THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE
Contaminated Sites Program

410 Willoughby Ave Suite 303
PO Box 111800
Juneau, Alaska 99811-1800
Main: 907-465-5210
Fax: 907-465-5218

File No: 1508.38.017

April 7, 2014

Via Electronic and Regular Mail
Mr. Carlos Jimenez, Director
Haines Borough Public Works
Post Office Box 1209
Haines, Alaska 99827

RE: Closure with Institutional Controls Determination
Haines Borough Vocational Technical School Contaminated Site

Dear Carlos,

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has reviewed the environmental records for the referenced site. This decision letter explains the site history, cleanup activity and specific conditions required to effectively manage any remaining contamination. No additional remedial action is required as long as compliance with these conditions is maintained.

Site Name and Location
Haines Borough School District USTs
Haines Borough Offices
Haines, Alaska 99827
Lots 5, Primary School Subdivision Plat 2008-21

Address of Contact Party
Carlos Jimenez
Haines Borough Public Works
P.O. Box 1209
Haines, AK 99827

DEC Site Identifiers
Hazard ID: 26216
File: 1508.38.017

Regulatory Authority for Determination
Title 18 Alaska Administrative Code 75

Site Description and Background
The Haines Borough Vocational Technical School (Vo-Tech) building UST property is located on Haines Highway Cut-off between Fifth Avenue and Allen Road in downtown Haines. The surrounding properties consist of municipal, commercial and residential land use. The nearest large surface water body is Portage Cove off Chilkoot Inlet, located about 0.3 miles to the west.

Site Description and Background
The referenced property is situated in an area of the Chilkat River floodplain that has a fine glacial till (clay) layer that constitutes a confining layer separating shallow groundwater from deep groundwater. The deep groundwater aquifer below the confining layer has a peizometric pressure gradient and may be of sufficient supply and quality to become a drinking water source. Shallow groundwater above the confining layer appears intermittently depending on rainfall and snowmelt from the mountains north of the Haines. Due to the influence of surface water the shallow aquifer is not of sufficient quality for use as a drinking water source. During summer, shallow groundwater is often not present for months at a time.

The Haines Borough provides drinking water to the area under a local public health ordinance that requires residents within 200 feet to make connection to the system. Site investigation has shown that subsurface water elevation on the properties varies seasonally between 8.5 and 13 feet below ground surface (BGS). Depth to bedrock in downtown Haines has been found to be less than twenty feet BGS. The predominant direction of groundwater flow on the property is southwest, toward the Chilkat River. Soil types on the property consist of alluvial and glacial sand and gravel overlain by imported construction fill.

In 2005, the Haines Borough (HB) was making plans to decommission the underground storage tanks (USTs) that supplied heating oil to boilers at four active school buildings. In advance of the project, the Borough made arrangements to investigate soil around each of the USTs for contamination. In October 2005, Carson Dorn Inc. (CDI) advanced test pits at the Vo-Tech building and collected analytical samples from each test pit to characterize subsurface soil for diesel range (DRO) hydrocarbons. At the Vo-Tech school, DRO concentrations reached 5,430 milligrams per kilogram (mg/kg). Since HB intended to decommission the UST over the next several years DEC deferred further characterization and cleanup activities until the tanks were no longer in use and listed the property on the Contaminated Sites Database.

Contaminants of Concern
The following petroleum contaminants of concern (COCs) are those above cleanup levels that were identified during the course of the site investigations, as summarized in the Characterization and Cleanup Activities section of this decision letter.

- Diesel Range Hydrocarbons (DRO)

Cleanup Levels
Site investigation sampling detected elevated concentrations of DRO in confirmation samples of subsurface soil at the Vocational Technical School UST site. The migration to groundwater soil cleanup levels are applicable in this situation to limit DRO soil contamination from migrating into shallow groundwater. As previously stated, groundwater is intermittent at the site and was investigated for contamination. Surface water is not present at the site and was not investigated for contamination.

The cleanup level requirements for heating oil contamination in soil and groundwater on the property are those established in 18 AAC 75.341(b)(2) Method Two for soil with chemicals listed on 18 AAC 75.341(c) Table B1 and petroleum hydrocarbon ranges listed on 18 AAC 75.341(d) Table B2 for the over 40 inch rainfall zone for soil, and those established in 18 AAC 75.345(b)(1) on Table C for groundwater. The following table displays the contaminant of concern cleanup levels for completed pathways at this site:

Table 1 – Approved Cleanup Levels

Chemical	Soil (mg/kg) Migration to Groundwater	Groundwater (mg/L)
DRO	230	1.5

Site Characterization and Cleanup Activities

Site Investigation and Cleanup activities conducted under the regulatory authority of the Contaminated Sites Program (DEC) began in 2006. By letter in March 2006, DEC approved a Site Investigation Report for the limited site activity in 2005 by CDI and agreed to allow the Haines Borough (HB) to delay cleanup activities until school buildings were no longer in-use by the School District. These activities are described below.

