SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

July 9, 2020

Robert Burgess and Janice Wiegers
Department of Environmental Conservation Contaminated Sites Program
610 University Avenue
Fairbanks, Alaska 99709

RE: FIRE TRAINING PIT CAP INSTITUTIONAL CONTROLS REV1, FAIRBANKS INTERNATIONAL AIRPORT, FAIRBANKS, ALASKA

Shannon & Wilson, Inc. is pleased to submit this Fairbanks International Airport (FAI) Fire Training Pit (FTP) Cap Institutional Controls letter as an addendum to the *Fairbanks International Airport Fire Training Pit Corrective Action Work Plan REV02* (Work Plan), submitted on September 12, 2019. The revised Work Plan was conditionally approved by your letter dated September 24, 2019. This addendum is intended to add context to and expand upon Section 4.5.6, FTP Cap Institutional Controls, of our Work Plan. The FAI FTP is an active, Department of Environmental Conservation (DEC) listed contaminated site (File Number 100.38.070, Hazard ID 1071). This document has been revised in response to DEC comments, and supersedes the version submitted on February 21, 2020. A response to comments matrix is enclosed.

BACKGROUND

The FTP and former fire training area is located south of the primary FAI runway (RL-20R), near the southwest end of the small aircraft runway (2R-20L). In 2019, Shannon & Wilson, Inc., their contractors, and FAI Maintenance & Operations (M&O) personnel designed and began construction of a cap over the FTP. Cap construction was completed in June 2020. The purpose of this cap is to prevent direct human and environmental exposure to the FTP contents, and to limit water infiltration into the FTP that has historically required annual or biennial pumping and offsite treatment. The cap consists of a geotextile placed directly on top of the FTP contents, followed by gravel fill, a 40-mil fortified polyolefin alloy geomembrane bound by geotextile, a layer of silty soil, topsoil, and hydroseed/vegetation.

Exhibit 1 presents a generalized cross-section of the FTP, showing the newly installed cap liner (blue line) with respect to the existing FTP liner (orange line). During the corrective action effort, Shannon & Wilson's contractor uncovered the existing FTP liner at several depths within the compacted soil berms prior to beginning cap construction. The lowest FTP liner elevation within the berms was 430.7 feet above sea level and is considered a

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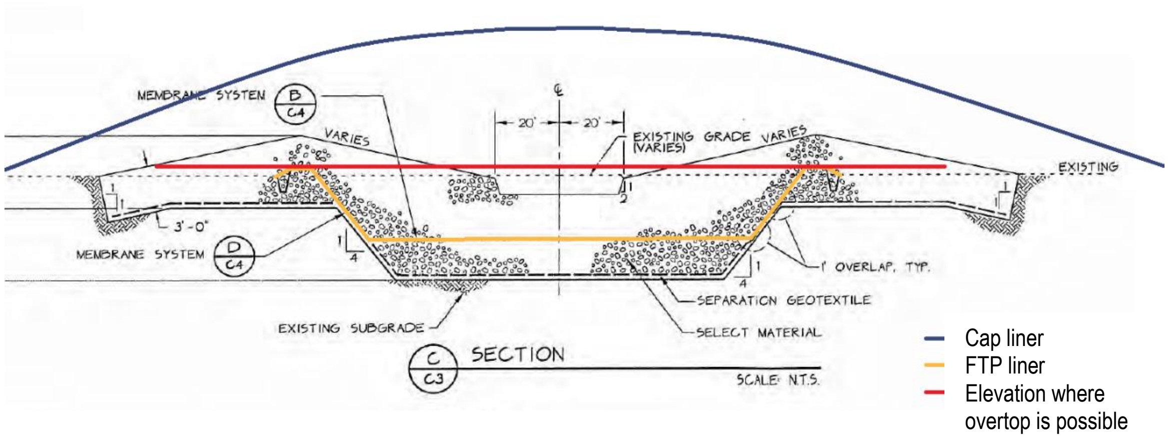
▪ www.shannonwilson.com ▪

conservative estimate of where groundwater could potentially overtop the FTP liner. This elevation is shown using a red line in Exhibits 1, 2 and 4.

Exhibit 1: FTP Schematic

Note: Schematic is exaggerated vertically, not to scale.



ACCESS

The FTP is no longer used for Aircraft Rescue and Fire Fighting training or other activities. Airport Police and Fire have communicated at shift briefings that this location is out of service and no longer to be used for any airport purposes. The FTP is within a restricted area of the FAI. The FAI badging process prompts internal review and coordination which allows for dissemination of appropriate info, e.g. this area's restrictions. A fence separates the southwest portion of the FAI from the public roads that encircle the airport (Airport Perimeter and Airport Industrial Roads). The FTP area can be accessed by non-FAI personnel who have been briefed by FAI Operations staff, using a locked gate off Airport Perimeter Road.

Although the cap was designed to accommodate infrequent traffic by vehicles and heavy equipment, the FAI anticipates access will be limited to snow plowing and brush clearing. The FTP cap boundary will be demarcated with a semi-permanent, removable barrier to prevent unintentional vehicle traffic.

