October 29, 2015

Mr. Tom Williams, Superintendent
Sikeston R-6 School District
1002 Virginia Street
Sikeston, MO 63801-3347

Subject: ***Sikeston R-6 School District - Preliminary Earthquake Findings & Observations***

Dear Mr. Williams:

The Missouri Seismic Safety Commission would like to thank you and Mr. Mike Brown for the opportunity and assistance in performing a preliminary earthquake evaluation of the Sikeston R-6 District school buildings. Sikeston is one of three districts the Commission will be reviewing under this year's project in order to better understand the earthquake safety readiness of Missouri schools located in seismically active regions of the state. Your agreement to participate in this important effort is greatly appreciated.

In summary, the review team members recognized the obvious awareness of earthquake hazards for the region through observance of seismic safety improvements that have been implemented within District buildings. Key observations included:

- Education Awareness: Earthquake related posters in science rooms to educate the students about earthquake hazards and safety.
- Emergency Response: Earthquake (fire & tornado) emergency warning signs and instructions posted in each room for earthquake.
- Building Seismic Safety: Incorporation of seismic design provisions into new building construction – 2007 Senior High Math & Science Center building.
- Nonstructural Component Seismic Safety: Many nonstructural component hazards were observed. Some mitigation measures were observed in all buildings including the incorporation of safety wires for light fixtures, TVs strapped, storage and book shelves attached to wall systems, classroom exits were noted reasonably free and clear of clutter and contents which could overturn and block egress

Naturally, further improvements can be made. Thus, in addition to the above general observations, the remainder of this letter provides greater detail of our preliminary findings & observations of the district buildings with suggested recommendations for further improvements, which we hope will be helpful in progressing seismic safety within the district schools.

Please note that our review and findings should not be construed as a detailed and fully comprehensive evaluation. All areas were not inspected and the evaluation criteria as discussed further below, is a screening based methodology. Additionally, potentially hazardous findings identified maybe found to be acceptable after a more thorough engineering assessment and in-depth investigation is performed. For example, the buildings identified as requiring Further Evaluation during our review may prove to be safe to earthquake excitation after a more detailed evaluation is conducted by a structural engineer.

We hope you find this preliminary report helpful. The information gained for use in the Commission Project for Missouri school seismic safety improvements is very important. If you or the District have any questions regarding the preliminary conclusions presented herein, please do not hesitate to contact me or Commissioner Phillip L. Gould.

Sincerely

Dr. Eric Sandvol, Chairman
Missouri Seismic Safety Commission

Sikeston R-6 School District
Preliminary Earthquake Findings & Observations

Background

The Missouri Seismic Safety Commission is undertaking a pilot project to evaluate several school districts in southeast Missouri, which are located in the most vulnerable region of the state, to earthquakes occurring in the New Madrid Seismic Zone. Several districts have previously been completed. This year's project included three districts of which Sikeston was one identified as representative of schools within southeast Missouri. A seismic screening evaluation was performed for the Sikeston R-6 school buildings from the Kindergarten Center to the multiple buildings on the Senior High Campus. The evaluation was performed by teams of volunteers associated with respected engineering organizations in Missouri and Arkansas using the widely accepted methodology FEMA P-154 "Rapid Visual Screening of Buildings for Potential Seismic Hazards 3rd Edition" [1] which was extensively revised and published in January 2015.

FEMA P-154 is an industry accepted screening methodology to quickly and economically identify, inventory and rank buildings that are potentially vulnerable to earthquake ground shaking. The procedure yields a numerical score based on key building attributes or characteristics that reflect the potential for severe building damage under strong earthquake shaking. A score greater than 2.0 implies that a building is life-safe following a major earthquake. A building with a score of 2.0 or less suggests that the building is potentially not safe to strong earthquake shaking. Therefore, the results yield two categories of buildings. Those that are expected to have acceptable seismic performance, and those that may be seismically hazardous and are recommended for further evaluation. The potentially vulnerable buildings are then recommended for a more detailed evaluation by a structural engineer experienced in the design of buildings for seismic safety.

