SEISMIC SAFETY OF IDAHO SCHOOLS

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ABSTRACT

Idaho is an earthquake state. It ranks fifth highest in the nation in overall seismic zoning. The two largest earthquakes in the contiguous United States since 1952 occurred in Idaho or within a few miles of the Idaho border.

The seismic threat to the public schools in Idaho is critical. Many of our school buildings were built long before acceptable codes for earthquake-resistant buildings were enacted. The Idaho Bureau of Disaster Services together with the State Department of Education received funding from the Federal Emergency Management Agency for an Earthquake Hazard Mitigation Assistance project. This project developed seismic safety standards to be submitted to the State Board of Education. The project was directed by the Idaho Geological Survey at the University of Idaho and included experts from the disciplines of geology, geophysics, structural engineering, and education.

Our study had three components. First, the geotechnical group characterized the earthquake threat in the state based on the record of historical seismicity and interpretations of the geologic setting. Second, the structural engineering group mailed questionnaires to all the schools in the state and analyzed the seismic vulnerability of approximately 670 school buildings in 109 of the 115 school districts in Idaho. Finally, the education group studied nonstructural mitigation measures necessary to minimize the threat of injury to school occupants and investigated establishing a school-based disaster preparedness program. We completed the project in December 1988 and presented the results and recommendations to the Department of Education.

There are three recommendations as a result of this study:

1. Future school building construction and renovation should comply with the current Uniform Building Code (1988 UBC).

[1] Speaker

2. All school buildings in the state must be able to withstand seismic shaking of Intensity VII (Modified Mercalli scale) with priority given to the high risk buildings in the most hazardous parts of the state.

3. Every school building in Idaho is at some risk. Therefore, a program of planning for earthquake preparedness should be implemented on a statewide basis.

Standards based on the recommendations of our study will be presented to the State Board of Education in June 1989. Mr. Eldon Nelson of the Idaho Department of Education will present details of the standards recommended and discuss implementation. At this point the project has met with strong support from all parties involved and we anticipate substantive standards will be adopted.

KURT OTHBERG

Mr. Kurt Othberg was a research geologist in the state of Washington. Currently he is a research geologist for the Idaho Geologic Survey and runs their Earth Science Education program.

INTRODUCTION

Idaho is an earthquake state. We rank fifth highest in the nation in overall seismic zoning. The two largest earthquakes in the contiguous United States since 1952 have occurred in Idaho or within a few miles of the Idaho border.

The seismic threat to the public schools in Idaho is critical. Many of our school buildings were built long before acceptable earthquake resistant building codes were enacted. The purpose of this project was to develop seismic safety standards for Idaho schools to be submitted to the Idaho State Board of Education. This study had three components. First, we evaluated the seismic hazard in the state from the geological point of view. Second, we analyzed the seismic vulnerability of approximately 670 public school buildings in the state. Finally, we investigated the establishment of a school-based disaster preparedness program.

THE SEISMIC THREAT IN IDAHO

Seismic intensity (Figure 1) is a twelve point scale that describes the effects of shaking. From the point of view of school safety in Idaho, seismic intensity level VII is a critical threshold. At this intensity and above, damage is considerable in poorly built or badly designed structures. Two children were killed by intensity VII shaking at Challis in 1983. School buildings at Challis, Mackay, Arco, and Gooding were condemned as a result of intensity VII shaking. Intensity VII shaking occurs somewhere in the Idaho region at least once every 3 to 4 years.

To evaluate the shaking hazard in Idaho, we have developed maps of the state depicting probable seismic intensities. This report summarizes the results. Appendix A by Sprenke and Breckenridge gives the details of the geotechnical study. The intensities shown have a 90% chance of not being exceeded in any 50 year period. This is a standard criteria endorsed by engineering associations and commonly used by state and federal agencies for hazard mapping.

The seismic intensity experienced by a structure depends on two factors: bedrock acceleration and site conditions. The ideal site condition is bedrock. Structures on bedrock will shake at minimum levels during an earthquake. The worst local site condition is unconsolidated material. At certain thicknesses, the elastic properties of such foundation materials may cause magnification of bedrock acceleration. The result can be extreme shaking at the surface.

Figure 2 shows the probable seismic intensities for structures tied to bedrock in the State of Idaho. Figure 3 shows the actual historic record of shaking in the same units. The difference is substantial. In the Boise area, for example, structures tied to bedrock should experience no more than intensity V shaking; however, the historical record shows that intensities as high as IX can occur in the Boise area if site conditions are poor.

Figure 2 was derived directly from state and federal maps of maximum probable acceleration in bedrock (Algermissen et. al., 1982; Greensfelder, 1978). Accelerations were converted to seismic intensities using an empirical formula.

Figure 3 was derived from the actual historical record of seismic intensities in Idaho for the past century. Extreme value statistics were used to derive 50-year seismic intensities in the same manner that hydrologists predict 50-year floods (Gumbel, 1958).

A compilation of the results of our hazards study is summarized on Figure 4. This map divides the state into three geographical areas on the basis of relative seismic shaking hazard. A comparison of this map with the 1988 Uniform Building Code (UBC) seismic zone map (Figure 5) shows agreement. The most hazardous areas delineated in our study generally correspond with UBC zones 3 and 4. The less hazardous areas are in UBC zone 2b. Users should note that all seismic boundaries are gradational. At this scale and state of knowledge there is no significant difference in the maps. We therefore recommend the UBC seismic zone map be used for development of school safety standards.

VULNERABILITY OF PUBLIC SCHOOL BUILDINGS IN IDAHO

We have many older schools not built to modern earthquake resistant standards. These school buildings may suffer considerable damage at intensity VII. Individual schools should be reinforced or replaced if it can be shown that they may experience intensity VII shaking.

On the other hand, it is impractical at the present time to upgrade Idaho schools to survive intensity VIII or IX. At such intensities, even well-built, substantial buildings will suffer considerable damage. One defense against such earthquakes lies in emergency preparedness training for school personnel and earthquake response training for the children. Another defense lies in careful site selection for future school construction. Figure 2 shows that less than 1% of the area of Idaho is subject to intensity VIII shaking if structures are on bedrock. Hence, careful site selection alone can greatly reduce the hazard of large earthquakes to future schools.

Figure 2 shows that 26% of the area of the state is subject to intensity VII shaking even if the buildings are on bedrock. These areas are in central Idaho and in eastern Idaho both to the north and south of the Snake River Plain.

Figure 3 shows that an additional 38% of the state may experience shaking at intensity VII or higher if the historic record of worst-case shaking can be believed. Using such worst-case conditions, Sack and Lavin (Appendix B) estimated the damage ratios for all individual school buildings in the state. This data was based on a questionnaire survey of school type construction with no direct information on the site conditions.

A summary of the data for 670 school buildings in the state as collected by Sack and Lavin is shown in Table 1. This table lists for each school building: a) the possible building types (see Table 2); b) the risk estimated for that building class (M=Moderate risk, H=High risk, E=Extreme risk); c) the year of construction; d) the foundation type (1=spread footings; 2=concrete mat; and 3=piling foundation); and e) the enrollment of the school. Also, for each school district, we have listed the worst-case expected Modified Mercalli intensity level(s). A question mark (?) indicates missing data.

Table 2 lists the building classes and the risks assigned to them by Richard Nielson (Department of Civil Engineering, University of Idaho) for this study. These risks are based soley on the type of construction determined from the survey performed by Sack and Lavin. The building risks in Table 1 show that many school buildings in Idaho are at "extreme" risk if seismic shaking should occur. The likelihood of shaking can be determined from the seismic hazard maps in Figures 2,3,4.

EARTHQUAKE PREPAREDNESS

At all levels of seismic risk, non-structural mitigation measures are necessary to minimize the threat of injury to the children and staff. Even at low shaking levels injury can be suffered from the movement of building contents and attachments. At high shaking levels earthquake response actions can be life saving. Marten has presented an outline of non-structural earthquake considerations in Appendix C. We have developed a prototype of a earthquake education booklet in Appendix D.

RECOMMENDATIONS

1. All future school building construction and renovation should comply with the Unified Building Code standard. The current (1988) UBC seismic zone map appears to be adequate.

2. All school buildings in the state of Idaho must be able to withstand seismic shaking of intensity VII. Certainly, those schools identified as being under "extreme" risk in Table 1 do not meet this standard. The highest priority for retrofitting of these schools should be given to those that are located in the most hazardous areas of the state as shown in Figures 4 or 5.

3. Every school building in the state of Idaho is at some risk from earthquakes. Therefore a program of earthquake preparedness planning should be implemented on a statewide basis.

REFERENCES

Algermissen, S. T., Perkins, D. M., Thenhaus, P. C., Hanson, S. L., & Bender, B. L. (1982). Probabilistic estimates of maximum acceleration and velocity in rock in the contiguous United States. Open File Report 82-1033, United States Geological Survey, 99 pp.

