

APPENDIX F

Phase I Environmental Site Assessment

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Summary of Changes in Project Scope

The Seward Highway Milepost (MP) 99 to MP 105: Bird to Indian project was originally evaluated as an Environmental Assessment (EA) with 3 design alternatives: (1) No-Action Alternative; (2) resurfacing, restoration, and rehabilitation (3R) with Passing Lanes Alternative; and (3) Passing Lanes and Frontage Road Alternative. During the early planning process, rerouting the road into Turnagain Arm was discussed, but was ruled out due to cost and environmental concerns. The attached technical report may discuss multiple alternatives. However, the Categorical Exclusion (CE) document only relates to Alternative 2, 3R with Passing Lanes, which is the proposed design that is being carried forward. It is anticipated that there has been no change in the built and natural environment since the attached study was completed.

**ALL APPROPRIATE INQUIRY/PHASE I
ENVIRONMENTAL SITE ASSESSMENT**

**SEWARD HIGHWAY - BIRD TO INDIAN - MILEPOST 99 TO 105
FEDERAL/DOT&PF PROJECT NOS: STP-F-021-2(15)/53577**

ANCHORAGE, ALASKA

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LIST OF ACRONYMS

AAI	All Appropriate Inquiry
ACM	asbestos-containing materials
ACS	.....	Alaska Communications System
AST	.....	aboveground storage tank
ASTM	.....	American Society for Testing and Materials
bgs	.....	belowground surface
CERCLA	.....	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	.....	Comprehensive Environmental Response, Compensation and Liability Information System
CS		Contaminated Sites
DEC	.....	State of Alaska Department of Environmental Conservation
DFSC	.....	Defense Fuel Supply Center
DOT&PF	.....	State of Alaska Department of Transportation and Public Facilities
DOWL	.....	DOWL Engineers
DRO	.....	diesel range organics
EDR	.....	Environmental Data Resources
EPA	.....	Environmental Protection Agency
ERNS	.....	Emergency Response Notification System
ESA	.....	Environmental Site Assessment
FINDS	.....	Facility Index System
LUST	.....	leaking underground storage tank
MP	.....	Milepost
RCRA	.....	Resource Conservation and Recovery Act
RCRIS	.....	Resource Conservation and Recovery Information System
RECs	.....	recognized environmental conditions
SPILLS	.....	State of Alaska Department of Environmental Conservation Spills Database
SWF/LFs	.....	Solid Waste Facilities and Landfills
the Property	.....	Seward Highway – Bird to Indian – Milepost 99 to 105 Corridor
USGS	.....	United States Geological Survey
UST	.....	underground storage tank

EXECUTIVE SUMMARY

This report presents the results of an All Appropriate Inquiry and Phase I Environmental Site Assessment for the Seward Highway from Milepost 99 to Milepost 105. The project area encompasses a six-mile-long section of the Seward Highway lying between Bird and Indian within the Municipality of Anchorage, Alaska. The boundaries of the study generally extend 150 feet inland from the centerline of the existing or proposed routes and south to the coast.

The only recognized environmental condition within the project area is contamination at the Essential Gas Station directly adjacent to the existing road corridor. The site has the potential to have impacted soils that may be disturbed if rehabilitation and upgrade of the existing highway route becomes the selected alternative. Shallow soils could be disturbed through the construction of additional lanes and moving communication utilities that run along the corridor.

Based on the information obtained during this Phase I ESA, it is DOWL Engineers' judgment that past activities at the Essential Gas Station pose significant potential for environmental impairment of the subject property. Further investigation of the site could be performed through the installation of three shallow soil borings within the State of Alaska Department of Transportation and Public Facilities right-of-way in front of the gas station. These borings would be installed to a depth of 10 feet and be tested for petroleum hydrocarbons—including gasoline range organics, diesel range organics, and benzene—at a State of Alaska Department of Environmental Conservation approved laboratory.