An addition to FEMA P-154 in the 3rd Edition is the option of performing a Level 2 screening review. The Level 2 screening review is more detailed than the Level 1 standard review as used in previous 154 Editions. The Level 2 review is required to be performed by a design professional experienced in seismic design and evaluation. Both Level 1 and Level 2 reviews were performed for the District buildings.

The Commission team member volunteers conducted a seismic review of the Sikeston school building sites on September 11, 2015. Available drawings (architectural, renovation, and structural) were reviewed and used in conjunction with the site visual reviews. Access to interior areas was available. Access above ceiling areas in the majority of building sections was also performed to assist in viewing building construction. Additionally, nonstructural components were reviewed on a sampling basis throughout the school buildings to identify critical life-safety hazards that could potentially affect students and staff.

The remainder of this report presents the seismicity, findings/observations for buildings and nonstructural components with recommendations for improving the seismic safety of the District facilities. The attachments to this report are the Rapid Visual Screening of Buildings for Potential Seismic Hazards FEMA P-154 Data Collection Forms used to evaluate the District school buildings. Generally one FEMA P-154 Data Collection Form was used for each major building and building section.

Seismicity

The seismic hazard used to evaluate the Sikeston R-6 District school buildings is presented below. The ground motion estimates are based on the 2012 International Building Code [2] as published in the 2008 USGS Seismic Hazard Maps [3]. The seismic ground motion values and hazard for the site as defined by FEMA P-154 criteria is as follows:

$S_S = 2.4g$
$S_1 = 0.9g$
Site Class = D (assumed)
Liquefaction Potential = No
Seismic Hazard = Very High

Building Review Findings/Observations

The District buildings varied in vintage from 1954 Lee Hunter Elementary School to the new 2007 Senior High Math/Science building. The majority of buildings were constructed in the 1960s. The wide variation in building vintage also translated to a varied earthquake vulnerability potential for each building as evidenced by the P-154 screening procedure building scores. The older construction buildings were identified with the greatest vulnerability. These buildings are typically constructed of unreinforced masonry acting as bearing wall structures. Unreinforced masonry/brick buildings are one of the most vulnerable building types under earthquake shaking. These older buildings were also identified as potentially vulnerable to seismic damage as they lack seismic design and detailing as well as a definable lateral load resisting system for earthquake forces. Thus, these buildings were identified as potentially vulnerable to earthquake shaking.

Conversely, the new Senior High Math/Science building was identified as the least vulnerable and in fact was identified as having good seismic performance. The variation in vintage and building code usage clearly demonstrates that the adoption of the latest building codes for newer buildings yields a significant increase in seismic safety as the buildings are much less vulnerable to strong ground shaking. Thus, the Math/Science building is considered seismically safe.

Buildings which failed the FEMA P-154 criteria are recommended for further evaluation. Table 1 below summarizes the FEMA P-154 evaluation of the District building structures. The Further Evaluation Recommendations are based on the more refined Level 2 score presented and should be used by the District for any future seismic safety mitigation planning.

Table 1
FEMA P-154 Building Evaluation Summary
Sikeston R-6 School District

Building Section	Vintage	Screening Score		Further Evaluation Recom'd	Remarks
		Level 1	Level 2		
Sikeston Kindergarten Center:					
Original Construction	1978	0.5	0.6	**Yes**	Masonry construction. Multiple sections with no definable lateral system.
Lee Hunter Elementary School:					
Original Construction	1954	0.5	0.9	**Yes**	Masonry construction. Multiple sections with no definable lateral system.
Matthews Elementary School:					
Original Construction	1955	0.6	0.9	**Yes**	Unreinforced masonry construction.
Southeast Elementary School:					
Original Construction	1968	0.6	0.5	**Yes**	Unreinforced masonry construction. Irregular plan shape to the building.
Alternative Center:					
Wings A & C	1964	0.6	0.9	**Yes**	Unreinforced masonry construction. No definable lateral load

