JACKSON HOLE AIRPORT

PFAS MANAGEMENT, MITIGATION AND REMEDIATION PLAN

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Jackson Hole Airport Board
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Introduction

This PFAS Management, Mitigation and Remediation Plan (the “Plan”) has been developed to provide information to the public and affected governmental agencies regarding PFAS at the Jackson Hole Airport (the “Airport”). It will explain why PFAS is present in soils and groundwater at the Airport. It will also set forth the actions the Airport has taken, is taking and will take in the future to minimize the use of PFAS on the Airport, protect drinking water supplies in adjacent areas, and investigate and start removing or isolating PFAS in soils and groundwater at the Airport.

The science surrounding PFAS, how it can best be remediated and its possible adverse health effects is evolving. This Plan is therefore intended to be a living document which will be updated from time-to-time as more is known, and as the Jackson Hole Airport Board (the “Airport Board”) undertakes further actions to investigate and manage PFAS, mitigate its possible adverse effects, and remediate its existence on and adjacent to the Airport. Further information concerning this Plan may be obtained by contacting Megan Jenkins, at megan.jenkins@jhairport.org or at 307-733-7685.

1. Background

Per- or poly-fluoroalkyl substances (PFAS) comprise a family of more than 5,000 man-made chemicals used in a wide range of common household, commercial and industrial products. They are found in products such as non-stick pans, water repellant fabrics and applications, fast food packaging, and even some brands of dental floss. Among those products containing PFAS is Aqueous Film Forming Foam (AFFF), a fire extinguishing agent used to fight petroleum-based fires.

AFFF was developed in the 1970s and used at airports for aircraft fire emergencies. AFFF is an ideal extinguishing agent for flammable liquid fires, such as those caused by jet fuel, due to its ability to form a layer of aqueous film over fuel to extinguish and prevent fire. The effectiveness of this film forming layer is dependent upon PFAS, which has stable chemical and thermal properties that do not easily break down when exposed to water or heat. Due to its effectiveness, the United States military created specification MIL-F-24385F which requires that AFFF contain PFAS. In turn, the Federal Aviation Administration (FAA) has ordered certificated airports supporting air carrier operations, such as the Jackson Hole Airport, to use MIL-F-24385F certified AFFF containing PFAS for aircraft fire emergencies.

Until recently, AFFF containing PFAS was not widely known to be an environmental concern. However, studies have found that prolonged exposure to high levels of certain PFAS chemicals, including those contained in MIL-F-24385F AFFF, could result in risks to human health. Therefore, although AFFF containing PFAS has a positive role in saving lives and must be used by airports in the event of an aircraft fire emergency, there is a concern that releases to the
environment could infiltrate groundwater and potentially affect the health of those that have prolonged exposure.

PFAS has not yet been classified as a hazardous substance or a carcinogen by either the U.S. Environmental Protection Agency (EPA) or the Wyoming Department of Environmental Quality (WDEQ). EPA has established a lifetime health advisory (LHA) of 70 parts per trillion (ppt) for total PFOA and PFOS (two compounds in PFAS) in drinking water based on the Agency’s assessment of the latest peer-reviewed science.\(^1\) The health advisory is non-enforceable and non-regulatory, and is meant to provide technical information to state agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water.

The Airport Board is committed to continuing its role as an environmental steward and good neighbor. It is therefore proactively investigating the existence of PFAS on and adjacent to the Airport to determine what action is needed to mitigate possible adverse effects and to remediate its presence in soils and groundwater.

To continue this commitment, the Airport has developed this PFAS Plan to document its approach for the investigation and mitigation of PFAS found on and in areas surrounding the Airport. Because PFAS is used commonly in many products and manufacturing processes, it may be difficult to attribute all PFAS found in the environment with any specific source or activity, including the Airport. Nevertheless, understanding that the use of AFFF containing PFAS has occurred at the Airport, this PFAS Plan has been developed, in conjunction with actions the Airport has already taken, to limit the use of AFFF containing PFAS, investigate past use of AFFF containing PFAS, take actions to mitigate PFAS concentrations in drinking water wells downgradient from the Airport, and conduct any appropriate remediation of PFAS which has migrated to soils and groundwater. The sections below provide an overview on past use, actions taken to date, and steps forward to effectively address this emerging environmental issue.