1.0 INTRODUCTION

1.1 Purpose of the All Appropriate Inquiry/Environmental Site Assessment

The objective of this All Appropriate Inquiry (AAI)/Environmental Site Assessment (ESA) is to identify and record any recognized environmental conditions (RECs) that present an environmental liability to or would restrict the use of a property. RECs generally include observable existing, potential, or suspect conditions resulting from the use, handling, and disposal of hazardous substances or petroleum products. The presence of RECs, particularly contaminants, may not always be apparent, and the completion of an AIA/ESA in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requirements cannot provide a guarantee that hazardous wastes or materials do not exist. The scope of services does not constitute an audit for regulatory compliance, nor does it include detailed surveys or other tasks not specifically outlined in DOWL Engineers' (DOWL) scope of services.

1.2 Scope of Services

An AAI/ESA comprises a number of individual elements whose basic nature and extent are determined in accordance with the standard of care as outlined by CERCLA 42 U.S. Code 9601(35)(B)(III) and by American Society for Testing and Materials (ASTM) 1527-05. This standard is commonly defined as the care applied by the ordinary practitioner in the area where the study was performed. We believe that we have complied with the applicable standard of care in performing this AAI/ESA.

Under the scope of work, the activities performed to obtain information about the Seward Highway – Bird to Indian – Milepost (MP) 99 to 105 corridor (the Property) included the following:

- A site reconnaissance on April 17, 2006, of the Property and surrounding properties to assess current usage, unusual conditions (e.g., stained soils, discarded drums, storage tanks, etc.), drainage patterns, and debris.
- A review of historical aerial photographs spanning the years from 1962 through 2000.

- An interview with three individuals having personal knowledge of past activities on the Property.
- A review of available information on soils, geology, and hydrology in the vicinity of the Property.
- A review of data obtained from a search conducted by Environmental Data Resources (EDR) (see Appendix E for EDR Report) of federal databases, which includes information about nearby sites operating under federal regulations or approved state regulation, from:
 - The Environmental Protection Agency (EPA);
 - Facility Index System (FINDS) List;
 - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List;
 - Emergency Response Notification System (ERNS) Spill Reports List;
 - Resource Conservation and Recovery Information System (RCRIS) List.
- A review of data obtained from a search conducted by EDR of state and local databases, which includes information from the State of Alaska Department of Environmental Conservation (DEC):
 - Contaminated Sites (CS) Database;
 - Solid Waste Facilities and Landfills (SWF/LFs);
 - Leaking Underground Storage Tank (LUST) Database;
 - Underground Storage Tank (UST) Database;
 - Regulated Aboveground Storage Tank (AST) List;
 - SPILLS Database.

The report meets the government records search requirements for ASTM Standard Practice for Environmental Sites Assessments, E1527-05.

1.3 Limitations of the All Appropriate Inquiry/Environmental Site Assessment

Generally, our services intentionally do not include specific surveys for: asbestos-containing materials (ACM), radon, methane gas, wetlands delineation, lead in paint, lead in domestic water supply, or the investigation or detection of the presence of any biological pollutants in or around any structure. The term “biological pollutants” includes, but is not limited to, molds, fungi, spores, bacteria and viruses, and the byproducts of any such biological organism.

Although the scope of this work included searching the above-noted governmental databases for indications of nearby properties documented under these systems, it did not include reviews of the individual files for these entries. No other environmental sampling or research work was included in the AAI/ESA activities unless it is specifically referenced in this report.

The findings and considerations presented in Section 8.0 of this report are based solely upon the information obtained during the AAI/ESA. Further, the conclusions include our assessment of the potential for the Property to have been environmentally impacted from past activities on or near the Property. Although the findings and considerations represent our best judgment, they do not represent a certification of the environmental status of the Property.

Current conditions and information observed by DOWL during these activities are subject to change. Indicators of the presence of hazardous materials that were latent at the time of this AAI/ESA may subsequently become observable. In a similar manner, records or other information sources that DOWL did not review, because the research effort commonly associated with an AAI/ESA did not indicate their existence, may contain important information that could not have been considered in the formulation of DOWL’s conclusions.