Based on the previous findings, in 2007 DEC approved a work plan submitted by CDI for HB to perform Interim Removal (IR) excavation of the accessible contaminated soil while protecting the integrity of the school building structures. Remediation of contaminated soil from the IR activity was performed either by off-site transport to an out-of-state remedial landfill or by enhanced natural attenuation in a bioremediation cell (biocell) at the Haines Borough Wastewater Treatment Plant (WTP) to acceptable regulatory levels.

The 2005 preliminary site investigation found a DRO concentration of 5,430 mg/kg in soil at a depth of six feet BGS in an excavation on the east side of the UST at the referenced site. In June 2007, during the closure-by-removal of the 1,000-galllon UST located at the northeast corner of the school, soil layers consisted of gravel between zero and two feet, sand/gravel between two and four feet and compact till between four and to eight feet BGS.

UST at the northeast corner of the Vo-Tech building; subsurface clay layer and groundwater seep.

The upper layer of soil above the UST surrounding the fill and vent pipes was clean so it was set aside. After HB removed the UST, CDI tracked stained layer of soil contamination to the edge of the building foundation and in a subsurface layer of stained soil under an abandoned utility pipe that extended northeast towards the high school. Workers loaded contaminated soil directly into trucks for transport to

the WTP biocell. In accordance with the DEC approved sampling work plan CDI collected eight confirmation samples and a field duplicate from remaining soil on the bottom and sidewalls of the excavation at the water/soil interface.

Stained grey soil layer in the north wall and groundwater monitor well emerging from clean backfill soil.

Samples collected beneath the tank (VT-1) at eight feet BGS and south of the tank (VT-2) at seven feet BGS had DRO concentrations in soil below laboratory reporting limits. Three samples collected from the west wall (VT-4, VT-5, & VT-6) at six, seven and three feet BGS respectively had DRO concentrations of 34 mg/kg, 2,200 mg/kg and below laboratory reporting limits respectively. The sample collected at the Vo-Tech foundation on the north side (VT-3) had a DRO concentration of 3,330 mg/kg.