2. **Actions Taken to Limit & Manage Future PFAS Use**

As noted above, FAA has ordered certificated airports supporting air carrier operations, including the Jackson Hole Airport, to use MIL-F-24385F certified AFFF containing PFAS for aircraft fire emergencies. FAA also requires that airports periodically test firefighting equipment to ensure its operational capability in the event of an emergency.

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\(^1\) The lifetime health advisory (LHA) is derived for an adult (over 21 years old or a 176-lb adult), and assumes daily exposure over a period of an average lifetime (approximately 70 years). For PFAS, one would have to drink eight glasses of water per day containing more than 70 ppt PFAS for 70 years to exceed the LHA. A ppt, or part per trillion, is an extremely small measurement unit. In units of time, it would be 1 second in 32,000 years. The lifetime health advisory of 70 parts per trillion equates to approximately 3.5 droplets of water in an Olympic size swimming pool (660,000 gallons).
The Airport has implemented measures to limit the use of AFFF containing PFAS, and to protectively manage any releases which are necessary in the future. Under these measures, PFAS will only be discharged on the Airport when necessary to protect human life. These limiting measures include the following:

2.1 Eliminating Discharges of Foam for Training. FAA requires periodic training for firefighters at commercial service airports to prevent or extinguish fuel-based fires in the event of an emergency. Historically, this training has been conducted at an FAA-approved training site located outside Teton County, and only occasionally at the Airport itself. As the possible harmful effects of PFAS in AFFF have become known, training with AFFF on the Airport has ceased. No further training using AFFF will occur on the Airport.

2.2 Eliminating Discharges for Equipment Calibration. FAA requires that commercial service airports annually calibrate equipment used to dispense AFFF to ensure proper flow in the event of a life-safety emergency. Such calibration requires a discharge of AFFF from the airport’s firefighting equipment. In the past, it has been common practice at airports to calibrate the equipment by discharging AFFF on the airfield. To eliminate this need to discharge on the airfield, the Airport has purchased and now uses a “no foam” system. This system eliminates discharging AFFF for equipment calibration. All semi-annual testing of equipment as directed by the FAA shall be performed at the Airport using the “no foam” system.

2.3 Transitioning from a C8 to a C6 Foam. In 2000, 3M voluntarily initiated a phase-out of all C8 PFOS and PFOA production, and associated AFFF products. This phaseout was completed in 2002. The Environmental Protection Agency’s 2010/2015 PFOA Stewardship Program focused on reducing C8 PFOA content in products and PFOA emissions, because data show that shorter chain C6 compounds have a lower potential for toxicity and bioaccumulation. The Airport took the step of transitioning from C8 to C6 foam in 2009. Only AFFF containing shorter chain perfluorinated chemicals has since been used on the Airport.

2.4 Limiting Future Use of AFFF Containing PFAS. AFFF shall only be dispensed on the Airport to protect against or suppress Class B fuel fires. Such fires on airports are usually associated with aircraft accidents, and thus are almost always classified as emergency, life-safety events. AFFF containing PFAS shall not be utilized on the Airport for any other purpose, including brush fires, structural fires, or any incident that doesn’t involve a Class B fuel.

2.5 Post-Emergency Response Plan. To the maximum extent possible there will be timely containment, collection, and proper disposal of AFFF containing PFAS in the event an aircraft fire emergency requires the use of AFFF. The same procedures shall be utilized if there is any accidental discharge of AFFF at the Airport. If AFFF is dispensed by Airport staff on or off Airport property, all practical efforts will be made to contain the product and prevent any AFFF from entering the Underground Detention System or other drainage systems. The Environmental Manager will be notified of any AFFF discharge and he/she will immediately (a) identify and document the maximum area affected by the discharge, and (b) oversee reasonable restoration.
procedures, based on current requirements and/or best practices, as needed. Environmental cleanup may be contracted to a professional environmental remediation service, and the third-party costs of such activity may be charged back to the responsible party.