The FAI has noted the former FTP on the internal FAI Information Map to inform FAI staff the area is closed, and to prohibit excavation, drilling, or other soil-disturbing activities within the cap boundaries. The Information Map is maintained by FAI Engineering in

AutoCAD and is universally available in pdf format for reference by FAI staff. A copy of the map is appended.

GROUNDWATER AND SURFACE WATER ELEVATION

Shannon & Wilson began monitoring groundwater and surface-water levels near the capped FTP during our 2019 corrective action effort. On October 15, 2019, field staff installed a pressure transducer to log groundwater levels in monitoring well *MW-9701-12*, approximately 30 feet northwest of the edge of the FTP cap. Prior to installing the pressure transducer, field staff measured groundwater levels manually during the September and October 2019 monitoring-well sampling events.

Shannon & Wilson has reviewed and plotted groundwater elevation data on a quarterly basis for the first year using automated pressure transducer data. They will continue to monitor groundwater elevations in *MW-9701-12* for a total of three years, downloading the data on an annual basis. Additionally, groundwater elevation measurements will be collected during each monitoring well sampling event.

Exhibit 2 compares the elevations of the Tanana River, Chena River, and groundwater near the FTP with the elevation where groundwater could potentially overtop the existing FTP liner (shown as a red line in Exhibit 1). Should groundwater reach this elevation, it is likely low-lying areas near the FTP including the former location of the DC-6 training plane and MW-1902 well cluster will be flooded. The ground surface and monitoring wells were surveyed by a registered land surveyor with a vertical accuracy of 0.01 feet. Shannon & Wilson notes the elevations included herein are different from the elevations listed in the 1992 As-Built Plans for the FTP, which were measured with respect to a different vertical datum.

Surface water elevations were collected by the U.S. Geologic Survey (USGS) Chena River gauge stations in downtown Fairbanks (No. 15514000) and Tanana River gauge station south of the FAI (No. 15485500). The USGS river gauges record to a vertical accuracy of 0.01 feet. Elevation data was not available over for the Chena River for a 10-day period in late September 2019. The height of the Tanana River spiked by 4.5 feet on November 10, 2019 (USGS National Water Information System, accessed 2020). According to the USGS, this large change over a short period of time is common during fall freeze-up, and is related to backpressure from slush and ice following the formation of a continuous ice sheet on the river. Shannon & Wilson will continue to monitor the streamflow and height of the Chena and Tanana Rivers through October 2020 (i.e., for one year).