					resisting system.
Main Building/Wing B	1964	0.6	0.9	**Yes**	Unreinforced masonry construction. No definable lateral load resisting system.
Ancillary Building	1964	1.1	1.1	**Yes**	Manufactured single wide structure.
5th & 6th Grade Center:					
Original Construction Classroom section	1973	0.6	0.2	**Yes**	Unreinforced masonry construction. Vertical set back with pounding potential at Gym structure.
Original Construction Gym	1973	0.8	0.8	**Yes**	Steel construction. Discontinuous lateral system & pounding at lower classroom section.
7th & 8th Grade Center:					
Original Construction	1985	0.7	1.1	**Yes**	Masonry construction. Irregular plan shape.
Senior High School:					
Building A	1960	0.6	0.2	**Yes**	Multiple building types. Pounding potential between URM, C3 & S1 structures.
Building B	1960	0.6	0.7	**Yes**	Unreinforced masonry. Irregular plan shape. Pounding potential with adjacent building sections.
Building C	1960	0.5	1.3	**Yes**	Steel frame with masonry infill.

					Vertical irregularity at Library.
Building D – Girls Gym	1960	0.2	0.4	**Yes**	Unreinforced masonry. Vertical irregularity at Gym.
Building F – Band/Music	1959	0.6	0.4	**Yes**	Concrete with masonry infill. Severe torsional irregularity with outdoor concrete canopy.
Building G	1968	0.6	0.9	**Yes**	Unreinforced masonry. Addition. Pounding potential at adjacent buildings.
Building H	1967	0.3	0.9	**Yes**	Unreinforced masonry. Vertical irregularity. Questionable loadpath.
Building I	1969	0.6	0.9	**Yes**	Unreinforced masonry. Limited interior partition wall systems.
Field House	1969	0.3	0.9	**Yes**	Concrete frame with infill & unreinforced masonry. Vertical irregularity.
Math/Science	2007	2.5	2.7	No	Steel braced frame with good seismic detailing.
Bus Garage	1980	1.3	1.3	**Yes**	Pre-engineered steel structure.
District Peripheral Buildings:					
Adult Basic Education	1962	0.3	0.9	**Yes**	Vertical irregularity.
SPS Board Office	1975	0.9	1.1	**Yes**	Wood frame. Sloping site irregularity.

Nonstructural Component Review Findings/Observations

Interior reviews of selected classrooms, cafeterias, gyms and libraries for each of the schools were performed to assess nonstructural component, equipment and system earthquake hazards. Not every area was inspected due to access and time. Primary mitigation measures observed in all buildings included the incorporation of light fixture safety wires, some book shelves attached to wall systems, classroom exits were noted reasonably free and clear of clutter and contents which could overturn and block egress routes.

Several potential life-safety conditions were observed. Table 2 summarizes some of the key observations and findings identified during the review of the District buildings. It is recommended that these components be reviewed more thoroughly by a structural engineer and the life-safety risk mitigated as necessary.

Table 2
Nonstructural Component Evaluation Summary
Sikeston R-6 School District

Nonstructural Component Description	Further Evaluation Recommended	Remarks
Recessed Fluorescent Lights	No	Installations sampled were observed safety wired.
Suspended Drop Ceilings	**Yes**	Installations sampled in classrooms and corridors were observed without splay-wire bracing. Math/Science Center was observed with splay wire bracing.
Tall Bookcases/Storage Cabinets	**Yes**	Newer installations were observed restrained. However, numerous older installations were observed unrestrained.
Contents near egress exits at classrooms	**Yes**	Many areas were observed with contents that could fall an injure staff and students or fall and block egress.
CMU (heavy) interior partition walls	**Yes**	Extensive throughout buildings. Walls sampled did not have lateral out-of-plane bracing.
Corridor Partitions	**Yes**	Several of older buildings had glass corridor walls susceptible to

Nonstructural Component Description	Further Evaluation Recommended	Remarks
		breakage in an earthquake event.
Gas fired equipment	**Yes**	Kitchen equipment, water heaters, AHUs, suspended unit heaters were observed unanchored. Gas piping was observed unbraced.
Mechanical equipment	**Yes**	Chillers, pumps, etc. sampled were observed unanchored.
Electrical equipment	**Yes**	Elect. components. – transformers, MCCs, switchgear, etc., were observed unanchored.