2.6 Protection of Personnel. All Airport personnel working with AFFF shall wear proper personal protective equipment (PPE). PPE shall, at a minimum, include Nitrile gloves and eye protection. Respirators or SCBAs are required when refilling AFFF into the firefighting apparatus or dealing with large spills. If personnel come into contact with AFFF they shall rinse their eyes and/or skin immediately upon contact. If AFFF is ingested, personnel shall seek medical attention.

2.7 Commitment to Immediate Transition to AFFF Which Does Not Contain PFAS, when Available. The Airport is staying abreast of possible changes to FAA requirements with respect to the use of AFFF containing PFAS. When use of firefighting foam products which do not contain PFAS is authorized by the FAA, the Airport will use the alternative AFFF product as soon as possible. At such time, the Airport will also follow best practices with respect to the continued use or replacement of equipment which has come in contact with AFFF containing PFAS, and which therefore may itself hold residual traces of PFAS.

3. Actions Taken to Investigate Legacy PFAS Use

PFAS has historically been used at the Airport as required by FAA. This has included discharges necessary to respond to aircraft and vehicle fires, and the periodic testing and calibration of firefighting equipment. The Jackson Hole Airport has never had an Aircraft Rescue and Firefighting training facility on its premises, and therefore any AFFF discharges at the Airport in the past for training purposes would have been minimal.

With respect to the identification of potential legacy PFAS use, the Airport first worked with the nationally recognized environmental consulting firm of Mead & Hunt to complete the Managing AFFF and PFAS at Airports (MAPA) Screening Tool, as recommended in the Airport Cooperative Research Program Report 173, Use and Potential Impacts of AFFF Containing PFAS at Airports. That screening determined that, though the presence of some on-Airport PFAS was likely, the extent of that risk was relatively low.3

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2 The Airport Cooperative Research Program (ACRP) operates under the National Academy of Sciences, Engineering, and Medicine, and is managed by the Transportation Research Board. ACRP is an industry-driven, applied research program that develops near-term, practical solutions to Airport challenges.

3 Factors that attributed to a lower risk score from the MAPA Screening Tool included: previous AFFF was discharged on concrete that absorbed some of the material, lessening impact into the soil & groundwater and a low volume of AFFF was discharged.
A map of probable areas in which PFAS has been used on the Airport for training and calibration purposes (in blue circles) and for emergency response (in green circles) is attached to this Plan as Attachment 1.

4. **Actions Taken to Determine PFAS Presence in Groundwater**

Because it has not officially been classified as either a hazardous substance or a carcinogen, there are no legal requirements to test groundwater for the presence of PFAS. Nonetheless, because the Airport is and has been legally required to use AFFF containing PFAS, and because the screening indicated PFAS in groundwater, the Airport proactively decided to test water wells located on and off Airport property.

4.1 **On Airport Testing.** In February 2020, sampling was conducted at 13 wells on Airport property to assess the potential for PFAS to exist in groundwater under the Airport. This testing event, the results for which were received in March 2020, identified the presence of PFAS in certain groundwater wells on Airport property. Of the 13 wells tested, PFAS was detected in five wells (see Attachment 2 - Jackson Hole Airport March 2020 Test Results). Of these, two wells contained concentrations higher than EPA’s lifetime health advisory level of 70 parts per trillion (ppt). Reported concentrations of PFOS and PFOA in these two wells were 128.5 ppt and 382 ppt. All five wells in which PFAS was detected are monitoring wells, and none are used for drinking water.