Information and representations obtained from individuals interviewed for this report were relied on unless incidents of conflicting data were noted. DOWL accepts no responsibility for inaccuracies or deficiencies in this report resulting from omissions or misrepresentations by the persons interviewed.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Property Location and Existing Structures

This report presents the results of an AAI and Phase I ESA for the Seward Highway from MP 99 to MP 105. The project area encompasses a six-mile-long section of the Seward Highway lying between Bird and Indian within the Municipality of Anchorage, Alaska (Figure 1). The boundaries of the study generally extend 150 feet inland from the centerline of the existing or proposed routes and south to the coast (Figure 2).

2.2 Physiographic Setting

2.2.1 United States Geological Survey Quad Map

The Seward D-7 (AK) 7.5-minute United States Geological Survey (USGS) quadrangle map was reviewed for indications of surface features in the area. Information on this map indicated that the natural terrain in the general location of the project area slopes from north to south with grades ranging from 2 percent to as much as 30 percent on steep hillsides.

2.2.2 Subsurface Conditions

The area between Bird and Indian is situated within the Kenai-Chugach Mountain physiographic subprovince that borders Cook Inlet. The present topography of the Bird to Indian area is primarily the product of five major glacial advances that invaded the area, as well as the effect of lacustrine (lake) and alluvial (river/creek) deposits consequent with or subsequent to the advances.

The significant soils in the project area are of glaciofluvial outwash deposits (sand and gravel) and fluvial deposits associated with meandering outwash streams. The outwash and fluvial deposits are thin and underlain by dark-gray slaty argillite and meta-graywacke bedrock of Late Mesozoic age. The underlying geology is dominated by two major formations, the McHugh complex and the Valdez Group.

2.3 Investigation of Historical Background

2.3.1 Aerial Photography

Prints of 11 aerial photographs and 3 aerial photograph scans of the site and its vicinity obtained from Aero-Metric Anchorage, were reviewed on April 19, 2006. All prints and work products are the property of the contracting agency and are part of the completion documentation. The photographs were taken in 1962, 1971, 1980, 1990, and 2002. The photographs were examined for indications of the types of land use and surface activities that were present on the Property and on adjacent parcels during those periods. Summary review comments follow. Copies of these photographs are included in Appendix A.

June 15, 1962, Aerial Photograph – (Aero-Metric Anchorage)

The photograph reviews indicated that the Seward Highway road corridor had been developed prior to 1962, the earliest photographic year available for the site. The road corridor appears to follow its current alignment. Small developments adjacent to the road corridor are visible throughout the 1962 photographs. Land use adjacent to the road corridor appears to be a mix of small homesteads and commercial usage, the majority of which is centered in Bird. Large stretches of the road corridor east of Bird, between Bird and Indian, and west of Indian remain undeveloped.

July 8, 1971, Aerial Photograph – (Aero-Metric Anchorage)

The road corridor appears to have changed little from the 1962 photographs. Land use adjacent to the corridor appears to be the same mix of homestead and commercial usage. The Observations of the project corridor were limited to general usage because of the large 1" = 2000' scale of the 1971 photographs. Detailed observations were not possible.

September 11, 1980, Aerial Photograph – (Aero-Metric Anchorage)

The road corridor appears to be in the same configuration as in the 1971 aerial photographs. Development adjacent to the road corridor has changed little with the same mix of homesteads and commercial development. What is now the Essential Gas Station located in

Bird is easily identifiable in the photograph. In general, land use has changed little, with mature vegetation overtaking many of the cleared areas.

June 3, 1990, Aerial Photograph – (Aero-Metric Anchorage)

The road corridor appears to be in the same configuration as in the 1980 aerial photograph. Land use adjacent to the road corridor appears to be the same mix of homesteads and commercial usage.

2002 Aerial Photograph Scan (obtained from State of Alaska Department of Transportation and Public Facilities (DOT&PF))

The configuration of the project corridor and surrounding land use appears to similar to what is observed in the 1990 aerial photograph.