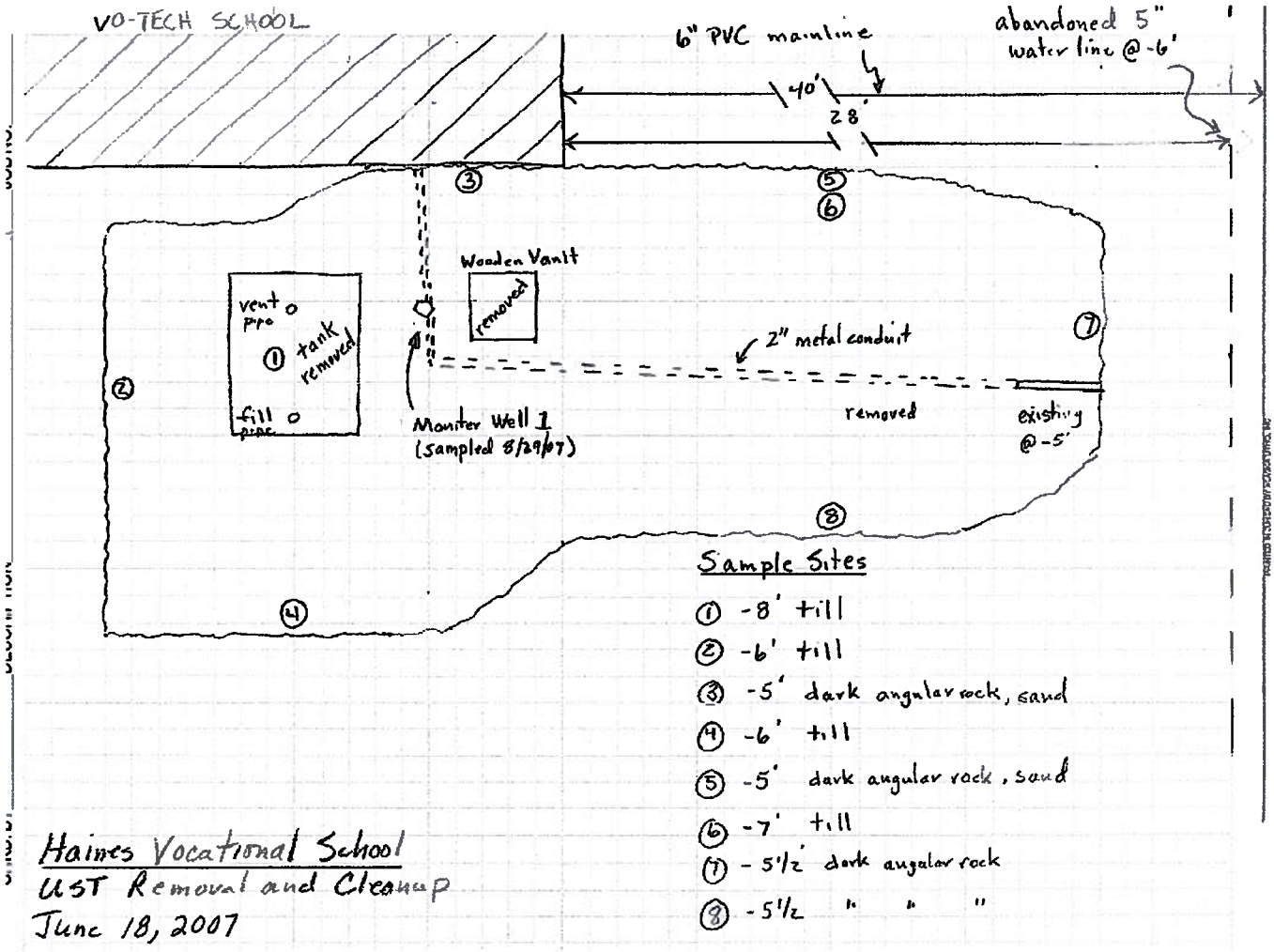
The following table displays the highest levels of COCs detected in samples of remaining soil, the sample name, the depth below the surface and where the sample was collected, and the Method Two Migration to Groundwater (M2 MTG soil cleanup levels listed in 18 AAC 75.341 Table B1 and Table B2. The values in bold print are above the M2 MTG cleanup levels.

Table 2 highest level of petroleum analytes in confirmation soil samples.

Hydrocarbon range and compounds of concern	Greatest level in soil mg/kg	Sample name and depth below the surface	M2 MTG Cleanup Levels mg/kg
DRO	**3,300**	VT-3 at 5 feet BGS at the building foundation	230
Benzene	NT		0.025

mg/kg = milligrams per kilogram
NT = not tested

Continued excavation of contaminated soil in the UST excavation is restricted by a water service utility line and the foundation of the Vo-Tech School building. While HB returned clean surface soil to the excavation, CDI installed a groundwater well in the excavation.



Drawing 1 with sample locations in the Vo-Tech former UST excavation.

Confirmation sample data indicate that DRO contamination remains in a soil layer averaging less than 24 inches thick at a depth between five and seven feet BGS underneath the footing of the Vo-Tech school and extending northward for 15-20 feet along both sides of a buried 2-inch steel conduit water pipe. An estimated volume of forty cubic yards of lightly contaminated soil originating from the Vo-Tech UST excavation was transported to the WTP where it was placed in a lined biocell and treated with nutrients to accelerate microbial breakdown of petroleum in the soil. In September 2007, the heavily contaminated soil was transported by barge in shipping containers to the Rabanco Landfill located in Washington State.

In August 2007, CDI collected a groundwater sample and a field duplicate from the monitoring well for laboratory analysis. The samples were analyzed for DRO and benzene, toluene, ethylbenzene and total xylenes (BTEX). Benzene and DRO concentrations are displayed in Table 3 below. Each result is below the approved cleanup levels also displayed in Table 3. The toluene, ethylbenzene and total xylene compound concentrations were each below laboratory reporting limits and approved Table C cleanup levels.

Table 3 Analyte concentrations detected in groundwater

Analyte	MW-1 mg/L	MW-1 Duplicate mg/L	Cleanup Level mg/L
DRO	0.315	NS	1.5
Benzene	0.0003	0.0002	0.005

mg/L = milligrams per liter
NS = not sampled

In a letter dated October 2007, DEC approved findings in the final report stating that DRO soil contamination is present under the northeast corner of the foundation of the Vo-Tech school building extending twenty feet north in a narrow utility trench. DEC confirmed that when the transport for remediation of contaminated soil was confirmed then closure with institutional controls was possible. Remaining soil contamination at the Vo-Tech school building site is indicated in Drawing 1. Remediation of the contaminated soil was later confirmed by DEC.

