Section 1.2: Proposed action details

Section 1.2.1: Provide an overview of the proposed action, including all proposed activities

The proposed action comprises remediation of soil impacted with per- and poly-fluoroalkyl substances (PFAS) at two select areas within Canberra Airport, referred to collectively as the Project Areas 1 and 2.

In combination, disturbance across both Project Areas 1 and 2 approximates 6.47 hectares (ha), including area which will be excavated of approximately 2.9 ha.

Primarily, the remediation works would involve decommissioning and removal of infrastructure and the excavation and removal or treatment of impacted soils within and in areas immediately surrounding:

- The Fire Training Ground (FTG) and a section of the nearby swale drain adjacent to the Taxiway Alpha, south west of the FTG. This will be referred to as Project Area 1
- The Main Fire Station (MFS) and the northern section of the Southern Swale Drain (to the south of the MFS, parallel to Scherger Drive). This will be referred to as Project Area 2.

The proposed action responds to and is required to address an Environmental Remediation Order (ERO) issued by the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, Sports and the Arts (DITRDCSA) to Airservices Australia (Airservices) under the *Airports (Environment Protection) Regulations 1997* on 28 March 2024, and amended on 16 August 2024 (see Attachment A). Among other things, the ERO requires the preparation and approval of a Remediation Action Plan (RAP) to detail the remediation approach for the FTG and MFS. The RAPs for the FTG and MFS have been assessed by an Independent Assessor and accepted by the Airport Environment Officer (AEO). The now finalised RAPs establish the scope of the required remediation works under the ERO.

PFAS impacts have occurred within the Project Areas as a result of fire training activities involving the historical use and discharge of Aqueous Film Forming Foam (AFFF) by Airservices and Airservices' predecessors during the provision of critical firefighting capability at Canberra Airport. PFAS-containing AFFF has not been used at the Project Areas since 2010.

Focus areas of the PFAS remediation works include:

- Project Area 1 (FTG)

  Excavation Area: shallow soils, the concrete pavement and bund beneath the Large Mock-up Unit (LMU) and associated oil-water separator and wastewater capture system, sewer/stormwater infrastructure within an area of land leased by Airservices, adjacent land administered by Capital Airport Group (CAG) outside of Airservices lease, including a section of the swale drain adjacent to Taxiway Alpha

  Disturbance Area: land adjacent the Excavation Area required to support ancillary works (soil stockpile management, handling and treatment areas, office sheds and amenities)

- Project Area 2 (MFS) – shallow soils beneath the unsealed ground to the northwest of the MFS lease area, and to the south of the Smoke Hut in the southern portion of the MFS lease area, potentially a section of an underground stormwater drain and the former AFFF Above-ground Storage Tank (AST) concrete bund. A section of the southern swale drain (south of the MFS, parallel to Scherger Drive) which has shallow soil and sediment impact PFAS within the swale drain will also be remediated. The ancillary works area will be conducted on lease (i.e. no disturbance area).

It is estimated that in combination, around 303 kg (around 295 kg from Project Area 1 (FTG) and around 8 kg from Project Area 2 (MFS)) of PFAS mass would be remediated through the proposed action.

The proposed action subject to this referral relates only to the remediation of PFAS impacted soils, sediments and infrastructure. The potential feasibility and nature of groundwater remediation at Project Area 2 (MFS) is currently being investigated. Pending the outcomes of these feasibility

studies, a separate referral may be required if impacts on Matters of National Environmental Significance (MNES) protected under the Environment Protection and Biodiversity Act (EPBC Act) 1999 are foreshadowed.

Activities proposed as part of the action at Project Area 1 (FTG) and Project Area 2 (MFS) are outlined below.

Remediation activities at Project Area 1 (FTG)

Remediation activities at Project Area 1 (FTG) would affect approximately 5.8 ha of land and would involve:

- Removal and lawful off-Airport disposal of PFAS impacted infrastructure
- Excavation and either on-Airport treatment or lawful off-Airport removal of PFAS impacted soils from within and near the FTG
- Scraping and removal of PFAS impacted materials from a section of the Taxiway Alpha drainage system
- Management of excavated materials
- Compaction (to decrease permeability) and reinstatement of materials into the disturbed (excavated) areas using clean fill or treated excavated materials tested and confirmed as meeting the validation requirements of the ERO issued to Airservices.