2.3.2 Public Documents

Sanborn fire insurance maps or Polk directories were not reviewed as part of this study, as no coverage for either of these resources is available for the project area.

3.0 SITE RECONNAISSANCE

3.1 Current Use of the Property

Mr. Phil Barnes, Environmental Planner, of DOWL conducted a reconnaissance of the project area on April 17, 2006. The project area's location is described in Section 2.1 and is shown on the Project Overview Map (Figure 2). There were no weather conditions that limited observation of the site's surfaces or vegetation. Site observations were recorded and photographs were taken at key points during the reconnaissance, which may be referenced on Figures 1 through 4, Appendix B. A transcription of the site comments and a selection of the photographs are included in Appendices B and C. General site comments follow:

MP 99 to 100

The Seward Highway and the adjacent multi-use trail dominate land use between MP 99 and 100. No other development was observed along this stretch with the exception of clearing on the north side of the road where a large log building is being erected.

MP 100 to 101

This section of the Seward Highway includes the community of Bird. Development includes several restaurants, a gas station, an auto repair shop, and residential houses located north of the road corridor. An access parking lot for the multi-use trail and the Bird Creek Campground are located on the south side of the road corridor. Notable features include:

- Essential Gas Station, located approximately 4,200 feet west of MP 100 – This site is an active gas station and is listed as a LUST site within the EDR report generated for the project corridor. During the site reconnaissance, several monitoring wells were observed on the site, which may indicate a past history of spills. Todd Miller, the manager on site during the time of the reconnaissance, stated that there are two USTs and two ASTs currently in use on the gas station property. In addition, there is a large septic leach field, constructed in 2005, located on the northwest area of the gas station site. A propane tank is located adjacent to the west side of the building.
- Bird House Garage, located approximately 2,700 feet west of MP 100 – This is an auto repair shop located on the north side of the project corridor. This property was not physically accessed during the site reconnaissance. There were no observed tanks or fueling operations on the property.
- Bird Ridge Café and Bakery, located approximately 4,000 feet west of MP 100 – This site has a septic system and leach field located adjacent to the project corridor.

MP 101 to 102

Development in this section is limited to Bird Creek access infrastructure. A pedestrian bridge spans Bird Creek and a multi-use trail connecting with the parking area is also located here. A second parking lot is located west of Bird Creek.

MP 102 to 103

Development between MP 102 and 103 consists of the Chugach State Park Bird Ridge Parking and development in Indian near MP 103. Development in Indian consists of the Brown Bear Saloon, Jim's Liquor Store, the Valley Bible Chalet, and a few small residential-type houses. There is what appears to be a garage east of Jim's Liquor Store, but the use of

this building could not be confirmed during the site reconnaissance. Indian Creek State Park, consisting of a parking area with a pit-type toilet and a baseball diamond, is located on the south side of the Seward Highway east of MP 103.

MP 103 to 104

Development through this section of the road is limited to several restaurants, the Turnagain House and Indian House, the Indian Creek Gold Mine located at MP 104, and homesteads.

MP 104 to 105

With the exception of the Seward Highway and the railroad, there is no development between MP 104 and 105.

3.2 Site Topography and Drainage

The project corridor is situated in the lower extent of Indian Valley. The current Seward Highway alignment closely follows the coast through Indian, taking an inland track as the road heads west toward Bird Creek. From Bird Creek, the road again briefly touches the coast before heading slightly inland toward Bird. After Bird, the road remains somewhat inland until MP 99 after rounding Bird Ridge.

3.3 Personal Interviews

The following individuals were interviewed for their personal knowledge of the recent history of the project area. Notes from these interviews are included in Appendix D.

