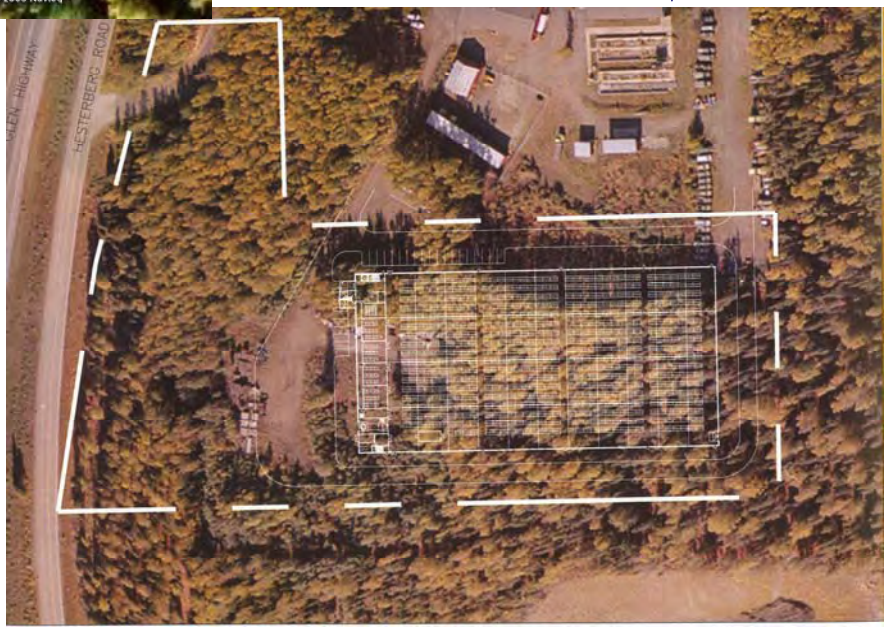
STATE OF ALASKA
DOT&PF Central Region

ASKAS# 57658

CONCEPT STUDY



Geological Materials Center

August 4, 2006

EXECUTIVE SUMMARY

The Alaska Geologic Materials Center is the central repository in which geologic materials collected from Alaska are cataloged, stored, and studied. The center is permanently maintained and managed by the State of Alaska under cooperative agreements with other agencies including U.S. Bureau of Land Management, the U.S. Geological Survey, the U.S. Minerals Management Service, and the Alaska Oil and Gas Conservation Commission, as well as support from private industry. The center is located at 18205 Fish Hatchery Road, Eagle River, Alaska.

The Alaska Geologic Materials Center houses nonproprietary rock core and cuttings representing exploration and production drilling from Federal, State, and private lands of Alaska, including the Alaska outer continental shelf. The collection includes rock materials from more than 1,415 oil and gas wells, rock core from more than 1,071 exploratory hard-rock mineral holes, and surface samples. There are 211,700 feet of diamond-drilled hard rock mineral core at the facility. The collection also includes extensive geochemical data, porosity/permeability data, petrographic thin sections, and micropaleo glass slides derived from this rock. This sample collection represents geologic data from nearly every region of the state, including off-shore federal and state waters.

These geologic materials, which represent approximately 12 million feet of exploration and production drilling valued at “hundreds of millions of dollars”, have completely filled the available capacity of the present Alaska Geologic Materials Center. Currently the collection is maintained, without basic environmental controls, in a single crowded warehouse, three converted houses, and a collection of roughly 55 shipping containers – all on a single sloping site. The cumulative storage area is calculated to be equivalent to roughly 30,000 square feet. The existing facility is unsecured, crowded, poorly lit, and lacks basic facilities for receiving, cataloging, and analyzing geologic samples. The facility has minimal onsite firewater storage (thus risk to loss by fire is high) and, with the collection scattered amongst numerous buildings and shipping containers, it is difficult to efficiently track, locate, and analyze the materials on hand. The potential for loss due to seismic activity can only be inferred however, the current structure is minimal and not up to current standards for seismic design.

The lack of additional storage capacity coupled with inadequate processing and scientific examination space has resulted in a crisis situation – if a new repository is not developed soon, the State of Alaska, Federal Agencies, private industry, and the public will be at risk of losing irreplaceable scientific resources. The loss will be either from the progressive degradation of the existing materials and associated metadata (labels, markings, and containers) or simply the inability to accept new materials, which increases the risk that some critical materials will not be preserved. Review of the Monthly Activity Reports from FY2006 show that the facility has received a total of 1,895 contacts, including 1,500 from industry, and 241 visitations from various industry and government agencies; currently visitation is by appointment.

The site is not included on any wetlands designation area, an environmental assessment was not a part of this report and so the existence of hazardous waste or other environmental concerns is unknown at this time.

In 2005, an ad hoc committee - composed of representatives from the oil and mining industries and the Alaska Department of Natural Resources met to develop criteria for an expanded, centralized Geologic Materials Center. The goal of the committee was to establish guidelines for a permanent, publicly accessible repository for geologic samples and related data to encourage

and support energy and mineral resource exploration, research, development, and education in Alaska. In April of 2006, members of the ad hoc committee met with architects, engineers, and a national expert in the design of Geologic Materials Centers to develop and refine their initial criteria for the facility and to produce a conceptual plan for the center and a preliminary construction cost estimate.

The proposed site for the new center is approximately 9.5 acres of undeveloped land in Eagle River, Alaska on the east side of the Glenn Highway, north of Hiland Road. The site is heavily wooded with numerous trees and shrubs and varies in elevation by 5-10 feet with a larger drop on the west side (toward the frontage road). The site will need to be surveyed prior to detailed design but it is expected that significant grading will be required to create a level pad for construction. The maximum design size of the proposed Geologic Materials Center that could be placed on this site was set at 124,800 square feet; including 105,600 square feet of high-bay warehouse and 19,200 square foot of receiving viewing, lab, office, and support spaces.

While the existing and proposed sites are located within the Municipality of Anchorage, both are under the jurisdiction of the Alaska State Fire Marshal's Office for building life-safety, structural, mechanical, and accessibility review. They are also under the Alaska Department of Labor for the plumbing and electrical inspections and compliance. The Municipality has zoning/land use authority, health and water/waste water jurisdiction, but not building safety. Everything north of Muldoon Rd and the Glenn Highway intersection is out of the Anchorage Building safety service area.

In order to establish a baseline comparison for evaluating the cost of the proposed building and site, E. Michael McElligott of Bond, Stephens, and Johnson, conducted two Broker’s Opinion of Value reports of the existing and proposed sites and a listing search of existing properties/ facilities that may be currently available that could be adopted for use by the Geologic Materials Center. Mr. McElligott’s search covered both the Anchorage Bowl and Mat-Su Valley properties within one hour of downtown Anchorage. The search even included the possibility of lease space within Wasilla’s Cottonwood Creek Mall.

The estimated current market value for the existing site was set at $730,000 while the Broker's Opinion of Value for the new site was estimated at $415,000 for land only. In the search for adaptable existing properties, the tight nature of the Alaska real estate market turned up one possible purchase and two lease deals that fit the criteria. Unfortunately the only purchasable site has virtually no expansion possibilities outside of buying adjacent property, due to its proximity to the property lot lines, and of the two lease properties; one has long term lease restrictions. Due to this scarcity of existing facilities, within 17 years the cost to lease a building on annual basis would cost more than building and occupying a new building for 30 years.

Jay Lavoie from Estimations, Inc. prepared the Construction Cost Estimate for the facility. Working from the final narrative and conceptual plans, it is estimated that the full cost of construction for this project is just under $28 million, not counting moving costs or reinventory of samples, specialized waste and fume-handling equipment, and negotiable utilities such as electric and gas services. At this level, the base building construction cost is $17.6 million, with contractor overhead and profit, contingency, and escalation accounting for the remaining $10.4 million. Adding in utility development and toxic material handling equipment costs, the total building cost comes to just over $29.5 million. This does not include the moving or reinventory costs. Estimates are based on construction starting in spring 2008.

Based on similar building project schedules, the overall timeline for design and construction services would be between 27 and 30 months. This timeline includes solicitation and award for design services, solicitation and award for construction, and three to six months for relocating the sample inventory to the new building. One additional item to consider in the timing of this project, in terms of cost and scheduling will be the effect of the proposed gas pipeline. If funded, the gas pipeline will draw heavily from the local construction pool, causing increases in both material and skilled labor costs.

The scope of this study also included a Moving and Phasing Strategy and cost estimate for relocation of personnel and the sample inventory. However, after research by our curatorial consultant, we were able to arrive at some cost information for certain portions of the moving costs, as well as the hardware and software to create a Sample Management Plan for the inventory. Unfortunately the existing sample inventory database does not contain enough information to accurately identify each sample in a transferable format, which will impair timely and accurate relocation. Without an extensive inventory management system in place, there is a high probability of sample shipments being misplaced or shelved incorrectly at the new facility. Also the existing database does not quantify the levels of radioactive or volatile organic compound materials, thus preventing the accurate determination of the cost implications of handling these materials, either during pre-shipment tagging, moving, or process handling at the new building.

ACKNOWLEDGEMENTS

The staff of USKH, Inc. wishes to extend their sincerest appreciation to the staff of the Alaska Geological Materials Center, the Ad Hoc Advisory Committee, the Department of Transportation and Public Facilities Project Manager, and USKH Team Consultants; without their time, effort, and dedication, this concept study would not be possible. Participants included:

Alaska Geological Materials Center Staff:

Dr. John W. Reeder, PhD,	GMC Curator, Geologist IV, Division of Geological & Geophysical Surveys
Jean Riordan	Geologist II, Division of Geological & Geophysical Surveys

Ad Hoc Advisory Committee Members:

Rod Combellick, Chair	Division of Geological & Geophysical Surveys
Mark Myers	Division of Oil and Gas
Steve Davies	Alaska Oil and Gas Conservation Commission (AOGCC)
Bob Crandall	AOGCC
John Kelley	Consultant
Art Banet	U.S. Bureau of Land Management
Don Baggs	U.S. Bureau of Land Management
David Hite	Consultant
Dan Seamount, Commissioner	AOGCC
Jim Cowan	Division of Oil and Gas
Stan Foo	Division of Mining, Land, and Water
Tom Marshall	Retired oil and gas geologist
Howard Okland	AOGCC
Mitch Henning	GeoWorks

Department of Transportation and Public Facilities:

Matt Desalernos, P.E.	Project Manager

USKH Consultants:

E. Dow Davidson	Curatorial Science Consultants – Sample Curation Designer
Don Meares	Retired BLM – Plover Associates - Geographer
E. Michael McElligott, MBA	Bond Stephens & Johnson – Land/Building Acquisition
Ross Fossberg	F.I.R.E. Services – Code Analysis
Elise Huggins, ASLA	Earthscapes, Inc. – Landscape Architect
Jay Lavoie	Estimations, Inc. – Cost Estimator
Robert Dugan, CPG	Golder & Associates – Engineering Geologist
Tom Krzewinski, P.E.	Golder & Associates – Geotechnical Engineer
Mark Langberg, P.E., CDT, LEED	AMC Engineers – Mechanical Engineer
Keith Confer, RCDD	AMC Engineers – Telecom Specialist
Pat Cusick, P.E., CCS	AMC Engineers – Electrical Engineer

USKH Inc. Team Members:

USKH, Inc., architectural and engineering team members providing professional services were as follows:

Jerry Neubert, AIA	Director of Architecture
Robert Kaye, AIA	Project Manager, Senior Architect
Ursula Dickeson, CDT	Senior Administrative Assistant, Architecture
Bruce Hopper, P.E.	Senior Structural Engineer
Dean Syta, P.E.	Senior Civil Engineer
Julianne Hanson, P.E.	Senior Environmental Engineer

Former team members:

Bruce Schulte, AIA	Architect
Tom Reber, L.S.	Senior Surveyor

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ACRONYMS

ADA	Americans with Disabilities Act
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
AHU	air handling unit
AOGCC	Alaska Oil and Gas Conservation Commission
ATS-E	automatic transfer switch-emergency power distribution
ATS-S	automatic transfer switch-standby power distribution
AWWU	Anchorage Water and Wastewater Utility
BICSI	Building Industry Consulting Service International, Inc.
BOV	Broker's Opinion of Value
DOT&PF	Department of Transportation and Public Facilities
DX	direct expansion
EIA	Electronic Industries Alliance
EPA	U.S. Environmental Protection Agency
GMC	Geologic Materials Center
gpm	gallons per minute
HLB	Heritage Land Bank
HMCC	Hiland Mountain Correctional Center
IBC	2003 International Building Code
ID	identification
IFC	International Fire Code
MEA	Matanuska Electric Association
MOA	Municipality of Anchorage
MTR	Main Telephone Room
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NRC	Nuclear Regulatory Commission
QA/QC	quality assurance/quality control
RFID	Radio Frequency Identification
ROW	Right-of-Way
SHPO	State Historical Preservation Office
STC	sound transmission class
TIA	Telecommunications Industry Association
USACE	U.S. Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USKH	USKH, Inc.
VOC	volatile organic compounds

FINDINGS

The design team assembled for the Geologic Materials Center (GMC) study consisted of:

USKH, Inc.	- Architecture, Civil, Structural, Project Management
Curatorial Science Consultants	- Curatorial Design Specialist
AMC Engineers	- Mechanical and Electrical Engineering
Estimations, Inc.	- Cost Estimating

The design team conducted a pre-design workshop on April 5, 2006. Following the pre-design interviews, the team prepared a summary of space requirements for key portions of the facility (these may be found in Exhibit A of this document). The design team then produced an initial Conceptual Study consisting of a site plan and floor plan to meet the area requirements defined during the programming phase.

With the space requirements established, the team met again on April 7, 2006 for a focused Design Charette. During this day-long session, the focus was on specific solutions to some of the requirements established during the earlier session.

Site Issues

The proposed site for the GMC is approximately 9.5 acres of undeveloped state land in Eagle River, Alaska - on the east side of the Glenn Highway, north of Hiland Road. The site is heavily wooded, and varies in elevation by 5-10 feet with a larger drop on the west side (toward the frontage road). The site will need to be surveyed prior to detailed design but it is expected that significant grading will be required to create a level pad for construction.

The proposed site is relatively flat and initial assessments (based on a cursory examination) suggest that the subgrade may be suitable to support a facility of this size. The site will need to be cleared of much of its vegetation and the terrain graded to accommodate the large, level area required for the warehouse and the grade change necessary to support a dock-high loading area at one corner of the building. Utilities are largely non-existent on site so all services will need to be brought from nearby feeders.

Growth Potential

The GMC is the sole state-run repository for a library of geologic samples dating back to the earliest exploration of Alaska's North Slope and consists of samples from many regions of Alaska. Other collections exist in Alaska and over 1,000 feet of Alaska core material are known to be in storage in Texas, unavailable to explorationists and researchers in Alaska. As more collections are donated from industry sources, the current facility has run out of space for storage and lacks adequate facilities for the processing and viewing of sample material.

The conceptual plan shown in this report is based on the largest facility that can be readily developed on the parcel. The warehouse area is roughly 350 percent of the current size of the GMC and the viewing and support spaces would be a significant upgrade from what GMC currently operates and, from what other, smaller, private facilities in Alaska currently have to offer. Review of the Monthly activity reports from FY2006 show that the facility has received a total of 1,895 contacts, including 1,500 from industry, and 241 visitations from various other industry, educational, and government agencies, including researchers from locations

worldwide; the new facility would be able to comfortably accommodate these contacts and visitations and become the central research and storage facility for this region.

Geologic materials are the foundation of all geoscience research and education. Properly managed samples are key to discovering and developing domestic natural resources to meet our nation's energy and mineral needs. In addition, a viable archive of Alaskan geologic samples offers other important research benefits, such as geologic hazards evaluation, hydrogeology, environmental studies (including global warming affects in the arctic), and transportation corridor studies.

With the rising cost of energy worldwide, increasing demand for hydrocarbon fuels, and continuing advances in exploration and extraction techniques, the geologic data collected during past exploration continues to become more valuable over time. As sample analysis becomes more sophisticated, geologists often turn to archived core samples, collected from exploration sites throughout the world, in an effort to identify still-viable resources or to search for new deposits of various types that may not have been sought or recognized when the samples were first collected.

Given the tremendous cost of core sampling, the ability to study archived samples is a far more cost-effective means of analyzing data from existing fields. The US Geological Survey estimates that "the cost to replace the geoscience collections and related data archived in its Core Research Center at Lakewood Colorado – a facility that contains no more than 5 percent of the volume of at-risk geoscience data and collections in the United States – is on the order of $10 Billion"[1].

Recommendations

If funding can be obtained for the facility as-shown, it will likely be economical over the long-term, to develop the entire envelope at once rather than phasing construction over a period of time. Construction costs are likely to continue upward and economies of scale, for a facility of this size, weigh in favor of building the largest possible facility up-front.

Opportunities for phasing and deferred equipment purchasing are possible:

- Rack system – Could be developed in phases as the GMC collection grows. Once the building envelope is in place, the warehouse space can be populated with rack systems over time as the need grows. As with phased construction, this approach would increase the overall cost of rack systems versus installing them all at once but the impact would not be as great as it would with phased building construction.
- Office space – Could be developed over time with initial build-out sufficient to accommodate near-term needs and code-requirements and other space developed later. The essential components are life-safety and ADA access items (stairs, elevator, and restrooms). The remainder of the upstairs space could be left unfinished initially with only rough-in electrical and plumbing to accommodate future build-outs.

Although phasing the construction of this facility is listed as an option, the reasons for not pursuing this approach include escalating material costs, labor and material availability,

[1] Excerpted from "Geosciences Data and Collections: National Resources in peril" by the Committee on the preservation of Geoscience data and Collections, National Research Council.

equipment compatibility, and inflationary cost of funding. Currently, estimating consultants are using 7% to 8% for annual cost escalation. Unfortunately this escalation does not reflect the more rapid rise in steel, copper and fuel costs. A more accurate escalation figure would be on the order of 9% or 10%, given that steel prices in the last three years have risen 300% alone. Also, if the pending gas pipeline receives funding, the resulting drain on skilled labor and material within the Anchorage area will also be significant. Additionally, A/E firms will be more likely to follow the pipeline construction crews and pursue the design projects more heavily, leaving these types of projects to less experienced firms.

Benefits for completing the build-out in one season:

- The ability to obtain all of the inventory control and racking systems in one package is a real benefit to this option. Changes in technology and vendors cause compatibility issues when integrating systems that were not designed or manufactured within the same time frame and to the same specifications. Whether an automated inventory system or manual rack system is installed, commonality of components and methods would result in significant labor and hardware savings over the life of the system.

A final draw back to delayed construction or phasing, deals not with the inflationary cost of materials and labor alone, but with the inflationary costs associated with multiple fundings over a period of time. One cannot simply divide the total cost of construction by the number of phases to arrive at a per phase cost. Each and every time the contractor has to mobilize his crews for construction, the general conditions, overhead and profit costs will be added. Add to this the interest rate burden of the construction loans, *the costs to borrow the money*; which may be at different rates from year to year as we have seen recently with the Federal Reserve rate hikes. Each time an agency draws a construction loan, it will cost more to secure the loan or bond due to interest rate hikes, thus adding more costs to the construction budget with each passing year. Owner and architectural and engineering services for multiple phases of construction administration will add even further to costs.

Moving/Phasing Strategy

USKH was asked to include a strategy and cost outline for relocation of the sample inventory in this report. During our discussions with our curatorial consultant, Dow Davidson, two difficulties arose in completing this portion of the report. First is the outmoded nature of the existing sample database and tagging method, and the second is the lack of information regarding radioactive and volatile organic compounds (VOCs) present.

The handling of radioactive and VOC materials will have an impact on the transfer process. Depending on the nature, condition and exposure levels of these materials, special handling procedures and shipping permits may be required. As an example of what may be involved, we are including as Exhibit J, a copy of an abstract that outlines acceptance and handling limits for such material. In brief though, handling and shipping of these materials will depend not only on the type and quantity of materials, but on their condition. As described in the abstract, certain materials can be safely handled in solid form in large quantities, but become hazardous in loose form where out-gassing or dust creation poses the largest health risk.

Of all the moving costs involved, we have been able to identify the cost of trucking the samples from the existing location to new facilities. The relocation effort will take 250 to 300 truck loads of approximately 20 pallets per truck load, stacked single height to avoid damage, to move the

present collection, including miscellaneous equipment. The cost for trucking the material, not including GMC staff time, is estimated at $300,000.

Sample Management Plan

Any effort at creating a Moving/ Phasing Strategy would need to include an accurate sample inventory tagging and tracking method. The current collection is stored and labeled using legacy methods and systems that have not allowed improvements over time. Current state-of-the-art for a collection of this type is to use Radio Frequency Identification (RFID) tags to label, monitor, and track collection samples. As part of any expansion or relocation of the facility, it is highly recommended that a formal Sample Management Plan be prepared that would address procedures for the labeling and cataloging of all samples at the GMC. This plan would need to address inventory, labeling, moving, and database requirements. This is viewed as a critical step toward the effective storage and use of this invaluable geologic data. The software and hardware required for such a system is estimated in the range of $150,000-$250,000. The time required to implement such a system is difficult to estimate; however it is anticipated that it would take two geological professionals approximately 12 months to implement.

Since the primary goal of the management plan is to move the existing materials to the new facility in an orderly and accurate manner and to create a cross-referencable database, the following manageable steps will need to be accomplished:

- Pre-move sample inventory.
- Reprocessing after move.
- Database capture and final storage in the new GMC.

The topic of pre-move sample inventory is the first of many processes involved in the transfer process and will include reboxing, palletizing, labeling or tagging, and trucking to the new facility. We expect that the reprocessing steps may include the renewal of sample boxes, remarking, relabeling, and some type of QA/QC on the sample identity prior to final storage and entry in the formal database inventory system. And the broader issues of how we efficiently move all the samples and systems from one facility to another are even more complex.

The following approach is an expedited process focused on the minimum steps necessary to identify and label the existing sample boxes, resulting in sufficient information to move the boxes to the new facility. The purpose of this approach is to get the boxes associated with the correct borehole and moved to the new building. It is also an approach that assumes the labels need to be *human readable*, versus a barcode only solution.

- Existing shelf association/location is not relevant – that will change in new facility
- Two key data items are necessary – Borehole and Box Identifications (ID) (associated with a Borehole ID).
- Both IDs of course need to be unique, and can be non-symbolic alphanumeric characters.
- Additionally the label for each box would display a Borehole ID, (*human readable* and barcode readable) a Box ID (*human readable* and barcode readable), footage range in box (from-to or top-bottom depths) and the borehole (well) name, and a sequential box in borehole number (e.g. if the borehole has 127 boxes we would have labels that would also display 1 to 127).

- Issues of missing footage ranges in a box and duplicate footage ranges (in the case of split core from the same interval) will not be addressed in this approach – it should be included in the final inventory system, but is not necessary for initial *indexing* to facilitate the move.
- The only other consideration that may need to be addressed is the creation of a Pallet ID to be associated with each unique pallet – then in the database we would have a Pallet ID associated with Borehole IDs, and Box IDs. This would allow the inventory to be viewed on a pallet-by-pallet basis, which would be very useful during the initial transfer.

The Plan needs to incorporate all the activities necessary to perform an inventory, move the samples from old facility to new, set up the data system (including barcode/RFID), and develop operating procedures that protect the scientific validity of the samples. The following are recommended post-transfer steps for the deployment of the database and barcode/RFID system:

- The samples will be reprocessed after the move and prior to final storage in the new facility.
- This means that all samples will be taken from existing boxes and repackaged in new boxes (limited set of standard sizes) to be delineated in the proposed Sample Management Plan.
- Verification of identification will be performed; quality assurance/quality control check (QA/QC).
- Appropriate internal and external marking and labeling will be performed (to be delineated in the proposed Sample Management Plan.)
- A technical database will be created using a robust industry standard, such as Oracle, which is scalable and can readily integrate radio frequency, ID (RFID) barcode reading, and provide access to a web portal into the database. This exceeds the capabilities of MS Excel or Access.
- A wireless (tied to a wired) network will be deployed in the warehouse for both handheld barcode/RFID terminals and stock picker mounted units.

The estimate to purchase necessary computer and network hardware, purchase RFID hardware, setup, and customize the database software is $150,000 to $250,000 as determined through conversations with computer and RFID experts. This cost range is only for the hardware and software. Please specifically note that the costs associated with application of the RFID/barcode tags is not included – those costs would be associated with the sample reprocessing effort. Passive RFID tags will be applied as samples are reboxed and relabeled.

From a facilities design standpoint, the implementation of a formal Sample Management Plan would aid in identifying other hazardous materials that may not be suitable for storage within occupied spaces, or where cross-contamination could occur. These materials could include oil or gas samples that pose explosive or fire hazards or that require special storage requirements to avoid degradation of the sample through exposure to ambient atmospheric conditions. If the sample plan identifies enough of these types of materials, then the building design should be altered to provide safe storage space away from the main sample warehouse. Additionally, identification of such materials will also have an impact upon the design of mechanical and plumbing systems within the laboratories and storage areas.

