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BRITISH ANTARCTIC SURVEY
AIMP (2023-2024) COMBINED PRELIMINARY ENVIRONMENTAL ASSESSMENT (PEA)

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AIMP (2023 – 2024) COMBINED PRELIMINARY ENVIRONMENTAL ASSESSMENT (PEA)

Ramboll
Carlton House
Ringwood Road
Woodlands
Southampton
SO40 7HT
United Kingdom

T +44 238 081 7500
https://uk.ramboll.com

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Ramboll UK Limited
Registered in England & Wales
Company No: 03659970
Registered office:
240 Blackfriars Road
London
SE1 8NW

INTRODUCTION

The completion of an Environmental Impact Assessment (EIA) is a requirement of the Protocol on Environmental Protection to the Antarctic Treaty (1991)[1], the provisions of the Antarctic Act (1994, 2013)[2], and accompanying Antarctic Regulations 1995/490[3]. The minimum level of EIA required is the completion of a Preliminary Environmental Assessment (PEA). This document is a combined PEA for the Antarctic Infrastructure Modernisation Project (AIMP) 2023 to 2024 Season.

The combined PEA for AIMP 2023-2024 Season is derived from the PEA and specialist activity permit application forms for projects taking place within the Antarctic Treaty area, which encompasses the area south of latitude 60°S. The purpose of the combined PEA is to assess the environmental impact of activities in the Antarctic Treaty Area and to identify the need for and apply for any Specialist Activities Permits required. The projects included in this combined PEA are as follows:

- Rothera Temporary Wharf Projects – Mooring Weights;
- Rothera Temporary Wharf Projects – Cast Hydrolysis Resistant Polyurethane (C-HPU) Hydraulic Lines Removal;
- California Bearing Ratio (CBR) Measurements of the Runway at Rothera;
- CBR Measurements at Sky Blu;
- Runway Friction Testing at Rothera;
- Friction Testing at Sky Blu; and
- AIMP RUNSUR – Runway resurfacing works in the 2023- 2024 Season at Rothera.

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[1] BAS, 1991. Protocol on Environmental Protection to the Antarctic Treaty (1991). [Online] Available at: https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/environmental-protocol/protocol-on-environmental-protection-to-the-antarctic-treaty-1991/
[2] Legislation.gov.uk, 1994. Antarctic Act 1994. [Online] Available at: https://www.legislation.gov.uk/ukpga/1994/15
[3] Legislation.gov.uk, 1995. The Antarctic Regulations 1995. [Online] Available at: https://www.legislation.gov.uk/uksi/1995/490/made

1. PROJECT DESCRIPTION

This section sets out the details, including location and the personnel involved, of each of the projects included in this combined PEA.

1.1 Rothera Temporary Wharf Projects – Mooring Weights

1. OSPQ number *(where applicable[1]/ known)*		**2. Title of Project**	Rothera Temporary Wharf Projects – Mooring Weights

3. Personnel involved. *Please provide names, organisation and job titles of all personnel involved and identify their specific project role e.g., Principal Investigator/Project Lead, Field Leader, external collaborators/contractors etc.*

Full Name	Organisation and Job Title	Project Role
Jimmy Bellis	BAS, Senior Project Manager – Air Infrastructure and Marine	Project Manager
Aurelia Reichardt	BAS, Rothera Station Leader	Project Lead
Mike Brian	BAS, Rothera Deputy Station Operations Manager	Marine Operations Liaison
Ben Norrish	BAS, Rothera Vehicles Manager	Vehicle Liaison
Ben Anwyl	BAS, Plant Operator	Plant Operator
Pryce Shroff	BAS, Plant Mechanic	Vehicle Support
Tom Wills	BAS, Plant Mechanic	Vehicle Support
Andres Cervero	BAS, Boating Officer	Marine Consultant

4. Location

Name each location to be visited with a description of the area, and state whether the site has been visited before.

Location Name *(including depot sites)*	Location Description *(e.g. coastal, ice-free, glacier, open ocean etc.)*	Has the location been visited previously? *Please provide detail.*
Rothera Wharf	East, West and South face of Rothera wharf	Yes

5. Please provide a brief description of your project including:

1. *Proposed dates and duration of your project;*

The project will be undertaken during the 2023 to 2024 season.

2. *Summary of the main aims (scientific of otherwise) of your project;*

The aim is to install six weighted mooring lines on the East, South and West face of the Rothera Wharf (two weights at each site). These are intended to be used as a means of securing small boats to the wharf during the process of deploying and retrieving, to increase safety during this process.

Currently, small boats attach to a steel wire running along the wharf which is bolted in under the top of the capping beam and ends about 1 foot above the water line. This causes issues as the angle is too steep at low water and there is rubbing, eating through the boat mooring lines. These were created as a short-term fix by a previous boating officer with rigging experience but are not fit for purpose.

3. *Outline of project plan (e.g., referring to locations as above, route and mode of travel, number of persons and time spent at each location);*

This project will reinstate a trusted methodology previously used to moor small boats on the old Biscoe Wharf.

4. *Details of methodology (including equipment required); and*

The mooring weights were cast in the 2021-22 season and consist of a cut drum (approximately 1 foot high), filled with concrete. Mooring weights left over from the Biscoe Wharf (four no., still in good condition) will also be used as part of this project, to minimise the need for additional concreting. Rebars have been encased in the concrete to provide an attachment point. A thick metal wire will be installed on the attachment point. This will provide the mooring line, running along the wharf, allowing boats to clip in. The top of the mooring line will be attached to existing structures on the wharf, either side of the pilot ladders., but not infringing on the use of the ladders.

The installation of the concrete mooring weights will require support from the garage for securing to the wharf as well as lowering. The intent is to leave the weights permanently deployed. The weights will sit on the seabed.

Boating support might be required to check whether the deployment was successful and fulfils its purpose.

5. *Brief justification of the environmental impact, as applicable*
No environmental impacts identified. The potential for marine entanglement has been considered and deemed of very low likelihood at this location. The main justification of this project is for safety reasons. The safe launching and landing of boats is essential for: - Safety cover for aircraft activities - Transport of scientists to local islands and for marine science support (diving etc.)

1.2 Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal

1. OSPQ number *(where applicable[1]/ known)*		**2. Title of Project**	Rothera Temporary Wharf Projects – Cast Hydrolysis Resistant Polyurethane (C-HPU) Hydraulic Lines Removal

3. Personnel involved. *Please provide names, organisation and job titles of all personnel involved and identify their specific project role e.g., Principal Investigator/Project Lead, Field Leader, external collaborators/contractors etc.*

Full Name	Organisation and Job Title	Project Role
Jimmy Bellis	Senior PM – Air Infra & Marine	Project Manager
Ben Norrish	BAS – Head of Vehicles	Principal Investigator (PI) /Project Lead
Pryce Shroff	BAS – Mobile Plant Mechanic	Support
Tom Wills	BAS – Mobile Plant Mechanic	Support

4. Location

Name each location to be visited with a description of the area, and state whether the site has been visited before.

Location Name *(including depot sites)*	**Location Description** *(e.g. coastal, ice-free, glacier, open ocean etc.)*	**Has the location been visited previously?** *Please provide detail.*
Rothera Wharf	Wharf edge	Yes – C-HPU installed previously by BAS

5. Please provide a brief description of your project including:

1) *Proposed dates and duration of your project;*

01/12/2023, One day duration. Remove old hydraulic lines from capping beam – fixed hydraulic pipes run North – South along the capping beams edge. These connect the Wharf Crane to the hydraulic power unit however they have not been operational for two years. During 2022/23 snow clearing they were hit and damaged, a small amount of oil (3L) was lost, and the decision was made to remove them.

2) *Summary of the main aims (scientific of otherwise) of your project;*

The aim is to remove the lines completely to avoid further oil spill and damage. They will be removed and then disposed of in line with the BAS waste management plan.

3) *Outline of project plan (e.g., referring to locations as above, route and mode of travel, number of persons and time spent at each location);*

Fixed lines will be removed from the Wharf capping beam the ends will be wrapped up with spill kits and zip bags to prevent oil loss on the wharf, they will then be transported to the garage and disposed of. Three people will be involved in this process. It is estimated the job should take around 2-3 hours maximum.

4) *Details of methodology (including equipment required); and*

Fixed lines are connected to the capping beam with 13 mm bolts, once these bolts have been removed the hydraulic lines can be removed. Depending on the lengths identified at the time of dismantling and removal, they may need to be disconnected at unions to make them smaller and manageable. The fixed lines have already been decommissioned, where lines are disconnected they will be sealed (using spill kit and zip bags as above), removed, and then disposed of in line with the BAS waste management plan.

5) *Brief justification of the environmental impact, as applicable*

Removing the lines in the proper manner reduces future risk of environmental impact caused by accidental collision. The methodology outlined is not considered to result in an environmental impact during removal.

1.3 CBR Measurements of the Runway at Rothera

1. OSPQ number *(where applicable[1]/ known)*		**2. Title of Project**	CBR Measurements of the Runway at Rothera

3. Personnel involved. *Please provide names, organisation and job titles of all personnel involved and identify their specific project role e.g., Principal Investigator/Project Lead, Field Leader, external collaborators/contractors etc.*

Full Name	Organisation and Job Title	Project Role
Andrew Barker	BAS, FAC Integration Project Manager	Person responsible for completing the PEA
Zoe Waring	BAS, Rothera Air Unit Ground Support Coordinator	Undertaking CBR measurements
Danielle Stewart	BAS, Rothera Air Unit Ground Support Coordinator	Undertaking CBR measurements

4. Location

Name each location to be visited with a description of the area, and state whether the site has been visited before.

Location Name *(including depot sites)*	Location Description *(e.g. coastal, ice-free, glacier, open ocean etc.)*	Has the location been visited previously? *Please provide detail.*
Rothera	900m gravel runway used for aircraft movements on wheels.	Yes. The runway was constructed in 1990 - 1991 and has been used continuously since then.

5. Please provide a brief description of your project including:

1. *Proposed dates and duration of your project*

The project will be undertaken during the 2023 to 2024 season, between October 2023 and May 2024.

2. *Summary of the main aims (scientific of otherwise) of your project*

The aim is to understand the CBR of the runway. The CBR is required to ensure that the Rothera runway meets the Future Aircraft Capability (FAC) DHC-8 minimum requirement of 30.

3. *Outline of project plan (e.g., referring to locations as above, route and mode of travel, number of persons and time spent at each location);*

BAS will want to undertake CBR measurements in future seasons. This will enable BAS to ensure the bearing strength of the runway remains consistent and doesn't change because of the AIMP Runway Resurfacing project. The CBR test is a completely non-destructive test and uses a force pushing a plate onto the runway.

4. *Details of methodology (including equipment required); and*

Each CBR test will take approximately 10 minutes and there will be a grid of up to 100 points during the testing process to provide full coverage of the length and width of the runway. The tests will be carried out at strategic points of the season to determine hardness at various points of the season (early season; melt; mid-season; onset of winter).

The device BAS will use is a Boeing high load penetrometer, which BAS has purchased. The penetrometer is a hand-operated, hydraulic pump connected to a shaft which drives a cone onto the runway surface. The hydraulic pressure on the gauge is considered to equate to the load-bearing strength of the runway surface. The penetrometer requires a reactionary force (i.e., something the push against) in order to provide CBR readings, the intention is to use the Volvo L180H wheeled loader.

During testing the vehicle will not be in motion and is present as a weight to push against, the Volvo will be moved to each testing location after the test is completed, around 10 minutes.

5. *Brief justification of the environmental impact, as applicable.*

The potential for oil leaks to occur from the wheeled loader could occur, although these are managed through appropriate spill response management and mitigation as identified in the Environmental Impact Matrix (Section 5).

1.4 CBR Measurements at Sky Blu

1. OSPQ number *(where applicable[1]/ known)*		**2. Title of Project**	CBR Measurements at Sky Blu

3. Personnel involved. *Please provide names, organisation and job titles of all personnel involved and identify their specific project role e.g., Principal Investigator/Project Lead, Field Leader, external collaborators/contractors etc.*

Full Name	Organisation and Job Title	Project Role
Andrew Barker	BAS, FAC Integration Project Manager	Person responsible for completing the PEA *(must be named)*
Zoe Waring	BAS, Rothera Air Unit Support Coordinator	Undertaking CBR measurements
Danielle Stewart	BAS, Rothera Air Unit Support Coordinator	Undertaking CBR measurements

4. Location

Name each location to be visited with a description of the area, and state whether the site has been visited before.

Location Name *(including depot sites)*	Location Description *(e.g. coastal, ice-free, glacier, open ocean etc.)*	Has the location been visited previously? *Please provide detail.*
Sky Blu	Blue ice runway used for aircraft movements on wheels.	Yes, extensively used by aircraft

5. Please provide a brief description of your project including:

4. *Proposed dates and duration of your project;*

The tests will occur between October 2023 and March 2024.

5. *Summary of the main aims (scientific of otherwise) of your project;*

The main aim is to understand the CBR of the runway.

6. *Outline of project plan (e.g., referring to locations as above, route and mode of travel, number of persons and time spent at each location);*

The CBR is required to ensure that the Sky Blu runway meets the FAC DHC-8 minimum requirement of 30.