Cumulative Health Risk Calculation
Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be calculated. The risk from hazardous substances must not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative non-carcinogenic risk standard at a hazard index of one across all exposure pathways. A chemical that is detected at one-tenth or more of the Table B1 inhalation or ingestion values set out in 18 AAC 75.341(c) or the Table B2 values set out in 18 AAC 75.341(d) must be included when calculating cumulative risk under 18 AAC 75.325(g).

Based on a review of the environmental record, DEC has determined that residual contaminant concentrations do not pose a cumulative human health risk.

Exposure Pathway Evaluation
Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC'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 1 as Attachment A to this letter.

DEC Decision
In accordance with 18 AAC 75.335 (b) (2), the concentration and extent of contamination has been determined to the maximum extent practicable at the former UST site as referenced in this decision document. Soil contamination remaining in a subsurface soil layer on the referenced property is limited, stable and does not present an unacceptable risk to human health or the environment.

Groundwater monitoring demonstrates that the thin zone of contamination is not impacting groundwater. The department approves closure for this site in accordance with 18 AAC 75.380, subject to institutional controls under 18 AAC 75.375, as outlined below. These controls are necessary to ensure that soil contamination encountered during construction or other disturbances in the future is properly managed, and that current and future landowners or operators on the impacted properties are notified and aware.

Institutional Controls

Since petroleum contamination remains in subsurface soil on the referenced property above approved cleanup levels, institutional controls are necessary to ensure there is no unacceptable risk to human health or the environment, now and in the future. A Notice of Environmental Contamination (deed notice) shall be recorded in the State Recorder's Office as an institutional control (IC) that identifies the nature and extent of contamination at the property as described in this decision document and the conditions that current and future owners and operators are subject to in accordance with this decision document. These conditions are as follows:

1. Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, these management conditions may not be protective and DEC may require additional remediation and revised conditions. Therefore the Haines Borough shall report to DEC every three years to document land use, or report as soon as the Haines Borough becomes aware of any change in land ownership and/or use, if earlier. The report can be sent to the local DEC office or electronically to DEC.ICUnit@alaska.gov

2. Sub-surface soil contamination is located near the foundation of the Vo-Tech building and in the utility corridor (Drawing 1). When the Vocational Technical School building is removed and/or the soil becomes accessible, the soil must be evaluated and contamination addressed in accordance with a DEC approved work plan.

3. Installation of groundwater wells will require approval from DEC

4. Any remaining groundwater monitoring wells must be decommissioned in accordance with DEC guidance. Submit well decommissioning documentation to DEC within 30 days.

5. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 7.325(i). A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.

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

The DEC Contaminated Sites Database will be updated to reflect the change in site status as detailed above, and will include a description of the contamination remaining at the site. Institutional controls will be removed in the future if documentation can be provided that shows cleanup levels have been met. Management conditions 5 and 6 remain in effect after ICs 1-4 are removed.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or 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, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, 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, Juneau, Alaska 99801, 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.

Please sign and return *Attachment B* to DEC within 30 days of receipt of this letter. If you have any questions or concerns with agreeing to the terms of this site closure agreement or about this closure decision, please contact the DEC project manager, Bruce Wanstall at (907) 465-5210.

Sincerely,

Bruce Wanstall

Bruce Wanstall
Remedial Project Manager
State & Private Contaminated Sites Program

Attachment A: Table 1 – Exposure Pathway Evaluation
Attachment B: Cleanup Complete-ICs Agreement and Signature Page*
Attachment C: Site Map

cc: Julie Cozzi, Interim Borough Manager, Haines, via email, jcozzi@haines.ak.us
Sally Schlichting, DEC Project Manager, via email
Carol Russell, Response Fund Administration, via email
Evonne Reese, DEC IC Unit, via email

