The November 30, 2018 Earthquake And The Housing Boom: A Journey Through Historical Aerial Photos

By: Thomas Keatts, P.E.
Residential Damage

Slab On Grade

Pile Supported
Residential Damage

Continuous / Strip Footings
Residential Damage

Settlement
Residential Damage

Sand Boils!
Completed investigations on 50 residences in Anchorage, Girdwood, Eagle River, Chugiak, Palmer, and Wasilla.

46 of the 50 homes were built between 1970 and 1986.

43 of the 50 homes had a sump pump.

46 of the 50 homes had damage due to settlement.

Many of the homes had structural deficiencies which were identified by the structural engineer.

- House not strapped or bolted to the foundation
- No blocking in floor joists
- Floor joists undersized for the given span
Anchorage Housing Boom

- 1959 First offshore Cook Inlet lease sale
- 1960 Alaska population: 226,167 – City of Anchorage population 44,237
- 1968 Prudhoe Bay oil field discovered
- 1970 Alaska population: 302,583 – City of Anchorage population 48,801
- 1975 TAPS construction begins
- 1977 First oil moved through TAPS
- 1981 Price of oil peaks
- 1986 Oil prices crash to 50% of peak
From the 1970 census to the 1980 census Anchorage housing increased from 37,670 units to 70,363 units. An increase of over 33,000 units, equal to an 87% increase in housing, or an average of 9 homes per day over the 10 year period.
Anchorage Housing Boom

WHO CARES?

- Contractor shortages
  - Contractors from out of state without local experience.
  - Unreasonable deadlines.

- Material shortages
  - Lumber and hardware were in short supply.

- Inspection shortages
  - Not enough inspectors for code enforcement.

- Land shortages
  - Best land had already been built on.
Earth Explorer

- https://earthexplorer.usgs.gov/
Lessons Learned

• Residences performed as expected given the construction practices and soil and groundwater conditions encountered.

• You never truly learn your lesson.

• Poor decisions were made due to economic pressure.
Questions?

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