Greensfelder, R. W. (1978). Maximum probable earthquake acceleration on bedrock in the state of Idaho. Research Project # 79, Idaho Department of Transportation, Division of Highways, 69 pp.

Gumbel, E. J. (1958). Statistics of extremes. New York: Columbia University Press, 375 pp.

Modified Mercalli Intensity Scale of 1931
(abridged) (NOAA)

I. Not felt except by a very few under especially favorable circumstances.

II. Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.

III. Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motorcars may rock slightly. Vibration like a passing truck. Duration estimated.

IV. During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing motorcars rocked noticeably.

V. Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.

VI. Felt by all; many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.

VII. Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motorcars.

VIII. Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motorcars disturbed.

IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.

X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with their foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.

XI. Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.

XII. Damage total. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into air.

Figure 1. The seismic intensity scale.

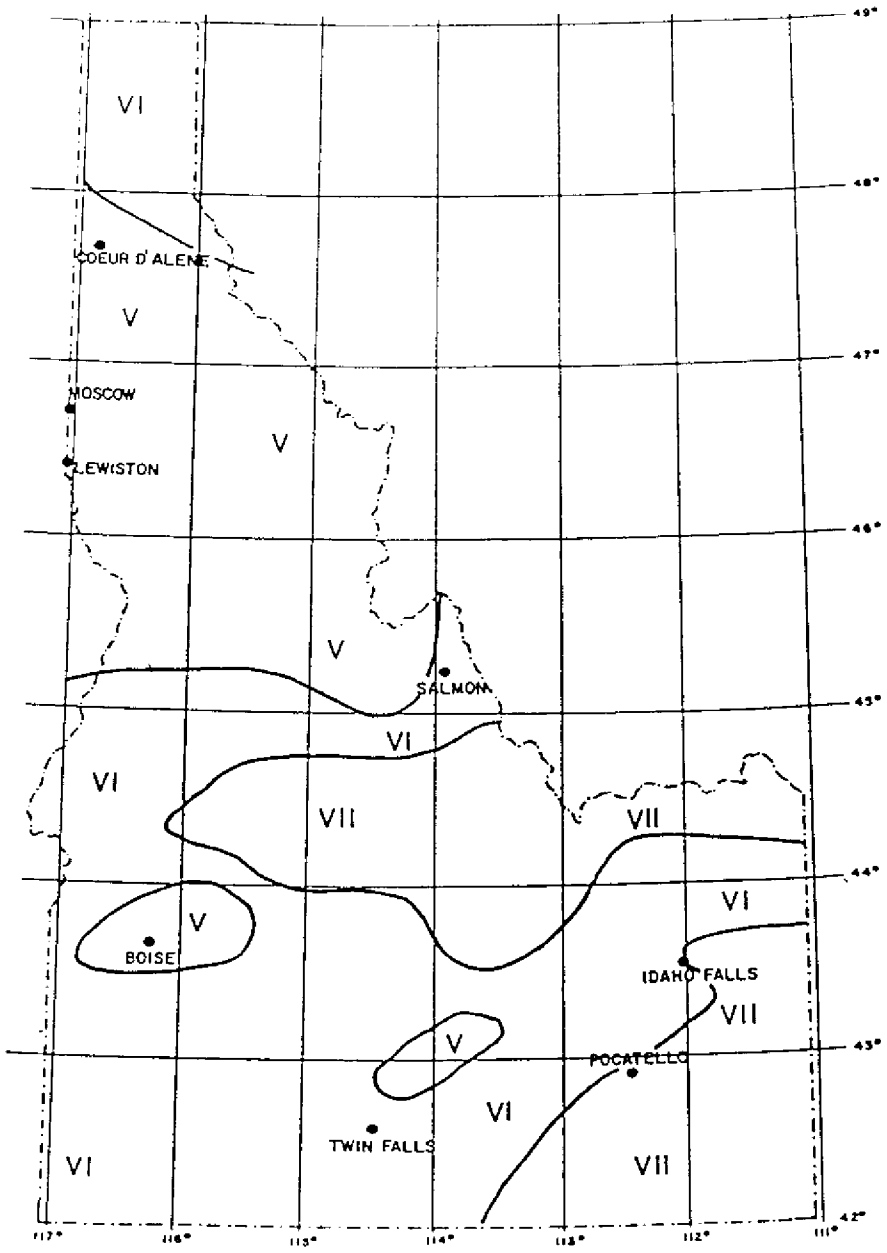

Figure 2. Map of seismic intensities on bedrock in Idaho with a 90% probability of not being exceeded in 50 years.

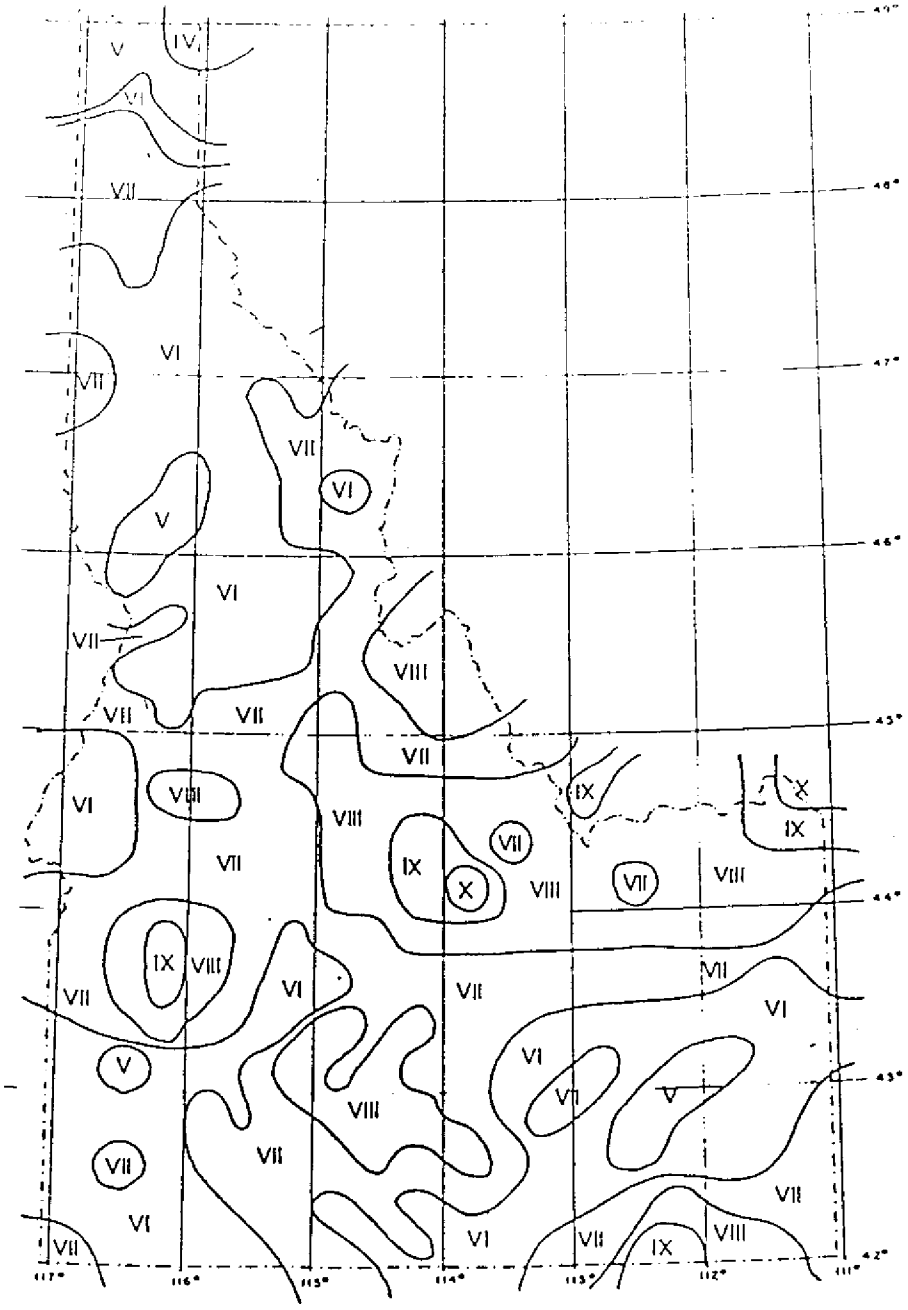

Figure 3. Map of seismic intensities on the ground surface in Idaho with a 90% probability of not being exceeded in 50 years.