Based on the results of this initial sampling, two additional wells were tested in late March. One is on-Airport and used in connection with drinking water for the control tower. No PFAS was detected in this well. The other is a domestic water well located near the Airport and directly downgradient from the on-Airport well which yielded the highest PFAS readings in the first round of testing. PFAS was detected in this off-Airport well at 60 ppt, which is below the EPA Lifetime Health Advisory level (LHA).

4.2 **Voluntary Residential Well Testing.**

**Phase 1 Testing:** In June 2020, the Airport conducted testing on private residential wells located immediately adjacent to and downgradient of the Airport. This is referred to as the Phase 1 Area. Testing of residential wells within the Phase 1 Area was undertaken to evaluate the extent to which PFAS on Airport property may have reached residential wells nearest to the Airport.

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4 In February 2020, EPA announced that it is proposing to regulate both PFOA and PFOS under the Safe Drinking Water Act. This preliminary determination is a step toward providing state and local communities with key information about PFOA and PFOS in drinking water; however, it is not an official determination. In the proposal, EPA asked for comment on potential monitoring requirements and regulatory approaches EPA is considering for PFAS chemicals. If the positive regulatory determination is finalized, the agency would begin the process to establish a national primary drinking water regulation for PFOA and PFOS.

5 Perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are the only two PFAS compounds in which the US EPA has issued a drinking water health advisory.
The Phase 1 Area was identified by overlaying USGS groundwater flow data (USGS, *Hydrogeology and Water Quality in the Snake River Alluvial Aquifer at Jackson Hole Airport, Jackson, Wyoming, Water Years 2011 and 2012*) with data provided by the Airport to determine the potential groundwater flow direction for PFAS migration. Those parcels located within the neighborhood immediately west and southwest of the Airport wells comprise this Phase 1 Area (see *Attachment 3* – Phase 1 Voluntary Residential Testing Area). Well JH-3-20-1 was chosen as the initiation site for the vector because it tested highest in PFOS (a PFAS compound) at the Airport (382 ng/L).  

Approximately 54 parcels are located within the Phase 1 Area. Of these, 45 parcels contain residences. Thirty-one (31) of these residences are estimated to be occupied on a full-time basis. The Airport solicited property owners located within the test area to volunteer for water sampling and analyses of their wells.

WDEQ recommended testing a minimum of thirteen (13) wells within the Phase 1 Area. The Airport nonetheless offered testing to all 45 of the Area’s residences. Thirty-two (32) residents initially volunteered their wells for testing and all were tested. Thirty-one (31) of these private wells tested as either “no detect” or were below the EPA LHA. Only one well tested above the EPA LHA advisory at 70.3 ppt.

EPA Method 537.1 for drinking water was used for sampling. This method analyzes for 14 PFAS compounds. Most of the public, health departments, and regulators associate Method 537.1 as the accepted PFAS drinking water analytical method.

Since the time of the original testing, the 13 remaining homes have volunteered for the program, and additional testing has occurred. PFAS was detected in all but two of these 13 wells (results ranged from 7 to 49.5 ppt), but no results were above the EPA LHA of 70 ppt. (See *Attachment 4* – Phase 1 Testing Results).

To avoid potential contamination from plumbing systems components, such as Teflon seals, residential testing was conducted only on the source well, not on water sources inside the home. Residents were asked to complete a questionnaire regarding their wells and any associated treatment systems. If the residents had a treatment system on their wells, the type of treatment (filtration/sedimentation, under the sink filter, etc.) were identified and documented. This data was collected for informational purposes only, as testing was conducted pre-treatment system.

**Phase 2 Testing:** Based on results from the Phase I voluntary residential testing effort, the Airport moved forward with Phase 2 voluntary sampling. Using scientific criteria (i.e., Phase I results, groundwater flow direction, USGS reports), water wells located further away from the Airport

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6 1 nanogram/liter (ng/L) = 1 part per trillion (ppt)
7 Full-time (versus seasonal) use of a residence is an assumption based on tax records that show a contact address located in either the Towns of Jackson or Moose.
were tested to better determine the geographic extent to which PFAS may exist in groundwater. Phase 2 testing used the same methodology as Phase 1 testing (EPA Method 537.1).

