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Vulnerability of Some Fairbanks North Star Borough Schools to Earthquake Damage Based on Rapid Visual Screening

June 15, 2017

Prepared for: Fairbanks North Star Borough School District and Alaska Seismic Hazards Safety Commission
Administered by: The Earthquake Engineering Research Institute
Funded by: Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA)

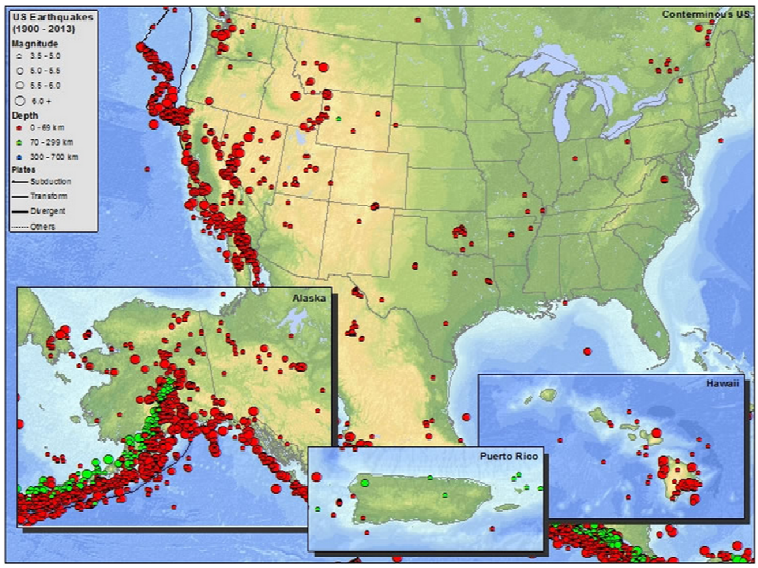
The Department of Homeland Security (DHS)

The Earthquake Engineering Research Institute (EERI)

The Alaska Seismic Hazards Safety Commission (ASHSC)

Alaskan Seismicity:

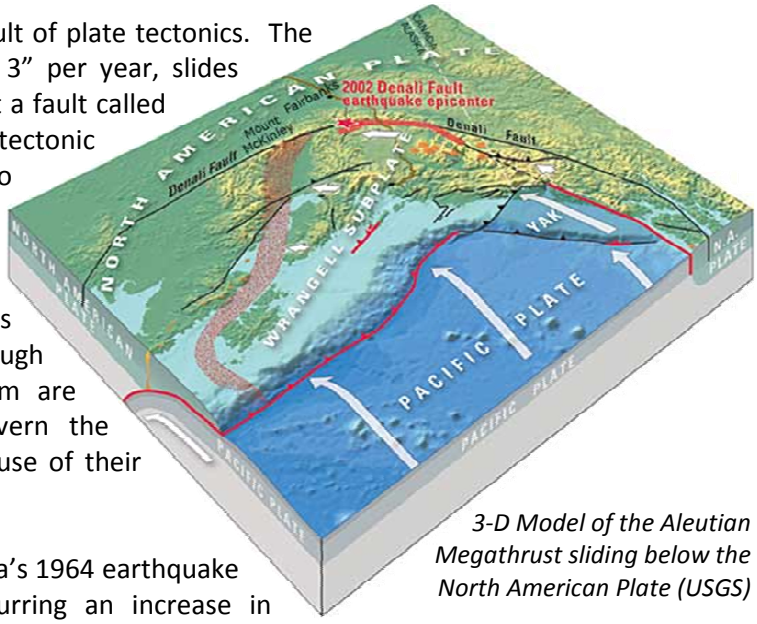
Alaska is among the most seismically active areas on Earth. Over the past 50 years, the United States Geological Survey (USGS) recorded in the United States more than 3,000 earthquakes more powerful than magnitude 5, with approximately 80% of these occurring in Alaska. Further, of the twelve most powerful earthquakes America has ever experienced, ten were situated in Alaska. These include the 1964 Great Alaska Earthquake, which remains the second most powerful ever measured on Earth.



Sites of major earthquakes in the US (USGS)

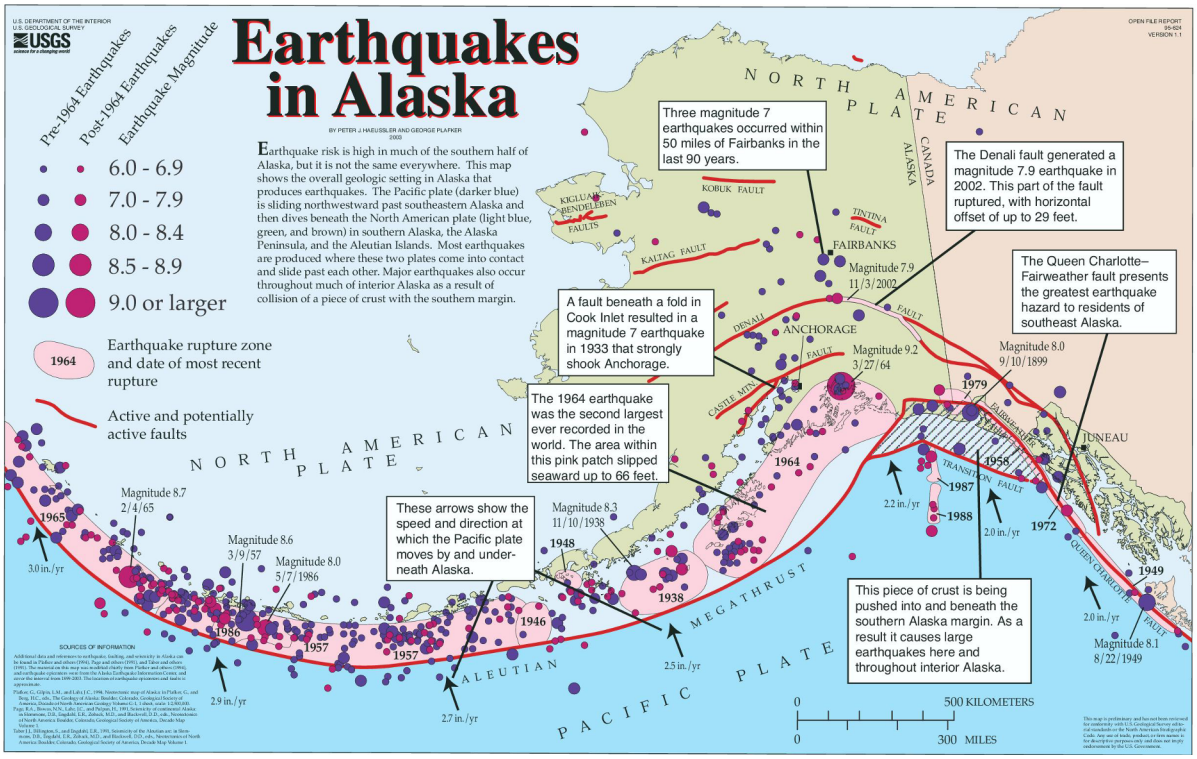
Dennis L. Berry, PE Troy J. Feller, PE Colin Maynard, PE Scott M. Gruhn, PE Greg Latreille, PE

Alaska's intense seismicity is a result of plate tectonics. The Pacific Plate, moving north 2" to 3" per year, slides below the North American Plate at a fault called the Aleutian Megathrust. This tectonic collision and subduction is able to produce an earthquake up to magnitude 9.2, according to the Federal Emergency Management Agency (FEMA). Many other faults occur around the state, and though earthquakes associated with them are not as powerful, they may govern the nearby ground accelerations because of their close proximity.



3-D Model of the Aleutian Megathrust sliding below the North American Plate (USGS)

The strength and duration of Alaska's 1964 earthquake shocked the scientific world, spurring an increase in research in plate tectonics and seismology. The Alaska Dispatch News chronicled many of these changes in a March 23, 2014 article on the subject: "'The 1964 event changed the way we thought about earthquakes,' said Mike West, state seismologist with the [Alaska Earthquake Center] at the University of Alaska Fairbanks. 'It literally helped prove plate tectonics.'"



Alaskan seismicity: faults, earthquakes, and rupture zones (USGS)

Building Codes:

Similarly, the 1964 Alaskan earthquake substantially changed the way building structures are designed. In 1973, the Uniform Building Code was modified to add many new, specific requirements. For example, descriptions of seismic force collectors within floors and roofs were added, as were new detailing requirements for seismic safety in regions of high seismicity. Design seismic forces for braced frames effectively doubled; unreinforced masonry and concrete were now prohibited for all structural elements in regions of high seismicity; gravity-only columns now needed to be designed to have sufficient strength when swaying dramatically during a seismic event.