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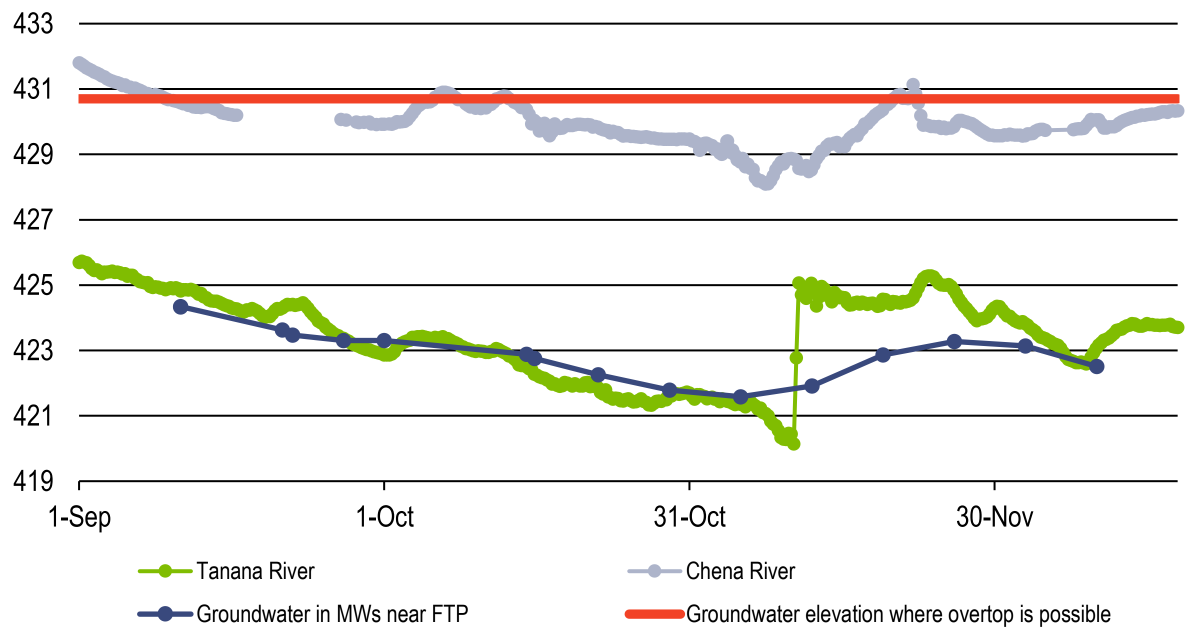
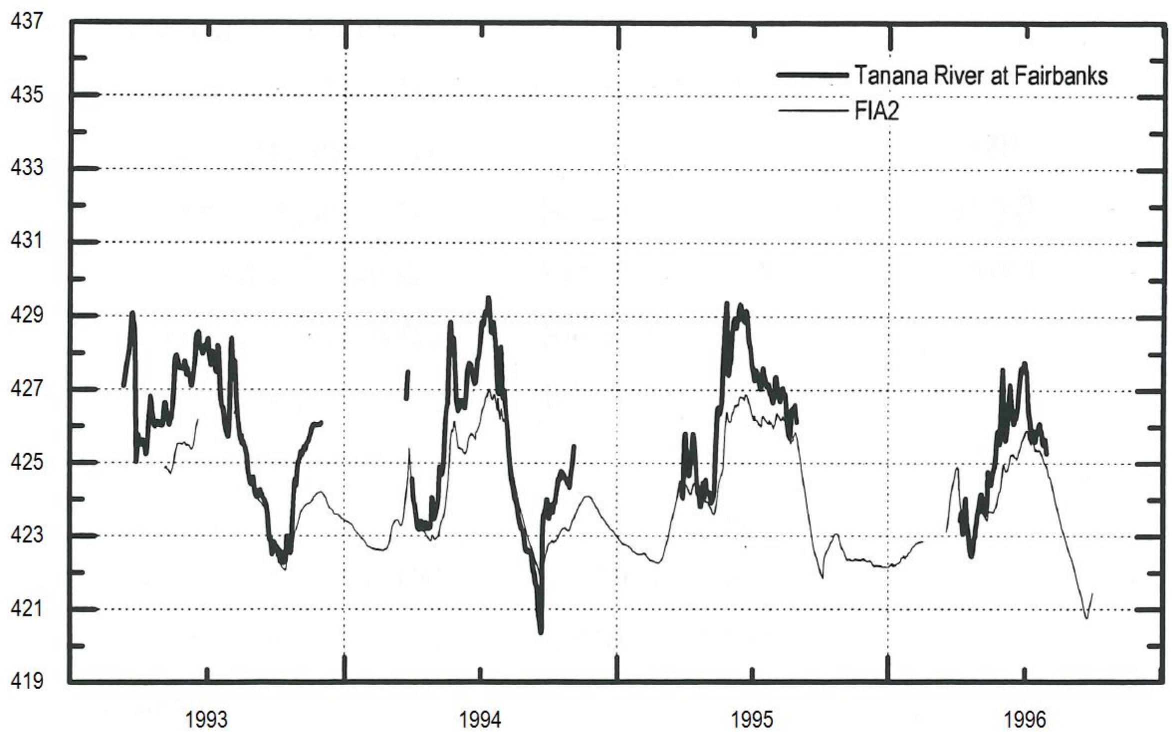
Exhibit 2: 2019 Elevation Comparison in Feet Above Sea Level



A USGS study compared groundwater and surface-water elevation data collected between 1990 and 1996 at over 60 locations on and near the FAI. The USGS found that groundwater elevations responded to changes in the stage of the Chena and Tanana Rivers. Exhibit 3 compares groundwater elevation measurements southwest of the small aircraft runway with the height of the Tanana River from 1993 to 1996. Groundwater elevation was often similar to the height of the Tanana River, but exhibited smaller seasonal swings than river-elevation measurements (Claar & Lilly, 1997). For the years 1994 to 1996, the peak summertime river height was two feet or more above the peak groundwater elevation. Exhibit 2 displays similar trends for the three months in 2019 where local groundwater elevations were collected. However, Shannon & Wilson and the FAI are unable to predict the likelihood of groundwater entering the FTP by overtopping the geomembrane berms beneath the FTP cap.

Exhibit 3: 1990s Elevation Comparison in Feet Above Sea Level

Source: Claar & Lilly, 1997. Elevations revised from National Geodetic Vertical Datum of 1929 to North American Vertical Datum of 1988.



HISTORY OF FLOODING

The historical flood of record for the Fairbanks area occurred on August 15, 1967, inundating 95 percent of the City, including low-lying portions of the Fairbanks International Airport. Flooding was the result of near-continuous rainfall in the early weeks of August 1967 (Fairbanks North Star Borough, 2014). The U.S. Army Corps of Engineers (USACE) Chena Lakes Flood Control Project was authorized the following year to prevent a similar occurrence.

The Flood Control Project was completed in 1979 and includes the Moose Creek Dam on the Chena River (approximately 18 miles east-southeast of FAI), the Moose Creek Floodway, and the Tanana River Levee System. When the Chena River reaches flood levels, the dam diverts floodwaters into the Tanana River at the floodway. The levee system continues downstream along the Tanana River to the FAI, terminating near the confluence of the

Chena and Tanana Rivers. Peak Chena and Tanana River stages are typically seen in the late summer (USGS Current Conditions, accessed 2020).