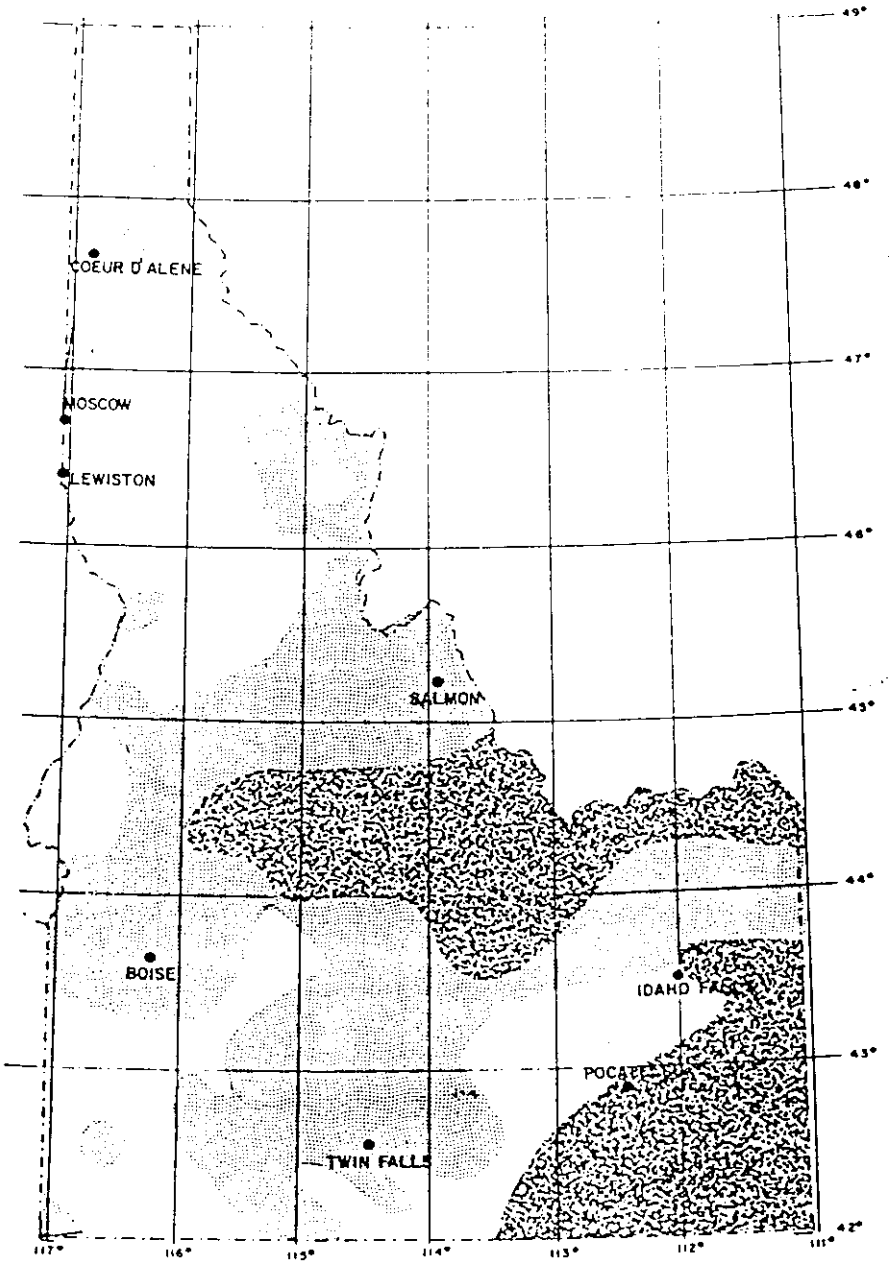

Figure 4. Map of Idaho showing areas of relative seismic shaking hazard. The darkest areas have the greatest hazard and the lightest areas have the least.

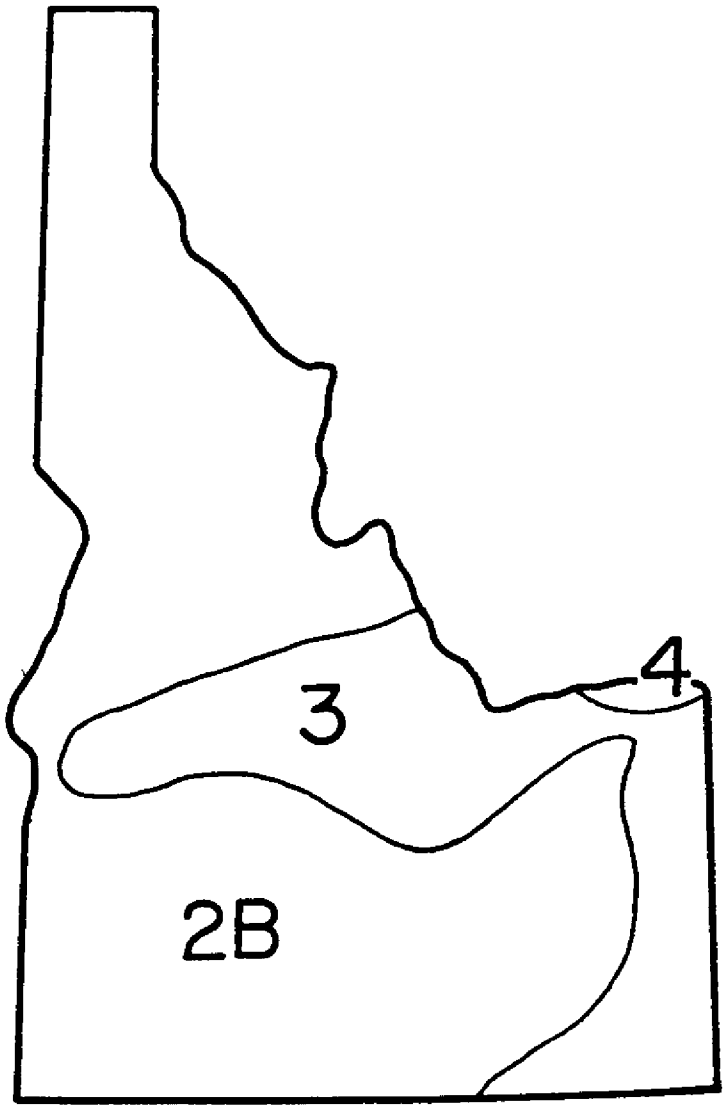

Figure 5. Unified Building Code (1988) seismic zone map for Idaho.

Table 1-Data Used in Analysis

County: Ada
School District No.: 1
Worst Case MMI Intensity Level: IX

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Boise HS-Main	3,6	E	1903	1	1569
Boise HS-IA	1,3,4,6	E	?	1	1569
Boise HS-Gym	4,6	E	1936	1	1569
Borah HS-Main	3	E	1958	2	1900
Borah HS-IA	3	E	1959	2	1900
Borah HS-Gym	3	E	1959	2	M1900
Capital HS-Main	4	E	1964	1	1800
Capital HS-Boiler	4	E	1964	1	1800
Capital HS-Plntrm	4	E	1969	1	1800
East JHS-Main	3,4,6	E	1953	2	870
East JHS-IA	2	M	?	2	870
East JHS-Portables	1	M	?	2	870
Fairmont JHS-Main	3,4,6	E	1964	1	900
Hillside JHS-Main	1	M	1961	1	800
North JHS-Main	3,4,6	E	1936	1	750
North JHS-Cafeteria	3,6	E	1969	1	750
South JHS-Main	3,4,6,7	E	1948	1	870
West JHS-Main	3	E	1953	1	860
West JHS-IA	2	M	1970	1	860
West JHS-Cafeteria	6	M	1968	1	860
Adams Elem	3,4,6,7	E	1955	1	150
Amity Elem	5	M	1977	1	797
Campus Elem	3,4,6	E	1952	1	250
Cole Elem-2 Story	5	M	1910	2	500
Cole Elem-1 Story	8	H	1951	2	500
Cole Elem-Gym	1	M	1940	2	500
Collister Elem	3	E	1912	1	324
Franklin Elem-Main	5	M	1936	1	500
Franklin Elem-Annex A	1	M	1974	1	500
Franklin Elem-Annex B	1	M	1920	1	500
Garfield Elem	3,4,6	E	1929	1	739
Hawthorne Elem	6	M	1958	2	500
Highlands Elem	6	M	1961	1	300
Hillcrest Elem	3	E	1959	2	458
Jackson Elem	3	E	1960	1	451
Jefferson Elem	3,4,6	E	1949	1	491
Koelsch Elem	3	E	1956	1	450
Liberty Elem	4	E	1984	2	870
Longfellow Elem-Main	3	E	1947	1	235
Longfellow Elem-Gym	6	M	1969	1	235
Lowell Elem	3	E	913	1	500
Madison Elem	3,4,6	E	1953	1	152
Maple Grove Elem-Main	1	M	1969	2	550
Maple Grove Elem-Annexes	1	M	1969	2	550

Table 1-Data Used in Analysis
(continued)

County: Ada
School District No.: 1
Worst Case MMI Intensity Level: IX

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
McKinley Elem	3,4,6	E	1951	1	450
Monroe Elem	5	M	1953	1	300
Mountain View Elem	1	M	1959	1	446
Owyhee Elem	6	M	1969	1	361
Pierce Park Elem	5	M	1937	1	580
Roosevelt Elem	3,4,6	E	1919	1	375
Taft Elem	3	E	1960	1	490
Valley View Elem	1	M	1968	2	486
Washington Elem	3,4,6	E	1917	1	300
Whitney Elem	5,8	H	1923	1	475
Whittier Elem	3,4,5,6	E	1948	1	400
Lincoln School	3,4,6	E	1946	2	100