7. *Details of methodology (including equipment required); and*

Each CBR test will take approximately 10 minutes and there will be a grid of up to 100 points during the testing process to provide full coverage of the length and width of the Sky Blu runway. The tests will be carried out at strategic points of the season to determine hardness at various points of the season (early season; mid-season; end of season Sky Blu season).

The device BAS will use is a Boeing high load penetrometer, which BAS has purchased. The penetrometer is a hand-operated, hydraulic pump connected to a shaft which drives a cone onto the runway surface. The hydraulic pressure on the gauge is considered to equate to the load-bearing strength of the runway surface. The penetrometer requires a reactionary force (i.e., something the push against) in order to provide CBR readings, the intention is to use the CAT 247B.

During testing the vehicle will not be in motion and is present as a weight to push against, the CAT will be moved to each testing location after the test is completed, around 10 minutes.

8. *Brief justification of the environmental impact, as applicable*

The potential for oil leaks to occur from the wheeled loader could occur, although these are managed through appropriate spill response management and mitigation as identified in the Environmental Impact Matrix (Section 5).

1.5 Friction Testing at Rothera

1. OSPQ number *(where applicable[1]/ known)*		**2. Title of Project**	Friction Testing at Rothera

3. Personnel involved. *Please provide names, organisation and job titles of all personnel involved and identify their specific project role e.g., Principal Investigator/Project Lead, Field Leader, external collaborators/contractors etc.*

Full Name	Organisation and Job Title	Project Role
Andrew Barker	BAS, FAC Integration Project Manager	Project Manager/Responsible for completing the PEA
Rothera Vehicle Mechanics	BAS, Rothera Vehicle Mechanics	Undertaking friction measurements
Zoe Waring	BAS, Rothera Air Unit Ground Support Coordinator	Undertaking friction measurements
Danielle Stewart	BAS, Rothera Air Unit Ground Support Coordinator	Undertaking friction measurements

4. Location

Name each location to be visited with a description of the area, and state whether the site has been visited before.

Location Name *(including depot sites)*	Location Description *(e.g. coastal, ice-free, glacier, open ocean etc.)*	Has the location been visited previously? *Please provide detail.*
Rothera	900m gravel runway used for aircraft movements on wheels.	Yes. The runway was constructed in 1990 – 1991 and has been used continuously since then.

5. Please provide a brief description of your project including:

1. *Proposed dates and duration of your project;*

The friction tests will occur between October 2023 and May 2024

2. *Summary of the main aims (scientific of otherwise) of your project;*

The aim of the project is to undertake friction measurements at Rothera to help assess Dash 8 aircraft performance at Rothera at various points throughout the season.

3. *Outline of project plan (e.g., referring to locations as above, route and mode of travel, number of persons and time spent at each location);*

The tests will be carried out at strategic points of the season to determine friction at various points of the season (early season; melt; mid-season; onset of winter)

4. *Details of methodology (including equipment required); and*

The friction tests are undertaken by driving a quad bike up to 40km/hour and then braking and locking the vehicle until it is in a skid (a risk assessment and procedure has been written specifically for this activity). The equipment on-board (small handheld device) fixed to the quad bike will then record average friction measurements at various locations along the runway. The friction measurements will be taken at various points in the season to determine early season, melt and mid-season, end of season surface coverage.

Each series of friction test will take approximately 10 minutes and there will be a grid of up to 100 points during the testing process. Each run of friction tests could take a couple of hours as various points / skids will occur on the runway.

The tests will be carried out at strategic points of the season to determine hardness at various points of the season (early season; melt; mid-season; onset of winter).

5. *Brief justification of the environmental impact, as applicable*

No environmental impacts identified. However, should any fluid leaks occur during testing, spill kits will be used from the nearest location such as vehicles or the Hangar.

1.6 Friction Testing at Sky Blu

1. OSPQ number *(where applicable[1]/ known)*		**2. Title of Project**	Friction Testing at Sky Blu

3. Personnel involved. *Please provide names, organisation and job titles of all personnel involved and identify their specific project role e.g., Principal Investigator/Project Lead, Field Leader, external collaborators/contractors etc.*

Full Name	Organisation and Job Title	Project Role
Andrew Barker	BAS, FAC Integration Project Manager	Project Manager/Responsible for completing PEA
Rothera Vehicle Mechanics	BAS, Rothera Vehicle Mechanics	Undertaking friction measurements
Zoe Waring	BAS, Rothera Air Unit Support Coordinator	Undertaking friction measurements
Danielle Stewart	BAS, Rothera Air Unit Support Coordinator	Undertaking friction measurements

4. Location

Name each location to be visited with a description of the area, and state whether the site has been visited before.

Location Name *(including depot sites)*	Location Description *(e.g. coastal, ice-free, glacier, open ocean etc.)*	Has the location been visited previously? *Please provide detail.*
Sky Blu	Blue ice runway used for aircraft movements on wheels.	Yes, extensively used by aircraft

5. Please provide a brief description of your project including:

1. *Proposed dates and duration of your project;*

The friction tests will occur between October 2023 and March 2024.

2. *Summary of the main aims (scientific of otherwise) of your project;*

The aim of the project is to undertake friction measurements at Sky Blu to assess when/ whether the Dash 8 aircraft can be used at Sky Blu along with whether BAS needs to adapt the way they operate at Sky Blu. For example, actively improving friction on the runway through means of driving vehicles and creating friction (as per Troll method).

3. *Outline of project plan (e.g., referring to locations as above, route and mode of travel, number of persons and time spent at each location);*

The tests will be carried out at strategic points of the season to determine friction at various points of the season (early season; mid-season; end of Sky Blu season)

4. *Details of methodology (including equipment required); and*

The friction tests are undertaken by driving a quad bike up to 40km/hour and then braking and locking the vehicle until it is in a skid (a risk assessment and procedure has been written specifically for this activity). The equipment on-board (small handheld device) fixed to the quad bike will then record average friction measurements at various locations along the runway. The friction measurements will be taken at various points in the season to determine early season, melt and mid-season, end of season surface coverage.

Each series of friction test will take approx. 10 mins and there will be a grid of up to 100 points during the testing process. Each run of friction tests could take a couple of hours as various points / skids will occur on the runway.
The friction measurements will be taken at various points in the season to ascertain whether the friction at Sky Blu is affected by temperature and melting etc.

5. *Brief justification of the environmental impact, as applicable*

No environmental impacts identified. However, should any fluid leaks occur during testing, spill kits will be used from the nearest location such as vehicles or the garage.

1.7 AIMP RUNSUR – Runway resurfacing works in the 23/24 season

1. OSPQ number *(where applicable[1]/ known)*		**2. Title of Project**	AIMP RUNSUR – Runway resurfacing works in the 23/24 season

3. Personnel involved. *Please provide names, organisation and job titles of all personnel involved and identify their specific project role e.g., Principal Investigator/Project Lead, Field Leader, external collaborators/contractors etc.*

Full Name	Organisation and Job Title	Project Role
Jimmy Bellis	Senior Project Manager	Senior Project Manager
Ben Checkley	BAS Assistant PM	Project Manager
Robert Kerr	BAM Site Agent	Site Agent
Tommy Don	BAM Supervisor	Works Manager
Simon Hamment	BAM Site Engineer	Engineer
Connie Pang	Ramboll Site Supervisor	Site Supervisor
Katie Handford	BAS PMO Site Supervisor	Site Supervisor
David Brand	BAS PMO Site Supervisor	Site Supervisor
David Seaton	BAS PMO Site Supervisor	Site Supervisor
Thomas Roberts	BAS Estates Representative	Estates Representative
Chris Mirfin	BAS Estates Engineer	Estates Representative
Alex Coniff	BAS Estates Engineer	Estates Representative

4. Location

Name each location to be visited with a description of the area, and state whether the site has been visited before.

Location Name *(including depot sites)*	Location Description *(e.g. coastal, ice-free, glacier, open ocean etc.)*	Has the location been visited previously? *Please provide detail.*
Rothera Research Station	Runway, Runway Exclusion zones, West of the Hangar, Laydown area south of hangar, Area around the fuel farm, East station. Between OBH and runway and old wharf quarry, West station near weather haven boat sheds. These areas are all within the Rothera Research Station footprint.	Yes

5. Please provide a brief description of your project including:

1. *Proposed dates and duration of your project;*

Activities included in the RUNSUR 2022 IEE

Runway Resurfacing

The runway resurfacing works will commence upon the delivery of the runway resurfacing plant and equipment on the RRS SDA between September 2023 and December 2023. Once mobilised, the anticipated duration of works is 6 weeks.

Runway Lighting

Installed during the 22/23 season.

<u>New Activity not included in the IEE</u>

Rescreening rock to reduce moisture content.

The rescreening of rock for use in the runway resurfacing works will be undertaken during the 23/24 season near the old wharf quarry, this is the same area that was used for rock screening in the 22/23 season .

Removal of processed aggregate from the area to the south of the Hangar

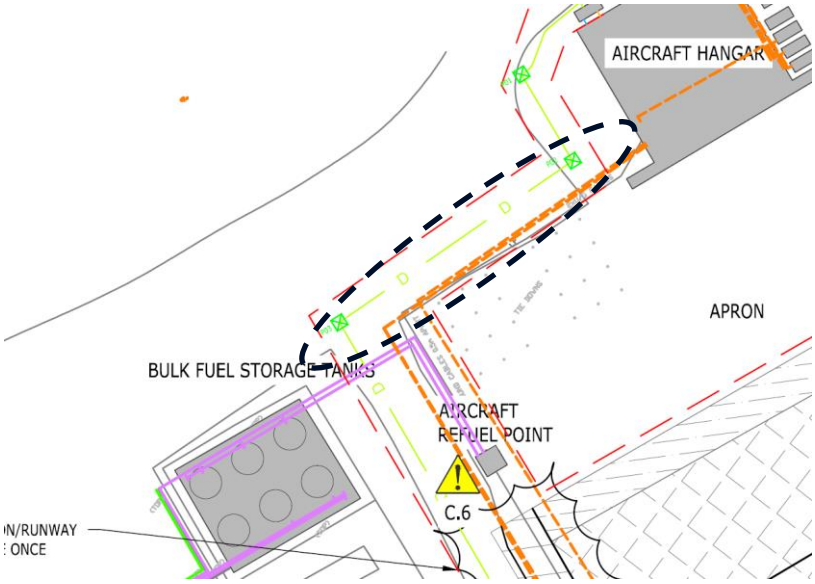
The removal of processed aggregate from the area to the south of the Hangar will be undertaken during the 23/24 season. This rock was laid in this area during the 19/20 season. The material was produced by crushing the rock blasted from the quarry adjacent to the wharf. The majority of the material is 0-80mm (Discovery backfill material), with the top 100mm layer being 0-30mm material (waste product from the crushing of the Wharf backfill). This would have been covered by the permit for the Discovery Building blasting undertaken in 2019 (12/2019-20), and under the original quarry permit for the wharf (07/2018).

Replacement of flooded ducts

Eight (8) new ducts were installed during the 22/23 season from the western side of the runway to the south of the hangar. During the 22/23 season four of the ducts flooded. These four ducts will be replaced during the 23/24 season. approx. A 70m trench will be excavated between chambers P03 and P02 and the four flooded ducts will be removed and replaced with new ducting, that has

improved seals to prevent further flooding. Thick dashed line on image below indicates the area between chambers P03 and P02 (chambers shown by green squares).

Figure 1: Duct locations



2. *Summary of the main aims (scientific of otherwise) of your project;*

Activities included in the RUNSUR 2022 IEE
Runway Resurfacing
This form covers works already covered by the RUNSUR 2022 IEE which require a Section 6 permit and some additional new works relating to RUNSUR which may require a Section 6 permit.

Runway Lighting New efficient runway lighting was installed during the 22/23 season, this season there will only be minor electrical works to fix defects. This will include fixing the sounder on the western side of the runway, installing the Northern REIL lights (all infrastructure is already installed) and some electrical work in the kiosk and the tower changing the control system (software changes).

New Activity not included in the IEE
Re-screening rock to reduce moisture content.
It is anticipated that the rock processed and stockpiled during the 22/23 season (under permit number 14/2022-23) will have frozen and therefore had an increased moisture content making it unsuitable for immediate use in the runway resurfacing works. Rescreening will allow for the material to be screened and sorted to reduce moisture content.

Removal of processed aggregate from the area to the south of the Hangar
Previously processed aggregate (under permit number 12/2019-2020 & 07/2018) was used to provide a temporary laydown area to the South of the Hangar for materials related to the Modernisation Project. This area has caused some flooding issues which impact the buildings and infrastructure. This material is to be removed to reduce the risk of further flooding. Remaining material will be reused for future maintenance of the runway . It has not yet been agreed with BAS Estates where this material will be stockpiled, but it will be tracked in stockpile management documentation,

3. *Outline of project plan (e.g., referring to locations as above, route and mode of travel, number of persons and time spent at each location);*

Activities included in the RUNSUR 2022 IEE
Runway Resurfacing
The proposed works include the complete resurfacing of the existing runway and increasing the usable runway length through the provision of an extension to the gravel surface at 0 m to -17 m chainage at the southern end of the runway and 1 m at the northern end. A turning circle will be added for aircraft to the east side at the southern end of the runway. These works will remain within the existing footprint of the runway and do not extend into the water, maximising the useable surface area of the existing runway footprint.