Concrete column failure, West High School, Anchorage, AK
After 1964 Great Alaska Earthquake

Since then, building codes have continued to be modernized. In response to observations after other earthquakes and informed by extensive testing, building code committees have continued to increase design seismic forces, establish more robust detailing requirements, and intensify inspection mandates. Schools in particular are now designed for an increased factor of safety because of their importance to their communities. Further, in some cases schools are designed to an even higher level of safety so they can be used as shelters following a major earthquake. Because of these changes and many others, buildings constructed today are much more earthquake-resistant than older buildings.

The fact that older buildings are less earthquake-resistant is significant to Alaskan schools because many of them were constructed before building code modernization began to improve the safety of building construction. As a result, older school buildings are typically less earthquake-safe than newer ones. How much less safe depends on many factors, including age and type of structural system, structural irregularities, building location, and quality of construction. School districts and managers of facilities would benefit greatly from having good information readily available regarding the safety of their facilities. This would enable them to make informed decisions regarding timing and urgency of any further structural reviews and upgrades.

Rapid Evaluation of Facilities:

To that end, FEMA developed a rapid evaluation procedure outlined in their publication P-154, "Rapid Visual Screening of Buildings for Potential Seismic Hazards: A Handbook." This contains a method for evaluating structures' seismic performance very quickly and without great expense, referring to it as a "sidewalk survey." It takes into account the age and type of structure, building height, irregularities in the structure that decrease reliability, and whether it was constructed before the enforcement of design codes and the implementation of construction inspection. FEMA

developed this method to provide a tool to give building owners and managers good, actionable information with minimal up-front cost.

The method used by FEMA P-154 to evaluate a building is quite straightforward. It establishes an initial score for each type of structural system (wood shear walls, steel braced frame, and so forth), with a higher score indicating greater reliability. A given building's initial score is then modified (up or down) based on other factors, including the number of stories, vertical structural irregularities, plan structural irregularities, probable soil type, whether it was designed and constructed before codes were generally enforced, and whether it was designed and constructed under substantially modern codes. The user enters the building information, adding and subtracting from the initial score to obtain the final score. FEMA carefully selected the scores and modifications so the final score could carry some readily understandable information. The Third Edition of FEMA 154 notes, in section 5.2:

> Fundamentally, the final S score is an estimate of the probability (as described in Chapter 1) if an earthquake occurs with ground motions called the risk-targeted maximum considered earthquake, MCE_R, as described in Chapter 2...
> A final score, S, of 3 implies there is a chance of 1 in 10^3, or 1 in 1,000, that the building will collapse if such ground motions occur. A final score, S, of 2 implies there is a chance of 1 in 10^2, or 1 in 100, that the building will collapse if such ground motions occur.

BBFM Engineers makes no statement about these probabilities except to note FEMA's intent in developing the scoring process. Typically a final score below 2.0 is taken as indication that a more detailed investigation is warranted, although that value can be adjusted at the outset of an evaluation project as desired by the owner of the facilities.

Importantly, these scores and risks do not take into account actual member strengths or actual connection reliability, only what is common for similar structural types of similar age. Therefore, the actual building safety may be substantially different from what the scores may indicate. Accordingly, buildings with low scores are noted as requiring further structural investigation to determine whether structural upgrade is warranted. These scores can be used appropriately to identify and rank buildings for their vulnerability to earthquake damage.

Alaskan School Safety:

As stated in 2010 by the Western States Seismic Policy Council (WSSPC), "Every community is required to educate children, and it is the responsibility of governmental agencies to design and construct safe buildings to house them. While current building codes and construction practices have recognized the effects of earthquakes and provide state-of-the-art design considerations, many older school buildings were built before these principles were understood… These older buildings have not been properly graded or passed the test of seismic safety. Consequently, many students face significant seismic risk." The WSSPC is a non-profit consortium of eighteen member states and territories including Alaska.

After all, since children are required to attend school and parents lack specific information about the seismic safety of different structures, it is the responsibility of the government to ensure the

schools provide a safe learning environment for Alaskan children. Again, schools may be used as emergency shelters after major earthquakes, further raising the importance of the building's successful performance during an earthquake.

According to the Alaska Department of Education, the total enrollment in public school districts in Alaska as of October 1, 2016, was 133,223. Of these, 13,840 students are in the Fairbanks North Star Borough School District, or about 10.5% of the state's total. School districts statewide accept as part of their mission to protect the safety of children as well as facilities whose replacement cost is many billions of dollars.

This Study:

In the interest of student safety and community resilience to earthquakes, BBFM Engineers was asked to perform a rapid visual screening of several aging schools in the Fairbanks North Star Borough School District to determine which schools warrant an in-depth seismic review, and which structures are expected to perform acceptably during a major earthquake. The screening program follows the criteria established by FEMA Publication 154, Third Edition. FEMA refers to this screening program as a "sidewalk survey" because it is intended to be a very quick review of structure type, structure age, structural discontinuities, local seismicity, and the like.

In this study, BBFM Engineers completed the screening of ten schools, most of which have several additions. In total, we reviewed twenty structures, including original construction and additions. In surprising contrast to other school districts reviewed previously, all twenty warrant a more detailed evaluation. A primary reason for this is that most of the schools resist seismic forces using concrete, precast concrete, or masonry shear walls, and older systems of these types have not performed well in past major earthquakes.

In addition to further review of the twenty schools, we also recommend that similar studies be undertaken in all regions of high seismicity throughout the state, especially in light of the cost-effectiveness of the FEMA 154 process, which can be performed for just $700 to $1,200 per structure. Studies including many structures in readily accessible areas may find economies allowing them to be performed for fees near the lower end of this range, while remote or smaller-scale studies may require a higher fee.

Objectives of this Study:

This study was funded by FEMA and managed by the Earthquake Engineering Research Institute (EERI) and the Alaska Seismic Hazards Safety Commission (ASHSC). It is the goal of FEMA and of EERI to improve earthquake safety throughout the country, and to that end they are sponsoring projects in various states to showcase the ease and value of rapid visual observation of schools.

Two goals reside at the core of this study: to show planners how quickly and cost effectively an initial assessment can be performed for schools using FEMA's rapid visual screening program, and to rate a sampling of existing schools to provide the Fairbanks North Star Borough School District information crucial to their planning purposes. Any buildings of concern can then be prioritized for further study and/or upgrade, as appropriate.

ASHSC looked for a school district with older schools constructed with a variety of structural

system types and found a willing participant in the Fairbanks North Star Borough School District, home of some 10.4% of Alaska's pre-kindergarden through 12th grade students. BBFM reviewed the following ten schools:

1) Barnette Elementary School (1960 original and 1970 and 1974 additions)
2) Hunter Elementary School (1956 original and 1957, 1958, 1959, and 1974 additions)
3) Hutchison Career Center (1973 original and 1975 addition)
4) Joy Elementary School (1971 original)
5) Lathrop High School (1953 original and 1957, 1962, and 1970 additions)
6) North Pole Elementary School (1967 original)
7) North Pole Middle School (1975 original
8) Tanana Middle School (1974 original)
9) West Valley High School (1976 original)
10) Woodriver Elementary School (1976 original)

BBFM Engineers visited the school district's plans room and copied all available structural drawings. Before we visited the schools themselves, we began a FEMA P-154 data collection form for each structure, inputting all available information: location in relation to known seismic faults, structural system type, year of construction, and more.

BBFM Engineers then visited the schools, photographing their current condition and noting any conditions not shown on the drawings and materials that, during an earthquake, could become pounding or falling hazards. In this manner, all the information necessary for the Rapid Visual Screening was obtained.

The final report can be found along with previous RVS reports on the ASHSC website at: http://seismic.alaska.gov/presentations_reports.php. Upon approval by the Fairbanks North Star Borough School District, the plans, photos, and other supporting information can also be provided in electronic format, which may prove valuable for further building assessment or post-earthquake response. Requests for supporting information should be made to the Alaska Seismic Hazards Safety Commission or BBFM Engineers.

Cost of this Study:

The grant awarded by FEMA and managed by EERI was $25,000. After administrative overhead, BBFM's fee was $21,250 for the review of twenty structures (original construction plus additions). Extrapolating for future studies, similar Rapid Visual Screening could be performed at a very minimal cost, approximately $700 to $1,300 per original structure or addition, depending on availability of drawings, ease of access to the schools, and number of schools being included in the study. This cost can even be applied to schools off the road system if the school staff provides electronic photographs, although a generous schedule may be necessary to ensure photographs arrive in time for related information to be included in the report.