Robert Weimer: Mr. Weimer is the current DEC project manager for the Essential Gas Station located at MP 101 of the Seward Highway. Mr. Weimer was interviewed by telephone on July 26, 2006, regarding his knowledge of the site. He confirmed that the site is in long-term monitoring and the contamination is confined to the Property boundaries. The main concern is soil contamination in the area of the tanks. Groundwater contamination has been confirmed as well, but the groundwater table is approximately 70 feet belowground surface (bgs) and therefore unlikely to affect the project. The possibility of encountering soil contamination is directly related to how close the construction boundaries may come to the area where the tanks are located east of the building.

Louis Howard: Mr. Howard is the current DEC project manager for the Defense Energy Indian Booster Pump Station site located in Indian. Mr. Howard was interviewed by telephone on July 26, 2006, regarding his knowledge of the site. He confirmed that the site is the same as the United States Department of Defense – Defense Fuel Supply Center (DFSC) Indian Pump Station site. It is located at the end of Oceanview Road at the Indian trailhead, approximately one-half mile from the Seward Highway. The site is in the database twice because there were two separate releases listed: a 1990 UST release and a 1993 fuel spill, as well as other spills. All contamination is being addressed under the Defense Energy Indian Booster Pump Station site name. The site has received conditional closure and is in long-term monitoring. Wells have been installed along Oceanview Road to monitor groundwater migrating toward Indian Creek. Groundwater is 10 to 35 feet bgs at the site. At this time, the contamination is contained on the Property and is expected to continue to degrade.

Todd Miller: Mr. Miller was the manager of the Essential Gas Station on duty during the time of the site reconnaissance conducted on April 17, 2006. Mr. Miller was asked general questions regarding the facility and whether he was aware of any contamination on the site. He stated that he was aware of contamination on the site but could not provide any specific details.

4.0 AGENCY FILE REVIEWS

The following sources and records were reviewed for information about releases near the Property. A complete listing of sites noted during the EDR data review is included in Appendix B.

EDR reports include a section called the “Orphan Summary.” These orphans are sites that appear on the list as possibly being in the area of the requested search, but due to poor or inadequate address information, these records could not be placed on the search map. In this report there were eight orphan sites listed, none of which have been eliminated due to distance from the project area. However, upon further examination it was determined that these orphan sites are duplications of the three listed sites in or near the project area.

4.1 Federal Records

4.1.1 Facility Index System

Date information made available to EDR: January 16, 2006. The EPA Facility Index System (FINDS) List is a listing of sites that operate under federal or approved state regulations. The list is comprised of thirteen categories ranging from lists of sites at which hazardous waste contamination has occurred, to lists of sites under regulation for asbestos or air emissions. There were no FINDS List sites with information files on or adjacent to the Property.

4.1.2 Resource Conservation and Recovery Act Corrective Action Sites

This is a list of handlers with Resource Conservation and Recovery Act (RCRA) Corrective Action Activity. Date information made available to EDR: February 21, 2006. The report catalogues nationally defined corrective action events that have occurred for every handler who has had corrective action activity. A review of this list revealed no sites within one mile of the Property.

4.1.3 Resource Conservation and Recovery Information System

Date information made available to EDR: January 30, 2006. A listing under the RCRIS category alone indicates that the addressee has reported that they generate, handle, or transport regulated substances, but does not necessarily mean that these substances have been released. These sites are listed under the EPA Region 10 Report of RCRA Handlers. There are no sites with RCRIS files located either on or adjacent to the Property.

4.1.4 Comprehensive Environmental Response, Compensation, and Liability Information System

This information was made available to EDR on January 30, 2006. A listing under this category indicates it is a site where releases were reported and subsequent investigations may have been performed. There are no sites shown under the CERCLIS category either on or adjacent to the Property.

4.1.5 Environmental Protection Agency Emergency Response Notification System Spill Reports

This information was made available to EDR on February 21, 2006. The ERNS list records and stores information on reported releases of oil and hazardous substances. The records indicate that there are no ERNS files associated with either the Property or adjacent properties.

4.1.6 Hazardous Materials Spill Response Incidents

This information was made available to EDR on February 21, 2006. This listing contains hazardous material spill incidents reported to DOT&PF. The records indicate that there have been no reported spill incidents on the Property or adjacent properties.