The proposed actions would be lawfully conducted in accordance with Territory and Commonwealth laws, regulations and guidelines (as described in Question / Section 1.2.6 below).

The total disturbance area of works at the FTG, Project Area 1, is 5.8 ha (58,000 m^2). Remedial excavations cover approximately 2.4 ha (24,000 m^2), from which, approximately 10,290 m^3 of PFAS impacted soils and fill materials will be removed from the FTG area through excavation to a depth of up to 2.0 metres below ground level (mbgl). The remaining 3.4 ha of disturbance area will be used for stockpiling, staging and treatment of soil associated with conducting the works.

Activities at Project Area 1 (both because of the excavations and the use of an area for stockpiling, staging and treatment of soil) will directly impact an area mapped as an MNES protected under the EPBC Act (areas of Natural Temperate Grassland of the Southeastern Highlands endangered ecological community (NTG)). This area is labelled S1 in Attachment B, which also provides an assessment of impacts on this MNES.

Excavation and removal and/or treatment of PFAS impacted materials from within and near the FTG and in part of the drain near Alpha Taxiway)

Existing surface infrastructure at the FTG area, including but not limited to concrete hardstand, Large Mock-up Unit (LMU), kerosene aboveground storage tank, underground wastewater capture system, oil-water separator, and small storage shed would be decommissioned and removed from the Airport as an initial act of the proposed action.

Excavation soil underlying soil will be sequenced generally in the following order:

- Sequence 1 - Materials with the concentrations of PFAS > 50 milligram per kilogram (mg/kg). The maximum depth of the Sequence 1 excavation would be 1.0 m and would comprise excavation of approximately 530 m^3
- Sequence 2 - Materials with PFAS concentrations 20-50 mg/kg. The maximum depth of the Sequence 2 excavation would be 2.0 m and would comprise excavation of approximately 2,530 m^3
- Sequence 3 - Materials with concentrations of PFAS < 20 mg/kg. The maximum depth of the Sequence 3 excavation would be 0.5 m and would comprise excavation of approximately 7,230 m^3. Primarily it is the Sequence 3 excavation that would intersect with an MNES protected under the EPBC Act (areas of NTG)
- Sequence 4 – Material with concentrations of PFAS < 20 mg/kg located within the swale drain adjacent to the Alpha Taxiway . The portion of the total remediation disturbance footprint for the FTG for this area is estimated be 394 m^2 (0.0394 hectares). The maximum depth of the

Sequence 4 excavation would be between 0.2 m and 0.5 m and would comprise excavation of less than 100 m^3 of PFAS impacted material.

This sequencing of excavation allows effective management of excavated materials, mitigating the spread of PFAS impacts during the works.

Excavated materials would be temporarily stockpiled on strong impermeable plastic sheeting, or hardstand areas to prevent the potential for migration of PFAS into the underlying soils. Stockpiles would be covered by appropriately temporarily secured or weighted polythene sheets or tarpaulins to prevent erosion, loss of stockpiled materials. Each stockpile would be bunded with an impervious material to prevent storm water running into the stockpile. Silt fencing or hay bales would also be placed up-slope of the stockpiles. Any water that collects within the bunded stockpile area would be periodically tested, removed and treated.

Materials with concentrations of PFAS > 50 mg/kg would be transported off-site for interstate thermal destruction at a suitably licensed treatment facility and using appropriately licensed waste transport operators.

Materials with concentrations of PFAS 20-50 mg/kg may be subject to either:

- Direct off-Airport transport and disposal subject to meeting lawful disposal requirements
- Onsite treatment through ex-situ stabilisation with a carbon amendment, with subsequent off-Airport transport and lawful disposal at a waste management facility (landfill) that is authorised to accept the materials.

Ex-situ treatment would involve transfer of the relevant materials to designated treatment cells on-site, where the materials would be treated with a stabilising agent (such as powdered activated carbon (PAC) and/ or granular activated carbon (GAC) or other approved agent). Testing would confirm that the appropriate dosing rate was achieved.