Conclusions/Recommendations

The following recommendations are provided for district consideration in providing a more earthquake resistive and resilient school environment for students and staff.

1. Continued practice: Continue to implement pro-active earthquake risk mitigation measures observed throughout the campus to include:
    a. Seismic safety philosophy – Incorporate seismic safety drills (drop-cover and hold-on) in to the school curriculum. If not already participating, the Great Shake-Out is a great way to incorporate this into practice. See http://www.shakeout.org/centralus/ for additional information on the shake-out.
    b. Building safety - Use building capital improvement projects to remove older more vulnerable buildings and replace with buildings having greater earthquake resistance designed to current building code and seismic provisions. Ensure the design professionals hired are knowledgeable in seismic design. Ensure that proper inspections are performed to verify that the seismic detailing has been properly incorporated during construction.
    c. Nonstructural component safety - Nonstructural component safety improvements observed included:
        - Safety wiring light fixtures.
        - If not already performing, it is suggested that an annual review of nonstructural contents be addressed to ensure proper seismic safety

provisions are in place and have not been inadvertently removed including:

i. Ensuring heavy contents (boxes, etc.) are not stored on top of cabinets in classrooms;

ii. Classroom exits and corridors are free and clear of contents.

iii. TV's are positively strapped to the wall bracket supports.

iv. Heavy (> 20lbs) overhead components are properly supported to prevent falling.

v. Storage shelving and bookcases are properly restrained to adjacent walls or arranged in more stable conditions; i.e., back-to-back bolted together.

2. Building Assessment: Based on the results presented in Table 1, the district should consider having a detailed structural engineering seismic safety evaluation performed for those buildings so recommended.

3. Nonstructural Component Mitigation: Based on the results presented in Table 2, the following are key recommendations provided to reduce the risk from potential life-safety hazards associated with earthquake damage to nonstructural components in the schools. FEMA E-74, *Reducing the Risks of Nonstructural Earthquake Hazards – A Practical Guide* [4] developed by FEMA is a free document and one of the best available resources for assessing risk to nonstructural components and strategies for mitigating the risk. Key recommendations include:

   a. Gas-fired Equipment & Piping - Given the potential for fire, all gas-fired equipment and piping should be anchored and braced. Consider reviewing the gas-fired equipment for proper anchorage and bracing gas piping within the building.

   b. Contents – Perform a systematic review of all occupied areas of the school buildings for housekeeping such that egress doors, routes and corridors are free and clear of clutter, contents (file cabinets, storage cabinets, etc.) that could overturn and block doorways or egress routes are anchored or relocated. Relocate heavy contents to areas that will not impact egress. Or anchor the cabinets, bookcases, etc. to the adjacent wall system.

   c. Heavy items – Perform a review throughout the school classrooms and ensure that heavy components & contents located greater than 4' above the floor and greater than 20 lbs. are adequately anchored, restrained or removed. This is particularly important near egress exits; i.e., contents stored above storage cabinets that are located adjacent to a classroom exit.

   d. Glass Corridor Walls – Consider installing protective film on the corridor wall glazing where it occurs, or remove the wall and replace with a more earthquake resistant material.

e. Heavy Masonry Partition Walls - Consider addressing the heavy masonry partition walls in the older sections of the school buildings for out-of-plane response. Adequate lateral bracing should be provided to prevent the walls from collapsing.

f. Electrical & Mechanical Equipment Anchorage – Consider reviewing and anchoring equipment that is not anchored. This is very inexpensive (anchor bolts properly installed) and will aid school recovery following an earthquake as the infrastructure (power, water, gas, etc.) equipment will not be damaged. This applies even in small earthquake shaking events where buildings will experience little damage, but nonstructural components can be extensively damaged.