Table 1-Data Used in Analysis
(continued)

County: Ada
School District No.: 2
Worst Case MMI Intensity Level: VIII-IX

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Centennial HS	6	M	1987	2	1750
Meridian HS-Main	6	M	1974	1	1750
Meridian HS-Auditorium	6	M	1974	1	1750
Meridian HS-Gym	6	M	1974	1	1750
Meridian HS-Vo-Tech	6	M	1980	1	1750
Meridian HS-Shop	6	M	1974	1	1750
Meridian HS-Cafeteria	6	M	1980	1	1750
Lake Hazel MS	6	M	1980	2	1100
Lowell Scott MS	6	M	1972	2	820
Meridian MS-Main	6	M	1960	2	1000
Meridian MS-DEd	5	M	1982	2	1000
Meridian MS-Cafeteria	6	M	1980	2	1000
Meridian MS-Gym	6	M	1983	2	1000
Meridian MS-Shop	6	M	1960	2	1000
Meridian MS-Clsrm 1	6	M	1960	2	1000
Meridian MS-Clsrm 2	6	M	1960	2	1000
Eagle Elem-Main	1	M	?	?	409
Eagle Elem-Addition	6	M	1971	?	409
Eagle Hills Elem	6	M	1978	2	420
Frontier Elem-Bldg 1	8	H	1979	2	730
Frontier Elem-Bldg 2	8	H	1979	2	730
McMillan Elem-Main	6	M	1971	2	555
McMillan Elem-Office	6	M	1985	2	555
Summerwind Elem-Main	6	M	1976	?	557
Summerwind Elem-Gym	6	M	1976	?	557
Joplin Elem	6	M	1977	?	489
Lake Hazel Elem-Main	6	M	1974	?	569
Lake Hazel Elem-Gym	6	M	1980	?	569
Ridgewood Elem	6	M	1976	?	547
Linder Elem	6	M	1979	?	586
McPhereson Elem-Clsrm 1	1	M	1965	2	586
McPhereson Elem-Library	6	M	1965	2	586
McPhereson Elem-Clsrm 2	1	M	1984	2	586
McPhereson Elem-Cafeteria	6	M	1965	2	586
McPhereson Elem-Clsrm 3	6	M	1972	2	586
Meridian Int-Main	4	E	1916	?	424
Meridian Int-Cafeteria	1	M	1960	?	424
Meridian Int-Maintenance	1	M	1945	?	424
Meridian Primary-Clsrm 1	6	M	1958	1	600
Meridian Primary-Clsrm 2	1	M	1984	1	600
Meridian Primary-Clsrm 3	6	M	1958	1	600
Meridian Primary-Gym	6	M	1958	1	600

Table 1-Data Used in Analysis
(continued)

County: Ada
School District No.: 2
Worst Case MMI Intensity Level: VIII-IX

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Meridian Primary-Clsrm 4	1	M	1984	1	600
Silver Sage Elem	6	M	1981	3	317
Star Elem-Main	3	E	1976	?	300
Star Elem-Gym	4	E	1945	?	300
Ustick Elem-Bldg 1	6	M	1969	?	506
Ustick Elem-Bldg 2	6	M	1969	?	506
Ustick Elem-Bldg 3	6	M	1969	?	506
Ustick Elem-Bldg 4	6	M	1984	?	506
Ustick Elem-Library	6	M	1978	?	506

County: Ada
School District No.: 3
Worst Case MMI Intensity Level: VIII

Bldg Name	Bldg Class		Year of Const	Fndtn Type	Occp
Kuna HS-Main	5	M	1975	2	620
Kuna HS-Gym	5	M	1975	2	620
Kuna HS-Cafeteria	5	M	1975	2	620
Kuna JHS	6	M	1973	?	316
Hubbard Elem-Main	6	M	1977	2	487
Hubbard Elem-Addition	6	M	1977	2	487
Indian Creek Elem-Bldg A	1	M	1940	1	300
Indian Creek Elem-Bldg B	1	M	1940	1	300
Ross Elem-Bldg A	1	M	1963	?	316
Ross Elem-Bldg B	1	M	1963	?	316
Ross Elem-Bldg C	1	M	1963	?	316

County: Adams
School District No.: 11 & 13
Worst Case MMI Intensity Level: VI & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Meadows Valley School	2,4	E	1969	?	225
Council HS	1	M	1966	2	180
Council Elem	6	M	1958	2	214

Table 1-Data Used in Analysis
(continued)

County: Bannock
School District No.: 21
Worst Case MMI Intensity Level: VI-VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Marsh Valley HS-Main	8	H	1957	2	425
Marsh Valley HS-Ag Bldg	6	M	1960	2	425
Marsh Valley HS-Auto Shop	2	M	?	2	425
Marsh Valley MS	6	M	1975	2	275
Downey Elem	4	E	1939	2	172
Inkom Elem	1	M	1981	2	339
Lava Elem	3	E	1908	2	130
Mountain View Elem	6	M	1975	2	360

Table 1-Data Used in Analysis
(continued)

County: Bannock
School District No.: 25
Worst Case MMI Intensity Level: V

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Highland HS-Bldg A	6	M	1962	1	1370
Highland HS-Bldg B	6	M	1962	1	1370
Highland HS-Bldg C	6	M	1962	1	1370
Highland HS-Bldg D	6	M	1962	1	1370
Highland HS-Bldg E	6	M	1968	1	1370
Pocatello HS-Main	7	M	1938	2	1253
Pocatello HS-Gym	7	M	1938	2	1253
Pocatello HS-Auto Shop	3	E	1940	2	1253
Pocatello HS-Weight Rm	3	E	1920	2	1253
Alameda JHS-Main	4	E	1952	1	756
Alameda JHS-Heat Plant	6	M	1958	1	756
Alameda JHS-Annex	1	M	1956	1	756
Franklin JHS	7	M	1965	1	600
Hawthorne JHS-Main	6	M	1956	1	905
Hawthorne JHS-Annex	1	M	1962	1	905
Irving JHS-Main	6	M	1923	1	560
Irving JHS-Addition	3	E	1962	1	560
Irving JHS-Band Rm	3	E	1950	1	560
Irving JHS-Annex	1	M	1965	1	560
Bonneville Elem-Main	3	E	1924	1	510
Bonneville Elem-Annex	1	M	1950	1	510
Chubbuck Elem	6	M	1969	2	600
Edahow Elem	6	M	1964	1	381
Gate City Elem	6	M	1980	1	537
Greenacres Elem	6	M	1952	1	389
Indian Hills Elem	1	M	1968	1	729
Jefferson Elem	6	M	1981	2	560
Lewis-Clark Elem	6	M	1952	1	600
Lincoln Elem	1	M	1959	1	335
Roosevelt Elem	6	M	1932	2	232
Syringa Elem	3	E	1963	2	500
Tendoy Elem	6	M	1956	1	390
Tyhee Elem-Main	3	E	1903	1	700
Tyhee Elem-Addition	1	M	1963	1	700
Washington Elem	3	E	1920	1	350
Whittier Elem	3,4	E	1948	?	?
Wilcox Elem	3	E	1975	1	694
Ellis Elem	6	M	1983	2	525

Table 1-Data Used in Analysis
(continued)

County: Bear Lake
School District No.: 33
Worst Case MMI Intensity Level: VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Bear Lake HS	3,4,6	E	1982	2	400
Paris Elem	3,4,6	E	1981	2	226
Georgetown Elem	3,4,6	E	1927	1	145
Winters Elem	3,4,6	E	1960	2	470

County: Benewah
School District No.: 41 & 42
Worst Case MMI Intensity Level: VI & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
St. Maries HS	1	M	1976	2	333
St. Maries JHS-Main	1	M	1957	1	180
St. Maries JHS-Annex	1	M	1957	1	180
Heyburn Elem	3,4,6	E	1925	1	315
St. Maries Primary	3,4,6	E	1920	1	105
Up River Elem	1	M	1974	2	200
Plummer HS-Bldg 1	3	E	?	?	212
Plummer HS-Bldg 2	4	E	?	?	212
Plummer HS-Ag Bldg	3	E	?	?	212

Table 1-Data Used in Analysis
(continued)

County: Bingham
School District No.: 52
Worst Case MMI Intensity Level: V

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Snake River HS	3,4,6,7	E	1980	2	560
Snake River JHS	3,4,6	E	1952	2	352
Snake River MS	3,4,6,7	E	1920	2	400
Moreland Elem	3,4,6	E	1971	2	411
Pingree Elem	3,4,6	E	1934	2	151
Riverside Elem	3,4,6	E	1965	2	275
Rockford Elem	3,4,6	E	1974	2	221