Runway Lighting
This consists of, Runway Entrance Lights (REL), Runway End Identifier Lighting (REIL), and (Abbreviated) Precision Approach Path Indicator ((A)PAPI). Installation of the new lights was completed in the 2022/23 season, removal of the old lights and their foundations, and minor electrical works will continue in the 2023/24 season.

New Activity not included in the IEE
Re- screening rock to reduce moisture content

The aggregate in the processed stockpiles (shown below in Figure 2 and processed under permit number 14/2022-23) will need to be transported to the wharf rock processing area and processed through a screener, which will sort the rock into various sizes and reduce the moisture content in the aggregate.

Removal of processed aggregate from the area to the south of the Hangar
The material is to be moved to the processing area near the Wharf. The material removed from the south of the Hangar will be screened and stockpiled to the west of the runway with the rest of the processed material. The material may also be re-processed i.e. undergo further crushing. It will not be known whether the material needs to be re-processed or if it can just be screened, until the material has been removed from the area and the size of the material has been assessed. This worked in planned for late January. Stockpiled material locations and quantities will be tracked in the stockpile management documentation.

Figure 2: Stockpile locations (end of 22/23 season):

The above image shows the material processed and stockpiled in the 22/23 season, this was processed under permit No. 14/2022-23.

Relocating of processed aggregate for runway verges

Approximately 500m^3 of material will be moved from the locations identified and relocated to the edges of the runway, this will be spread by a grader and compacted by a roller to provide a stop-end to minimise runway material wastage.
The material along the edges of the runway was originally processed as part of the runway construction in 1990/1991 under CEE Proposed Construction of a Crushed Rock Airstrip at Rothera Point, Adelaide Island, British Antarctic Territory (ISBN 01-85531-003-1).

4. *Details of methodology (including equipment required); and*

Activities included in the RUNSUR 2022 IEE
Runway Resurfacing

To provide sufficient material for the resurfacing, existing stockpiles of aggregate, obtained from the old wharf quarry, was processed in the 22/23 season (permit number 14/2022-23). This processed material will be used for the resurfacing works in the 23/24 season.

Current stockpile locations are described in the Post Season EIA Review for the 22/23 season. It is assumed that only the amount of rock required for the resurfacing works will be transported from the stockpiles to be used; therefore, any unused material will remain in the current stockpile location.

In-situ California Bearing Ratio (CBR)/plate bearing tests will be carried out on the exposed surface to determine the strength of the underlying soils; CBR testing can be applied to soils with a maximum particle size of 20 mm. For soils with bigger particles, plate bearing tests will be undertaken. These tests will confirm that material strength is adequate for the purposes of the runway operations by ensuring the test results are not less than 30%. Ten CBR tests will be carried out along the runway.

The existing runway top surface layer is required to be scarified to a depth of 100 mm to 350 mm (average depth of 200 mm) to get a suitable surface for the new material to bind to. Prior to starting scarifying works the top surface a stockpile of material will be transported to the construction area to ensure that in the event of an unscheduled flight landing, BAM are able to restore the runway to the required condition at short notice.

The aggregate will be placed in a series of layers, of between 20 mm to 150 mm of compacted thickness. This thickness will be controlled using a robotic dozer which will be calibrated at intervals specified by the supplier. Compaction equipment will be used then to compact the material recently laid. A Dozer/Grader will trim any excess of material and level the area, then final compaction will take place following trimming of surface. At the same time, testing of the material will be happening, as well as watering of material by bowser tractor as required.

Further details can be found in the 2022 IEE 'Initial Environmental Evaluation for Rothera Runway Resurfacing and Lighting, Site Investigation and Condition Survey Works', EIA-RAM-ZZ-ZZ-L-R-0001.

Runway Lighting
The old runway lights will be removed during the 23/24 season, this will include the REIL, PAPI lights and the old sounder and lights at the crossing point. Before removal the electrical components will be disconnected and made safe. The lights will be removed from their foundations and disposed of back in the UK, any foundations for the lights will be lifted out of place and repurposed by BAS Estates. BAS Estates will store them on station if there is no immediate use for them.
The existing vehicle crossing point will be reinstated after the runway has been resurfaced. There will be a new sounder and traffic lights positioned either side of the runway near the crossing point.

Further details can be found in the 2022 IEE 'Initial Environmental Evaluation for Rothera Runway Resurfacing and Lighting, Site Investigation and Condition Survey Works', EIA-RAM-ZZ-ZZ-L-R-0001.docx.

New Activity not included in the IEE
Re- screening rock to reduce moisture content.
During the 22/23 season it was found that the stockpiles of rock had frozen so that ice was binding the rocks together and the rocks had a high moisture content. It is anticipated that over the winter of 2023 the rock processed and stockpiled in the 22/23 season (under permit number 14/2022-23) will have frozen and will as a result also have a high moisture content, which will make it unsuitable for immediate use in the runway resurfacing works. To address this, the aggregate in the processed stockpiles will need to be transported to the wharf rock processing area and processed through a screener, which will sort the rock into various sizes and reduce the moisture content in the aggregate. This is a process that was undertaken as part of the processing work in the 22/23 season before the processed rock was stockpiled, and so mitigations for the activity are the same as those outlined in the IEE.

Removal of processed aggregate from the area to the south of the Hangar
Some previously processed aggregate was used to provide a temporary laydown area to the south of the Hangar in the 2019/2020 season for materials related to the Modernisation project. This rock was originally from the quarry adjacent to the wharf, the majority of it is 0-80 mm (Discovery backfill material) with the top 100 mm layer being 0-30 mm, material which was a waste product from crushing the wharf backfill rock (under permit number 12/2019-2020 & 07/2018).

This area is approximately 1-1.5 m above the surrounding ground level near the Hangar and the apron and has caused some flooding issues which impact on the buildings and infrastructure. Approximately 1,500m^3 of aggregate will be removed from this area and rescreened and possibly reprocessed for use on the runway as part of the runway resurfacing works, some of this material will be stockpiled for future use. This will involve an excavator digging and then grading the rock to the same level as the surrounding area, so any water naturally drains away from critical infrastructure.

The material for use on the runway will be moved to the processing area near the wharf. After screening and reprocessing, it will be stockpiled to the west of the runway with the rest of the processed material.

5. *Brief justification of the environmental impact, as applicable*

The potential for atmospheric, noise and vibration, dust, fuel/hazardous substance release, and disturbance to wildlife during the screening and removal of aggregate was identified in the 2022 IEE. These potential impacts are managed through appropriate mitigation measures as identified in the Environmental Impact Matrix (Section 5) and in the 2022 IEE.

This project will address current flooding issues on the runway by reintroducing a crossfall on the runway so that water drains away either side of the runway.

Relocating of processed aggregate for runway verges

Material will be obtained from locations identified in purple in the below image.
Approximately 500m^3 of material will be moved from the locations identified and relocated to the edges of the runway, this will be spread by a grader and compacted by a roller to provide a stop-end to minimise runway material wastage.
The material along the edges of the runway was originally processed as part of the runway construction in 1990/1991 under CEE Proposed Construction of a Crushed Rock Airstrip at Rothera Point, Adelaide Island, British Antarctic Territory (ISBN 01-85531-003-1).

Image shown the proposed locations of the sources of aggregate for the runway verges.

2. IDENTIFICATION OF POTENTIAL IMPACTS

2.1. Chemicals and Hazardous Substances

If you intend to use any chemicals, hazardous substances, radioactive material or stable isotopes you must submit a CAR form (with the associated RAs, COSHH assessments & SOPs) to the BAS Laboratory Manager for review and approval (Station/Field projects: emfi@bas.ac.uk; SDA projects: SDALabManager@bas.ac.uk).

Please also contact Kath Nicholson for advice on how to package hazardous goods and hazardous waste for shipping - kani@bas.ac.uk

2.1.1.	Do you intend to use any chemicals, radioactive material or stable isotopes likely to interact with the environment outside of the laboratory/ in the field? If so, please provide detail here (or attach a copy of your CAR form for our information only) explaining how you intend to use them and list the mitigation measures you intend to use to safeguard the environment.	**Rothera Temporary Wharf Projects – Mooring Weights**	
		No	
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
		No	
		CBR Measurements of the Runway at Rothera	
		No	
		CBR Measurements at Sky Blu	
		No	
		Friction Testing at Rothera	
		No	
		Friction Testing at Sky Blu	
		No	
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
		No	
2.1.2.	Do you intend to use any other hazardous substances e.g. paints, batteries etc.?	**Rothera Temporary Wharf Projects – Mooring Weights**	
		YES ☐	NO ☒
		Rothera Temporary Wharf Projects - CHPU Hydraulic Lines Removal	
		YES ☐	NO ☒
		CBR Measurements of the Runway at Rothera	
		YES ☐	NO ☒
		CBR Measurements at Sky Blu	
		YES ☐	NO ☒
		Friction Testing at Rothera	
		YES ☒	NO ☐
		Friction Testing at Sky Blu	

	YES ☒	NO ☐
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
	YES ☐	NO ☒
2.1.3. If so, please list substances likely to interact with the environment here and provide detail on how you intend to use them listing the mitigation measures you intend to use to safeguard the environment.	**Rothera Temporary Wharf Projects – Mooring Weights**	
	N/A	
	Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
	N/A	
	CBR Measurements of the Runway at Rothera	
	N/A	
	CBR Measurements at Sky Blu	
	N/A	
	Friction Testing at Rothera	
	Device has a lead acid battery built in. In the event of a spill, the on site spill kit will be used.	
	Friction Testing at Sky Blu	
	Device has a lead acid battery built in. In the event of a spill, the on site spill kit will be used.	
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
	N/A	

2.2 Waste Management

Please refer to the BAS Waste Management Handbook for further information on waste packaging and consignment.

2.2.1. How much waste (hazardous, radioactive and/or non-hazardous) will the project produce? ▪ *Please include approximate weights/volumes (and radioactive levels where applicable) by waste type anticipated.*	**Rothera Temporary Wharf Projects – Mooring Weights**	
	None	
	Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
	The removed pipes and any spill kit waste will be disposed of in line with BAS waste management procedures. The waste pipes will be ~20m of C-HPU pipe.	
	CBR Measurements of the Runway at Rothera	
	None	
	CBR Measurements at Sky Blu	
	None	
	Friction Testing at Rothera	
	None	
	Friction Testing at Sky Blu	
	None	

<table>
<tr><td></td><td colspan="2">AIMP RUNSUR – Runway resurfacing works in the 23/24 season</td></tr>
<tr><td></td><td colspan="2">The additional activities involve moving and rescreening rock, no waste packaging is anticipated. Any surplus processed material will be added to existing stockpiles as it states in section 6.3 of the 2022 IEE ‘All unused excavated material (except any hazardous materials) will be added to existing stockpiles for use in future projects or general station maintenance’.

The activities already included in the IEE have already been evaluated for waste (see section 6.3 of the 2022 IEE).</td></tr>
<tr><td>2.2.2. Is your project taking place on a BAS station or supported by BAS in the field?</td><td colspan="2">Rothera Temporary Wharf Projects – Mooring Weights</td></tr>
<tr><td></td><td>YES ☒ Please go to 2.2.3</td><td>NO ☐ Please go to 2.2.4</td></tr>
<tr><td></td><td colspan="2">Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal</td></tr>
<tr><td></td><td>YES ☒ Please go to 2.2.3</td><td>NO ☐ Please go to 2.2.4</td></tr>
<tr><td></td><td colspan="2">CBR Measurements of the Runway at Rothera</td></tr>
<tr><td></td><td>YES ☒ Please go to 2.2.3</td><td>NO ☐ Please go to 2.2.4</td></tr>
<tr><td></td><td colspan="2">CBR Measurements at Sky Blu</td></tr>
<tr><td></td><td>YES ☒ Please go to 2.2.3</td><td>NO ☐ Please go to 2.2.4</td></tr>
<tr><td></td><td colspan="2">Friction Testing at Rothera</td></tr>
<tr><td></td><td>YES ☒ Please go to 2.2.3</td><td>NO ☐ Please go to 2.2.4</td></tr>
<tr><td></td><td colspan="2">Friction Testing at Sky Blu</td></tr>
<tr><td></td><td>YES ☒ Please go to 2.2.3</td><td>NO ☐ Please go to 2.2.4</td></tr>
<tr><td></td><td colspan="2">AIMP RUNSUR – Runway resurfacing works in the 23/24 season</td></tr>
<tr><td></td><td>YES ☒ Please go to 2.2.3</td><td>NO ☐ Please go to 2.2.4</td></tr>
<tr><td>2.2.3. Please indicate the anticipated quantities and type(s) of waste packaging required, in particular for hazardous waste.

