

## Addendum to Rothera Site Investigation (Second season) Initial Environmental Evaluation

### 1. Description of Activity:

In order to support future construction activities at Rothera, a purpose built temporary accommodation unit which will sleep a maximum of 32 people, is proposed to be relocated from Halley. This will provide additional bed space whilst the construction teams are on site.

The structure consists of 16 converted 20 ft shipping containers with a footprint of 19.5 m x 14.5 m. Two rows of eight containers connected by standard ISO clamps, will face each other with a covered plywood corridor connecting the two sides. Eight of the containers will be used for sleeping accommodation sleeping four people each. The remaining eight containers will compromise a foyer, boot room, boiler room, showers, toilets and laundry. Two of the containers previously used as a surgery will be used for offices and storage.

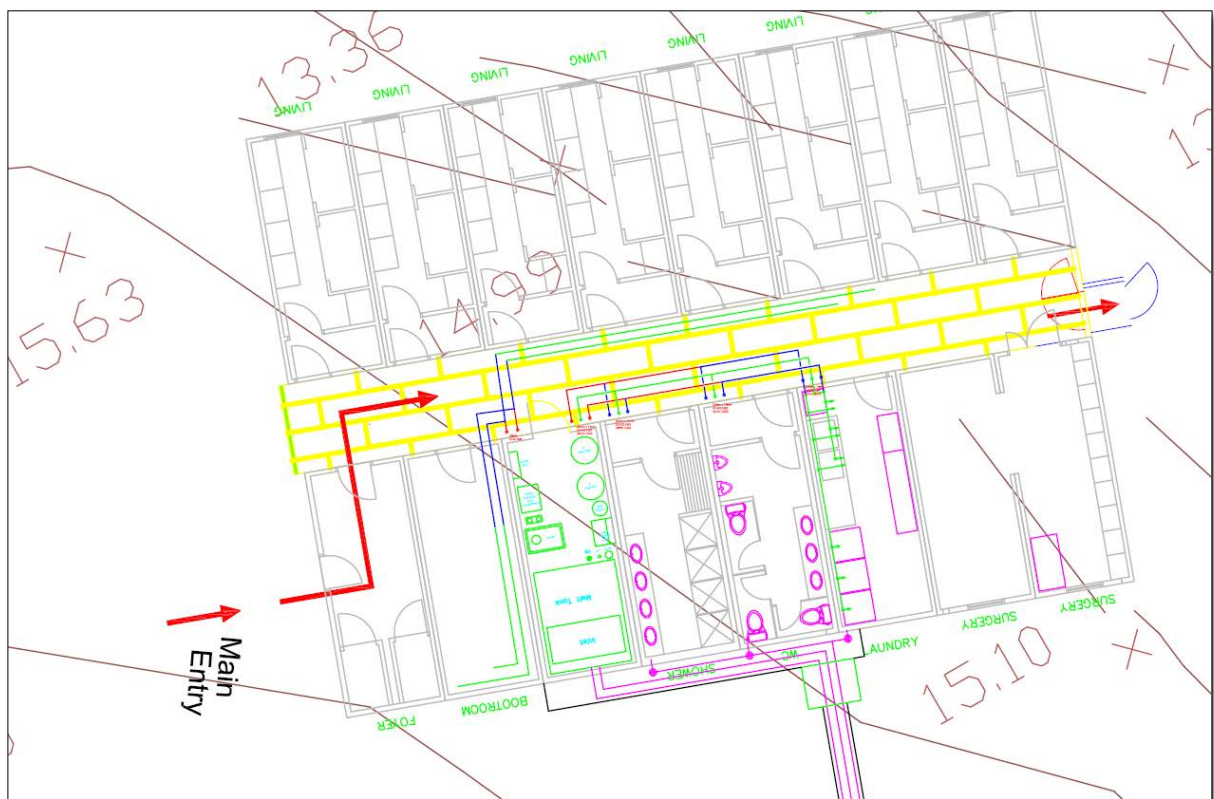


Figure 1. Layout of temporary accommodation.

The sequence of the activity is anticipated to be as follows:

- Removal from Halley by sledge and crane
- Loaded onto the RRS Ernest Shackleton
- Transported to Rothera
- Preparation of ground at Rothera prior to delivery
- Offload from RRS Ernest Shackleton
- Moved into position and clamped together
- Services connected
- Commissioning completed end 2017
- Ready for use in 2018 season