Water wells included in Phase 2 consisted of 13 residential wells, 3 utility wells, 1 irrigation well, and one surface water test. Results of Phase 2 testing were received in late September. Of the 18 samples taken, 12 resulted in non-detect, and six resulted in detectable levels which were well below the EPA’s 70 ppt LHA. All three utility wells (which serve multiple homes) came back as non-detect. Phase 2 testing confirmed the direction of PFAS migration from the affected area. (See, Attachment 5 – Phase 2 Testing Results).

Phase 3 Testing. Phase 2 testing narrowed down the direction and general extent of the PFAS plume. At its November 18, 2020 meeting, the Airport Board authorized the initiation of Phase 3 voluntary sampling to clearly define the plume at locations farther from the Airport. This will be useful in determining which if any additional homes in the Phase 2 and 3 areas should be provided with water filtration systems.

Mead & Hunt identified a minimum of 20 homes in an area to be tested to better define the plume. The Airport Board determined to expand this effort, and test on a voluntary basis all homes within the Phase 2 and 3 boundaries. This testing of up to approximately 144 additional homes will better define where and to what extent PFAS may be present, and give homeowners better assurance as to the safety of their drinking water supplies. (See, Attachment 6 – Combined Phase 1, 2 and 3 Testing Areas).

5. Mitigation - Actions Taken to Protect Drinking Water Supplies

5.1 Filtration Systems in Phase 1 Testing Area. Although only one home in the Phase I testing area was found to have a PFAS concentration above EPA’s 70 ppt LHA, in an abundance of caution, and because this neighborhood is located directly adjacent to the Airport, the Airport Board offered to provide point of entry treatment (POET) filtration systems, upon request, for all homes located within this Phase I testing boundary, regardless of the level of PFAS detected in the well.  

To date, 47 POET water filtration systems have been installed at the homeowner’s request and the Airport’s expense. Additional homeowner requests for filter installation are anticipated.

5.2 Filtration Systems in Phase 2 and 3 Testing Areas. At its November 18, 2020 meeting, the Airport Board authorized the immediate installation of POET water filter systems, at Airport expense, for any domestic water well in the Phase 2 or 3 areas which tests at or above 70 ppt for PFOS+PFOA. As noted above, this is consistent with EPA’s Lifetime Health Advisory level for drinking water, which is relied upon by the State of Wyoming. It is not anticipated that

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8 WDEQ informed the Airport that ongoing efforts at another Wyoming PFAS site are using the level of 35 ppt as a threshold for implementing mitigation measures. The Airport’s provision of water filtration system to all homes in the Phase 1 Area is therefore far more protective.
water from any residential wells in the Phase 2 or 3 testing areas will show PFAS levels at or even approaching 70 ppt.

Forty-seven (47) states, including Wyoming, rely upon the EPA LHA limit of 70 ppt. However, seven (7) states have adopted standards lower than the EPA LHA. As the results of Phase 3 testing are received and evaluated, and the developing scientific evidence is further analyzed, the Airport will evaluate whether POET water treatments systems should be provided to houses in the Phase 2 and 3 areas, where PFAS has been detected in drinking water at levels which are below 70 ppt. The decision as to whether water filtration systems will be installed at Airport expense on wells which test at some level below 70 ppt for PFAS, and if so at what level, will be made by the Airport Board in consultation with the Wyoming Department of Environmental Quality and the Teton County Health Department.

5.3 Continued Monitoring of Residential Wells. While community drinking water will be protected with the installation of Airport-provided filtration systems, continued monitoring of these water wells is an important element of PFAS remediation programs. Therefore, pre-filter samples (should there be a filter installed on a residential drinking water well) will be collected from a sample of homes within the Phase 1, 2 and 3 testing areas. The goal of continued monitoring is to understand PFAS groundwater levels with regard to seasonality and to monitor any changes over time.