Timeline for Design and Construction

While the technical aspects of the project are not overwhelming, the number of agencies involved in solicitation, negotiations and award for the design and construction phases, the approval of the design and permitting and the re-platting process for utility easements and roads will run the timeline out for this project from 27 to 30 months. This timeline would be comprised of the following sequence:

- Solicitation and Award for Design – 2 months.
- Design – 10 months (this includes time for agency reviews, acquisition of utility easements, and the submittal/ approval portion of the re-platting process which will occur starting at the 50% design level).
- Solicitation and Award for Construction – 2 months.
- Construction – 10 months (this includes the compliance portion of the re-platting process and the reinventory/ tagging of samples during the last 3 months of construction).
- Relocation and Reinventory of Samples Inventory – 12 months.

Real Estate Market Value Comparisons

In order to establish a baseline comparison for evaluating the cost of the proposed building and site, E. Michael McElligott of Bond, Stephens, and Johnson, conducted two Broker's Opinion of Value (BOV) reports of the existing and proposed sites and a listing search of existing properties/ facilities, that could be adopted for use by the GMC, that may be currently available. The criteria established for adoptable existing facilities was set at 50,000 to 100,000 square feet of warehouse/ office space, have loading dock facilities for tractor-trailer deliveries, connection to city services or adequate well and septic to handle the occupancy and fire sprinkler capacity, and be within 60 to 70 minutes drive time of downtown Anchorage. Mr. McElligott's search covered both the Anchorage Bowl and the Mat-Su Valley areas between Palmer and Wasilla and even included the possibility of leasing space within Wasilla's Cottonwood Creek Mall. As of April 20, 2006, the estimated current market value for the existing site was set at $730,000 including existing structures, utilities, and site amenities. The BOV for the new site was estimated at $415,000 for raw land only. For BOV details please see Exhibits G and H

Due to the tight nature of the current real estate market, the listing search for adaptable properties turned up one possible purchase and two lease deals that would fit the criteria. We are attaching by exhibit the listing report and supporting MLS data sheets with the particulars on each property as Exhibit I. In brief, the one purchase property is located in the Ship Creek area of Anchorage, comprises almost 78,000 square feet and is priced at $3.75 millions. Unfortunately it is a Zero Lot Line building, which means that expansion would only be possible with the purchase of an adjoining lot. Of the two lease properties, both have close to 58,000 square feet available and are currently being leased for $0.95/ square foot per month. By comparison, the lease space available at the Cottonwood Creek Mall only comprises 45,700 square feet and is leasing for $1.25/ square foot per month. Additionally, both the mall space and one of the two lease properties carry owner or date restrictions that would be problematic for any long-term lease agreement. Either way, in terms of the annual costs associated with constructing or occupying a new building for 30 years versus leasing, the cost for leasing would exceed the costs for new construction within a maximum of 17 years. Factoring in equity, maintenance, and inflationary costs, leasing becomes more expensive within 10-12 years.

PROGRAMMATIC REQUIREMENTS

Overview

During the focused programming session, the following requirements were identified. These are based, in part, on projections for future growth of the existing facility, and on other GMCs elsewhere in the country. The following table summarizes the gross areas projected, with more detailed are and functional requirements following under Exhibit A.

Space Type		Area
Office and Support Spaces		
1	Entry Lobby	1,000 sf
2	Conference Room	1,200 sf
3	Break Room	330 sf
4	Offices	1,500 sf
5	Library	1,500 sf
6	Mechanical room	400 sf
7	Electrical room	300 sf
8	Generator room	300 sf
9	Elevator and equipment room	200 sf
10	Restrooms	1,000 sf
11	Stairs	1,000 sf
Subtotal – Office and Support Spaces		*8,730 sf*
Lab / Viewing Spaces		
1	Viewing rooms (total of 4 @ 1,200 each)	4,800 sf
2	Lab	500 sf
Subtotal – Lab / Viewing Space		*5,300 sf*
Warehouse Storage		
1	Total warehouse (including refrigerated storage)	100,000 sf
2	Receiving	800 sf
Subtotal – Warehouse / Receiving		*100,800 sf*
Total Square Feet		**114,830 sf**

Table 1 - Summary of Area Requirements

CODE ANALYSIS

Jurisdiction:	Alaska State Fire Marshal[2]
Code:	2003 International Building Code
Occupancy:	S-2 "Low Hazard" / B (non-separated mixed use per IBC section 302.3.1)
Construction Type:	Type V-A (Fully Sprinklered)
Allowable Area:	Unlimited – [IBC Section 507.2] "The Area of a one-story, Group B, F, M, or S building . . . shall not be limited when the building is provided with an automatic sprinkler system . . . and is surrounded and adjoined by public ways or yards not less than 60 feet in width."
Allowable Height:	50 feet – one story. Office area may be defined as a mezzanine based on its small percentage of the overall footprint.
Incidental Uses:	Labs and shops may be classified as incidental uses (not H occupancies) [IBC Section 302]
Exit Travel Distance:	May not exceed 300 feet [IBC Table 1015.1]
Actual Building Area:	115,200 square feet (note: Mezzanine does not contribute to building area for code analysis purposes)
Fire Flow Calculations:	To be based on International Fire Code (IFC) Appendix B

[2] This project while located within the Municipality of Anchorage is under the jurisdiction of the Alaska State Fire Marshal's Office for building life-safety, structural, mechanical, and accessibility review. It is also under the Alaska Department of Labor for the plumbing and electrical inspections and compliance. The Municipality has zoning/land use authority, health and water/waste water jurisdiction, but not building safety. Everything north of Muldoon Road and the Glenn Highway intersection is out of the Anchorage Building safety service area.

PERMITTING AND ENVIRONMENTAL PLANNING

There is no indication that jurisdictional wetlands regulated by the U.S. Corps of Engineers (USACE) are located in the project area. The U.S. Fish and Wildlife Service (USFWS) digital wetlands map of the area does not identify any areas of wetland in the immediate project area or adjacent properties. The Alaska Department of Fish and Game (ADF&G) Anadromous Waters Catalog does not identify any anadromous stream in the immediate project vicinity.

This project, while located within the Municipality of Anchorage, is under the jurisdiction of the Alaska State Fire Marshal's Office for building life-safety, structural, mechanical, and accessibility review. It is also under the Alaska Department of Labor for the plumbing and electrical inspections and compliance. The Municipality has zoning/land use authority, health and water/waste water jurisdiction, but not building safety. Everything north of Muldoon Road and the Glenn Highway intersection is out of the Anchorage Building safety service area.

However, several permits and approvals were identified. The applicability of each of these will depend on the final design, location, and source of funding. The following table summarizes the findings:

Permit/Approval	Agency	Task/Reason
Coastal Consistency Determination	Alaska Department of Natural Resources (ADNR), Office of Project Management and Permitting	Proposed activities within a coastal zone must be consistent with local, state and federal regulations.
Section 106 Review	ADNR, State Historical Preservation Office (SHPO)	Ensures that proposed actions do not adversely affect cultural and historic resources. Required for all federal projects.
National Pollution Discharge Elimination System (NPDES) Permit	U.S. Environmental Protection Agency (EPA)	Required for storm water discharges during construction for disturbed soils acreage exceeding 1 acre.
Storm Water, Drinking Water, and Sewer Facilities Design Plan Approval	Alaska Department of Environmental Conservation (ADEC)	Required prior to construction of sewer and water facilities.
Right-of-Way Encroachment Permit	Municipality of Anchorage (MOA), Alaska Department of Transportation and Public Facilities (ADOT&PF)	Required to improvements such as driveways within state or city ROW corridors.

Table 2 – Permit and Approval Requirements

Should federal funding be obtained for this project, an environmental document may be required under the National Environmental Policy Act (NEPA).

SITE DESIGN

Overview

The proposed site for the GMC is approximately 9.5 acres of undeveloped land in Eagle River, Alaska - on the east side of the Glen Highway, north of Hiland Road. The site is heavily wooded with numerous trees and shrubs and varies in elevation by 5-10 feet with a larger drop on the west side (toward the frontage road). The site will need to be surveyed prior to detailed design but it is expected that significant grading will be required to create a level pad for construction.

Site Access

The team has identified three potential approaches to accessing the site; these are depicted in Figures 1-3 of this Section.

- Site Option 1 - Share an existing access driveway with the adjacent Department of Forestry (DNR) compound and extend an existing perimeter driveway around the new GMC facility.
- Site Option 2 - Provide a separate driveway from the existing frontage road on the west side. Given the difference in elevation between expected finish pad elevation and the frontage road, this approach would require a great deal of cut and fill but would provide the GMC with it's own driveway.
- Site Option 3 - Provide a separate access drive extending from Yosemite Drive on the east. This latter approach holds some merit because it will be necessary to bring utilities along that alignment to the southeast corner of the proposed site. It will be necessary to obtain an easement for utilities or a right-of-way for a driveway. Both will need to be researched prior to detailed design.

Right-of-Way

Lynn Roderick Van Horn, Office Manager for the HLB has reviewed the parcels noted in this project and determined that they are two former BLM lots (#104 & 105) that are part of HLB Parcel #1-085. In the HLB Parcel 1-085 Land Use Study (1996), they help comprise a portion of sub-area D. Access easements do not appear to be addressed regarding the southern edge of sub-area D, but they have put in assorted utility easements as well as a road through various parts of #1-085.

An access easement for road would constitute a disposal of the needed square footage from the two parcels (and from HLBs inventory). To begin this process, HLB will require a disposal application to be filled out by the requester, with $250.00 fee. **The site design will proceed based on the assumption that a right-of-way (ROW) could be negotiated with HLB; however it is contingent on successful negotiations with HLB.**

Following the negotiations for the land transfer from HLB, ADNR will need to begin the process for re-platting of the easement/ ROW property. This involves surveying the new boundaries, submitting and obtaining approval from the various municipal commissions and agencies, and negotiating and complying with the final platting conditions. Currently within the Municipality of Anchorage, the submittal process is taking 6 to 9 months and is allowed to run concurrently with

construction. The compliance period for all conditions is generally set at 6 to 9 months, giving an average timeline of 9 to 18 months.

Utilities

Since the site has never been developed, it will be necessary to provide a complete utility infrastructure. The GMC facility will require water for fire protection and domestic demands, sewer service, natural gas for heating, telephone lines and medium voltage electrical for main power distribution. Typically, site utilities are distributed using a grid, radial or other logical pattern, branching services off main distribution runs to local connection points serving several individual properties. Individual property owners are then responsible for extending services from these connection points to the various buildings within their property. However, the proposed GMC location is between major distribution corridors and may require ADNR to provide for and install distribution from adjacent grids across neighboring properties.

The local power utility, Matanuska Electric Association (MEA), and the natural gas utility, Enstar, both have distribution runs along the existing Yosemite Drive right-of-way. While there are no definitive plans from Enstar or MEA, installation of inter-ties between portions of the grid within this area would make it possible to connect to main electric and gas service without the GMC having to pay to extend main line service just for this project. Since these two utilities have the ability to negotiate use of any new GMC driveway/utility easement in exchange for extension costs, we have not include either in the total estimated construction cost.; we have included typical extension costs as line items for comparison.

While the domestic water demands are expected to be fairly small, water supply for fire protection will be much larger, on the order of 750 to 1,500 gallons per minute (gpm) depending upon sprinkler system design and hazard area classification. Although it would be the easiest and least expensive option to connect the new GMC to the existing water and sewer utilities serving the ADNR Maintenance Facility, this arrangement it would be in violation of Anchorage Water and Wastewater Utility (AWWU) operating regulations.

The existing ADNR water, and possibly the sewer service are currently obtained from the Hiland Mountain Correctional Center (HMCC) to the northeast of the ADNR site. This was an acceptable arrangement when HMCC operated its own onsite water and wastewater systems. However, in recent years, HMCC has connected to the AWWU public water and sewer system and has abandoned or shutdown the original on-site HMCC systems. As AWWU regulations do not allow the subletting or extension of services across property lines, the ADNR service taps from the HMCC are technically *bootlegged*. Unless a utility agreement can be negotiated with AWWU, alternate utility services for the GMC and ADNR site should be considered.

<u>Water</u>

The closest available water service is in Yosemite Drive approximately 1,650 feet east of the property. Conceptual plans call for a 24-inch service extension to pass along the southern border of the proposed site. There will be another 500 ± lineal feet of 6- and 8-inch water line for on-property service and fire protection.

Two possible alternatives for water service include the following:

- On-site Water Well – A well could be drilled on site to provide for domestic water supply. However, experience in the project area suggests that well yields in the area tend to be very low. It may be possible to get enough water for domestic purposes, but it is unlikely a well would be able to provide for fire protection or irrigation without very large storage tanks. As this is not a recommended option, it is not included in the total estimated construction budget, but is included as a line item for comparison.
- AWWU Public Water Supply – The AWWU Water Master Plan includes a proposed 24-inch water main running through the general GMC project area known as the "Hiland Road Water Intertie". The likely alignment for this main is along the southern ADNR property line, between the ADNR site and the MOA street maintenance yard to the south. This main would be capable of supplying all the water the GMC and the rest of the ADNR site could possibly need for irrigation, fire protection, and domestic demands. The AWWU project is split into three phases. Phase I was designed by USKH, and was completed in 2005. This phase serves the area east of ADNR, including HMCC and the Eagle River High School. Phase II is currently under design, and will serve the landfill east of the Glenn Highway. Phase III, which would be of use to the GMC and ADNR. It is projected for 2008, however AWWU would likely adjust the schedule as required to accommodate the needs of the properties to be served.

AWWU identifies capital projects based upon the needs of the utility, which funds them themselves from their rate structure. The proposed AWWU water main past the DNR land is intended to improve redundancy in Eagle River, and is actually a fairly low priority for AWWU. While the potential to serve an undeveloped property or client weights into the decision, in general AWWU will not accelerate a capital improvement to serve a single property.

Instead, AWWU generally will require that the property owner needing service construct a water main themselves under the direction of AWWU, and then turn the ownership of that water main over to AWWU. Under this scenario, the developer pays 100% of the cost of providing the water main (if anyone else connects to it within a certain timeframe, or if AWWU requires that the water main be oversized, AWWU will refund part of the costs, but in practice, the developer usually ends up responsible for 100% of the cost).

In some instances, AWWU has accelerated a capital improvement project if a property owner volunteers to pay for a major part of the project (such as 50 to 100% of the portion that serves their property, in lieu of future assessment), however, this is dependant upon the overall status of the AWWU budget, and they will only do this if AWWU has uncommitted funds they can shift around. This time of deal requires coordination and negotiation with the AWWU planning department, and results in a memorandum of understanding between AWWU and the property owner, defining each group's responsibilities and costs.

If the water main already existed, or if AWWU does construct it prior to the GMC center being built, AWWU will charge DOT&PF a fairly large assessment to recover the cost of the water main that fronts the GMC property. Assessments vary with the method used, but it would be reasonable to expect this to be at least 50% of the actual construction cost, plus AWWU engineering and administrative costs.

Sewer

With the relatively small discharge from occupants and activities for a facility such as this, an on-site septic system/leaching field would be the simplest and most logical system choice. However, given the nature of some of the materials that could be handled here and that could potentially enter the waste-stream, and the fact that so much of the other utilities will need to be imported onto the site, this report recommends connecting to city services. The connection would be to the existing MOA sewer system in Yosemite Drive using an alignment parallel to, and offset from, the new water service. Discussion of the sewer system within the building proper in this report addresses only normal plumbing facilities in the proposed structure; sample washings that may contain radioactive or other hazardous wastes will be addressed under the Mechanical section of this report.

Alternatives for sewer service include:

- On-site Sewer Service – Anticipated wastewater flows from the GMC are relatively small. The site has sufficient area and soil permeability to allow the construction of conventional on-site wastewater treatment systems, such as septic tanks and leach fields. Such a system would likely be quite adequate for the projected sewer service demands.
- Mainline Sewer Extension – A sewer main could be extended to the GMC and the rest of the ADNR site from AWWU's Eagle River – 3-inch sewer trunk system located to the north and east of the site. However, this would require the construction of at least 2,000 feet of sewer main, and require extensive easements from either the MOA or the HMCC.

As this report recommends connection to city sewer services, the total construction cost estimate reflects this approach. Though the exact size and cost of a septic/leach field system would need to be determined during design development, we have included typical installation costs for this size of building as line items for comparison.

Site Stormwater Drainage System

Since the site has never been developed and there is no stormwater infrastructure in place within the area, it will be necessary to develop a design that will manage stormwater and surface runoff on-site. The most effective method of handling surface runoff for the majority of the drive lanes will be through sloping of the paved areas to achieve sheet flow across them to the perimeter landscape buffers. From there, drainage swales could be incorporated into the final grading to channel runoff from east to west along the northern and southern property lines. Surface drainage of the eastern parking area could be handled through the use of valley gutters that discharge into the side yard drainage swales, these valley gutters could incorporate catch basins that would lead to an underground stormwater drain serving the roof drain system (please refer to the Roof Stormwater Drainage System section under the Building Design Mechanical Narrative for discussion on the roof drain system). This 900-foot long stormwater drain, approximately 18 inches in diameter, could carry both the parking area and the building roof drain runoff underground along the southern property line, where it would *daylight* along the frontage road bluff.

To avoid erosion problems associated with a point release like this, it is anticipated that a retention/ diversion trench would need to be installed, parallel to the slope that would retain the runoff and disperse it through absorption. If the retention trench became overwhelmed, then its shape would allow for discharge of the additional amount across the width of the bluff in a sheet

flow manner, similar to sheet flow patterns that occur within natural wooded sites. Although the stormwater drain would be placed below the frost line, part of the anticipated 700-foot stormwater drain would still need to be *heat-traced* to avoid icing related blockage due to cold air flows circulating between the catch basins and the *daylight* discharge point.

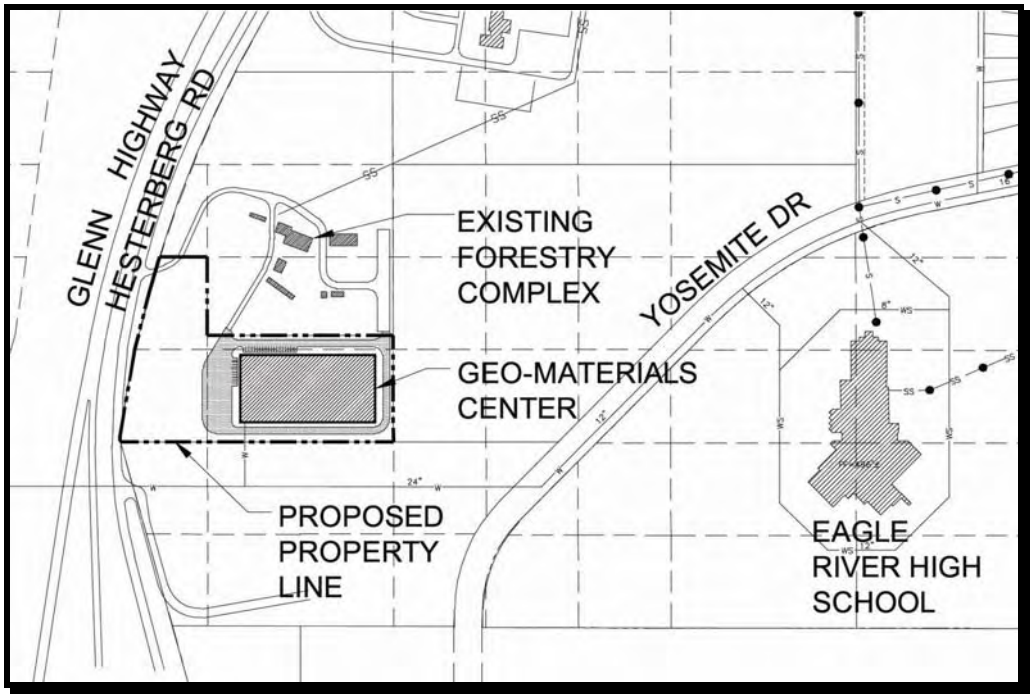


Figure 1 - Site Plan (Option 1) Access from Existing Forestry Complex

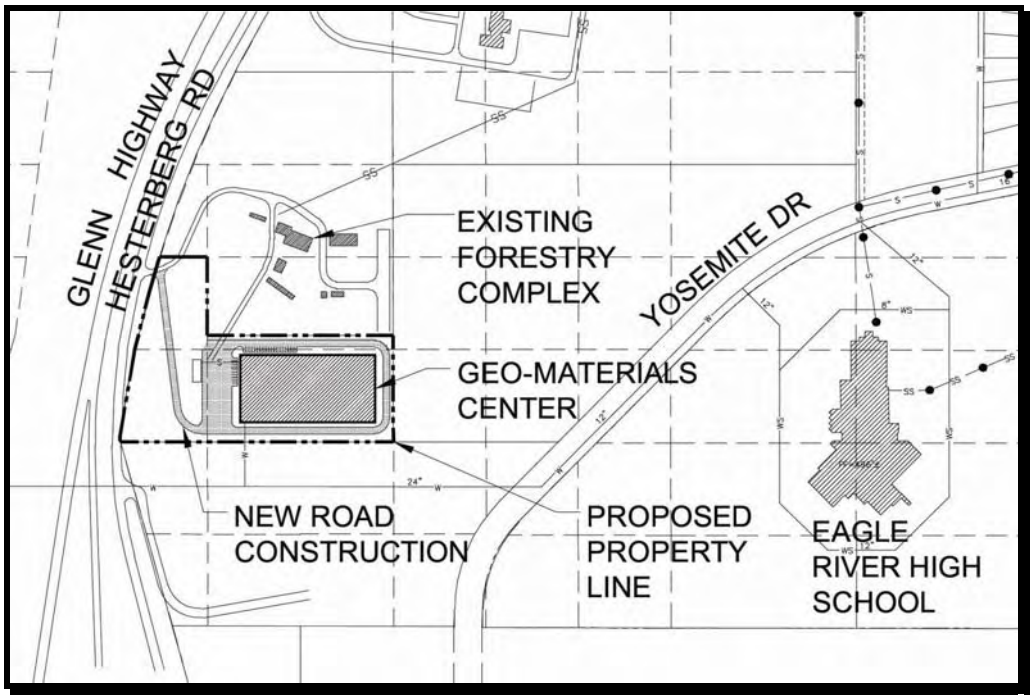


Figure 2 - Site Plan (Option 2) Access near Hesterberg Road

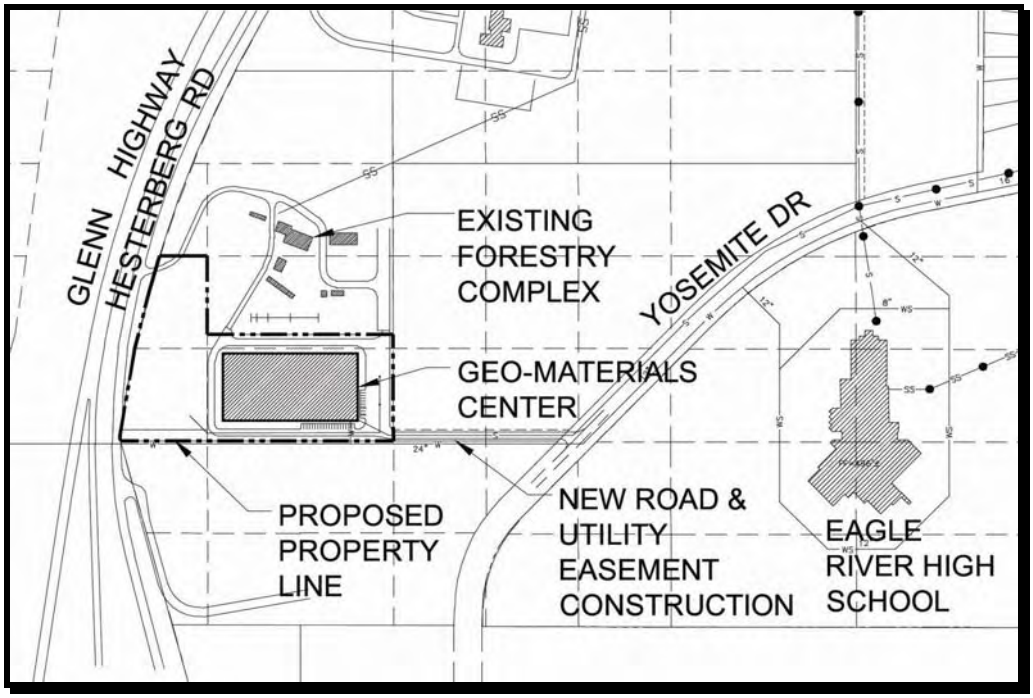


Figure 3 - Site Plan (Option 3) Access from Yosemite Drive

BUILDING ENVELOPE

Overview

The proposed facility is a single-story, high-bay warehouse with a 2-level office / lab / receiving area at one end. Conceptual floor plans showing proposed locations of rooms and facilities have been developed and are located in Exhibit C.

Partition walls between viewing rooms are to be operable partitions with a minimum sound transmission class (STC) rating of 50. In acoustics, STC is a numerical rating system for describing sound transmission loss for a wall or partition. For example, ordinary conversation can be understood through a window pane rated STC 25; the National Building Code (NBC) indicates that standard 2 x 4 wall construction would provide an STC 32. Partitions can be retracted and stored to open viewing rooms into larger spaces as required. The conference room would likewise be separated with operable partitions that can be moved to open onto the adjacent viewing room.

Primary Structure

The building's structural system would consist of a steel frame system using steel columns, steel joist girders spanning the short distance in each bay, and open web steel LH style bar joists spanning 60 feet. The girders are estimated to be 48 inches deep and weighing about 85 pounds per lineal foot. The steel bar joists will be spaced at 6'-8" on center, be 36 inches deep and weigh approximately 21 pounds per lineal foot.

The roof deck will likely be 1-1/2 inch Type B metal deck, 20-gauge in the middle third of the building and 18-gauge on the end thirds. The joist girders and steel bar joists will be sloped to provide the desired roof drainage, approximately 1/2-inch in 12 inches.

Seismic and wind loads will be resisted by braced frames on the four exterior walls. Each wall will likely have two braced frames near the center of the wall. Given the size of this facility and the magnitude of the seismic forces, *Eccentrically Braced Steel Frames* would be appropriate. The height of the building would require large footings tied together with concrete and steel grade beams to resist the large overturning forces that would be imposed on them.

An initial discussion indicates that this facility should be designed with a structural *importance factor* higher than typical for a warehouse. This will produce a structure better able to withstand the forces of an earthquake at the cost of a slightly more expensive structural system. If the recommendation to design to the higher importance factor is accepted, the construction for the facility would increase by roughly $2 per square foot thus adding an additional 1-2% to the overall cost of the building. This would increase the price from $28.3 million to between $28.6 and $28.9 million.

Roof System

The roof would consist of a Class C roof assembly over a rigid board or blanket style insulation system with an R-value of R-42. Configuration will include parapets at the perimeter of a *flat* roof design with a series of internal roof drains toward the center of the building. This type of system will eliminate problems from snow shedding in the winter.

Exterior Walls

Exterior walls will consist of 10-inch-deep Z-Girts spaced 48 inches o.c. vertically, 8-inch metal studs at 24 inches o.c., and 20-guage metal siding with factory Kynar finish. Inside finish will be 8-inch batt insulation (R-30) overlain with a 10-mil white vapor retarder.

Rack System

Storage racks will be nominal 3-foot deep by 10-foot long with a maximum storage height of 18 feet. The racks will be a cantilever design; bolted to the floor to resist overturning.

Floor Slab

Traffic loading on the floor slab will likely be light however, in order to maintain maximum aisle width and circulation room, the storage racks will be bolted to the slab in a manner to resist overturning during seismic events. This requirement will be the driving criteria in floor slab design.

For planning purposes the slab is assumed to be 12 inches thick with #6 rebar both directions top and bottom.

MECHANICAL

Overview

The following systems are based on pre-design workshop input and the Design Charette document (dated April 7, 2006), with an eye toward cost-effective and low maintenance systems and equipment.

Heating

Heating of the office spaces will be accomplished with hydronic heating elements (fintube baseboard, cabinet unit heaters, and heating coils). The heat source for the hydronic heating will be a single boiler, sized to handle the calculated conduction, infiltration, and ventilation loads for the office spaces.

Heating of the warehouse space will be accomplished with gas-fired radiant heaters.

Ventilation

The office spaces will be mechanically ventilated using two air handling units (AHUs), one serving each floor. These AHUs will be located high in the warehouse space, accessed from a maintenance catwalk. Outside air will be taken from an exterior wall, preferably either a north or east facing wall. Relief air will be discharged through roof hoods. Each unit will be equipped with a mixing box with control dampers, air filters, a heating coil, a direct expansion (DX) cooling coil, fan section, discharge section, and digital controls. Sound attenuation will be accomplished either with silencers or acoustically lined ductwork.

Ventilation for the warehouse space will be accomplished with natural ventilation. Several roof hoods, equipped with motorized, insulated control dampers, will be located throughout the warehouse space. These will be used to draw warm air off the top of the space, helping maintain a cooler environment. To complete the natural draft circuit, several wall louver/damper assemblies will be provided low on the exterior walls. These dampers will be interlocked with the relief hoods to cycle open to create a natural draft.

Specialized ventilation systems within the laboratories may include exhaust systems, fume hoods, and *Scrubbers* to remove dusty or toxic particulates and gases from discharge and recirculation airstreams. Laboratories will have *once through* systems to prevent contaminated air from circulating through adjacent office spaces, and fume hoods as required by the user groups or processes engaged in. Make-up air will be provided as appropriate with spaces adjacent to labs that may handle hazardous materials receiving greater than 100% make-up air. This method maintains positive pressure around the labs and prevents exfiltration of hazardous gases or particulates.

Until an inventory-wide sample survey and database can be completed, the amount and toxicity of hazardous materials and the inclusion of special hazardous waste and gas handling procedures and equipment cannot be ascertained. While fume hoods would be standard in each laboratory, a toxic gas *scrubber* may be required in the laboratory by the State Fire Marshal, ADEC, or other jurisdictional agency. Until this requirement can be determined, we have not

included the cost in the total project construction estimate, but the estimated cost for such a system is $200,000.

Other spaces requiring exhaust, such as toilet rooms, janitor closets, and battery charging area will be provided with dedicated exhaust systems.

Cooling

Cooling of the office spaces will be accomplished using outside air economizer cooling when allowed by outdoor temperatures, along with DX cooling coils located in each AHU. The condenser units for the DX coils will be located on the roof.

Natural Gas

A single gas service meter set will be provided for this facility, connected from Enstar. Piping will be distributed as needed throughout the facility to provide gas to the boiler, water heater, and gas-fired radiant heaters.

The projected annual gas consumption is 8,408,000 cubic feet. Estimated current cost is $0.50 per therm = $42,000.

Water

A single water service entrance will be provided for this facility from the city water utility. This will be sized to provide adequate water flow for a sprinkler system, which will also adequately size the main pipe for the domestic usage.

Commercial quality plumbing fixtures will be provided as determined and shown on the floor plan. Emergency eyewash/showers will be provided as required. Americans with Disabilities Act (ADA) compliant fixtures will be provided as needed.

A single gas fired water heater will be provided to satisfy the domestic hot water needs of the building.

Fire Protection

A wet pipe sprinkler system will be provided for the office spaces, with the valving located at the water service entrance piping.

The warehouse space will also be protected with a sprinkler system to provide coverage for in-rack storage. However, this system could be either a wet pipe system or a pre-action system, as appropriate and as allowed by construction funding. Final determination of the exact type of system will occur in the schematic design phase.

All fire protection systems will be performance specified to provide coverage required by National Fire Protection Association (NFPA) 13 and NFPA 231C.

Wastewater

Wastewater discharge for the facility will be accomplished with a single pipe main, gathering the various waste flows from throughout the building and discharging to the city sewer utility. Sediment traps will be provided for sinks and floor drains, as needed, at plumbing fixtures that are expected to see a heavy sediment load. Some sediment traps may contain hazardous or radioactive wastes, which at the current facility are simply redirected through a diverter valve to a collection bucket. In terms of radioactive wastes, if the source of the radioactivity is a naturally occurring compound and does not exceed predescribed levels, waste products from handling can be discharge directly to the sanitary sewer system.

For hazardous, toxic or radioactive samples above a certain level, on-site capture, containment and temporary storage facilities may be required, followed by shipping to an off-site disposal facility with specialized containment or incinerator processes. The regulations for the handling of these substances would fall under the federal agencies of The Nuclear Regulatory Commission (NRC), The Corps of Engineers and The Environmental Protection Agency. State agencies would include the Alaska Department of Environmental Conservation's Divisions of Air Quality, Environmental Health, Spill Prevention and Response and the Division of Water. Other agencies that might have oversight, approval or permitting interest could include municipal water/ wastewater, zoning and ADNR's Division of Mining, Land and Water.

In the future, with a comprehensive sample database and inventory management control plan in place that identifies such samples, specific recommendations as to hazardous waste handling systems will be possible. Once ADNR has completed their inventory tagging and database, the curatorial and building systems consultants can review quantities and types of hazardous materials, research the applicable regulations and proceed with modifying the building design appropriately. For the purposes of this study, we are assuming no toxic materials are present and all radioactive samples fall below the specified levels of atomic activity and composition.

Roof Stormwater Drainage System

The flat *warm* roof design allows for capture of snow melt and rain water into a series of internal roof drains which will provide better storm water runoff control and reduce the danger associated with snow shedding from pitched roofs. The concept with internal drains allows for building heat to keep the drains and drain piping warm and avoids roof *ponding* due to ice blockages that are experienced with exposed or exterior mounted drain systems. Also, by not having overhanging or pitched roofs, warmth from the building will not cause the roof snow pack to slide, endangering personnel entering or vehicles parked near the building.

In this building concept, a series of roof and matching overflow drains, sized per rainfall or snowmelt flow rates, will be spaced to cover equal portions of the roof area (allowing for commonality of material sizing). From each roof drain or overflow sloped, horizontal drain line piping will run parallel to the main structural members through the roof joists or suspended below them to the exterior wall assemblies, where they will then be turned down vertically to the floor line. At this point, the drain lines could penetrate the wall assemblies and discharge at the outside face of the wall, into landscaping areas. For this site though, we recommend that the vertical drain lines continue down through the floor slab to then turn and run horizontally through or beneath the building's foundation system. From here the drains would continue horizontally below landscaping and paved areas to intersect the site stormwater piping where it will be

discharged at the bluff retention trench (please refer to the Site Design Section – Site Stormwater Drainage System narrative).

Compressed Air

A single oil-free air compressor will be located in the warehouse space (possibly in a dedicated room for sound attenuation); with distribution piping routed to the Sample Exam rooms.

ELECTRICAL

Overview

Electrical systems will be provided as noted below. Intent will be to provide systems that are cost effective and low maintenance.

Projected annual power usage is:

Annual Demand Charges	222 kW (peak)	=	$12,000
Annual Usage Charges	864,600 kWH	=	77,000
Annual Utility Charges	$13.37 x 12	=	160
Total Project Annual Power Usage		=	$89,160

Power

Power will be supplied by the local electrical utility, MEA, probably via an overhead electrical line extended from Yosemite Drive. The overhead line will feed a pad mounted service transformer located near the building's service entrance near the southwest corner of the building.

Service voltage will be 480Y/277V. Service ampacity will be approximately 1,200 Amps. A 1200 Amp, 480Y/277 main distribution switchboard will be provided in the Main Electrical Room located near the southwest corner of the building.

Three phase motors will be fed at 480V, 3-phase; lighting will be fed at 277V and 480Δ:208Y/120V step down transformers will provide power for receptacles and utilization equipment such as stock picker charging stations.

- Power will be distributed at 480V, 3-phase, 4 wire to selected areas of the building to minimize voltage drop effects. Distribution panels, step down transformers, and branch circuit panels will be provided at these locations for local power distribution.

Emergency/Standby Power Distribution System

A diesel powered emergency/standby generator system will be provided. The generator will be provided with two output circuit breakers, one will feed the emergency power distribution system via a dedicated automatic transfer switch (ATS-E) and the second breaker will feed the standby power distribution system via a second dedicated automatic transfer switch (ATS-S). Twenty four to forty eight hours of diesel fuel storage will be provided using a sub base tank.

ATS-E will feed an Emergency Distribution Panel which will supply emergency power to life safety loads such as emergency egress lighting and the building fire alarm system.

ATS-S will feed a Standby Distribution Panel which will supply standby power to the following types of loads:

- Mechanical loads required to maintain building freeze protection (boiler plant, circulation pumps, air handling systems required to maintain building heat, unit heaters, etc.)

- Selected loads required to maintain an acceptable level of building operation during a power outage. These loads may consist of things such as:

    - Selected light fixtures.
    - Selected receptacles.
    - Selected stock picker charging stations.
    - Telecom equipment.
    - Paging system.
    - Security systems.
    - Walk in coolers/freezers.

Lighting

Office Areas: Lighting in office areas will utilize fluorescent lamps. Lamps will be specified to be high color rendering type (+80 Color Rendering Index). Lamps will typically be T-8 or T-5 type and will utilize electronic ballasts. Fixture types will be grid troffers or pendant mounted direct/indirect type as determined during design. Compact fluorescent downlights (32 or 42 watt triple tube type) will be utilized where appropriate.

Conference Room: In addition to general fluorescent light fixtures, dimmable downlights will be provided in the conference room to allow lighting levels to be varied for different types of meetings or presentations.

High Bay Storage Areas: Lighting in high bay storage areas will utilize either metal halide fixtures or T-5 fluorescent fixtures with high color rendering lamps.

Occupancy sensors will be utilized in the high bay storage areas to selectively control lighting. If metal halide fixtures are used the fixtures will be provided with *hi/lo* ballasts that reduce the lighting level and energy usage when the area is unoccupied. If fluorescent fixtures are used fixtures could be turned off completely when the area is unoccupied (except for fixtures required for emergency egress lighting).

Security System

A burglary alarm system will be provided for the building. Sensors will monitor all doors. Glass break sensors will monitor all windows with grade level access. Mechanical cyberlocks will be provided at doors requiring some type of access control, e.g., doors between the warehouse and viewing rooms.

Telecom Distribution System

A new Main Telecom Room (MTR) will be provided near the building's service entrance near the southwest corner of the building. A satellite telecom room will be provided in the warehouse area, as required, to limit the distance of horizontal cabling homeruns to 90 meters or less in accordance with Electronic Industries Alliance/Telecommunications Industry Association (EIA/TIA) and Building Industry Consulting Service International, Inc. (BICSI) telecom standards. Backbone infrastructure (pathways [conduit], fiber optic backbone cabling, copper [voice] backbone cabling) will be provided between the MTR and satellite telecom room.

Horizontal cabling in each building area will homerun back to its local area telecom room via conduit or cable tray as determined during design.

Fire Alarm System

An analog addressable fire alarm system will be provided. Pull stations will be provided at building exits and throughout the building to limit the maximum travel distance to a pull station to 200 feet. Pull stations will also be provided at exits from the second floor at stairwells. Duct detection will be provided for air handling units supplying over 2,000 cfm of air. Smoke detectors will be provided at all fire smoke dampers; either duct type or spot type, as required by the application. The system will also monitor all sprinkler flow and tamper switches and will transmit alarms per code requirements. If a pre-action type sprinkler system is provided, cross zoned smoke detection will be provided for each pre-action zone. Upon activation of a minimum of two smoke detectors in a pre-action zone the fire alarm panel will signal the pre-action panel to release the valve to charge the sprinkler zone piping with water. Water will not be released until a head is activated.

EXHIBIT A – DETAILED AREA REQUIREMENTS

ROOM NAME	Break room
Description of Functions	Employee and visitor break room vending area
Adjacencies	• Sample exam areas • Reception • Warehouse • Offices
Area	330
Minimum Ceiling Height	10 ft
BUILDING SYSTEMS	
Electrical	• 110 VAC
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s)
Telecommunications/Data	No
CATV	No
Plumbing	• Fire Sprinkler system • Sink
Heating	Radiant hydronic system
Ventilation	Ducted mechanical ventilation
SPECIAL REQUIREMENTS	
Storage	Shelves for break room supplies
Casework	Sink base cabinet
Security	• None
Equipment	Microwave
Furnishings	• Café tables • Chairs
Acoustical	Typical for non-warehouse areas in GMC
Life Safety	Typical for non-warehouse areas in GMC
Door	• One 3-0 x 9-0 hollow core metal with 1 light to each sample exam room
Window	No
FINISHES	
Floor	Polished concrete
Base	Rubber
Walls	Painted sheetrock
Wainscot	FRP
Ceiling	Suspended acoustic tile ceiling
Window Treatment	N/A

ROOM NAME	Conference/Training
Description of functions	Area to hold meetings, make presentations, hold small conferences, core workshops, conduct staff technical and QA training
Adjacencies	• Sample exam rooms • Administrative offices • Reception
Area	500 minimum – 1,000 maximum
Minimum Ceiling Height	10 ft
BUILDING SYSTEMS	
Electrical	110
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s)
Telecommunications/Data	• Wired broadband • Wireless Broadband • Ceiling mounted projector
CATV	Yes
Plumbing	Fire sprinkler system
Heating	Radiant hydronic system
Ventilation	Ducted mechanical ventilation
SPECIAL REQUIREMENTS	
Storage	POSSIBLE -Closet area for computer/AV equipment, and folding table storage
Casework	none
Security	No public access without procedural controls and documentation
Equipment	
Furnishings	• Folding tables, conference chairs, podium, white board(s)
Acoustical	Wall assembly sound attenuation
Life Safety	Ingress/egress, fire alarm
Door	One 3-0 x 9-0 hollow core metal with 1 light
Window	No
FINISHES	
Floor	Polished concrete - stained
Base	Rubber
Walls	Painted sheetrock
Wainscot	FRP
Ceiling	Suspended acoustic tile ceiling
Window Treatment	N/A

ROOM NAME	Exam/Processing Overflow (in Warehouse)
Description of functions	Oversized warehouse aisle used for overflow core layout and examination or sorting and reprocessing.
Adjacencies	Warehouse
Area	15 ft x 400 ft
Minimum Ceiling Height	Warehouse (25 to 35) ft
BUILDING SYSTEMS	
Electrical	• 110 VAC
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s) • Sodium vapor or equal in aisles used for overflow sample exam and shipping/receiving
Telecommunications/Data	• Wireless Broadband • POSSIBLE – wireless data terminal – bar code and /or Radio Frequency Identification (RFID) communication system (need power and transponders)
CATV	no
Plumbing	• Fire Sprinkler system
Heating	Zoned area heating (Gas Fired Radiant Heaters)
Ventilation	Interlocked motorized fresh air dampers
SPECIAL REQUIREMENTS	
Storage	
Casework	no
Security	• No public access beyond reception counter without procedural controls and documentation
Equipment	no
Furnishings	no
Acoustical	no
Life Safety	no
Door	no
Window	no
FINISHES	
Floor	Polished concrete
Base	no
Walls	Exposed structure and metal panel wall system
Wainscot	no
Ceiling	no
Window Treatment	N/A

ROOM NAME	Staff Office
Description of functions	Office for GMC staff and/or possibly for visiting investigators.
Adjacencies	• Reception • Sample exam rooms • Restrooms
Area	80 minimum – 120 maximum
Minimum Ceiling Height	10 ft
BUILDING SYSTEMS	
Electrical	110 VAC
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s) •
Telecommunications/Data	• Wired Broadband • Wireless Broadband • Telephone outlets
CATV	no
Plumbing	• Fire Sprinkler system
Heating	Radiant hydronic system
Ventilation	Ducted mechanical ventilation
SPECIAL REQUIREMENTS	
Storage	By Owner
Casework	no
Security	• No public access beyond reception counter without procedural controls and documentation • Lockable door
Equipment	computer
Furnishings	• Desks and desk chair sets • Book shelves • File cabinets • Office table
Acoustical	Wall assembly sound attenuation.
Life Safety	Ingress/egress, fire alarm
Door	3-0 x 7-0 hollow core metal with 1 light
Window	yes
FINISHES	
Floor	Carpet
Base	Rubber base
Walls	Painted sheetrock
Wainscot	n/a
Ceiling	Suspended acoustic tile ceiling
Window Treatment	Metal blinds

ROOM NAME	Order-Picker Recharge (in Warehouse)
Description of functions	Space to charge batteries in Order-picker(s)
Adjacencies	Warehouse
Area	150
Minimum Ceiling Height	10 ft
BUILDING SYSTEMS	
Electrical	• 110 VAC • 208 VAC 3 phase 50 amp for order-selector)
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s)
Telecommunications/Data	• Wireless Broadband • POSSIBLE – wireless data terminal – bar code and /or Radio Frequency Identification (RFID) communication system (need power and transponders)
CATV	no
Plumbing	• Fire Sprinkler system
Heating	Zoned area heating (Gas Fired Radiant Heaters)
Ventilation	Yes – Exhaust system for hydrogen gas from battery charging
SPECIAL REQUIREMENTS	
Storage	Storage cabinets for supplies
Casework	no
Security	• No public access beyond reception counter without procedural controls and documentation
Equipment	no
Furnishings	no
Acoustical	no
Life Safety	no
Door	no
Window	no
FINISHES	
Floor	Polished concrete
Base	N/A
Walls	N/A
Wainscot	N/A
Ceiling	N/A
Window Treatment	N/A

ROOM NAME	Reception/Clerical/Access Control/Geoscience Display
Description of functions	Area dedicated to visitor access control, general administrative functions. Area also contains computer work station(s), photocopy machine(s), printers, well-log-printer, large format scanner and printer, one large map layout table. Incorporates glass front display cases for "mini museum."
Adjacencies	• Records Center/Library • Curator's Office • Sample exam rooms • Restrooms
Area	600 minimum – 1,100 maximum
Minimum Ceiling Height	10 ft
BUILDING SYSTEMS	
Electrical	110 VAC
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s) • Dedicated "spot" lighting for Geoscience collection
Telecommunications/Data	• Wired Broadband • Wireless Broadband • Telephone outlets • Remote control strike-latch door actuation from reception desk • "walkie talkie" base station
CATV	no
Plumbing	Fire Sprinkler system
Heating	Radiant hydronic system
Ventilation	Ducted mechanical ventilation
SPECIAL REQUIREMENTS	
Storage	• (x number) Storage cabinets for supplies, consumables, Documents, Paper maps
Casework	• Reception counter • Display cabinets for geo material collection
Security	• No public access beyond reception counter without procedural controls and documentation • Locked display cases
Equipment	• Photocopier • Large format scanner • Large Format Printer (plotter) • Well-Log Printer • Scanner • Printers /b&w, color • Computer work station(s) • Radio base station – "walkie talkies"
Furnishings	Desks and desk chair sets File cabinets Office table Large map layout table
Acoustical	Wall assembly sound attenuation
Life Safety	Ingress/egress, fire alarm
Door	3-0 x 7-0 hollow core metal with 1 light

ROOM NAME	Reception/Clerical/Access Control/Geoscience Display
Window	yes
FINISHES	
Floor	Carpet
Base	Rubber
Walls	Painted sheetrock
Wainscot	Owner option
Ceiling	Lay-in acoustical tile
Window Treatment	Horizontal blinds

ROOM NAME	Records Center/Library
Description of functions	Area dedicated to the storage of all the records related to samples stored at the GMC including reproducible copies of maps and logs. Also functions as a small technical library. Contains flat files for large format maps and cross sections.
Adjacencies	• Reception • Curator's Office • Sample exam rooms • Restrooms
Area	300 minimum – 1, 000 maximum
Minimum Ceiling Height	10 ft
BUILDING SYSTEMS	
Electrical	110 VAC
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s) •
Telecommunications/Data	• Wired Broadband • Wireless Broadband • Telephone outlets
CATV	no
Plumbing	• Fire Sprinkler system
Heating	Radiant hydronic system
Ventilation	Ducted mechanical ventilation
SPECIAL REQUIREMENTS	
Storage	By Owner
Casework	no
Security	• No public access beyond reception counter without procedural controls and documentation • Locked records files
Equipment	• Drafting table, with light box • File cabinets • Flat files cabinets • Office chairs /stools
Furnishings	• Desks and desk chair sets • Book shelves • File cabinets • Office table • Large map layout table
Acoustical	Wall assembly sound attenuation
Life Safety	Ingress/egress, fire alarm
Door	3-0 x 7-0 hollow core metal with 1 light
Window	Ventilation/daylight
FINISHES	
Floor	Carpet
Base	Rubber
Walls	Painted sheetrock
Wainscot	Owner Option
Ceiling	Lay-in acoustical tile
Window Treatment	Horizontal blinds

ROOM NAME	Restrooms/Showers
Description of functions	Restrooms/Showers
Adjacencies	• sample exam areas • Reception • Warehouse • offices
Area	650
Minimum Ceiling Height	10 ft
BUILDING SYSTEMS	
Electrical	• 110 VAC
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s)
Telecommunications/Data	no
CATV	no
Plumbing	• Fire Sprinkler system • Normal restroom/shower
Heating	Radiant hydronic system
Ventilation	Ducted mechanical ventilation
SPECIAL REQUIREMENTS	
Storage	Metal Lockers
Casework	Sink base cabinet
Security	• None
Equipment	none
Furnishings	Toilet partitions and showers accessories
Acoustical	Wall and ceiling assembly sound attenuation
Life Safety	Fire alarm
Door	• (x number) solid core door
Window	no
FINISHES	
Floor	Ceramic tile
Base	Ceramic tile
Walls	Painted sheetrock
Wainscot	Ceramic tile
Ceiling	Painted sheetrock
Window Treatment	N/A

ROOM NAME	Rock Cutting/Sample Prep Lab
Description of functions	This area contains equipment and systems to physically slab and saw core and other sample materials to remove specimens. It is the area where boxes of sample processes [cut, marked packaged, and inspected]. It is also the area where existing boxes of samples are "reprocessed" [re-boxed, remarked, re-packaged, etc] It also functions as a sample preparation laboratory. It addition to providing sawing and plugging capabilities it includes a laboratory fume hood, sink, and work surfaces.
Adjacencies	• Sample exam rooms • Shipping & receiving • Warehouse
Area	750 minimum – 1,250 maximum
Minimum Ceiling Height	10 ft
BUILDING SYSTEMS	
Electrical	110, 220 VAC (GFI – wet area)
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s) • Task lighting for saws and sampling equipment
Telecommunications/Data	Wireless Broadband
CATV	no
Plumbing	• Water • Waste drain to sediment trap system • Floor drains • Emergency eye wash station • Compressed air for pneumatic sample box staple gun (pliers)
Heating	Radiant hydronic system
Ventilation	• Exhaust system over rock saw(s) • Laboratory fume hood(s) • Make-up air for exhaust and hood(s)
SPECIAL REQUIREMENTS	
Storage	(x number) Storage cabinets for supplies, consumables
Casework	For sink(s) and fume hood installation
Security	No public access without procedural controls and documentation
Equipment	• Target "Port-a-saw" diamond rock saw(s) • Raytech CS-18a say (***If one can be donated from a petroleum company***) • Trim saw • Thin section saws • Core Plug unit • Rock crusher • Air operated staple gun "Stanley-Bostich" P-50-10b or equal
Furnishings	• Service sink in base cabinet (h/c) • Fatigue pads for saw stations
Acoustical	Systems/insulation from rock sawing sound is required.
Life Safety	Ingress/egress, fire alarm
Door	Two 4-0 x 9-0 hollow core metal with 1 light
Window	No

ROOM NAME	Rock Cutting/Sample Prep Lab
FINISHES	
Floor	Polished concrete
Base	Rubber
Walls	Painted sheetrock
Wainscot	FRP
Ceiling	Lay-in acoustical tile
Window Treatment	N/A

ROOM NAME	Sample Exam Rooms 1-4
Description of functions	This area provides work surfaces to layout core and samples for detailed scientific examination and logging. The space is equipped with "roller top tables to facilitate the efficient lay-out and removal of core boxes or other sample containers.
Adjacencies	• Other sample exam areas • Reception • Warehouse
Area	1,125
Minimum Ceiling Height	10 ft
BUILDING SYSTEMS	
Electrical	• 110 VAC
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s) • Adjustable dropdown fluorescent fixtures over exam tables • Black lights
Telecommunications/Data	• Wireless Broadband • POSSIBLE – wireless data terminal – bar code and /or Radio Frequency Identification (RFID) communication system (need power and transponders)
CATV	no
Plumbing	• Fire Sprinkler system • Service sink • Sediment drain system • Compressed air
Heating	Radiant hydronic system
Ventilation	Ducted mechanical ventilation
SPECIAL REQUIREMENTS	
Storage	Metal Lockers
Casework	Sink base cabinet
Security	• No public access beyond reception counter without procedural controls and documentation
Equipment	• Roller top tables • Custom built rolling work surface for sample exam with power and microscope set-up
Furnishings	stools
Acoustical	Wall assembly sound attenuation
Life Safety	Fire alarm
Door	• Pairs of two 4-0 x 9-0 hollow core metal with 1 light to each sample exam room • "Accordion" Partition wall between four Sample Exam Areas
Window	Interior to corridor
FINISHES	
Floor	Polished concrete
Base	Rubber
Walls	Painted sheetrock
Wainscot	FRP – Front and rear walls only
Ceiling	Lay-in acoustical tile
Window Treatment	Solid Blinds (for privacy)

ROOM NAME	Shipping /Receiving (in Warehouse)
Description of functions	Area dedicated to shipping receiving and sorting of core and sample materials – It serves as the primary quality control check-in and inspection point for all materials received at the GMC. It is the area from which all materials are shipped out of the GMC. It will act as a sorting area for arriving materials
Adjacencies	Warehouse
Area	2,000 minimum – 3,000 maximum
Minimum Ceiling Height	25 ft
BUILDING SYSTEMS	
Electrical	• 110 VAC,
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s) • Sodium vapor or equal in sorting area •
Telecommunications/Data	• Wired Broadband • Wireless Broadband • POSSIBLE – wireless data terminal – bar code and /or Radio Frequency Identification (RFID) communication system (need power and transponders)
CATV	no
Plumbing	• Fire Sprinkler system
Heating	Zoned area heating (Gas Fired Radiant Heaters)
Ventilation	Interlocked motorized fresh air dampers
SPECIAL REQUIREMENTS	
Storage	Storage cabinets for shipping/receiving tasks
Casework	no
Security	• No public access beyond reception counter without procedural controls and documentation
Equipment	• Pallet Jack • Strapping/banding supplies
Furnishings	
Acoustical	no
Life Safety	no
Door	Overhead door
Window	Yes to outside building
FINISHES	
Floor	Polished concrete
Base	No
Walls	Exposed structure and metal panel wall system
Wainscot	No
Ceiling	No
Window Treatment	Horizontal blinds

ROOM NAME	Walk-in Cooler (in Warehouse)
Description of functions	Prefabricated freezer unit for storage of frozen samples
Adjacencies	• Warehouse • Shipping/receiving
Area	200 minimum – 400 maximum
Minimum Ceiling Height	7 ft
BUILDING SYSTEMS	
Electrical	• 110 VAC, • 220 VAC for refrigeration compressor
Lighting	Comes with unit
Telecommunications/Data	• POSSIBLE – wireless data terminal – bar code and /or Radio Frequency Identification (RFID) communication system (need power and transponders)
CATV	no
Plumbing	no
Heating	no
Ventilation	no
SPECIAL REQUIREMENTS	
Storage	no
Casework	no
Security	• No public access beyond reception counter without procedural controls and documentation
Equipment	Prefabricated walk-in cooler/freezer unit
Furnishings	Metal shelving for sample storage
Acoustical	no
Life Safety	no
Door	na
Window	no
FINISHES	
Floor	na
Base	na
Walls	na
Wainscot	na
Ceiling	na
Window Treatment	na

ROOM NAME	Warehouse
Description of functions	Storage Warehouse for all GMC samples (core, cuttings, pulps, etc. etc. Pallet rack system used as shelving configured to store all form factors of existing samples and well as expected future acquisitions. Rack system nominally 15 to 25 ft tall, nominal 3 ft deep and 9 or 10 ft wide with back-to-back rack arraignments. Minimum 5 ft wide aisles between racks. Warehouse will also contain shipping/receiving, order-picker/forklift storage and recharge, overflow sample exam, walk-in cooler.
Adjacencies	• Sample exam rooms • Shipping/receiving • Walk-in cooler • Reception
Area	80,000 minimum – 100, 000 maximum
Minimum Ceiling Height	25 – 35 ft
BUILDING SYSTEMS	
Electrical	• 110 VAC, • 208 VAC 3 phase 50 amp for order-selector)
Lighting	• Fluorescent fixture for general (high color rendering type (+80 Color Rendering Index)s) in aisle • Sodium vapor or equal in aisles used for overflow sample exam and shipping/receiving •
Telecommunications/Data	• Wireless Broadband • POSSIBLE – wireless data terminal – bar code and /or Radio Frequency Identification (RFID) communication system (need power and transponders)
CATV	no
Plumbing	• Fire Sprinkler system – NOTE POSSIBLE this will be class 3A high-pile-storage requirement
Heating	Zoned area heating (Gas Fired Radiant Heaters)
Ventilation	Interlocked motorized fresh air dampers
SPECIAL REQUIREMENTS	
Storage	no
Casework	no
Security	• No public access beyond reception counter without procedural controls and documentation
Equipment	Battery operated 3000 lb capacity order-picker (Yale OS030 E or equal)
Furnishings	• Pallet Rack system, no plywood decks welded wire only, seismic code rated.
Acoustical	no
Life Safety	Ingress/egress, fire alarm
Door	• overhead truck doors to exterior, and shipping/receiving • pairs of two 4-0 x 9-0 hollow core metal with 1 light to each sample exam room
Window	From Geoscience Display Area

ROOM NAME	Warehouse
FINISHES	
Floor	Polished concrete
Base	No
Walls	Exposed structure and metal panel wall system
Wainscot	N/A
Ceiling	No
Window Treatment	N/A

APPENDIX B - PHOTOGRAPHS

Photo 1-Entrance at existing GMC Warehouse

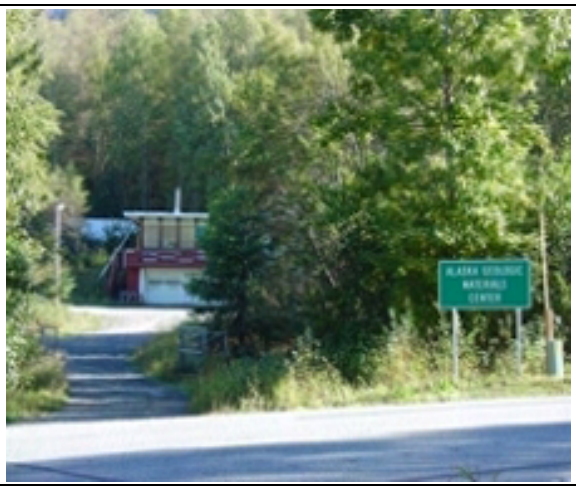


Photo 2 – Looking north at existing GMC Site Entrance. Illustrates lack of facility visibility and traffic ingress/egress safety hazard.

Photo 3 – View from Main Building to White Bldg, connexes on gravel pad.

Photo 4 – View to north, leach field extends beneath mound past connex.

Photo 5 – Looking east to exterior of White Building, original fish hatchery building. Creek runs beside this building.

Photo 6 – Looking north at exterior of Green Building. This houses forklift and storage items. This building is in dilapidated condition and experiences roof leaks and is unable to be used for sample storage.

Photo 7 – View to Brown Building. This houses conference rooms, storage, and library. This building is thermally inefficient and unsuited to current use.

Photo 8 – Shell Building houses Shell Oil collection.

Photo 9 – Sample layout room showing equipment congestion and non-compliant handicapped ramp at floor level change.

Photo 10 – Sediment trap system in sample room.

Photo 11 – Fume hood has water leaks. No scrubber.

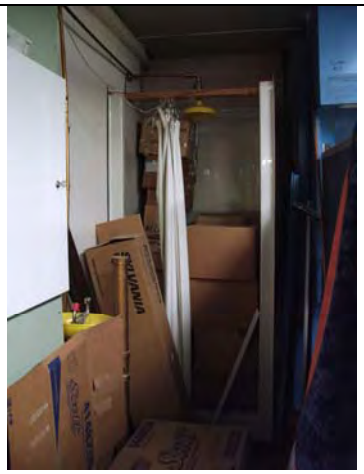


Photo 12 – Emergency wash station being used for storage.

	
Photo 13 – Storage shelves are at capacity.	Photo 14 – Additional shelving being added above existing. Illustrates life-safety hazard from high-pile storage in seismic event.
	
Photo 15 – Existing minimal display cabinets	Photo 16 – Basement storage shelving. Illustrates sample storage congestion and non-compliance with life-safety signage.

Photo 17 – Sample packaging/shipping area in Shell Building.

Photo 18 – Roof leak in Green Building.

Photo 19 – Interior of White Building.

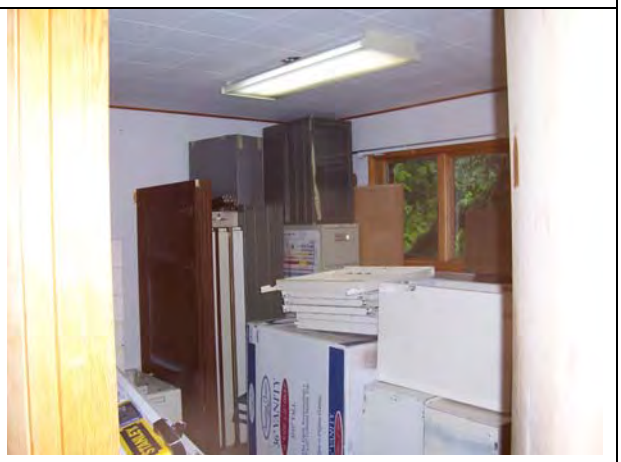
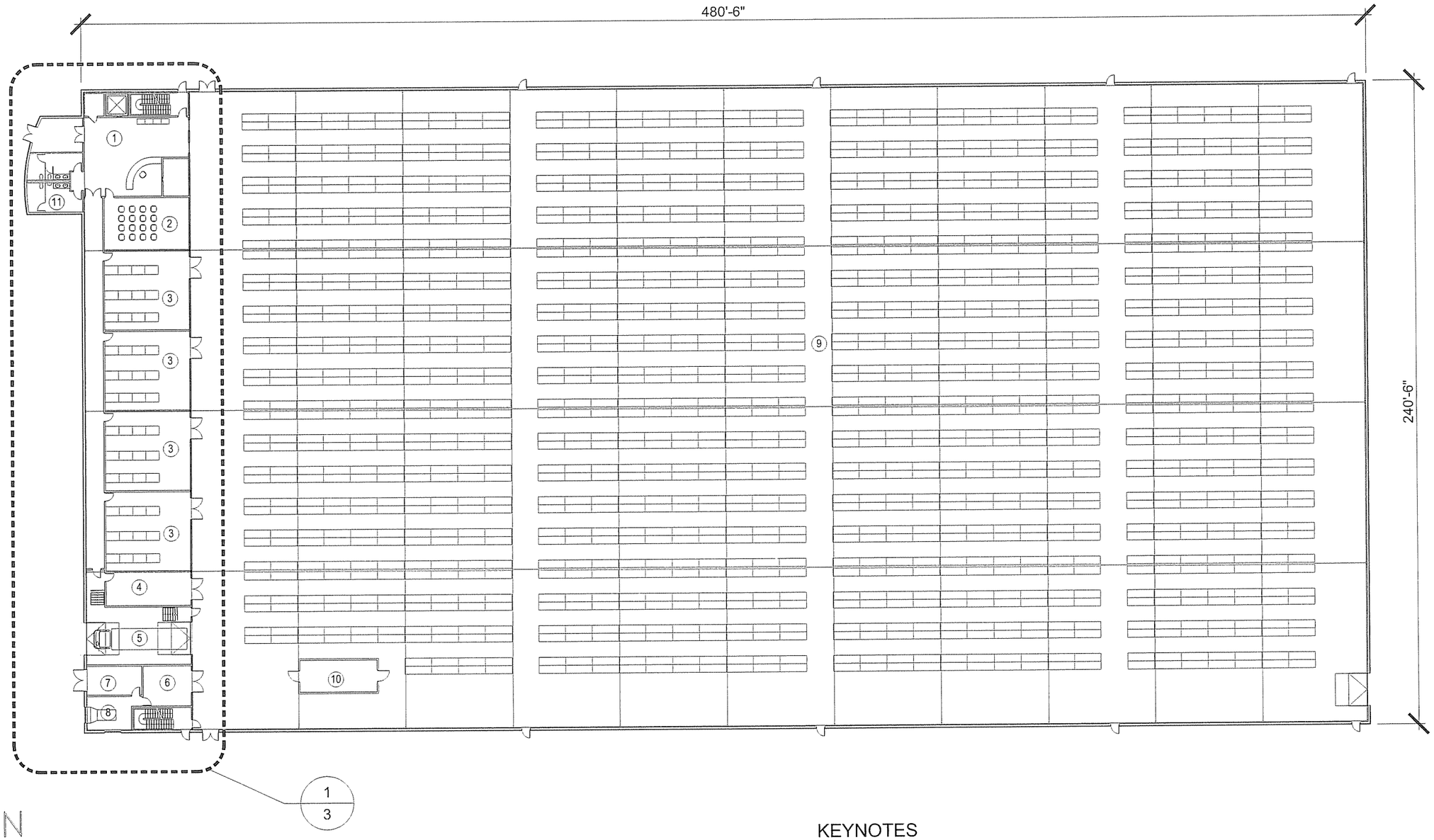


Photo 20 – Interior of Brown Building. Illustrates fire/life-safety hazard due to retention of salvaged materials and equipment.

	
Photo 21 – Looking east at entrance to existing Department of Forestry compound. Site Option 1 would require use of this road and would expose Department of Forestry complex personnel to increased traffic and vehicular safety hazards.	Photo 22 – Looking south at existing road past Forestry compound to new site. Site Option 1 would require use of this road and would expose Department of Forestry complex personnel to increased traffic and vehicular safety hazards.
	
Photo 23 – Change of grade from Forestry compound road to new site.	

EXHIBIT C – SITE AND CONCEPTUAL FLOOR PLANS



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CONCEPTUAL FIRST FLOOR PLAN

SCALE: 1" = 40'-0"

0 5' 10' 15' 20'

KEYNOTES

1. LOBBY/DISPLAY
2. CONFERENCE
3. VIEWING ROOMS
4. LAB
5. RECEIVING
6. ELECTRICAL
7. MECHANICAL
8. GENERATOR
9. WAREHOUSE
10. REFRIGERATED STORAGE
11. BATHROOM
12. OPEN OFFICE

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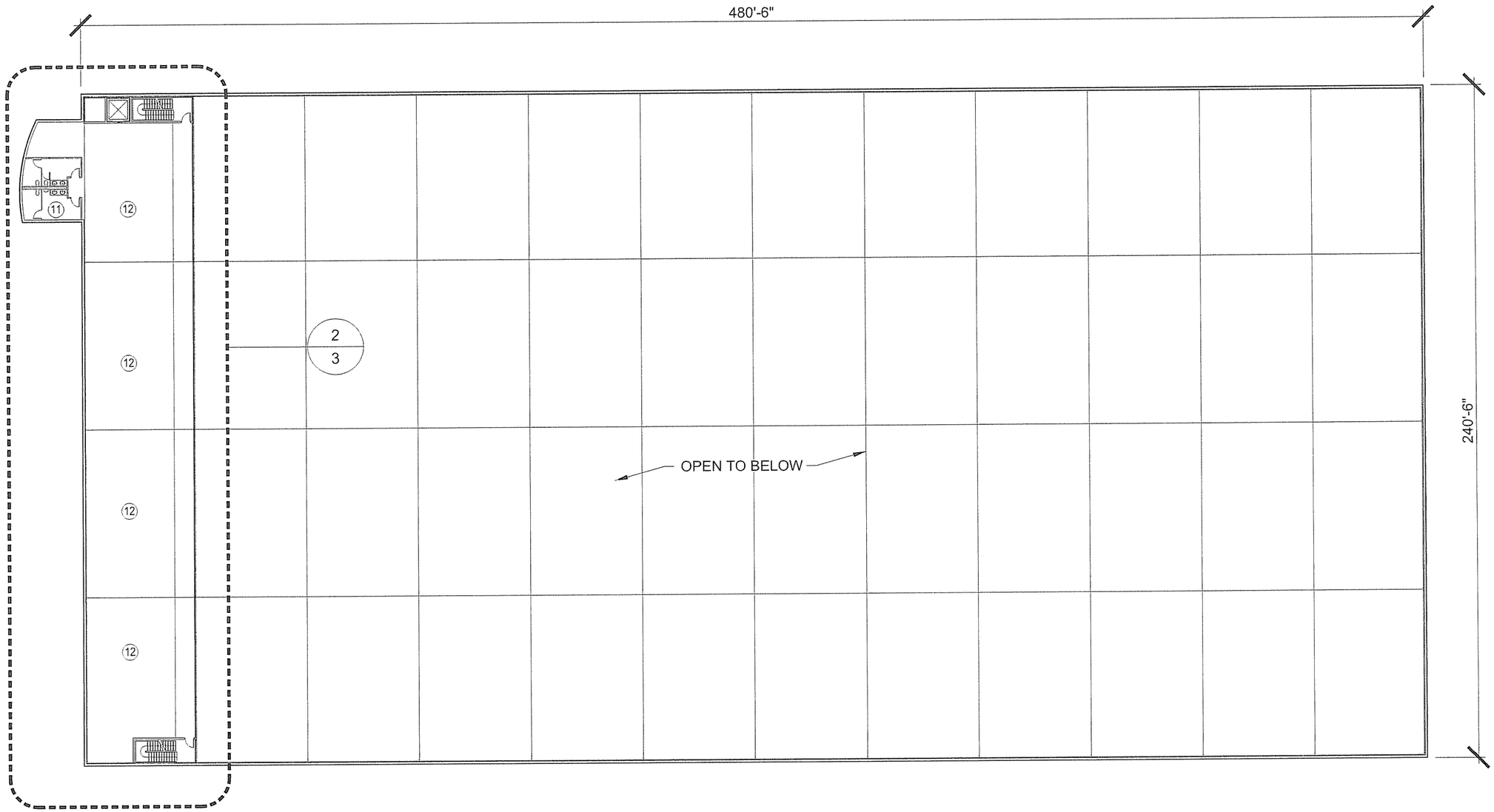
Date	JUNE 2006
USKH W.O.	910700
Scale	1" = 40'
CAD File	FLOORPLAN1
Drawn	SLH
Checked	BKS
Sheet	1

Sheet Title: CONCEPTUAL FIRST FLOOR PLAN

GEOLOGICAL MATERIALS CENTER
Eagle River, Alaska

Department of Transportation
Anchorage, Alaska



N

CONCEPTUAL SECOND FLOOR PLAN

SCALE: 1" = 40'-0"

0 5' 10' 15' 20'

KEYNOTES

1. LOBBY/DISPLAY
2. CONFERENCE
3. VIEWING ROOMS
4. LAB
5. RECEIVING
6. ELECTRICAL
7. MECHANICAL
8. GENERATOR
9. WAREHOUSE
10. REFRIGERATED STORAGE
11. BATHROOM
12. OPEN OFFICE

Sheet 2

USKH W.O. 910700

CAD File FLOORPLAN2

Date JUNE 2006

Scale 1" = 40'

Drawn SLH

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Sheet Title: CONCEPTUAL SECOND FLOOR PLAN

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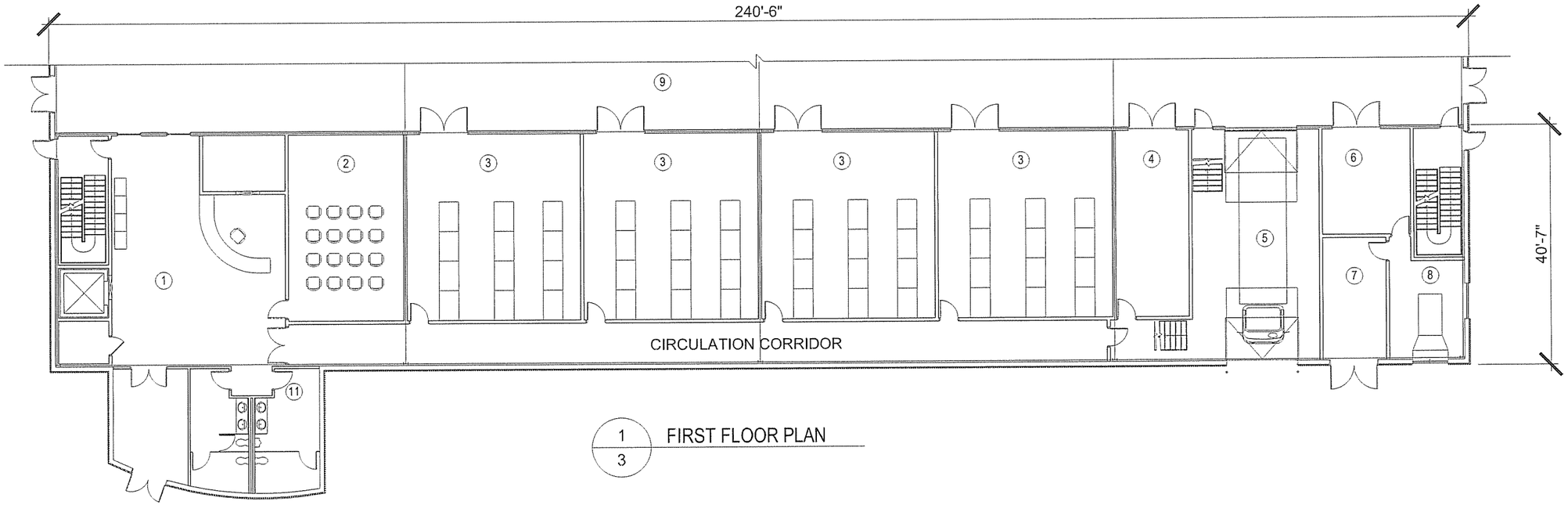
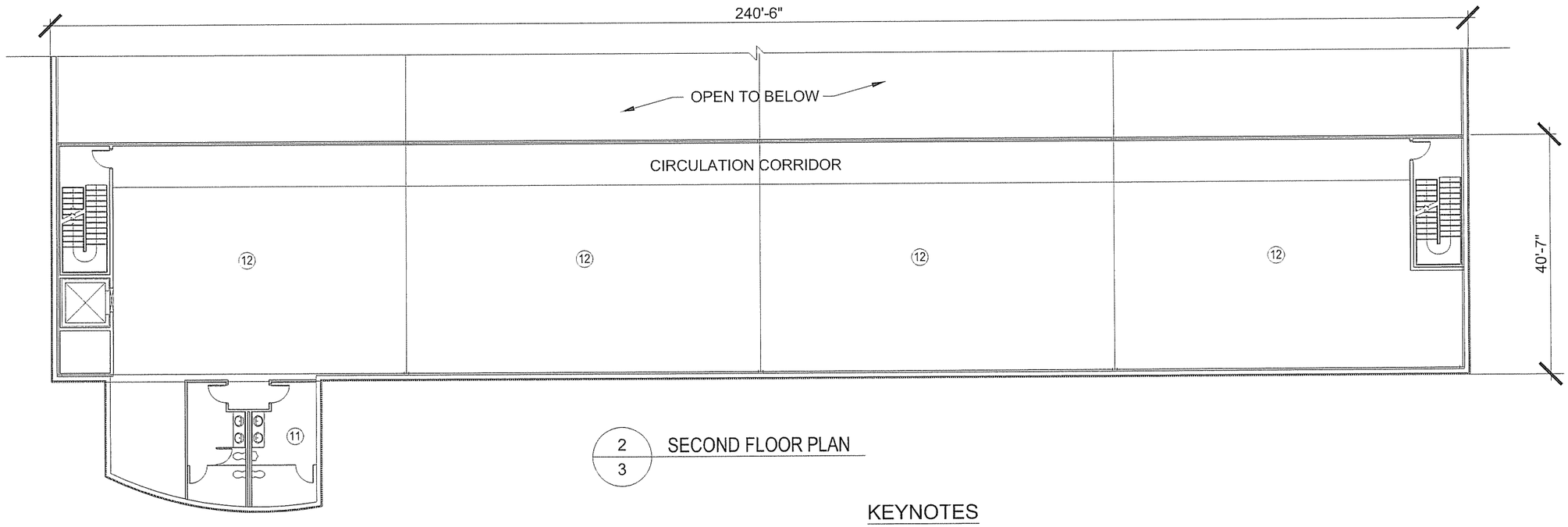
Department of Transportation
Anchorage, Alaska



1/3 FIRST FLOOR PLAN



2/3 SECOND FLOOR PLAN

N

ENLARGED 1ST AND 2ND FLOOR PLANS

SCALE: 1" = 20'-0"

0 5' 10' 15' 20'

KEYNOTES

1. LOBBY/DISPLAY
2. CONFERENCE
3. VIEWING ROOMS
4. LAB
5. RECEIVING
6. ELECTRICAL
7. MECHANICAL
8. GENERATOR
9. WAREHOUSE
10. REFRIGERATED STORAGE
11. BATHROOM
12. OPEN OFFICE

Sheet 3

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CAD File -

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Scale 1" = 20'

Drawn SLH

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Sheet Title
ENLARGED FIRST AND SECOND FLOOR PLANS

GEOLOGICAL MATERIALS CENTER
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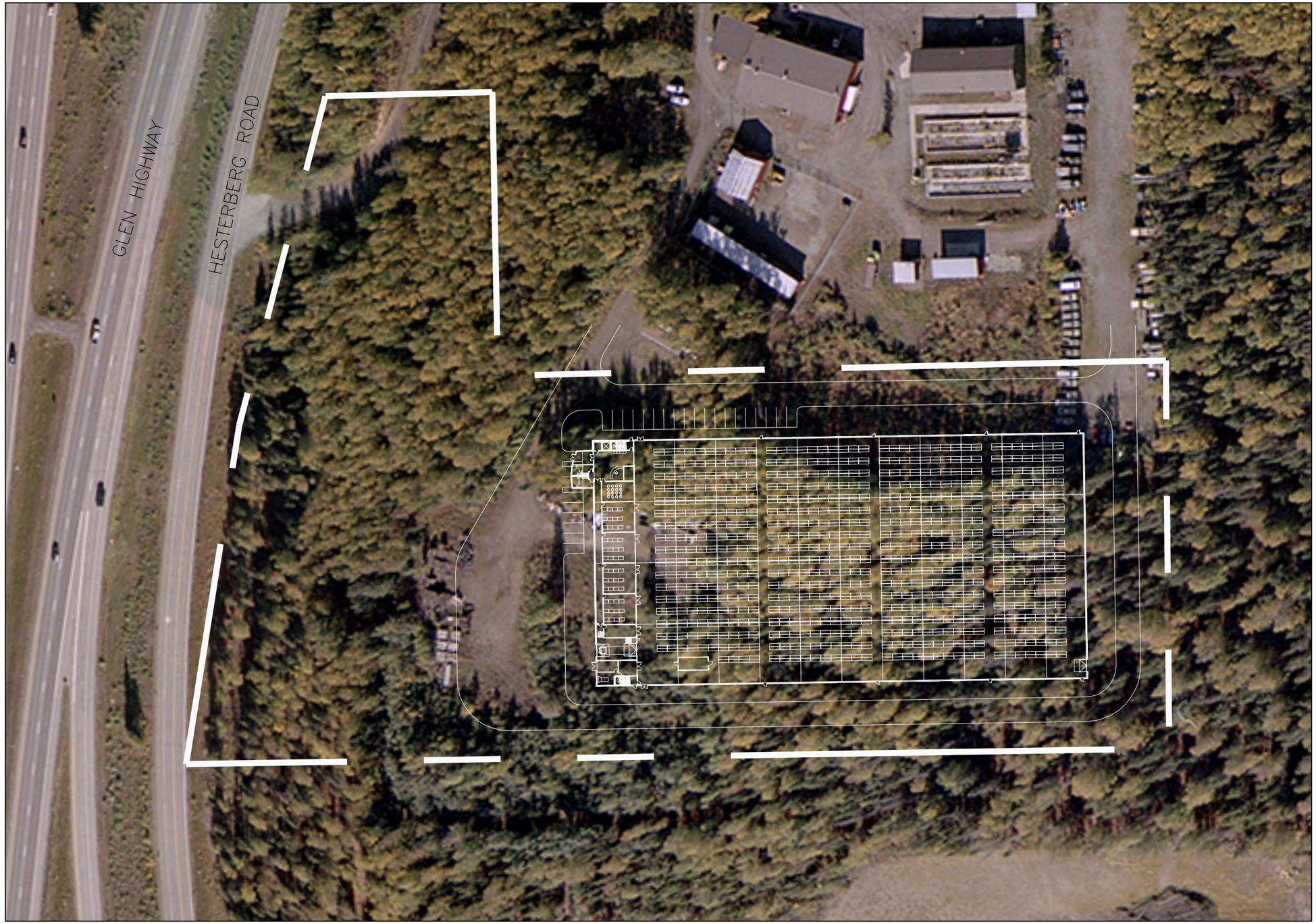
Anchorage, Alaska



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1
2

SITE PLAN

SCALE: 1" = 50'

0 25' 50' 75' 100'

DRAWING NAME: i:\910700\Dwgs\A\sheets\910700_SITE.dwg PLOTTED: Jun 23, 2006 - 9:11am

Date Stamped:

By	Revision	Date

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2515 'A' Street
Anchorage, Alaska 99503
(907) 276-4245

544 4th Avenue, Suite 102
Fairbanks, Alaska 99701
(907) 452-2128

3031 Clinton Drive
Suite 200
Juneau, Alaska 99801
(907) 790-2901

290 North Willow Street
Wasilla, Alaska 99654
(907) 376-7815

Project:

ALASKA GEOLOGIC MATERIALS CENTER

Dept. of Transportation Eagle River, Alaska

Project Mgr.	BKS	
Drawn	SLH	
Checked	BKS	
Date	4/7/06	

Sheet Contents:

SITE PLAN
EXHIBIT

Sheet No.:

2

USKH W.O. 910700

EXHIBIT D – COST ESTIMATE

The following conceptual cost estimate is based on an assumed scope of work for each expansion option and includes construction costs only. Please refer to DOT&PF cost summary for total project costs associated with each option.

Geological Materials Center
Alaska Department of Natural Resources
Eagle River, Alaska

Construction Cost Estimate
Conceptual Study
July 25, 2006

ESTIMATIONS
1225 E. International Airport Rd, #205
Anchorage, Alaska 99518
907.561.0790

Prepared for:
USKH, Inc.
2515 A Street
Anchorage, Alaska 99503
907.276.4245

BASIS OF CONCEPTUAL STUDY

Documents Used For Preparation

Geological Materials Center Concept Study

Assumptions

The general contract will be competitively bid with qualified general contractors
There will not be small business set aside requirements
The contractor will be required to pay prevailing wages
The general contractor will have reasonable access to the site during normal working hours
Only fixed equipment is included in the estimate
April 2008 NTP

EXCLUSIONS

Land and easement acquisition
Owner supplied and installed furniture, fixtures and equipment (FF&E)
Design, testing, inspection or construction management fees
Architectural and design fees
Medium Voltage to Site by MEA - Not included in estimate
Main Transformer by MEA - Not included in the estimate

ADDITIONAL COST INFORMATION

Septic System	$59,000
Water Well, Assume 200' Deep.	$93,000
Medium Voltage Electrical to Site, 2,150'	$298,000
Natural Gas to Site, 2,150'	$155,000
Scrubber	$484,000
Toxic Waste Trap	

Geological Materials Center
Alaska Department of Natural Resources
Prepared for USKH, Inc. by Estimations

Construction Cost Estimate
Conceptual Study
July 25, 2006

Description		$/SF	$x1,000
		Gross Area:	**114,830 SF**
A10 Foundations		$26.37	$3,028
A20 Basement Construction			
A FOUNDATIONS		$26.37	$3,028
B10 Superstructure (Vertical, Floor & Roof)		$27.52	$3,160
B20 Exterior Enclosure		$8.85	$1,017
B30 Roofing		$5.77	$663
B SHELL		$42.14	$4,839
C10 Interior Construction		$2.57	$295
C20 Stairways		$0.31	$36
C30 Interior Finishes		$4.76	$546
C INTERIORS		$7.64	$877
D10 Conveying Systems		$0.68	$78
D20 Plumbing Systems		$2.14	$245
D30 HVAC Systems		$11.87	$1,363
D40 Fire Protection Systems		$4.66	$535
D50 Electrical System		$17.29	$1,985
D SYSTEMS		$36.64	$4,207
E10 Equipment		$20.69	$2,376
E20 Furnishings		$0.55	$63
E EQUIPMENT		$21.24	$2,439
F10 Special Construction			
F20 Selective Demolition (Excluding Hazmat Remove)			
F SPECIAL CONSTRUCTION & DEMOLITION			
TOTAL BUILDING (A-F)		**$134.03**	**$15,391**
Sitework			
G10 Site Preparation		$5.79	$665
G20 Site Development		$3.16	$363
G30 Utilities		$10.24	$1,176
TOTAL SITE CONSTRUCTION (G)		**$19.19**	**$2,205**
TOTAL BUILDING & SITE (1-16)		**$153.23**	**$17,596**
General Conditions	10.00%	$15.33	$1,760
Contractor's Overhead & Profit or Fee	8.00%	$13.48	$1,548
ESTIMATED CONSTRUCTION COST (2005)		**$182.04**	**$20,904**
Estimating Contingency	15.00%	$27.31	$3,136
Allowance for Rising Costs (7%/Yr)	16.44%	$34.42	$3,953
Midpoint (Sept 1, 2008)			
RECOMMENDED BUDGET		**$243.78**	**$27,993**

Moving Costs

Relocate Collection	$300,000
Inventory/Tagging to be done by Owner	

Line No.	Description	Qty	UNITS	Unit Cost	Total Cost
1	**A10 Foundations**				
2					
3	**Perimeter Foundations**				
4	Footings	1,202	LF	$60.48	$72,667
5	Foundation Wall	4,806	SF	$140.29	$674,222
6	Insulation & Dampproofing	4,806	SF	$2.64	$12,705
7					
8	**Column Foundations**	**148**	**EA**		
9	New Footings 8'Sq Avg	148	EA	$1,937.22	$286,708
10					
11	**Slab On Grade**	**105,210**	**SF**		
12	12" Slab On Grade	105,210	SF	$17.29	$1,819,345
13	12" Sand Base	105,210	SF	$1.36	$143,317
14	Vapor Barrier	105,210	SF	$0.18	$19,276
15					
16					
17					
18	**Subtotal: A10 Foundations**				**$3,028,240**
19					
20					
21					
22	**A20 Basement Construction**		**NONE**		
23					
24					
25					
26	**Subtotal: A20 Basement Construction**				
27					
28					
29					
30	**B10 Superstructure (Vertical, Floor & Roof)**				
31					
32	**Floor Construction**	**9,620**	**SF**		
33	Structural Steel	42,328	LBS	$2.14	$90,697
34	Steel Joists	52,910	LBS	$2.14	$113,372
35	Steel Deck 1.5"	9,620	SF	$4.24	$40,766
36	5" Supported Concrete Deck	9,620	SF	$5.01	$48,162
37					
38	**Roof Construction**	**105,710**	**SF**		
39	Glulam Beams	173,067	BF	$3.68	$636,390
40	Purlins	52,855	LF	$8.46	$447,368
41	Wood Decking	105,710	SF	$8.38	$885,384
42					
43	**Vertical Structure**				
44	Columns, Tube Steel	287,075	LBS	$2.64	$758,962
45	Bracing	60,823	LBS	$2.28	$138,911
46					
47					
48					
49	**Subtotal: B10 Superstructure (Vertical, Floor & Roof)**				**$3,160,012**
50					
51					

Line No.	Description	Qty	UNITS	Unit Cost	Total Cost
52					
53	**B20 Exterior Enclosure**				
54					
55	**Exterior Walls**	**38,860**	**SF**		
56	Gypsum Wall Board, Taped	15,708	SF	$2.45	$38,537
57	Wall Girts @ 48" O.C.	9,612	LF	$6.51	$62,593
58	8" Metal Stud Walls 14 Ga @ 24" O.C.	38,860	SF	$4.59	$178,560
59	Vapor Retarders, White 10 Mil	38,860	SF	$0.30	$11,847
60	Insulation, 8" Batt (R30)	38,860	SF	$0.90	$34,834
61	Metal Wall Panel	38,860	SF	$11.03	$428,600
62					
63	**Sheet Metal Flashing and Trim**				
64	Base Flashing	1,202	LF	$5.47	$6,569
65	Coping	1,226	LF	$18.16	$22,260
66	Misc Flashings	1,150	LF	$4.46	$5,134
67					
68	**Windows**				
69	Windows, Insulated Low E Glazing	2,883	SF	$58.75	$169,375
70					
71	**Entrances**				
72	Entrances, Aluminum and Glass	2	SET	$6,474.50	$12,949
73	Add For Power Assist	2	SET	$2,874.50	$5,749
74	Exterior Doors, HM	22	EA	$1,800.00	$39,600
75					
76					
77					
78					
79					
80					
81	**Subtotal: B20 Exterior Enclosure**				**$1,016,607**
82					
83					
84					
85	**B30 Roofing**				
86					
87	**Membrane Roofing**	**105,710**	**SF**		
88	Class C Roofing System	105,710	SF		
89	Gypsum Sheathing	105,710	SF	$1.45	$152,936
90	TPO Membrane	109,315	SF	$2.72	$296,992
91	Simple Saver Roof Insulation System	105,710	SF	$1.55	$164,328
92	Roof Drains	40	EA	$603.35	$24,134
93	Overflow Roof Drains	40	EA	$603.35	$24,134
94					
95					
96					
97					
98					
99					
100	**Subtotal: B30 Roofing**				**$662,524**
101					
102					

Line No.	Description	Qty	UNITS	Unit Cost	Total Cost
103					
104	**C10 Interior Construction**				
105					
106	**Partitions & Doors**				
107	Metal Stud Partitions, Gypsum Board	12,576	SF	$15.81	$198,802
108	Acoustical Insulation	9,432	SF	$0.95	$8,962
109	Interior Doors, Frames and Hardware	23	EA	$2,349.57	$54,040
110	Glazed Partitions, Sidelites - Allow 2% Of Partitions	252	SF	$33.60	$8,467
111	Specialties	6,830	SF	$3.60	$24,588
112					
113					
114	**Subtotal: C10 Interior Construction**				**$294,859**
115					
116					
117					
118	**C20 Stairways**				
119					
120	Stairs, Pan & Concrete	2	FLGT	$10,706.50	$21,413
121	Railings	2	FLGT	$7,270.00	$14,540
122					
123					
124	**Subtotal: C20 Stairways**				**$35,953**
125					
126					
127					
128	**C30 Interior Finishes**				
129					
130	**Floor Finishes**				
131	Carpet	10,330	SF	$5.54	$57,265
132	Seamless Sheet Vinyl	500	SF	$9.15	$4,574
133	Sheet Vinyl Cove	90	LF	$9.15	$822
134	Sealed Concrete	102,000	SF	$1.61	$164,719
135	Ceramic Tile	1,000	SF	$14.39	$14,388
136	Resilient Base	1,264	LF	$2.09	$2,640
137	Rubber Stairs Tread & Skirting	1,000	SF	$13.53	$13,529
138					
139	**Wall Finishes**				
140	Paint	22,826	SF	$1.58	$36,146
141	Ceramic Tile	2,032	SF	$15.23	$30,948
142	Vinyl Wall Coverings, With Wall Prep	1,796	SF	$3.60	$6,467
143					
144	**Ceiling Finishes**				
145	Suspended ACT	11,830	SF	$4.20	$49,686
146	Gypsum Board	2,200	SF	$7.80	$17,160
147	Soffiting	300	SF	$9.60	$2,880
148	Paint Exposed	100,800	SF	$1.44	$145,114
149					
150					
151	**Subtotal: C30 Interior Finishes**				**$546,338**
152					
153					

Line No.	Description	Qty	UNITS	Unit Cost	Total Cost
154					
155	**D10 Conveying Systems**				
156					
157	**New Elevator**				
158	Elevator Pit	1	EA	$8,000.00	$8,000
159	New 2 Stop Hydraulic Elevator	1	EA	$70,000.00	$70,000
160					
161					
162					
163					
164					
165					
166	**Subtotal: D10 Conveying Systems**				**$78,000**
167					
168					
169					
170	**D20 Plumbing Systems**				
171					
172	**Sanitary Fixtures and Connection Piping**				
173	Plumbing Fixtures	20	EA	$1,731.80	$34,636
174					
175	**Sanitary Waste Vent and Service Piping**				
176	Rough-In For Sanitary Fixtures	20	EA	$3,640.00	$72,800
177					
178	**Water Storage and Circulation**				
179	Gas Fired HW Heaters Including Storage, Ancillaries and Flues Serving Entire Building	1	LS	$7,695.00	$7,695
180					
181	**Storm Drainage**	105,710	SF	$0.78	$82,854
182					
183	**Natural Gas Service**				
184	Gas To Mech Room	150	LF	$17.13	$2,570
185	Gas Distribution For Radiant Heating	1,250	LF	$21.65	$27,058
186					
187	**Compressed Air System**				
188	Compressor and Appurtenances	1	LS	$6,500.00	$6,500
189	Air Piping	400	LF	$20.35	$8,138
190					
191	**Testing and Balancing**	1	LS	$3,145.00	$3,145
192					
193					
194					
195					
196					
197					
198					
199					
200					
201	**Subtotal: D20 Plumbing Systems**				**$245,396**
202					
203					

Line No.	Description	Qty	UNITS	Unit Cost	Total Cost
204					
205	**D30 HVAC Systems**				
206					
207	**Heat Generation**				
208	New Boiler, Gas Fired High Efficiency	1,780	MBH	$46.11	$82,079
209					
210	**Gas Fired Unit Heaters**				
211	Co-Ray-Vac. Cost Includes Piping 1,000 MBH Burners, and Fans	25,000	MBH	$4.51	$112,674
212	Add For Seismic Restraints	75	EA	$921.49	$69,112
213					
214	**Heating Distribution**				
215	Reverse Return Piping For Heat Distribution	2,810	LF	$34.05	$95,680
216	Baseboard	790	LF	$99.22	$78,380
217	Cabinet Unit Heaters	3	EA	$2,446.33	$7,339
218	Unit Heaters	4	EA	$1,370.75	$5,483
219	Pumps	400	GPM	$66.77	$26,707
220					
221	**Cooling**				
222	Air Cooled Centrifugal Chiller	30	TONS	$1,300.00	$38,558
223	Cooling Piping	200	LF	$24.34	$4,867
224					
225	**Air Handling Equipment**				
226	**Office Area**				
227	Air Handler, VAV, Includes Coils	16,300	CFM	$5.62	$91,593
228	Filtration	16,300	CFM	$0.65	$10,595
229	Return/Relief Fans	16,300	CFM	$2.53	$41,219
230					
231	**Air Distribution and Return**				
232	Galvanized Steel Ductwork	14,830	SF	$12.32	$182,659
233	Terminal Units, DDC Dual Duct (Average Density 1/700SF)	21	EA	$1,435.76	$30,151
234	Flexible Duct	848	LF	$15.60	$13,229
235	Duct Volume Dampers	106	EA	$65.00	$6,890
236	Fire & Smoke Dampers	4	EA	$2,446.25	$9,785
237	Duct insulation	7,118	SF	$5.01	$35,662
238					
239	**Exhaust Fans**				
240	Toilet Exhaust	2,700	CFM	$1.24	$3,335
241					
242					
243					
244					
245					
246					
247					
248					
249					
250					
251					
252					

Line No.	Description	Qty	UNITS	Unit Cost	Total Cost
253					
254	**Diffusers and Return Air Grilles**				
255	Ceiling Diffusers and Grilles; Average	106	EA	$144.15	$15,280
256	Density 1/140 SF				
257	Roof Hoods W/ Control Dampers at Warehouse	10	EA	$9,511.20	$95,112
258					
259	**Controls and Instrumentation**				
260	New Control Points, Air Terminals and Fans	168	EA	$1,560.00	$262,080
261					
262	**Testing and Balancing**	1	LS	$9,972.00	$9,972
263					
264	**Commissioning**	1	LS	$34,830.00	$34,830
265					
266					
267					
268					
269					
270	**Subtotal: D30 HVAC Systems**				**$1,363,271**
271					
272					
273					
274	**D40 Fire Protection Systems**				
275					
276	**Fire Sprinkler System**				
277	Ordinary Hazard Wet Pipe Sprinkler	14,830	SF	$4.24	$62,829
278	Ordinary Hazard Wet Pipe Sprinkler	100,000	SF	$4.72	$472,186
279					
280					
281					
282					
283	**Subtotal: D40 Fire Protection Systems**				**$535,015**
284					
285					
286					
287	**D50 Electrical System**				
288					
289	**Electrical Service**				
290	Medium Voltage To Site By MEA - Not Included In Estimate				
291	Transformer - Not In Estimate				
292	Meter Base & CT Cabinet	1	EA	$800.00	$800
293	Main Distribution Equipment 480/270V 3 Phase	1,200	AMP	$65.75	$78,894
294	Feeder 1200A	100	LF	$563.25	$56,325
295	Feeder 800A	50	LF	$344.12	$17,206
296	Feeder 400A	100	LF	$171.22	$17,122
297	Sub Distribution Board - 400A	400	AMP	$65.75	$26,298
298	Sub Distribution Board - 800A	800	AMP	$65.75	$52,596
299	Panelboards & Feeders 150-225A	12	EA	$12,244.58	$146,935
300	Transformers 30 KVA	1	EA	$2,913.00	$2,913
301	Transformers 75 KVA	1	EA	$5,397.00	$5,397
302	Transformers 225 KVA	2	EA	$11,174.00	$22,348
303	Grounding	1	LS	$10,125.00	$10,125

Line No.	Description	Qty	UNITS	Unit Cost	Total Cost
304					
305	**Emergency Power**				
306	Generator (Standby)	300	KVA	$777.55	$233,265
307	Fuel Storage	2,000	GAL	$9.29	$18,573
308	Auto Transfer Switch	600	AMP	$21.92	$13,149
309	Auto Transfer Switch	200	AMP	$16.17	$3,234
310	Feeder 600A	100	LF	$190.07	$19,007
311	Feeder 200A	100	LF	$36.34	$3,634
312	Grounding	1	LS	$5,400.00	$5,400
313					
314	**Branch Circuits**				
315	New Receptacles Including Conduit and Wire	180	EA	$229.50	$41,310
316	Wiremold at Viewing Area	50	LF	$41.02	$2,051
317					
318	**Mechanical Equipment Loads**				
319	Motor Controls and Disconnects	114,830	SF	$0.93	$106,965
320					
321	**Lighting**				
322	Fluorescent T8 Lighting	211	EA	$473.40	$99,887
323	Warehouse Lighting, High Bay	316	EA	$1,354.40	$427,990
324	Emergency Lighting System	114,830	SF	$0.53	$60,402
325	Exit Sign	48	EA	$494.38	$23,730
326					
327	**Lighting and Power Specialties**				
328	Lighting Controls	114,830	SF	$0.34	$38,756
329					
330	**Telcomm**				
331	Telcomm Room	1	EA	$22,500.00	$22,500
332	Telcomm Data Outlets	96	EA	$517.15	$49,776
333	Cable Trays System	900	LF	$38.08	$34,271
334					
335	**Fire Alarm**				
336	Fire Alarm, Addressable Devices	114,830	SF	$2.25	$258,368
337					
338	**Security System**				
339	Intrusion Detection System	114,830	SF	$0.75	$86,123
340	Assume Doors, Break Glass, Motion Detection				
341					
342					
343					
344					
345					
346					
347					
348					
349					
350					
351					
352	**Subtotal: D50 Electrical System**				**$1,985,350**
353					
354					

Line No.	Description	Qty	UNITS	Unit Cost	Total Cost
355					
356	**E10 Equipment**				
357					
358	**Rack System**	39,600.00	SF	$60.00	$2,376,000
359					
360	**Subtotal: E10 Equipment**				**$2,376,000**
361					
362					
363					
364	**E20 Furnishings**				
365					
366	**Furnishings**				
367	Viewing Room Casework	144	LF	$324.64	$46,748
368	Window Blinds	2,883	SF	$5.79	$16,682
369					
370	**Subtotal: E20 Furnishings**				**$63,430**
371					
372					
373					
374	**F10 Special Construction**		**NONE**		
375					
376					
377	**Subtotal: F10 Special Construction**				
378					
379					
380					
381	**F20 Selective Demolition**		**NONE**		
382					
383					
384	**Subtotal: F20 Selective Demolition**				
385					
386					
387					
388	**G10 Site Preparation**				
389					
390	**Site Clearing**	6.5	ACRE	$6,600.00	$42,570
391					
392	**Earthwork**				
393	Excavation For Building 18"	7,100	CY	$2.65	$18,830
394	Excavation For Parking 36"	12,500	CY	$2.65	$33,151
395	Excavation For Drives 36"	2,100	CY	$2.65	$5,569
396	Excavation For Walks 36"	1,100	CY	$2.65	$2,917
397	NFS Fill For Building 12"	7,800	TONS	$17.51	$136,558
398	NFS Fill For Parking 30"	18,900	TONS	$17.51	$330,890
399	NFS Fill For Drives 36"	3,800	TONS	$17.51	$66,529
400	NFS Fill For Walks 30"	1,600	TONS	$17.51	$28,012
401					
402					
403	**Subtotal: G10 Site Preparation**				**$665,026**
404					
405					

Line No.	Description	Qty	UNITS	Unit Cost	Total Cost
406					
407	**G20 Site Development**				
408					
409	**Parking and Drives**				
410	Roadway Asphalt 2" W/ 4" Base	9,918	SY	$21.60	$214,226
411	Curb & Gutter	2,430	LF	$17.42	$42,326
412	Cement Concrete Valley Gutter To Catch Basins	300	LF	$17.42	$5,226
413	Accessible Curb Ramp	2	EA	$1,463.50	$2,927
414					
415	**Walks**				
416	Sidewalks	6,008	SF	$5.71	$34,276
417	Sidewalk Plaza	2,500	SF	$5.71	$14,264
418					
419	**Landscape**	1	LS	$50,000.00	$50,000
420					
421					
422					
423	**Subtotal: G20 Site Development**				**$363,245**
424					
425					
426					
427	**G30 Utilities**				
428					
429	**Gas Main**	**400**	**LF**	$40.00	$16,000
430					
431	**Electrical Services - See Electrical**				
432					
433	**Communication Services - See Electrical**				
434					
435	**Water Distribution**				
436	**Water Main 24"**	**1,650**	**LF**		
437	Trench Excavation W/ Hyd. Exc.	7,871	CY	$7.80	$61,429
438	Backfill In Trenches	7,871	CY	$27.76	$218,505
439	Pipe Bedding	978	CY	$31.29	$30,596
440	24" DIP CL 52	1,650	LF	$125.16	$206,519
441	24" DIP Fittings	2	EA	$6,161.00	$12,322
442	Connect To Existing	1	EA	$12,744.00	$12,744
443	24" Butterfly Valve W/ Valve Box	1	EA	$4,961.00	$4,961
444	Trust Blocks	5	EA	$692.80	$3,464
445	Hydrostatic Testing	1,650	LF	$2.90	$4,792
446					
447	**Fire Water 8"**	**400**	**LF**		
448	Trench Excavation W/ Hyd. Exc.	1,189	CY	$7.80	$9,276
449	Backfill In Trenches	1,189	CY	$26.71	$31,739
450	Pipe Bedding	80	CY	$31.29	$2,503
451	8" DIP CL 52	400	LF	$42.18	$16,872
452	8" DIP ELL	1	EA	$512.00	$512
453	Fire Hydrants	2	EA	$4,092.00	$8,184
454	8" Gate Valve W/ Valve Box	3	EA	$1,214.33	$3,643
455	Trust Blocks	7	EA	$229.14	$1,604
456	Hydrostatic Testing	400	LF	$1.45	$581

Line No.	Description	Qty	UNITS	Unit Cost	Total Cost
457					
458	**Building Water Service 8"**	**100**	**LF**		
459	Trench Excavation W/ Hyd. Exc.	297	CY	$7.79	$2,315
460	Backfill In Trenches	297	CY	$26.69	$7,931
461	Pipe Bedding	20	CY	$31.30	$626
462	8" DIP CL 52	100	LF	$43.98	$4,398
463	8" DIP ELL	1	EA	$512.00	$512
464	8" Gate Valve W/ Valve Box	1	EA	$1,214.00	$1,214
465	Trust Blocks	2	EA	$229.00	$458
466	Hydrostatic Testing	100	LF	$1.45	$145
467	Backflow Preventor 8"	1	EA	$8,995.00	$8,995
468					
469	**Sewer**				
470	**Sewer Piping, DI Pipe 8"**	**2,000**	**LF**		
471	Trench Excavation W/ Hyd. Exc.	5,943	CY	$7.80	$46,379
472	Backfill In Trenches	5,943	CY	$26.70	$158,693
473	Pipe Bedding	444	CY	$31.29	$13,905
474	DI Pipe 8" CL50	2,000	LF	$36.72	$73,442
475	Manhole	7	EA	$3,006.00	$21,042
476	Pressure Testing	2,000	LF	$2.18	$4,356
477					
478	**Sewer Piping, DI Pipe 6"**	**140**	**LF**		
479	Trench Excavation W/ Hyd. Exc.	286	CY	$7.81	$2,236
480	Backfill In Trenches	286	CY	$26.71	$7,646
481	Pipe Bedding	31	CY	$31.40	$977
482	DI Pipe 6" CL50	140	LF	$30.60	$4,284
483	Manhole	3	EA	$3,006.00	$9,018
484	Cleanout	1	EA	$1,181.00	$1,181
485	Pressure Testing	140	LF	$2.18	$305
486					
487	**Storm Drainage**				
488	**Storm Drainage**	**905**	**LF**		
489	Trench Excavation W/ Hyd. Exc.	1,850	CY	$7.81	$14,441
490	Backfill In Trenches	1,850	CY	$26.71	$49,411
491	Pipe Bedding	181	CY	$31.31	$5,668
492	18" Storm Drain Line	905	LF	$42.36	$38,336
493	Storm Drain Manholes - Sub Price	9	EA	$2,640.00	$23,892
494	Catch Basins - Sub Price	2	EA	$1,800.00	$3,600
495	Rock Drain	2	CY	$150.50	$301
496					
497	**Roof Drain Pipe To New Storm Drainage**	**160**	LF		
498	Trench Excavation W/ Hyd. Exc.	400	CY	$11.47	$4,586
499	Backfill In Trenches	400	CY	$26.71	$10,682
500	Pipe Bedding	32	CY	$36.03	$1,153
501	4" Roof Drain Line	160	LF	$35.58	$5,693
502	Cleanouts	4	EA	$590.50	$2,362
503					
504	**Subtotal: G30 Utilities**				**$1,176,429**
505					
506					
507					

EXHIBIT E – DOT&PF PROJECT BUDGET

The following Project Budgets will be provided by DOT&PF for incorporation into this report.

EXHIBIT F – GMC AD HOC ADVISORY COMMITTEE MEMBERS

GMC AD HOC ADVISORY COMMITTEE MEMBERS

The organizations represented on the GMC ad hoc advisory committee and attending the USKH programming meeting were:

- Alaska Division of Geological & Geophysical Surveys
- Alaska Division of Oil & Gas
- Alaska Division of Forestry
- Alaska Oil & Gas Conservation Commission
- U.S. Bureau of Land Management
- U.S. Minerals Management Service
- U.S. Geological Survey
- ConocoPhillips
- BP Amoco
- Hite Consultants
- FEX / Talisman Energy,

EXHIBIT G - BOND, STEPHENS & JOHNSON, BROKERS OPINION OF VALUE – EXISTING GEOLOGIC MATERIALS CENTER SITE (APRIL 25, 2006)

BOND, STEPHENS & JOHNSON
COMMERCIAL REAL ESTATE SERVICES

April 25, 2006

Mr. Bruce Schulte
AIA Project Manager
USKH Architects Engineers Surveyors & Planners
2515 A Street
Anchorage, Alaska 99503

Re: Brokers Opinion of Value Existing Geologic Materials Center Site

Dear Mr. Schulte:

At your request I have conducted a review and analysis of the above referenced property located off Fish Hatchery Road north of Eagle River, Alaska. This investigation and analysis was done to develop this Broker's Opinion of Value (BOV). I understand that the purpose of this BOV is to assist USKH in the project being done for the State of Alaska known as DOT-GeoStorage.

The subject property is reported to consist of an approximately 11.423-acre portion of R-2A SL (Two-family residential-large lot with Special Limitations) zoned land with five buildings attached. The site is located to the north of Fish Hatchery Road north of Eagle River, Alaska. Maps of the site area are attached to and are a part of this BOV. Access to the parcel is available directly from Fish Hatchery Road off the Old Glenn Highway. All utilities are available to the site although most of the small storage buildings do not have water or sewer provided. It appears from the Anchorage Wetlands Management Plan map that the site is not included in any wetlands designation area. However an existing stream traverses the site at the south edge and is included in the Anchorage Coastal Management Plan. We have not obtained any specific soils condition information, however, and our estimate of value will assume that the site is developable and does not include any environmental problems.

Parcels of the above listed zoned land currently listed for sale shows no current listings. However several parcels that were listed for sale and have now been cancelled develop an unadjusted range in value of $24,000 per acre (AC). Comparable parcels of land that have sold recently develop an unadjusted range in value of $9,708 AC - $14,500 AC. Some of the sold parcels were of considerably smaller size than the subject.

Consideration of the comparable cancelled land listings and especially sales and the known attributes of the subject leads me to an estimate of current market value of the land as vacant and available for sale of $14,000. per-acre. That leads to a parcel value estimate as of April 20, 2006, the date of inspection, of $159,922, rounded to **$160,000**.

3201 C Street, Suite 200, Anchorage, Alaska 99503 Telephone: 907-563-7733 FAX: 907-561-8929
e-mail: bsj@bsjalaska.com Home Page: http://www.bsjalaska.com

The main building on site is a metal warehouse with 6,232 SF of space and a small basement area. The building has a more than adequate poured concrete foundation and floor since it was originally used as a fish hatchery. The other four buildings are a 1,280 SF metal warehouse, a 1,672 SF frame building, known as the White Building, a 3,552 SF 2-story building, known as the Green Building and a 2,080 SF frame 2-story building, known as the Brown Building. All of these four buildings have been converted to storage only and some are not served by all utilities. Due to the condition, structure and use of these four buildings they will be given a contribution value of $30.00 SF for a total contribution value of $257,520. Extrapolating warehouse/shop-building sales in the area leads to an unadjusted range in value of $52.19 - $69.74 SF. Extrapolation is the process of estimating the land value and deducting that from the improved property sales price to develop an estimate of building value. The same process with current listings of comparable buildings in the area develops an unadjusted range in value of $43.17 - $88.59 SF.

My analysis of the comparable improved property sales and listings in the area leads me to an estimate of the main building current market value as of April 20. 2006 of $50.00 SF. That leads to a current market value of the main building of $311,600. Combining that with the contribution value of the other four building of $257,520. develops an improvement value estimate of $569,120.00. Combining the improvement value with the land value estimate of $160,000.00 develops a value estimate of the total subject parcel as of April 20, 2006 of $729,120, rounded to **$730,000.00.**

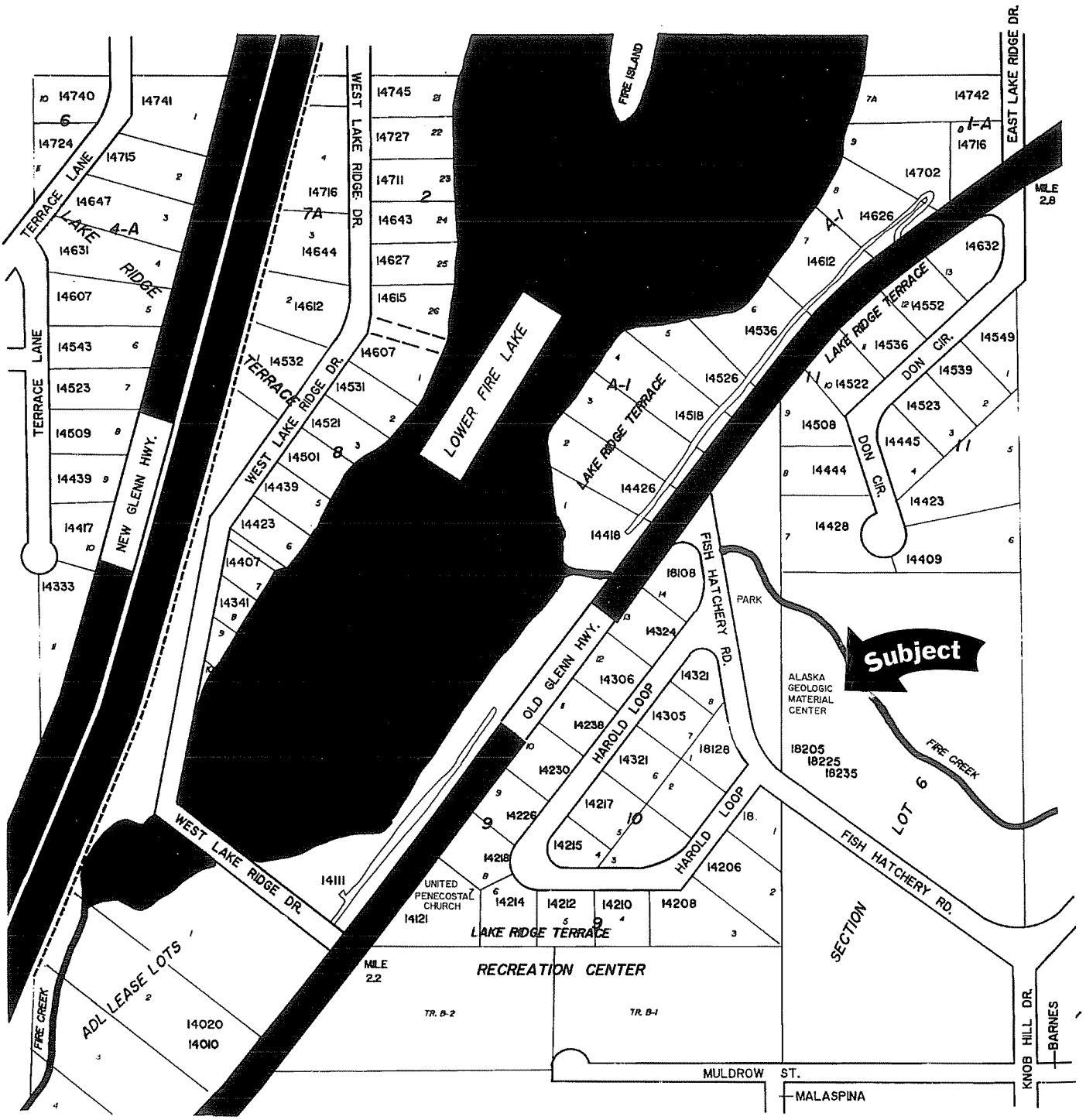
The existence of hazardous waste or other environmental concerns would adversely affect my estimate of value. We have not been advised of the environmental condition of the property and have no way of knowing currently if there are any environmental concerns with the subject property.

I hope that this initial valuation and BOV assist you and the State of Alaska in your project. If you have any questions regarding the preparation of this BOV or my opinion of value please do not hesitate to call my directly.

Sincerely,

E. Michael McElligott, MBA

Associate Broker

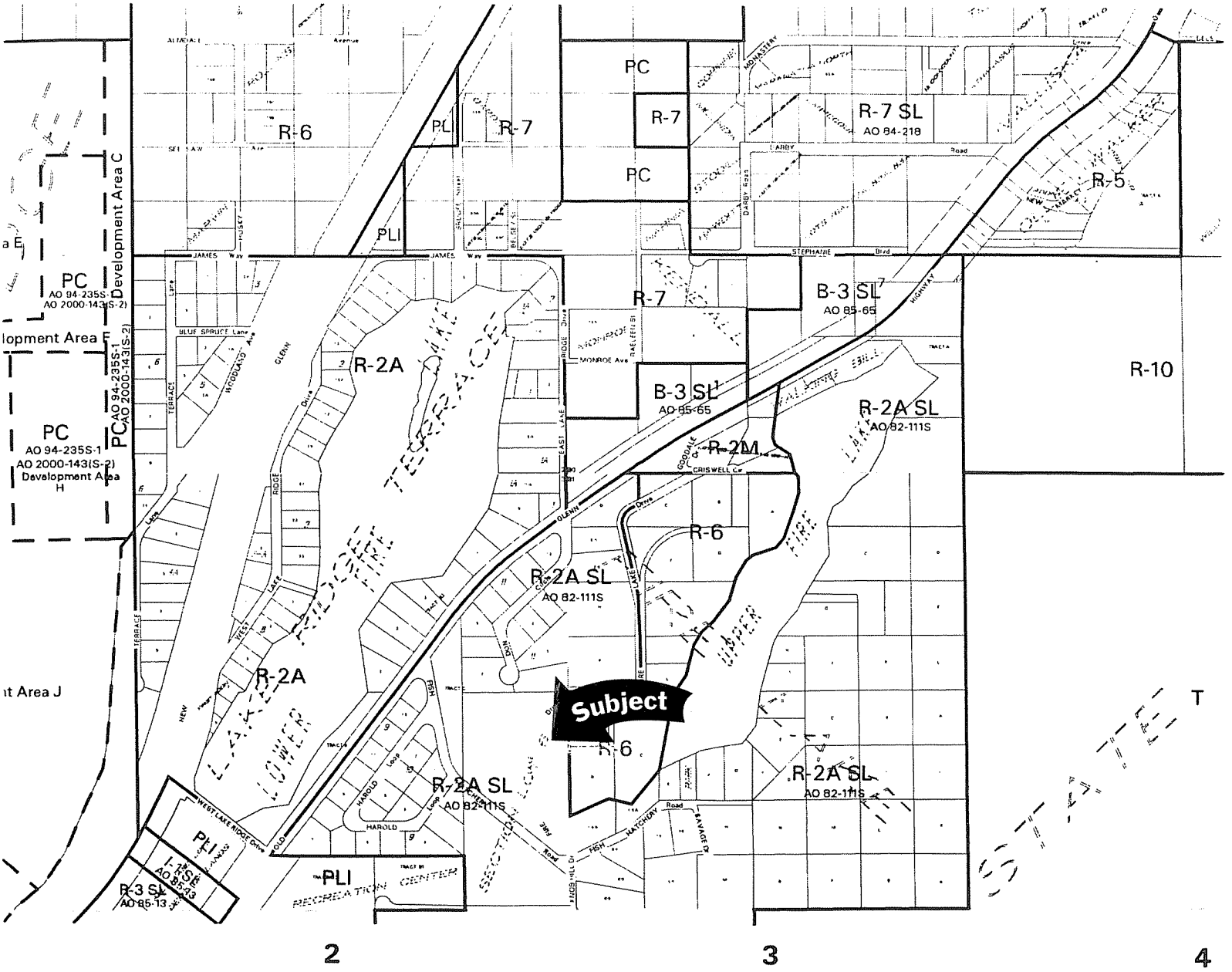


NW 553

NE 1/4 SEC. 36, T15N R2W

66
69A 71
75

EAGLE RIVER/CHUGIAK AREA REFERENCE MAP - IC



Municipal Zoning Map

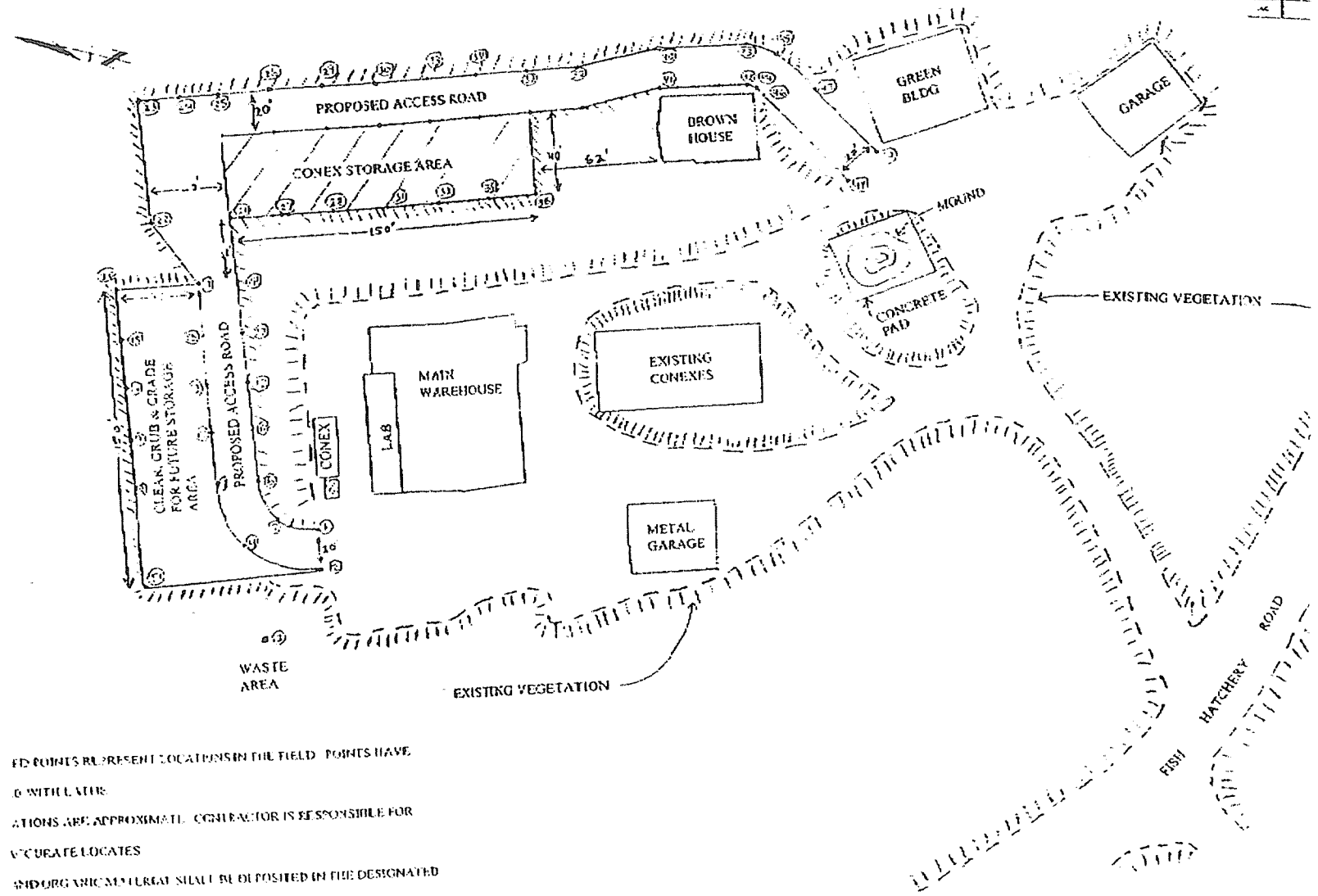
Zoning Legend

PLI	Public Lands and Institutions District
PLI-p	Public Lands and Institutions District-Park
R-1	One-Family Residential District
R-1A	One-Family Residential District
R-2A	Two-Family Residential District
R-2D	Two-Family Residential District
R-2M	Multiple-Family Residential District
R-3	Multiple-Family Residential District
R-4	Multiple-Family Residential District
R-5	Rural Residential District
R-5A	Rural Residential District(large lot)
R-6	Suburban Residential District(large lot)
R-7	Intermediate Rural Residential District
R-8	Rural Residential District(large lot)
R-9	Rural Residential District
R-10	Residential Alpine/Slope District
R-11	Turnagain Arm District
D-2	Residential Development District
D-3	Residential Development District
R-0	Residential Office District
B-1A	Local and Neighborhood Business District
B-1B	Community Business District
B-2A	Central Business District Core
B-2B	Central Business District Intermediate
B-2C	Central Business District Periphery
B-3	General Business District
B-4	Rural Business District
I-1	Light Industrial District
I-2	Heavy Industrial District
I-3	Rural Industrial District
W	Watershed District
T	Transition District
PC	Planned Community District
AF	Antenna Farm District
MC	Marine Commercial District
MI	Marine Industrial District
SL	Special Limitations(see referenced ordinance for specifics)

100 year floodplain

500 year floodplain

400 Airport Height Ordinance Depicts F.A.R. Part 77 (20' height contour intervals unless otherwise noted)



ED POINTS REPRESENT LOCATIONS IN THE FIELD. POINTS HAVE

D WITH LATER.