▪ Environment Office will review this against the standard station supply and advise whether additional waste packaging for your project is required.</td><td colspan="2">Rothera Temporary Wharf Projects – Mooring Weights</td></tr>
<tr><td></td><td colspan="2">None</td></tr>
<tr><td></td><td colspan="2">Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal</td></tr>
<tr><td></td><td colspan="2">Waste will be ~20m of C-HPU pipe.</td></tr>
<tr><td></td><td colspan="2">CBR Measurements of the Runway at Rothera</td></tr>
<tr><td></td><td colspan="2">No waste will be generated.</td></tr>
<tr><td></td><td colspan="2">CBR Measurements at Sky Blu</td></tr>
<tr><td></td><td colspan="2">No waste will be generated.</td></tr>
<tr><td></td><td colspan="2">Friction Testing at Rothera</td></tr>
<tr><td></td><td colspan="2">No waste will be generated.</td></tr>
</table>

	Friction Testing at Sky Blu	
	No waste will be generated.	
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
	No waste packaging will be required for the new activities.	
2.2.4. Is your project taking place on the *Sir David Attenborough or other NERC vessel*?	**Rothera Temporary Wharf Projects – Mooring Weights**	
	YES ☐ *Please go to 2.2.5*	NO ☒ *Please go to 2.2.6*
	Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
	YES ☐ *Please go to 2.2.5*	NO ☒ *Please go to 2.2.6*
	CBR Measurements of the Runway at Rothera	
	YES ☐ *Please go to 2.2.5*	NO ☒ *Please go to 2.2.6*
	CBR Measurements at Sky Blu	
	YES ☐ *Please go to 2.2.5*	NO ☒ *Please go to 2.2.6*
	Friction Testing at Rothera	
	YES ☐ *Please go to 2.2.5*	NO ☒ *Please go to 2.2.6*
	Friction Testing at Sky Blu	
	YES ☐ *Please go to 2.2.5*	NO ☒ *Please go to 2.2.6*
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
	YES ☐ *Please go to 2.2.5*	NO ☒ *Please go to 2.2.6*
2.2.5. Please provide the quantities and type(s) of waste packaging required, in particular for hazardous waste. • *BAS Environment Office will procure and provide the necessary waste packaging materials and ensure they are delivered to the vessel. If you do not provide any details here, you will be responsible for organising your own compliant packaging prior to boarding the ship.* • *All project waste produced on the SDA (or NERC vessels supporting BAS science) within the Antarctic should be consigned to the BAS Environmental Manager in the UK for disposal. BAS Environment Office will then organise and pay for the disposal of this waste. However, please note that radioactive waste transport and disposal costs will be charged back to the responsible project.*	**Rothera Temporary Wharf Projects – Mooring Weights**	
	N/A	
	Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
	N/A	
	CBR Measurements of the Runway at Rothera	
	N/A	
	CBR Measurements at Sky Blu	
	N/A	
	Friction Testing at Rothera	
	N/A	
	Friction Testing at Sky Blu	
	N/A	
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
	N/A	
2.2.6. If your project is logistically supported by a non-BAS Antarctic	**Rothera Temporary Wharf Projects – Mooring Weights**	

operator or non-BAS/NERC vessel, please provide further details. • *BAS Environment Office will not supply waste packaging or provide waste disposal. Please confirm that the project/operator/vessel will provide appropriate and compliant waste packaging and confirm how the waste will be disposed of in accordance with all relevant waste legislation*[4].	No
	Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
	No
	CBR Measurements of the Runway at Rothera
	No
	CBR Measurements at Sky Blu
	No
	Friction Testing at Rothera
	No
	Friction Testing at Sky Blu
	No
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season
	BAM handles construction waste separately from the general BAS station Waste. Waste will be handled in accordance to the Site Waste Management Plan (SWMP, Appendix 1 in 2022 IEE).
2.3. Oil Spill Response (for field activities only)	
2.3.1. Please confirm the type and quantity of fuel that will be taken into, used, and stored in the field.	**Rothera Temporary Wharf Projects – Mooring Weights**
	N/A
	Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
	N/A
	CBR Measurements of the Runway at Rothera
	N/A
	CBR Measurements at Sky Blu
	The project will use AVTUR fuel currently located at Sky Blu. All Oil Spill Response procedures take place in accordance with the Oil Spill Contingency Plan for Sky Blu.
	Friction Testing at Rothera
	N/A
	Friction Testing at Sky Blu
	The project will use Petrol currently located at Sky Blu. All Oil Spill Response procedures take place in accordance with the Oil Spill Contingency Plan for Sky Blu.
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season
	N/A

[4] Waste (England and Wales) (Amendment) Regulations 2012, The Duty of Care Regulations 1991, and the Hazardous Waste (England and Wales) (Amendment) Regulations 2009. These regulations affect the packaging, containment, storage, transportation and disposal of waste from source to final disposal. This includes transportation from the UK port, where the waste is offloaded from the ship, and to the waste disposal site.

2.3.2.	Please confirm that you have discussed your field fuel needs and requirement for spill kits with the BAS Field Operations Manager. All field parties must be familiar with the BAS fuel spill protocols.	**Rothera Temporary Wharf Projects – Mooring Weights**
		YES ☐
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		YES ☐
		CBR Measurements of the Runway at Rothera
		YES ☐
		CBR Measurements at Sky Blu
		YES ☒
		Friction Testing at Rothera
		YES ☐
		Friction Testing at Sky Blu
		YES ☒
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		YES ☐

2.3 Deployment and Installation of Equipment

2.4.1.	Do you intend to install or deploy any equipment in the field or ocean (including data loggers/markers on animals, moorings, gliders, etc.)?	**Rothera Temporary Wharf Projects – Mooring Weights**	
		YES ☒ *Please complete questions 3.4.2 – 3.4.6.*	NO ☐ *Please go to 2.5*
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
		YES ☐ *Please complete questions 3.4.2 – 3.4.6.*	NO ☒ *Please go to 2.5*
		CBR Measurements of the Runway at Rothera	
		YES ☐ *Please complete questions 3.4.2 – 3.4.6.*	NO ☒ *Please go to 2.5*
		CBR Measurements at Sky Blu	
		YES ☐ *Please complete questions 3.4.2 – 3.4.6.*	NO ☒ *Please go to 2.5*
		Friction Testing at Rothera	
		YES ☐ *Please complete questions 3.4.2 – 3.4.6.*	NO ☒ *Please go to 2.5*
		Friction Testing at Sky Blu	
		YES ☐ *Please complete questions 3.4.2 – 3.4.6.*	NO ☒ *Please go to 3.5*
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season	

		YES ☐ *Please complete questions 3.4.2 – 3.4.6.*	NO ☒ *Please go to 3.5*
2.4.2.	Provide a brief description of the equipment including details of the materials, dimensions, weight, and any hazardous substances such as batteries or oils.	**Rothera Temporary Wharf Projects – Mooring Weights**	
		6x cut-off drums (~1/3), filled with concrete, encased in this are steel rebar struts, providing and anchor point for mooring line. Thick metal wire running up from the rebar. This will be connected to the existing wharf structure. The drums will hang under the water, but they will not be fixed to anything under the water. The weights will sit on the seabed. Estimated volume of mooring weight: 70L Estimated weight: <200 kg	
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
		N/A	
		CBR Measurements of the Runway at Rothera	
		N/A	
		CBR Measurements at Sky Blu	
		N/A	
		Friction Testing at Rothera	
		N/A	
		Friction Testing at Sky Blu	
		N/A	
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
		N/A	
2.4.3.	Provide a brief summary of the location where equipment will be installed or deployed (including coordinates).	**Rothera Temporary Wharf Projects – Mooring Weights**	
		East, South, and West face of the Rothera Wharf, adjacent to the pilot ladders. Two mooring weights for each launching point.	
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
		N/A	
		CBR Measurements of the Runway at Rothera	
		N/A	
		CBR Measurements at Sky Blu	
		N/A	
		Friction Testing at Rothera	
		N/A	
		Friction Testing at Sky Blu	
		N/A	
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
		N/A	

2.4.4.	Provide details of how the equipment will be labelled and referenced (equipment should be easily identifiable as science instrumentation and be able to be traced back to the organisation or project).	**Rothera Temporary Wharf Projects – Mooring Weights**
		N/A
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		N/A
		CBR Measurements of the Runway at Rothera
		N/A
		CBR Measurements at Sky Blu
		N/A
		Friction Testing at Rothera
		N/A
		Friction Testing at Sky Blu
		N/A
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		N/A
2.4.5.	Describe how and when the equipment is to be maintained and removed. Confirm if funding and operational support is in place for your retrieval plans. *If any of the equipment you deploy in the field or ocean is lost or cannot be retrieved as planned you will need to report this at the time of the incident on Maximo[5] and to the Environment Office on the EIA Post Season Questionnaire.*	**Rothera Temporary Wharf Projects – Mooring Weights**
		The aim is to permanently deploy the equipment as it serves an operational purpose. The weights and lines will be checked regularly by the boating team and maintained as needed (replacement of strops etc.). If the weights are deemed to have reached the end of their life (likely after at least 10 years) they will be recovered (assisted by divers if needed) and disposed of in accordance with the waste management handbook.
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		N/A
		CBR Measurements of the Runway at Rothera
		N/A
		CBR Measurements at Sky Blu
		N/A
		Friction Testing at Rothera
		N/A
		Friction Testing at Sky Blu
		N/A

[5] Maximo is the BAS Incident Reporting System

		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		N/A
2.4.6.	Is the intention for any of your equipment to remain in the field/ocean permanently (e.g. mooring anchors, buried seismic conduits, etc.)? If, so please detail the equipment to be left behind intentionally and explain why it cannot be retrieved.	**Rothera Temporary Wharf Projects – Mooring Weights**
		Yes. The weights will be used as mooring weights with the aim to leave them deployed permanently. This increases safety when launching and retrieving small boats at Rothera. It is not feasible or meaningful to retrieve the weights regularly. The aim is to maintain the cables running up from the weights as and when needed.
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		N/A
		CBR Measurements of the Runway at Rothera
		N/A
		CBR Measurements at Sky Blu
		N/A
		Friction Testing at Rothera
		N/A
		Friction Testing at Sky Blu
		N/A
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		N/A
2.5. Remotely Piloted Aircraft Systems (RPAS) or other remotely operated marine or terrestrial vehicles (ROVs) RPAS includes drones, quadcopters or any remotely operated or autonomous aircraft whether rotary or fixed wing. If you are operating RPAS contact Carl Robinson for further advice – carob@bas.ac.uk.		
2.5.1.	Does the project intend to utilise RPAS or other remotely operated marine or terrestrial vehicles? If so, please provide detail including the size, make, model and operating capacity (e.g. maximum wind resilience, flight time, fail safes, etc.)	**Rothera Temporary Wharf Projects – Mooring Weights**
		No
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		No
		CBR Measurements of the Runway at Rothera
		No
		CBR Measurements at Sky Blu
		No
		Friction Testing at Rothera
		No
		Friction Testing at Sky Blu
		No
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		No

2.5.2.	Does the project involve Beyond Visual Line of Sight (BVLOS) operations for RPAS? If so, please provide details. **This will require review by the Air Unit.**	**Rothera Temporary Wharf Projects – Mooring Weights**
		N/A
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		N/A
		CBR Measurements of the Runway at Rothera
		N/A
		CBR Measurements at Sky Blu
		N/A
		Friction Testing at Rothera
		N/A
		Friction Testing at Sky Blu
		N/A
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		N/A
2.5.3.	Describe the location in which the RPAS/ ROV will be operated (e.g. off a ship, deep field, near a station, over wildlife, etc.)	**Rothera Temporary Wharf Projects – Mooring Weights**
		N/A
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		N/A
		CBR Measurements of the Runway at Rothera
		N/A
		CBR Measurements at Sky Blu
		N/A
		Friction Testing at Rothera
		N/A
		Friction Testing at Sky Blu
		N/A
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		N/A
2.5.4.	Do you require BAS Ops to provide the RPAS/ ROV and/or pilot? If so, contact Carl Robinson to coordinate the request and confirm here that you have done so.	**Rothera Temporary Wharf Projects – Mooring Weights**
		N/A
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		N/A
		CBR Measurements of the Runway at Rothera
		N/A
		CBR Measurements at Sky Blu

		N/A
		Friction Testing at Rothera
		N/A
		Friction Testing at Sky Blu
		N/A
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		N/A
2.5.5.	Do you intend to provide your own RPAS/ ROV and/or pilot?	**Rothera Temporary Wharf Projects – Mooring Weights**
		N/A
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		N/A
		CBR Measurements of the Runway at Rothera
		N/A
		CBR Measurements at Sky Blu
		N/A
		Friction Testing at Rothera
		N/A
		Friction Testing at Sky Blu
		N/A
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		N/A
2.5.6.	Confirm the names of all the pilots/vehicle operators.	**Rothera Temporary Wharf Projects – Mooring Weights**
		N/A
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		N/A
		CBR Measurements of the Runway at Rothera
		N/A
		CBR Measurements at Sky Blu
		N/A
		Friction Testing at Rothera
		N/A
		Friction Testing at Sky Blu
		N/A
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		N/A

2.5.7.	Detail number of hours flown in the last 3 months and number of hours in total flown on proposed platform.	**Rothera Temporary Wharf Projects – Mooring Weights**
		N/A
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		N/A
		CBR Measurements of the Runway at Rothera
		N/A
		CBR Measurements at Sky Blu
		N/A
		Friction Testing at Rothera
		N/A
		Friction Testing at Sky Blu
		N/A
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		N/A
2.5.8.	Do the pilots hold a General Visual Line of Sight Certificate (GVC) or equivalent? Please provide details of qualifications held.	**Rothera Temporary Wharf Projects – Mooring Weights**
		N/A
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		N/A
		CBR Measurements of the Runway at Rothera
		N/A
		CBR Measurements at Sky Blu
		N/A
		Friction Testing at Rothera
		N/A
		Friction Testing at Sky Blu
		N/A
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		N/A
2.5.9.	Please confirm you have read and will commit to follow the BAS Regulations on RPAS use in Antarctica.	**Rothera Temporary Wharf Projects – Mooring Weights**
		YES ☐
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		YES ☐
		CBR Measurements of the Runway at Rothera
		YES ☐
		CBR Measurements at Sky Blu