Mead & Hunt recommended that such testing occur on up to 20 homes that have been tested for and resulted in detected level of PFAS in drinking water, and that testing will be conducted twice a year (in high and low water seasons) for two years. At its meeting of November 18, 2020, the Airport Board approved this continued testing.

5.4 Temporary Water Supplies. While the Airport was conducting off-Airport testing and residents awaited results, the Airport offered to supply drinking water to all users of residential wells within the Phase 1 testing area as an initial mitigation measure. Two alternatives were made available upon request of the resident. The first was the AQUA TRU Countertop Water Filtration Purification System that uses reverse osmosis technology to remove contaminants. This system is certified under National Science Foundation (NSF) standards by the International Association of Plumbing and Mechanical Officials (IAPMO). The second alternative is bottom load 5-gallon water coolers from JH20.

At its meeting of November 18, 2020, the Airport Board decided to make a similar offer of temporary water supply to residents within the Phase 2 and 3 testing boundaries. Provision of temporary water supplies will continue until filtration systems are installed, or it is determined that no filtration systems are necessary.
6. **Actions Taken to Investigate Soils/Materials for Potential Remediation**

A soil sampling and analytical investigation is usually a part of a comprehensive PFAS remediation plan. At the Jackson Hole Airport, such an investigation has two components. The first is an investigation of source areas in which AFFF has been historically discharged at the Airport for purposes of testing, training or response to emergency incidents. These areas were identified when the Airport undertook the MAPA evaluation discussed in Section 2 above.

The second component is necessitated by the runway replacement project which the Airport will undertake in the spring of 2022. This project will excavate soils, pavement, and associated subbase materials under and adjacent to the runway and taxiway. Some of these materials may contain concentrations of PFAS. If not properly mitigated, their disturbance and relocation could cause the spread of PFAS around the Airport and/or an acceleration of PFAS leaching into groundwater. A portion of this investigation will be focused on better understanding the concentration and extent of PFAS in the soils and within the pavement and associated subbase to be excavated for the runway reconstruction project. Based upon this investigation, the runway project may be planned so as to minimize any excavation-related PFAS risks and in fact reduce those risks.

6.1 **Soils Remediation Investigation.** At its November 4, 2020 meeting, the Airport Board approved an amendment to the contract with its engineering firm, Jviation, authorizing it to subcontract with the environmental consulting firm, Mead & Hunt, to conduct an investigation designed to ensure that Jviation’s runway replacement design work incorporates best practices to minimize and, to the extent possible, remediate PFAS in soils and other materials that would be disturbed/re-used by the runway project. A map of probable areas in which PFAS has been used on the Airport for training and calibration purposes (in blue circles) and for emergency response (in green circles) is attached as Attachment 1.

The soil investigation project will consist of up to 35 soil borings with samples at 3-4 discrete soil intervals (depths) per borehole and a grab groundwater sample before the boreholes are sealed. Total depth of boreholes would be about 50-ft (or the groundwater table). See map attached as Attachment 7 for the current plan for locations of soil samples.

6.2 **Testing of Runway Materials.** As a best practice to reduce environmental impacts, as well as minimize costs, Jviation intends to re-use approximately 80 percent of existing runway materials in the runway reconstruction project. Because AFFF has historically been discharged on parts of the runway and taxiway and possibly leached into the asphalt, concrete, and sub-base, it is necessary to test these materials for the presence of PFAS.

In initial runway reconstruction activities conducted through the summer of 2020, Jviation preformed several geotechnical investigations of the runway and taxiway materials and underlying soils. Core samples were performed to evaluate structural components for the 60% design plans for the runway re-construction project. Mead & Hunt anticipates collecting samples for PFAS analysis from the existing core samples (rather than drilling new core samples). Testing will occur
on up to 30 samples of the core borings of asphalt and subbase materials to determine re-use potential. The objective of this sampling effort is to determine total PFAS levels to direct the re-use estimates for Jviation’s work. The amendment to Jviation’s engineering services contract approved at the Airport Board’s meeting on November 4, 2020 authorized this testing.