County: Bingham
School District No.: 55
Worst Case MMI Intensity Level: V

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Blackfoot HS-Main	3,6	E	1955	1	1100
Blackfoot HS-Annex	3,6	E	1963	1	1100
Blackfoot HS-Auto Shop	3,6	E	1986	1	1100
Mountain View MS	3,4,6,7	E	1976	2	975
Elmwood Elem	3,5,6	E	1922	2	276
Fort Hall Elem-Main	3,4,6	E	1975	2	175
Fort Hall Elem-Kgtn	1	M	1970	2	175
Groveland Elem	3,6	E	1952	?	375
Shilling Elem	3,6	E	1928	2	320
Stalker Elem	3,4,6,7	E	1963	1	375
Stoddard Elem	4,7	E	1961	1	385
Wapello Elem	3,4,6,7	E	1920	1	150
Irving Kindergarten	3,5,6	E	1937	2	390

County: Bingham
School District No.: 58, 59, & 60
Worst Case MMI Intensity Level: VI, V, & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Aberdeen HS	6	M	1951	2	200
Aberdeen Elem	6,7	M	1976	2	600
Firth HS	3,4,6	E	1967	2	260
Gibbs MS	3,4,6	E	1922	2	230
Johnson Elem	3,4,6	E	1962	1	525
Shelley HS	3,5,6,8	E	1950	?	375

Table 1-Data Used in Analysis
(continued)

County: Blaine
School District No.: 61
Worst Case MMI Intensity Level: VII-VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Wood River HS	3,4,6,7	E	1976	2	360
Carey School	3,4,6	E	1964	1	300
Wood River JHS	3,4,6,7	E	1938	1	351
Bellevue Elem	3,4,6	E	1965	1	490
Hailey Elem	3,4,6	E	1965	1	304
Hemingway Elem	3,4,6	E	1968	1	345

County: Boise
School District No.: 71, 72, & 73
Worst Case MMI Intensity Level: VII-VIII, VIII, & IX

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Garden Valley HS-Main	3	E	1963	1	109
Garden Valley HS-Multi	1	M	1977	1	109
Garden Valley HS-Shop	2	M	1970	1	109
Garden Valley Elem	1	M	1927	1	66
Lowman Elem	1	M	1942	1	12
Basin Elem	3,6	E	1962	1	225
Horseshoe Bend Elem-Main	1	M	1964	2	200
Horseshoe Bend Elem-Gym	6	M	1964	2	200
Horseshoe Bend Elem-Computer	1	M	1964	2	200

Table 1-Data Used in Analysis
(continued)

County: Bonner
School District No.: 82
Worst Case MMI Intensity Level: VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Clark Fork HS	6	M	1923	3	120
Priest River -Lamanna HS	3,4,6	E	1977	2	480
Sandpoint HS-Gym	6	M	1952	2	880
Sandpoint HS-Clrm	6	M	1952	2	880
Sandpoint HS-Walkway	6	M	1952	2	880
Sandpoint HS-Offices	6	M	1952	2	880
Sandpoint HS-Industrial	6	M	1952	2	880
Sandpoint HS-Maintenance	6	M	1952	2	880
Priest River JHS	6	M	1940	1	236
Stidwell-Sagle Elem	3,4,6,7	E	1973	2	445
Farmin Elem	1	M	1963	1	552
Hope Elem	1	M	1987	2	154
Idaho Hill Elem-Main	3,4,6	E	1923	1	174
Idaho Hill Elem-Gym	3	E	1923	1	174
Northside Elem	1,5	M	1952	2	270
Priest Lake Elem	1	M	1960	1	62
Priest River Elem	1	M	1962	1	532
Southside Elem	3,4,6	E	1970	?	225
Washington Elem	3	E	1962	1	331

Table 1-Data Used in Analysis
(continued)

County: Bonneville
School District No.: 91
Worst Case MMI Intensity Level: VI-VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Idaho Falls HS-Main	6	M	1952	1	1050
Idaho Falls HS-W Stdm	6,7	M	1952	1	1050
Idaho Falls HS-Et Stdm	6,7	M	1952	1	1050
Skyline HS	6	M	1968	1	990
Eagle Rock JHS	6,7	M	1974	1	1006
Gale JHS-Main	6	M	1961	1	1028
Gale JHS-Wood Shop	6,7	M	1961	1	1028
Gale JHS-East Wing	6,7	M	1961	1	1028
Boyes Elem	6	M	1965	1	619
Hawthorne Elem	6	M	1938	1	380
Bunker Elem	3,6	E	1963	1	362
Bush Elem	3,6	E	1954	1	601
Edgemont Gardens Elem	3,6	E	1958	1	552
Emerson Elem-Main	3,6	E	1921	1	193
Emerson Elem-Annex	3,4,6	E	1921	1	193
Erickson Elem	6	M	1955	1	542
Linden Park Elem	6	M	1955	1	439
Longfellow Elem	6	M	1957	1	559
Osgood Elem-Main	3,6	E	1928	1	172
Osgood Elem-Cafeteria	3,4,6	E	1928	1	172
Temple View Elem	6	M	1958	1	376
West Side Elem	6	M	1980	1	467
York Elem	3,4,6	E	1930	1	8

Table 1-Data Used in Analysis
(continued)

County: Bonneville
School District No.: 93
Worst Case MMI Intensity Level: VI-VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Bonneville HS-Main	4,7	E	1956	1	1210
Bonneville HS-Shop	3,4,6	E	1976	1	1210
North Bonneville JHS	3,4,6,7	E	1956	?	800
South Bonneville JHS	3,4,6	E	1987	2	750
Ammon Elem-Main	3,6	E	1936	3	528
Ammon Elem-Annex	3,6	E	1970	3	528
Cloverdale Elem	3,4,6	E	1981	?	600
Fairview Elem	4,7	E	1927	2	335
Falls Valley Elem	3,6	E	1968	2	700
Hill View Elem	3,4,6	E	1960	1	545
Iona Elem	3,4,6	E	1929	2	392
Lincoln Elem-Main	3,6	E	1905	1	317
Lincoln Elem-East Bldg	3,4,6	E	1962	1	317
Lincoln Elem-West Bldg	3,4,6	E	1915	1	317
Ucon Elem	3,6	E	1987	1	560

County: Boundary
School District No.: 101
Worst Case MMI Intensity Level: VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Bonners Ferry HS-Main	6	M	1972	2	460
Bonners Ferry HS-Music	6	M	1972	2	460
Evergreen Elem	1	M	1954	1	75
Mt. Hall Elem	3,6	E	1950	1	220
Naples School	6	M	1935	2	126
Northside School	3,4,6	E	1912	2	105
Valley View School	3,6	E	1948	1	525

County: Butte
School District No.: 111
Worst Case MMI Intensity Level: VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Butte County HS	3,4,6	E	1951	1	327
Arco Elem	3,4,6,7	E	1962	2	270
Howe Elem	3,4,6	E	?	2	50

Table 1-Data Used in Analysis
(continued)

County: Camas
School District No.: 121
Worst Case MMI Intensity Level: VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Camas County School	3,4,6	E	1913	1	170

County: Canyon
School District No.: 131
Worst Case MMI Intensity Level: VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Nampa HS-100 Bldg	1	M	1950	2	1500
Nampa HS-200 Bldg	1	M	1950	2	1500
Nampa HS-300 Bldg	6	M	1950	2	1500
Nampa HS-400 Bldg	6	M	1950	2	1500
Nampa HS-500 Bldg	1	M	1950	2	1500
Nampa HS-Fld House	1	M	1950	2	1500
Nampa HS-Grand Stand	3	E	1950	2	1500
Nampa HS-Physical Plant	6	M	1950	2	1500
Nampa HS-600 Bldg	1	M	1950	2	1500
Nampa HS-700 Bldg	1	M	1950	2	1500
Nampa HS-800 Bldg	1	M	1950	2	1500
South JHS-Main	6	M	1972	2	900
South JHS-Gym	6	M	1972	2	900
South JHS-DEd	6	M	1972	2	900
West JHS	3,4,6,7	E	1972	2	800
Central Elem	3,5,6,8	E	?	?	759
Centennial Elem	3,4,6,7	E	1975	2	650
Eastside Elem	6	M	1940	3	500
Greenhurst Elem	3,4,6,7	E	?	2	51
Lincoln Elem	6	M	?	?	548
Lakeview Elem	6	M	?	?	490
Parkview Elem	6	M	?	?	123
Roosevelt Elem	3,6	E	1937	2	300
Sunny Ridge Elem	3,4,6	E	1969	2	600

Table 1-Data Used in Analysis
(continued)