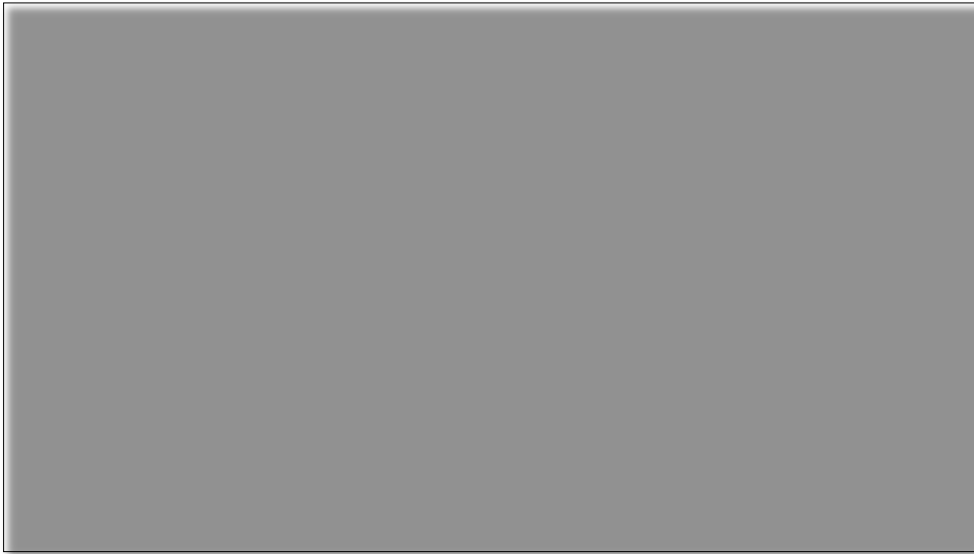


Figure 2. Photo showing the accommodation unit in use at Halley.

It is anticipated that the accommodation unit will remain in use at Rothera until all redevelopment works are complete. As yet the programme for such works has not been clearly defined but it is anticipated that this temporary accommodation could be in place for approximately seven years.

Once all the containers arrive at Rothera the plan is to connect them up to the main services including water, power and foul sewer. In addition a fire alarm system will be fitted throughout. The containers will require a maximum 5 Kw of power for lighting and electricity. In addition a small MGO fuelled water boiler will provide hot water to the shower and laundry facilities. It is anticipated that this will require 800 litres of fuel on a monthly basis. The fuel will be stored in an external self bunded tank.

It is anticipated that 80 litres of water per person per day will be required and this will be sourced through the main reverse osmosis plant at Rothera. Waste water and human waste will be discharged via the main sewage treatment plant.

Ongoing servicing and maintenance of the unit will be the responsibility of the BAS Estates team.

## **2. Location:**

It is intended to set up the accommodation unit in-between the Miracle Span and the Generator Shed at Rothera. Prior to the arrival of the containers an area the size of the footprint (19.5 m x 14.5 m) will be levelled and graded. This is an area that is within the existing operational station footprint. It does not support any local fauna or flora.

## **3. Mobilisation:**

The intention is to relocate the containers from Halley to Rothera. (Four of the containers are already at Rothera, having been moved in the 2016-2017 season.) The unit can be split into individual containers making them easier to transport. At Halley they will be moved by sledge and then craned onto the RRS Ernest Shackleton (ES) and transported to Rothera. Once at Rothera they will be craned onto the container lifter and moved to the proposed site.

## **4. Personnel:**

BAS staff involved in relief and the ES crew will be responsible for relocating the containers. Once in position at Rothera the Rothera Estates team will be responsible for installing services and commissioning the temporary building.

## **5. Programme/Schedule**

The plan is for the ES to collect the containers from Halley at 1<sup>st</sup> call, which is anticipated to be between the 20<sup>th</sup> December 2017 and 1<sup>st</sup> Jan 2018, and deliver them to Rothera by mid-March 2018.

It is anticipated that the temporary accommodation will be connected to the existing services by mid April 2018 and that commissioning will be completed by the end of April 2018. The temporary accommodation is not intended for use however until the beginning of the 2018-2019 season when construction for the Rothera wharf is anticipated to commence.

## **6. Baseline Conditions**

A baseline report for the current environmental conditions at Rothera Point was included in Annex 1 of the Rothera Site Investigation IEE, Environmental Baseline Information for Rothera Point, Adelaide Island, Antarctica. There are no sensitive receptors in the vicinity of the proposed location.

## **7. Alternatives**

The temporary accommodation proposed to be established at Rothera, is considered a necessary requirement to house the workforce involved in the future construction works. Without the provision of this additional accommodation either the future works would not be able to proceed or the number of beds available for scientists would be impacted. Neither of these options were considered to be appropriate.

## **8. Impact Identification & Mitigation**

### 8.1. Importation of cargo

**Potential Impact:** Non-native species may be imported unintentionally to Rothera Research Station and the local vicinity in association with transported equipment. The probability of this impact is very low considering the climatic conditions prevalent at Halley.

**Mitigation:** The temporary accommodation units will undergo the appropriate biosecurity checks on arrival at Rothera, in accordance with the BAS Biosecurity Handbook.

### 8.2. Refuelling and use of machinery over ice free ground

**Potential Impact:** Minor spills could occur during refuelling of the external fuel tank leading to contamination of the local area.

**Mitigation:**

- All refuelling will be carried out by trained BAS personnel in accordance with the station's standard refuelling procedures.
- Drip trays will be used during refuelling.
- The Rothera Oil Spill Contingency Plan (OSCP) is to be followed in the event of a spill.

### 8.3. Transportation of personnel and cargo and operation of equipment

**Potential Impact:** Minor cumulative contribution to regional and global atmospheric pollution and heavy metal and particulate fallout.

**Mitigation**

- Unavoidable impact of transporting units to site.
- Carbon footprint of vehicle use will be included in BAS Annual Environmental Report
- Regular maintenance and daily checks to maintain vehicles to highest standards
- Staff are instructed to turn off vehicles when not in use
- Unavoidable impact of increased number of people on station during construction periods

The IEE for the Rothera Site Investigation (Second Season) indicated that the impacts were likely to be no more than minor or transitory on the Antarctic environment, provided the recommended mitigation measures were carried out. This addendum does not alter the original conclusions to the IEE.