4.2 State of Alaska Department of Environmental Conservation Records

4.2.1 Contaminated Sites Database

This information was made available to EDR on February 21, 2006. The CS Database is the states' equivalent to CERCLIS. These sites may or may not have been listed on the federal CERCLIS list. There are three sites listed within the one-mile search radius of the Property:

- Indian Alaska Communication System (ACS) Substation – This site is listed as being located between Sawmill and Koniksonn Roads in Bird. This site has a medium priority type and the facility status is listed as closed. The problem statement reports contamination exceeding DEC Category A cleanup levels was encountered during the June 1995 removal of a 300-gallon heating oil UST along with some soils. Groundwater was encountered at approximately 6 feet bgs. Additional contaminated soils were removed in August 1995 and placed in a stockpile, bringing the total volume of soils excavated to 200 cubic yards. The stockpiled soils were bioremediated and site monitoring demonstrated that both soil and groundwater met applicable criteria. The DEC issued a site closure in March 2001. This exact location of this site could not be confirmed on the ground or with the DEC, but since it has been granted closure, it is not expected to impact the project.
- Mile 98.6 Pipeline Leak – This site was determined to be a duplicate of the Defense Energy Indian Booster Pump Station site.

- Defense Energy Indian Booster Pump Station – This site is located approximately one-half mile from the Property. This site is listed as having a high priority type and a conditional closure status. The problem statement reports that in 1993 the pipeline was shutdown after a valve failure caused the release of up to 35,700 gallons of fuel. Emergency response measures were implemented that succeeded in recovering more than 21,000 gallons of fuel and prevented the release from impacting the nearby creek or down-gradient residential wells. After the emergency response actions, several environmental investigations were undertaken and a groundwater treatment plant was constructed. In addition to the 1993 north valve release, previous spills of various types of fuel occurred at the site. These other releases are believed to be associated with an explosion in 1969, a LUST (removed in 1990), and maintenance and repair operations at the north and south pipeline relief valves. Petroleum contamination has been removed to the maximum extent practicable and no further remedial action is considered necessary beyond long-term groundwater monitoring. The pipeline no longer is used to transfer fuel.

4.2.2 Leaking Underground Storage Tank

This information was made available to EDR on January 20, 2006. LUST records contain an inventory of reported LUST incidents. The following two entries are reported to be either on or adjacent to the Property:

- United States Department of Defense – DFSC Indian Pump Station – This site is the same location as the Defense Energy Indian Booster Pump Station contaminated site and cleanup is being handled by the DEC under that site name.
- Essential Gas Station (former Texaco site) – This site is located north of the Property at MP 101. This site is listed as having a high priority type and the facility status, although not stated on the report, is known to be active. The problem statement indicates that petroleum contamination was discovered during the 1995 removal of two gasoline USTs. Soil contamination was found to extend to 65 feet bgs and groundwater contamination was also detected. Groundwater monitoring ceased to detect benzene in the groundwater as of 2002. Soil contamination remains on the site.

The site owners are holding off on the removal of the remaining contamination until the station is closed when the highway is moved.

4.2.3 State of Alaska Department of Environmental Conservation Registered Underground Storage Tanks

This information was made available to EDR on January 18, 2006. Registered USTs are regulated under Subtitle 1 of the RCRA and must be registered with the DEC, which is responsible for administering the UST program. The following three entries are reported to be either on or adjacent to the Property:

- DFSC Indian Pump Station – This site is reported to have one tank on site removed in 1990 with an unreported volume.
- Essential 1, MP 101 Seward Highway – This site is reported to have two tanks: one 12,000-gallon gasoline UST installed in 1993 and one 15,000-gallon gasoline UST installed in 2000.
- Indian Wire Center – This site is reported to have one unregulated 300-gallon heating oil tank installed in 1982.

4.2.4 Solid Waste Facilities and Landfills

No SWF/LFs were identified adjacent to the project corridor.