County: Canyon
School District No.: 132
Worst Case MMI Intensity Level: VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Caldwell HS	3,4,6	E	1958	1	836
Jefferson JHS	7	M	1974	1	617
Lincoln Elem	6	M	1944	2	868
Van Buren Elem-2 Story	3,5,6,8	E	1941	?	637
Van Buren Elem-1 Story	6	M	?	?	637
Washington Elem-Bldg 1	3,6	E	1905	2	720
Washington Elem-Bldg 2	5	M	1949	2	720
Washington Elem-Bldg 3	6	M	1958	2	720
Wilson Elem	3,4,6	E	1962	2	620

County: Canyon
School District No.: 133, 134, 135, 136, 137, 138, & 139
Worst Case MMI Intensity Level: VII, VII, VII, VII, VII, VII, & VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Wilder HS	3,4,6	E	?	2	200
Middleton JHS	3,4,6,7	E	1973	2	430
Middleton Primary	3,4,6	E	1934	2	400
Notus HS	3,4,6,7	E	1976	2	91
Notus Elem	1,5	M	1929	2	227
Melba HS	3,4,6	E	1935	1	235
Melba Elem	3,4,6	E	1959	2	290
Parma HS-Gym	3,5,6,8	E	1950	2	286
Parma JHS-Main	3,6	E	1928	2	160
Parma JHS-Gym	1	M	?	2	160
Roswell Elem	3	E	1922	1	126
Johnson Elem	6	M	1920	2	350
Scism Elem	3,4,6	E	1920	2	60
Vallivue HS	6	M	1962	1	700
Vallivue JHS	6	M	1974	1	360
East Canyon Elem	6	M	1971	2	436
Midway Elem	6	M	1950	1	205
West Canyon Elem	1	M	1971	2	625

Table 1-Data Used in Analysis
(continued)

County: Caribou
School District No.: 148, 149, & 150
Worst Case MMI Intensity Level: VI-VII, VI, & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Grace HS	3,6	E	1950	1	190
Grace JHS	1	M	1982	1	100
Grace Elem	3,5,6,8	E	1929	1	280
Thatcher Elem	3,4,6	E	1923	1	180
North Gem HS	3,6	E	1930	2	250
Soda Springs HS	3,5,6,8	E	1960	2	255
Soda Springs JHS	3,6	E	1919	1	170
Grays Lake Elem	1	M	1940	1	20
Hooper Elem	3,6	E	1954	1	450
Thirkill Elem	6,7	M	1967	3	335

County: Cassia
School District No.: 151
Worst Case MMI Intensity Level: VII-VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Burley HS-Main	3,4,6	E	1956	2	575
Burley HS-Weight Rm	3,4,6	E	1956	2	575
Raft River HS	3,4,6	E	1955	1	120
Dworshak Elem	3,6	E	1960	2	590
Malta Elem	3,4,6	E	1931	1	289
Overland Elem	3,4	E	1912	1	145
Springdale Kindergarten	3,4,6	E	1930	3	400

County: Clark
School District No.: 161
Worst Case MMI Intensity Level: VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Clark County School	3,5,6,8	E	1920	?	68

Table 1-Data Used in Analysis
(continued)

County: Clearwater
School District No.: 171 & 172
Worst Case MMI Intensity Level: VI & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Orofino HS	3,6	E	1968	2	550
Timberline HS	3,4,6	E	1969	2	176
Orofino JHS	3,4,6,7	E	1935	?	204
Weippe MS-Clsrm	3,4,6	E	1955	?	70
Weippe MS-Gym	3,4,6,7	E	1936	?	70
Cavendish-Teakean Elem	5,8	H	1952	2	22
Grangemont School	3,4,6	E	1955	2	16
Orofino Elem	3,4,6	E	1954	2	640
Peck Elem	3,4,6	E	1963	2	40
Pierce Elem	3,4,6,7	E	1979	1	154
Weippe Elem	3,4,6,7	E	1926	2	201
Elk River School	1	M	1911	2	35

County: Custer
School District No.: 181 & 182
Worst Case MMI Intensity Level: IX & VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Challis HS-Main	3,6	E	1983	2	280
Challis HS-Shop	3,6	E	1983	2	280
Challis JHS-Main	3,6	E	1984	1	0
Challis JHS-Gym	1	M	1945	1	0
Challis JHS-Shop	2	M	1950	1	0
Challis Elem	3,6	E	1967	1	300
Clayton Elem	1	M	1985	2	20
Patterson Elem	5,8	H	1950	2	25
Stanley Elem	6	M	1978	2	30
Mackay HS-Main	6	M	1983	1	150
Mackay HS-Shop	2	M	?	1	150
Mackay Elem	6	M	1967	2	190

Table 1-Data Used in Analysis
(continued)

County: Elmore
School District No.: 191, 192, & 193
Worst Case MMI Intensity Level: VI-VII, VII, & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Prairie Elem	1	M	1900	1	11
Glenns Ferry HS	3,4,6	E	1965	2	625
Mountain Home HS	3,4,6	E	1954	?	700
Mountain Home AFB JHS	3,4,6	E	1963	1	216
Mountain Home JHS	3,4,6,7	E	1928	2	563
East Elem	3,4,6	E	1952	?	420
Base INT	3,4,6	E	1962	1	360
Base Primary	3,4,6	E	1955	2	395
North Elem	3,4,6	E	1964	1	415
West Elem	3,4,6,7	E	1960	2	490

County: Franklin
School District No.: 201 & 202
Worst Case MMI Intensity Level: VIII & VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Preston HS-Main	6	M	1955	1	550
Preston HS-Seminary	3	E	1939	1	550
Preston HS-Shop	6	M	1975	1	550
Jefferson MS	3	E	1914	2	450
Oakwood Elem-Main	1	M	1972	2	1225
Oakwood Elem-Annex	6	M	1972	2	1225
Westside HS-Bldg 1	3	E	1949	1	211
Westside HS-Bldg 2	3	E	1960	1	211
Clifton Elem	3	E	1939	2	183
Weston Elem	1	M	1949	?	154

County: Fremont
School District No.: 215
Worst Case MMI Intensity Level: VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
North Fremont HS	3,6	E	1951	3	250
South Fremont HS	3,4,6,7	E	?	2	466
South Fremont JHS	3,6	E	1937	2	300
Central Elem	3,6	E	1974	2	421
Parker-Egin Elem	3,4,6	E	1965	2	200

Table 1-Data Used in Analysis
(continued)

County: Gem
School District No.: 221
Worst Case MMI Intensity Level: VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Emmett HS-Clsrm Pod	5	M	1988	?	700
Emmett HS-Clsrm Pod	5	M	1988	?	700
Emmett HS-Wood Shop Pod	5	M	1988	?	700
Emmett HS-Auto Shop Pod	5	M	1988	?	700
Emmett HS-Vo-Ag Pod	5	M	1988	?	700
Emmett MS-Bldg 1	5	M	1954	2	348
Emmett MS-Bldg 2	6	M	1954	2	348
Emmett MS-Bldg 3	6	M	1954	2	348
Emmett MS-Bldg 4	6	M	1954	2	348
Emmett MS-Annex 1	1	M	1954	2	348
Emmett MS-Annex 2	1	M	1954	2	348
Emmett MS-Annex 3	1	M	1954	2	348
Brick Elem-Main	3	E	1926	2	200
Brick Elem-Annex	1	M	1926	2	200
Brick Elem-Clsrm Bldg	1	M	1926	2	200
Butteview Elem-Main	1,6	M	1960	2	880
Butteview Elem-Annex	1	M	1960	2	880
Hanna Elem	3	E	1935	2	76
Letha Elem	1	M	1957	2	80
Letha Kindergarten	1	M	1960	2	80
Ola Elem-Main	1	M	1910	2	30
Ola Elem-Library	1	M	1910	2	30
Sweet Elem	6	M	1974	2	75

County: Gooding
School District No.: 231, 232, & 234
Worst Case MMI Intensity Level: VIII, VIII, & VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Gooding HS-Main	3,6	E	1972	?	288
Gooding HS-Vo-Ag	3,4,6	E	1984	?	288
Frahm JHS	3,4,6	E	1939	3	250
Gibbons Elem	3,5,6	E	1950	2	515
Wendell HS	3,4,6	E	1926	3	376
Wendell Elem	3,4,6	E	1964	2	550
Bliss School	3,4,6	E	1916	1	145

Table 1-Data Used in Analysis
(continued)

County: Idaho
School District No.: 241 & 242
Worst Case MMI Intensity Level: VI & V

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Grangeville HS	1	M	1957	2	300
Elk City School	3,4,6	E	?	2	90
Grangeville Elem-Bldg 1	3,4,6	E	1965	1	675
Grangeville Elem-Bldg 2	2	M	?	1	675
Grangeville Elem-Bldg 3	1	M	1960	1	675
Grangeville Elem-Bldg 4	3,4,6	E	?	1	675
Grangeville Elem-Bldg 5	1	M	?	1	675
Valley Elem	3,4,6	E	1969	2	420
Prairie HS-Main	3,4,6,7	E	1951	1	140
Prairie HS-Industrial Arts	2	M	1951	1	140
Prairie MS	3,4,6,7	E	?	1	154