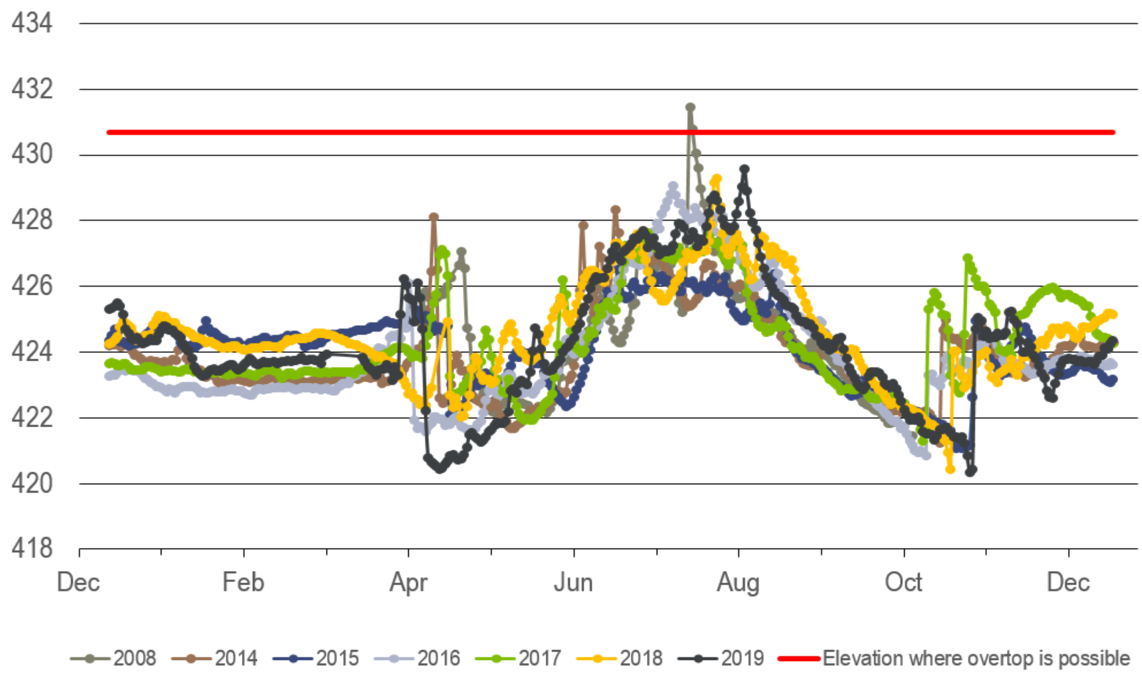
The largest flood event since construction of the Flood Control project occurred on July 30, 2008; however, flood waters did not exceed 25 percent of the levee height (USACE, 2017). The FAI was not flooded during this event. The highest recorded Tanana River elevation since 1985, when the USGS gauge was moved to its current location, was also in 2008.

The Federal Emergency Management Agency (FEMA) maintains a national flood insurance rate map. Given its proximity to the Tanana River, the FAI contains land that falls within two zones: a special flood hazard area with a one-percent annual chance of flooding, and a reduced flood risk zone. The FTP is located within the reduced flood risk zone due to the construction of the Flood Control Project (FEMA, 2019). The FTP and cap elevations are above the 100-year flood design criteria; flooding in these areas is a highly unlikely event.

Exhibit 4 displays Tanana River elevations for the last six years and 2008, as measured by the gauge station 1.2 miles from the FTP. The National Weather Service considers moderate flood stage of the Tanana River to be 26 feet; major flood stage is 27 feet or greater. The 2008 peak river height was 26.6 feet, or 431.6 feet above sea level and 0.9 feet above the red line in Exhibit 4. However, as shown in Exhibit 3 the USGS found the peak Tanana River height was often two feet or more above peak groundwater elevation (Claar & Lilly, 1997). The FAI does not know if groundwater overtopped the FTP liner in 2008.

Over the last six years, the river height has not entered flood stage or risen above an elevation where groundwater could overtop the FTP liner. The DEC notes annual precipitation in 2008 exceeded 1990, 2014, and 2015. The peak river height was 428.9 feet in 1990, 428.7 feet in 2014, and 426.6 feet in 2015 (USGS National Water Information System, accessed 2020).

Exhibit 4: Tanana River Elevations Over Five Years in Feet Above Sea Level



INSPECTION

The FAI Environmental Manager or M&O personnel will visually inspect the sump and cap on a quarterly basis. The quarterly inspection has been added to the FAI Environmental master calendar and a standing M&O Work Order will be generated to ensure the inspections are accomplished. An inspection checklist will note the presence or absence of water in the sump, and document signs of erosion, slope stability, vegetation cover, animal burrows, and exposed geomembrane or woody vegetation, if present. Inspection checklists will be submitted with the annual or biennial summary report.

Following dewatering over the 2020 summer season, the FAI will install a bilge level switch 12 inches from the bottom of the sump. The sump monitoring device will connect to a strobe warning light placed outside the sump and visible to FAI Operations staff during daily rounds. The monitoring system will be inspected monthly by FAI M&O to ensure it is in proper working order and to allow for the correction of any discrepancies between automated readings and physical observations. Should the FAI encounter over 12 inches of water in the sump, the project team will coordinate with DEC to develop a plan for water removal and treatment.

