STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Eastern Region Office
4601 North Monroe St., Spokane, WA 99205-1295 • 509-329-3400

December 6, 2024

Lisa Corcoran, C.M.
Spokane International Airport
9000 West Airport Drive, Suite 204
Spokane, WA 99224-9438

RE: Spokane International Airport PFAS Site, CSID 16774 – Ecology Approval of the Revised PFAS Investigation Work Plan, Sampling and Analysis Plan, Health and Safety Plan, and Inadvertent Discovery Plan

Dear Lisa Corcoran:

On November 13, 2024, the Washington Department of Ecology (Ecology) received an electronic copy of the Revised Work Plan for the Initial Investigation of PFAS (Work Plan) which was submitted in an effort to fulfill the requirements of Enforcement Order No. DE 22584 (EO). The draft Work Plan was revised based on comments provided by Ecology on October 14, 2024.

Ecology appreciates the significant improvements made to the document in response to our comments. However, Ecology notes several changes to the document were made that were not requested. These include, for example, the addition in the introduction of an incomplete historical land use and ownership description. We also note that several of Ecology's comments were not fully addressed or incorporated. We would like to reiterate the following facts for the project record:

- The remedial investigation (RI) is required to delineate the extent and magnitude of contamination irrespective to potential cleanup levels and property boundaries. It is premature to speculate on the process for which cleanup levels for this site will be determined. Further, while proposed cleanup levels are presented in the RI by a Potentially Liable Person, Ecology determines final cleanup standards (both cleanup levels and points of compliance) in Ecology's Cleanup Action Plan.
- The federal implementation schedule of Maximum Contaminant Levels at federally-regulated facilities is not applicable to Washington State-regulated cleanup sites.
- As described in the EO Scope of Work, the scope of this task is purposely limited. The upcoming RI will delineate all site-related contaminants in all media throughout the

site, which will likely necessitate additional investigation work in most, if not all, of the areas evaluated in this task.

As detailed above, several issues with the document remain; however, Ecology has determined the remaining issues do not aversely impact the ability for the work detailed in the Work Plan to move forward. Therefore, Ecology approves the revised Work Plan as final. Please note the required cultural resource consultation period ended on November 21, 2024, which **did not** necessitate additional changes to the Inadvertent Discovery Plan**.**

Please provide an electronic PDF of the final Work Plan for Ecology's records within seven days of receipt of this letter. In accordance with the EO, all field activities described in the Work Plan must be complete by February 4, 2025. In addition, the Draft Initial Investigation for PFAS Report is due 30 days after validated laboratory data collected in accordance with the Work Plan is received.

If you have any questions regarding this letter, please contact me at 509-724-1164 or at jeremy.schmidt@ecy.wa.gov.

Sincerely,

Jeremy Schmidt, P.E.
Site Manager
Toxics Cleanup Program

cc via email: Ivy Anderson, Assistant Attorney General
Brianna Brinkman, Ecology
Nicholas Acklam, Ecology
Ecology Site File

INITIAL PFAS INVESTIGATION WORK PLAN

SPOKANE INTERNATIONAL AIRPORT
Spokane, WA
Facility Site ID: 6332493; Cleanup Site ID: 16774

Prepared for:

Spokane International Airport

SPOKANE INTERNATIONAL AIRPORT
9000 W. Airport Drive, Suite 204
Spokane, Washington 99224

Prepared by:
GSI ENVIRONMENTAL INC.
1115 West Bay Drive NW, Ste. 202
Olympia, WA 98502
www.gsienv.com

Job No.: 6892
Issued: 13 December 2024

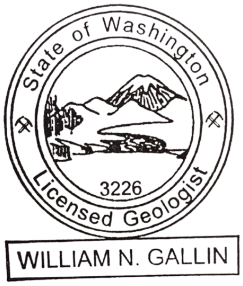
INITIAL PFAS INVESTIGATION WORK PLAN

SPOKANE INTERNATIONAL AIRPORT
Spokane, WA
Facility Site ID: 6332493; Cleanup Site ID: 16774
GSI Job No. 6892

This Initial PFAS Investigation Work Plan was prepared by the staff of GSI Environmental Inc., under the supervision of the Engineer(s) and/or Geologist(s) whose signatures appear hereon.

The findings, recommendations, specifications, or professional opinions were prepared in accordance with generally accepted professional engineering and/or geologic practice. No warranty is expressed or implied.

Issued: 13 December 2024



William Gallin, LG (WA)
Senior Environmental Geologist

Vincent Robino, PG
Senior Associate Geologist

INITIAL PFAS INVESTIGATION WORK PLAN
Spokane International Airport
Spokane, WA

TABLE OF CONTENTS

EXHIBITS

TABLES

FIGURES

INITIAL PFAS INVESTIGATION WORK PLAN
Spokane International Airport
Spokane, WA

TABLE OF CONTENTS

APPENDICES

INITIAL PFAS INVESTIGATION WORK PLAN
Spokane International Airport
Spokane, WA

COMMON ACRONYMS

ADF	aircraft deicing fluid
AFFF	aqueous film-forming foam
Amsl	above mean sea level
AOA	Air Operations Area
ARFF	Airport Rescue and Fire Fighting
bgs	below ground surface
BMPs	best management practices
CFR	Code of Federal Regulations
Ecology	Washington State Department of Ecology
FAA	Federal Aviation Administration
GHD	GHD Services Inc.
GSI Environmental	GSI Environmental Inc
HASP	Health and Safety Plan
HFPO-DA	hexafluoropropylene oxide-dimer acid
IPI	Initial PFAS Investigation
MCL	maximum contaminant level
MDL	method detection limit
MTCA	Model Toxics Control Act
PFAS	per- and polyfluoroalkyl substances
PFAS CAP	Per- and Polyfluoroalkyl Substances Chemical Action Plan
PFBA	perfluorobutanoic acid
PFBS	perfluorobutanesulfonic acid
PFDA	perfluorodecanoic acid
PFDoDA	perfluorododecanoic acid
PFHxA	perfluorohexanoic acid
PFHxS	perfluorohexanesulfonic acid
PFNA	perfluorononanoic acid
PFOA	perfluorooctanoic acid
PFODA	perfluorooctadecanoic acid
PFOS	perfluorooctane sulfonic acid
PFPeA	perfluoropentanoic acid
PFPrA	perfluoropropanoic acid
PFTetA	perfluorotetradecanoic acid
PFUDA	perfluoroundecanoic acid
QAPP	Quality Assurance Project Plan
RL	reporting limit
SAP	Sampling and Analysis Plan
SIA	Spokane International Airport
USEPA	United States Environmental Protection Agency

GSI Job No.: 6892
Issued: 13 December 2024

INITIAL PFAS INVESTIGATION WORK PLAN
Spokane International Airport
Spokane, WA

1.0 INTRODUCTION

SUMMARY

The Initial PFAS Investigation aims to collect a preliminary dataset testing for PFAS in groundwater and soil to support the development of a Remedial Investigation Work Plan, focusing on areas with potential or known PFAS releases. Groundwater samples will be collected from 52 existing monitoring wells. Soil samples will be collected from 57 locations and multiple depths below the ground surface. The investigation results will be summarized in an Initial PFAS Investigation Report, including analytical results, maps, and preliminary analyses of soil and groundwater data.

GSI Environmental Inc. (GSI) prepared this Initial PFAS Investigation (IPI) Work Plan on behalf of Spokane International Airport (SIA), also known by its International Air Transport Association code, GEG. The work plan addresses requirements detailed in Task 1B (Initial PFAS Investigation) of Enforcement Order No. DE22584 (the Order) as issued by the Washington State Department of Ecology (Ecology) on 29 March 2024. SIA is located within Spokane County and is jointly owned by Spokane County (the County) and the City of Spokane (the City) (Figure 1.1). Prior to being a municipal airport, the land upon which SIA is situated was under the ownership and management of a branch of the DoD, since 1939, and included the Airforce, Army, and Air National Guard (GSI Environmental Inc. 2024). The Army National Guard also leased a portion of SIA, currently Aerospace Park, until 2006. Due to the types of operations and historical use of the SIA land by the DoD, some areas were classified as a Formerly Used Defense Site (FUDS) under the Defense Environmental Restoration Program (DERP). DoD and joint DoD – SIA fire training exercises occurred, likely at certain times with AFFF, as required by both FAA and DoD policies (GSI Environmental Inc. 2024). The airport currently operates as a regional commercial service for the surrounding community and is the second largest airport in the State of Washington. As an airport serving passenger aircraft SIA is required by the Federal Aviation Administration (FAA) to be certified under 14 Code of Federal Regulations (CFR) Part 139, Certification of Airports (Part 139) and maintain compliance with safety and emergency response requirements, including the federal requirements for aircraft rescue, firefighting, testing and usage of aqueous film-forming foams (AFFF).[1]

The IPI Work Plan focuses on the areas within the Site identified in the Task 1A Site Assessment Report (SAR) as areas of potential or known concern for a release of AFFF (GSI Environmental Inc., 2024).[2] The review of available information resulted in the identification of ten potential or known PFAS areas of concern. These areas have either PFAS detections in the local groundwater (based on historical groundwater data for PFAS) or have the potential to have PFAS present in the local environment due to the storage, handling, and FAA required testing with AFFF as part of SIA's federal mandate to maintain their Part 139 Certification. Figure 1.2 shows the locations of the potential or known PFAS areas of concern as concluded in the SAR. Additional areas have

[1] https://www.faa.gov/airports/airport_safety/part139_cert
[2] The term "Site" as used in this report refers to the main operational area within the SIA property boundary as shown in Exhibit A of the Order and presented in figures as the "Primary Airport Area" and is not meant to define the facility boundary as defined by WAC 173-340-200 as that spatial designation is the subject of this ongoing investigation.

also been included based on results from a recent sampling event for PFAS in groundwater and at one additional firefighting training area.

As this work plan presents an initial investigation, the focus for the field and sampling effort will be in areas where a potential or known release may have occurred, or there is groundwater data indicating elevated levels of PFAS in from monitoring a well within that area.

The results of a groundwater sampling event conducted in March 2024 (Section 3) indicate elevated concentrations of PFAS in the monitoring wells. The land treatment area is an approved natural management system to receive recovered aircraft deicing fluid (ADF) for treatment by soil micro-organisms. Given that ADF is not a source of PFAS and there are no other airport operations occurring in the area, the source of PFAS to the groundwater is unknown. Therefore, the Land Treatment Area has been added to the potential and known areas of concern for this investigation.

The following areas will be sampled through the course of this investigation:

- Current SIA Fire House: AFFF storage and usage as mandated by FAA to remain operational.
- Area used for FAA inspections and testing as mandated to maintain Part 139 certification with the FAA.
- Field Maintenance Area: AFFF storage and equipment maintenance.
- Historical SIA Fire House: historical AFFF storage and usage as mandated to maintain Part 139 certification with the FAA.
- Joint Fire Training Area / Military Burn Pit: joint training activities with AFFF, by the Airforce, SIA and the Air National Guard as mandated by federal authorities and regulations.
- West Park Drive / Waste to Energy Plant Area: unknown source.
- Stormwater Recovery Area: potential PFAS-impacted stormwater collection and infiltration.
- Land Treatment Area: this area is used to land apply the aircraft deicing fluid collected off the airplanes. ADF is not a source of PFAS (ITRC 2023). While there is no known source of PFAS to this area from airport operations, PFAS was detected in the groundwater during the March 2024 sampling event.
- Former Gieger Field Area: there are no known AFFF activities in the immediate area, PFAS was detected in groundwater at a monitoring well.
- Triangle Ramp Training Area: while firefighting training was conducted with water only in this area, the sampling of shallow soils in this area is to test if there was any potential cross contamination of PFAS via the firefighting equipment. The ramp is bordered by a trench drain system that is part of the 3-21 Outfall collection area so much of the water used during training would have entered the drainage system. The area around Outfall 3-21 in the Stormwater Recovery Area is also being sampled as part of this investigation.

The following areas shown in Figure 1.2 are not included in this initial investigation:

- Hanger 725: While AFFF is currently stored in the building, there has been no reported usage or release of AFFF from the storage area tank or fire suppression system. The fire

suppression system was installed in 2016 and has never been activated and testing of the system has been conducted with water only. The system is regularly maintained and is in good condition with no reports of leaks or incidental releases of AFFF. Given that there is no evidence of an environmental release at this location, Hanger 725 is not included in this initial investigation.

Air National Guard Operations area: while there is known historical usage of AFFF for firefighting training activities when under DoD control and mandates, further investigation of this area will occur as part of the Remedial Investigation.

The IPI Work Plan details the field program for the evaluation of PFAS in groundwater and soil for each of these areas. The following sections below provide the details of the field investigation to be conducted.

2.0 INITIAL INVESTIGATION OBJECTIVES

The objective of this field investigation is to provide a preliminary dataset for use in the development of the Remedial Investigation Work Plan. This is needed as there is only a single synoptic sampling event wherein data has been collected to evaluate PFAS in groundwater using current promulgated analytical methods. In addition, there is no Site data for PFAS in soil.

The sampling objectives are to conduct a synoptic sampling of groundwater samples from a select number of in-place wells across the Site as well as measurements of groundwater elevation. In addition to groundwater, soil samples will also the collected. The soil sampling objective is to provide an initial dataset to evaluate the presence of PFAS in soils and provide preliminary information on the spatial (horizontal and vertical) distributions of any PFAS present within Site soils.