	YES ☐
	Friction Testing at Rothera
	YES ☐
	Friction Testing at Sky Blu
	YES ☐
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season
	YES ☐
2.6 Construction and Maintenance Work	
2.6.1. Do you intend to import natural materials to Antarctica (e.g. untreated wood, aggregate, sand etc.)? Provide details of type, quantity and from where the materials will be sourced. Please refer to Section 4.4 of the BAS Biosecurity Regulations and discuss with Environment Office as appropriate.	**Rothera Temporary Wharf Projects – Mooring Weights**
	No
	Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
	No
	CBR Measurements of the Runway at Rothera
	No
	CBR Measurements at Sky Blu
	No
	Friction Testing at Rothera
	No
	Friction Testing at Sky Blu
	No
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season
	No
2.6.2. Will the work require concrete mixing on site? Provide details of the expected quantity and working methods.	**Rothera Temporary Wharf Projects – Mooring Weights**
	No, the concreting already took place in the 22/23 season and some old mooring weights are being reused.
	Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
	N/A
	CBR Measurements of the Runway at Rothera
	N/A
	CBR Measurements at Sky Blu
	N/A
	Friction Testing at Rothera
	N/A
	Friction Testing at Sky Blu
	N/A

		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		Grouting around some of the precast concrete chambers will be required. Mixing of grout will be undertaken in a designated enclosed container by the BAM fitters workshop. Waters will be captured and neutralised with citric acid, before being discharged to the west of the BAM Fitters Workshop. This is as described in the 2022 IEE (Section 10.4.4).
2.6.3.	Will the project require the removal of any asbestos? Provide details of the expected quantity.	**Rothera Temporary Wharf Projects – Mooring Weights**
		No
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		No
		CBR Measurements of the Runway at Rothera
		No
		CBR Measurements at Sky Blu
		No
		Friction Testing at Rothera
		No
		Friction Testing at Sky Blu
		No
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		No
2.6.4.	Do you anticipate the alteration, removal or destruction of equipment, buildings or structures (or parts of buildings or structures) that may be considered to have heritage value?	**Rothera Temporary Wharf Projects – Mooring Weights**
		No
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		No
		CBR Measurements of the Runway at Rothera
		No
		CBR Measurements at Sky Blu
		No
		Friction Testing at Rothera
		No
		Friction Testing at Sky Blu
		No
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		No
2.7	**Biosecurity**	
		Rothera Temporary Wharf Projects – Mooring Weights

2.7.1.	Please confirm that you have familiarised yourself with the biosecurity guidance provided by BAS in the Biosecurity Regulations and by SCAR in the Environmental code of conduct for terrestrial scientific field research in Antarctica.	YES ☒ **Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal** YES ☒ **CBR Measurements of the Runway at Rothera** YES ☒ **CBR Measurements at Sky Blu** YES ☒ **Friction Testing at Rothera** YES ☒ **Friction Testing at Sky Blu** YES ☒ **AIMP RUNSUR – Runway resurfacing works in the 23/24 season** YES ☒
2.7.2.	Do you intend to move terrestrial or marine specimens, including unfixed biological samples, soils, sediments, rocks, or other mineral resources between different areas of Antarctica (including returning materials to research stations)? If 'yes', please describe the precautions you will take to prevent the transfer/release of indigenous species between distinct Antarctic Conservation Biogeographic Regions[6] (ACBRs) or between Antarctic and sub-Antarctic locations.	**Rothera Temporary Wharf Projects – Mooring Weights** No **Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal** No **CBR Measurements of the Runway at Rothera** No **CBR Measurements at Sky Blu** No **Friction Testing at Rothera** No **Friction Testing at Sky Blu** No **AIMP RUNSUR – Runway resurfacing works in the 23/24 season** No, processed rock which was stockpiled in the 22/23 season (under permit number 14/2022-23) will be rescreened, which will require the rock to be moved from the stockpiles on the western side of the runway to the screener near the wharf. The aggregate will then be used for resurfacing the runway. This movement of rock will all be within Rothera Research Station. No material will enter or leave the station.
2.8. Sensitive sites with restrictions or guidelines		

[6] Note: On 'Antarctic Conservation Biogeographic Regions' select 'Antarctic conservation biogeographic areas' from the 'Layer List' at the top right hand corner symbol, to see the ACBRs displayed.

2.8.1.	Do you intend to visit any CCAMLR registered Vulnerable Marine Ecosystems (VMEs), CCAMLR Ecosystem Monitoring Programme (CEMP) Site(s) or Marine Protected Areas (MPAs)[7]? Please provide details.	**Rothera Temporary Wharf Projects – Mooring Weights**
		No
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		No
		CBR Measurements of the Runway at Rothera
		No
		CBR Measurements at Sky Blu
		No
		Friction Testing at Rothera
		No
		Friction Testing at Sky Blu
		No
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		No
2.8.2.	Do you intend to visit any Important Bird Areas (IBAs)? Please provide details.	**Rothera Temporary Wharf Projects – Mooring Weights**
		No
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		No
		CBR Measurements of the Runway at Rothera
		No
		CBR Measurements at Sky Blu
		No
		Friction Testing at Rothera
		No
		Friction Testing at Sky Blu
		No
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		No
2.8.3.	Do you intend to visit any Antarctic Specially Managed Areas (ASMAs)? Please provide details.	**Rothera Temporary Wharf Projects – Mooring Weights**
		No
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal

[7] Geographic details (positions, area) of these sites can be viewed in the CCAMLR GIS (select the appropriate designation(s) from the layers list on the left-hand side.

		No
		CBR Measurements of the Runway at Rothera
		No
		CBR Measurements at Sky Blu
		No
		Friction Testing at Rothera
		No
		Friction Testing at Sky Blu
		No
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		No
2.8.4.	Do you intend to visit any of the most visited locations in Antarctica (excluding research stations) as identified by the Antarctic Treaty System? Please confirm which locations you will visit and that you have read and understood the associated Visitor Site Guidelines.	**Rothera Temporary Wharf Projects – Mooring Weights**
		No
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal
		No
		CBR Measurements of the Runway at Rothera
		No
		CBR Measurements at Sky Blu
		No
		Friction Testing at Rothera
		No
		Friction Testing at Sky Blu
		No
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season
		No

3. IDENTIFICATION OF SPECIALIST ACTIVITIES IN ANTARCTICA

Specialist activities in Antarctica are prohibited without issue of a specialist activity permit under the Antarctic Act 1994; 2013 (Sections 6-10):

- Mineral resource activities (Section 6 permit)
- Disturbance/harmful interaction with fauna and damage to flora (Section 7 permit)
- Introduction of non-native species (Section 8 permit)
- Entry into protected areas (Section 9 permit)
- Damage or disturbance of Historic Sites and Monuments (Section 10 permit)

Specialist Activity Permits may be issued by the UK Foreign, Commonwealth and Development Office or by the BAS Director under delegated authority in accordance with the UK Antarctic Act (1994; 2013) or by another competent authority. The BAS Environment Office will advise you upon review of your application.

3.1. Do you intend to undertake any of the following specialist activities in Antarctica? If you answer 'yes' to any of the below questions please also complete parts 4, 5 and 6 of this form. If you answered 'no' to all of the below questions, you only need to complete parts 4 and 6.

3.1.1. Do you intend to undertake any of the following mineral resource activities? a. Drill, dredge or excavate for mineral resources; or b. Collect/use any samples of mineral resources; or c. Do anything else for the purpose of identifying specific mineral resource occurrences or deposits.	**Rothera Temporary Wharf Projects – Mooring Weights**		
	YES ☐	NO ☒	
	Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal		
	YES ☐	NO ☒	
	CBR Measurements of the Runway at Rothera		
	YES ☐	NO ☒	
	CBR Measurements at Sky Blu		
	YES ☐	NO ☒	
	Friction Testing at Rothera		
	YES ☐	NO ☒	
	Friction Testing at Sky Blu		
	YES ☐	NO ☒	
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season		
	YES ☒	NO ☐	
3.1.2. Do you intend to sample, capture, kill or harmfully interfere with any marine or terrestrial flora or fauna (including invertebrates)?	**Rothera Temporary Wharf Projects – Mooring Weights**		
	YES ☐	NO ☒	
	Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal		
	YES ☐	NO ☒	
	CBR Measurements of the Runway at Rothera		
	YES ☐	NO ☒	
	CBR Measurements at Sky Blu		
	YES ☐	NO ☒	

		Friction Testing at Rothera	
		YES ☐	NO ☒
		Friction Testing at Sky Blu	
		YES ☐	NO ☒
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
		YES ☐	NO ☒
3.1.3.	Do you intend to take to the Antarctic any non-sterile soil or non-native marine or terrestrial animal, plant, microorganism, seed or other propagule?	**Rothera Temporary Wharf Projects – Mooring Weights**	
		YES ☐	NO ☒
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
		YES ☐	NO ☒
		CBR Measurements of the Runway at Rothera	
		YES ☐	NO ☒
		CBR Measurements at Sky Blu	
		YES ☐	NO ☒
		Friction Testing at Rothera	
		YES ☐	NO ☒
		Friction Testing at Sky Blu	
		YES ☐	NO ☒
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
		YES ☐	NO ☒
3.1.4.	Do you intend to visit any Antarctic Specially Protected Areas (ASPAs)?	**Rothera Temporary Wharf Projects – Mooring Weights**	
		YES ☐	NO ☒
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
		YES ☐	NO ☒
		CBR Measurements of the Runway at Rothera	
		YES ☐	NO ☒
		CBR Measurements at Sky Blu	
		YES ☐	NO ☒
		Friction Testing at Rothera	
		YES ☐	NO ☒
		Friction Testing at Sky Blu	
		YES ☐	NO ☒
		AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
		YES ☐	NO ☒
3.1.5.	Do you intend to damage or disturb Historic Sites and Monuments and/or their artefacts?	**Rothera Temporary Wharf Projects – Mooring Weights**	
		YES ☐	NO ☒
		Rothera Temporary Wharf Projects – C-HPU Hydraulic Lines Removal	
		YES ☐	NO ☒
		CBR Measurements of the Runway at Rothera	
		YES ☐	NO ☒
		CBR Measurements at Sky Blu	

	YES ☐	NO ☒
	Friction Testing at Rothera	
	YES ☐	NO ☒
	Friction Testing at Sky Blu	
	YES ☐	NO ☒
	AIMP RUNSUR – Runway resurfacing works in the 23/24 season	
	YES ☐	NO ☒

4. ENVIRONMENTAL IMPACT MATRIX

Science and Logistical Activities Undertaken as Part of the Project. *e.g. collection of samples, deployment of monitoring equipment, storage/ handling of fuels and chemicals, waste production and camping*	**Identify Possible Impacts - Direct, Residual and/or Cumulative**[8]	**Mitigating Measures** *Please provide details of the mitigation measures you intend to implement to ensure that **negative impacts are minimised or avoided**.*
Weighted Moorings - Deployment of Mooring Weights	*Direct/Indirect/Cumulative* - Introduction of foreign material to the sea, corrosion of rebar struts, degradation of concrete, critical failure of mooring weight and loss to sea.	The structure will be regularly checked for integrity when deploying and retrieving boats. Should it be suspected that the structure is damaged, a dive/ROV survey can be carried out to check the underwater part of the structure. The structure will be deployed carefully to mitigate any early damage that might cause early degradation. Anticipated lifetime is around 10 years, regular inspections will ensure useful life is monitored. The weights will only be used for small boats, to minimise wear and tear and avoid improper use. The loss/failure of any equipment will be reported in Maximo. Consideration for entanglement of marine life: The area is regularly scoured by icebergs and therefore does not host much sessile life. The mooring line would sit within less than 1 foot distance of the wharf wall and so it is not anticipated that large marine mammals would swim in this area and become trapped. If any animals were found to be compromised by the lines, trained people would follow the animal interaction handbook and this would be reported to the environment office.
	Direct/Cumulative – The generation of noise and vibration during transportation of mooring weights.	*Noise and vibration during the transportation of the mooring weights will be managed using the following mitigation measures:* • *Vehicles and equipment are to be well maintained;* • *Consideration of noise and vibration impact on all wildlife will be considered;* • *Mooring weights are to be stored appropriately in any vehicle; and* • *The site speed limit of 10mph will be adhered to.*
	Direct – The generation of vibration on placement of the mooring weights on the seabed.	*Vibration generated during the placement of mooring weights will be managed using the following mitigation measures:* • Should vibration exceed limits identified in the IEE, the activity will be suspended until an assessment of the impacts on sensitive receptors can be made.

[8] Direct impacts of your activities on flora, fauna, air quality, water quality (fresh and marine), geology, soils, permanent ice, noise levels or cultural heritage. Residual impacts once your project is complete such as leaving equipment in the field longer term, permanent removal of samples from the field, and impacts on the value of the locality for future science. Cumulative impacts: If you are aware of any other projects or activities in the past, present or foreseeable future then these could, combined with your proposed project, result in a significant environmental impact.