Shannon & Wilson will inspect the groundwater monitoring wells during each sampling event and schedule maintenance and resurveying as needed. The monitoring wells were surveyed in October 2019, the permanent FTP sump was surveyed in June 2020. The inspection will document the condition of the monitoring wells including signs of frost-jacking, cracking or other damage, and measurements with respect to the ground surface. Maintenance will include re-setting the monitoring well monument, shortening the well casing and resurveying the top-of-casing, and/or replacing the monitoring wells, if required.

GROUNDWATER SAMPLING

In 2018 the FAI's consultant collected four groundwater samples from temporary well points immediately adjacent to the FTP, less than 10 feet from the peak of the soil berm. They encountered diesel range organics (DRO) and residual range organics (RRO) at estimated concentrations well below their respective DEC groundwater-cleanup levels (i.e., less than 20 percent), and did not encounter detectable gasoline range organics, volatile organic carbons (VOCs), or polynuclear aromatic hydrocarbons. However, petroleum compounds including DRO, RRO, naphthalene, benzene, and/or 1,2,4-trimethylbenzene were identified above applicable regulatory levels in soil and/or water samples collected from within the FTP in 2018 and 2019.

Shannon & Wilson will sample the 15-foot water table monitoring wells upgradient (*MW-1902-15*) and downgradient (*MW-1901-15*) of the fire training pit quarterly for one calendar year. The project team anticipates quarterly sampling events will occur in June, September, and December 2020 and March 2021. The analytical groundwater samples will be submitted for DRO, VOCs, and per- and polyfluoroalkyl substances (PFAS) to monitor the integrity of the existing FTP liner. The PFAS samples will be submitted for determination of perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), and other PFAS using the appropriate analytical method. In the second year of monitoring, sampling frequency will be reduced to every 6 months if DRO and VOCs are detected, and annually if they are not detected. Sampling frequency will occur biennially in even-numbered years thereafter (i.e., 2024, 2026, etc.).

FLOODING RESPONSE PLAN

The FAI considers flooding in the FTP vicinity unlikely while the Tanana River Levee System is operational. An extreme Tanana River flood would have a major impact on overall airport operations. As such, the FAI monitors Tanana River heights and is prepared

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to deploy preventative measures as necessary. The FAI's emergency plan describes staff responsibilities and overall actions to be taken in the event a flood occurs at the airport but does not include actions related to individual sites.

If flooding conditions occur in the FTP vicinity, FAI personnel may use sand bags to divert flood water away from the FAI, pump surface water into temporary storage tanks or unflooded surface water bodies, or other flood control techniques, as appropriate. If the FTP sump warning light is activated, FAI M&O staff will inspect the monitoring system to confirm the depth of water in the FTP sump. If they conclude extreme flooding conditions have resulted in surface water or groundwater overtopping the FTP liner and entering the lined area, the FAI will consider pumping the water into temporary onsite storage tanks, collecting analytical water samples, transporting it offsite for treatment, or other mitigation measures. The project team will coordinate with DEC Contaminated Sites pertaining to flood response measures at the FTP.

REPORTING

Shannon & Wilson will prepare a brief summary report on an annual basis for the first two years and every other year thereafter. Our FTP monitoring reports will include:

- observations during cap and sump inspection/s;
- the depth of water present in the FTP sump, if encountered;
- summary of FTP dewatering efforts, as applicable, including the volume of water removed, duration of dewatering, and treatment and disposal methods;
- monitoring well analytical results;
- monitoring well condition and maintenance;
- an updated version of Exhibit 2 displaying surface water elevations for the first year, groundwater elevations from automated pressure transducer data collection for three years, and groundwater elevations from manual measurements thereafter; and
- flooding response measures, as applicable.

The project team anticipates the first report will be submitted in spring 2021.

If you have questions or comments related to our proposed institutional controls for the FTP, please contact Katrina LeMieux of the FAI. Thank you for your consideration.

Sincerely,

SHANNON & WILSON

M. Nadel

Marcy Nadel
Geologist, Project Manager

MDN:MSL:KRF:CBD/mdn

Enc: Response to DEC Comments Matrix
FAI 2020 Information Map
Important Information About Your Geotechnical/Environmental Report

Cc: DEC: Bill O'Connell
FAI: Katrina LeMieux, Angie Spear, Theresa Harvey, Aaron Danielson, Clark Klimaschesky
DOT&PF Statewide Aviation: Sammy Cummings