3.0 PRELIMINARY GROUNDWATER SAMPLING (MARCH 2024)

A preliminary groundwater sampling event was conducted (prior to issuance of the Order), and groundwater samples were collected from 28 groundwater wells between March 5 and March 15, 2024. The groundwater wells were sampled following the methods and field protocols outlined in the QAPP/SAP for this IPI Work Plan (Appendix B). Figure 3.1 shows the location of the groundwater monitoring wells. The groundwater samples were analyzed for PFAS using EPA Method 1633. In addition to PFAS, the groundwater samples were analyzed for:

- Cations and anions (calcium, magnesium, potassium, chloride)
- Nutrients (nitrate, phosphate, sulfate)
- Water quality and field parameters (temperature, pH, specific conductivity, turbidity, dissolved oxygen, oxidation-reduction potential)
- Biological oxygen demand
- Alkalinity
- Stable isotopes (δ^2H-H_20, $\delta\,^{18}$-H_2O)

The compiled results are included in tabular format in Appendix A1. The laboratory reports are provided in Appendix A2. The results from this event were also provided to Ecology on 10 June 2024, as part of the monthly progress report.

An additional sample was collected from an exterior water spigot located near the deicing area pad. The spigot which is connected to the City of Spokane municipal water supply was sampled

to provide an initial evaluation of tap water supplied to the airport as a potential PFAS source. The sample was labeled as “Tap Water - Deicing Area Spigot” in reference to the area from which it was collected and was analyzed following EPA Method 537, as appropriate for tap water.

3.1 PFAS Results from the March 2024 Groundwater Sampling Event

This section provides a summary of the PFAS results. The discussion below provides preliminary observations for PFAS by sampling area, based on the March 2024 results. Comparisons have been made between the observed PFAS concentrations in groundwater samples and Ecology’s current criteria levels for PFAS in potable groundwater as an initial evaluation (Exhibit 3.1). Ecology has made recent changes to its PFAS screening levels, as presented in the Cleanup Levels and Risk Calculation (CLARC) tables' most recent update in July 2024. The regulatory process for these updates and the applicability of the various criteria levels is unclear.

The Method B Potable Groundwater standards, under Washington State's Model Toxics Control Act, set risk-based cleanup levels for contaminants in groundwater that is, or could be, used as a drinking water source. This method allows for site-specific assessments based on the toxicity of contaminants, exposure pathways, and land use, while ensuring the protection of human health (Modified Method B). The derivation of site-specific Modified Method B criteria also includes the use of updated scientific information to develop cleanup goals that are protective of potable groundwater, which is especially important for emerging contaminants such as PFAS where toxicological studies are still being conducted and regulatory determinations regarding human and ecological risk are dynamic. A site-specific Modified Method B allows for a scientifically sound approach that aligns with regulatory requirements while balancing environmental and health considerations. The use of Ecology’s Method B potable groundwater criteria herein is meant as a starting point, understanding that further work will be conducted during the development of the Remedial Investigation Work Plan and the Remedial Investigation to conduct a quantitative risk assessment and provide direct support for the development of protective Site- and chemical specific clean up levels.

Exhibit 3.1 Criteria Levels for PFAS in Groundwater

Group	PFAS	CAS Number	EPA Method 1633		Method B (lowest value)	Federal Level
			RL	MDL		
			(ng/L)		(ng/L)	
Perfluoroalkyl carboxylic acids	PFBA	375-22-4	4.00	1.00	8,000	-
	PFHxA	307-24-4	2.00	0.50	8,000	-
	PFOA	335-67-1	2.00	0.50	0.003	4
	PFNA	375-95-1	2.00	0.50	40	10
Perfluoroalkyl sulfonic acids	PFBS	375-73-5	2.00	0.50	4,800	-
	PFHxS	355-46-4	2.00	0.50	160	10
	PFOS	1763-23-1	2.00	0.50	1.6	4

Notes:
1) The lower value of the Method B noncancer versus cancer criteria are shown; the Method B cancer criteria is shown for PFOA, all other PFAS criteria are Method B noncancer.
2) PFAS screening levels were taken from the CLARC data tables issued by Ecology (July 2024) for groundwater. Note that the option to develop site-specific criteria (Modified Method B) is not listed and will be evaluated during the remedial investigation.

3) Eurofins Scientific EPA Method 1633 analytical reporting limit (RL) and method detection limit (MDL) for groundwater (see Section 9 of Appendix B).
4) ng/L = nanograms per liter

The Federal Levels presented in Exhibit 3.1 are National Primary Drinking Water values issued by EPA in April 2024 applicable to public drinking water systems under the Safe Drinking Water Act and are currently subject to legal challenge. While these levels are now officially listed in the CLARC tables as of July 2024, at the federal level, they are executed via a phased implementation plan, to take place over the next few years; monitoring is required in three years and compliance with the levels is not required until 2029 (EPA 2024a; 2024b).

The discussion below provides preliminary findings for the PFAS results from the March 2024 groundwater sampling event. Comparisons of the results are made to groundwater criteria in Exhibit 3.1. Notably, the Method B criteria for PFOA and PFOS are below the analytical method's reporting limit and below the method detection limit for PFOA. The method detection limit (MDL) is defined as, "the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results" (EPA 2016). The reporting limit is the lowest concentration that can be reported with a high level of confidence as being accurately quantified, the RL is laboratory specific. The discussion below around criteria exceedances for these compounds defers to the Federal Level for PFOA and PFOS.

JOINT FIRE TRAINING AREA

Historically, joint fire response training sessions between SIA, Air National Guard, and Army National Guard took place in this area. A total of 8 groundwater wells were sampled in this area with screened depths between 7.5 to 91 feet below ground surface (ft bgs; Table 3.1). Preliminary evaluation of the data shows:

- Concentrations of PFBA, PFHxA, PFBS, and PFNA were below all three of the groundwater criteria shown in Exhibit 3.1.
- Two groundwater samples collected 71.5 and 80 ft bgs (MW8A and MW-5A, respectively) had results below the MDL for all 40 PFAS analyzed. Shallower groundwater samples collected between 16 and 37 ft bgs showed PFHxS and PFOS concentrations above their respective criteria in Exhibit 3.1.
- PFOA followed the same general pattern as PFOS and PFHxS with elevated concentrations in the shallower groundwater samples. PFOA concentrations were below the MDL at the two wells sampled at 71.5 bgs (MW-8A) and 80 ft bgs (MW-5A).

Figure 3.2 shows the general pattern of decreasing PFAS concentrations with increasing sample depths across the subset of PFAS where there was at least a single detected value across the Site. The sampling plan for this area will support further evaluation of the spatial patterns in this area both horizontally and vertically.

WEST PARK DRIVE / WASTE TO ENERGY PLANT AREA

One well (MW-1A) with a screen depth of 65 to 75 ft bgs was sampled in this area. This well is located adjacent to the Waste to Energy facility identified in the SAR and is a potential off-site PFAS source. The concentrations of PFBA, PFHxA, PFBS, and PFNA were below their respective groundwater criteria levels shown in Exhibit 3.1. MW-1A was the only well sampled during the March 2024 sampling event with PFOA, PFOS, and PFHxS concentrations above the criteria levels and a screen depth below approximately 40 ft bgs. The PFHxS concentration in this well

was 27 ng/L, above the Federal Level of 10 ng/L. PFOS and PFOA were reported at concentrations of 28 and 3.8 ng/L, respectively, both of which are above the Method B criteria. PFOS was additionally above the Federal level.

STORMWATER RECOVERY AREA

The stormwater recovery area receives water collected from three drainage areas that is discharged through permitted stormwater outfalls (Valley 2023). Screen depths for the 11 monitoring wells sampled ranged from 4.5 to 20 ft bgs. The concentrations of PFBA, PFHxA, and PFBS were below their respective criteria levels shown in Exhibit 3.1. PFHxS was detected in samples from the 11 wells at concentrations between 25 and 4,200 ng/L, above the Federal Level of 10 ng/L. PFHxS concentrations in three wells (MW-321, MW-1, and MW-14) were also greater than the Method B criteria. PFOS and PFOA were detected in samples from the 11 wells at concentrations above the Federal Level.

LAND TREATMENT AREA

This area has no known source of PFAS due to airport operations. Five groundwater wells with screen depths ranging from 6 to 26 ft bgs were sampled (Table 3.1). Results for PFBA, PFHxA, PFBS, and PFNA were below all three of the groundwater criteria levels shown in Exhibit 3.1. A single exceedance for PFHxS for the Federal Level was observed at MW-9 with a concentration of 22 ng/L. PFOS exceeded the Federal Level in 2 of the 5 wells ranging from below detection to 17 ng/L. A single location in the area at MW-9 (14 ng/L) exceeded the Federal Level.

FORMER GEIGER FIELD

A groundwater sample was collected from MW-18 located in the Business Park area and contains a well screen between 8 to 13 ft bgs. Concentrations of PFBA, PFHxA, PFBS, PFHxS and PFNA were below the groundwater criteria levels shown in Exhibit 3.1. The PFOS concentration of was 12 ng/L, above the Federal Criteria of 4 ng/L. PFOA was reported at a concentration of 2.5 ng/L, below the Federal Level.

WEST PERIPHERAL

Groundwater samples were collected from two wells (MW-15 and MW-17) located near the western extent of the primary airport area. Screen intervals for these monitoring wells range from 7 to 25 ft bgs. PFAS was not detected above the MDL in the sample analyzed from MW-15. For MW-17, concentrations of PFBA, PFHxA, PFNA, PFBS, and PFHxS were below the criteria in Exhibit 3.1. The concentrations of PFOA and PFOS were 2.1 ng/L and 3.2 ng/L, respectively, below their respective Federal Levels.

Results for the sample collected from the tap water spigot are presented in Table 1 of Appendix A1. All PFAS were below their respective Federal Levels.

Further analysis of this data, which includes characterization of water types, and analysis of the isotopic data, will be presented in the Initial PFAS Investigation Report wherein the March 2024 results will be analyzed collectively with the results of the IPI.

4.0 PROPOSED SCOPE OF WORK

The proposed scope of work consists of pre-field activities, drilling and soil sampling, groundwater sampling, laboratory analysis, data evaluation, and reporting. The proposed plan, including sampling rationale and locations are described below and summarized in Table 4.1 for groundwater and Table 4.1 for soil. Sampling locations are displayed in Figure 4.1 for groundwater and Figure 4.2 for soil.

4.1 Pre-field Activities

Prior to commencement of field activities, the field team will complete the following tasks:

- Obtain a boring permit from Ecology to advance 62 soil borings.
- Update the existing Site-Specific Health and Safety Plan (HASP) to include drilling and soil sampling activities (Appendix C). The HASP was prepared in accordance with the Occupational Safety and Health Administration (OSHA) regulations (CFR 29, Parts 1904, 1910, and 1926). The HASP will be maintained on-Site during field activities and will outline the work to be performed, safety precautions, emergency response procedures, nearest hospital information, and on-Site personnel responsible for managing emergency situations.
- Assess Site access and proposed drilling locations.
- Mark boring locations with white paint within the area cleared by ground penetrating radar to ensure clearance from underground utilities. All targeted boring locations will be surveyed prior to any drilling.
- Contract a private geophysical subcontractor to assess the presence of buried utilities and/or other subsurface structures and obstructions at proposed boring locations. The boring locations may be adjusted based on the result of the geophysical survey as well as access and Site operational constraints.
- Coordinate and scheduling field activities with drilling, waste, and laboratory subcontractors.
- Establish agreements with subcontractors selected to perform support services.
- Prepare and submit FAA Form 7460 a minimum of 45 days prior to the start of field activities for the proposed soil boring locations.
- Notify the FAA 14 days before fieldwork begins within the AOA.
- Ensure that all personnel on the field team and subcontractors have reviewed the Inadvertent Discovery Plan (Appendix D).
- Provide Ecology notice 5 calendar days prior to commencement of field activities.

Sampling procedures will follow the practice and procedures described in Appendix B.

4.2 Groundwater Sampling

Groundwater samples will be collected from 52 existing monitoring wells after the static water levels are collected using a water level meter. Measured field parameters will include temperature, pH, specific conductivity, turbidity, dissolved oxygen, and oxidation-reduction potential. The groundwater samples will be also analyzed for the following constituents:

- PFAS using USEPA Method 1633
- Cations (calcium, magnesium, potassium, sodium) using EPA Method 200.7
- Anions (chloride, bromide, nitrate, sulfate) using EPA Method 300.0
- Alkalinity by titration (SM 2320 B)
- Stable isotopes (δ^2H-H_20, δ^{18}-H_2O) reported as percent relative to Vienna Standard Mean Ocean Water

The samples will be analyzed by a laboratory certified by the Washington Environment Laboratory Accreditation Program (ELAP) and qualified to perform the analytical method for PFAS. Additional details including laboratory reporting limits, laboratory method detection limits, holding times, and sampling containers are included in the QAPP (Appendix B). Cations, anions, and alkalinity provide the needed information to support the classification of groundwater and calculate the ionic balance. Stable isotopes provide additional information for evaluating the sources and movement of groundwater.

4.2.1 Groundwater Sampling Locations

A total of 52 wells across eight areas, shown in Figures 4.1A and 4.1B, have been selected for groundwater sampling as shown below in Exhibit 4.1:

Exhibit 4.1 Groundwater Monitoring Well Summary

Area Name	Monitoring Well Count
Former Geiger Field	1
Geiger Correctional Facility	11
Geiger Delivery Facility	9
Joint Fire Training Area	11
Land Treatment Area	5
West Park West / Waste to Energy Plant	1
Stormwater Recovery Area	11
West Peripheral	3
Total Well Count	*52*

Twenty-eight (28) of the fifty-two (52) groundwater monitoring wells proposed were sampled during the preliminary groundwater investigation in March 2024, as detailed in Section 3.0 and Table 4.1. Twenty-four (24) additional groundwater monitoring wells proposed were identified on the SIA property after the preliminary groundwater investigation. Three additional groundwater monitoring wells were identified in the Joint Fire Training Area and West Peripheral by a surveyor and additional monitoring well networks located at the Geiger Correctional Facility and Geiger Delivery Facility were identified and are further detailed below.