7. **Actions Taken to Further Investigate Groundwater for Potential Remediation**

At its November 18, 2020 meeting the Airport Board also authorized the following measures to investigate groundwater on the Airport for the purposes of designing an on-Airport groundwater remediation system.

7.1 **Semi-Annual Airport Monitoring Well Testing.** On-Airport monitoring wells will be monitored twice a year to account for seasonal variability in groundwater conditions. One testing event will occur in low water season (winter/spring 2021), while the other will occur in high water season (summer/fall 2021).

7.2 **Engineering Study for Design of Potential On-Airport Remediation System.** Engineering data will be collected from the Airport’s wells to begin the process of identifying and designing the best groundwater remediation approach for the Airport. The Airport’s goal for remediation is to clean the groundwater environment itself to acceptable standards, regardless of whether all affected downgradient water wells have received filter systems. Initial engineering data collection will involve sampling Airport monitoring wells and conducting slug tests. The data will be modeled, and a feasibility study conducted. The expected outcome of this feasibility study will be a recommendation on the most appropriate and cost-effective remediation system for this Airport.

8. **Agency Coordination**

It was important to involve relevant agencies early in this process to inform them of testing results at the Airport, identify any other potential source of PFAS in groundwater, obtain their guidance and feedback on the Airport’s efforts, and integrate these agencies into any next steps to address the issue. Coordination with these agencies also allows for a unified approach in communicating with and educating the public. While public outreach will be primarily conducted by the Airport and its consultants, these agencies can also be of assistance in distributing factual information to residents.

The Airport will continue to periodically consult with and keep the following agencies informed of the results of investigations made and remediation actions taken under this Plan:

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9 Filtration systems are usually a near to mid-term mitigation measure.
10 A slug test is a type of aquifer test where water is quickly added or removed from a groundwater well, and the change in hydraulic head is monitored through time, to determine the near-well aquifer characteristics. It is a method used by hydrogeologists and civil engineers to determine the transmissivity/hydraulic conductivity and storativity of the material the well is completed in.
8.1 National Park Service. The Airport is located in Grand Teton National Park (Park) under authorization provided by a 1983 Agreement, which has been amended four times. Among other things the Third Amendment to the Agreement requires that the Board act in good faith and in coordination and cooperation with the National Park Service to develop and implement such reasonable and cost-effective mitigation measures as may be available to reduce environmental impacts on the Park. Consistent with this obligation, the National Park Service (NPS) was immediately informed of the Airport’s well sampling results in March 2020. Periodic reports to NPS have since been made and will continue to be made as appropriate. The Airport will also include a report on PFAS related actions in it required Biennial Report to NPS.

8.2 Wyoming Department of Environmental Quality. The Wyoming Department of Environmental Quality (DEQ) is the state’s regulatory agency charged with protecting, conserving and enhancing Wyoming’s land, air and water for the benefit of current and future generations. DEQ does this in part through agreements with EPA under which DEQ assumes authority for enforcement of certain federal environmental laws. Neither EPA nor DEQ have adopted any regulatory standards for the cleanup of PFAS in soil or groundwater. As noted above, EPA has adopted a non-regulatory LHA for PFOS+PFOA in drinking water of 70 ppt, and the only known drinking water test which registered slightly above 70 ppt has been fully mitigated through the installation of a water filtration system.

By letter to DEQ on April 28, 2020, the Airport provided a Jackson Hole Airport (JHA) Interim PFAS Report (April 28, 2020), and sought consultation with DEQ. The Airport has since been in periodic consultation with DEQ in both writing and telephone conference call. The Airport desires to enter into a more formal consulting relationship with DEQ under which its advice and consultation is sought and received. In any event, the Airport will provide reports to and seek consultation with DEQ at appropriate times and consistent with this Plan.