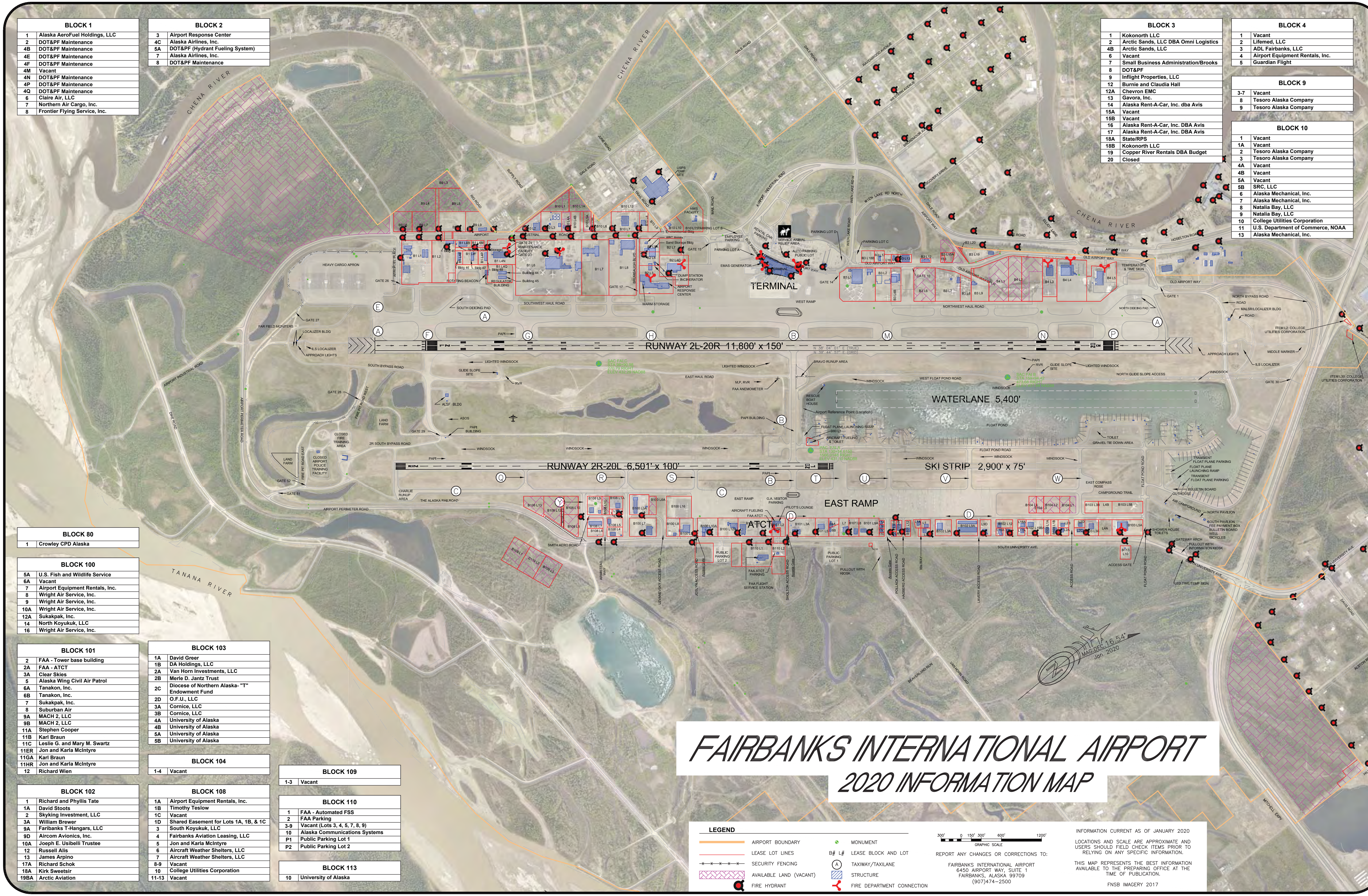
Robert Burgess - Comments on:
Fairbanks International Airport Fire Training Pit Institutional Controls Letter Addendum

Cmnt No.	Page	Section	Comment / Recommendation	Response
1.	1	Background	The addendum states, "The lowest elevation where groundwater could potentially overtop the FTP liner within the berms is shown using a red line," however the actual elevation is never enumerated in text or figures. Please provide the lowest elevation where groundwater could overtop the liner in feet above sea level, and describe how it was determined.	Comment addressed in Background section.
2.	2	Access	The addendum describes limiting access to the capped area and documentation of this area's closure on internal maps. Please provide copies of these maps to the DEC and describe the format, use, and storage of these maps.	FAI Engineering maintains the AutoCAD-based FAI Information Map that is universally available in pdf format for reference by FAI staff. A copy of map has been provided.
3.	2	Access	Please describe processes and procedures for documenting closure of the FTP area and communication to staff regarding the closure of the area. How will information be archived and disseminated to current and future airport management, staff, and contractors?	Description added to Access section.
4.	4	Groundwater and Surface Water Elevation	The addendum describes the intent to monitor groundwater via a pressure transducer and data logger for a period of one year following cap completion. A one-year period may capture typical seasonal variation, but will not provide information on variation between years that may vary in the amount of precipitation or other unique events (e.g., flooding, ice jams, earlier or later breakup season, etc.). The DEC suggests continuing to log water elevation data for a minimum of three years in order to provide data that is more representative of potential variation of the system.	Additional data collection is described in the Groundwater and Surface Water Elevation section. Shannon & Wilson began monitoring groundwater elevations in *MW-9701-12* located adjacent to the FTP in mid-October 2019. The FTP cap was completed in June 2020.
5.	5-6	History of Flooding	Please include any available groundwater elevation data that correlates with the time period(s) discussed, if applicable, to compare with river elevation data. In addition, please include a discussion of river elevation during other years with record high precipitation when data are available. For example, although the text notes a flooding event in 2008, the years 1990, 2014, and 2015 all exceeded 2008 for annual precipitation. Please include these years on Exhibit 4 if possible. Text notes that the highest river elevation recorded in the last 5 years was in 2019 – what is the highest elevation recorded since the record began?	Additional surface-water elevation information is included in the History of Flooding section. Tanana River elevations for 2008 and 2014 have been added to Exhibit 4. Exhibit 3 displays groundwater and surface water elevations for the fire pit vicinity from the early 1990s (Claar & Lilly, 1997). We do not have access to local groundwater elevation data for 1967, 2008, or other years when flooding occurred. Shannon & Wilson did not review precipitation records.
6.	6	Sump and Cap Inspection	The addendum describes visual inspections of the cap by FAI staff on a quarterly basis. Please elaborate on the specific protocols and procedures, including reporting, for this quarterly inspection. The DEC suggests development of a checklist that can be used to ensure that inspections are thorough and to document that they have occurred. The checklist could be independent or incorporated into an airport-wide institutional controls monitoring plan.	Supplemental text added.