4. Strategy Moving Forward: Implementing seismic safety improvements in conjunction with other capital improvement projects is the most cost-effective time to incorporate good seismic safety mitigation measures. Thus, it should be a priority for any new building or renovation project being planned going forward to ensure that seismic safety measures are implemented. Often the cost-premium is very minimal to incorporate good seismic safety into design and construction directed by professionals that understand seismic design and installation practices. A suggested strategy moving forward that yields cost-effective risk reduction in your facilities includes:

   a. New Building Construction: Ensure that the new and future buildings are designed for seismic loading. Question the design professionals until you are sure that seismic design is being properly performed with the latest edition of the applicable building code by a knowledgeable seismic/structural engineer. Request credentials to verify they have seismic design experience. If this advice is not followed, engineers not knowledgeable in seismic design can easily add significant cost to a project that is unnecessary.

   b. Renovations or New Equipment Installations: Ensure that ANY new equipment, facility renovations, etc. are designed and constructed with seismic safety included in the design. Again, question the design professionals and contractors regarding seismic design and construction for these items.

   c. FEMA Earthquake Program Cooperative Agreement Grant Program with the State of Missouri: Consider identifying key high risk nonstructural component vulnerabilities and applying for the State's grant program to assist in reducing the financial impact to the District. Contact Jeff Briggs – Earthquake Program Manager (573) 526-9232.

Again, the most cost-effective time to incorporate good seismic safety practices is at the time of original construction. Thus, it should be a priority for any new project. Often the cost-premium is very minimal to incorporate good seismic safety into the design and construction directed by professionals that understand seismic design and installation practices.

References

1. FEMA P-154- *Rapid Visual Screening of Buildings for Potential Seismic Hazards, A Handbook*, Third Edition, January 2015.
2. *International Building Code* 2012 Edition, International Code Council.
3. USGS Seismic Hazard Data, 2008 USGS Hazard Data
4. FEMA E-74: *Reducing the Risks of Nonstructural Earthquake Hazards - A Practical Guide*, January 2011.

ATTACHMENTS

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

610.021(20)

Address: 1310 E. Salcedo Road
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Kindergarten Center
Use: K-12 School
Latitude: 36.896561 **Longitude:** -89.588116
S_S: 2.338g **S_1:** 0.857g
Screener(s): Varnell/Mills **Date/Time:** 9-11-15/ 9:00 am

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1978 ☐ EST
Total Floor Area (sq. ft.): 43,130 **Code Year:** Unknown
Additions: ☒ 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)
☒ Plan (type) Re-entrant corner

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☒ Other: NONE

COMMENTS:
- Falling hazard at interior fire wall, CMU partition walls
- Book case not secure to wall
- Lights safe-tied

☐ 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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: **0.5**

EXTENT OF REVIEW

Exterior: ☐ Partial ☐ All Sides ☒ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.6 ☐ 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 RC = Reinforced concrete URM INF = Unreinforced masonry infill MH = Manufactured Housing FD = Flexible diaphragm
TU = Tilt up LM = Light metal RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards

FEMA P-154 Data Collection Form

Level 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston Kindergarten Center	**Final Level 1 Score:**	S_{L1} = **0.5**	*(do not consider S_{MIN})*
Screener: Varnell/Mills/ Griffin	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.4**
Date/Time: 9-11-15/ 9:00 am	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2}= -0.5
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M= +0.2

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.6 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.		X	
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.		X	
	Other observed interior nonstructural falling hazard:	X		Contents, CMU partitions

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

- ☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended
- ☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required
- ☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Bookcases unrestrained. CMU partition walls not braced OOP. Metal roof deck attachment to perimeter CMU parallel to roof joists very questionable.

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

610.021(20)

Address: 315 Baker Lane
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Lee Hunter Elementary School
Use: K-12 School
Latitude: 36.882008 **Longitude:** -89.595138
S_S: 2.385g **S_1:** 0.880g
Screener(s): Varnell/Mills **Date/Time:** 9-11-15/ 11:00 am

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1954 ☐ EST
Total Floor Area (sq. ft.): 33,108 **Code Year:** Unknown
Additions: ☐ None ☒ Yes, Year(s) Built: Unknown

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: NONE ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Re-entrant corners

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☒ Other: NONE

COMMENTS:
- Roof appears to be lite gypsum on bulb-tees.