Science and Logistical Activities Undertaken as Part of the Project. *e.g. collection of samples, deployment of monitoring equipment, storage/ handling of fuels and chemicals, waste production and camping*	**Identify Possible Impacts - Direct, Residual and/or Cumulative[8]**	**Mitigating Measures** *Please provide details of the mitigation measures you intend to implement to ensure that **negative impacts are minimised or avoided**.*
		• The area will be assessed for the presence of vibration-sensitive marine life prior to the deployment of the weights
	Indirect/Cumulative - Non-native species introduction	The project will use equipment already at Rothera. This equipment would have been subject to the compliance with the BAS Biosecurity Regulations (2021) when it was shipped to the continent.
CHPU Fixed Lines Replacement - Removing pipes – potential handling of a very minimal amount of waste oil but this will be easily collected and disposed of correctly	*Direct/Cumulative* - Very small chance of an Oil Spill occurring.	Oil Spill Kits on hand and ready to deploy if necessary. Spill kits are kept in every vehicle and the Oil Spill container is positioned on the wharf. *Potential oil spills will be managed using the following mitigation measures:* • Equipment and vehicles will be well maintained; and • All plant will be inspected daily for potential leaks.
	Direct/Cumulative – Physical or Mechanical Disturbance on land.	• Piping is above ground, so ground disturbance is not anticipated. However, if contamination to the ground is observed, spill procedures will be followed in accordance with the BAS Oil Spill Contingency Plan. • Waste to be stored in the appropriate storage method; and • The BAS Waste Management Handbook will be followed.
	Indirect/Cumulative - Non-native species introduction	The project will use equipment already at Rothera. This equipment would have been subject to the compliance with the BAS Biosecurity Regulations (2021) when it was shipped to the continent.
CBR Testing at Rothera - Driving a vehicle up and down the Rothera gravel runway.	*Direct/Cumulative* - Fuel spill associated with vehicle.	Refuelling of Volvo L180H wheeled loader will be undertaken by trained staff who have been briefed on the locations and contents of the oil spill response kits at Rothera by the staff stationed at Rothera. Oil spill response will be undertaken in accordance with the OSCP for Rothera. A small spill kit consisting of a spill mat, pig putty and nitrile gloves in a zip lock bag will be carried in the Volvo.
	Direct/Cumulative – Atmospheric Emissions from Vehicle.	*Atmospheric Emissions will be managed using the following mitigation measures:* • Ensure that all operations will be as efficient as possible to reduce excess fuel use; and • Where practical, all drivers will be instructed to turn off engines during periods of waiting for 15 minutes or more.
	Direct/Cumulative – The potential to impact local wildlife.	*Potential to impact local wildlife will be managed using the following mitigation measure:*

Science and Logistical Activities Undertaken as Part of the Project. *e.g. collection of samples, deployment of monitoring equipment, storage/ handling of fuels and chemicals, waste production and camping*	**Identify Possible Impacts - Direct, Residual and/or Cumulative[8]**	**Mitigating Measures** *Please provide details of the mitigation measures you intend to implement to ensure that **negative impacts are minimised or avoided**.*
		All vehicles will be inspected, and wheels checked for the presence of seals and penguins before engines are started. If animals have to be moved, only trained people will do this in accordance with the Wildlife Interaction Manual, any animal interactions will be recorded.
	Indirect/Cumulative - Non-native species introduction	The project will use equipment already at Rothera. This equipment would have been subject to the compliance with the BAS Biosecurity Regulations (2021) when it was shipped to the continent.
CBR testing at Sky Blu - Driving a vehicle up and down the Sky Blu ice runway.	*Direct/Cumulative* - Fuel spill associated with vehicle.	Refuelling of CAT 247B will be undertaken by trained staff who have been briefed on the locations and contents of the oil spill response kits at Sky Blu by the staff stationed at Sky Blu. Oil spill response will be undertaken in accordance with the OSCP for Sky Blu. Any waste will be handled according to the BAS Waste Management Handbook. A small spill kit consisting of a spill mat, pig putty and nitrile gloves in a zip lock bag will be carried in the CAT 247B.
	Direct/Cumulative – Atmospheric Emissions from Vehicle.	*Atmospheric Emissions will be managed using the following mitigation measures:* • Ensure that all operations at will be as efficient as possible to reduce excess fuel use; and • Where practical, all drivers will be instructed to turn off engines during periods of waiting for 15 minutes or more.
	Direct/Cumulative – The potential to impact local wildlife.	*Potential to impact local wildlife will be managed using the following mitigation measure:* • All vehicles will be inspected, and wheels checked for the presence of seals and penguins before engines are started. If animals have to be moved, only trained people will do this in accordance with the Wildlife Interaction Manual, any animal interactions will be recorded.
	Indirect/Cumulative - Non-native species introduction	The project will use equipment already at Rothera or Sky-Blu. This equipment would have been subject to the compliance with the BAS Biosecurity Regulations (2021) when it was shipped to the continent. If vehicles and equipment are being moved between Rothera and Sky Blu, appropriate biosecurity checks will be completed prior to moving, to reduce the risk of inter-site transfer.
Friction Testing at Rothera - Driving a vehicle up and down the Rothera gravel runway.	*Direct/Cumulative* - Fuel spill associated with vehicle.	Refuelling of quad bike will be undertaken by trained staff who have been briefed on the locations and contents of the oil spill response kits at Rothera by the staff stationed at Rothera. Oil spill response will be undertaken in accordance with the OSCP for Rothera. Any waste will be handled in accordance with the BAS Waste Management Handbook.
	Direct/Cumulative – Atmospheric Emissions from Vehicle.	*Atmospheric Emissions will be managed using the following mitigation measures:* • Ensure that all operations at will be as efficient as possible to reduce excess fuel use; and

Science and Logistical Activities Undertaken as Part of the Project. *e.g. collection of samples, deployment of monitoring equipment, storage/ handling of fuels and chemicals, waste production and camping*	**Identify Possible Impacts - Direct, Residual and/or Cumulative**[8]	**Mitigating Measures** *Please provide details of the mitigation measures you intend to implement to ensure that **negative impacts are minimised or avoided**.*
		• Where practical, all drivers will be instructed to turn off engines during periods of waiting for 15 minutes or more.
	Direct/Cumulative – The potential to impact local wildlife.	*Potential to impact local wildlife will be managed using the following mitigation measure:* • All vehicles will be inspected, and wheels checked for the presence of seals and penguins before engines are started. If animals have to be moved, only trained people will do this in accordance with the Wildlife Interaction Manual, any animal interactions will be recorded.
	Indirect/Cumulative - Non-native species introduction	The project will use equipment already at Rothera. This equipment would have been subject to the compliance with the BAS Biosecurity Regulations (2021) when it was shipped to the continent.
Friction Testing at Sky Blu - Driving a vehicle up and down the Sky Blu ice runway.	Fuel spill associated with vehicle.	Refuelling of quad bike will be undertaken by trained staff who have been briefed on the locations and contents of the oil spill response kits at Sky Blu by the staff stationed at Sky Blu. Oil spill response will be undertaken in accordance with the OSCP for Sky Blu. Any waste will be handled in accordance with the BAS Waste Management Handbook. In the event of a spill, spill kit from a nearby vehicle or from the garage will be used.
	Direct/Cumulative – Atmospheric Emissions from Vehicle.	*Atmospheric Emissions will be managed using the following mitigation measures:* • Ensure that all operations at will be as efficient as possible to reduce excess fuel use; and • Where practical, all drivers will be instructed to turn off engines during periods of waiting for 15 minutes or more.
	Direct/Cumulative – The potential to impact local wildlife.	*Potential to impact local wildlife will be managed using the following mitigation measure:* • All vehicles will be inspected, and wheels checked for the presence of seals and penguins before engines are started. If animals have to be moved, only trained people will do this in accordance with the Wildlife Interaction Manual, any animal interactions will be recorded.
	Indirect/Cumulative - Non-native species introduction	The project will use equipment already at Rothera or Sky-Blu. This equipment would have been subject to the compliance with the BAS Biosecurity Regulations (2021) when it was shipped to the continent. However, if vehicles or equipment are being moved between Rothera and Sky-Blu appropriate biosecurity checks will be made prior to moving, to reduce the risk of inter-site transfer.
AIMP RUNSUR – Runway resurfacing works in the 23/24 season **- Moving of aggregate**	*Direct/Indirect/Cumulative* – Atmospheric	*Atmospheric emissions will be managed using the following mitigation measures:* • Ensure that all operations at Rothera are as efficient as possible to reduce excess fuel use;

Science and Logistical Activities Undertaken as Part of the Project. *e.g. collection of samples, deployment of monitoring equipment, storage/ handling of fuels and chemicals, waste production and camping*	**Identify Possible Impacts - Direct, Residual and/or Cumulative[8]**	**Mitigating Measures** *Please provide details of the mitigation measures you intend to implement to ensure that **negative impacts are minimised or avoided**.*
from stockpiles, Screening and processing existing aggregate, layering aggregate on runway, and preparing runway surface.		• Generators and plant will be selected which balance efficiency and reduced emissions, with reliability, serviceability, and available fuel at Rothera; • Regular inspection and maintenance will be carried out to ensure all vehicles, plant and generators operate efficiently, as per the BAM Plant Management Plan; • Where practical, all drivers will be instructed to turn off engines during periods of waiting for 15 minutes or more; • No mitigation has been provided for the emissions associated with the production of any construction materials required for the proposed activities. However, the AIMP Sustainability Strategy encourages the selection of materials with a lower embodied carbon; • Due to the limited number of beds and environmental impacts of transport to Rothera, only staff essential to the proposed works will be deployed to Rothera; • 10 mph speed limit maintained and enforced on site, as is standard procedure for all vehicles at Rothera; • Plant items will be positioned to ensure exhaust outlets point away from sensitive receptors; • Weather forecasting and planning activities; • Changes to the locations used for any activities are to be agreed with BAS Operations, the BAS Environment Office and FCDO; • Grout mixing will be undertaken in an enclosed designated container next to the BAM Fitters Workshop. Wash waters will be collected and neutralised with citric acid, before being disposed of to the west of the BAM Fitters Workshop.
	Direct/Indirect/Cumulative – Noise	*Noise will be managed using the following mitigation measures:* • Regular maintenance of all plant and vehicles to ensure they are working efficiently and generating as little noise as possible; • Minimise double handling of materials to reduce the overall number of tipping actions; • 10 mph speed limit maintained and enforced on site, as is standard procedure for all vehicles at Rothera; • Regular inspection and maintenance will be carried out to ensure all vehicles, plant and generators operate efficiently, as per the BAM Plant Management Plan; and • Where practical, all drivers will be instructed to turn off engines during periods of waiting for 15 minutes or more. • Noise will be monitored at the environmental monitoring stations in accordance with the 2022 IEE. If a threshold is exceeded the environment office will be notified, the activity stopped, and a mitigation put in place to reduce the noise impact.

Science and Logistical Activities Undertaken as Part of the Project. *e.g. collection of samples, deployment of monitoring equipment, storage/ handling of fuels and chemicals, waste production and camping*	**Identify Possible Impacts - Direct, Residual and/or Cumulative[8]**	**Mitigating Measures** *Please provide details of the mitigation measures you intend to implement to ensure that **negative impacts are minimised or avoided**.*
	Direct/Indirect/Cumulative – Dust	*Dust will be managed using the following mitigation measures:* • Where practicable, keep activities which create dust downwind of sensitive receptors and avoid close proximity to known vegetation and ice locations; • All routes used by vehicles and plant will be well maintained and have compacted surfaces; • Limit the drop height of materials during stockpiling, processing, and loading operations; • Minimise double handling of materials to reduce the overall number of tipping actions; • 10 mph speed limit maintained and enforced on site, as is standard procedure for all vehicles at Rothera; and • Weather forecasting and planning activities. • Dust will be monitored at the environmental monitoring stations in accordance with the 2022 IEE. If a threshold is exceeded the environment office will be notified, the activity stopped, and a mitigation put in place to reduce the dust generated.
	Direct/Indirect/Cumulative – Light	*Light will be managed using the following mitigation measure:* • Undertake works during daylight hours as far as reasonably possible, and minimise the use and intensity of lighting during low light hours as far as reasonably possible; • If required, lighting rigs to be angled towards the ground, not horizontally; • In the event of a bird strike, as per the BAS Wildlife Interaction Manual (Appendix 4), a suitably trained bird strike response staff member will take charge of the bird's care; and • Lights will be switched off immediately if more than five bird strikes occur in one period of works; • All bird strikes will be recorded on Maximo for monitoring and management purposes.
	Direct/Indirect/Cumulative - Physical Presence, Physical or Mechanical Disturbance on land, e.g wildlife.	*Physical Presence, Physical or Mechanical Disturbance on land will be managed using the following mitigation measures:* • Changes to the locations used for any activities are to be agreed with BAS Operations, the BAS Environment Office and FCDO; and • All staff will receive pre-deployment and on-station briefings regarding wildlife viewing and working close to wildlife.