Attachment A: Exposure Pathway Evaluation

Table 1 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	There is no soil contamination remaining at the surface on the site above the direct contact cleanup levels. All excavated soil contamination has been transported off-site and remediated.
Sub-Surface Soil Contact	De-minimis exposure	Soil contamination remains not accessible in the subsurface at levels between Method Two Table B2 Migration to Groundwater and human health ingestion levels and future excavation is not planned.
Inhalation – Outdoor Air	Pathway Incomplete	Soil was not tested for volatile petroleum compounds and contamination remains in the subsurface, but no volatile compounds are present in groundwater.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Buildings are present but any remaining volatile petroleum levels in groundwater are below laboratory reporting limits and Table C cleanup levels.
Groundwater Ingestion	De minimis exposure	Petroleum levels in groundwater are below Table C cleanup levels and groundwater does not influence a current or future drinking water source. Public Works supplies potable water to the site and the general area.
Surface Water Ingestion	Pathway Incomplete	Surface water hydraulically connected to the site is not of sufficient quality or quantity for a potable water source.
Wild Foods Ingestion	Pathway Incomplete	The site and the urban area are not a wild foods harvest area and none of the contaminants have potential to bioaccumulate in flora or fauna.
Exposure to Ecological Receptors	Pathway Incomplete	Groundwater samples are below the Table C cleanup levels.

Notes to Table 1: "De-minimis exposure" means that in DEC's judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. "Pathway incomplete" means that in DEC's judgment contamination has no potential to contact receptors. "Exposure controlled" means there is an administrative mechanism in place limiting land or groundwater use, or a physical barrier in place that deters contact with residual contamination.

Attachment B: Cleanup Complete-ICs Agreement and Signature Page*

Haines Borough agrees to the terms and conditions of this Cleanup Complete Determination, as stated in decision letter for the Vocational Technical School, dated April 7, 2014. Failure to comply with the terms and conditions of the determination may result in DEC reopening this site and requiring further remedial action in accordance with18 AAC 75.380.