Materials with concentrations of PFAS 1 < 20 mg/kg would be subject to ex-situ treatment (as described above) and used as compacted backfill to reinstate the excavations. The backfilled materials would be covered with a minimum 300 mm low permeability engineered cap to minimise vertical infiltration of water through the treated materials.

All stabilised materials to be reused in the Project Areas would be subject to testing and validation consistent with a Validation Sampling Plan (VSP) developed under the ERO issued to Airservices.

Backfilling, reinstatement and stabilisation of disturbed areas

Disturbed areas at and near the FTG would be backfilled, compacted with treated soils and/or imported clean material, and then capped with low permeability compacted clay. Growth media and grass would be used to rehabilitate over the low permeability compacted clay. A long-term environmental management plan would be developed to ensure that the integrity of the cap is maintained and/ or not compromised.

The final surface would be contoured such that stormwater runoff would be directed away from the remediated areas to existing drainage systems within Canberra Airport.

The long-term performance of the remedial works will be measured via reduction of PFAS concentrations and mass flux in surface water and groundwater within and downgradient of Project Area 1.

Remediation activities at Project Area 2 (MFS)

The remediation actions within and near the operational Main Fire Station (MFS) have been developed on the premise that the operational status of the MFS is to be maintained, and would therefore be constrained by:

- Operationally imperative hardstand surfaces, including main access roads at north, east, and west of MFS
- Washdown/replenishment bay building, and area located north, west and south of former AFFF aboveground storage tank (AST) bund
- Smoke hut, integral to ARFFS training.

The area proposed to be impacted under the works at Project Area 2 is 0.67 ha inclusive of works at and in the vicinity of the MFS and within the southern swale drain. Remediation activities are proposed to involve:

- Removal and lawful off-Airport disposal of PFAS impacted infrastructure (primarily the former AFFF AST bunding and former diesel underground storage tank (UST) and associated piping)
- Excavation and either on-Airport treatment and/ or direct lawful off-Airport disposal of PFAS impacted soils from select areas within and near the MFS
- Scraping and removal of PFAS impacted materials from the northern on-Airport section of the southern swale drain
- Installation of a low permeability engineered compaction layer in the excavations conducted within and near the MFS, with the final landform contoured to redirect surface water runoff away from the remediated areas.

The proposed action would be lawfully conducted in accordance with Territory and Commonwealth laws, regulations and guidelines (as described in Question / Section 1.2.6 below).

As stated previously studies are being conducted to design an appropriate groundwater remediation program at the MFS and therefore future works would be considered as a separate action, and subject to separate referral, if required.

The extent of remedial excavations at Project Area 2 adjacent to the MFS will directly impact a small area mapped as an MNES protected under the EPBC Act (areas of NTG). This area is labelled S4 in Attachment B which also provides an assessment of impacts on this MNES.

Unlike at the FTG (Project Area 1), no disturbance of MNES beyond the limited area of remedial excavation (for use in stockpiling, staging and treatment of soil) will occur associated with works in Project Area 2 (the MFS).

Excavation and removal or/ or treatment of PFAS impacted materials from within and near the MFS and in part of the southern swale drain (northern section)

Existing redundant infrastructure at the MFS, including the concrete pad beneath the former AFFF AST bund and above the diesel UST, the former AFFF AST bund, and former diesel UST and piping would be decommissioned and removed.

Around 1,580m^3 of PFAS impacted soils material would be removed from the MFS area through excavation to a depth of up to a maximum depth of 1.0 mbgl. Excavation would be sequenced generally in the following order:

- Sequence 1 - Materials with the concentrations of PFAS 20 mg/kg to > 50 mg/kg. The maximum depth of the Sequence 1 excavation is 1.0 mbgl and would result in the removal of approximately 30 m^3 of PFAS impacted material. This sequence does not intersect MNES.
- Sequence 2 - Materials with concentrations of PFAS 1 - 20 mg/kg. The maximum depth of the Sequence 2 excavation is 0.5 mbgl and would result in the removal of approximately 1310 m^3 of PFAS impacted material. Sequence 2 excavations intersect with a small area of an MNES protected under the EPBC Act (areas of NTG)
- Sequence 3 – Material with relatively low concentrations of PFAS located within the northern 360 m long section of the southern swale drain, downgradient of the MFS. The maximum depth of the Sequence 3 excavation/ scraping would be 0.1 m deep and would comprise excavation of approximately 240 m^3 of PFAS impacted material. This sequence does not intersect MNES.