GEIGER CORRECTIONAL FACILITY

Located within a minimum security prison operated by Spokane County, the Geiger Correctional Facility (Ecology Facility/ Site No. 663, Cleanup Site ID 1137) is approximately one mile southeast of the Stormwater Recovery Area. GHD Services Inc. (GHD) currently conducts semiannual groundwater monitoring at this facility on behalf of Phillips 66 company to address petroleum hydrocarbons present in soil and groundwater related with a historical release from the Yellowstone Pipeline Company pipeline easement traversing the facility. Boring logs and well information were reviewed from the 2018 Remedial Investigation Report and 2023 Site Environmental Investigation Report (GHD 2018; 2023). Eleven (11) groundwater monitoring wells at this site were selected for sampling during this IPI.

Seven wells previously installed for groundwater monitoring at the correctional facility were selected and are described below:

- Three wells have identical screened intervals of 25-45 ft bgs;
- three have identical screened intervals of 3-15 ft bgs;
- and one has a screened interval of 3.5-13.5 ft bgs.

In addition, two sets of paired wells are located near the correctional facility and referenced in the GHD reports as associated with a neighboring site, the former Pacific Pride gas station at 7109 West Alton Drive (Ecology Facility/ Site No. 57835887, Cleanup Site ID 16987). The deeper of each well pair have a screened interval relatively deep compared to most monitoring wells, ranging from 68-97 ft bgs. The shallower of each well pair have a screened interval ranging from 24-45 ft bgs.

GEIGER DELIVERY FACILITY

Located at the intersection of S Geiger Blvd. and W Electric Ave, the Geiger Delivery Facility (Ecology Facility/ Site No. 666, Cleanup Site ID 1185) is approximately one mile east of the Joint Training Area. GHD currently conducts annual groundwater monitoring at this facility on behalf of Phillips 66 company to address petroleum hydrocarbons present in soil and groundwater related with a historical release from the Yellowstone Pipeline Company pipeline. Boring logs and well information were reviewed from the 2021 Annual Groundwater Monitoring Report (GHD 2022). Nine (9) groundwater monitoring wells in this area were selected for the IPI. Seven (7) wells have a screened interval ranging from 5-35 ft bgs and two wells have a screened interval ranging from 48-83 ft bgs.

4.2.2 Groundwater Sampling Methodology

Groundwater samples will be collected using low-flow groundwater sampling procedures for the collection of environmental samples and in accordance with the procedures in Appendix B (Appendix B, Attachment A Operating Procedures 3012 and 3032). Field parameters will be measured using a multi-parameter water quality meter.

Prior to commencement of sampling activities and between each use, sampling equipment will be cleaned in a “3-bucket” wash and rinse system with laboratory grade detergent (i.e., Liquinox). The final rinse after steam cleaning or bucket-wash will consist of laboratory-supplied PFAS-free water. Decontamination procedures are further described in the QAPP/SAP (Appendix B).

Groundwater samples will be collected in laboratory-provided PFAS-free HDPE containers, placed in resealable plastic bags, and stored in a cooler with ice. Samples will be collected and handled following procedures described in QAPP/SAP (Appendix B).

The groundwater samples will be transported to the analytical laboratory under chain-of-custody protocols and analyzed on a standard turn-around-time basis. Laboratory analyses, reporting limits, and sampling containers are detailed in the QAPP/SAP (Appendix B).

4.3 Soil Sampling

The investigation proposes collecting soil samples from fifty-one (51) boring locations, as summarized in Table 4.2. using sonic drilling methods. The proposed boring locations are shown in Figures 4.2 through 4.10. The boreholes will be advanced in 5-ft increments until first encounter with groundwater or a basalt layer is reached, whichever comes first. An addition six samples for shallow soil from 0 – 6 inches will also be collected from two areas via hand auger and soil types recorded.

The samples will be analyzed by an ELAP certified laboratory qualified to perform the analytical methods listed below. Additional details including laboratory reporting limits, laboratory method detection limits, holding times, and sampling containers are included in the QAPP (Appendix B). Soil samples will be analyzed for:

- PFAS using EPA Method 1633
- Total organic carbon using EPA Method 9060A
- pH using EPA Method SW-846 9045D
- Moisture content

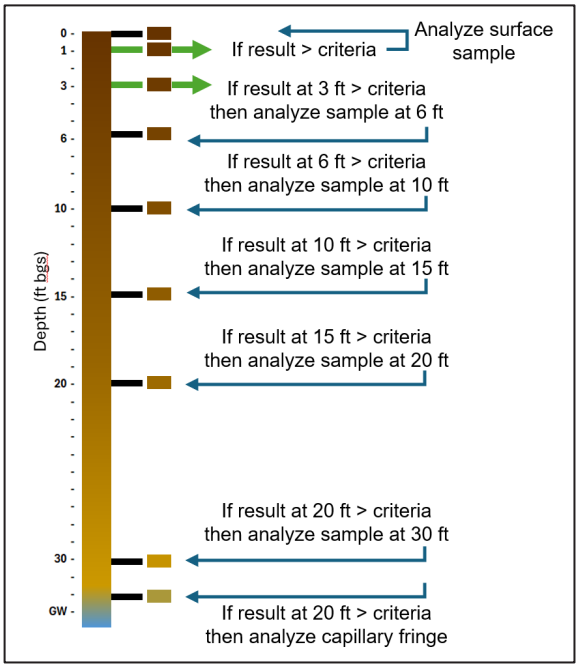


Exhibit 4.3.1. Example demonstrating sampling depths and decision process for analysis of soil borings. (Green arrows indicate the sample depths to be analyzed across all soil borings. See Exhibit 4.3.2 for criteria values)

Once the cores have been logged and the soil types catalogued, samples will be collected from specific depth intervals. Table 4.3 provides the target depth intervals for sampling. While specific depth intervals are targeted, a sample at the deepest point of the vadose zone (capillary fringe just above groundwater) will be collected at all locations bored. The analysis of the soil sampled follows an iterative process wherein samples from two shallow depths at 1 and 3 ft are analyzed at every location bored in the initial round of testing for the constituents listed above. Continued analysis of samples within the boring will be dependent upon the PFAS results. If all PFAS are below detection and/or relevant soil criteria in both samples (Exhibit 4.3.2), no further analysis at that location will be conducted. If the PFAS results indicate detected concentrations above relevant soil criteria then a subsequent round of analysis will be conducted in for the next proximal depth interval. This process will occur iteratively until either PFAS results are reported below the relevant soil criteria within the boring, or the entire bore has been analyzed. Given current turnaround times for the analytical laboratory, this iterative process can be completed within the holding times for PFAS in soil (90 days from collection; EPA Method 1633). Should delays in analysis occur, remaining soil samples will be extracted to provide an additional 90 days of hold time (EPA Method 1633).

Exhibit 4.3.2 Criteria Levels for PFAS in Soil

Group	PFAS	CAS Number	EPA Method 1633		US EPA SSL	Ecology Method B Vadose Zone	Ecology Method B Saturated Zone
			RL	MDL	µg/kg		
Perfluoroalkyl carboxylic acids	PFBA	375-22-4	0.40	0.10	6.5	44.0	2.90
	PFHxA	307-24-4	0.20	0.05	2.39	35.0	2.50
	PFOA	335-67-1	0.20	0.062	0.06	0.03	0.002
	PFNA	375-95-1	0.20	0.05	0.09	0.09	0.01
Perfluoroalkyl ether carboxylic acid	HFPO-DA	13252-13-6	0.20	0.05	0.01	0.12	0.01
Perfluoroalkyl sulfonic acids	PFBS	375-73-5	0.20	0.05	3.01	25.0	1.70
	PFHxS	355-46-4	0.20	0.05	0.004	0.06	0.004
	PFOS	1763-23-1	0.20	0.05	0.03	0.05	0.003

Notes:
1) PFAS criteria for soil (targets for soil to groundwater pathway) were taken from the CLARC data tables issued by Ecology (July 2024). Note that the option to develop site-specific soil criteria protective of groundwater is not listed on the table and will be evaluated during the remedial investigation.
2) MDLs and RLs for soil via EPA Method 1633 based on information provided by Eurofins Scientific.
3) Protection of groundwater soil screening levels (SSLs) taken from USEPA Regional Screening Level (RSL) Summary Table (TR=1E-06, HQ=1, May 2024). MCL-based SSLs are listed as HFPO-DA, PFHxS, PFNA, PFOS and PFOA. Risk-based SSLs are listed for other PFAS.
4) µg/kg = micrograms per kilogram

4.3.1 Soil Sampling Locations

Soil boring locations have been selected based on the following two criteria. Areas with elevated concentration of PFAS detected in groundwater samples, exceeding criteria in Exhibit 3.1 as reported in 2017-2019 or March 2024 groundwater sampling events, and/or areas of concerned related to the known or potential training, testing, or storage of AFFF as described in the Site Assessment Report. Sampling locations may receive minor adjustments during field implementation to facilitate situating sampling in topographical lows and also avoid utilities. To provide additional coverage, shallow soil samples (depth interval of 0 – 6 inches) will be collected by hand auger at the FAA Testing Area and the Triangle Ramp Testing Area. Each soil sampling area is described below.

CURRENT FIRE HOUSE

Based on interviews with former SIA firefighting staff, AFFF may have been released during FAA mandated testing in this area. Six soil borings are proposed northeast and southeast of the fire house where ARFF truck testing may have occurred. The locations were selected as they follow a topographical depression and represent an area where AFFF would be expected to accumulate in the event of a release. An additional soil boring is proposed adjacent to the oil water separator that receives wastewater from trench drains within the fire house (Figure 4.2).

FAA INSPECTION TESTING AREA

Based on interviews with former SIA firefighting staff, FAA mandated AFFF testing occurred in the grassy area adjacent to Taxiway D. Four surface soil samples and four soil borings are proposed in each quadrant of grassy areas formed by the intersection of runway 8/26 and Taxiway D (Figure 4.3).

FIELD MAINTENANCE BUILDING AREA

Based on interviews with former SIA firefighting staff, AFFF was stored in this building and ARFF equipment may have been tested during maintenance in the former unpaved area northeast of the Field Maintenance Building. Four soil borings are proposed in the former grassy area (currently paved) where testing may have occurred (Figure 4.4). The location within the building where the AFFF was stored is on a concrete slab that is free of visible cracks/damage and there are no reports of leaks or accidental releases from the tank. Based on the observed condition of the concrete surfaces in the building and lack of reported leaks/releases, no soil borings are proposed within the building at this time.

HISTORICAL FIRE HOUSE

Based on interviews with former SIA firefighting staff, AFFF may have been released during FAA mandated testing in this area. As a precautionary measure, one boring will be drilled inside the building adjacent to the location where the AFFF was stored as there is some visible cracks in the concrete floor. Four soil borings are proposed in line with bay door openings of the historical fire house in the direction where required ARFF truck testing may have occurred. One soil boring is proposed adjacent to the dry well west of the fire house (Figure 4.5).

JOINT FIRE TRAINING AND REMTECH AREAS

Based on the preliminary groundwater data collected in March 2024 and information related to historical activities performed in the areas, twelve soil borings are proposed in these areas (Figure 4.6). The goal is to evaluate the horizontal and vertical extent of PFAS in soils and guide the development of the RI in the areas.

WEST PARK DRIVE / WASTE TO ENERGY PLANT AREA

Two borings will be collected in this area (Figure 4.7). A groundwater sample collected from MW-1A showed elevated PFAS concentrations. The monitoring well is located on a densely vegetated slope above a water feature west of the Spokane Waste to Energy Facility. One boring will be advanced upslope to the west the well and one in the area east of well.

STORMWATER RECOVERY AREA

Thirteen soil boring locations are proposed in this area (Figure 4.8). Three soil borings are proposed adjacent to the Perimeter Ditch, Alpha, and 3-21 permitted stormwater outfalls. Two borings are proposed along each channel emanating from the 3-21 and Alpha outfalls, capturing the bank and mid-line of each channel. Two borings are proposed in areas where seasonal pooling occurs. One boring is proposed in an upslope area between the 3-21 Outfall and MW-1. Three soil borings are proposed adjacent to MW-1, MW-5, and MW-14.

LAND TREATMENT AREA

Two soil borings will be advanced between MW-10 and MW-11 and between MW-12 and MW-9. One additional boring is proposed on the western edge of the area at MW-8 along Hayford Rd (Figure 4.9).

TRIANGLE RAMP TRAINING AREA

Two shallow surface samples will be collected via hand auger on the southeast perimeter of the ramp. The samples are situated in a topographical low and adjacent to where the training would have taken place (Figure 4.10).

No soil sampling is planned at the Former Geiger Field area. The area was included in the list of potential and known areas of concern as PFAS was detected in groundwater sampled from MW-18 (Figure 3.1). However, given that only a single monitoring well was tested and there is no known source of PFAS due to airport operations, there currently is no rationale to guide the selection of soil sampling locations. To address this lack of information, several groundwater monitoring wells in the vicinity of MW-18 will be sampled during the IPI. This data will guide the development of any subsequent investigation in the area during the Remedial Investigation.

4.3.2 Drilling, Logging, and Soil Sampling of Borings

After performing a private utility locating/geophysical survey and verifying the absence of subsurface structures and/or utilities at each location, the soil borings will be advanced from ground surface until groundwater is encountered using sonic drilling methods. Prior to first use and in between borings, downhole drilling and sampling equipment will be decontaminated using a high-pressure steam cleaner with potable water. The borings will be advanced by drilling with the sonic rigs coring system which utilizes two casing sizes (one larger, outer drill casing and one inner core barrel). The outer drill casing will consist of a large diameter (i.e. 8- or 9-inch outside diameter [OD]) casing which will be advanced behind the smaller diameter core barrel to create a cased-off borehole as the boring is advanced. The recovered continuous core will be evaluated, and the boring will extend to the first encounter of groundwater at each location.