County: Jefferson
School District No.: 251, 252, & 253
Worst Case MMI Intensity Level: VII, VII, & VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Rigby HS	3,4,6,7	E	1987	3	720
Midway JHS	3,4,6,7	E	1955	1	485
Roberts JHS	3,4,6,7	E	1939	1	165
Midway Elem	3,4,6	E	1968	2	580
Harwood Elem	3,4,6,7	E	1969	2	636
Kinghorn Elem	4,7	E	1939	2	525
Roberts Elem	3,4,6,7	E	1968	1	185
Ririe HS	3,6	E	1927	2	281
Ririe Elem	3,4,6	E	1950	1	400
W. Jefferson HS	3,4,6,7	E	1959	1	180
Hamer Elem	3,4,6	E	1937	2	130
Terreton Elem	3,4,6	E	1968	2	430

Table 1-Data Used in Analysis
(continued)

County: Jerome
School District No.: 261 & 262
Worst Case MMI Intensity Level: VIII & VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Jerome HS-Main	6	M	1976	1	733
Jerome HS-Shop	6	M	1980	1	733
Jerome JHS-Main	6	M	1948	2	427
Jerome JHS-Annex	3	E	1956	2	427
Central Elem	3	E	1918	1	638
Jefferson Elem	6	M	1956	2	415
Washington Elem	3,4,6	E	1937	2	340
Valley HS	6	M	1954	2	300
Eden Elem-Main	6	M	1925	2	150
Eden Elem-Cafeteria	1	M	1955	2	150
Hazelton Elem	3	E	1927	2	150

County: Kootenai
School District No.: 271
Worst Case MMI Intensity Level: VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Canfield MS	6,7	M	1976	2	700
Lakes MS	4,6	E	1952	2	890
Borah Elem	3,6	E	1953	2	450
Bryan Elem	3,4,6	E	1962	2	505
Dalton Gardens Elem	3,4,6	E	1954	1	300
Harding Elem	3,4,6	E	1926	2	315
Hayden Lake Elem-So Bldg	3,6	E	1936	2	533
Hayden Lake Elem-No Bldg	3,6	E	1953	2	533
Ramsey Elem	3,4,6,7	E	1975	2	530
Sorenson Elem	3,4,6	E	1957	2	330
Winton Elem	3,6	E	1936	2	300

Table 1-Data Used in Analysis
(continued)

County: Kootenai
School District No.: 272, 273, & 274
Worst Case MMI Intensity Level: VII, VI, & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Lakeland HS	5	M	?	2	533
Lakeland JHS-Main	3	E	1963	2	550
Lakeland JHS-Shop	6	M	1963	2	550
Lakeland JHS-East Bldg	1	M	1963	2	550
Athol Elem	1	M	1968	2	193
Brown Elem-Main	1	M	?	?	544
Brown Elem-Annex	1	M	?	?	544
Rathdrum Upper Elem	3,4,6	E	1939	2	200
Spirit Lake Elem	1	M	1968	2	210
Post Falls JHS	3,6	E	1956	1	466
Post Elem	3,5,6,8	E	1951	?	496
Seltice Elem	3,4,6	E	1973	1	611
Kootenai HS	3,4,6,7	E	1956	1	175
Harrison Elem-Main	3,5,6,8	E	1985	1	145
Harrison Elem-Gym	1	M	?	1	145

County: Latah
School District No.: 281, 282, 283, 284, & 285
Worst Case MMI Intensity Level: VI-VII, VI, VI, VI, & VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Moscow HS-Main	3,6	E	1938	1	625
Moscow HS-Annex	6	M	1968	1	625
Moscow JHS-Main	6	M	1957	1	582
Moscow JHS-Gym	5	M	1957	1	582
McDonald Elem	6	M	1968	2	351
Russell Elem	3	E	1928	1	322
West Park Elem	6	M	1959	2	310
Whitmore Elem	6	M	1951	1	380
Genesee HS	1,7	M	1939	2	319
Kendrick HS-Main	3,4,6	E	1960	2	160
Kendrick HS-Vo-Ag	2	M	1968	2	160
Juliaetta Elem	3	E	1932	3	150
Troy HS	3	E	1908	1	188
Troy Elem	6	M	1974	1	170
Bovill Elem	1	M	?	?	111
Deary HS	6	M	1934	1	181
Deary Elem	3	E	?	1	181
Potlatch HS-Main	1	M	1969	1	238
Potlatch HS-Vo-Ed	2	M	1969	1	238
Potlatch Elem	3	E	1953	1	300

Table 1-Data Used in Analysis
(continued)

County: Lemhi
School District No.: 291
Worst Case MMI Intensity Level: VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Salmon HS	3,4,6	E	1978	3	430
Salmon JHS	3,4,6,7	E	1939	2	350
Brooklyn Elem	3,4,6	E	1905	2	210
Pioneer Elem	3,4,6	E	1958	2	425

County: Lewis
School District No.: 302, 304, & 305
Worst Case MMI Intensity Level: V, VI, & V

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Nez Perce HS	3,4,6	E	1955	1	50
Nez Perce Elem	3,4,6	E	1963	1	100
Kamiah HS-Main	3	E	1959	1	170
Kamiah HS-Multi	3	E	1974	1	170
Kamiah JHS	6	M	1970	1	170
Kamiah Elem	3	E	1952	2	330
Highland HS-Main	3,4,6	E	1953	2	300
Highland HS-Multi	3,4,6,7	E	1964	2	300
Highland HS-Shop	5,8	H	1978	2	300

County: Lincoln
School District No.: 312 & 314
Worst Case MMI Intensity Level: VIII & VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Shoshone HS	6	M	1929	2	175
Lincoln Elem	3,4,6	E	1929	2	200
Dietrich School	3,4,6	E	1936	1	150

Table 1-Data Used in Analysis
(continued)

County: Madison
School District No.: 321 & 322
Worst Case MMI Intensity Level: VIII & VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Madison HS	3,4,6	E	1972	1	1000
Madison JHS	3,4,6,7	E	1955	1	917
Adams Elem	6	M	1984	2	550
Archer Elem	3,4,6	E	1938	1	153
Burton Elem	3,4,6,7	E	1940	?	152
Hibbard Elem	3,4,6,7	E	1978	2	171
Kennedy Elem	6	M	1963	2	480
Lincoln Elem	3,4,6	E	1964	2	424
Lyman Elem	3,4,6,7	E	1953	2	263
Washington Elem	3	E	1922	2	475
Sugar-Salem HS	3,4,6	E	1973	2	319
Kershaw MS	3,4,6	E	1980	2	458
Central Elem	3,4,6	E	1965	2	650

County: Minidoka
School District No.: 331
Worst Case MMI Intensity Level: VII-VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Minico HS	3,4,6	E	1955	2	900
East Minico JHS	3,6	E	1970	2	580
West Minico JHS	3,6	E	1970	2	488
Acequia Elem	3,4,6,7	E	1936	2	431
Heyburn Elem	3,4,6,7	E	1927	2	630
Memorial Elem	3,4,6	E	1961	3	500
Paul Elem	3,4,6	E	1978	2	640
Pershing Elem	3,4,6	E	1915	2	273
Big Valley Elem	3,4,6,7	E	1986	2	530

Table 1-Data Used in Analysis
(continued)

County: Nez Perce
School District No.: 340, 341, 342, & 343
Worst Case MMI Intensity Level: VI, VI, VI, & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Lewiston HS-Main	3,6	E	1928	2	1289
Lewiston HS-Science Bldg	3	E	1970	2	1289
Lewiston HS-Auto Shop	3	E	1963	2	1289
Lewiston HS-Art Studio	3	E	1963	2	1289
Lewiston HS-Machine Shop	1	M	1958	2	1289
Lewiston HS-Gym	3	E	?	2	1289
Jennifer JHS-Clsrm	6	M	1959	2	597
Jennifer JHS-Gym	6	M	1959	2	597
Sacajawea JHS-Clsrm	3,4,6,7	E	1959	2	568
Sacajawea JHS-Gym	3,4,6	E	1959	2	568
Camelot Elem-Bldg 1	3,4,6	E	1969	2	282
Camelot Elem-Bldg 2	3,4,6	E	1977	2	282
Camelot Elem-Bldg 3	3,4,6	E	1978	2	282
Centennial Elem	3,4,6	E	1962	2	287
McGhee Elem	3,4,6	E	1948	2	378
McSorley Elem-Bldg 1	3,4,6	E	1966	2	326
McSorley Elem-Bldg 2	3,4,6	E	1968	2	326
McSorley Elem-Bldg 3	3,4,6	E	1971	2	326
Orchards Elem-Bldg 1	6	M	1956	2	338
Orchards Elem-Bldg 2	3,4,6	E	1973	2	338
Webster Elem	3,4,6	E	1948	2	299
Whitman Elem	6	M	1948	2	355
Lapwai Elem	3,4,6,7	E	1987	2	310
Culdesac School-Main	3,6	E	1939	1	165
Culdesac School-Shop	2	M	1974	1	165
Tammany Elem	3,4,6	E	1937	1	275