Science and Logistical Activities Undertaken as Part of the Project. *e.g. collection of samples, deployment of monitoring equipment, storage/ handling of fuels and chemicals, waste production and camping*	**Identify Possible Impacts - Direct, Residual and/or Cumulative**[8]	**Mitigating Measures** *Please provide details of the mitigation measures you intend to implement to ensure that **negative impacts are minimised or avoided**.*
	Direct/Indirect/Cumulative - Fuel or Hazardous substance release	*Fuel or Hazardous substance release will be managed using the following mitigation measures:* • All routes used by vehicles and plant will be well maintained; and • Regular inspection and maintenance will be carried out to ensure all vehicles, plant and generators operate efficiently, as per the BAM Plant Management Plan.
	Direct/Indirect/Cumulative - Waste	*Waste will be managed using the following mitigation measure:* • Minimise double handling of materials. i.e. every time rock is moved from one place to another, a small amount of rock is likely to be lost/not able to be picked up (becoming waste).
	Indirect/Cumulative - Non-native species introduction	The project will use equipment already on site at Rothera from previous seasons. All equipment shipped to Rothera as part of this project will have been subject to compliance with the biosecurity measures outlined in Appendix 2: Runway Resurfacing and Lighting Project-Specific Biosecurity Plan and the BAS Biosecurity Regulations (2021).
AIMP RUNSUR – Runway resurfacing works in the 23/24 season - Re- screening rock to reduce moisture content.	*Direct/Cumulative - Atmospheric Emissions*	*The potential atmospheric emissions of the rescreening of rock to reduce moisture content will be mitigated using the following mitigation measures:* • Ensure that all operations using generators, plant, and equipment (such as the screener) are as efficient as possible to reduce excess fuel use; and • Where practical, all drivers will be instructed to turn off engines during periods of waiting for 15 minutes or more.
	Direct/Cumulative - Noise and Vibration	*The potential noise and vibration generated during the rescreening of rock to reduce moisture content will be mitigated using the following mitigation measures:* • Regular maintenance of all equipment and vehicles to ensure it is working efficiently; • The speed limit of 10 mph will be adhered to; • Regular maintenance of all plant and vehicles to ensure they are working efficiently and generating as little noise as possible.
	Direct/Cumulative - Dust Emissions	*The potential dust emissions generation during the rescreening of rock to reduce moisture content will be mitigated using the following mitigation measures:* • Where practicable, keep activities which create dust downwind of sensitive receptors and avoid close proximity to known vegetation and ice locations; • All routes used by vehicles and plant will be well maintained;

Science and Logistical Activities Undertaken as Part of the Project. *e.g. collection of samples, deployment of monitoring equipment, storage/ handling of fuels and chemicals, waste production and camping*	**Identify Possible Impacts - Direct, Residual and/or Cumulative[8]**	**Mitigating Measures** *Please provide details of the mitigation measures you intend to implement to ensure that **negative impacts are minimised or avoided**.*
		• The speed limit of 10 mph will be adhered to; • All plant and equipment will be maintained on a regular basis; and • Dust suppression measures will be implemented if deemed necessary.
	Direct/Indirect/Cumulative - Fuel or hazardous substance release	*The potential for fuel or hazardous substance release during the rescreening of rock to reduce moisture content will be mitigated using the following mitigation measures:* • Spill kits will be in all vehicles and in key easily accessible locations on site; • Plant nappies will be used for all static plant; and • Vehicles and equipment will be properly maintained and checked for any potential leaks. It should be noted that there is no waste associated with the material to be screened as this is being reused from another location within Rothera.
	Direct/Cumulative - Disturbance to native flora and fauna	*The potential for disturbance to native flora and fauna during the rescreening of rock to reduce moisture content will be mitigated using the following mitigation measures:* • *All vehicles will be inspected, and wheels checked for the presence of seals and penguins before engines are started;* • *The area will be checked for any fauna in close proximity to the stockpiles.* If animals have to be moved, only trained people will do this in accordance with the Wildlife Interaction Manual, any animal interactions will be recorded. • *A soft start may be implemented if deemed necessary.*
AIMP RUNSUR – Runway resurfacing works in the 23/24 season - Removal of processed aggregate from to the south of the Hangar.	*Direct/Cumulative - Atmospheric emissions*	*The potential for atmospheric emissions during the removal of processed aggregate to the south of the Hangar will be mitigated using the following mitigation measures:* • Ensure that all operations using generators, plant, and equipment (such as the screener) are as efficient as possible to reduce excess fuel use; and • Where practical, all drivers will be instructed to turn off engines during periods of waiting for 15 minutes or more.
	Direct/Cumulative - Noise and Vibration	*The potential for noise and vibration impacts during the removal of processed aggregate to the south of the Hangar will be mitigated using the following mitigation measures:* • Regular maintenance of all equipment and vehicles to ensure it is working efficiently;

Science and Logistical Activities Undertaken as Part of the Project. *e.g. collection of samples, deployment of monitoring equipment, storage/ handling of fuels and chemicals, waste production and camping*	**Identify Possible Impacts - Direct, Residual and/or Cumulative[8]**	**Mitigating Measures** *Please provide details of the mitigation measures you intend to implement to ensure that **negative impacts are minimised or avoided**.*
		• The speed limit of 10 mph will be adhered to; • Regular maintenance of all plant and vehicles to ensure they are working efficiently and generating as little noise as possible; and • A soft-start procedure will be implemented if necessary.
	Direct/Cumulative - Dust Emissions	*The potential for dust emissions during the removal of processed aggregate to the south of the Hangar will be mitigated using the following mitigation measures:* • Where practicable, keep activities which create dust downwind of sensitive receptors and avoid close proximity to known vegetation and ice locations; • All routes used by vehicles and plant will be well maintained; • The speed limit of 10 mph will be adhered to; • All plant and equipment will be maintained on a regular basis; and • Dust suppression measures will be implemented if deemed necessary.
	Direct/Indirect/ Cumulative - Fuel or hazardous substance release	*The potential for fuel or hazardous substance release during the removal of processed aggregate to the south of the Hangar will be mitigated using the following mitigation measures:* • Spill kits will be in all vehicles and in key easily accessible locations on site; • Plant nappies will be used for all static plant; and • Vehicles and equipment will be properly maintained and checked for any potential leaks. It should be noted that there is no waste, such as plastic, associated with the material to be relocated was originally quarried adjacent to the Wharf.
	Direct/Cumulative - Disturbance to native flora and fauna	*The potential for disturbance to native flora and fauna during the removal of processed aggregate to the south of the Hangar will be mitigated using the following mitigation measures:* • All vehicles will be inspected, and wheels checked for the presence of seals and penguins before engines are started. If animals have to be moved, only trained people will do this in accordance with the Wildlife Interaction Manual, any animal interactions will be recorded. • The area will be checked for any fauna in close proximity to the stockpiles. If animals have to be moved, only trained people will do this in accordance with the Wildlife Interaction Manual, any animal interactions will be recorded. • A soft start may be implemented if deemed necessary.

Science and Logistical Activities Undertaken as Part of the Project. *e.g. collection of samples, deployment of monitoring equipment, storage/ handling of fuels and chemicals, waste production and camping*	**Identify Possible Impacts - Direct, Residual and/or Cumulative**[8]	**Mitigating Measures** *Please provide details of the mitigation measures you intend to implement to ensure that **negative impacts are minimised or avoided**.*
	Indirect/Cumulative - Non-native species introduction	The project will use equipment already on site at Rothera from previous seasons. All equipment shipped to Rothera as part of this project will have been subject to compliance with the biosecurity measures outlined in Appendix 2: Runway Resurfacing and Lighting Project-Specific Biosecurity Plan and the BAS Biosecurity Regulations (2021).
Examples		
E.g. Travel on foot between ice-free areas	*E.g. Possible introduction or intra-regional spread of non–native species (vegetation and/or invertebrates, including those in soil)*	*E.g. Biosecurity briefing provided to all team members prior to departure* *Boots, clothing and equipment to be cleaned thoroughly before departure from the UK.* *Visual checks/cleaning between sites to check no soil is stuck to boots or equipment.* *Follow guidelines in Scar Code of Conduct for Terrestrial Scientific Field Research and BAS Biosecurity Regulations.*
E.g. Camping on ice sheet	*E.g. Generation of domestic waste and human waste*	*E.g. All team members to read and be briefed on the 'Field Operations Manual' relating to Environmental Management and the BAS Waste Management Handbook.* *Waste bags and poo bins to be issued by Field Ops Manager. All domestic waste will be segregated in the field and returned to Rothera prior to final disposal outside of the Antarctic. Human waste will be incinerated at Rothera.*
E.g. Deploying retrievable sensors in the field	*E.g. Impact to wilderness and aesthetic value of the region.* *Risk of equipment becoming waste if not recovered.*	*E.g. Design phase of project has identified low toxic materials to be used in the construction of the sensors.* *The Environment Office will be informed of sensor deployment locations if equipment is not retrieved, and the details will be added to the 'lost equipment' log.*
Reference guidance documents *Please review the guidance documents provided below (please note that this is not an exhaustive list) and where applicable, reference these and any other environmental guidance relevant to your activities in the mitigation measures in the Environmental Matrix above.* • SCAR Codes of Conduct for Antarctic field work and the use of animals in Antarctica • BAS Wildlife Interaction Manual • BAS Waste Management Handbook for guidance and advice on waste management in Antarctica • BAS Biosecurity Regulations for guidance and advice on appropriate biosecurity measures		

5. SPECIALIST ACTIVITY PERMIT APPLICATION

If you have answered 'yes' to any of the questions in part 3 you may require a Specialist Activity Permit to carry out your planned activities. You must complete this Specialist Activity Permit application and confirm the details of all personnel involved in the proposed permitted activities.

Note: The only activity in the above combined PEA which answered yes to section 3.1.1 is the RUNSUR – Resurfacing works in the 23/24 season. The below permit application relates to this work.

4.1. Application Details

		Full Name	Job Title and Organisation/Employer	Nationality (as listed on passport)
4.1.1.	Permit applicant/holder (this is usually the PI/Project Lead)	Robert Kerr & Billy Thursfield	BAM Site Agent	British & British
4.1.2.	Full list of people actively participating in sampling/specialist activities	Jamie Smith	BAM Works Manager	British
		Simon Hamment	BAM Site Engineer	British
		Ben Checkley	BAS Site Supervisor	British
		David Brand	BAS Site Supervisor	British
		David Seaton	BAS Site Supervisor	British
		Chris Mirfin	BAS Estates Representative	British
		Alex Coniff	BAS Estates Representative	British
		Harry McMullan	BAM Quarry Manager	British
		Richard Thompson	BAM Plant Operative	British
		David Sim	BAM Foreman	British

4.2. Mineral Resource Activities (Section 6 Specialist Activity)

- *Mineral resources include (but not exclusively) rock, soil, peat, sediment, seabed nodules, fossils, meteorites, and coal.*

4.2.1.	Do you intend to undertake any of the following activities: drilling, dredging, or excavating for mineral resources? If so, please describe the activity you plan to undertake, the type of mineral resource and the purpose of the activity.	Approximately 1500m^3 of previously processed aggregate will be moved from the laydown area south of the Hangar and reprocessed and rescreened for use on the runway. 12000m^3 of aggregate was processed and screened in the 22/23 season. This was stockpiled in locations on the western side of the runway (stockpile 4 – Figure 2) and south of Admirals building (stockpile 2 – Figure 2). This will be transported to the screener and rescreened then it will be spread across the runway in specific layers and then graded and compacted. All material is rock previously quarried at Rothera. No new quarrying will occur. The existing runway top surface layer is required to be scarified to a depth of between 100 mm to 350 mm to get a suitable surface for new material to bind to. Approximately 500m^3 of material will be moved from the sides of the runway and relocated to the edges of the runway, this will be spread by a grader and compacted by a roller to provide a stop-end to minimise runway material wastage.
4.2.2.	Do you intend to collect and or use any mineral resources? If so, please provide a description of the mineral resource type and the collection/use activities you intend to undertake.	The processed material will be used to resurface the runway as outlined in the 2022 IEE. The material along the edges of the runway was originally processed as part of the runway construction in 1990/1991 under CEE Proposed Construction of a Crushed Rock Airstrip at Rothera Point, Adelaide Island, British Antarctic Territory (ISBN 01-85531-003-1).

4.2.3. Do you intend to undertake any other activity for the purpose of identifying mineral resource occurrences or deposits? *e.g. assessing suitability of ground for use as construction site or suitability of soil or rock as construction material?* Please provide a description.	A topographic survey of the runway surface will be completed after the runway resurfacing is complete. In-situ California Bearing Ratio (CBR)/plate bearing tests will be carried out on the exposed runway surface to determine the strength of the underlying soils to ensure it is suitable for the runway resurfacing work.
4.2.4. Do you intend to sample mumiyo (solidified, waxy deposit produced when snow petrels vomit up their stomach oils) during your activities?	No

4.2.5. Provide information on estimated quantities and volumes or mass of mineral resource samples and the number and location of sampling sites:

Mineral resource	**Estimated number and volume/mass of individual samples to be collected**	**Total quantity of mineral resource to be collected**	**Number and locations of sampling sites** *(please also provide coordinates)*	**Method of extraction/collection**
e.g. soil	e.g., 50 x 20 g samples of soil	e.g., total of 1000 g of soil)	e.g., 5 sampling locations at Rothera station, specifically around the STP (10 samples per location)	e.g., by hand using a spatula and storing in a glass jar/ tube
Rock (already processed) and not removed from site	1500m^3 of previously processed aggregate will be moved from the laydown area south of the Hangar (rock produced originally under the Discovery Building Blasting permit and the quarry permit for the wharf 07/2018 & 12/2019-20) 12000m^3 of aggregate was processed and screened in the 22/23 season (under permit No.14/ 2022-23). This was stockpiled in locations on the western side of the runway and south of Admirals building.	14000m^3	Processed rock will be taken from: ● Laydown areas south of the Hangar ● Stockpile 2 (south of Admirals Building) ● Stockpile 4 (west of runway) A map/aerial image of stockpile locations can be seen in the 22/23 Post Season EIA Review, and Figure 2 of this PEA. All stockpiles are at Rothera Research Station.	An excavator will scoop up the material and load it into a dump truck, the material will then be screened (up to 1500m^3 will be reprocessed) and then be stockpiled, it will then be used to resurface the runway. Any excess will be used for future runway repairs.