Soil core recovered from the continuous coring activities will be observed for general characteristics. Soil samples will be collected in laboratory-provided PFAS-free containers, placed in resealable plastic bags, and stored in a cooler with ice. Samples will be collected and handled following procedures described in Appendix B.

The soil samples will be transported to the analytical laboratory under chain-of-custody protocols and analyzed on a standard turn-around-time basis. Laboratory analyses, reporting limits, and sampling containers are shown in the QAPP/SAP (Appendix B).

As the borings are advanced, a lithologic log will be prepared by a field geologist under the direct supervision of a licensed Professional Geologist using the Unified Soil Classification System (USCS) for guidance, as described in the American Society for Testing Materials (ASTM) International Standard D 2488-17e.

4.4 Laboratory Analysis

Soil sampling will be analyzed for PFAS, total organic carbon, pH, and moisture content. Details on sample collection, methods, and laboratory methods are given in Appendix B.

4.5 Field and Laboratory Quality Control Samples

Field quality control samples will be used to evaluate the quality of sampling procedures in the production of field data and will be evaluated along with laboratory quality control protocols to assess the overall quality of data for the purposes of this investigation. The field data quality sampling program is outlined in Appendix B. Data evaluation and reporting is described further below.

As detailed in Appendix B, the following field quality control samples will be collected to assess the quality of sampling and laboratory methods:

- Equipment blanks
- Field blanks
- Source water blanks
- Trips blanks

Laboratory QA/QC samples will be prepared and analyzed by the analytical laboratory for every batch of project samples. Laboratory QA/QC samples/procedures may include surrogate spike compounds, matrix spike/matrix spike duplicate samples, laboratory blank samples, laboratory control standards, and laboratory duplicate samples.

4.6 Investigation-Derived Waste

Investigation-derived waste (IDW), consisting of soil cuttings, groundwater well purge water, and decontamination wash water, will be generated during the field investigation. Soil and water will be contained separately and temporarily stored on-Site in 55-gallon drums. Following profiling, drums will be removed and transported for off-Site disposal at an appropriate facility and in accordance with state and Federal regulations. IDW will be stored during the investigation within the secure perimeter fence at a to-be determined location.

4.7 Data Evaluation and Reporting

Data generated during this investigation will be summarized in an Initial PFAS Investigation Report that will include a summary of the completed investigation methods and analytical results for groundwater and soil. The report will be prepared for submittal to the Ecology and will include:

- Site background and investigation objectives;
- Completed pre-field and field activities;
- Analytical results from IDW and disposal documentation;
- Groundwater analytical data tables and laboratory reports;
- Soil analytical data tables and laboratory reports;
- Maps identifying Site features and sampling locations;
- Preliminary analysis of the soil and groundwater results with associated figures and maps;
- Potentiometric groundwater elevation maps for the March 2024 and IPI events;
- QA/QC review and data validation summary;
- Soil boring logs;
- Deviations from the IPI Work Plan; and
- Investigation findings and conclusions.

5.0 REFERENCES

EPA. 2016. “Definition and Procedure for the Determination of the Method Detection Limit, Revision 2.” EPA 821-R-16-006.

———. 2024a. “PFAS National Primary Drinking Water Regulation.” *Federal Register* 89 (82): 32532–757.

———. 2024b. “PFAS National Primary Drinking Water Regulation; Correction.” *Federal Register* 89 (113): 49101–4.

GHD. 2018. “Remedial Investigation Report.”

———. 2022. “2021 Annual Groundwater Monitoring Report Phillips 66 Facility No. 6547 Geiger Delivery Facility - USAAC Geiger Field GF006.”

———. 2023. “Site Investigation Report Phillips 66 Facility No. 6880 Geiger Corrections Facility.”

GSI Environmental Inc. 2024. “Final Site Assessment Report, Spokane International Airport.” Site Assessment Cleanup ID 16774. Spokane, WA: Spokane International Airport.

ITRC. 2023. “PFAS Technical and Regulatory Guidance Document and Fact Sheet.” https://pfas-1.itrcweb.org/2-5-pfas-uses/.

Valley. 2023. “2023 Stormwater Pollution Prevention Plan – Spokane International Airport.”

GSI Job No.: 6892
Issued: 13 December 2024

INITIAL PFAS INVESTIGATION WORK PLAN
Spokane International Airport
Spokane, WA

TABLES

TABLE 3.1: Groundwater Sampling Locations: March 2024.
Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, WA

Area	Location ID	Well Depth (ft)	Sample Depth (ft)	Sample Date	Collection Method	Sample ID[1]
Joint Fire Training Area	MW-5A	96	80	3/7/2024	Submersible pump	EA-MW5A-N-03072024
	MW-5B	60	33	3/7/2024	Submersible pump	EA-MW5B-N-03072024
	MW-8A	85.5	71.5	3/7/2024	Peristaltic pump	EA-MW8A-N-03072024
	MW-8B	51	45	3/7/2024	Peristaltic pump	EA-MW8B-N-03072024
	MW-13A	42	37	3/7/2024	Peristaltic pump	EA-MW13A-N-03072024
	MW-13B	19	16	3/7/2024	Peristaltic pump	EA-MW13B-N-03072024
	MW-14A	34	30	3/6/2024	Peristaltic pump	EA-MW14A-N-03062024
	MW-14B	19	16.5	3/6/2024	Peristaltic pump	EA-MW14B-N-03062024
Park Drive West / Waste Disposal Area	MW-1A	79.3	70	3/12/2024	Peristaltic pump	PD-MW1A-N-03122024
Stormwater Recovery Area	MW-1	14.5	12	3/11/2024	Peristaltic pump	SWN-MW1-N-03112024
	MW-2	14.7	12	3/11/2024	Peristaltic pump	SWN-MW2-N-03112024
	MW-3	8.5	7.5	3/7/2024	Peristaltic pump	SWN-MW3-N-03072024
	MW-4	12.4	13	3/12/2024	Peristaltic pump	SWN-MW4-N-03122024
	MW-5	20	12.5	3/12/2024	Peristaltic pump	SWN-MW5-N-03122024
	MW-6	20	14.5	3/11/2024	Peristaltic pump	SWN-MW6-N-03112024
	MW-7	19	14.5	3/6/2024	Peristaltic pump	SWN-MW7-N-03062024
	MW-13	11.5	8	3/11/2024	Peristaltic pump	SWN-MW13-N-03112024
	MW-14	14.5	10	3/11/2024	Peristaltic pump	SWN-MW14-N-03112024
	MW-321	15	11	3/12/2024	Peristaltic pump	SWN-MW321-N-03122024
	MW-A	15	10.85	3/11/2024	Peristaltic pump	SWN-MWA-N-03112024
Land Treatment Area	MW-8	22	18	3/5/2024	Peristaltic pump	LA-MW8-N-03052024
	MW-9	20	15.5	3/8/2024	Peristaltic pump	LA-MW9-N-03082024
	MW-10	25	22.3	3/5/2024	Peristaltic pump	LA-MW10-N-03052024
	MW-11	19	14	3/8/2024	Peristaltic pump	LA-MW11-N-03082024
	MW-12	26	16	3/8/2024	Peristaltic pump	LA-MW12-N-03082024
Former Geiger Field	MW-18	13	10.5	3/12/2024	Peristaltic pump	FGF-MW18-N-03122024
West Peripheral	MW-15	12	9.5	3/13/2024	Peristaltic pump	W-MW15-N-03132024
	MW-17	25	20	3/13/2024	Peristaltic pump	W-MW17-N-03132024
Tap Water - Deicing Area Spigot				3/26/2024		DeiceTap N-03262024

1) Only the parent sample ID is given, field duplicates are shown in Appendix A1.

GSI ENVIRONMENTAL

TABLE 4.1: Groundwater Sampling Locations.
Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, WA

Area Name	Area Notation	Location ID	Original MW ID	Sampled March 2024	Well Depth (ft bgs)	Installlation Date	Top of Casing Elevation (ft)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Latitude	Longitude
Joint Fire Training Area	JTA	EA-MW-5A	MW-5A	X	96	4/30/1990	2394.574	81	91	47.610417	-117.54175
		EA-MW-5B	MW-5B	X	60	5/2/1990	2394.701	23	43	47.610415	-117.541702
		EW-MW-6B	MW-6B		40	4/19/1990	2375.744	10.5	30.5	47.612202	-117.542189
		EA-MW-7A	MW-7A		73.2	4/23/1990	2379.115	58	68	47.612409	-117.541216
		EA-MW-7B	MW-7B		35	4/18/1990	2379.255	7.5	27.5	47.612431	-117.541162
		EA-MW-8A	MW-8A	X	85.5	4/27/1990	2382.788	66.5	76.5	47.61205	-117.540441
		EA-MW-8B	MW-8B	X	51	4/25/1990	2381.936	13	33	47.612045	-117.540394
		EA-MW-13A	MW-13A	X	42	12/12/1992	2383.749	32	42	47.612358	-117.540771
		EA-MW-13B	MW-13B	X	20	12/22/1992	2383.571	10	20	47.612384	-117.54077
		EA-MW-14A	MW-14A	X	35	12/22/1992	2385.434	25	35	47.612067	-117.541018
		EA-MW-14B	MW-14B	X	20.5	12/22/1992	2385.511	9	19	47.612075	-117.540986
Park Drive West	PD	PD-MW-1A	MW-1A	X	79.3	5/10/1990	2323.983	65	75	47.627678	-117.508036
Stormwater Recovery Area	SWN	SWN-MW-1	MW-1	X	14.5	11/26/2007	2292.456	8.5	14.5	47.634854	-117.507709
		SWN-MW-2	MW-2	X	14.7	11/26/2007	2292.693	9.5	14.7	47.635547	-117.507767
		SWN-MW-3	MW-3	X	8.5	11/26/2007	2296.051	6.5	8.4	47.636535	-117.510448
		SWN-MW-4	MW-4	X	12.4	11/26/2007	2296.501	7.5	12.4	47.63674	-117.50966
		SWN-MW-5	MW-5	X	20	5/27/2009	2282.515	5	20	47.635611	-117.501811
		SWN-MW-6	MW-6	X	20	5/27/2009	2292.336	5	20	47.637144	-117.503723
		SWN-MW-7	MW-7	X	19	5/27/2009	2305.137	5	19	47.635519	-117.516597
		SWN-MW-13	MW-13	X	11.5	11/2/2017	2280.723	5.5	11.5	47.635605	-117.497654
		SWN-MW-14	MW-14	X	14.5	11/2/2017	2281.012	4.5	14.5	47.638575	-117.498087
		SWN-MW-321	MW-321	X	15	9/9/2014	2309.521	5	15	47.632627	-117.514049
		SWN-MW-A	MW-A	X	15	9/9/2014	2307.798	5	15	47.634075	-117.51529
Land Treatment Area	LA	LA-MW-8	MW-8	X	22	11/29/2012	2374.181	12	22	47.629258	-117.56043
		LA-MW-9	MW-9	X	20	11/28/2012	2374.181	10	20	47.634977	-117.545114
		LA-MW-10	MW-10	X	25	11/28/2012	2361.933	15	25	47.630587	-117.545143
		LA-MW-11	MW-11	X	19	8/23/2014	2371.415	9	19	47.62856	-117.552001
		LA-MW-12	MW-12	X	26	8/23/2014	2353.128	6	26	47.635727	-117.54847

GSI ENVIRONMENTAL

TABLE 4.1: Groundwater Sampling Locations.
Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, WA

Area Name	Area Notation	Location ID	Original MW ID	Sampled March 2024	Well Depth (ft bgs)	Installlation Date	Top of Casing Elevation (ft)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Latitude	Longitude
Former Gieger Field	FGF	FGF-MW-18	MW-18	X	13	7/30/2018	2364.894	8	13	47.619864	-117.517183
West Peripheral	W	W-MW-15	MW-15	X	12	7/31/2018	2378.46	7	12	47.622137	-117.552506
		W-MW-16	MW-16		8.5	7/30/2018	2394.433	6	8.5	47.611555	-117.558968
		W-MW-17	MW-17	X	25	7/30/2018	2384.847	15	25	47.605371	-117.555523
Geiger Correctional Facility	GCF	GCF-MW-5	MW-5		13.5	3/19/2002	2355.374	3.5	13.5	47.621621	-117.513692
		GCF-MW-5D	MW-5D		45	10/7/2013	2355.331	25	45	47.62163	-117.51372
		GCF-MW-7	MW-7		45	3/20/2002	2356.437	25	45	47.621694	-117.513377
		GCF-MW-8	MW-8		45	3/21/2002	2356.84	25	45	47.621959	-117.51315
		GCF-MW-10	MW-10		15	10/11/2019	2354.665	3	15	47.622223	-117.513599
		GCF-MW-11	MW-11		15	10/11/2019	2354.666	3	15	47.622083	-117.51337
		GCF-MW-13	MW-13		15	3/14/2022	2352.852	3	15	47.622354	-117.514112
		GCF-MW-11A	MW-11A		99.5	4/10/1990	2357.416	84.5	97	47.620975	-117.512465
		GCF-MW-11B	MW-11B		50.7	4/10/1990	2357.824	24.7	44.7	47.62095	-117.512469
		GCF-MW-12A	MW-12A		81	4/11/1990	2355.377	68.1	78.1	47.621005	-117.511385
		GCF-MW-12B	MW-12B		51	4/12/1990	2355.215	24	45	47.620989	-117.511383
Geiger Delivery Facility	GDF	GDF-GR-2	GR-2		15	4/17/2001	2376.623	5	15	47.614264	-117.516504
		GDF-GR-3	GR-3		15	4/17/2001	2379.723	5	15	47.614327	-117.518189
		GDF-GR-4	GR-4		20	4/17/2001	2371.219	10	20	47.6153	-117.516809
		GDF-GR-5	GR-5		25	4/17/2001	2368.55	10	25	47.615422	-117.517541
		GDF-GR-7D	GR-7D		63	3/7/2002	2377.824	48	63	47.613933	-117.516408
		GDF-GR-7S	GR-7S		35	3/7/2002	2377.87	25	35	47.613933	-117.516372
		GDF-GR-8	GR-8		18	3/7/2002	2373.399	8	18	47.614002	-117.515638
		GDF-MW-10A	MW-10A		88	4/17/1990	2372.449	73	83	47.6144	-117.515221
		GDF-MW-10R	MW-10R		16	10/10/2013	2372.426	6	16	47.61438	-117.51522