Cmnt No.	Page	Section	Comment / Recommendation	Response
7.	6	Sump and Cap Inspection	The addendum describes a bilge-level switch to be installed and connected to a warning light, apparently triggering when 12 inches of water or more accumulates in the sump. Could an audio alarm be added to this system? Would it also be possible to connect a visual, audio, or remote digital alarm to monitoring devices in a monitoring well to warn of groundwater rising within a foot of the potential overtop elevation? Finally, how frequently and via what methods will the alarm system undergo maintenance or testing to ensure its continued operation?	No additional monitors are planned at this time. FAI staff are required, per TSA, to conduct fence checks multiple times per day. This provides an additional layer of strobe alarm awareness. Text has been added to the Addendum further explaining system maintenance.
8.	7	Groundwater Sampling	The addendum describes sampling water table (15 ft.) monitoring wells for DRO and VOCs. Why are PFAS not included? The original, approved work plan stated that monitoring wells would be sampled annually for PFOS, PFOA, DRO and VOCs. Please update the addendum to include sampling for PFAS, and include a statement that the full suite of analytes will be reported under the appropriate method. Note that a newer method for PFAS sampling, method 533, has been developed and approved by the EPA for analysis of PFAS in drinking water, and that additional methods for other matrices are currently under development. The DEC will require the use of a groundwater method at such time as it becomes available.	PFAS will be sampled for using the appropriate method.
9.	N/A	General	Please expand the maintenance section to include maintenance of monitoring wells up- and downgradient of the FTP. Maintenance should include visual inspection of condition, including signs of damage, frost jacking, etc., as well as periodic top-of-casing elevation surveys.	Monitoring well inspections and maintenance are addressed in the Inspection and Reporting sections.
10.	N/A	General	The addendum includes excellent descriptions of known data regarding hydrogeology of the system and suggests ways in which the cap and sump can be monitored so that FAI staff are aware of any water collecting in the lined, capped area. However, it does not document what action or actions will take place if flooding occurs or is predicted. Please develop a response plan as part of this IC addendum. The plan should include measures to prevent flooding if extreme events are predicted as well as measures that will be taken in the unlikely event that groundwater overtops the lined berms or the lined area is otherwise flooded.	Comment addressed in newly added Flooding Response Plan section.

FAIRBANKS INTERNATIONAL AIRPORT

2020 INFORMATION MAP



BLOCK 1	
1	Alaska AeroFuel Holdings, LLC
2	DOT&PF Maintenance
4B	DOT&PF Maintenance
4E	DOT&PF Maintenance
4F	DOT&PF Maintenance
4M	Vacant
4N	DOT&PF Maintenance
4P	DOT&PF Maintenance
4Q	DOT&PF Maintenance
6	Claire Air, LLC
7	Northern Air Cargo, Inc.
8	Frontier Flying Service, Inc.

BLOCK 2	
3	Airport Response Center
4C	Alaska Airlines, Inc.
5A	DOT&PF (Hydrant Fueling System)
7	Alaska Airlines, Inc.
8	DOT&PF Maintenance

BLOCK 3	
1	Kokonorth LLC
2	Arctic Sands, LLC DBA Omni Logistics
4B	Arctic Sands, LLC
6	Vacant
7	Small Business Administration/Brooks
8	DOT&PF
9	Inflight Properties, LLC
12	Burnie and Claudia Hall
12A	Chevron EMC
13	Gavora, Inc.
14	Alaska Rent-A-Car, Inc. dba Avis
15A	Vacant
15B	Vacant
16	Alaska Rent-A-Car, Inc. DBA Avis
17	Alaska Rent-A-Car, Inc. DBA Avis
18A	State/RPS
18B	Kokonorth LLC
19	Copper River Rentals DBA Budget
20	Closed

