THE STATE of ALASKA
GOVERNOR BILL WALKER

**Department of Environmental Conservation**
DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

610 University Avenue
Fairbanks, AK 99709-3643
Phone: 907-451-2143
Fax: 907-451-2155
www.dec.alaska.gov

File: 102.26.089

May 30, 2017

Phil Streeter
Fairbanks North Star Borough, Department of Public Works
PO Box 71267
Fairbanks, AK, 99707-1267

**Re: Decision Document: FNSB Old Main School**
**Cleanup Complete Determination**

Dear Mr. Streeter:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program has completed a review of the environmental records associated with the Old Main School Building located at 804 Cushman Street. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and no further remedial action will be required unless new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Old Main School Building, which is located in the ADEC office in Fairbanks, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

**Site Name and Location:**
Old Main School
804 Cushman St.
Fairbanks, AK 99701

**Name and Mailing Address of Contact Party:**
Phil Streeter
Fairbanks North Star Borough
PO Box 71267
Fairbanks, AK 99707-1267

**DEC Site Identifiers:**
File No.: 102.38.089
Hazard ID: 24400

**Regulatory Authority for Determination:**
18 AAC 78

## Site Description and Background

A 300-gallon gasoline underground storage tank (UST) was removed from the Fairbanks North Star Borough (FNSB) Old Main School building in 1993. The UST was located on the north side of the building and provided fuel to a generator shed a few feet away that has since been removed. During removal the tank was found to have a leaky fitting on the bottom; contaminated soil was encountered between 9-15 feet below ground surface (bgs).

## Contaminants of Concern

During site characterization and cleanup activities at this site, samples collected from soil and groundwater were analyzed for gasoline range organics (GRO), benzene, toluene, ethylbenzene, xylenes (BTEX), naphthalene, sulfolane, trichloroethylene (TCE), and tetrachloroethylene (PCE). Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- GRO
- Benzene
- Toluene
- Ethylbenzene
- Xylenes

## Cleanup Levels

Soil cleanup levels applicable to the site are found in 18 AAC 75.341(c), Table B1, and 18 AAC 75.341 (d), Table B2, for the migration to groundwater pathway. Groundwater cleanup levels are found in 18 AAC 75.345 Table C. Approved cleanup levels for contaminants of concern are listed below in Table 1.

**Table 1 – Approved Cleanup Levels**

| Contaminant | Soil[1] (mg/kg) | Groundwater[2] (µg/L) |
|---|---|---|
| GRO | 300 | 2,200 |
| Benzene | 0.022 | 4.6 |
| Toluene | 0.13 | 15 |
| Ethylbenzene | 6.7 | 1,100 |
| Xylenes | 1.5 | 190 |

mg/kg = milligrams per kilogram
µg/L = micrograms per liter

## Characterization and Cleanup Activities

In 1993, gasoline contaminated soil was discovered during the removal of a 300-gallon emergency generator gasoline UST at the former FNSB Old Main School building.

A full release investigation was not conducted at this time, but samples collected from stockpiled soil removed from under the tank indicated GRO concentrations of up to 6,600-mg/kg and benzene, toluene, ethylbenzene, and xylenes concentrations of up to 110-mg/kg, 980-mg/kg, 330-mg/kg, and 2200-mg/kg, respectively. Presumed clean soil was used to backfill the excavation and ten cubic yards of the most highly contaminated soil was removed and thermally remediated at Environmental Systems, Inc.

In 1997, a release investigation was conducted that included the installation of a single monitoring well in the location of the former UST. Due to utility conflicts, the monitoring well was moved approximately 17-feet downgradient from the former UST location. Soil samples collected from three depths in the boring were below the cleanup levels for GRO and BTEX. Groundwater sampled from the new well (MW1) contained benzene at 386-µg/L, above the groundwater cleanup level. The presence of benzene in groundwater was attributed to releases originating from the Chevron - Goldpanner Service Station (ADEC File #102.26.063) contaminated site located 300-ft upgradient on the other side of Cushman St.

In 2010, at the request of ADEC, MW1 was sampled for sulfolane contamination due to the former UST having been used for the storage of gasoline from the Flint Hills refinery (ADEC File #100.38.090). Sulfolane was not detected at the Practical Quantitation Limit of 10-µg/L.

In June 2012, MW1 was sampled for GRO, BTEX, naphthalene, TCE, and PCE. All contaminants were below the applicable groundwater cleanup levels with the exception of TCE, which was detected at 2.88-µg/L. The presence of TCE in groundwater is attributed to releases associated with the Gaffney road Areawide east and west dry cleaning solvent plumes (ADEC File #102.38.084). Monitoring Well 1 was decommissioned in 2015.

**Cumulative Risk Evaluation**

Pursuant to 18 AAC 78.600(d), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

When the presence of TCE in groundwater is included, cumulative risk benchmarks are exceeded for the consumption of groundwater pathway. However, based on a review of the environmental records pertaining to releases from this site only, cumulative risks are below benchmark criteria.

**Exposure Pathway Evaluation**

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 2.

**Table 2 – Exposure Pathway Evaluation**

| Pathway | Result | Explanation |
|---|---|---|
| Surface Soil Contact | Pathway Incomplete | Though samples were not collected, surface soil is not suspected of being contaminated due to the nature of the release. |
| Sub-Surface Soil Contact | De-Minimis Exposure | Contamination remains in the sub-surface, but is below cleanup levels for direct contact. |

| | | |
|---|---|---|
| Inhalation – Outdoor Air | De-Minimis Exposure | Contamination remains in the sub-surface, but is below cleanup levels for inhalation. |
| Inhalation – Indoor Air (vapor intrusion) | De-Minimis Exposure | Groundwater at the site meets vapor intrusion target levels. Remaining soil contamination meets the most stringent cleanup levels. |
| Groundwater Ingestion | De-Minimis Exposure | Groundwater samples collected near the former tank location confirmed that residual concentrations are below the groundwater cleanup levels except for trichloroethylene which is due to regional contamination. Groundwater is not used as drinking water at this site. |
| Surface Water Ingestion | Pathway Incomplete | Surface water is not used as a drinking water source in this area and the nearest surface water body is more than .25 miles away. |
| Wild and Farmed Foods Ingestion | Pathway Incomplete | The site is located in downtown Fairbanks and is not used for hunting, gathering or farming. Contaminants of concern at this site do not have the potential to bioaccumulate in plants or animals. |
| Exposure to Ecological Receptors | Pathway Incomplete | There are no ecological receptors in the vicinity of this site. |

**Notes to Table 2:** "De-Minimis Exposure" means that in ADEC's judgment receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. "Pathway Incomplete" means that in ADEC's judgment contamination has no potential to contact receptors. "Exposure Controlled" means there is an institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

## ADEC Decision

Soil and groundwater contamination at the site have been cleaned up to concentrations below the approved cleanup levels suitable for residential land use. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions:

Standard Conditions:

1. Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 78.600(h). A "site" as defined by 18 AAC 78.995(134) means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership. (See attached site figure.)

2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use.

   Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other

purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

This determination is in accordance with 18 AAC 78.276(f) and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

**Appeal**

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 555 Cordova Street, Anchorage, Alaska, 99501-2617, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, P.O. Box 111800, Juneau, Alaska, 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please feel free to contact me at (907) 451-5174, or email at michael.hooper@alaska.gov.

Sincerely,

Michael Hooper
Project Manager

Cc (via email): Spill Prevention and Response, Cost Recovery Unit