



**Municipality of Anchorage
Geotechnical Advisory Commission**

A G E N D A

**Tuesday, August 27, 2024
12:00 Noon – 1:30 p.m.**

**Regular Meeting
(Hybrid format)**

In-Person Physical Location

Planning Conference Room 170
Planning and Development Center
4700 Elmore Road
Anchorage, Alaska

via Microsoft Teams

[Click here to join the meeting](#)
[Download Teams](#) | [Join on the web](#):
Meeting ID: 238 552 937 650, Passcode: rSL6pw
Or call in (audio only): +1 907-519-0237
Conference ID: 309 649 142#

I. CALL TO ORDER

- A. Establishment of Quorum
- B. Disclosures
- C. Recognizing Staff and Guests

II. MEETING SUMMARIES

- A. July 23, 2024 Regular Meeting
- B. July 30, 2024 Work Session Notes on South Addition Neighborhood Plan Hazard Mitigation

III. OLD BUSINESS

- A. Letter of Support for Strong Motion Instrumentation at Port of Alaska Terminal 1
- B. Update on Academic Research from University of Colorado and University of Notre Dame on Building Code (*Daniel King*)
- C. Review of Geopier Site Visit

IV. NEW BUSINESS

- A. Recommendations for Minimum On-site Testing for Geotechnical Reports (*Daniel King*)

V. PERSONS TO BE HEARD (3-minute limit)

VI. COMMITTEE REPORTS

- A. Communications Committee
- B. Hazard Mitigation Committee
- C. Seismic Hazard Committee

VII. OTHER BUSINESS

VIII. STAFF REPORTS

IX. ADJOURNMENT

Next Regular Meeting – September 24, 2024



**Municipality of Anchorage
Geotechnical Advisory Commission**

ACTION SUMMARY

**Tuesday, July 23, 2024
12:00 Noon – 1:30 p.m.**

**Regular Meeting
(Hybrid format)**

**Planning Conference Room 170
4700 Elmore Road**

Commissioners	MOA Staff	Guests
<ul style="list-style-type: none"> • Dennis Berry (<i>excused</i>) • Kyle Brennan • Steven Halcomb, Acting Chair • Dave Hemstreet • Cody Kreitel • Keri Nutter • Brian O’Dowd • Amy Steiner (<i>excused</i>) • John Thornley, Chair (<i>excused</i>) 	<ul style="list-style-type: none"> • Daniel Mckenna-Foster, Long-Range Planning • Tom Davis, Long-Range Planning • Karlie Lamothe, Long-Range Planning • Susan Perry, Long-Range Planning • Ryan Yelle, Long-Range Planning • Amanda Loach, Office of Emergency Management • Ben Russell, Office of Emergency Management • Wayne Bolen, Development Services • Daniel King, Development Services • Tim Huntting, Project Management & Engineering 	<ul style="list-style-type: none"> • Colin Maynard, Alaska Seismic Hazard Safety Commission

I. CALL TO ORDER

- A. Establishment of Quorum.** Commissioner Halcomb is acting chair for this meeting.
- B. Disclosures.** None

II. MEETING SUMMARIES

- A. June 25, 2024.** Commissioner Brennan moved to approve; Commissioner Nutter seconded. Approved unanimously.

IV. NEW BUSINESS [Moved to be discussed before Old Business]

- A. South Addition Neighborhood Plan Hazard Mitigation Discussion** (Tom Davis & Karlie Lamothe, Long-Range Planning). **Tom Davis** provided an overview of the project and outlined the GAC’s role in this plan and asked for any feedback on it or questions raised by the public. Would be ideal to have comments either from individual commissioners or the commission overall by August 20th. The GAC will meet on Tuesday, the last week of July. The Commission discussed possible comments and the plan in general.

III. OLD BUSINESS

- A. **Scope of Potential Project for Seismic Hazard Analysis and Mapping**
Acting Chair Halcomb recommended removing this as a continuing item on old business.
- B. **Letter of Support for Strong Motion Instrumentation at Port of Alaska Terminal 1**
Commissioner Brennan provided an update on this item.
- C. **Update on Academic Research on Building Code** (Daniel King)
No response from the Universities of Colorado and Notre Dame; Daniel King will write them again.
- D. **Geopier Site Visit.** **Acting Chair Halcomb** provided an update. Geopier installation has started, and he is trying to set up an appointment to visit.

IV. NEW BUSINESS *(Taken up before III. Old Business)*

V. PERSONS TO BE HEARD

Chair Halcomb introduced new commissioner Brian O'Dowd. **Commissioner O'Dowd** introduced himself. He is Director of Engineering at the Alaska Railroad.

VI. COMMITTEE REPORTS

- A. **Communications Committee.** **Commissioner Nutter** reported on the June meeting. The first letter of support on strong motion stations will be to the Assembly. The Committee also talked about a letter of support for an enforceable, statewide building code. That letter will be prepared for the next state legislative session.
- B. **Hazard Mitigation Committee.** Introduction from Ben Russell, MOA Office of Emergency Management.
- C. **Seismic Hazard Committee.** **Acting Chair Halcomb** reported back on the USGS and EERI workshop and would be glad to forward materials to anyone interested.

VII. OTHER BUSINESS

VIII. STAFF REPORTS

Daniel King provided observations on geotechnical reports in the MOA permitting process and proposed an agenda item for the next meeting. The Commission discussed some of the implications of this and tradeoffs between regulations, costs, and risks for geotechnical standards.

IX. ADJOURNMENT

Commissioner Nutter moved to adjourn; **Commissioner Hemstreet** seconded. Unanimous approval. Adjourned at 1:14 p.m.