We uploaded the available structural drawings for all the schools, along with photographs and FEMA P-154 Data Forms onto the cloud, as these could be very useful after a major earthquake. The drawings are in multi-page .pdf format, the standard format for the industry, while the drawings are in .jpg format.

Results of the Study:

Of the twenty structures reviewed, the final scores range from 0.9 to 1.9. According to FEMA's guidelines, these represent estimated probabilities of partial or complete collapse of 13% and 1.3%, respectively. These probabilities are dramatically impacted by building design and construction practices common at the time, which may differ significantly from the practices used on these particular structures.

Again, all twenty structures exhibited scores below 2.0, indicating a more detailed investigation of the structure is necessary. Further, some of the schools also have potential hazards from falling chimneys or pounding hazards from adjacent canopies that should be investigated in greater detail.

Following are the results for each school, sorted in alphabetical order. Following these results, we have also sorted the schools by final score, which may assist in prioritization of further work.

1) Barnette Elementary School: 1960 Original Construction
   - Reinforced concrete shear wall construction
   - Final score = 1.2; FEMA estimate of collapse risk: 6%
   - Detailed investigation is indicated for structural design and detailing.
   - Detailed investigation is indicated for the unbraced chimney.
   - Detailed investigation is indicated for the canopy at exterior doors of rooms 301 and 302.
2) Barnette Elementary School: 1970 Addition
   - Reinforced concrete shear wall construction
   - Final score = 1.2; FEMA estimate of collapse risk: 6%
   - Detailed investigation is indicated for structural design and detailing
3) Barnette Elementary School: 1974 Addition
   - Wood frame and reinforced concrete shear wall construction
   - Final score = 1.2; FEMA estimate of collapse risk: 6%
   - Detailed investigation is indicated for structural design and detailing
4) Hunter Elementary School: 1956 Original Construction
   - Reinforced concrete shear wall construction
   - Final score = 1.2; estimate of collapse risk: 6%
   - Detailed investigation is indicated for structural design and detailing
5) Hunter Elementary School: 1957 Addition
   - Wood frame and reinforced concrete shear wall construction
   - Final score = 1.2; estimate of collapse risk: 6%
   - Detailed investigation is indicated for structural design and detailing
6) Hunter Elementary School: 1958 Addition
   - Reinforced concrete shear wall construction
   - Final score = 1.2; estimate of collapse risk: 6%
   - Detailed investigation is indicated for structural design and detailing
7) Hunter Elementary School: 1959 Addition
   - Reinforced concrete shear wall construction
   - Final score = 1.2; estimate of collapse risk: 6%
   - Detailed investigation is indicated for structural design and detailing

8) Hunter Elementary School: 1974 Addition
   - Wood frame construction
   - Final score = 1.9; estimate of collapse risk: 1.3%
   - Detailed investigation is indicated for structural design and detailing
9) Hutchison Career Center: 1973 Original Construction
   - Reinforced masonry construction
   - Final score = 1.0; FEMA estimate of collapse risk: 10%
   - Detailed investigation is indicated for structural design and detailing.
10) Hutchison Career Center: 1975 Addition
   - Reinforced masonry construction
   - Final score = 1.0; FEMA estimate of collapse risk: 10%
   - Detailed investigation is indicated for structural design and detailing.
11) Joy Elementary School: 1961 Original Construction
   - Reinforced concrete shear wall construction
   - Final score = 1.2; FEMA estimate of collapse risk: 6%
   - Detailed investigation is indicated for structural design and detailing.
   - Detailed investigation is indicated for the unbraced chimney.
12) Lathrop High School: 1953 Original Construction
   - Reinforced masonry and reinforced concrete shear wall construction
   - Final score = 1.0; FEMA estimate of collapse risk: 10%
   - Detailed investigation is indicated for structural design and detailing.
   - Detailed investigation is indicated for the unbraced chimney.
13) Lathrop High School: 1957 Addition
   - Reinforced masonry and reinforced concrete shear wall construction
   - Final score = 1.0; FEMA estimate of collapse risk: 10%
   - Detailed investigation is indicated for structural design and detailing.
14) Lathrop High School: 1962 Addition
   - Reinforced masonry and reinforced concrete shear wall construction
   - Final score = 1.0; FEMA estimate of collapse risk: 10%
   - Detailed investigation is indicated for structural design and detailing.
15) Lathrop High School: 1970 Addition
   - Reinforced masonry and reinforced concrete shear wall construction
   - Final score = 1.0; FEMA estimate of collapse risk: 10%
   - Detailed investigation is indicated for structural design and detailing.
16) North Pole Elementary School: 1967 Original Construction
   - Wood frame and reinforced masonry shear wall construction
   - Final score = 1.0; FEMA estimate of collapse risk: 10%
   - Detailed investigation is indicated for structural design and detailing.
17) North Pole Middle School: 1975 Original Construction
   - Reinforced masonry shear wall construction
   - Final score = 1.0; FEMA estimate of collapse risk: 10%
   - Detailed investigation is indicated for structural design and detailing.
18) Tanana Middle School: 1974 Original Construction
   - Reinforced masonry shear wall construction
   - Final score = 1.0; FEMA estimate of collapse risk: 10%
   - Detailed investigation is indicated for structural design and detailing.

19) West Valley High School: 1976 Original Construction
   - Steel braced frame, precast concrete, and reinforced masonry shear wall construction
   - Final score = 0.9; FEMA estimate of collapse risk: 13%
   - Detailed investigation is indicated for structural design and detailing.

20) Woodriver Elementary School: 1976 Original Construction
   - Steel braced frame, precast concrete, and reinforced masonry shear wall construction
   - Final score = 0.9; FEMA estimate of collapse risk: 13%
   - Detailed investigation is indicated for structural design and detailing.

For the sake of prioritization, it may be convenient for the school district to see the ten different facilities sorted by the FEMA estimate of the risk of collapse or partial collapse. That information is provided below.

West Valley High School	13% FEMA Risk	
Woodriver Elementary School	13% FEMA Risk	
Hutchison Career Center	10% FEMA Risk	
Lathrop High School	10% FEMA Risk	(Also, unbraced chimney)
North Pole Elementary School	10% FEMA Risk	
North Pole Middle School	10% FEMA Risk	
Tanana Middle School	10% FEMA Risk	
Barnette Elementary School	6.3% FEMA Risk	(Also, canopy, unbraced chimney)
Hunter Elementary School	6.3% FEMA Risk	
Joy Elementary School	6.3% FEMA Risk	(Also, unbraced chimney)

With relatively little time or expense, this study has identified many structures that may perform poorly during a major earthquake. The schools appear to pose a significant risk to students in the Fairbanks North Star Borough School District and to the communities they serve. All twenty of the original buildings and additions were flagged as requiring further structural attention. In other words, they may pose an unacceptable risk of at least partial collapse during a major earthquake. Following FEMA Publication 154, the four largest contributors to a building's seismic risk are: a) common industry practices when the structure was built, b) type of structural system, c) the presence of and type of structural irregularities, and d) the seismicity of the region.

The study of these schools in the Fairbanks North Star Borough School District indicates there would be great value in conducting similar studies statewide, where more than 500 public schools serve kindergarten through twelfth grade. It is the responsibility of school districts and school boards, as well as local and statewide governing bodies to reduce the risk earthquakes currently pose to students and facilities alike, and this rapid evaluation method would quickly and economically identify those structures requiring further attention.

In a December 17, 2014, interview aired by the Alaska Public Radio Network, Alaska Governor Bill Walker pointed out that the tightness of today's Alaskan economy requires policymakers to be particularly focused on our state's priorities, and that education is a high priority. Fortunately, structural review and upgrade is truly one area where "a stitch in time saves nine." Over time, the

cost of not upgrading a deficient structure typically exceeds the cost of improving the structure before a major earthquake hits, and even more so when lives and disruption to society are factored in.

Effectiveness of Seismic Retrofit:

Various earthquakes have shown that seismic retrofits to a building can substantially improve its performance during a major earthquake. For example, the 2001 Nisqually Earthquake near Olympia, Washington produced peak ground accelerations 10% to 30% as strong as the acceleration due to gravity. Reviewing the aftermath, the California Seismic Safety Commission determined that "One hundred and one schools and buildings had been retrofitted for structural components and seven had been retrofitted for non-structural components in the Seattle Public Schools District when the Nisqually earthquake occurred. None of the districts schools suffered significant structural damage. Non-structural damage to colleges and universities included toppling of bookcases and the localized flooding due to a ruptured water line. Some primary and secondary schools in Olympia and Seattle suffered limited structural (damaged beams and columns) and non-structural damage from strong ground shaking."