8.3 Teton County Health Department. The mission of the Teton County Health Department (TCHD) is to promote the health and wellbeing of the Jackson Hole community through protection and prevention efforts, in collaboration with an engaged public and other community partners. The Airport gave its first formal report to TCHD and sought its consultation by letter of October 13, 2020. The Airport will provide reports to and seek consultation with TCHD as appropriate.

8.4 Teton Conservation District. The Teton Conservation District (TCD) is a special district established under Wyoming law, which is established by local residents to conserve natural resources and develop locally-driven solutions for environmental concerns. Its mission is to work with the community in the conservation of natural resources for the health and benefit of people and the environment. Upon being informed of the presence of PFAS in groundwater under and surrounding the Airport, in August 2020 TCD stepped forward and awarded the Airport Board a $40,000 grant to assist in the testing of off-Airport water wells to determine the extent of PFAS migration. This grant has assisted in making possible water testing, and determining which homes
should be provided with water filtration systems at Airport expense. The Airport is reporting to TCD on those test results and will provide reports to, and seek consultation with, TCD as appropriate and consistent with the terms of the grant.

In addition to the above agencies, the Airport will periodically provide reports on progress under this Plan to the FAA, the Wyoming Aeronautics Commission, the Town of Jackson and Teton County.

9. **Public Communication and Outreach**

Throughout the investigation and implementation of this Plan, the Airport is dedicated to open and transparent communication with the public. To facilitate comprehensive public outreach, a variety of tools will be used to communicate with residents located within the area, as well as with the community at large.

9.1 **Communications with Affected Homeowners.** The Airport has and will continue to communicate with homeowners in the Phase 1, 2 and 3 areas through mail, email and telephone. These communications will be to schedule water testing and when appropriate retesting, arrange for temporary water supply delivery, and arrange for filter system installation. Communications will also direct affected homeowners to the Airport’s website where more detailed information on PFAS and this Plan may be obtained.

9.2 **Communication with Public at Large.** The Airport has and will continue to communicate with the public at large through its website postings where detailed information on PFAS, the Airport’s required use of AFFF which contains PFAS, and this Plan may be obtained. The Airport is also producing a video presentation to convey this information. When completed this video presentation will be posted on the website for easy access.
Attachment 1: Past use of AFFF (with PFAS) at Jackson Hole Airport
Attachment 2: On Airport March 2020 Test Results
Attachment 3: Phase 1 Voluntary Residential Testing Area
Attachment 4: Phase 1 Testing Results

Attachment 4. PHASE 1 TESTING  
WATER WELL PFAS ANALYTICAL RESULTS  
JACKSON HOLE AIRPORT, TETON COUNTY, WY

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Exceeds USEPA Lifetime Health Advisory of 70 ppt, May 2016

Notes:
ng/L = nanograms per liter, or ppt
537.1 = PFAS by USEPA Method 537.1
# Attachment 5: Phase 2 Testing Results

## Attachment 5. PHASE 2 TESTING

**WATER WELL, UTILITY WELL, AND SURFACE WATER PFAS ANALYTICAL RESULTS**

**JACKSON HOLE AIRPORT, TETON COUNTY, WYOMING**

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USEPA Lifetime Health Advisory, May 2016

Notes:

- ng/L = nanograms per liter
- 537.1 = PFAS by USEPA Method 537.1
- ND = not detected at the reporting limit
- UW = Utility well
- SW = Surface water
- WW = Well water
- WW (I) = Irrigation well
- PFAS = Per and Polyfluorinated Alkyl Substances
- PFOA = Perfluorooctanoic acid
- PFOS = Perfluorooctane sulfonate
Attachment 6: Combined – Phase 1, 2, and 3 Test Areas

Jackson Hole Airport

Combined Phase 1, 2 and 3 Test Areas
Attachment 7: Approximate Locations of Soil Borings