4.2.5 State of Alaska Department of Environmental Conservation Spills Database

This information was made available to EDR on February 21, 2006. There are no reported spill incidents in the project area.

5.0 FINDINGS

5.1 Onsite Issues

We have performed an AAI and Phase I ESA in conformance with the scope of work outlined in Section 2.0 for the Seward Highway – Bird to Indian – MP 99 to 105 corridor, the Property. This assessment has revealed no evidence of RECs in connection with the Property except for the following:

- Contamination at the Essential Gas Station directly adjacent to the existing road corridor (Figure 3) has the potential to have impacted soils that may be disturbed if rehabilitation and upgrade of the existing highway route becomes the selected alternative. Shallow soils could be disturbed through the construction of additional lanes and moving communication utilities that run along the corridor.

5.2 Offsite Issues

The historical information reviewed for this report, which dated back to 1962, indicates that the project area was first developed prior to that year. The adjacent areas to the Property have traditionally included the mix of residential and commercial development that is represented along the highway corridor today.

As reported in Section 4.2, suspected or confirmed soil and groundwater contamination has been documented for two facilities located on offsite properties within a one-mile radius north of the Property: the Indian ACS Substation and the Defense Energy Indian Booster Pump Station (Figure 3). Since long-term groundwater monitoring is continuing related to the Defense Energy Indian Booster Pump Station, no groundwater monitoring data is given in this report. There have been several releases in addition to the north valve release (in which approximately 14,000 gallons of fuel were not recovered); as a result a more extensive analysis of this site may be necessary.

It is always possible that contamination from one or more of these offsite locations could possibly have migrated to the Property. If desired, a more extensive assessment could be performed to provide more definitive information about the presence or absence of contaminant migration to the Property. This additional work could include detailed reviews of individual files for pertinent offsite releases and performance of a subsurface investigation on the Property with collection and chemical analysis of soil and groundwater samples.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the information obtained during this Phase I ESA, it is DOWL's judgment that past activities adjacent to the Property at the Essential Gas Station pose significant potential for environmental impairment of the Property. If the Client wishes, further investigation of the site could be performed through the installation of three shallow soil borings within the

DOT&PF right-of-way in front of the gas station. These borings would be installed to a depth of 10 feet and be tested for petroleum hydrocarbons – including gasoline range organics, diesel range organics, and benzene – at a DEC approved laboratory.

7.0 REFERENCES

Cederstrom D.J., Trainer, F.W., and R.M. Waller (1964) *Geology and Groundwater Resources of the Anchorage Area, Alaska*. USGS Water Supply Paper 1773, 108p. Anchorage.

Environmental Data Resources, Inc. – The EDR-Radius Map with GeoCheck, February 22, 2006.

Patrick, L.D., Brabets, T.P., and R.L. Glass (1989) *Simulation of Groundwater Flow at Anchorage, Alaska, 1955-83*. USGS Water Resources Investigations Report 88-4139, 41p. Anchorage.

State of Alaska Department of Environmental Conservation, Contaminated Sites Program, Contaminated Site and Underground Storage Tank Database Search, <http://www.dec.state.ak.us/spur/esp/search/default.asp>

8.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

All Appropriate Inquiry/Phase I Environmental Site Assessment:
Seward Highway – Bird to Indian – Milepost 99 to 105

Prepared for:
State of Alaska Department of Transportation and Public Facilities

Prepared by:
DOWL Engineers



Peter T. Masson
Environmental Planner

9.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

Professional History:

DOWL Engineers; Environmental Planner, 2006 to present
SWCA, Inc.; Environmental Specialist, 2005
State of Michigan – Dept. of Environmental Quality; Environmental Analyst, 1991-2004

Education:

B.S. Biology, 1988, University of Michigan
National Environmental Policy Act Certificate, 2005, Duke University

Representative Project Experience

- Quality Assurance/Quality Control for the Tudor Road and Lake Otis Parkway Phase I ESA.
- Over 10 years managing environmental remediation projects for the State of Michigan, including all phases of work from the initial assessment to site closure.