A second example is the magnitude 6 earthquake that struck Napa, California in 2014, producing peak ground accelerations of 60% to 100% as strong as the acceleration due to gravity. The earthquake and its aftershocks injured 90 people and caused approximately $1 billion of damage. Engineering News-Record reported on September 3, 2014:

> The epicenter of the American Canyon quake was at the heart of the Napa school district's 30 campuses. Subsequently, three architectural and engineering teams assessed "every room in every school" and observed no structural damage following the quake, says Mark Quattrocchi, principal of Kwok Quattrocchi Architects and one of the survey team members… The schools performed so well because they are built or retrofitted according to much stricter seismic codes than commercial and residential buildings.
>
> "There was no structural damage to any school in the district, even the ones built to older codes in the 1940s, 1950s and 1960s," says Quattrocchi. "Part of this is because seismic upgrades at the schools are treated the same as building an entirely new facility," he adds.
>
> Schools fared well for three reasons: seismic building codes that are more stringent than those for commercial buildings, methodical reviews by the Division of the State Architect and "full-time" state inspection on school construction sites, Quattrocchi says."

For buildings shown to be vulnerable to collapse during earthquakes, seismic retrofit can substantially improve the buildings' performance during a major earthquake.

Further, grants may be available from FEMA and other groups to facilitate seismic upgrades to school buildings.

Recommendations:

We urge planners and policymakers to implement a program to assess rapidly and inexpensively the vulnerability of schools to earthquakes, both for the safety of the students and to protect financial investments across the state. The cost would be approximately about $700 to $1,200 per original structure or addition, depending on availability of drawings, ease of access to the schools, and number of schools being included in the study.

We also encourage further structural review for the twenty structures identified in this report as posing unacceptable seismic risk. That review should performed by a qualified structural engineering firm and should include a careful review of the specific loads, members, and connection details specific to these structures. Where appropriate, this additional analysis should include preliminary recommendations for structural upgrade, which can be fleshed out under a separate contract for preparation of construction documents.

For the safety of the students and to protect financial investments across the state, we urge planners and policymakers to implement a program to assess rapidly the vulnerability of schools to earthquakes. This program can be surprisingly inexpensive, costing as little as $700 to $1200 per structure, while effectively indicating which structures would or would not require further review. An added benefit of this process is that we have developed a database of photographs, structural plans, and other critical information and placed it on the cloud, where it will be readily available after a major earthquake. We also encourage further structural review and possible seismic retrofit for the twenty structures identified in this report as requiring a more detailed investigation.

BBFM Engineers

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Rapid Visual Screening of Fairbanks North Star Borough Schools for Seismic Risk

Appendix A

FEMA P-154 Third Edition Data Collection Forms

Dennis L. Berry, PE Troy J. Feller, PE Colin Maynard, PE Scott M. Gruhn, PE Greg Latreille, PE

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Table of Contents

Rapid Visual Screening of Buildings for Potential Seismic Hazards
FEMA P-154 Data Collection Form

Level 1
HIGH Seismicity

Address: 1000 Barnette Street
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Barnette Elementary School 1960 Original
Use: school
Latitude: 64.8382 deg N Longitude: 147.7303 deg W
S_S: 0.992 S_1: 0.378
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 2 Below Grade: 0 Year Built: 1960 ☐ EST
Total Floor Area (sq. ft.): 38,000 Code Year: 1958
Additions: ☐ None ☒ Yes, Year(s) Built: 1970, 1974

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office ☒ School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☒D Stiff Soil ☐E Soft Soil ☐F Poor Soil ☐DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: ☒ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Reentrant corners

Exterior Falling Hazards: ☒ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

SKETCH

COMMENTS:

Original construction contains reentrant corners.

Canopy at exterior doors for rooms 301 and 302 may be subject to pounding against the main building during a severe earthquake.

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.2

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?

☐ Yes, Final Level 2 Score, S_{L2} ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS

Are There Hazards That Trigger A Detailed Structural Evaluation?

☒ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED

Detailed Structural Evaluation Required?

☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☒ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*

☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards **Level 1**
FEMA P-154 Data Collection Form **HIGH Seismicity**

Address: 1000 Barnette Street
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Barnette Elementary School 1970 Addition
Use: school
Latitude: 64.8382 deg N Longitude: 147.7303 deg W
S_S: 0.992 S_1: 0.378
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 2 Below Grade: 0 Year Built: 1970 ☐ EST
Total Floor Area (sq. ft.): 16,000 Code Year: 1967
Additions: ☐ None ☒ Yes, Year(s) Built: 1970, 1974

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office ☒ School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☒D Stiff Soil ☐E Soft Soil ☐F Poor Soil ☒DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/☒DNK Landslide: Yes/☒No/DNK Surf. Rupt.: Yes/No/☒DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

SKETCH

COMMENTS:
Addition forms reentrant corner where it connects to original building's shear wall for lateral support.

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.2

EXTENT OF REVIEW
Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
☐ Yes, Final Level 2 Score, S_{L2} ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED
Detailed Structural Evaluation Required?
☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*
☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards **Level 1**
FEMA P-154 Data Collection Form **HIGH Seismicity**

Address: 1000 Barnette Street
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Barnette Elementary School 1974 Addition
Use: school
Latitude: 64.8382 deg N Longitude: 147.7303 deg W
S_S: 0.992 S_1: 0.378
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1974 ☐ EST
Total Floor Area (sq. ft.): 16,000 Code Year: 1970
Additions: ☐ None ☒ Yes, Year(s) Built: 1970, 1974

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office ☒ School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☒D Stiff Soil ☐E Soft Soil ☐F Poor Soil ☐DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

SKETCH

COMMENTS:
Addition forms reentrant corner where it connects to original building's shear wall for lateral and vertical support.

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.9 1.2

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?

☐ Yes, Final Level 2 Score, S_{L2} _____ ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS

Are There Hazards That Trigger A Detailed Structural Evaluation?

☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED

Detailed Structural Evaluation Required?

☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

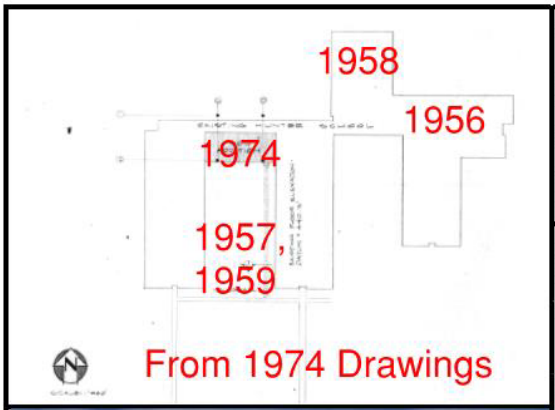
Detailed Nonstructural Evaluation Recommended? *(check one)*

☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards — **Level 1**
FEMA P-154 Data Collection Form — **HIGH Seismicity**



SKETCH

Address: 1630 Gillam Way, Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Hunter Elementary School 1956 Original
Use: school
Latitude: 64.8324 deg N Longitude: 147.7311 deg W
S_S: 0.994 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1956 ☐ EST
Total Floor Area (sq. ft.): 16,000 Code Year: 1952
Additions: ☐ None ☒ Yes, Year(s) Built: 1957, 1958, 1959, 1974

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter ☐ Industrial ☐ Office ☒ School ☐ Government ☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐ A Hard Rock ☐ B Avg Rock ☐ C Dense Soil ☒ D Stiff Soil ☐ E Soft Soil ☐ F Poor Soil ☐ DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity) ☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer ☐ Parapets ☐ Appendages ☐ Other:

COMMENTS:
Original construction contains a reentrant corner.
Wood decking forms the diaphragm.

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.2

EXTENT OF REVIEW
Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
☐ Yes, Final Level 2 Score, S_{L2} _____ ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED
Detailed Structural Evaluation Required?
☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No
Detailed Nonstructural Evaluation Recommended? *(check one)*
☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards **Level 1**
FEMA P-154 Data Collection Form **HIGH Seismicity**

Address: 901 Airport Way
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Lathrop High School 1957 Addition
Use: school
Latitude: 64.8362 deg N Longitude: 147.7328 deg W
S_S: 0.993 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 2 Below Grade: 0 Year Built: 1957 ☐ EST
Total Floor Area (sq. ft.): 12,000 Code Year: 1955
Additions: ☐ None ☒ Yes, Year(s) Built: 1957, 1962, 1970

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office ☒ School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☒D Stiff Soil ☐E Soft Soil ☐F Poor Soil ☐DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/☒DNK Landslide: Yes/☒No/DNK Surf. Rupt.: Yes/No/☒DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity) ☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer ☐ Parapets ☐ Appendages ☐ Other:

COMMENTS:
Concrete roof slab sits on haunch off concrete wall or existing concrete wall.