BLOCK 4	
1	Vacant
2	Lifemed, LLC
3	ADL Fairbanks, LLC
4	Airport Equipment Rentals, Inc.
5	Guardian Flight

BLOCK 9	
3-7	Vacant
8	Tesoro Alaska Company
9	Tesoro Alaska Company

BLOCK 10	
1	Vacant
1A	Vacant
2	Tesoro Alaska Company
3	Tesoro Alaska Company
4A	Vacant
4B	Vacant
5A	Vacant
5B	SRC, LLC
6	Alaska Mechanical, Inc.
7	Alaska Mechanical, Inc.
8	Natalia Bay, LLC
9	Natalia Bay, LLC
10	College Utilities Corporation
11	U.S. Department of Commerce, NOAA
13	Alaska Mechanical, Inc.

BLOCK 80	
1	Crowley CPD Alaska

BLOCK 100	
5A	U.S. Fish and Wildlife Service
6A	Vacant
7	Airport Equipment Rentals, Inc.
8	Wright Air Service, Inc.
9	Wright Air Service, Inc.
10A	Wright Air Service, Inc.
12A	Sukakpak, Inc.
14	North Koyukuk, LLC
16	Wright Air Service, Inc.

BLOCK 101	
2	FAA - Tower base building
2A	FAA - ATCT
3A	Clear Skies
5	Alaska Wing Civil Air Patrol
6A	Tanakon, Inc.
6B	Tanakon, Inc.
7	Sukakpak, Inc.
8	Suburban Air
9A	MACH 2, LLC
9B	MACH 2, LLC
11A	Stephen Cooper
11B	Karl Braun
11C	Leslie G. and Mary M. Swartz
11ER	Jon and Karla McIntyre
11GA	Karl Braun
11HR	Jon and Karla McIntyre
12	Richard Wien

BLOCK 102	
1	Richard and Phyllis Tate
1A	David Stoots
2	Skyking Investment, LLC
3A	William Brewer
9A	Faribanks T-Hangars, LLC
9D	Aircom Avionics, Inc.
10A	Joeph E. Usibelli Trustee
12	Russell Alis
13	James Arpino
17A	Richard Schok
18A	Kirk Sweetsir
19BA	Arctic Aviation

BLOCK 103	
1A	David Greer
1B	DA Holdings, LLC
2A	Van Horn Investments, LLC
2B	Merle D. Jantz Trust
2C	Diocese of Northern Alaska- "T" Endowment Fund
2D	O.F.U., LLC
3A	Cornice, LLC
3B	Cornice, LLC
4A	University of Alaska
4B	University of Alaska
5A	University of Alaska
5B	University of Alaska

BLOCK 104	
1-4	Vacant

BLOCK 108	
1A	Airport Equipment Rentals, Inc.
1B	Timothy Teslow
1C	Vacant
1D	Shared Easement for Lots 1A, 1B, & 1C
3	South Koyukuk, LLC
4	Fairbanks Aviation Leasing, LLC
5	Jon and Karla McIntyre
6	Aircraft Weather Shelters, LLC
7	Aircraft Weather Shelters, LLC
8-9	Vacant
10	College Utilities Corporation
11-13	Vacant

BLOCK 109	
1-3	Vacant

BLOCK 110	
1	FAA - Automated FSS
2	FAA Parking
3-9	Vacant (Lots 3, 4, 5, 7, 8, 9)
10	Alaska Communications Systems
P1	Public Parking Lot 1
P2	Public Parking Lot 2

BLOCK 113	
10	University of Alaska

LEGEND

- AIRPORT BOUNDARY
- LEASE LOT LINES
- SECURITY FENCING
- AVAILABLE LAND (VACANT)
- FIRE HYDRANT
- MONUMENT
- B# L# LEASE BLOCK AND LOT
- (A) TAXIWAY/TAXILANE
- STRUCTURE
- FIRE DEPARTMENT CONNECTION

300' 0 150' 300' 600' 1200'
GRAPHIC SCALE

REPORT ANY CHANGES OR CORRECTIONS TO:

FAIRBANKS INTERNATIONAL AIRPORT
6450 AIRPORT WAY, SUITE 1
FAIRBANKS, ALASKA 99709
(907)474–2500

INFORMATION CURRENT AS OF JANUARY 2020

LOCATIONS AND SCALE ARE APPROXIMATE AND USERS SHOULD FIELD CHECK ITEMS PRIOR TO RELYING ON ANY SPECIFIC INFORMATION.

THIS MAP REPRESENTS THE BEST INFORMATION AVAILABLE TO THE PREPARING OFFICE AT THE TIME OF PUBLICATION.

FNSB IMAGERY 2017

R:\ENGINEERING\drawings\FAI INFOMAP\2020\Info map 2020–24x36

SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Attachment to and part of Report: 102519-010
Date: July 2020
To: Robert Burgess and Janice Wiegers
DEC Contaminated Sites Program

Important Information About Your Geotechnical/Environmental Report

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors that were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary, because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland