Appendix B
Geotechnical Advisory Commission Resolution and Seismic Design Committee Resolution

Municipality of Anchorage

MEMORANDUM

DATE: April 5, 2004

TO: William J. Sheffield, Director
Port of Anchorage

FROM: Donald S. Alspach, Acting Director
Planning Department

SUBJECT: Geotechnical Advisory Commission Resolution

Attached is a resolution from the Geotechnical Advisory Commission regarding:

- its review of the initial draft report, *Intermodal Expansion – Port of Anchorage Volume 1 (December 17, 2003;*
- the Commission's request for continued involvement in the review process for the marine terminal expansion project; and
- key issues to be addressed in future reports and design efforts regarding the proposed marine terminal.

Once again, thank you for providing the Commission with the opportunity to participate in reviewing the geotechnical aspects of this significant project.

Attachment

cc: Mayor Mark Begich
Dick Traini, Chair, Municipal Assembly
Mary Jane Michael, Executive Director, Office of Economic and Community Development
John Aho, Chair, Geotechnical Advisory Commission
Don Poulton, Chair, Planning and Zoning Commission
Ron Thompson, Building Official, Development Services Department
Kevin Bruce, Port of Anchorage
Tom Nelson, Planning Supervisor, Planning Department

MUNICIPALITY OF ANCHORAGE

GEOTECHNICAL ADVISORY COMMISSION RESOLUTION NO. 2004-01

A RESOLUTION REGARDING THE PORT OF ANCHORAGE MARINE TERMINAL PROJECT.

(Case GAC 003-03)

WHEREAS, the Geotechnical Advisory Commission has reviewed the draft report by Terracon, "Intermodal Expansion - Port of Anchorage Volume 1," dated December 17, 2003, and discussed its contents with the authors; and,

WHEREAS, the Commission has also reviewed and discussed a letter from the Port of Anchorage dated February 5, 2004, clarifying the intent and use of the Volume 1 report; and,

WHEREAS, the field and laboratory data presented in the report are a significant addition to the public's understanding of variations in the subsurface stratigraphy and behavior of soil in the vicinity of the proposed dock expansion; and,

WHEREAS, the draft report is a work in progress subject to revision; and,

WHEREAS, more stringent design and performance criteria than commonly applied to similar facilities may be appropriate given the very critical role the Port infrastructure will have to Anchorage and the State of Alaska in the event of natural disaster or national emergency; and,

WHEREAS, further engineering analyses will be necessary for determining the final feasibility and design details/configuration of the proposed marine terminal project.

NOW, THEREFORE, BE IT RESOLVED that:

A. The Geotechnical Advisory Commission recommends it be provided the opportunity for continuing involvement in the review process as the marine terminal project concept evolves and is refined.

B. The Geotechnical Advisory Commission recommends future reports and design efforts for the proposed marine terminal address, at a minimum, the following issues:

1. The rationale for selection of seismic design and performance criteria, especially those differing from local codes or other criteria commonly applied by the Building Official in Anchorage, Alaska, and which shall include convening an independent panel of experts and governing officials to develop consensus criteria.
2. Site- specific seismic response and impacts on design criteria.
3. Independent third party peer review of technical aspects of the work, such as the stability of design options and impacts of variations in material properties found within the dock expansion area.

PASSED AND APPROVED by the Municipal Geotechnical Advisory Commission on this 30th day of March 2004.

Donald S. Alspach
Secretary

John L. Aho
Chair

Municipality of Anchorage
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Office of Economic and Community Development
Mayor Mark Begich

**A RESOLUTION RECOMMENDING
DESIGN APPROACH AND SEISMIC PARAMETER SELECTION
FOR
THE PORT OF ANCHORAGE
INTERMODAL EXPANSION PROJECT.**

WHEREAS, the Port of Anchorage serves 80% of the geographic area of the state and supplies Alaska with 90% of its consumer goods; and

WHEREAS, the Port of Anchorage is a lifeline port for the Municipality of Anchorage as well as the rest of the State; and

WHEREAS, independent studies conducted in 1999 established the Port's contribution to Alaska's economic activity as more than $725 million annually, and

WHEREAS, the cargo tonnage throughput at the Port of Anchorage has increased more than 34% since that economic figure was establish; and

WHEREAS, major portions of the Port of Anchorage terminal were completed in 1961; and

WHEREAS, the seismic event of March 27, 1964 destroyed the Southcentral Alaska cargo ports at Seward, Valdez and Whittier; and

WHEREAS, the Port of Anchorage marine terminal survived the event with relatively minor damage and was returned to operations immediately; and

WHEREAS, the vast majority of supplies and equipment necessary to re-build the communities of Southcentral Alaska following the earthquake were shipped through the Port of Anchorage; and

WHEREAS, those historic events established the Port of Anchorage as the dominant general marine cargo terminal in the State; and

WHEREAS, the Anchorage Geotechnical Advisory Commission has recognized the importance of the Port of Anchorage to the economic and social well-being of the residents of the Municipality of Anchorage in the event of a natural disaster or national emergency; and

WHEREAS, the Anchorage Geotechnical Advisory Commission has further recommended that an independent panel of experts and governing officials develop consensus criteria for seismic design standards for the Port of Anchorage Intermodal Expansion Project;

NOW, THEREFORE BE IT RESOLVED, that the Port of Anchorage Seismic Design Committee, appointed by Mayor Mark Begich, hereby recommends the following multi-level seismic design approach for the waterfront components of the Port of Anchorage in light of risks, costs and benefits to the Municipality of Anchorage;

A two-level seismic design approach is required as follows:

LEVEL 1: Under the first level of design, Operating Level Earthquake (OLE) ground motions are established that, at a minimum, have a 50-percent probability of exceedance in 50 years (corresponding to an average return period of 72 years). Under this level of shaking, the structure shall be designed so that operations are not interrupted and any damage that does occur will be repairable in a short time.

LEVEL 2: Under this second level of design, more severe Contingency Level Earthquake (CLE) ground motions are established that, at a minimum, have a 10-percent probability of being exceeded in 50 years (corresponding to an average return period of 475 years). Under this level of shaking, the structure shall be designed so as to undergo damage that is controlled, economically repairable, and is not a threat to life or safety.

BE IT FURTHER RESOLVED that the Committee recommends that the Port Expansion Team continues to examine and evaluate the physical and economic feasibility of designing, at a minimum, one berth to withstand a seismic event greater in scope than a Level 2 Contingency Level Earthquake in order to provide an emergency point of entry for goods and supplies necessary to support the community. Said evaluation should consider cost and risk implications of such a design.

PASSED AND APPROVED by the Port of Anchorage Seismic Design Committee, this 29th day of June, 2004.

Mary Jane Michael, Chair

And members of the committee:

Gov. Bill Sheffield, Director of the Port of Anchorage
Mr. Howard Holtan, P.E., Municipal Engineer
Mr. Mark Musial, P.E., Consulting Geotechnical Engineer
Mr. Stuart Werner, P.E., Consulting Earthquake Engineer
Youssef Hashash, Ph.D., Assistant Professor of Civil Engineering, University of Illinois (Consulting member/non-voting)