Notes: Coordinates in NAD 83 State Plane Washington North. Elevation reported in NAVD 88

GSI ENVIRONMENTAL

TABLE 4.2: Soil Sampling Locations.
Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, WA

Area Name	Area Notation	Location ID	Method	Latitude	Longitude	Rationale / Notes
Current Fire House	CFH	CFH-001	SB	47.619593	-117.5408	Field area southeast of the fire house where required ARFF truck testing may have occurred historically.
		CFH-002	SB	47.619807	-117.540721	
		CFH-003	SB	47.619977	-117.540951	
		CFH-004	SB	47.620427	-117.54148	Field area northeast of the fire house where where required ARFF truck testing may have occurred historically.
		CFH-005	SB	47.620514	-117.541736	
		CFH-006	SB	47.620457	-117.541973	
		CFH-007	SB	47.619715	-117.542428	Adjacent to the oil water separator receiving wastewater from trench drains within the fire house.
FAA Inspection Testing Area	FIT	FIT-001	SB	47.616474	-117.533071	Pervious areas along Taxiway D adjacent to where SIA was directed by FAA to perform testing with AFFF.
		FIT-002	SB	47.616409	-117.531837	
		FIT-003	SB	47.617174	-117.533056	
		FIT-004	SB	47.617198	-117.531768	
		FIT-005	SS	47.616518	-117.532938	
		FIT-006	SS	47.616513	-117.531967	
		FIT-007	SS	47.617135	-117.53292	
		FIT-008	SS	47.617145	-117.531955	
Field Maintenance Building	FMB	FMB-001	SB	47.632226	-117.526747	Area where ARFF truck testing testing may have occurred prior to the area being paved.
		FMB-002	SB	47.632534	-117.526301	
		FMB-003	SB	47.632813	-117.525926	
		FMB-004	SB	47.6331	-117.526537	
Historical Fire House	HFH	HFH-001	SB	47.626319	-117.532276	Southwest side of the former fire house in the direction where required ARFF truck testing may have occurred historically.
		HFH-002	SB	47.626372	-117.532014	
		HFH-003	SB	47.626526	-117.53172	
		HFH-004	SB	47.626662	-117.531252	Inside building adjacent to where the AFFF concentrate was historically stored in plastic tanks.
		HFH-005	SB	47.626896	-117.531141	Northeast side of the former fire house in the direction where required ARFF truck testing may have occurred historically.
		HFH-006	SB	47.626755	-117.532621	Adjacent to dry well west of the former fire house.

GSI ENVIRONMENTAL

TABLE 4.2: Soil Sampling Locations.
Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, WA

Area Name	Area Notation	Location ID	Method	Latitude	Longitude	Rationale / Notes
Joint Fire Training Area and RemTech Site	JTA	JTA-001	SB	47.610293	-117.541548	Near well pair MW-5A & B
		JTA-002	SB	47.610967	-117.54122	Investigative locations to provide additional data in support of the RI workplan development.
		JTA-003	SB	47.611258	-117.542018	
		JTA-004	SB	47.611639	-117.541396	
		JTA-005	SB	47.6120	-117.541423	West of well pair MW-14A and MW-14B
		JTA-006	SB	47.611922	-117.540806	South between well paris MW-14 and MW-8
		JTA-007	SB	47.612286	-117.540781	Near well pair MW-13A & B
		JTA-008	SB	47.612477	-117.541124	Near well pair MW-7A & B
		JTA-009	SB	47.612745	-117.540713	Investigative location to provide additional data in support of the RI workplan development.
	RT	RT-001	SB	47.611808	-117.540207	Along the landside of the AOA fenceline. Additional investigative locations to provide additional data in support of the RI workplan development.
		RT-002	SB	47.612531	-117.540207	
		RT-003	SB	47.612885	-117.540207	
Park Drive West / Waste to Energy Plant	PDW	PDW-001	SB	47.627659	-117.508458	Up-slope from MW-1A
		PDW-002	SB	47.627779	-117.507098	Area east of MW-1A and north of the water feature on the Waste to Energy property.
Stormwater Recovery Area	SRA	SRA-001	SB	47.63246	-117.513865	Near 3-21 Outfall and MW-321
		SRA-002	SB	47.6342	-117.515425	Near Alpha Outfall and MW-A
		SRA-003	SB	47.635197	-117.516701	Near Perimeter Drainage Ditch Outfall and MW-7
		SRA-004A	SB	47.635816	-117.512017	Borings to capture the channel and adjacent bank.
		SRA-004B	SB	47.635792	-117.51198	
		SRA-005	SB	47.63338	-117.509847	Location along the southern extent of the SRA, up slope of the channel emanating from the 3-21 Outfall.
		SRA-006	SB	47.634738	-117.508331	Near MW-1
		SRA-007A	SB	47.635494	-117.50816	Samples to capture the channel and adjacent bank.
		SRA-007B	SB	47.635482	-117.508054	
		SRA-008	SB	47.636822	-117.506239	Adjacent to the area where seasonal pooling may occur.
		SRA-009	SB	47.635167	-117.504791	Adjacent to area where seasonal pooling may occur.
		SRA-010	SB	47.635456	-117.501748	Near MW-5
		SRA-011	SB	47.638644	-117.498351	Near MW-14
Land Treatment Area	LTA	LTA-001	SB	47.628781	-117.560635	Near MW-8; investigative location to provide additional data in support of the RI workplan development.
		LTA-002	SB	47.629597	-117.548586	Between MW-10 and MW-11

TABLE 4.2: Soil Sampling Locations.
Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, WA

Area Name	Area Notation	Location ID	Method	Latitude	Longitude	Rationale / Notes
		LTA-003	SB	47.635116	-117.546936	Between MW-12 and MW-9
Triangle Ramp Training Area	TRP	TRP-001	SS	47.625864	-117.518565	Adjacent to training area (south side)
		TRP-002	SS	47.625472	-117.518839	Adjacent to training area (east side)

Notes: Coordinates in NAD 83 State Plane Washington North.
Method indicates which the soil sampling method at each location: SB = soil sonic boring, SS = surface soil sampling (0 - 6 inches) via hand auger
AOA = airport operations area; RI = remedial investigation

GSI ENVIRONMENTAL

TABLE 4.3: Planned Depth Intervals for Soil Sampling.
Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, WA

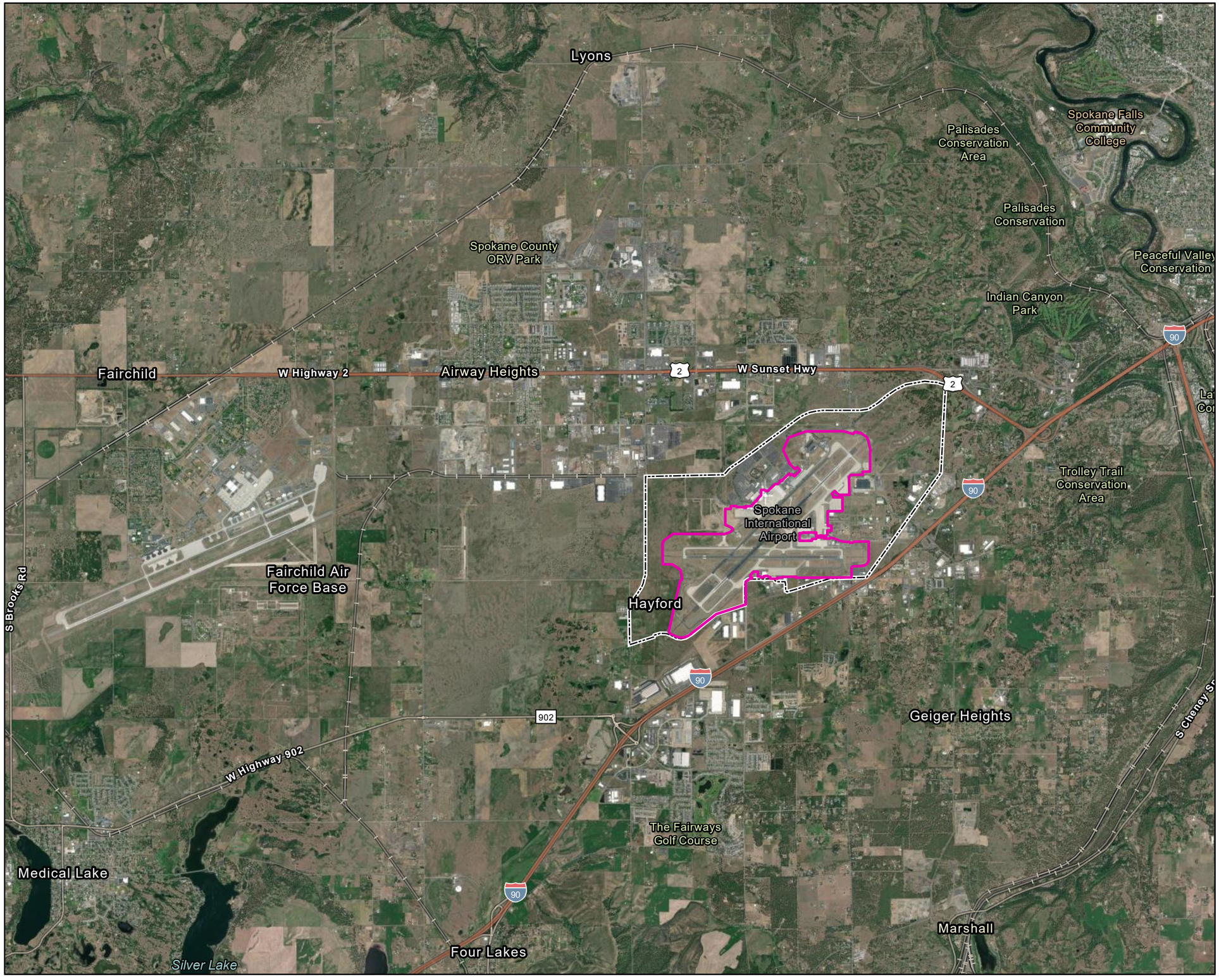
Sample Notation[1]	Target Depth (ft)	Start Depth (ft)	End Depth (ft)	Analysis Priority[2]	Rationale
S000	Surface	0	0.5	Hold	Analysis pending results from the sample collected at 1 ft.
S001	1	1	1.5	Round 1	Shallow sample for immediate analysis.
S003	3	3	3.5	Round 1	Shallow sample for immediate analysis.
S006	6	6	6.5	Hold	Analysis pending results from the samples collected at 3 ft.
S010	10	10	10.5	Hold	Analysis pending results from the sample collected in the next surficial sample interval.
Samples to be collected every 5 ft to 20 ft (i.e., 15 and 20 ft), then every 10 ft until first enounter with groundwater.				Hold	
Soil sampled at the deepest point cored within the vadose zone.				Hold	

Notes: 1) The sample ID format will contain a prefix consisting of the sampling area ID and the boring number. The sample ID will also state the sample type and collection date (Appendix B, Section 8.5). 2) Round 1 on the analysis priority indicate samples that will be analyzed at every location cored. Analysis for samples placed on hold will be dependent on the PFAS results for the samples taken at 1 and 3 ft.

GSI Job No.: 6892
Issued: 13 December 2024

INITIAL PFAS INVESTIGATION WORK PLAN
Spokane International Airport
Spokane, WA

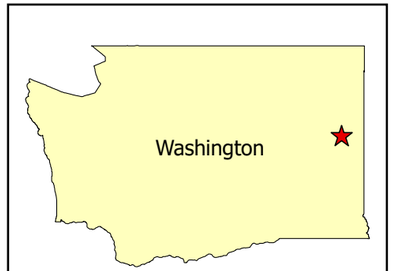
FIGURES



N

LEGEND

- Primary Airport Area
- AOA Fenceline



Notes

1.) AOA - Air Operations Area
2.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 2,500 5,000