ATIONS ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR

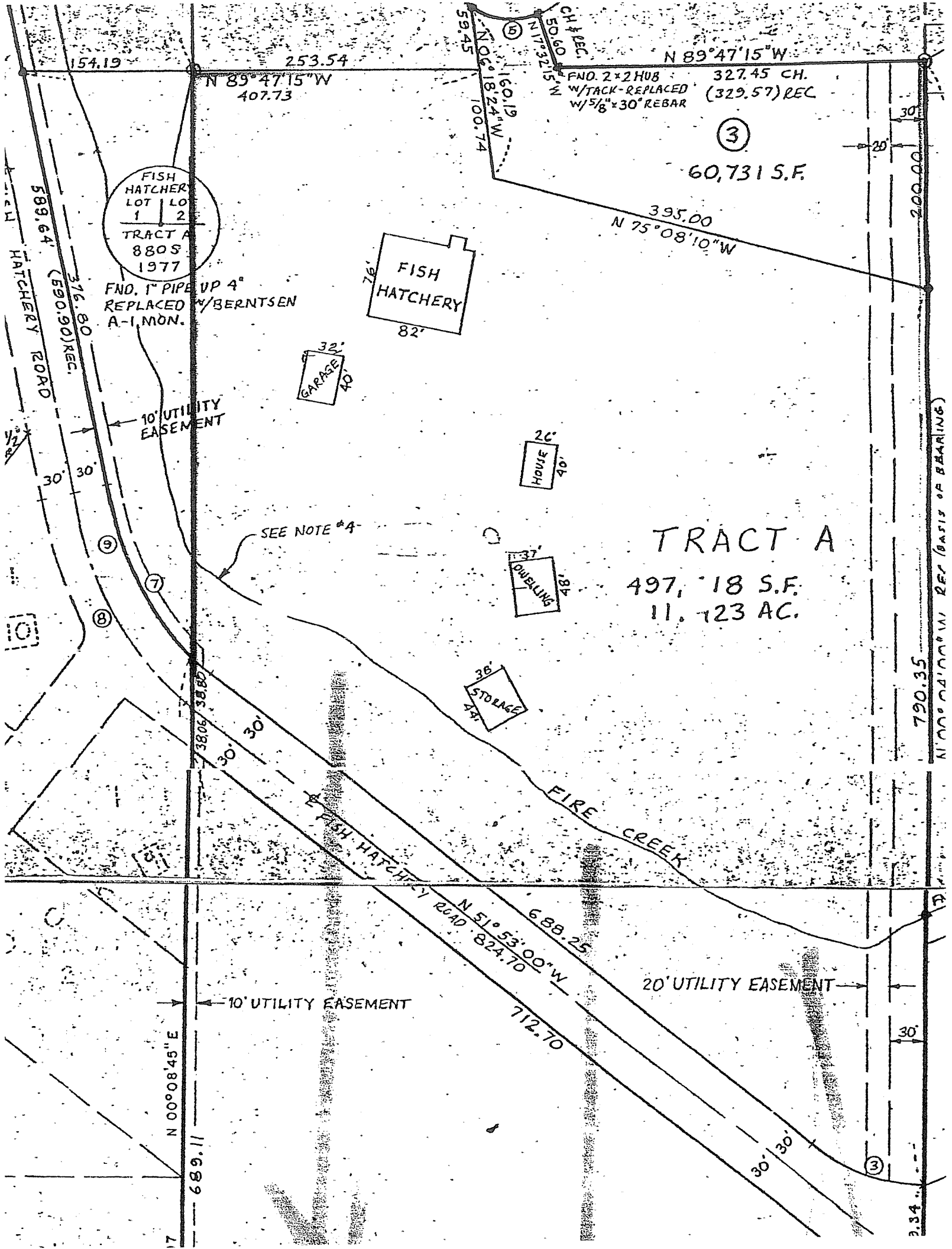
CURATE LOCATES.

NDORGANIC MATERIAL SHALL BE DEPOSITED IN THE DESIGNATED

REA.

MENT OF NATURAL RESOURCES ARKS AND OUTDOOR RECREATION STATE OF ALASKA	ALASKA GEOLOGIC MATERIALS CENTER PROJECT NO. 1111		SITE PLAN

Post-it® Fax Note 7671		Date 8/18	# of pages ▶ 1/1
To John Reeder		From Chris Wolpert	
Co./Dept. DNR/DGGS		Co. DNR/DPOR	
Phone # 696-0079		Phone # 269-8742	
Fax # 696-0078		Fax # 269-8917	


154.19
253.54
N 89°47'15"W
407.73
59.45
N 06°18'24"W
160.19
100.74
CH & REC.
50.60
N 17°32'15"W
N 89°47'15"W
327.45 CH.
(329.57) REC
FND. 2"x2" HUB W/TACK-REPLACED W/5/8"x30" REBAR
FISH HATCHERY LOT 1 LOT 2 TRACT A 880 S 1977
FND. 1" PIPE UP 4" REPLACED W/BERNTSEN A-1 MON.
589.64'
376.80
(590.90) REC.
HATCHERY ROAD
10' UTILITY EASEMENT
30'
30'
FISH HATCHERY
76'
82'
GARAGE
32'
40'
HOUSE
26'
40'
DWELLING
37'
48'
SEE NOTE #4
TRACT A
497,718 S.F.
11.423 AC.
STORAGE
36'
44'
380.6
38.80
30'
30'
FIRE CREEK
FISH HATCHERY ROAD
N 51°53'00"W
824.70
688.25
712.70
20' UTILITY EASEMENT
10' UTILITY EASEMENT
N 00°08'45"E
689.11
30'
30'
30'
20'
200.00
395.00
N 75°08'10"W
790.35
3.34
(3)
(5)
(7)
(8)
(9)

BOND, STEPHENS & JOHNSON
COMMERCIAL REAL ESTATE SERVICES
E. MICHAEL MCELLIGOTT, MBA
2431 Loussac Drive
Anchorage, Alaska 99517
(907) 243-5060

PERSONAL

Born in Anchorage, Alaska. Married 41 years, three children. Licensed Real Estate Associate Broker, State of Alaska, No.14452. Was Certified General Real Estate Appraiser, State of Alaska, No. AA87. Hobbies; hunting, fishing, cross country skiing, biathlon

EDUCATION

West Anchorage High School, graduated 1962. Alaska Methodist University , Anchorage, Business Administration/Economics, B.S., 1967. University of Oregon, Graduate School of Business/Real Estate, M.B.A., 1972.

EXPERIENCE

June, 1996 – Present - Bond, Stephens & Johnson, Inc. Associate Broker specializing in commercial real estate sales, leasing and investment and analysis.

September, 1993 - May, 1996 - Real Estate Specialist, Heritage Land Bank. Established an aggressive marketing program at the H.L.B. Acting Director of department from June, 1994 to July, 1995. Duties included all phases of H.L.B. activities including sales processing, management transfers of authority and property management of H.L.B. inventory. Marketing program resulted in over $2 million in sales of more than 25 parcels of excess municipal land.

January, 1990 - August, 1993 - Review Appraiser, F.D.I.C., Anchorage. Reviewed real estate appraisals to assure completeness and accuracy. Processed up to 200 appraisals annually to analyze and determine compliance with FIRREA and USPAP requirements. As Environmental Response Coordinator during 1993, developed remediation/management plans for environmental encumbrances.

January, 1985 - January, 1990- Construction and Mortgage Loan Officer, Staff/Review Appraiser, Property Manager, First Federal Bank of Alaska, S.B. Managed construction loan department for two years. Performed loan initiation to construction completion and long term take-out. Conducted inspections for compliance with plans and budgets for residential construction projects. Monitored construction loans and disbursed loan proceeds. Created and instituted bank appraisal policy. Managed bank REO commercial properties from 1988-1990.

January, 1980 - January, 1985 - Self-employed, Independent Fee Appraiser, Anchorage. Provided commercial and residential appraisal services on a contract basis throughout Alaska.

June, 1972 - December, 1979 - CEO, Automotive Parts & Equipment Company, Inc. Anchorage. Managed statewide retail/wholesale family owned business encompassing 17 stores. Annual gross sales averaged $16 million with up to 175 personnel.

EXHIBIT H - BOND, STEPHENS & JOHNSON, BROKERS OPINION OF VALUE – NEW GEOLOGIC MATERIALS CENTER SITE (MARCH 23, 2006)

BOND, STEPHENS & JOHNSON
COMMERCIAL REAL ESTATE SERVICES

March 23, 2006

Mr. Bruce Schulte
AIA Project Manager
USKH Architects Engineers Surveyors & Planners
2515 A Street
Anchorage, Alaska 99503

Re: Brokers Opinion of Value Proposed Geologic Materials Center Site

Dear Mr. Schulte:

At your request I have conducted a review and analysis of the above referenced property located near Hesterberg Road south of Eagle River Alaska. This investigation and analysis was done to develop this Broker's Opinion of Value (BOV). I understand that the purpose of this BOV is to assist USKH in the project being done for the State of Alaska known as DOT-GeoStorage.

The subject property is reported by USKH to consist of a 9.5-acre portion of PLI (Public Lands and Institutions) zoned vacant land. The site is located to the east of the frontage road of the Glenn Highway, south of Eagle River, Alaska. Maps of the site area provided by USKH are attached to and are a part of this BOV. Access to the parcel appears to be available from an un-named road off the frontage road to the Eagle River-State Maintenance Facility or directly from Hesterberg Road. Most utilities appear to be available to the site although the limited information provided does not include verification of that. It appears from the Anchorage Wetlands Management Plan map that the site is not included in any wetlands designation area. We have not obtained any specific soils condition information, however, and our estimate of value will assume that the site is developable for the purposes of the State of Alaska and does not include any environmental problems. The State of Alaska would be well advised to obtain specific and complete information about soils conditions and utilities and access availability at the site.

Due to almost total lack of large parcel listings and sales of PLI zoned land in the vicinity of the site we will use several R-1, R-2, R-6, R-7 and PLI zoned parcels from Eagle River and Anchorage for comparison purposes. Large parcels of the above listed zoned land currently listed for sale in the area develops an unadjusted value of $3.41 - $10.97 SF. Comparable large parcels of land that have sold recently develop an unadjusted range in value of $.60 - $4.81 SF or $26,136 - $209,523 AC. The upper end of this range appears to be for parcels proposed for development as single family subdivisions.

3201 C Street, Suite 200, Anchorage, Alaska 99503 Telephone: 907-563-7733 FAX: 907-561-8929
e-mail: bsj@bsjalaska.com Home Page: http://www.bsjalaska.com

Consideration of the comparable land listings and especially sales and the known attributes of the subject leads me to an estimate of current market value of the vacant land of $1.00 per square foot or $43,560. per acre. That leads to a parcel value estimate as of March 22, 2006 of $413,820, rounded to **$415,000**.

I want to emphasize that this estimate of value is based on the assumption that the site can be economically developed for the use intended by the State of Alaska. If the soil conditions or cost to extend access road or public utilities makes the site unsuitable for economical development for the State of Alaska proposed use then my estimate of value could be substantially decreased. In addition the existence of hazardous waste or other environmental concerns would adversely effect my estimate of value.

I hope that this initial valuation and BOV assist you and the State of Alaska in your project. If you have any questions regarding the preparation of this BOV or my opinion of value please do not hesitate to call my directly.

Sincerely,

E. Michael McElligott, MBA

Associate Broker

BOND, STEPHENS & JOHNSON
COMMERCIAL REAL ESTATE SERVICES
E. MICHAEL MCELLIGOTT, MBA
2431 Loussac Drive
Anchorage, Alaska 99517
(907) 243-5060

PERSONAL

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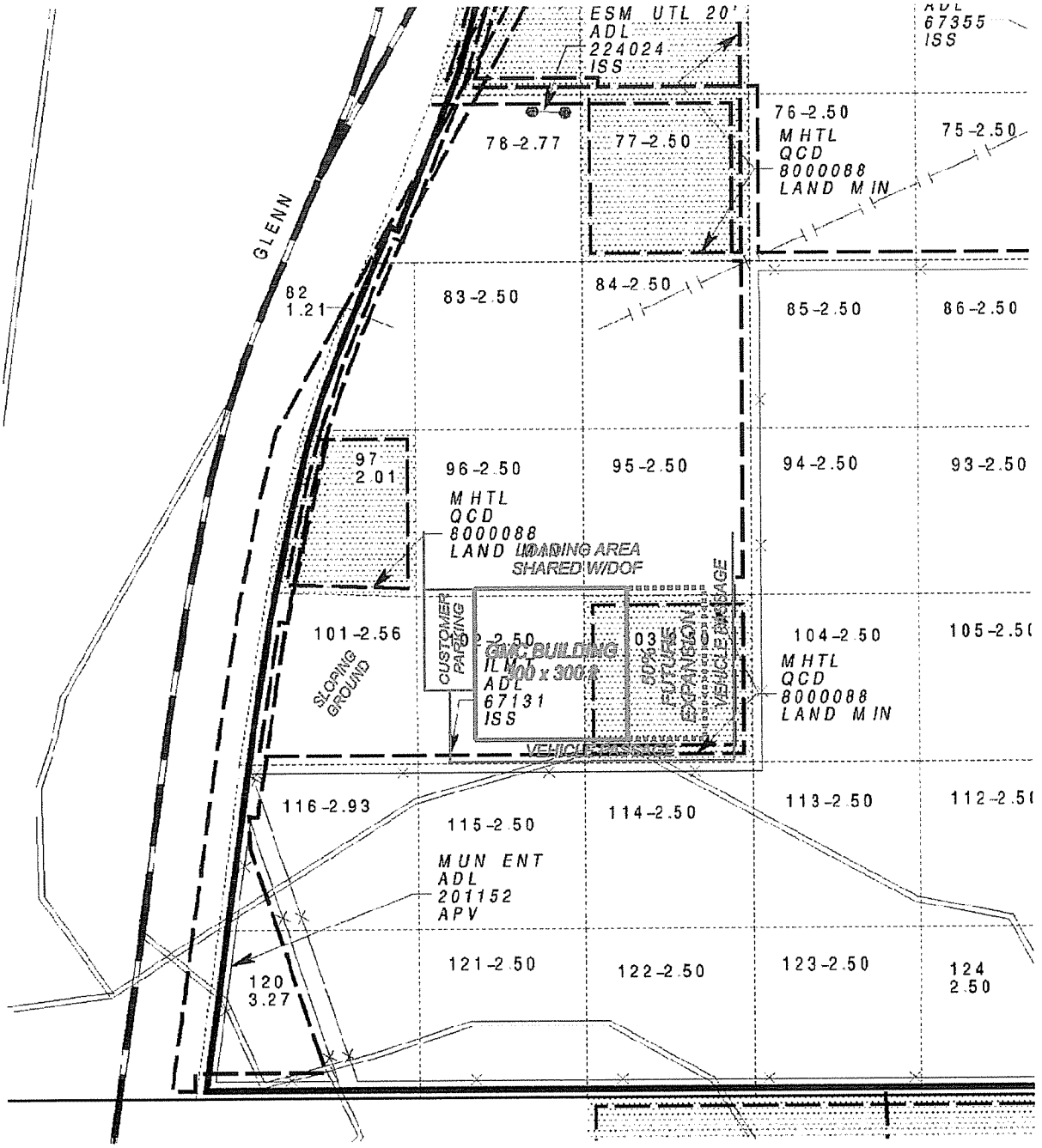
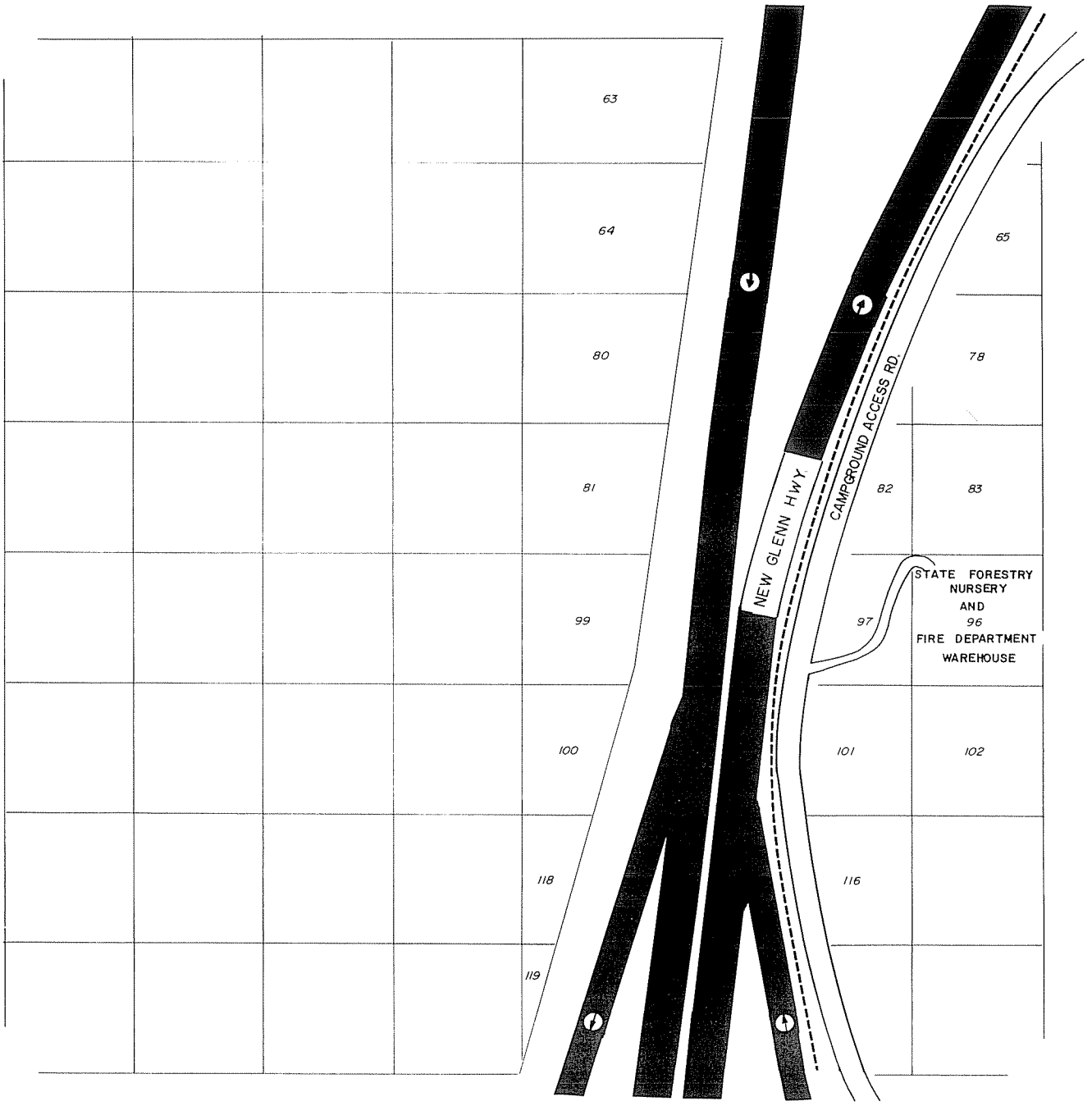
June, 1972 - December, 1979 - CEO, Automotive Parts & Equipment Company, Inc. Anchorage. Managed statewide retail/wholesale family owned business encompassing 17 stores. Annual gross sales averaged $16 million with up to 175 personnel.



SCALE

1 inch = 400 feet

400 300 200 100 0 500 800 FEET



SW 150

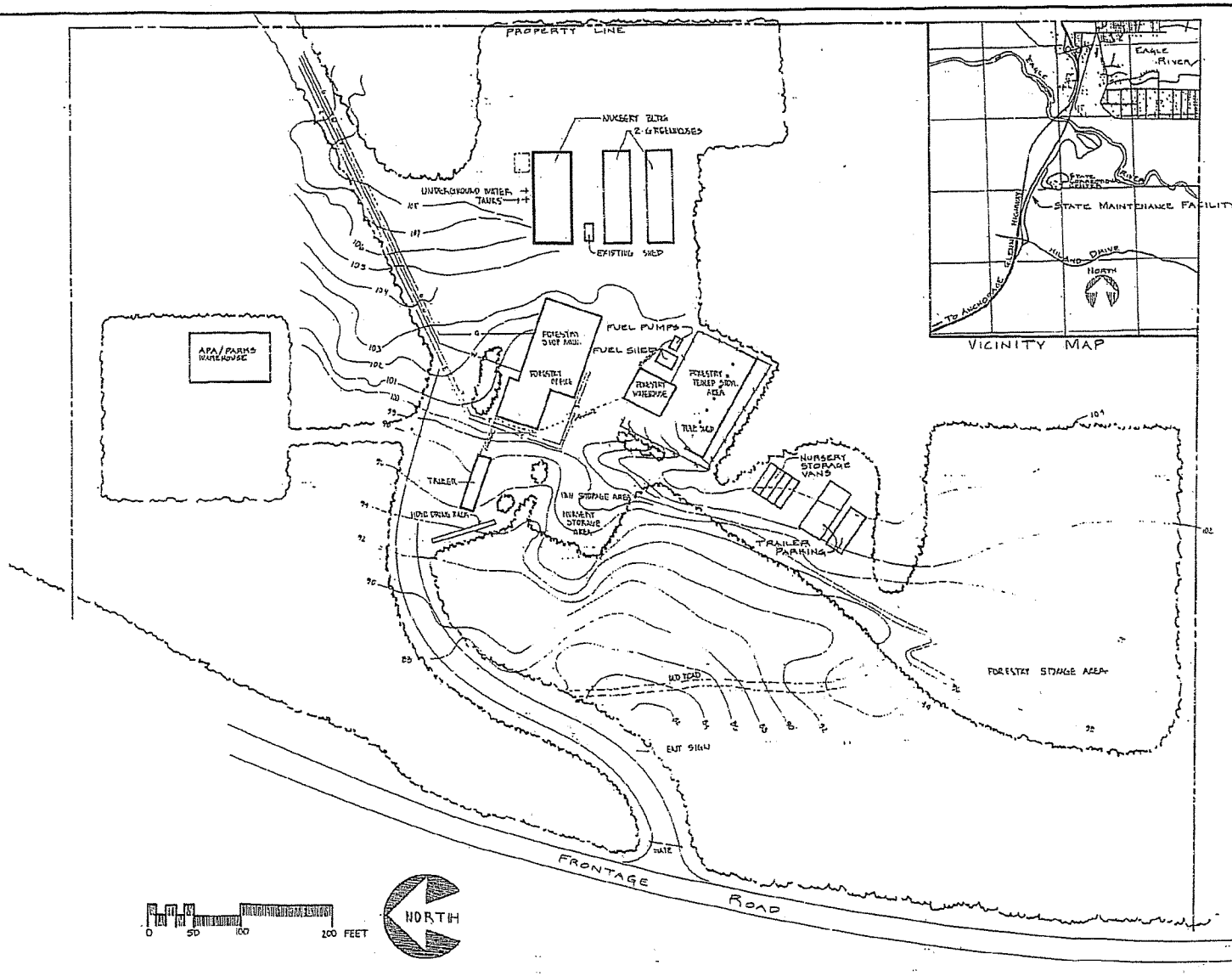
104

Eagle River/Chugiak Area Reference Map—1C

116

124

115



DESIGNED BY WILLIAM L. EVANS II

DEPARTMENT OF NATURAL RESOURCES DIVISION OF PARKS AND OUTDOOR RECREATION STATE OF ALASKA	EAGLE RIVER-STATE MAINTENANCE FACILITY FORESTRY - PARKS - FISH & GAME	EXISTING CONDITIONS	PREPARED: BALL II DRAWN: BALL II REVIEWED DATE: NOV. 67	SHEET 1 OF TWO SHEETS

EXHIBIT I – BOND, STEPHENS & JOHNSON, BROKERS OPINION OF VALUE – MARKET SURVEY (JULY 19, 2006)

BOND, STEPHENS & JOHNSON
COMMERCIAL REAL ESTATE SERVICES

July 19, 2006

Mr. Robert Kaye, AIA
Architectural Project Manager
USKH, Inc.
2515 A Street
Anchorage, Alaska 99503

Re: Geological Materials Center

Dear Mr. Kaye:

At your request I have completed a market survey to determine available sites that may meet the standards for the Geological Materials Center proposed by the State of Alaska, Department of Transportation. These sites may meet the requirements of the Department of Transportation as outlined by the Department as a possible alternative to the new facility proposed for construction.

I have searched the market data available for the Municipality of Anchorage (including Eagle River and Chugiak) and the Matanuska Valley area (Palmer-Wasilla) within 60-70 minutes drive time from downtown Anchorage. I have searched for all available 50,000-100,000 SF facilities (somewhat in excess of the requested sites just to be thorough) and have found the following sites available for sale or lease.

For sale at $3,750,000 is the facility at 128-240 W. 1st Avenue in Anchorage. This is the site of Odom Corporation's warehouse and offices currently used for the distribution of their products (Coca-Cola etc.) This facility comprises 77,880 SF and could possibly be sold with somewhat less overall space. It is the only facility available for sale within the parameters of the Geological Materials Center as outlined.

Available for lease are two sites in Anchorage. At 2320 N. Post Road is a 58,000 SF warehouse/shop facility listed at $0.95 SF month. At 6689 Seafood Drive is up to 57,310 SF of space for lease with various terms. This facility would appear to be problematic for a long term lease proposal.

I have contacted K.B. Tompkins, Manager at the Cottonwood Creek Mall in Wasilla and obtained the following information. The Mall is scheduled to be sold by September, 2006 and they can't do any leasing until then. The largest space they have is 45,706 SF and they were previously leasing it at $1.25 SF. That seems pretty pricey for what the SOA wants but is was a possibility worth checking. I consider this a remote possibility as an alternative site.

3201 C Street, Suite 200, Anchorage, Alaska 99503 Telephone: 907-563-7733 FAX: 907-561-8929
e-mail: bsj@bsjalaska.com Home Page: http://www.bsjalaska.com

These sites are the only sites available for sale or lease that are offered on the Multiple Listing Service or our records that are currently available that may meet the requirements of the Department of Transportation for a Geological Materials Center.

