and out as it is used for private aircraft operations. To the south is a hangar with attached work space and pedestrian access. The temperature controlled space is ample with areas for tables and chairs. No internet is available so portable MiFis would be supplied, though their bandwidth is limited. Limited parking is available in front of the main building with more spots available behind the hangar. However, due to the airport setup, getting between both areas requires a walk down the ramp or a longer than anticipated drive out and around some auxiliary hangars.

Storage of sea containers is a bit of a concern. A spot on the ramp was identified, but it’s unclear if it will be available. There is also space near the hangar, but it’s outside the airport fence and would require going out and around for access. It is likely that some items could be stored in the hangar and adjacent workspace if needed, to make access easier.
Access to the ramp and C-130 would be handled by the FBO and there would be no restrictions to foreign nationals.

Signature Flight Support (FBO) Area.

View of the ramp from the main FBO building. The C-130 would park approximately where the helicopter is located.
Sugarland Airport (KSGR)

Sugarland Airport is a civilian field with one runway capable of handling the C-130 aircraft. The airport has an old terminal building that provides plenty of parking, easy access to the ramp, and could be dedicated to the project. This building has adequate work space for instrument repairs, a planning room, and sheltered space outside for parking GSE under. There is also internet available at this building.

There are also no restrictions on access by project participants, including foreign nationals, but a short training may be required. There are no badging requirements either. Project participants will be allowed to enter and exit through the terminal and will have the gate access codes.

Sea containers can be stored next to the building and would be easily accessible.

Jet fuel will be procured through an agreement with World Fuel.
KSGR is a small, quiet airport. The old terminal building provides an ideal entry point and keeps project staff away from the new building, which, while not overly busy, certainly has more people around. Sugarland is also further inland, which may result in storms reaching it later in the day and allowing the C-130 to stay in the air longer. KSGR would be a very good location for ESCAPE operations.
The project area at Sugarland.
View of the ramp area from the old terminal building. The C-130 would be parked where these planes are shown.

The parking area and container storage area outside the old terminal and the briefing room inside of it.
Hotels

The team stayed at the Residence Inn in Pasadena, about 10 minutes from Ellington Field. This is a newer property and is in very good condition with small kitchens in every room. Marriott has corporate guidelines for reducing the risk of COVID-19 exposure, similar to other national brands. These include requiring masks in public spaces, hand sanitizer readily available, not sharing elevators with people outside your group, grab and go breakfasts only, housekeeping at most 3 times a week (if requested), and fully cleaning/disinfecting rooms between stays. There was also a conference room offered to us should it be needed for small meetings if regulations allow it.

Residence Inn in-room kitchen.
Residence Inn grab and go breakfast area.

Residence Inn conference room.
Other extended stay hotels around Ellington Field and Sugarland Airport were identified as options as well. These also have similar protocols, small kitchens, and the potential of meeting space. While only a couple others were visited, most are nationally branded hotels and provide greater peace of mind knowing that their protocols are not subject to local whims but are developed for safety across the country.

Hotels with outdoor entrances, while arguably safer, are not common in Houston. We were able to find a couple but they were not a national chain or were in less desirable areas (i.e. directly adjacent to a very busy interstate).

NCAR will set up a group rate agreement with the chosen hotel. This rate will be available to anyone on the project. There will not be a requirement for everyone to stay at this location. If other options are preferable, then project members are encouraged to find their own accommodations. For NCAR employees this means that NCAR will reimburse you up to the contracted rate at the main hotel. For others it will depend on your institution's travel policies.

**COVID Observations**

It is well known that Texas ended the statewide mask mandate on March 10, during the site survey. However, every place that we visited stated that they would be following CDC guidelines and still require masks for the foreseeable future. This makes sense as airports are government property, NASA is a federal agency, and hotel chains are following corporate guidance instead.

We witnessed a high percentage of people wearing masks, and signage was present requiring distancing and masks at places like grocery stores, gas stations, and restaurants. Compliance with CDC guidelines appears to be the norm in the places we visited. In addition, every place we went had ample hand sanitizer in multiple areas inside and outside of the facility; far more than we see in Colorado.

For those who haven’t flown in a while the airport experience can be a little unnerving. For the most part it’s not too difficult to keep distance, but there are areas where bottlenecks and crowding occur. Security lines and transportation in and around the airport are the most obvious of these. In Denver some of this can be alleviated by using the VeriFly app, which allows one to schedule a specific time to go through security and provides access to a dedicated train car going to the gates. This provides the least amount of contact for that portion of the trip. Parking and rental car shuttles are difficult to avoid, though most are limiting the number of people who can ride at any given time. The boarding process has also changed. United is boarding from the rear of the aircraft and calls a handful of rows at a time, limiting the number of people going on the jetway and lining up. They also provide a sanitizing wipe as you get on the plane, in addition to the cleaning done between flights, to allow you further clean high touch surfaces such as the arm rest, tray table, and seat belt buckle.