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

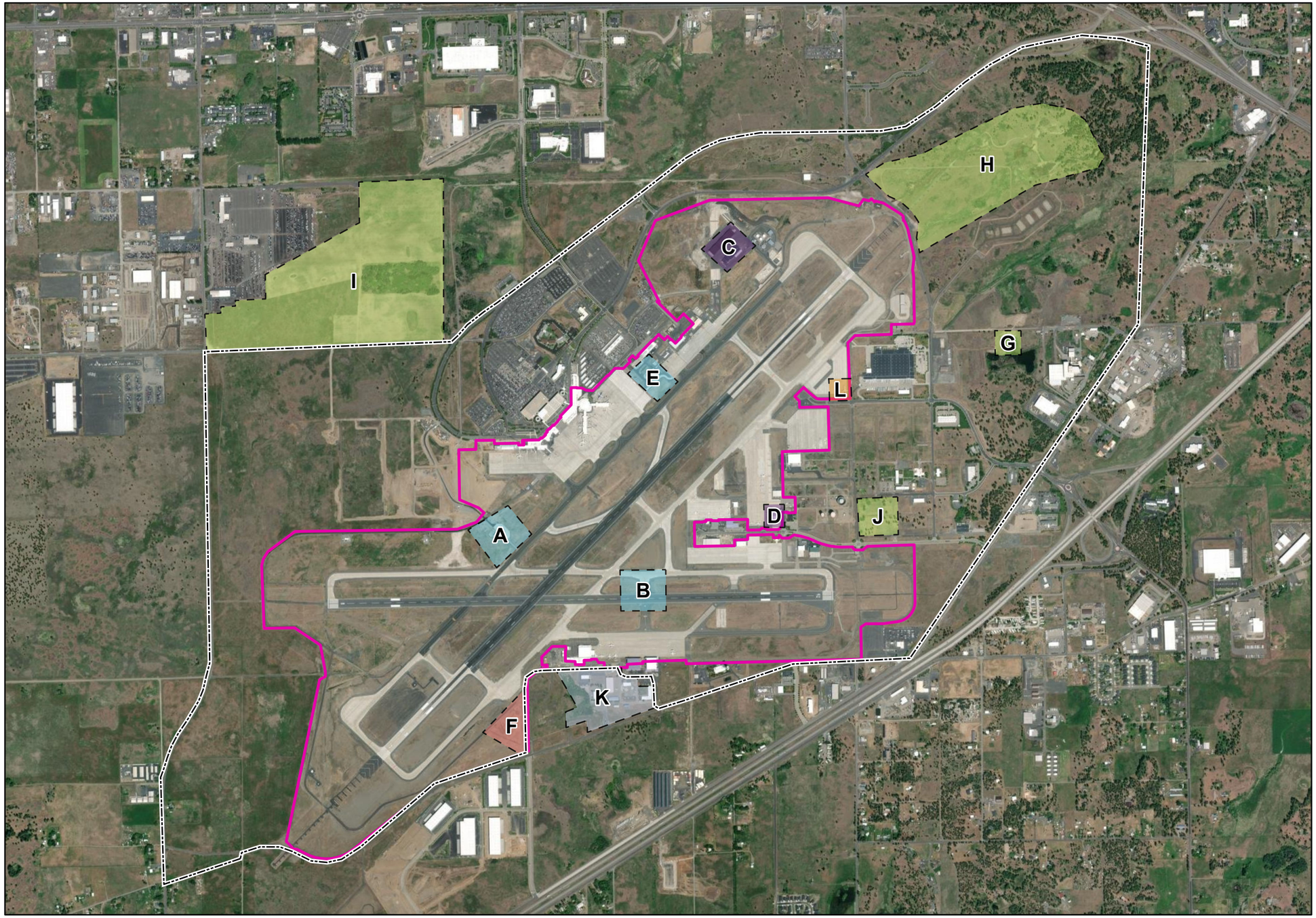
GSI ENVIRONMENTAL

SITE LOCATION MAP

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	**SIAWA_PI_SL**	Appv'd By:	KW

FIGURE 1.1



LEGEND

- Primary Airport Area
- AOA Fenceline

Potential Areas of Concern by Usage Type:

- AFFF Storage
- FAA Mandated Testing
- Other Investigation Areas
- Joint Fire Training Area
- AFFF Storage and Training
- Firefighting Training Area (Water Only)

Notes

1.) AOA - Air Operations Area
2.) Spatial extent of highlighted areas for visual purposes only and subject to further evaluation during subsequent investigations.
3.) Aerial imagery provided by Esri ArcGIS Online, 2023.

LOCATION KEY

Key	Name
A	Current SIA Fire House
B	FAA Inspection Testing
C	Field Maintenance Area
D	Hangar 725
E	Historical SIA Fire House
F	Joint Fire Training Area
G	Park Drive West / Waste to Energy Plant
H	Stormwater Recovery Area
I	Land Treatment Area
J	Former Geiger Field
K	Air National Guard
L	Triangle Ramp Training Area

GSI ENVIRONMENTAL

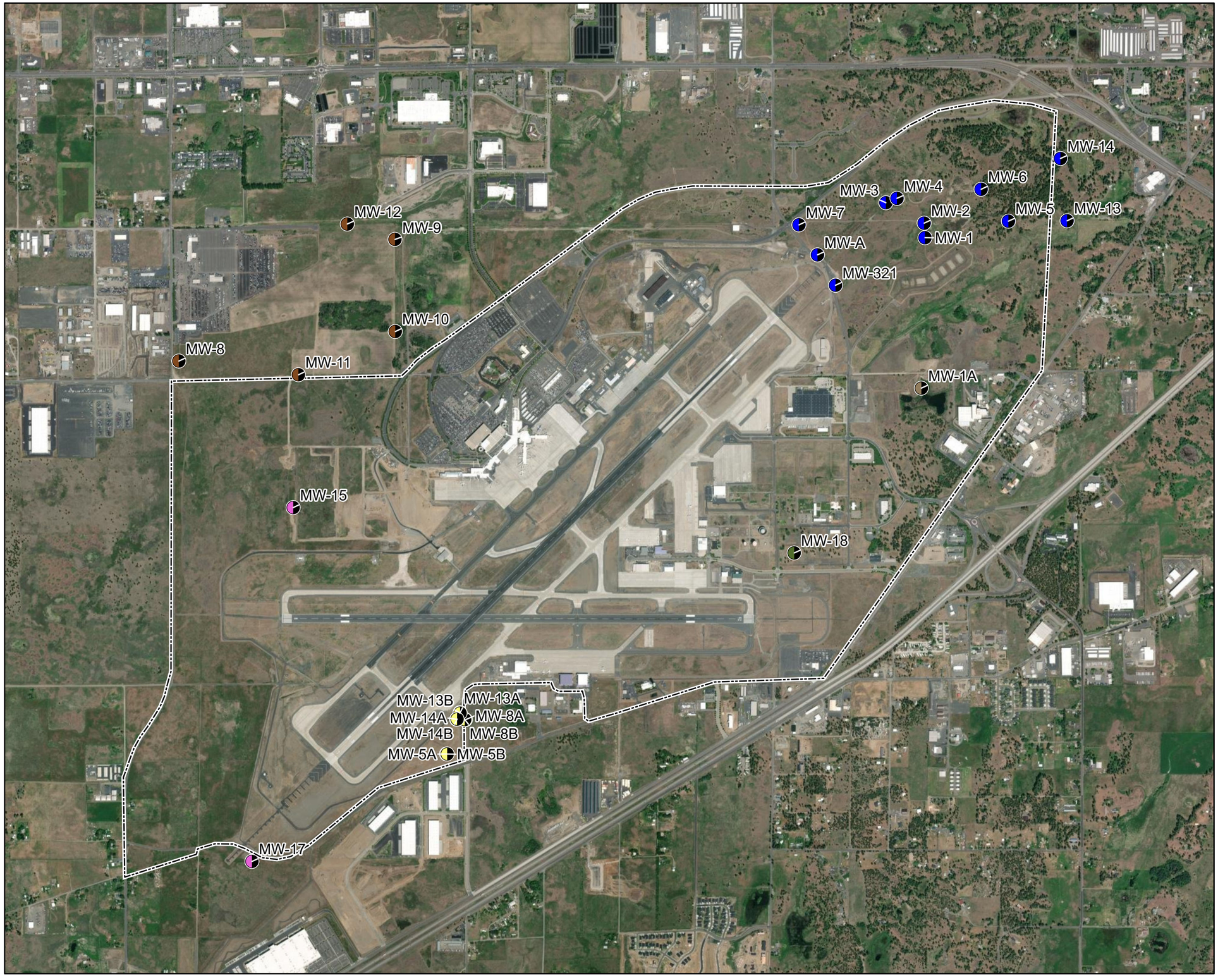
GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	SIAWA_PI_AOC	Appv'd By:	KW
FIGURE 1.2			

Potential or Known PFAS Areas of Concern

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

Feet
0 1,000 2,000



LEGEND

- Primary Airport Area

Monitoring Well Area

- Joint Fire Training Area
- Land Treatment Area
- Park Drive West / Waste to Energy Plant
- Former Geiger Field
- Stormwater Recovery Area
- West Peripheral

Notes

1.) Monitoring Well locations and Areas correspond to information presented in Table 3.1
2.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 1,000 2,000

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

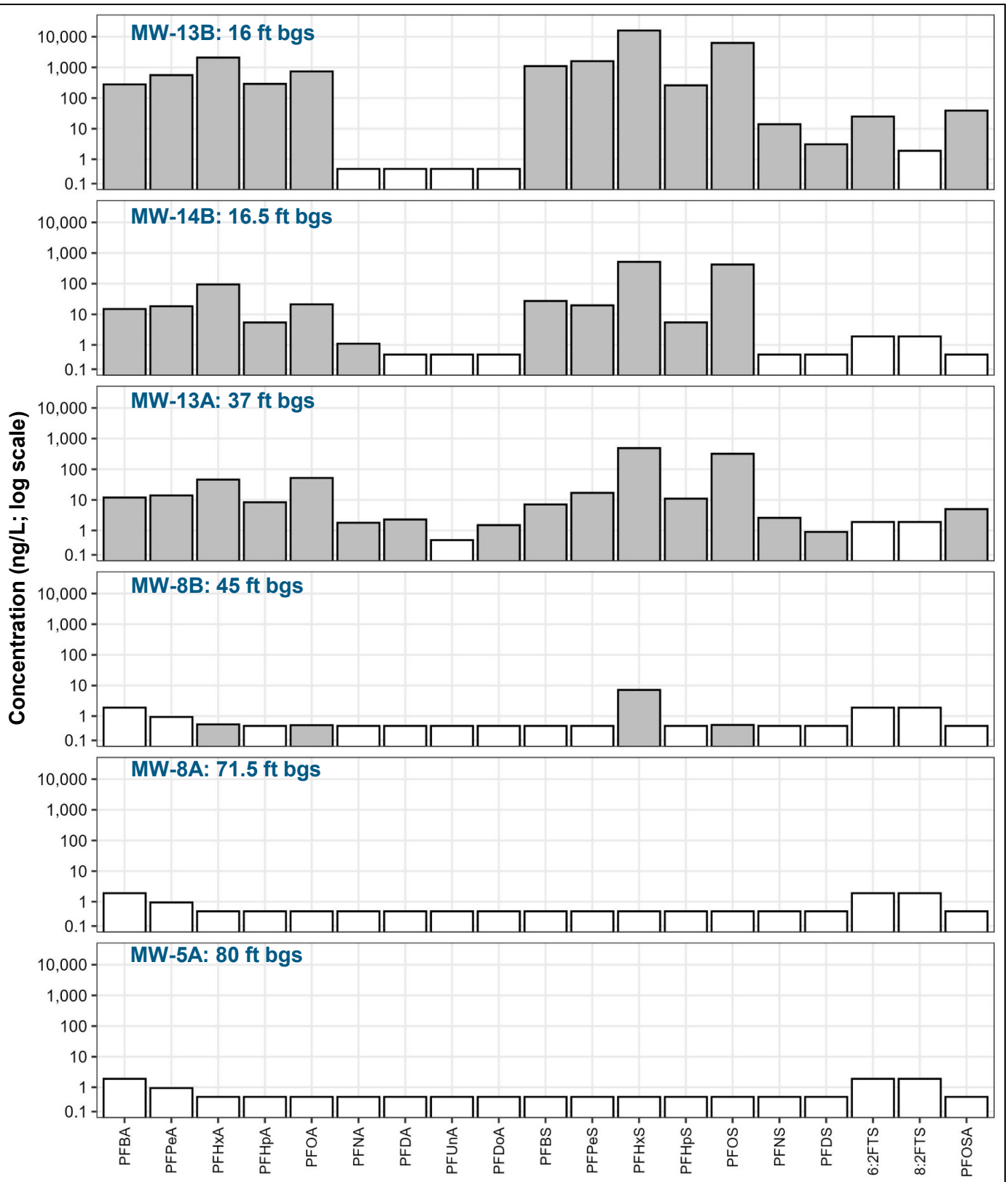
GSI ENVIRONMENTAL

Groundwater Locations Sampled in March 2024

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	SIAWA_PI_0324	Appv'd By:	KW

FIGURE 3.1



Notes: Only individual PFAS for which there was at least one detected concentration in the March 2024 results are shown. Non-detects are presented at the method detection limit. The monitoring well ID and depth sampled are given on each subplot.