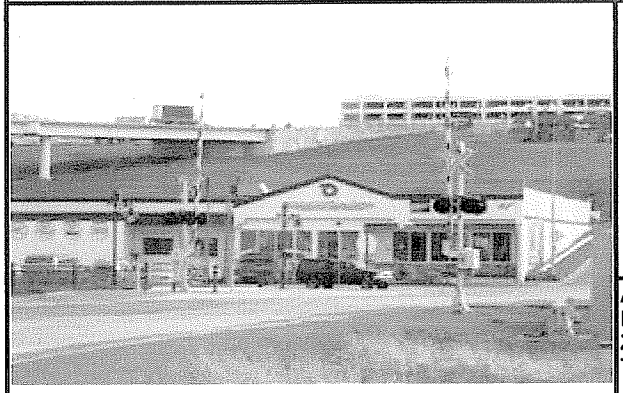
I have included with this letter a copy of the MLS information page regarding each of the sites except the Cottonwood Creek Mall. That site is not listed as available at this time.

I would be pleased to answer any questions USKH may have regarding this market search.

Sincerely,

E. Michael McElligott, MBA
Associate Broker

Address: 128&240 W 1st Avenue



Listing #	02-111396	**Status**	Active
LO Cntrl #	02-1031	**Near**	Anchorage
Price-List	$ 3,750,000	**Type**	Commercial
Zip Code	99501	**Building Status**	
Property Use	Mixed Use	**Year Built**	1967
Construction Status	Existing Structure		

Area: 5 - Downtown Anchorage
Legal: ARR lots Original Townsite Anc
Zoning: I1 - Light Industrial
Tax ID: 0020728000001

SF-Bldg	77,880	**SF-Lot**	140,581	**Taxes**	
SF-Bldg Source		**SF-Lot Source**		**Tax Year**	
Grid # (Muni Anch)	SW1230	**Acres**	3.23	**Tax Map #-Mat-Su**	N/A

Directions: South on A Street to 1st Avenue, left on 1st Ave; corner of 1st & C Street

Public Remarks: These are the Odom Corp. Warehouses at 1st Ave. & C St. Provide mix of dock high & grade level doors. High cube warehouse buildings with office. Excellent location. Sale subject to Odom Corp. construction of new distribution facility. Contact Listing Agent for more information. Port Area.

Confidential: Contact listing agent for overview & information on the many details of these properties.

Building Info: Building Name: Anchorage Cold Stora
Primary Space: Warehouse/Shop; Office; Office/Retail
Fuel Type: Natural Gas; Electric

Sewer: Public
Water: Public
Access: Dedicated Road; Maintained; Paved
To Show: Appointment Only; Call Lstng Licensee
Documents: Package Available

Features-Commercial: 3 Phase Electric; On-Site Parking; In City Limits

Price-Original Price	$ 3,750,000	**Date-Listing**	9/25/2002	**DOM**	1392
Commission to SO	2.50	**Contract Type**	Exclusive Right to Sell-No Excl	**Commission Type**	Percentage

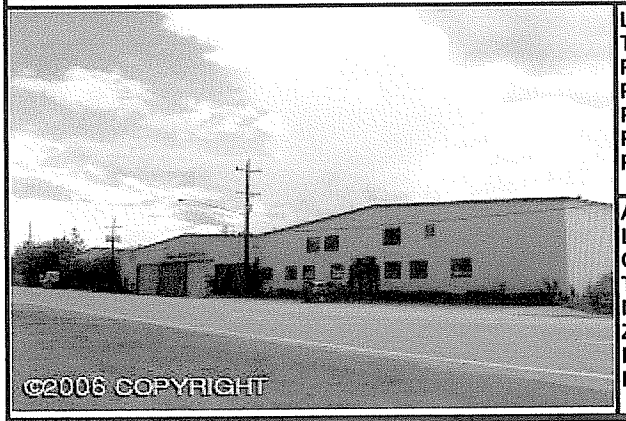
LL1: Chris Stephens, CCIM (907) 786-7305 (907) 786-7326
LO: Bond, Stephens & Johnson (907) 563-7733
LL2: Greg L Johnson of Bond, Stephens & Johnson (907) 786-7301 (907) 229-7101 (907) 563-4626

Provided as a courtesy of
Michael McElligott
Bond, Stephens & Johnson
3201 C Street #200
Anchorage,AK 99503

Office - (907) 563-7733
Mobile - (907) 240-8680
Direct - (907) 786-7314
mike@bsjalaska.com

Prepared by Michael McElligott on Tuesday, July 18, 2006 8:21 AM
The information on this sheet has been made available by the MLS and may not be the listing of the provider.

Address: 2320 N Post Road



List#: 06-8030
Type: Commercial Lease
Primary Space: Warehouse/Shop
PS Rent-Min Mth $/SF: 0.95
PS SF - Total Avail: 58000
PS SF-Max Contiguous: 58000
PS SF-Min Avail: 18283

Status: Active
Property Use: Mixed Use
Secondary Space:
SS Rent-Min Mth $/SF:
SS SF - Total Avail:
SS SF-Max Contiguous:
SS SF - Min Avail:

Area: 5 - Downtown Anchorage
Legal: ARR 5305 Post Rd Industrial L35-37
Grid# (Muni Anch): SW1134
Tax Map # - Mat-Su: N/A
Near: Anchorage
Zip Code: 99501
Borough/Census Area: 1A - Anchorage Municipality
Region: 1 - Southcentral Alaska Region

Zoning: I2 - Heavy Industrial **Latitude:** 61.228800 **Longitude:** -149.838208	**SF-Lot:** 90169 **Acres:** 2.07 **SF-Lot Source:**	**Property Contact:** Stuart Bond **Contact Phone#:** **Lessor's Name:**
Building Info: Year Built: 1975; SF Building Apx: 57000		
Comm Pd to Lease Ofc: %: 2.50 **When Comm Paid:** Other - See Remarks		**To Show:** Call Lstng Licensee

Directions: E on 5th Avenue, N on Reeve Boulevard, W on Post Road, building will be on the left.

Public Remarks: Three bays, up to 58,000 square feet available for lease. Listing agent has a partial ownership interest in the property.

Confidential Remarks:

Date-Listing: 6/1/2006 **Date-Status Change:** 6/2/2006	**Date-Expiration:** **Contract Type:** Exclusive Right to Lease-No Excl	**DOM:** 47 **LO Cntrl #:** 06-2008

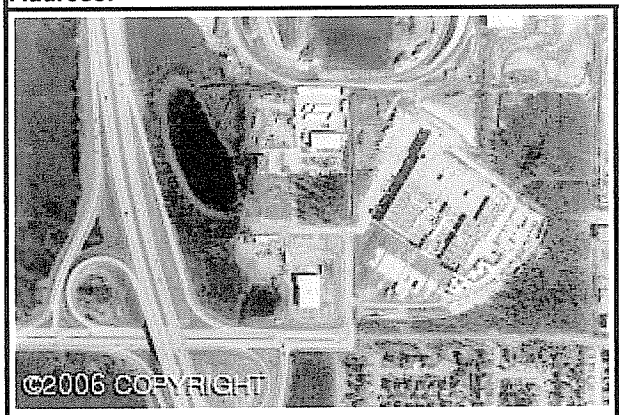
LL1: Stuart Bond, CCIM (907) 786-7303 (907) 229-0266 (907) 563-4064
LO: Bond, Stephens & Johnson (907) 563-7733

Provided as a courtesy of
Michael McElligott
Bond, Stephens & Johnson
3201 C Street #200
Anchorage,AK 99503

Office - (907) 563-7733
Mobile - (907) 240-8680
Direct - (907) 786-7314
mike@bsjalaska.com

Prepared by Michael McElligott on Tuesday, July 18, 2006 8:03 AM

Address: 6689 Seafood Drive



List#: 06-8068
Type: Commercial Lease
Primary Space: Warehouse/Shop
PS Rent-Min Mth $/SF: 1.25
PS SF - Total Avail: 57310
PS SF-Max Contiguous: 57310
PS SF-Min Avail: 9910

Status: Active
Property Use: Mixed Use
Secondary Space:
SS Rent-Min Mth $/SF:
SS SF - Total Avail:
SS SF-Max Contiguous:
SS SF - Min Avail:

Area: 15 - W Tudor Rd - Dimond Blvd
Legal: Alaska Seafood International Tr A FL2
Grid# (Muni Anch): SW2029
Tax Map # - Mat-Su: N/A
Near: Anchorage
Zip Code: 99518
Borough/Census Area: 1A - Anchorage Municipality
Region: 1 - Southcentral Alaska Region

Zoning: I1 - Light Industrial **Latitude:** 61.160783 **Longitude:** -149.904230	**SF-Lot:** **Acres:** **SF-Lot Source:**	**Property Contact:** Hogan Smelker **Contact Phone#:** 907-770-7664 **Lessor's Name:** ChangePoint
Building Info: Year Built: 1998; Building Name: ChangePoint	**Primary Space:** # Dock High Doors: 5; # Grade Lvl Doors: 1; # of Floors: 1	
	Heat Type: Unknown - BTV **Construction Type:** Metal; Concrete **Flooring Type:** Slab **Walls:** Unknown - BTV	
Comm Pd to Lease Ofc: $: 3; % Tlt Gross Ls Amt **When Comm Paid:** % on Occup of Lease	**Lease Terms:** Lease All or Part **Documents:** Floor Plan	**To Show:** Appointment Only; Call Lstng Licensee; Call Listing Office; Call Property Cont.; Vacant

Directions: Off Raspberry at Minnesota Bypass

Public Remarks: Bright and clean high ceiling warehouse space with dock doors behind ChangePoint in the back of the old Alaska Seafood Plant building. Quick access to anywhere off Raspberry at Minnesota Bypass. 32,100 sq ft available for up to 18 months. 25,210 sq ft available up to 5 years. Lease rate includes all utilities except phone. 9,470 sq ft can be cooler or freezer. Fully sprinklered.

Confidential Remarks:

Date-Listing: 6/1/2006 **Date-Status Change:** 6/2/2006	**Date-Expiration:** **Contract Type:** Exclusive Right to Lease-No Excl	**DOM:** 47

LL1: Edward Zehrung (907) 770-7667 (907) 229-1565 (907) 868-4639
LO: EZ, LLC (907) 770-7639
LL2: Hogan Smelker of EZ, LLC(907) 244-8730 (907) 868-4639

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Bond, Stephens & Johnson
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Anchorage,AK 99503

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Mobile - (907) 240-8680
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mike@bsjalaska.com

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The information on this sheet has been made available by the MLS and may not be the listing of the provider.

BOND, STEPHENS & JOHNSON
COMMERCIAL REAL ESTATE SERVICES
E. MICHAEL MCELLIGOTT, MBA
2431 Loussac Drive
Anchorage, Alaska 99517
(907) 243-5060

PERSONAL

Born in Anchorage, Alaska. Married 41 years, three children. Licensed Real Estate Associate Broker, State of Alaska, No.14452. Was Certified General Real Estate Appraiser, State of Alaska, No. AA87. Hobbies; hunting, fishing, cross country skiing, biathlon

EDUCATION

West Anchorage High School, graduated 1962. Alaska Methodist University , Anchorage, Business Administration/Economics, B.S., 1967. University of Oregon, Graduate School of Business/Real Estate, M.B.A., 1972.

EXPERIENCE

June, 1996 – Present - Bond, Stephens & Johnson, Inc. Associate Broker specializing in commercial real estate sales, leasing and investment and analysis.

September, 1993 - May, 1996 - Real Estate Specialist, Heritage Land Bank. Established an aggressive marketing program at the H.L.B. Acting Director of department from June, 1994 to July, 1995. Duties included all phases of H.L.B. activities including sales processing, management transfers of authority and property management of H.L.B. inventory. Marketing program resulted in over $2 million in sales of more than 25 parcels of excess municipal land.

January, 1990 - August, 1993 - Review Appraiser, F.D.I.C., Anchorage. Reviewed real estate appraisals to assure completeness and accuracy. Processed up to 200 appraisals annually to analyze and determine compliance with FIRREA and USPAP requirements. As Environmental Response Coordinator during 1993, developed remediation/management plans for environmental encumbrances.

January, 1985 - January, 1990- Construction and Mortgage Loan Officer, Staff/Review Appraiser, Property Manager, First Federal Bank of Alaska, S.B. Managed construction loan department for two years. Performed loan initiation to construction completion and long term take-out. Conducted inspections for compliance with plans and budgets for residential construction projects. Monitored construction loans and disbursed loan proceeds. Created and instituted bank appraisal policy. Managed bank REO commercial properties from 1988-1990.

January, 1980 - January, 1985 - Self-employed, Independent Fee Appraiser, Anchorage. Provided commercial and residential appraisal services on a contract basis throughout Alaska.

June, 1972 - December, 1979 - CEO, Automotive Parts & Equipment Company, Inc. Anchorage. Managed statewide retail/wholesale family owned business encompassing 17 stores. Annual gross sales averaged $16 million with up to 175 personnel.

EXHIBIT J - ER PROGRAM SAMPLE MANAGEMENT FACILITY ACCEPTANCE CRITERIA FOR SAMPLE MATERIALS CONTAINING RADIOLOGICAL AND NON-RADIOLOGICAL CONTAMINANTS – CURATORIAL SCIENCE CONSULTANTS

ER Program
Sample Management Facility
Acceptance Criteria for Sample Materials Containing Radiological and Non-radiological Contaminants

Approved: ,HS-1_____ Date_____

Curatorial Science Consultants

ABSTRACT

Environmental and geoscience materials are collected, described, sampled, and stored as part of the Los Alamos Environmental Restoration Program. Potential for exposure to radioactive and non-radioactive materials exist in the ER Program's Sample Management Facility (SMF) via both handling and storage of these samples.

This document establishes health and safety based sample material acceptance criteria for the SMF.

SAMPLE MANAGEMENT FACILITY
ACCEPTANCE CRITERIA FOR SAMPLE MATERIALS CONTAINING RADIOLOGICAL AND NON-RADIOLOGICAL CONTAMINANTS

Introduction

Potential for exposure to radioactive and non-radioactive materials exists in the LANL Environmental Restoration (ER) Program Sample Management Facility (SMF) via both the storage and handling of borehole samples (core, cuttings) and non-borehole samples. During sample storage, the potential exists for exposure to penetrating radiation, tritium, and radon (the radiological gases of concern), and volatile organic compounds. During sample examination the potential exist for exposure to not only radioactive and non-radioactive gases, but to also contaminated particles which may become airborne. Table 1 lists acceptance criteria are designed to ensure that these potential exposures are limited to levels below which health and safety concerns are minimized or eliminated.

Sample Acceptance Categories

Samples will fall into three categories based upon levels of radioactive and non-radioactive hazards documented by field monitoring and/or laboratory analysis and are listed below. Field monitoring results will be accepted for hazards that can be adequately detected with field monitoring instruments. Some hazards can not adequately be detected with current field monitoring techniques. Mobile or fixed based laboratory analysis is necessary to detect these hazards, examples of non-field detectable hazards include radon, tritium, and metals.

Category 1

The first category consists of samples with hazard levels at or below values that poses no or very low radiological or non-radiological hazards. These values are

incorporated into site specific Health and Safety Plans (HASP) that are required before any field work begins. A sample that exhibits values at or below these levels are available for unconditional release from the collection site. Samples in this category may be transferred to the SMF without any hazardous material transportation restrictions. These category 1 materials are also available for acceptance, confirmation, physical processing, examination, and storage at the SMF with no health and safety restrictions.

Category 2

The second category consists of samples with hazard levels above those incorporated into a particular site specific Health and Safety Plan (HASP) which represents no or very low radiological or non-radiological hazards and below the SMF acceptance criteria. Samples in this category may be accepted by the SMF with no health and safety restrictions. Category 2 materials are available for acceptance, confirmation, physical processing, examination, and storage at the SMF with no health and safety restrictions.

Category 3

The third category consists of samples that exhibit hazard levels above the SMF acceptance criteria. These samples may **not** be accepted at the SMF. These samples may be temporarily stored at the collection site until a decision on their disposition is reached by the Operable Unit Project Leader.

TABLE 1

SMF ACCEPTANCE CRITERIA

Hazard	Screening Level	Method
Penetrating Radiation	100,000 dpm / 100 cm^2 at a distance of 1 inch from the sample material	gross beta / gamma
Radon	3.8 pCi / L	portable radon detector
Tritium	220, 000 pCi / L	portable tritium monitor, or liquid scintillation counting
Beta / Gamma Contaminated Particulates	100, 000 dpm / 100 cm^2	various methods
Alpha Contaminated Particulates	1000 dpm / 100 cm^2	various methods
Volatile Organic Compounds	5.9 ppm total VOC	PID[1], FID[2]
Metals	12 ppm of beryllium (beryllium has the lowest occupational exposure limit)	ICP[3]

1 Photoionization Detector
2 Flame Ionization Detector
3 Inductive Coupled Plasma Spectrometer

APPENDIX A

Discussion Of Acceptance Criteria Rationale

1.0 Penetrating Radiation

A screening level of 0.5 mrem/hr, per box of archived material is established to maintain the overall facility dose rate below 5 mrem/hr and to maintain worker occupational radiation doses as low as reasonable achievable (ALARA). This level is expected to provide adequate protection even when a maximum volume of 152 m^3 of archived material is stored in the facility.

The most efficient approach to measuring the activity in a box of sample material, as dose, is to use data on gross beta/gamma activity levels as a surrogate. Such data is typically collected during field activities, and it should accompany all sample material brought to the SMF. An acceptable screening level is 100,000 dpm/100 cm^2 at a distance of one inch from the material; this is the level at which Co-60, the radionuclide producing the strongest dose per unit activity, causes a dose of 0.5 mrem. If activity levels in the sample are lower, than no further analysis is required. If, however, activity levels are higher, then it will be necessary to screen the material with a Geiger-Mueller detector. As this is not a measurement that is typically taken in the field, it will need to performed by HS-1.

2.0 Radon

Radon gas is in the decay chain for uranium and, since it is a gas, it presents an exposure concern because it can be released even from sealed core samples. The potential for radon to be generated is highest in samples containing naturally-occurring uranium rather than depleted uranium (which is common at LANL). This is because naturally-occurring uranium typically has all of its daughters in equilibrium and radium, one of these daughters, decays to radon. (Depleted uranium, in contrast, consists almost exclusively of uranium metal that was separated from its decay products during the processing of uranium ore.

Eventually, it too will decay into its daughter products, but it will take seven half lives of 1,600 years each for its daughter products to reach equilibrium with the metal, itself). Uranium naturally occurs in soils at concentration ranging between 0.2 and 1.6 pCi/g[1].

A concentration of naturally-occurring uranium of 42 pCi/g[2] of core would produced an ambient concentration of radon gas of 3.8 pCi/l in the SMF, which is below the EPA action level of 4 pCi/l. This concentration is an appropriate level for material acceptance. Such a level is, of course, extremely conservative for materials that contain depleted uranium instead of naturally-occurring uranium, since depleted uranium will not generate radon at anywhere close to the rate at which it is generated by naturally-occurring uranium. The assumptions used in developing this level are that a maximum of 152 m^3 material is archived in the SMF; the average material density is 1.2 g/cm^3; and that the air exchange rate in the facility is 0.43 air changes/hour.

Because the acceptance criterion is at least an order of magnitude higher than typical levels of naturally-occurring uranium in soil, the possibility of exceeding it is remote. Nonetheless, a radon sampling strategy will be incorporated into the SMF operating plans to ensure that radon concentrations are maintained below the EPA action level.

3.0 Tritium[3]

Based on an average soil moisture content of 5% (by weight), a screening level for tritium of 220,000 pCi/l is necessary to ensure that the airborne activity in the facility is maintained below the derived air concentration (DAC) for tritium[4]. The extremely conservative assumption used in deriving this screening level is that a maximum of 152 m^3 of archived material is stored in the SMF, and all of the tritium contained in the soil moisture volatilizes at once. This assumption has been used because it is not possible to derive a defensible evaporation rate for tritium. Because tritium cannot be detected using the gross beta/gamma screening method currently used in the field, additional testing using a liquid scintillation counter will have to be performed to ensure that tritium concentrations do not exceed the recommended screening level. HS-4 has the ability to perform scintillation counting. Because performing such a test on all archived materials will be resource intensive, screening

will be performed only on sample materials collected in an area suspected of being tritium-contaminated.

4.0 Beta/Gamma Contamination[5]

The potential for exposure to gross beta/gamma contamination exists when samples are removed from the packaging for examination. A screening level for gross beta/gamma contamination of 100,000 dpm/100 cm^2 is necessary to ensure that the airborne radioactivity in the facility is maintained below 10% of the DAC for "unidentified beta/gamma-emitting isotopes" which is the most conservative DAC for beta/gamma emitters. In deriving this screening level, a dust loading factor of 100 $\mu g/m^3$ was used. Using the NCRP (National Council on Radiation Protection and Measurements) dust loading factor is more realistic than the alternative, in which one assumes a given volume of core and air exchange rate, and uses the EPA emission factor from Appendix D of the radionuclide NESHAP (National Emission Standards for Hazardous Air Pollutants) to estimate emissions and then acceptable levels of contamination. Using the EPA approach results in a screening level two orders of magnitude lower than that developed using the NCRP method.

Since beta/gamma screening is performed in the field, this data may be used to determine whether core samples can be accepted at the SMF.

5.0 Alpha Contamination

As with beta/gamma contamination, the potential for exposure to alpha contamination exists when samples are removed from their packaging for examination. A screen level for gross alpha contamination of 1000 dpm/100 cm^2 is necessary to ensure that the airborne radioactivity in the facility is maintained below 10% of the most conservative DAC for alpha emitting radionuclides present at LANL (Pu-239, AM-241). The assumptions used in developing this screening level are identical to those used in developing the screening level for beta/gamma contamination.

The gross alpha measurements made in the field may be used to determine whether core can be accepted at the SMF.

6.0 Non-Radiological Contamination

Particulate emissions during material storage should be negligible since sample material will be stored in boxes, where there is little potential for particle dispersion. Therefore, during storage, the only contaminants with a potential to be emitted are volatile organic compounds (VOC). Although most VOCs are likely to volatilize from the sample materials while they are being held at the work site, leaving little residual available for volatilization at the SMF, very conservative assumptions have been made about the amounts of VOC remaining in these materials in the interest of erring on the side of caution.

The VOC with the lowest occupational exposure limit is bis(chloromethylk)ether, a compound whose presence at LANL is likely to be rare; its exposure limit is 0.0047 mg/m^3. Assuming that 152 m^3 of sample material is present in the SMF and 10 percent of it is contaminated with benzene; that all the benzene is released within a 24-hour period; and there are 10.3 air changes in the SMF per 24-hour period; the contaminated core could contain up to 5.9 parts per million of benzene without exceeding the occupational exposure limit. Since the limit of detection for VOC field screening is one part per million, field measurement data should be adequate to ensure that the sample material brought into the SMF is not overloaded with VOC (i.e., the total VOC concentration does not exceed 5.9 parts per million).

During sample examination, the potential exists not only for VOC emissions but also for particulate emissions. The very conservative assumptions used in estimating VOC emissions from stored sample material can be extrapolated to exposed sample material, resulting in a screening level of 5.9 parts per million for total VOC. The non-radiological contaminants of concern in particle form are metals, and the metal with the lowest occupation exposure limit is beryllium, with a limit of 0.0005 mg/m^3. If you assume that:

- the mass of sample material exposed at any given time for examination is 6000 kg;

- the consistency of one percent of the sample material is loose particulate matter rather than solid, and the remainder is solid;

- 0.1 percent for the particulate sample material and 0.0001 percent of the solid sample material could potentially become suspended in the air (this resuspension factor comes from 40 CFR 61, Subpart H) over a one-hour period; and

- there are five air changes per hour in the sample examination area, which occupies a 310 cubic meter area;

then all of the archived material can contain up to 12 parts per million of beryllium without exceeding the occupational exposure limit. The levels of beryllium detected historically at LANL are typically at least one order of magnitude less than this screening level, which strongly suggests that the potential for exposure to hazardous materials via particle dispersion is negligible.

Actual particulate concentrations will be confirmed to ensure they are as low as theoretically expected by periodically collecting air samples in the sample examination area, and having them analyzed for total respirable particulate matter, heavy metals, and other contaminants believed to be of potential concern based on ER program analytical results. It is most appropriate to develop a sampling strategy (e.g., identifying sampling locations and number of samples to be collected) once material has begun to be examined in the SMF.

---

[1] NCRP, 1975

[2] Other assumptions taken from LANL site specific parameters for use with the RESRAD code include:

Radon Diffusion Coefficient	2×10^{-6} $m^2 s^{-1}$
Radon Emanation Coefficient	0.2
Soil Porosity	0.4

[3] A mean absolute humidity of 4.7 g/m^3 is assumed (NCRP-76, 1984).

[4] A DAC value of 1×10^{-5} µCi/cc was used for calculation purposes (10CFR20, App. B).

[5]A dust loading of 100 $\mu g / m^3$ is assumed for the calculation of both beta / gamma and alpha screening levels

(NCRP-76, 1984).