Tom Davis' notes from Geotechnical Advisory Commission Work Session on July 30, 2024

Working draft of South Addition Neighborhood Plan (SANP) Hazards Section Regarding Seismically Induced Ground Failure

1. Does the section convey the nature, severity, and probability of the hazard?

Be more descriptive about what the effects of ground failure would be. There are different kinds of ground failure. Dramatic landslide is one. But other less dramatic forms that still impact viability of buildings include ground displacement and liquifiable soils:

- Liquifiable soils causing settlement of structure. Improved understanding of liquefaction: clay or fine soils can liquify, as shown by the Turkey earthquake, and it does not take a 1964-sized earthquake.
- Slope movement: grabens nearer to top of ridge, pressure ridges below the bottom.
- Flow failures often happen in shallower slopes. Flow or movement of ground.

Suggest using the GAC's briefing paper from 2021, the Seismically Induced Ground Failure Maps Briefing Paper, as resource material. This Briefing Paper describes the seismic zones more detail. It provides bit of additional supporting information for people. This paper is available on the municipal map gallery in the "Historic Seismically Induced Ground-Failure Susceptibility" map app. (Tom Davis has saved it into our SANP work folder.)

A simple nontechnical description for general public is that a structure does not need to be right on a slope to experience these ground failures, and the ground failure does not need to be dramatic like a graben or landslide to have a serious impact. For example, less spectacular ground movement can cause utility failures: Gas line breaks caused by ground movement; water line break causing flooding and failure. It does not take a big slide to cause problems. There is the phenomenon known as "Cascading consequences"—e.g., secondary effects that can be catastrophic. For example, most of the damage in the 1906 San Fran earthquake was caused by urban fire because the water utility lines ruptured.

Help people become aware of the property-loss consequences of ground failure that are difficult for people to cope with in the months or years after the earthquake. Although building and engineering codes are intended to help people safely exit a building, they do not address the consequences of long-term loss of utility service, displacement (i.e., loss of home), loss of property, loss of one's place of employment for months or years. Building codes and engineering methods do not protect people or society from these effects which can be long-lasting.

Look at this plan as an educational opportunity. It is great in that it presents the hazard. Further strengthen the educational/informational part by providing the sources regarding where the hazards information came from.

2. Is the nature or severity of Ground Failure Hazard Zone 5 in western South Addition different from other areas within Zone 5 around Downtown because its topography is more level?

John Thornley advises that the 1979 Harding-Lawson seismically induced ground failure maps remain a reasonable starting point to stick with in identifying areas with severe hazard.

There were historic slides prior to the 1964 earthquake in this area that are apparent in the topography. The construction of new buildings or smaller earthquakes than in 1964 could remobilize historic slides.

The Shannon & Wilson report from 1964 indicates a cross section (of a ground failure of some sort) that wiggles its way through the South Addition “bubble” shaped low area in Inlet View E.S. vicinity. Soils in that “bubble” area not much different from soils in Bootleggers Cove.

The GAC members do not recognize the “Bootleggers Cove Special Landslide Hazard Area” in the draft SANP language, as excerpted on page 3 of the memo. They believe it may be just another way of referring to the “L Street Slide” area. John Thornley suggests looking at older plats (post 1964) for references to that area, to see if that is where this place name comes from.

3. GAC comments on the list of land use policies and strategies?

John Thornley: The building code is for people to be able to get out of building. The building code does not address if people can deal with the loss of the use of the building. A home is only as good as its weakest link—if the water, sewer, or gas line breaks due to ground failure movement, then people cannot live there. Following a large earthquake, people with homes or employment in these areas can be expected to spend months out of work or without a home. We should expect that there will be significant losses in these areas in a major event. When people are displaced, other earthquake events show that lives are affected for generations. One cannot just design or engineer around these consequences by meeting building codes. In community planning decisions, we should avoid building certain things in hazardous areas, avoid making the kinds of development decisions that put more people in dangerous areas again and again. So, the planning side of this is to go beyond the building code and take a proactive step to avoid these risks. When taking a broad look of what uses to put where, it would be important to consider the consequences of building there.

Dave Hemstreet: Responded that, however, it would be overkill to use the 1979 Harding-Lawson maps to recommend not building houses at all in Zones 4 or 5—i.e., to make those areas undevelopable. The Harding-Lawson maps were created 50 years ago and are not full-proof, so there may be areas in the Zones 4 or 5 that are safe; there may be areas in the other Zones that might suffer ground-failure. The community has housing shortages and other needs. Although there is a risk, we need to be able to take on risk to meet housing needs and other needs. The wording in the draft plan seems to be giving a green light to stopping residential development, on page 4 of the memo, in the bulleted statements. What is put in these plans is important because people will take the wording as gospel and a road map for what should happen.

John Thornley: Responded to clarify he did not suggest to not build at all. He suggested to choose what we do build in those areas. There is a higher hazard in Seismic Zone 5. A residential structure there is ok. But some other things may not be ok to build there because of the higher risks/greater consequences. The goal of the maps is to show where we should think twice before placing critical facilities there; balance the risk.

Dennis Berry: We've designed facilities in these areas. We've added engineering to address those areas. Should we be doing something more than engineering to minimum code criteria, is a societal broader question. There are parts of Christchurch Downtown that have been shut down for years. If we get design level earthquake, we will have problems all over town. If we are that afraid of earthquakes we shouldn't be in this town.

Kyle Brennan: Reiterated the position to not advocate no development at all, but just think about what we put in ground failure zones. There is a tendency for people to not understand the consequences in these areas; e.g., do not place things like hospitals in these areas, and make sure owners, developers, and the community are aware of the types of choices being made.

Keri Nutter: Page 4, is there another term that could be used besides "prevent new development in hazard". Brian O'Dowd: suggested changing "prevent" to "restrict."

Keri Nutter: shared a link to a guidance document regarding geologists' role in land use guidance in the chat, for reference.