This sequencing of excavation would allow effective management of excavated materials and would mitigate cross-contamination or spread of PFAS.

Excavated materials would be temporarily stockpiled on strong impermeable plastic sheeting, or hardstand areas to prevent the potential for migration of PFAS into the underlying soils. Stockpiles would be covered by appropriately temporarily secured or weighted polythene sheets or tarpaulins to prevent erosion, loss of stockpiled materials. Each stockpile would be bunded with an impervious material to prevent storm water running into the stockpile. Silt fencing or hay bales would also be placed up-slope of the stockpiles. Any water that collects within the bunded stockpile area would be periodically tested, removed and treated.

Materials with the concentrations of PFAS > 50 mg/kg would be transported off-site for interstate thermal destruction at a suitably licensed treatment facility and using appropriately licensed waste transport operators.

Excavated PFAS impacted material would be subject to either:

- Direct off-Airport transport and disposal
- Onsite treatment through ex-situ stabilisation with a carbon amendment, prior to off-Airport transport and disposal at a waste management facility (landfill) that is authorised to accept the materials.

Ex-situ treatment would involve transfer of the relevant materials to designated treatment cells on-site, where the materials would be treated with a stabilising agent (such as powered activated carbon (PAC) and/ or granular activated carbon (GAC)) or other approved agent). Testing would confirm that the appropriate dosing rate was achieved, and that material is suitable for off-airport disposal to a licenced waste management facility.

Backfilling, reinstatement and rehabilitation / revegetation of disturbed areas

Unlike at the FTG (Project Areas 1) treated material will not be reinstated in the MFS (Project Area 2) excavation. Excavations at and near the MFS would instead be backfilled with imported material and compacted with 300 mm of imported clean clay material to decrease permeability. Growth media and grass would be placed above the cap and used to rehabilitate vegetation (where appropriate). A long-term environmental management plan would be developed to ensure that the integrity of the cap is maintained and/ or not compromised.

The final surface would be contoured such that stormwater runoff would be directed away from the remediated areas to existing drainage systems within Canberra Airport.

All capping materials to be reused in the Project Areas would be subject to testing and validation consistent with a Validation Sampling Plan (VSP) approved under the ERO.

The long-term performance of the remedial works will be measured via reduction of PFAS concentrations and mass flux in surface water and groundwater within the Project Area 2 and immediately down gradient of the Project Area 2.

Rehabilitation of disturbed Natural Temperate Grassland

Areas of Natural Temperate Grassland (NTG) impacted by remediation at both Project Areas 1 and 2 will be reinstated in consultation with Canberra Airport, who are already undertaking rehabilitation of NTG across the Airport.

As a condition of the approval sought, Airservices will prepare a Construction and Operations Strategy. This strategy is anticipated to be consistent with the Northern Road Fairbairn Construction and Operations Strategy, Canberra Airport, 2020 approved as a condition to EPBC Act Referral 2009/4778 (varied 28 May 2020).

The Strategy will outline the steps that will be taken to facilitate restoration of the NTG to a condition equivalent to that prior to the disturbance, including the following key measures:

- Pre-works ecological surveys of all NTG to document all native species and weed species present.
- To maximise retention of NTG seedbank, no grubbing or clearing of vegetation or topsoil stripping will be conducted in the ancillary work area in Project Area 1.
- Ancillary work areas will be covered in geofabric material and a suitable depth of certified VENM gravel sheeting.
- Weed control for a minimum of 5 years to remove existing threat of invasive and exotic species encroaching mapped NTG
- Reestablishing NTG by reseeding and replanting, regular watering and additional planting / seeding as required
- Reduced mowing frequency and increased mowing height to maximise seedling / regrowth survival and minimise growth media compactions.

- Biannual ecological monitoring and corrective actions for a minimum of 5 years with reporting to document the success of rehabilitation

Given the temporary nature of the remediation works, and the rehabilitation of the area at completion, the works are not anticipated to result in residual and long-term impacts that warrants any duplication of environmental offsetting requirements.