	500m^3 of material along the sides of the runway will be relocated to edges of the runway was originally this was processed as part of the runway construction in 1990/1991 under CEE Proposed Construction of a Crushed Rock Airstrip at Rothera Point, Adelaide Island, British Antarctic Territory (ISBN 01-85531-003-1).			
Rock – Runway surface scarified	Surface will be scarified to a maximum depth of 350 mm. The average depth of scarification will be 200mm, which equates to a volume of 12,000m3.	12000m3 (volume scarified)	The area scarified will be the whole of the runway and part of the apron.	Using a scarifying attachment on existing large plant. This breaks up the surface, and material remains in the same location.

4.2.6.	Provide a brief justification for the requested quantities of samples.	All aggregate will stay on station, no samples will be removed. It will be used to resurface the runway. It is essential to resurface the runway so that aircraft can use the runway safely.
4.2.7.	Are the mineral resources being requested available, in an appropriate form, from publicly accessible collections outside of the Antarctic Treaty area?	N/A
4.2.8.	Do you intend to import any biological samples (soil) to the UK?	YES ☐ NO ☒
If you answered 'yes' to the above question, please take note: You must ensure you have read and understood the separate import licence requirements detailed in point 5.3.5.		
4.3. Disturbance/harmful interaction with fauna and damage to flora (Section 7 Specialist Activity)		
4.3.1.	Do you intend to sample, capture, kill or harmfully interfere with any marine or terrestrial flora or fauna (including invertebrates)? Please provide detail of the activities you intend to undertake which involve interaction with flora and fauna.	No
4.3.2. Complete the table below detailing the species that would be affected by the activity. • Provide information on estimated quantities and volumes or mass of biological samples and the number and location of sampling sites:		

Species (including sex/life stage, where appropriate)	**Estimated: (i) numbers of individuals to be handled or collected and/or (ii) total volume/mass of samples**	**Individual sample size/mass/volume**	**Total number of samples to be collected.**	**Sampling location** *(please also provide coordinates)*
e.g. female breeding adult Gentoo penguin	e.g. 12 x penguins/12ml blood, 12 feathers	e.g. 1 x 1ml blood sample and 1 feather from each penguin handled	e.g. 12 x 1ml blood samples (12ml of blood) and no more than 12 feathers	e.g. Gourlay Peninsula, Signy Island
e.g. colobanthus quitensis	e.g. 10 x plants/c. 50 g total dry weight	e.g. each plant sample is ~ 5g (dry weight)	e.g. 10 x 5g plant samples	e.g. Bernsten Point, Signy Island

4.3.3.	If your project involves working with vertebrates and/or cephalopods, has it been subject to Animal Welfare and Ethics Review? If so, please include details of the reviewing body, date of review and a copy the approval document.	Reviewing body and date of review: N/A Copy of approval document attached YES ☐ NO☐
4.3.4.	Do you consider any of your activities as 'biological prospecting'? Do you intend to utilise the requested samples for commercial applications?	N/A
4.3.5.	Do you intend to import any biological specimens (animals or plants) to the UK?	YES ☐ NO ☒

- If you answered 'yes' to the above question, please take note:
  - (1) Importation of biological or soil samples to the UK requires a relevant DEFRA/CITES import/export licence which is not covered by this 'Specialist Activities Permit application'.
  - (2) How and where your fauna/flora samples will be stored and curated may have an impact on the import/export licences required.
  - (3) If you require storage at BAS Cambridge, please agree this in advance with the Cambridge Laboratory Team.
  - (4) If samples are to be transferred to another institute, you must ensure you have any required site registration/import permissions in advance of collection.

Please contact Elaine Fitzcharles in the first instance: emfi@bas.ac.uk. For details on the protocols and procedures for consigning biological samples from all Antarctic stations and ships please refer to https://www.bas.ac.uk/for-staff/polar-predeployment-prep/intro-guidelines-and-forms/importing-biological-samples-into-the-uk/

4.4. Introduction of non-native species (Section 8 Specialist Activity)

4.4.1.	Do you intend to take to the Antarctic any non-sterile soil or non-native marine or terrestrial animal, plant, microorganism, seed, or other propagule? *Importation of non-sterile soil into Antarctica is prohibited under the Protocol on Environmental Protection to the Antarctic Treaty.*	No
4.4.2.	Provide a species list and estimate of quantity and volume.	N/A
4.4.3.	Provide an outline of the scientific purpose of the proposed introduction and why it is considered essential.	N/A
4.4.4.	Outline the measures you will take to prevent escape or spread of the introduced species or their contact with native fauna or flora.	N/A
4.4.5.	Describe the method of removal of the introduced species or its/ their disposal.	N/A

4.5. Entry into Protected Areas (Section 9 Specialist Activity)		
4.5.1.	Do you intend to visit any Antarctic Specially Protected Areas (ASPAs)? Please provide detail.	No
4.5.2.	Is the reason for your visit to the ASPA(s) for scientific research or for environmental management/conservation activities?	N/A
4.5.3.	What activities do you intend to undertake in the ASPA(s)? Please explain why these activities cannot be carried out outside the protected area.	N/A
4.5.4.	Provide a short justification of how your project meets the requirements of the protected area Management Plan.	N/A
4.6. Damage or Disturbance to Historic Sites and Monuments (Section 10 Specialist Activity)		
4.6.1.	Do you intend to visit any Historic Sites and Monuments (HSMs)? Please provide details and explain the purpose of your visit. Please note that HSMs are protected and any damage to sites or removal of objects is prohibited.	No

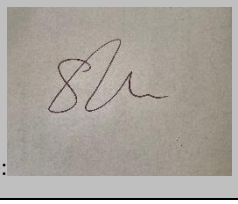
Statement of Agreement

In signing this form, you the PI/Project Lead (or other designated deputy) are confirming the following:

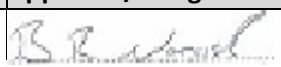
- I have read and agree with the 'Privacy Notice'.
- The information provided in this form is accurate and up to date. Any deviation from the information provided in this form will be communicated to the BAS Environment Office at the earliest opportunity.
- The information I have provided in this form, and the mitigation measures including those relating to biosecurity to which I have committed, will be communicated to all members of the project team.
- Should any environmental incidents occur, I will report these on the Maximo.
- I understand that this Preliminary Environmental Assessment (once agreed) and any associated Specialist Activity Permits (once issued) are activity/ person/time specific and are not transferrable to other locations in Antarctica, or to another person and are only valid for the period specified.
- I agree to provide feedback and a retrospective review of my activities by submitting the BAS EIA Post-Season Questionnaire to the Environment Office upon completion of my project or by the 30th of April (whichever is soonest).
- In accordance with Regulation 2 of the Antarctic (Amendment) Regulations 2008/3066, brief details (applicant name and job title, description of project and planned dates) of all permit applications (issued by the FCDO or the BAS Director) will be published on the FCDO website. My signature below will be taken as consent to publish this information.

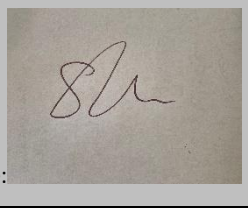
Rothera Temporary Wharf Projects – Mooring Weights

Applicant/PI Name	Applicant/PI Signature	Date
Aurelia Reichardt		25.09.2023
		Revision date (s)

This section to be completed by the BAS Environment Office only.		
Project to proceed with mitigating measures in place	☒	
An Initial Environmental Evaluation is required	☐	
Project requires Specialist Activity Permit to proceed. The BAS Environment Office will advise.	Section 6 ☐	
	Section 6 BAS authorisation letter ☐	
	Section 7 ☐	
	Section 8 ☐	
	Section 9 ☐	
	Section 10 ☐	
	Project requires permit from another national authority ☐	
Signature: 	Date: 3rd November 2023 Revision Date(s):	

Rothera Temporary Wharf Projects – Cast Hydrolysis Resistant Polyurethane (C-HPU) Hydraulic Lines Removal

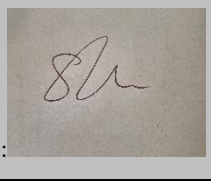
Applicant/PI Name	Applicant/PI Signature	Date
Ben Norrish		22/09/2023
		Revision date (s)

This section to be completed by the BAS Environment Office only.		
Project to proceed with mitigating measures in place	☒	
An Initial Environmental Evaluation is required	☐	
Project requires Specialist Activity Permit to proceed. The BAS Environment Office will advise.	Section 6 ☐	
	Section 6 BAS authorisation letter ☐	
	Section 7 ☐	
	Section 8 ☐	
	Section 9 ☐	
	Section 10 ☐	
	Project requires permit from another national authority ☐	
Signature: 	Date: 3rd November 2023 Revision Date(s):	

California Bearing Ratio (CBR) Measurements of the Runway at Rothera

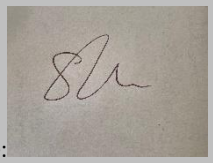
Applicant/PI Name	Applicant/PI Signature	Date
Andy Barker		26/09/23
		Revision date (s)

This section to be completed by the BAS Environment Office only.	
Project to proceed with mitigating measures in place	☒
An Initial Environmental Evaluation is required	☐

Project requires Specialist Activity Permit to proceed. The BAS Environment Office will advise.	Section 6 ☐	
	Section 6 BAS authorisation letter ☐	
	Section 7 ☐	
	Section 8 ☐	
	Section 9 ☐	
	Section 10 ☐	
	Project requires permit from another national authority ☐	
Signature: 	Date: 3rd November 2023 Revision Date(s):	

CBR Measurements at Sky Blu

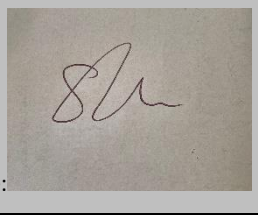
Applicant/PI Name	Applicant/PI Signature	Date
Andy Barker		26/09/2023
		Revision date (s)

This section to be completed by the BAS Environment Office only.		
Project to proceed with mitigating measures in place	☒	
An Initial Environmental Evaluation is required	☐	
Project requires Specialist Activity Permit to proceed. The BAS Environment Office will advise.	Section 6 ☐	
	Section 6 BAS authorisation letter ☐	
	Section 7 ☐	
	Section 8 ☐	
	Section 9 ☐	
	Section 10 ☐	
	Project requires permit from another national authority ☐	
Signature: 	Date: 3rd November 2023 Revision Date(s):	

Runway Friction Testing at Rothera

Applicant/PI Name	Applicant/PI Signature	Date

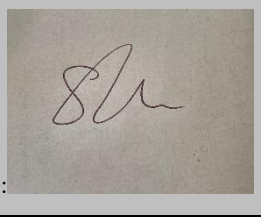
Andy Barker		26/09/2023
		Revision date (s)

This section to be completed by the BAS Environment Office only.		
Project to proceed with mitigating measures in place	☒	
An Initial Environmental Evaluation is required	☐	
Project requires Specialist Activity Permit to proceed. The BAS Environment Office will advise.	Section 6 ☐	
	Section 6 BAS authorisation letter ☐	
	Section 7 ☐	
	Section 8 ☐	
	Section 9 ☐	
	Section 10 ☐	
	Project requires permit from another national authority ☐	
Signature: 	Date: 3rd November 2023 Revision Date(s):	

Friction Testing at Sky Blu

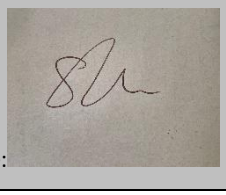
Applicant/PI Name	**Applicant/PI Signature**	**Date**
Andy Barker		26/09/2023
		Revision date (s)

This section to be completed by the BAS Environment Office only.		
Project to proceed with mitigating measures in place	☒	
An Initial Environmental Evaluation is required	☐	
Project requires Specialist Activity Permit to proceed. The BAS Environment Office will advise.	Section 6 ☐	
	Section 6 BAS authorisation letter ☐	
	Section 7 ☐	
	Section 8 ☐	
	Section 9 ☐	
	Section 10 ☐	

	Project requires permit from another national authority ☐	
Signature: 	Date: 3rd November 2023 Revision Date(s):	

AIMP RUNSUR – Runway resurfacing works in the 2023- 2024 Season

Applicant/PI Name	Applicant/PI Signature	Date
Ben Checkley		22/09/2023
		Revision date (s)

This section to be completed by the BAS Environment Office only.		
Project to proceed with mitigating measures in place	☐	
An Initial Environmental Evaluation is required	☐	
Project requires Specialist Activity Permit to proceed. The BAS Environment Office will advise.	Section 6 ☒	
	Section 6 BAS authorisation letter ☐	
	Section 7 ☐	
	Section 8 ☐	
	Section 9 ☐	
	Section 10 ☐	
	Project requires permit from another national authority ☐	
Signature: 	Date: 3rd November 2023 Revision Date(s):	