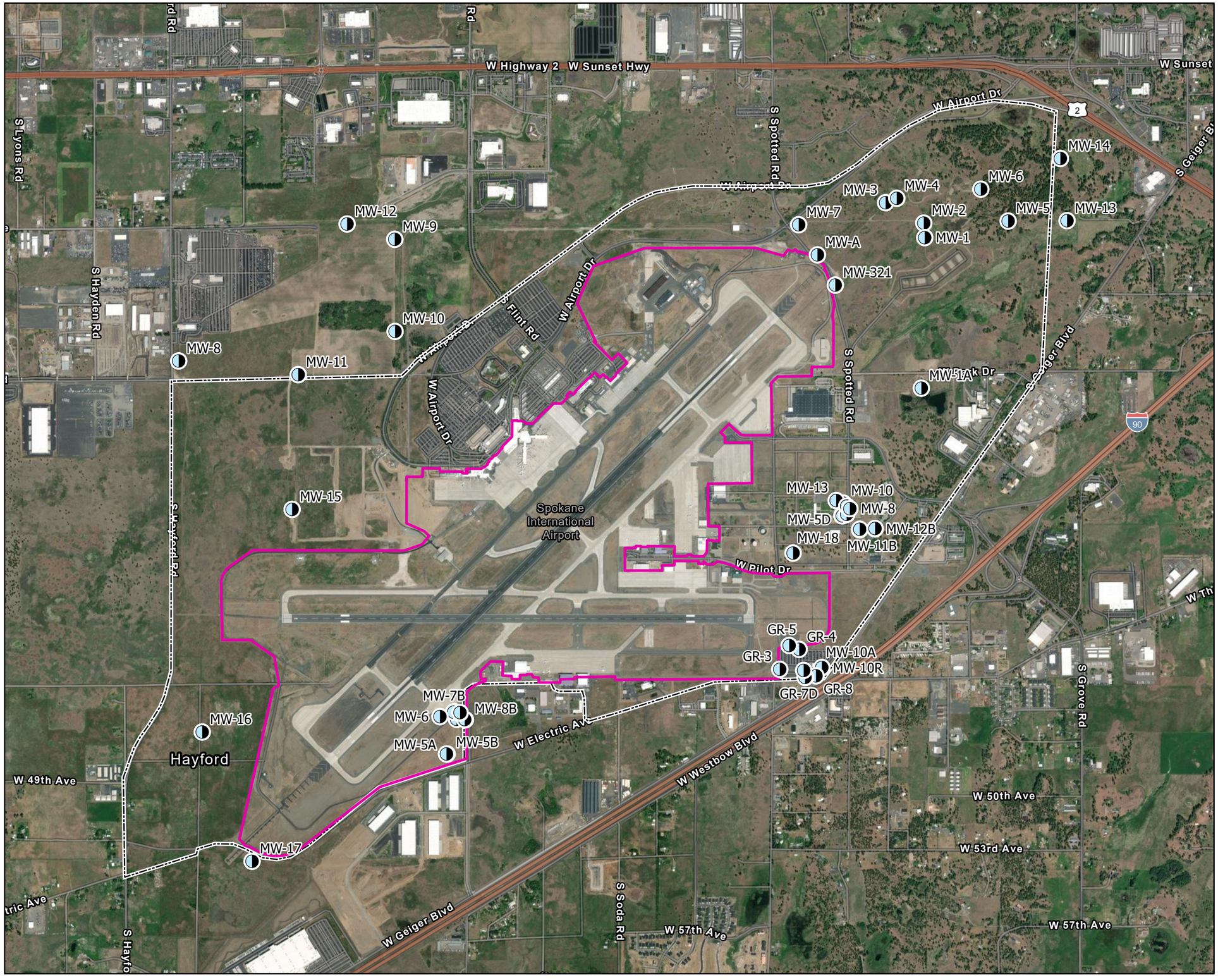
GSI ENVIRONMENTAL

Issued: 13 December 2024

Figure 3.2 PFAS Concentrations in Groundwater from Joint Fire Training Area

Initial PFAS Investigation Work Plan

Spokane International Airport, Spokane, Washington



LEGEND

- Primary Airport Area
- AOA Fenceline
- Groundwater Monitoring Wells Included in IPI Work Plan (n=52)

Notes

1.) AOA - Air Operations Area
2.) IPI - Initial PFAS Investigation
3.) Not all monitoring wells are labeled due to scale
4.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 1,000 2,000

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

GSI ENVIRONMENTAL

Planned Groundwater Sampling Locations

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

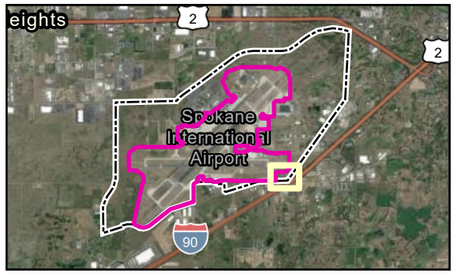
GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	SIAWA_PI_PGWL	Appv'd By:	KW

FIGURE 4.1A

N

LEGEND

- Primary Airport Area
- AOA Fenceline
- Groundwater Monitoring Wells Included in IPI Work Plan (n=9)



Notes

1.) AOA - Air Operations Area
2.) IPI - Initial PFAS Investigation
3.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 100 200

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

GSI ENVIRONMENTAL

Planned Groundwater Sampling Locations: Geiger Delivery Facility

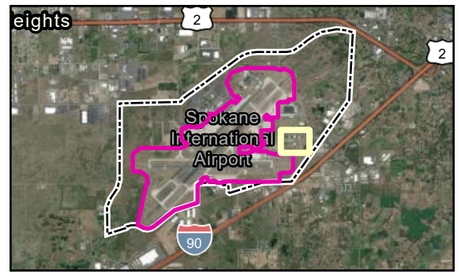
Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	SIAWA_PI_PGWL	Appv'd By:	KW

FIGURE 4.1B

LEGEND

- Primary Airport Area
- AOA Fenceline
- Groundwater Monitoring Wells Included in IPI Work Plan (n=12)



Notes

1.) AOA - Air Operations Area
2.) IPI - Initial PFAS Investigation
3.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 100 200

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

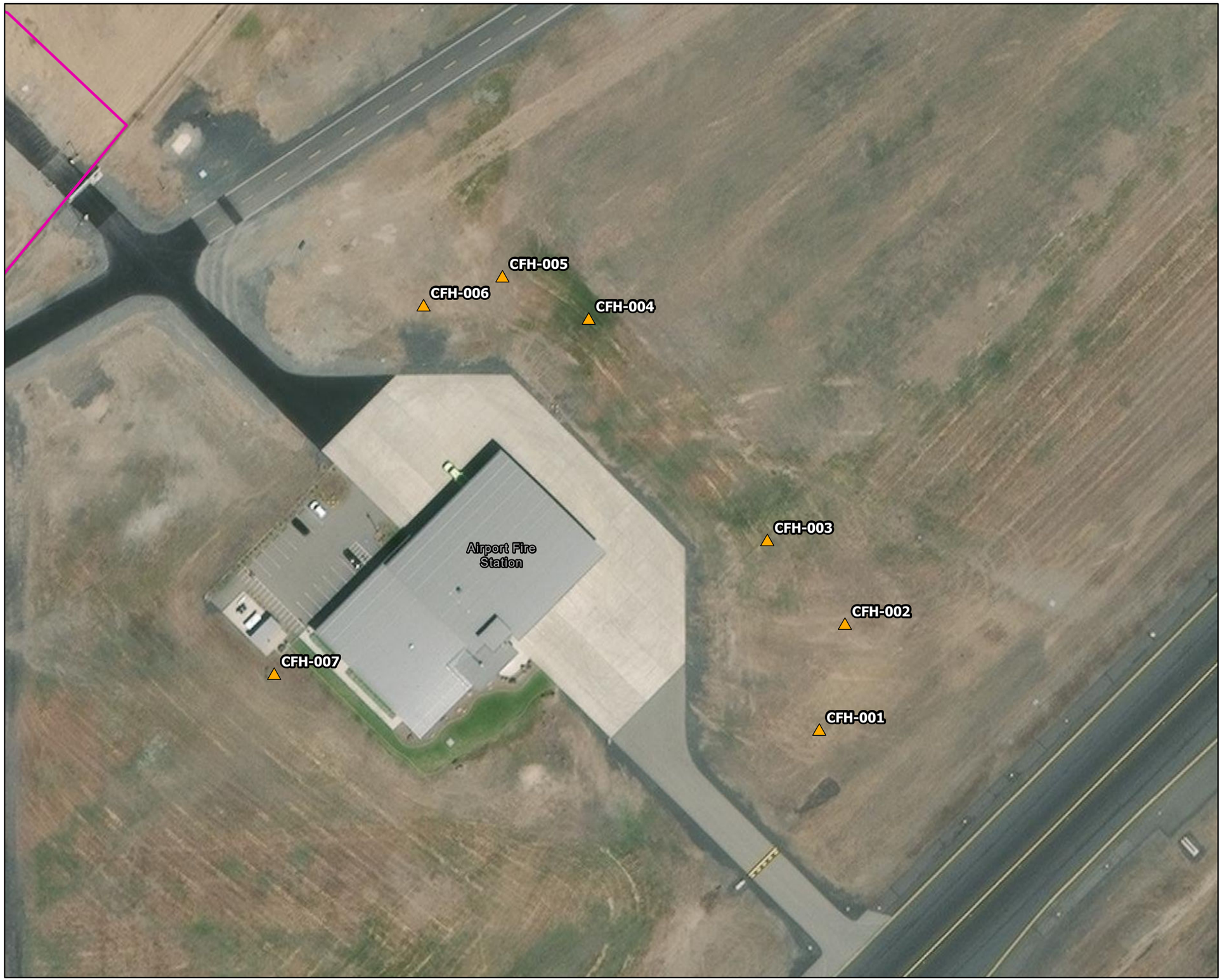
GSI ENVIRONMENTAL

Planned Groundwater Sampling Locations: Geiger Correctional Facility

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	SIAWA_PI_PGWL	Appv'd By:	KW

FIGURE 4.1C



N

LEGEND

- Primary Airport Area
- AOA Fenceline

Planned Soil Sampling Locations

- Soil Boring

Notes

1.) AOA - Air Operations Area
2.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 50 100

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

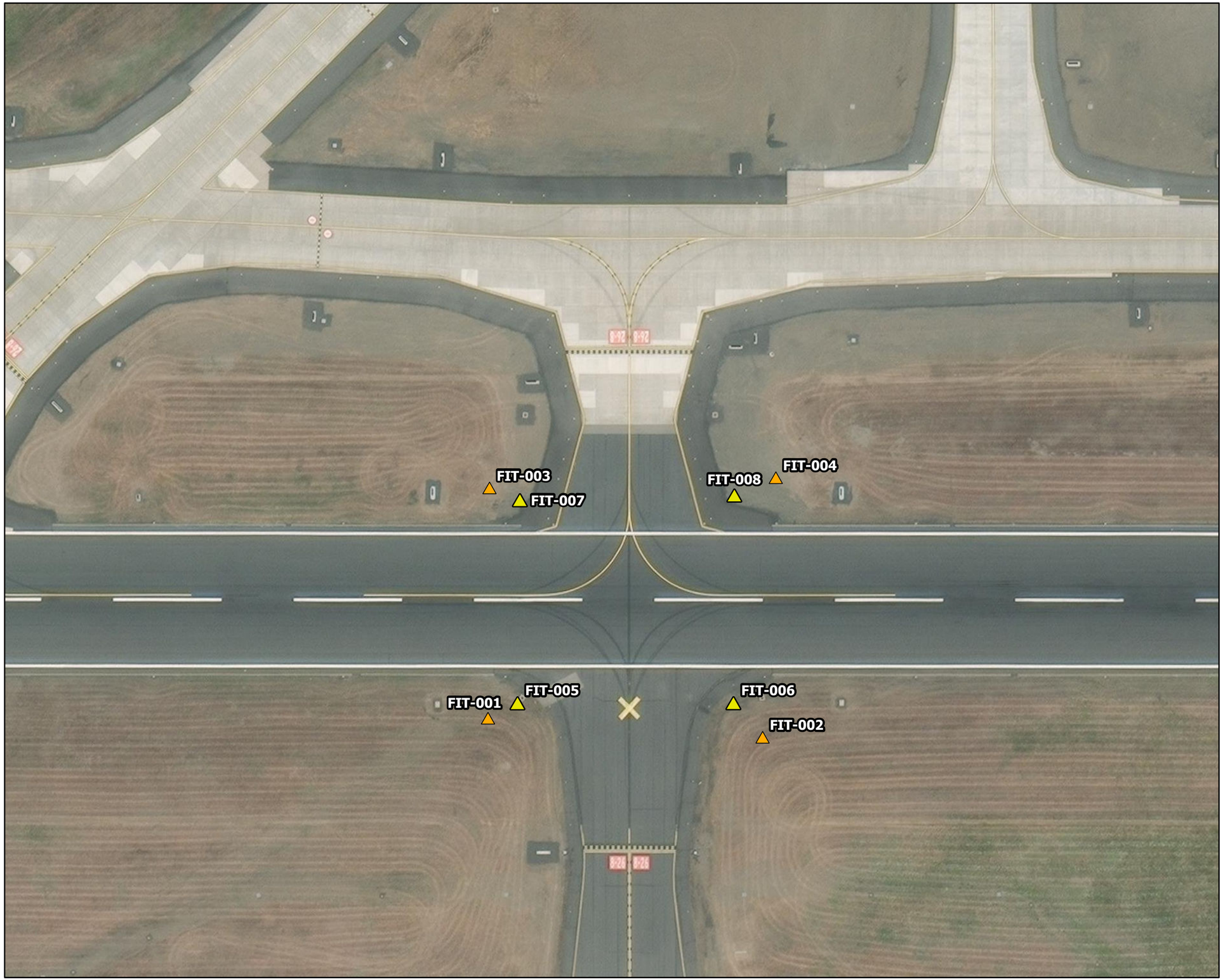
GSI ENVIRONMENTAL

Soil Sampling Locations: Current Fire House

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	SIAWA_CFH_S	Appv'd By:	KW

FIGURE 4.2



N

LEGEND

- Primary Airport Area
- AOA Fenceline

Planned Soil Sampling Locations

- Shallow Soil Sample
- Soil Boring

Notes

1.) AOA - Air Operations Area
2.) FAA - Federal Aviation Administration
3.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 75 150