County: Oneida
School District No.: 351
Worst Case MMI Intensity Level: IX

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Malad HS	3,6	E	1981	2	400
Malad Elem	3,4,6	E	1955	1	500
Stone Elem	3,4,6	E	1955	1	60

Table 1-Data Used in Analysis
(continued)

County: Owyhee
School District No.: 363, 365, & 370
Worst Case MMI Intensity Level: VII, VI-VII, & VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Marsing HS	3,6	E	1987	2	250
Marsing MS	3,4,6,7	E	1979	2	183
Marsing Elem	3,4,6,7	E	1953	2	189
Rimrock HS	3,4,6	E	1976	?	200
Bruneau Elem	3,4,6	E	1958	1	75
Grand View Elem	3,4,6	E	1958	1	225
Homedale HS	3,6	E	1940	2	450

County: Payette
School District No.: 371, 372, & 373
Worst Case MMI Intensity Level: VII, VII, & VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Payette HS-Main	6	M	1962	1	415
Payette HS-Dome	2	M	1974	1	415
McCain MS	3,6	E	1919	1	325
Eastside Elem	5	M	1926	1	456
Westside Elem	3,6	E	1950	1	350
New Plymouth HS-Main	3,4,6	E	1986	2	346
New Plymouth HS-Music Bldg	3	E	?	2	346
New Plymouth HS-Shop	6	M	?	2	346
New Plymouth Elem-Main	1	M	1961	1	473
New Plymouth Elem-Multi	6	M	?	1	473
Fruitland HS-Main	3,4,6,7	E	1954	1	310
Fruitland HS-Music Bldg	6	M	1960	1	310
Fruitland JHS-Bldg 1	3,4,6,7	E	1928	1	280
Fruitland JHS-Bldg 2	1	M	1979	1	280
Fruitland Elem	6	M	1968	1	525

Table 1-Data Used in Analysis
(continued)

County: Power
School District No.: 381, 382, & 383
Worst Case MMI Intensity Level: VI, VI, & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
American Falls HS-Main	3,4,6	E	1934	1	550
American Falls HS-Gym	3,5,6,8	E	1965	1	550
Thomas MS	3,4,6,7	E	1978	1	550
Hillcrest Elem	3,4,6,7	E	1956	2	620
Rockland School	3,4	E	1936	?	183
Arbon Elem	1	M	1920	1	24

County: Shoshone
School District No.: 391, 392, 393, & 394
Worst Case MMI Intensity Level: VI, VI, VI, & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Kellogg HS	7	M	1954	2	600
Kellogg MS	6	M	1970	2	552
Pinehurst Elem-Bldg 1	6	M	?	2	336
Pinehurst Elem-Bldg 2	6	M	1960	2	336
Pinehurst Elem-Bldg 3	1	M	?	2	336
Sunnyside Elem	3	E	1949	?	312
Elk Creek School	6	M	1938	2	18
Mullan HS-Main	3,6	E	1929	2	138
Mullan HS-Pavillion	3,6	E	1967	2	138
Mullan Elem	1	M	1959	2	154
Wallace HS	5,8	H	1949	1	250
Silver Hills JHS	6	M	1976	2	325
Murray Elem	1	M	1950	1	13
Osburn Elem	3	E	1939	1	400
Wallace Elem	3,4,6	E	1926	1	400
Avery School	1	M	?	?	22
Clarkia School	1	M	?	?	11

County: Teton
School District No.: 401
Worst Case MMI Intensity Level: VII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Teton HS	3,4,6,7	E	1952	1	240
Teton MS	3,4,6,7	E	1950	1	200
Tetonia Elem	3,4,6	E	1949	2	185
Victor Elem	3,4,6	E	1948	2	240

Table 1-Data Used in Analysis
(continued)

County: Twin Falls
School District No.: 411
Worst Case MMI Intensity Level: VII-VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Twin Falls HS-Main	3	E	1952	2	1350
Twin Falls HS-Vo Bldg	3	E	1955	2	1350
Twin Falls HS-DEd	1	M	1965	2	1350
Twin Falls HS-Boiler Bldg	3	E	1952	2	1350
Twin Falls HS-Cafeteria	7	M	1952	2	1350
Twin Falls HS-Gym	6	M	1952	2	1350
Twin Falls HS-Library	6	M	1952	2	1350
O'Leary JHS-Clsrm Bldg	6	M	1978	?	1000
O'Leary JHS-Gym	6	M	1978	?	1000
O'Leary JHS-Auditorium	6	M	1978	?	1000
Stuart JHS-Main	3	E	1962	2	575
Stuart JHS-Annex	3	E	1962	2	575
Bickel Elem-Main	3	E	1937	2	550
Bickel Elem-Annex	1	M	1970	2	550
Harrison Elem	3	E	1956	2	650
Perrine Elem	6	M	1985	2	600
Lincoln Elem-Bldg 1	3	E	1942	2	650
Lincoln Elem-Bldg 2	6	M	1976	2	650
Morningside Elem	3	E	1956	1	680
Sawtooth Elem	1,3,4,6,7	E	1974	2	707

County: Twin Falls
School District No.: 412 & 413
Worst Case MMI Intensity Level: VII & VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Buhl HS-Main	6	M	1978	?	435
Buhl HS-Vo-Ed	2	M	1978	?	435
Buhl JHS	3	E	1909	?	365
Popplewell Elem	3	E	1961	1	750
Filer HS-Main	3	E	1952	1	340
Filer HS-Maintenance Bldg	3	E	1952	1	340
Filer Elem	3	E	1966	1	670
Hollister Elem	3	E	1912	1	120

Table 1-Data Used in Analysis
(continued)

County: Twin Falls
School District No.: 414, 415, 417, & 418
Worst Case MMI Intensity Level: VII, VII, VII, & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Kimberly HS-Main	1	M	1967	1	400
Kimberly HS-Gym	5	M	1942	1	400
Kimberly HS-Ag Bldg	6	M	1967	1	400
Kimberly HS-IA Bldg	6	M	1981	1	400
Kimberly JHS	3	E	1916	1	400
Kimberly Elem	6	M	1954	1	625
Hansen HS	3	E	1924	2	100
Hansen JHS	1	M	1920	2	60
Hansen Elem	4	E	1973	1	200
Castleford HS-Main	3	E	1985	1	100
Castleford HS-Gym	2	M	1966	1	100
Castleford HS-Special Ed	1	M	1966	1	100
Murtaugh HS	1	M	1932	1	84
Murtaugh Elem	3	E	1930	1	172

County: Valley
School District No.: 421 & 422
Worst Case MMI Intensity Level: VII & VIII

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
McCall-Donnelly HS	1	M	1958	2	800
McCall-Donnelly JHS	6	M	1932	2	130
Cascade HS-Main	1,6	M	1935	1	170
Cascade HS-Gym	1	M	1935	1	170
Cascade Elem	1	M	1970	1	182

Table 1-Data Used in Analysis
(continued)

County: Washington
School District No.: 431, 432, & 433
Worst Case MMI Intensity Level: VI, VI, & VI

Bldg Name	Bldg Class	Risk	Year of Const	Fndtn Type	Occp
Weiser HS-Main	6	M	1966	2	430
Weiser HS-Auto Shop	6	M	1966	2	430
Weiser HS-Vo-Ag	6	M	1966	2	430
Weiser JHS-Main	3	E	1980	2	227
Weiser JHS-Gym	3	E	1912	2	227
Park MS	1	M	1956	2	263
Pioneer Elem-Main	1	M	1955	2	520
Pioneer Elem-Clsrm Bldg	1	M	1955	2	520
Pioneer Elem-Special Ed	1	M	1955	2	520
Cambridge HS	3	E	1925	1	130
Cambridge Elem	6	M	1965	2	175
Midvale School-Clsrm Bldg	3	E	1911	2	100
Midvale School-Music Bldg	1	M	?	2	100
Midvale School-Office	3	E	1911	2	100
Midvale School-Gym	3	E	1911	2	100
Midvale School-Ad Bldg	3	E	?	2	100

TABLE 2-RISK ASSESSMENT FOR MODEL BUILDING TYPES

1. Wood frame: Moderate risk (M)

2. Light metal: Moderate risk (M)

3. Unreinforced masonry
   (low rise) bearing wall: Extreme risk (E)

4. Unreinforced masonry with load bearing frame:
   Extreme risk (E)

5. Reinforced concrete shear wall-w/o moment-resisting frame:
   Moderate risk (M)

6. Reinforced masonry shear wall-w/o moment-resisting frame:
   Moderate risk (M)

7. Reinforced masonry shear wall-w/o moment-resisting frame:
   Moderate risk (M)

8. Precast concrete: High risk (H)

9. Mobile homes: Moderate risk (M)