SKETCH

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.2 1.0

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?

☐ Yes, Final Level 2 Score, S_{L2} _____ ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS

Are There Hazards That Trigger A Detailed Structural Evaluation?

☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED

Detailed Structural Evaluation Required?

☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*

☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: EST = Estimated or unreliable data OR DNK = Do Not Know

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards
FEMA P-154 Data Collection Form

Level 1
HIGH Seismicity

Address: 1630 Gillam Way
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Hunter Elementary School 1958 Addition
Use: school
Latitude: 64.8324 deg N Longitude: 147.7311 deg W
S_S: 0.994 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1958 ☐ EST
Total Floor Area (sq. ft.): 7,000 Code Year: 1955
Additions: ☐ None ☒ Yes, Year(s) Built: 1957, 1958, 1959, 1974

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office ☒ School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☒D Stiff Soil ☐E Soft Soil ☐F Poor Soil ☐DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

SKETCH

COMMENTS:

Addition forms reentrant corner where the new wall frames over the top of the original building's shear wall for lateral and vertical support - and about 7' of it has a 1 1/2" vertical gap between the two walls for an expansion joint, with the new wall being supported by a 6x12 wood beam.
Wood decking is the diaphragm.

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.9

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?

☐ Yes, Final Level 2 Score, S_{L2} _____ ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS

Are There Hazards That Trigger A Detailed Structural Evaluation?

☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED

Detailed Structural Evaluation Required?

☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*

☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards — **Level 1**
FEMA P-154 Data Collection Form — **HIGH Seismicity**

PHOTOGRAPH

Drawings not available, but appears to be similar construction to 1957 addition

SKETCH

Address: 1630 Gillam Way, Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Hunter Elementary School 1959 Addition
Use: school
Latitude: 64.8324 deg N Longitude: 147.7311 deg W
S_S: 0.994 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1959 ☐ EST
Total Floor Area (sq. ft.): 12,000 Code Year: 1955
Additions: ☐ None ☒ Yes, Year(s) Built: 1957, 1958, 1959, 1974

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter; ☐ Industrial ☐ Office ☒ School ☐ Government; ☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐ A Hard Rock ☐ B Avg Rock ☐ C Dense Soil ☐ D Stiff Soil ☐ E Soft Soil ☐ F Poor Soil ☐ DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity) ☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer ☐ Parapets ☐ Appendages ☐ Other:

COMMENTS:

Addition forms reentrant corner where it connects to original building's shear wall for lateral and vertical support.
South end is concrete bearing/shear wall; other walls are wood stud bearing/shear walls.
Wood decking diaphragm.

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.9 1.2

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?

☐ Yes, Final Level 2 Score, S_{L2} _____ ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS

Are There Hazards That Trigger A Detailed Structural Evaluation?

☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED

Detailed Structural Evaluation Required?

☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*

☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards
FEMA P-154 Data Collection Form

Level 1
HIGH Seismicity

Address: 1630 Gillam Way
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Hunter Elementary School 1974 Addition
Use: school
Latitude: 64.8324 deg N Longitude: 147.7311 deg W
S_S: 0.994 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1974 ☐ EST
Total Floor Area (sq. ft.): 2,600 Code Year: 1970
Additions: ☐ None ☒ Yes, Year(s) Built: 1957, 1958, 1959, 1974

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office ☒ School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☒D Stiff Soil ☐E Soft Soil ☐F Poor Soil ☐DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Reentrant corners

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

SKETCH

COMMENTS:

Addition is nested within earlier additions but separated from them with a 1/2" expansion joint at the foundation. A similar joint is shown on sheet G1 at the wood roof though without a dimension, and no lateral system for the steel frame is shown. Therefore, it is likely that this addition is tied to the 1958 and 1959 additions for lateral loads.

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.9

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?

☐ Yes, Final Level 2 Score, S_{L2} _____ ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS

Are There Hazards That Trigger A Detailed Structural Evaluation?

☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED

Detailed Structural Evaluation Required?

☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*

☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: EST = Estimated or unreliable data OR DNK = Do Not Know

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards **Level 1**
FEMA P-154 Data Collection Form **HIGH Seismicity**

Address: 3750 Geist Road
Fairbanks, Alaska Zip: 99709
Other Identifiers:
Building Name: Hutchison Career Center 1973 Original
Use: school
Latitude: 64.8502 deg N Longitude: 147.8176 deg W
S_S: 0.994 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1973 ☐ EST
Total Floor Area (sq. ft.): ??? Code Year: 1970
Additions: ☐ None ☒ Yes, Year(s) Built: 1975

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office ☒ School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☒D Stiff Soil ☐E Soft Soil ☐F Poor Soil DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

COMMENTS:
Drawings not available.

SKETCH

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.0

EXTENT OF REVIEW
Exterior: ☒ Partial ☐ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
☐ Yes, Final Level 2 Score, S_{L2} ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED
Detailed Structural Evaluation Required?
☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*
☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: EST = Estimated or unreliable data OR DNK = Do Not Know

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards
FEMA P-154 Data Collection Form

Level 1
HIGH Seismicity

Address: 3750 Geist Road
Fairbanks, Alaska Zip: 99709
Other Identifiers:
Building Name: Hutchison Career Center 1975 Addition
Use: school
Latitude: 64.8502 deg N Longitude: 147.8176 deg W
S_S: 0.994 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1975 ☐ EST
Total Floor Area (sq. ft.): ??? Code Year: 1970
Additions: ☐ None ☒ Yes, Year(s) Built: 1975

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office ☒ School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☒D Stiff Soil ☐E Soft Soil ☐F Poor Soil DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

COMMENTS:
Drawings not available.

SKETCH

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.0

EXTENT OF REVIEW
Exterior: ☒ Partial ☐ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
☐ Yes, Final Level 2 Score, S_{L2} ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED
Detailed Structural Evaluation Required?
☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*
☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: EST = Estimated or unreliable data OR DNK = Do Not Know

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards — **Level 1**
FEMA P-154 Data Collection Form — **HIGH Seismicity**

SKETCH

Address: 24 Margaret Avenue
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Joy Elementary Center 1961 Original
Use: school
Latitude: 64.8614 deg N Longitude: 147.7251 deg W
S_S: 0.987 S_1: 0.376
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1961 ☐ EST
Total Floor Area (sq. ft.): ??? Code Year: 1958
Additions: [X] None [ ] Yes, Year(s) Built:

Occupancy: [ ] Assembly [ ] Commercial [ ] Emer. Services [ ] Historic [ ] Shelter
[ ] Industrial [ ] Office [X] School [ ] Government
[ ] Utility [ ] Warehouse [ ] Residential, # Units:

Soil Type: [ ] A Hard Rock [ ] B Avg Rock [ ] C Dense Soil [X] D Stiff Soil [ ] E Soft Soil [ ] F Poor Soil [ ] DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: [ ] Pounding [ ] Falling Hazards from Taller Adjacent Building

Irregularities: [ ] Vertical (type/severity) [X] Plan (type) Reentrant corner

Exterior Falling Hazards: [X] Unbraced Chimneys [ ] Heavy Cladding or Heavy Veneer [ ] Parapets [ ] Appendages [ ] Other:

COMMENTS:
Drawings not available.

[ ] Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.2

EXTENT OF REVIEW
Exterior: [ ] Partial [X] All Sides [ ] Aerial
Interior: [X] None [ ] Visible [ ] Entered
Drawings Reviewed: [ ] Yes [X] No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
[ ] Yes, Final Level 2 Score, S_{L2} _____ [X] No
Nonstructural hazards? [X] Yes [X] No

OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
[ ] Pounding potential (unless S_{L2} > cut-off, if known)
[ ] Falling hazards from taller adjacent building
[ ] Geologic hazards or Soil Type F
[ ] Significant damage/deterioration to the structural system

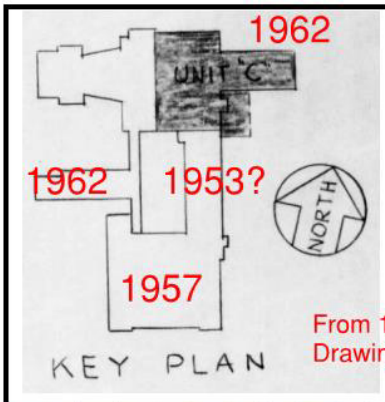
ACTION REQUIRED
Detailed Structural Evaluation Required?
[ ] Yes, unknown FEMA building type or other building
[X] Yes, score less than cut-off
[X] Yes, other hazards present
[ ] No

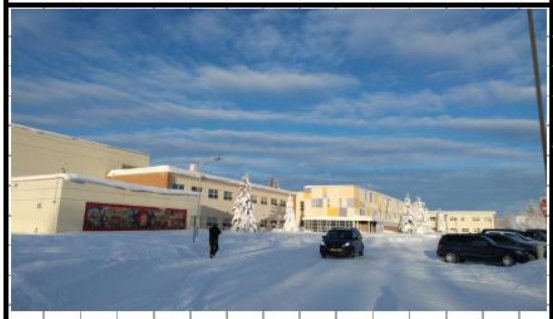
Detailed Nonstructural Evaluation Recommended? *(check one)*
[ ] Yes, nonstructural hazards identified that should be evaluated
[ ] No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
[ ] No, no nonstructural hazards identified [X] DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards — **Level 1**
FEMA P-154 Data Collection Form — **HIGH Seismicity**





SKETCH

Address: 901 Airport Way
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Lathrop High School 1953 Original
Use: school
Latitude: 64.8362 deg N Longitude: 147.7328 deg W
S_S: 0.993 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 2 Below Grade: 0 Year Built: 1953 ☐ EST
Total Floor Area (sq. ft.): ??? Code Year: 1949
Additions: ☐ None ☒ Yes, Year(s) Built: 1957, 1962, 1970

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office ☒ School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☒D Stiff Soil ☐E Soft Soil ☐F Poor Soil ☐DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/☒DNK Landslide: Yes/☒No/DNK Surf. Rupt.: Yes/No/☒DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☒ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

COMMENTS:
Concrete roof slab sits on haunch off concrete wall or existing concrete wall.

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.2 1.0

EXTENT OF REVIEW
Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
☐ Yes, Final Level 2 Score, S_{L2} _____ ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED
Detailed Structural Evaluation Required?
☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☒ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*
☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards **Level 1**
FEMA P-154 Data Collection Form **HIGH Seismicity**

Address: 901 Airport Way
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Lathrop High School 1957 Addition
Use: school
Latitude: 64.8362 deg N Longitude: 147.7328 deg W
S_S: 0.993 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 2 Below Grade: 0 Year Built: 1957 ☐ EST
Total Floor Area (sq. ft.): 12,000 Code Year: 1955
Additions: ☐ None ☒ Yes, Year(s) Built: 1957, 1962, 1970

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office ☒ School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☒D Stiff Soil ☐E Soft Soil ☐F Poor Soil ☐DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/☒DNK Landslide: Yes/☒No/DNK Surf. Rupt.: Yes/No/☒DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

COMMENTS:
Concrete roof slab sits on haunch off concrete wall or existing concrete wall.

SKETCH

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.2 1.0

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?

☐ Yes, Final Level 2 Score, S_{L2} _____ ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS

Are There Hazards That Trigger A Detailed Structural Evaluation?

☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED

Detailed Structural Evaluation Required?

☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

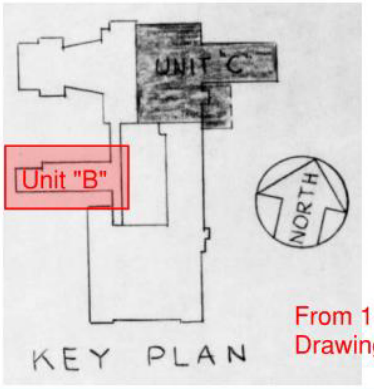
Detailed Nonstructural Evaluation Recommended? *(check one)*

☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards — **Level 1**
FEMA P-154 Data Collection Form — **HIGH Seismicity**



From 1962 Drawings

SKETCH

Address: 901 Airport Way
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Lathrop High School 1962 Addition
Use: school
Latitude: 64.8362 deg N Longitude: 147.7328 deg W
S_S: 0.993 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 2 Below Grade: 0 Year Built: 1962 ☐ EST
Total Floor Area (sq. ft.): 20,000 Code Year: 1958
Additions: ☐ None ☒ Yes, Year(s) Built: 1957, 1962, 1970

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter ☐ Industrial ☐ Office ☒ School ☐ Government ☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐ A Hard Rock ☐ B Avg Rock ☐ C Dense Soil ☒ D Stiff Soil ☐ E Soft Soil ☐ F Poor Soil ☐ DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity) ☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer ☐ Parapets ☐ Appendages ☐ Other:

COMMENTS:

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.2 1.0

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?

☐ Yes, Final Level 2 Score, S_{L2} _____ ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS

Are There Hazards That Trigger A Detailed Structural Evaluation?

☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED

Detailed Structural Evaluation Required?

☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*

☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards
FEMA P-154 Data Collection Form

Level 1
HIGH Seismicity

SKETCH

Address: 901 Airport Way
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Lathrop High School 1970 Addition
Use: school
Latitude: 64.8362 deg N Longitude: 147.7328 deg W
S_S: 0.993 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 2 Below Grade: 0 Year Built: 1970 ☐ EST
Total Floor Area (sq. ft.): ??? Code Year: 1967
Additions: ☐ None ☒ Yes, Year(s) Built: 1957, 1962, 1970

Occupancy: Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
Industrial ☐ Office ☐ School ☐ Government
Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐A Hard Rock ☐B Avg Rock ☐C Dense Soil ☐D Stiff Soil ☐E Soft Soil ☐F Poor Soil ☐DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

COMMENTS:
Drawings not available

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	**3.6**	**3.2**	**2.9**	**2.1**	**2.0**	**2.6**	**2.0**	**1.7**	**1.5**	**2.0**	**1.2**	**1.6**	**1.4**	**1.7**	**1.7**	**1.0**	**1.5**
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.2 1.0

EXTENT OF REVIEW
Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☒ None ☐ Visible ☐ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
☐ Yes, Final Level 2 Score, S_{L2} _____ ☒ No
Nonstructural hazards? ☒ Yes ☒ No

OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED
Detailed Structural Evaluation Required?
☐ Yes, unknown FEMA building type or other building
☒ Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*
☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified ☒ DNK

Where information cannot be verified, screener shall note the following: EST = Estimated or unreliable data OR DNK = Do Not Know

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards
FEMA P-154 Data Collection Form

Level 1
HIGH Seismicity

SKETCH

Address: 250 Snowman Lane
North Pole, Alaska Zip: 99705
Other Identifiers:
Building Name: North Pole Elementary School 1967 Original
Use: school
Latitude: 64.7521 deg N Longitude: 147.3494 deg W
S_S: 0.983 S_1: 0.378
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1967 ☐ EST
Total Floor Area (sq. ft.): 43,000 Code Year: 1964
Additions: [X] None ☐ Yes, Year(s) Built:

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office [X] School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐ A Hard Rock ☐ B Avg Rock ☐ C Dense Soil [X] D Stiff Soil ☐ E Soft Soil ☐ F Poor Soil ☐ DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/[DNK] Landslide: Yes/[No]/DNK Surf. Rupt.: Yes/No/[DNK]

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
[X] Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

COMMENTS:
Contains both wood stud shear walls and CMU shear walls

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.9 1.0

EXTENT OF REVIEW
Exterior: ☐ Partial [X] All Sides ☐ Aerial
Interior: [X] None ☐ Visible ☐ Entered
Drawings Reviewed: [X] Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
☐ Yes, Final Level 2 Score, S_{L2} [X] No
Nonstructural hazards? [X] Yes [X] No

OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED
Detailed Structural Evaluation Required?
☐ Yes, unknown FEMA building type or other building
[X] Yes, score less than cut-off
☐ Yes, other hazards present
☐ No

Detailed Nonstructural Evaluation Recommended? *(check one)*
☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified [X] DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards **Level 1**
FEMA P-154 Data Collection Form **HIGH Seismicity**

Address: 300 East 8th Avenue
North Pole, Alaska Zip: 99705
Other Identifiers:
Building Name: North Pole Middle School 1975 Original
Use: school
Latitude: 64.7474 deg N Longitude: 147.3432 deg W
S_S: 0.983 S_1: 0.378
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 2 Below Grade: 0 Year Built: 1975 ☐ EST
Total Floor Area (sq. ft.): 114,000 Code Year: 1970
Additions: [X] None [ ] Yes, Year(s) Built:

Occupancy: [ ] Assembly [ ] Commercial [ ] Emer. Services [ ] Historic [ ] Shelter
[ ] Industrial [ ] Office [X] School [ ] Government
[ ] Utility [ ] Warehouse [ ] Residential, # Units:

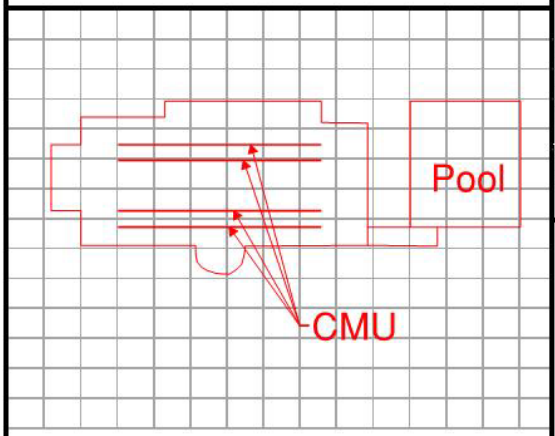
Soil Type: [ ] A Hard Rock [ ] B Avg Rock [ ] C Dense Soil [X] D Stiff Soil [ ] E Soft Soil [ ] F Poor Soil [ ] DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: [ ] Pounding [ ] Falling Hazards from Taller Adjacent Building

Irregularities: [ ] Vertical (type/severity)
[X] Plan (type) Reentrant corner

Exterior Falling Hazards: [ ] Unbraced Chimneys [ ] Heavy Cladding or Heavy Veneer
[ ] Parapets [ ] Appendages
[ ] Other:



SKETCH

COMMENTS:
Drawings not available.

High row of nearly-continuous windows along front and back prevent exterior longitudinal walls from acting in shear.

Interior CMU shear walls each side of both longitudinal corridors act as shear walls

[ ] Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.0 1.0

EXTENT OF REVIEW
Exterior: [ ] Partial [X] All Sides [ ] Aerial
Interior: [X] None [ ] Visible [ ] Entered
Drawings Reviewed: [ ] Yes [X] No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
[ ] Yes, Final Level 2 Score, S_{L2} _____ [X] No
Nonstructural hazards? [X] Yes [X] No

OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
[ ] Pounding potential (unless S_{L2} > cut-off, if known)
[ ] Falling hazards from taller adjacent building
[ ] Geologic hazards or Soil Type F
[ ] Significant damage/deterioration to the structural system

ACTION REQUIRED
Detailed Structural Evaluation Required?
[ ] Yes, unknown FEMA building type or other building
[X] Yes, score less than cut-off
[ ] Yes, other hazards present
[ ] No

Detailed Nonstructural Evaluation Recommended? *(check one)*
[ ] Yes, nonstructural hazards identified that should be evaluated
[ ] No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
[ ] No, no nonstructural hazards identified [X] DNK

Where information cannot be verified, screener shall note the following: EST = Estimated or unreliable data OR DNK = Do Not Know

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards — **Level 1**
FEMA P-154 Data Collection Form — **HIGH Seismicity**

Address: 600 West Trainor Gate Road
Fairbanks, Alaska Zip: 99701
Other Identifiers:
Building Name: Tanana Middle School 1974 Original
Use: school
Latitude: 64.8458 deg N Longitude: 147.6667 deg W
S_S: 0.988 S_1: 0.377
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1974 ☐ EST
Total Floor Area (sq. ft.): 82,000 Code Year: 1970
Additions: [X] None ☐ Yes, Year(s) Built:

Occupancy: ☐ Assembly ☐ Commercial ☐ Emer. Services ☐ Historic ☐ Shelter
☐ Industrial ☐ Office [X] School ☐ Government
☐ Utility ☐ Warehouse ☐ Residential, # Units:

Soil Type: ☐ A Hard Rock ☐ B Avg Rock ☐ C Dense Soil [X] D Stiff Soil ☐ E Soft Soil ☐ F Poor Soil ☐ DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/[DNK] Landslide: Yes/[No]/DNK Surf. Rupt.: Yes/No/[DNK]

Adjacency: ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
[X] Plan (type) Reentrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☐ Other:

COMMENTS:
Drawings not available.

☐ Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 1.0

EXTENT OF REVIEW
Exterior: ☐ Partial [X] All Sides ☐ Aerial
Interior: [X] None ☐ Visible ☐ Entered
Drawings Reviewed: [X] Yes ☐ No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
☐ Yes, Final Level 2 Score, S_{L2} _____ [X] No
Nonstructural hazards? [X] Yes [X] No

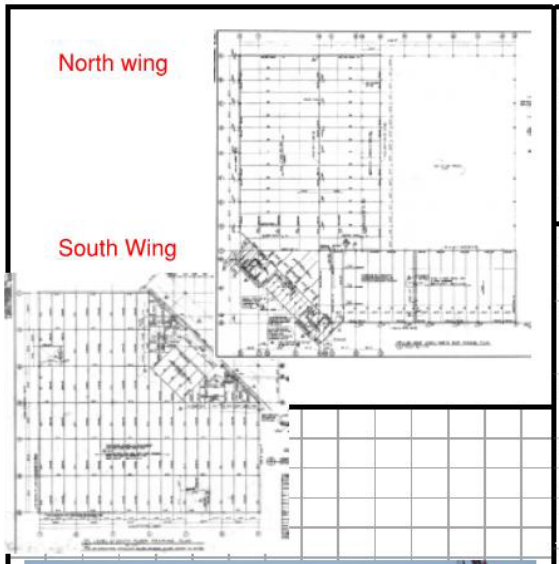
OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
☐ Pounding potential (unless S_{L2} > cut-off, if known)
☐ Falling hazards from taller adjacent building
☐ Geologic hazards or Soil Type F
☐ Significant damage/deterioration to the structural system

ACTION REQUIRED
Detailed Structural Evaluation Required?
☐ Yes, unknown FEMA building type or other building
[X] Yes, score less than cut-off
☐ Yes, other hazards present
☐ No
Detailed Nonstructural Evaluation Recommended? *(check one)*
☐ Yes, nonstructural hazards identified that should be evaluated
☐ No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
☐ No, no nonstructural hazards identified [X] DNK

Where information cannot be verified, screener shall note the following: ***EST = Estimated or unreliable data*** ***OR*** ***DNK = Do Not Know***

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards — **Level 1**
FEMA P-154 Data Collection Form — **HIGH Seismicity**



SKETCH

Address: 3800 Geist Road
Fairbanks, Alaska Zip: 99709
Other Identifiers:
Building Name: West Valley High School 1976 Original
Use: school
Latitude: 64.8514 deg N Longitude: 147.8262 deg W
S_S: 0.994 S_1: 0.379
Screener(s): SMG Date/Time: February 2017

No. Stories: Above Grade: 2 Below Grade: 0 Year Built: 1976 ☐ EST
Total Floor Area (sq. ft.): 114,000 Code Year: 1973
Additions: [X] None [ ] Yes, Year(s) Built:

Occupancy: Assembly, Commercial, Emer. Services, Historic, Shelter, Industrial, Office, School, Government, Utility, Warehouse, Residential, # Units:

Soil Type: [ ]A Hard Rock [ ]B Avg Rock [ ]C Dense Soil [ ]D Stiff Soil [ ]E Soft Soil [ ]F Poor Soil [ ]DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

Adjacency: [ ] Pounding [ ] Falling Hazards from Taller Adjacent Building

Irregularities: [ ] Vertical (type/severity) [X] Plan (type) Reentrant corner

Exterior Falling Hazards: [ ] Unbraced Chimneys [ ] Heavy Cladding or Heavy Veneer [ ] Parapets [ ] Appendages [ ] Other:

COMMENTS:
Steel chevron bracing using bolted double angles exists from the top of the mechanical room's high roof down to the foundation (drawings 2/7, 3/7, and 9/7). This is between the two wings.
Concrete and CMU bearing/shear walls are shown drawing 113/7. This is for the north wing.
The drawings do not show the lateral system for the perimeter of the south wing, but on site it appears similar to north wing.
[ ] Additional sketches or comments on separate page

BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*
FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$:					1.3							0.9		1.0			

EXTENT OF REVIEW
Exterior: [ ] Partial [X] All Sides [ ] Aerial
Interior: [X] None [ ] Visible [ ] Entered
Drawings Reviewed: [X] Yes [ ] No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
[ ] Yes, Final Level 2 Score, S_{L2} _____ [X] No
Nonstructural hazards? [X] Yes [X] No