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

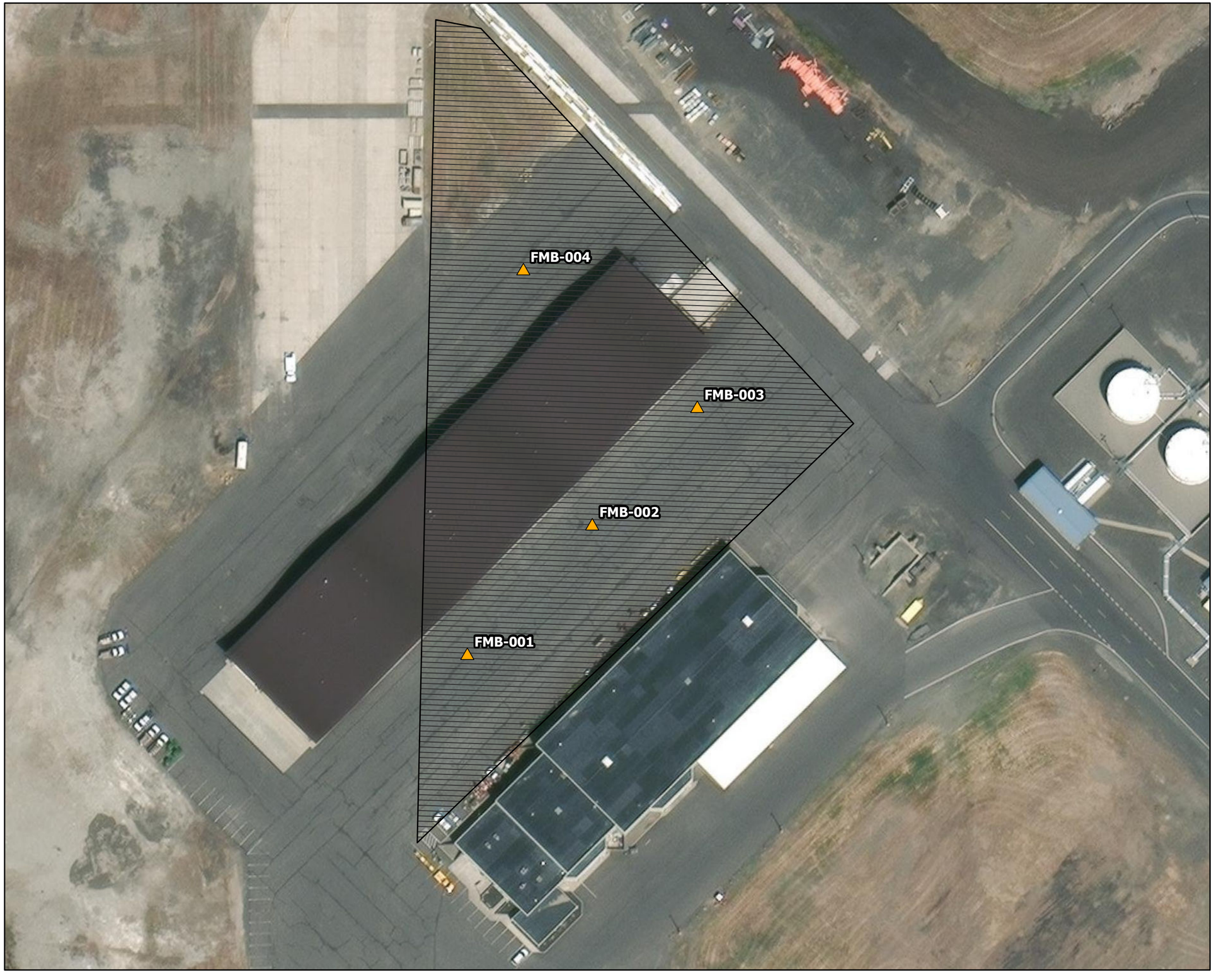
GSI ENVIRONMENTAL

Soil Sampling Locations: FAA Inspection Testing

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	**SIAWA_FAA_S**	Appv'd By:	KW

FIGURE 4.3



N

LEGEND

- Primary Airport Area
- AOA Fenceline
- Former Unpaved Areas

Planned Soil Sampling Locations

- Soil Boring

Notes

1.) AOA - Air Operations Area
2.) Former unpaved area outlined from 2003 aerial imagery
3.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 50 100

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

GSI ENVIRONMENTAL

Soil Sampling Locations: Field Maintenance Area

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	**SIAWA_FMA_S**	Appv'd By:	KW

FIGURE 4.4

LEGEND

- Primary Airport Area
- AOA Fenceline
- Former Unpaved Areas
- UIC Wells (Coffman 2012)

Planned Soil Sampling Locations

- Soil Boring

Notes

1.) AOA - Air Operations Area
2.) Former unpaved areas outlined from 2006 aerial imagery.
3.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 37.5 75

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

GSI ENVIRONMENTAL

Soil Sampling Locations: Historical Fire House

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	**SIAWA_HFH_S**	Appv'd By:	KW

FIGURE 4.5

LEGEND

- Joint Fire Training Area
- Monitoring Wells

Planned Soil Sampling Locations

- Soil Boring

Notes

1.) AOA - Air Operations Area
2.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 75 150

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

GSI ENVIRONMENTAL

Soil Sampling Locations: Joint Fire Training Area

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	SIAWA_JTFA_S	Appv'd By:	KW

FIGURE 4.6

LEGEND

- Primary Airport Area
- AOA Fenceline
- WTE Fenceline
- Monitoring Wells

Planned Soil Sampling Locations

- Soil Boring

Notes

1.) AOA - Air Operations Area
2.) WTE - Waste to Energy
3.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 25 50

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

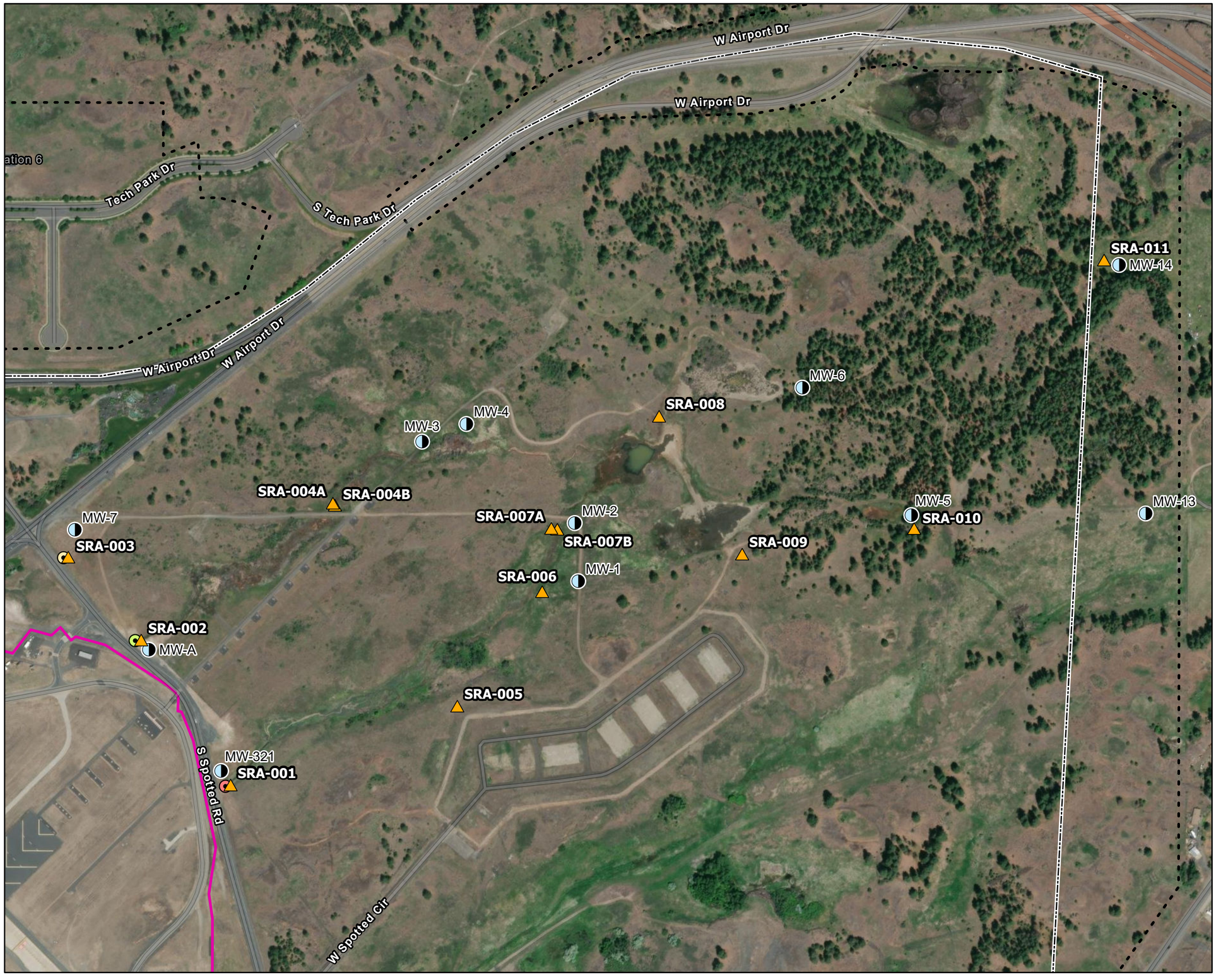
GSI ENVIRONMENTAL

Soil Sampling Locations: Park Drive West / Waste to Energy Plant

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	**SIAWA_PDW_S**	Appv'd By:	KW

FIGURE 4.7



LEGEND

- Primary Airport Area
- SIA Property Boundary
- AOA Fenceline
- Monitoring Wells
- 3-21 Outfall
- Alpha Outfall
- Perimeter Ditch Outfall

Planned Soil Sampling Locations

- Soil Boring

Notes

1.) AOA - Air Operations Area
2.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 250 500

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

GSI ENVIRONMENTAL

Soil Sampling Locations: Stormwater Recovery Area

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	**SIAWA_SRA_S**	Appv'd By:	KW

FIGURE 4.8

LEGEND

- Primary Airport Area
- AOA Fenceline
- Borrow Pit
- Basalt Outcrops
- Perimeter Ditch
- Monitoring Wells

Planned Soil Sampling Locations

- Soil Boring

Notes

1.) AOA - Air Operations Area
2.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 225 450

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

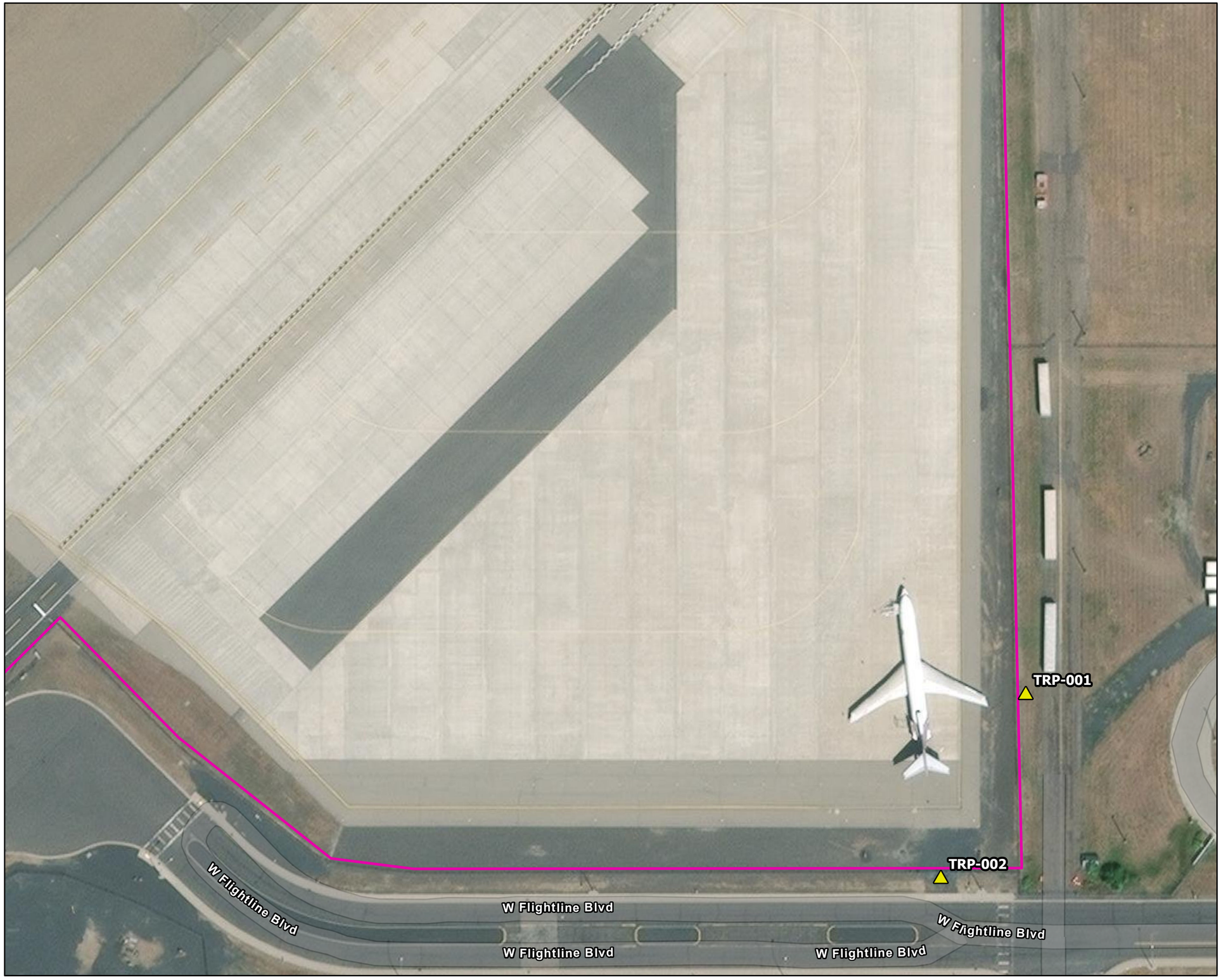
GSI ENVIRONMENTAL

Soil Sampling Locations: Land Treatment Area

Initial PFAS Investigation Work Plan
Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	**SIAWA_LTA_S**	Appv'd By:	KW

FIGURE 4.9



LEGEND

- Primary Airport Area
- AOA Fenceline

Planned Soil Sampling Locations

- Shallow Soil Sample

Notes

1.) AOA - Air Operations Area
2.) Aerial imagery provided by Esri ArcGIS Online, 2023.

Feet
0 50 100

Projected Coordinate System
Datum: NAD 83
State Plane Washington North
Units: Feet

GSI ENVIRONMENTAL

Soil Sampling Locations: Triangle Ramp Training Area

Spokane International Airport
Spokane, Washington

GSI job No.	6892	Drawn By:	EKS
Issued:	13 Dec 2024	Chk'd By:	KW
Map ID:	**SIAWA_TRP_S**	Appv'd By:	KW

FIGURE 4.10