_____ _____

Signature of Authorized Representative, Title
Carlos Jimenez

Date

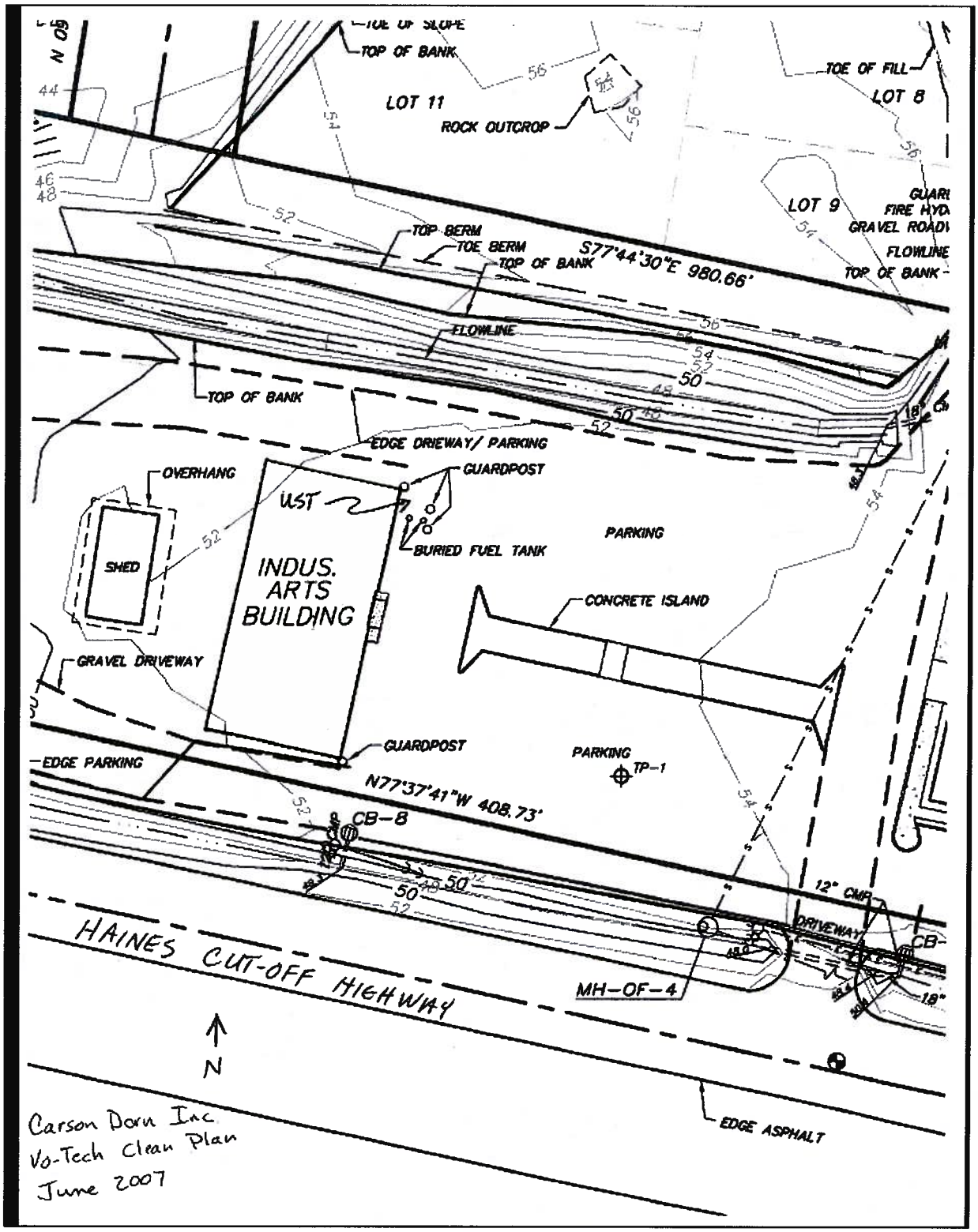
_____

Printed Name of Authorized Representative, Title
Haines Borough

Note to Responsible Person (RP):

After making a copy for your records, please return a signed copy of this form to the DEC project manager at the address on this correspondence within 30 days of receipt of this letter.

Site Map


TOP OF BANK
LOT 11
ROCK OUTCROP
TOE OF FILL
LOT 8
LOT 9
GUARI
FIRE HYD
GRAVEL ROAD
FLOWLINE
TOP OF BANK
S77°44'30"E 980.66'
TOP BERM
TOE BERM
TOP OF BANK
FLOWLINE
TOP OF BANK
EDGE DRIEWAY/ PARKING
GUARDPOST
OVERHANG
UST
SHED
INDUS. ARTS BUILDING
BURIED FUEL TANK
PARKING
CONCRETE ISLAND
GRAVEL DRIVEWAY
GUARDPOST
PARKING
TP-1
EDGE PARKING
N77°37'41"W 408.73'
CB-8
12" CMP
DRIVEWAY
CB-
MH-OF-4
18"
HAINES CUT-OFF HIGHWAY
N
EDGE ASPHALT
Carson Dorn Inc
Vo-Tech Clean Plan
June 2007

Closure/IC Details
Three IC Types are recorded in the CS Database for this site as follows:

NEC Deed Notice:
Since petroleum contamination remains in subsurface soil on the Vocational Technical School property above approved cleanup levels, institutional controls are necessary to ensure there is no unacceptable risk to human health or the environment, now and in the future. A Notice of Environmental Contamination (deed notice) shall be recorded in the State Recorder's Office as an institutional control (IC) that identifies the nature and extent of contamination at the property and the conditions that current and future owners and operators are subject to.

Signed CS Determination:
The DEC Contaminated Sites Database will be updated to reflect the institutional controls stipulated in the closure determination agreement and description of the contamination remaining at the site. By signing the closure determination agreement, it is the responsibility of the owner/operator/land manager to maintain the terms of the Institutional Controls as stipulated in the signed agreement. Institutional controls may be removed in the future if documentation can be provided that shows cleanup levels have been met.

When contaminated soil becomes accessible submit a work plan for DEC approval:
Sub-surface soil contamination is located near the foundation of the Vo-Tech building and in the utility corridor as shown in Drawing 1 in the closure determination document. When the Vocational Technical School building is removed and/or the soil becomes accessible, the soil must be evaluated and contamination addressed in accordance with a DEC approved work plan.

Task Tracker:
By signing the closure determination agreement, it is the responsibility of the owner/operator/land manager to maintain the terms of the Institutional Controls as stipulated in the signed agreement. If land use and/or ownership changes, the management conditions stated in the closure determination document may not be protective and DEC may require additional remediation and revised conditions. Therefore the Haines Borough shall report to DEC every five years to document land use, or report as soon as the Haines Borough becomes aware of any change in land ownership and/or use, if earlier. The report can be sent to the local DEC office or electronically to DEC.ICUnit@alaska.gov

CS Database Action
Enforcement Agreement Recorded:
By signing the closure determination agreement, it is the responsibility of the owner/operator/land manager to maintain the terms of the Institutional Controls as stipulated in the signed agreement. If land use and/or ownership changes, the management conditions stated in the closure determination document may not be protective and DEC may require additional remediation and revised conditions. Therefore the Haines Borough shall report to DEC every three years to document land use, or report as soon as the Haines Borough becomes aware of any change in land ownership and/or use, if earlier. The report can be sent to the local DEC office or electronically to DEC.ICUnit@alaska.gov