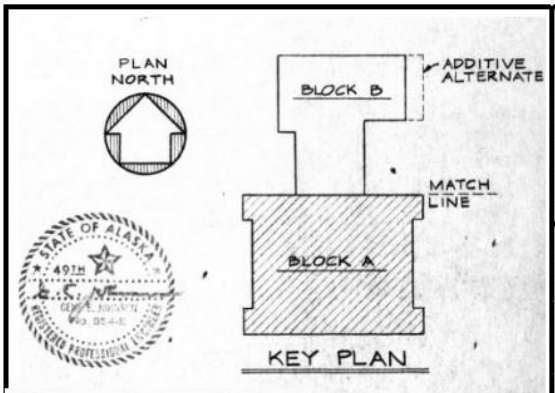
OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
[ ] Pounding potential (unless S_{L2} > cut-off, if known)
[ ] Falling hazards from taller adjacent building
[ ] Geologic hazards or Soil Type F
[ ] Significant damage/deterioration to the structural system

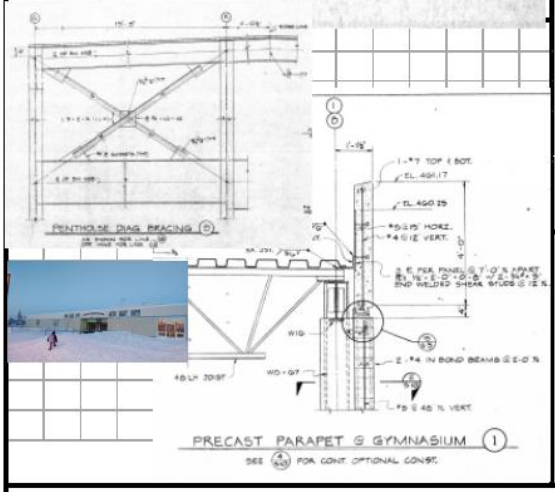
ACTION REQUIRED
Detailed Structural Evaluation Required?
[ ] Yes, unknown FEMA building type or other building
[X] Yes, score less than cut-off
[ ] Yes, other hazards present
[ ] No
Detailed Nonstructural Evaluation Recommended? *(check one)*
[ ] Yes, nonstructural hazards identified that should be evaluated
[ ] No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
[ ] No, no nonstructural hazards identified [X] DNK

Where information cannot be verified, screener shall note the following: EST = Estimated or unreliable data OR DNK = Do Not Know

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards — **Level 1**
FEMA P-154 Data Collection Form — **HIGH Seismicity**





Address: 5000 Palo Verde Avenue, Fairbanks, Alaska **Zip:** 99709
Other Identifiers:
Building Name: Woodriver Elementary School 1976 Original
Use: school
Latitude: 64.8394 deg N **Longitude:** 147.8706 deg W
S_S: 0.998 **S_1:** 0.381
Screener(s): SMG **Date/Time:** February 2017

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1976 ☐ EST
Total Floor Area (sq. ft.): 57,000 **Code Year:** 1973
Additions: [X] None [ ] Yes, Year(s) Built:

Occupancy: [ ] Assembly [ ] Commercial [ ] Emer. Services [ ] Historic [ ] Shelter [ ] Industrial [ ] Office [X] School [ ] Government [ ] Utility [ ] Warehouse [ ] Residential, # Units:

Soil Type: [ ] A Hard Rock [ ] B Avg Rock [ ] C Dense Soil [ ] D Stiff Soil [ ] E Soft Soil [ ] F Poor Soil [ ] DNK *If DNK, assume Type D.*

Geologic Hazards: Liquefaction: Yes/No/DNK Landslide: Yes/No/DNK Surf. Rupt.: Yes/No/DNK

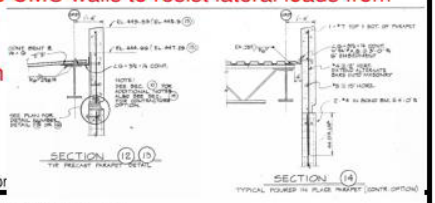
Adjacency: [ ] Pounding [ ] Falling Hazards from Taller Adjacent Building

Irregularities: [ ] Vertical (type/severity) [X] Plan (type) Reentrant corner

Exterior Falling Hazards: [ ] Unbraced Chimneys [ ] Heavy Cladding or Heavy Veneer [ ] Parapets [ ] Appendages [ ] Other:

COMMENTS:
Steel x-bracing at penthouse. Precast concrete parapets sit atop CMU walls to resist lateral loads from roof above, but this may create a hinge between the top of CMU and bottom of precast.

[ ] Additional sketches or cor



BASIC SCORE, MODIFIERS, AND FINAL LEVEL 1 SCORE, S_{L1}

FEMA BUILDING TYPE (Do Not Know)	W1	W1A	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	MH
Basic Score	3.6	3.2	2.9	2.1	2.0	2.6	2.0	1.7	1.5	2.0	1.2	1.6	1.4	1.7	1.7	1.0	1.5
Severe Vertical Irregularity, V_{L1}	-1.2	-1.2	-1.2	-1.0	-1.0	-1.1	-1.0	-0.8	-0.9	-1.0	-0.7	-1.0	-0.9	-0.9	-0.9	-0.7	NA
Moderate Vertical Irregularity, V_{L1}	-0.7	-0.7	-0.7	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	NA
Plan Irregularity, P_{L1}	-1.1	-1.0	-1.0	-0.8	-0.7	-0.9	-0.7	-0.6	-0.6	-0.8	-0.5	-0.7	-0.6	-0.7	-0.7	-0.4	NA
Pre-Code	-1.1	-1.0	-0.9	-0.6	-0.6	-0.8	-0.6	-0.2	-0.4	-0.7	-0.1	-0.5	-0.3	-0.5	-0.5	0.0	-0.1
Post-Benchmark	1.6	1.9	2.2	1.4	1.4	1.1	1.9	NA	1.9	2.1	NA	2.0	2.4	2.1	2.1	NA	1.2
Soil Type A or B	0.1	0.3	0.5	0.4	0.6	0.1	0.6	0.5	0.4	0.5	0.3	0.6	0.4	0.5	0.5	0.3	0.3
Soil Type E (1-3 stories)	0.2	0.2	0.1	-0.2	-0.4	0.2	-0.1	-0.4	0.0	0.0	-0.2	-0.3	-0.1	-0.1	-0.1	-0.2	-0.4
Soil Type E (> 3 stories)	-0.3	-0.6	-0.9	-0.6	-0.6	NA	-0.6	-0.4	-0.5	-0.7	-0.3	NA	-0.4	-0.5	-0.6	-0.2	NA
Minimum Score, S_{MIN}	*1.1*	*0.9*	*0.7*	*0.5*	*0.5*	*0.6*	*0.5*	*0.5*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.3*	*0.3*	*0.2*	*1.0*

FINAL LEVEL 1 SCORE, $S_{L1} \geq S_{MIN}$: 2.0 0.9 1.0

EXTENT OF REVIEW
Exterior: [ ] Partial [X] All Sides [ ] Aerial
Interior: [X] None [ ] Visible [ ] Entered
Drawings Reviewed: [X] Yes [ ] No
Soil Type Source: No geotech report
Geologic Hazards Source: No geotech report
Contact Person:

LEVEL 2 SCREENING PERFORMED?
[ ] Yes, Final Level 2 Score, S_{L2} [X] No
Nonstructural hazards? [X] Yes [X] No

OTHER HAZARDS
Are There Hazards That Trigger A Detailed Structural Evaluation?
[ ] Pounding potential (unless S_{L2} > cut-off, if known)
[ ] Falling hazards from taller adjacent building
[ ] Geologic hazards or Soil Type F
[ ] Significant damage/deterioration to the structural system

ACTION REQUIRED
Detailed Structural Evaluation Required?
[ ] Yes, unknown FEMA building type or other building
[X] Yes, score less than cut-off
[ ] Yes, other hazards present
[ ] No

Detailed Nonstructural Evaluation Recommended? *(check one)*
[ ] Yes, nonstructural hazards identified that should be evaluated
[ ] No, nonstructural hazards exist that may require mitigation, but a detailed evaluation is not necessary
[ ] No, no nonstructural hazards identified [X] DNK

Where information cannot be verified, screener shall note the following: EST = Estimated or unreliable data OR DNK = Do Not Know

Legend: MRF = Moment-resisting frame; BR = Braced frame; RC = Reinforced concrete; SW = Shear wall; URM INF = Unreinforced masonry infill; TU = Tilt up; MH = Manufactured Housing; LM = Light metal; FD = Flexible diaphragm; RD = Rigid diaphragm