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	0.7	0.7	0.7	0.5	0.5	0.5	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, $S_{L1} \geq S_{MIN}$: **0.5**

EXTENT OF REVIEW

Exterior: ☐ Partial ☐ All Sides ☒ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.9 ☐ 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 RC = Reinforced concrete URM INF = Unreinforced masonry infill MH = Manufactured Housing FD = Flexible diaphragm
RD = Braced frame SW = Shearwall TU = Tilt up LM = Light metal RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards

FEMA P-154 Data Collection Form

Level 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Lee Hunter Elementary School	**Final Level 1 Score:**	S_{L1} = **0.5**	*(do not consider S_{MIN})*
Screener: Varnell/Mills/Griffin	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.4**
Date/Time: 9-11-15/ 11:00 am	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2} = 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2} = -0.2
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M = +0.2

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.9 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.		X	
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		CMU partition walls
	Other observed interior nonstructural falling hazard:	X		contents

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments:

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

Address: 604 Elm Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Matthews Elementary School
Use: K-12 School
Latitude: 36.874991 **Longitude:** -89.573143
S_S: 2.460g **S_1:** 0.915g
Screener(s): CS, JE, DK **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1955 ☐ EST
Total Floor Area (sq. ft.): 25,800 **Code Year:** Unknown
Additions: ☒ 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)
☒ Plan (type) Re-entrant corner

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

610.021(20)

COMMENTS:
- Unanchored items in egress
- Natural gas water heater, boiler & stove
- Unreinforced masonry partitions

☐ 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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	0.7	0.7	0.7	0.5	0.5	0.5	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, $S_{L1} \geq S_{MIN}$: **0.6**

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.9 ☐ 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; RC = Reinforced concrete; SW = Shear wall; 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 2 (Optional)**

FEMA P-154 Data Collection Form — **VERY HIGH Seismicity**

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Matthew Elementary School	**Final Level 1 Score:**	S_{L1} = 0.6	*(do not consider S_{MIN})*
Screener: CS, JE, DK	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.3**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*			Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.		-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.		-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.		-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).		-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.		-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.		-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.		-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.		-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.		-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.		-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.		-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.		-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.		-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.		-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.		-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*			-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.			-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.			-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.			-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.			-0.2	P_{L2}= -0.2
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.			-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.			+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	*(Cap total pounding modifiers at -0.9)*	-0.7	
		One building is 2 or more stories taller than the other.		-0.7	
		The building is at the end of the block.		-0.4	
S2 Building	"K" bracing geometry is visible.			-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.			-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*			+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).			+0.2	
URM	Gable walls are present.			-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.			+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.			+1.2	M= +0.2

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.9 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.	X		Canopy over egress
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		
	Other observed interior nonstructural falling hazard:	X		

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments:

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

610.021(20)

Address: 2300 Ables Road
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Southeast Elementary School
Use: K-12 School
Latitude: 36.876090 **Longitude:** -89.547930
S_S: 2.507g **S_1:** 0.938g
Screener(s): CS, JE, DK **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1968 ☐ EST
Total Floor Area (sq. ft.): 27,702 **Code Year:** Unknown
Additions: ☒ 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)
☒ Plan (type) Irregular

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

COMMENTS:
- Natural gas boiler, water heater & stove unanchored
- Interior bookshelves unanchored
- Lights anchored to structure
- Office area w/unanchored bookshelves, file cabinets & copy machines
- Unanchored items near egress

☐ 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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: **0.6**

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.5 ☐ 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 RC = Reinforced concrete URM INF = Unreinforced masonry infill MH = Manufactured Housing FD = Flexible diaphragm
SW = Shear wall TU = Tilt up LM = Light metal RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards

FEMA P-154 Data Collection Form

Level 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Southeast Elementary School	**Final Level 1 Score:**	S_{L1} = **0.6**	*(do not consider S_{MIN})*
Screener: CS, JE, DK	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.3**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*			Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.		-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.		-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.		-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).		-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.		-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.		-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.		-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.		-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.		-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.		-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.		-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.		-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.		-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.		-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.		-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*			-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.			-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.			-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.			-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.			-0.2	P_{L2}= -0.4
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.			-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.			+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	*(Cap total pounding modifiers at -0.9)*	-0.7	
		One building is 2 or more stories taller than the other.		-0.7	
		The building is at the end of the block.		-0.4	
S2 Building	"K" bracing geometry is visible.			-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.			-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*			+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).			+0.2	
URM	Gable walls are present.			-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.			+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.			+1.2	M= 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.5 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.	X		
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		
	Other observed interior nonstructural falling hazard:	X		

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments:

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

610.021(20)

Address: 835 W. Murray Lane
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Alternative Center – Wings A & C
Use: K-12 School
Latitude: 36.866032 **Longitude:** -89.601513
S_S: 2.438g **S_1:** 0.906g
Screener(s): CS, JE, DK **Date/Time:** 9-11-2015/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1964 ☐ EST
Total Floor Area (sq. ft.): 27,981 **Code Year:** Unknown
Additions: ☒ 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)
☒ Plan (type) Re-entrant corner

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

COMMENTS:
- Items near classroom doors
- URM partitions – unbraced @ top

☐ 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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: **0.6**

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.9 ☐ 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 RC = Reinforced concrete URM INF = Unreinforced masonry infill MH = Manufactured Housing FD = Flexible diaphragm
SW = Shear wall TU = Tilt up LM = Light metal RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards

FEMA P-154 Data Collection Form

Level 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Alternative Center – Wings A, B & C	**Final Level 1 Score:**	S_{L1} = **0.6**	*(do not consider S_{MIN})*
Screener: CS, JE, DK	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.3**
Date/Time: 9-11-2015/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*			Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.		-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.		-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.		-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).		-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.		-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.		-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.		-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.		-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.		-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.		-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.		-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.		-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.		-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.		-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.		-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*			-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.			-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.			-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.			-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.			-0.2	P_{L2}= -0.2
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.			-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.			+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	*(Cap total pounding modifiers at -0.9)*	-0.7	
		One building is 2 or more stories taller than the other.		-0.7	
		The building is at the end of the block.		-0.4	
S2 Building	"K" bracing geometry is visible.			-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.			-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*			+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).			+0.2	
URM	Gable walls are present.			-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.			+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.			+1.2	M= +0.2

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.9 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.		X	
	Other observed interior nonstructural falling hazard:	X		

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

- ☐ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended
- ☒ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required
- ☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments:

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

610.021(20)

Address: 835 W. Murray Lane
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Alternative Center – Main Building/Wing B
Use: K-12 School
Latitude: 36.866032 **Longitude:** -89.601513
S_S: 2.438g **S_1:** 0.906g
Screener(s): CS, JE, DK **Date/Time:** 9-11-2015/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1964 ☐ EST
Total Floor Area (sq. ft.): 27,981 **Code Year:** Unknown
Additions: ☒ 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)
☒ Plan (type) Re-entrant corner

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

COMMENTS:
- URM partitions – unbraced @ top
- Unanchored interior bookshelves in Library
- Unanchored natural gas systems
- Unanchored file cabinets & copy machine in office
- Unanchored items near classrooms doors

☐ 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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: **0.6**

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.9 ☐ 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 RC = Reinforced concrete SW = Shear wall TU = Tilt up MH = Manufactured Housing LM = Light metal FD = Flexible diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards

FEMA P-154 Data Collection Form

Level 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Alternative Center – Main Building	**Final Level 1 Score:**	S_{L1} = **0.6**	*(do not consider S_{MIN})*
Screener: CS, JE, DK	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.3**
Date/Time: 9-11-2015/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*			Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.		-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.		-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.		-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).		-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.		-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.		-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.		-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.		-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.		-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.		-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.		-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.		-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.		-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.		-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.		-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*			-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.			-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.			-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.			-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.			-0.2	P_{L2}= -0.2
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.			-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.			+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	*(Cap total pounding modifiers at -0.9)*	-0.7	
		One building is 2 or more stories taller than the other.		-0.7	
		The building is at the end of the block.		-0.4	
S2 Building	"K" bracing geometry is visible.			-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.			-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*			+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).			+0.2	
URM	Gable walls are present.			-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.			+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.			+1.2	M= 0.2

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.9 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick veneer over CMU
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.	X		Steel canopy w/masonry
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.		X	
	Other observed interior nonstructural falling hazard:	X		Interior bookcase – URM partition

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☐ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☒ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments:

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

Address: 835 W. Murray Lane
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Alternative Center – Add't Building/Trailer
Use: K-12 School
Latitude: 36.866032 **Longitude:** -89.601513
S_S: 2.438g **S_1:** 0.906g
Screener(s): CS, JE, DK **Date/Time:** 9-11-2015/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1964 ☐ EST
Total Floor Area (sq. ft.): 1,750 **Code Year:** Unknown
Additions: ☒ None ☐ Yes, Year(s) Built:

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

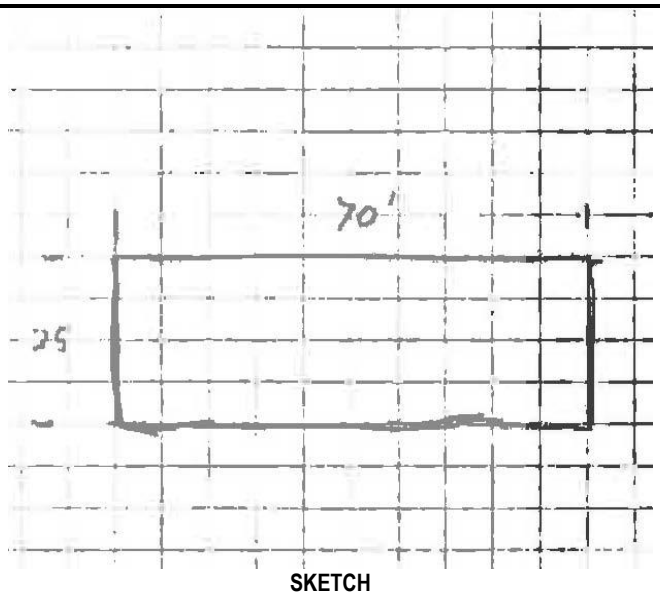
Soil Type: ☐ A Hard Rock ☐ B Avg Rock ☐ C Dense Soil ☒ D Stiff Soil ☐ E Soft Soil ☐ F Poor Soil **DNK** *If DNK, assume Type D.*

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) ☐ Plan (type)

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



SKETCH

COMMENTS:
- Interior contents are tables w/computers
- Hard ceilings
- Contact indicated there was supplemental anchorage – likely wind straps

☐ 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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: **1.1**

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 1.1 ☐ 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 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Alternative Center – Add't Bldg/Trailer	**Final Level 1 Score:**	S_{L1} = **1.1**	*(do not consider S_{MIN})*
Screener: CS, JE, DK	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **0**
Date/Time: 9-11-2015/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **1.1**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*			Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.		-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.		-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.		-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).		-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.		-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.		-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.		-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.		-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.		-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.		-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.		-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.		-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.		-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.		-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.		-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*			-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.			-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.			-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.			-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.			-0.2	P_{L2}= 0.0
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.			-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.			+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	*(Cap total pounding modifiers at -0.9)*	-0.7	
		One building is 2 or more stories taller than the other.		-0.7	
		The building is at the end of the block.		-0.4	
S2 Building	"K" bracing geometry is visible.			-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.			-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*			+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).			+0.2	
URM	Gable walls are present.			-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.			+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.			+1.2	M= 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: **1.1** *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.		X	
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.		X	
	Other observed interior nonstructural falling hazard:		X	

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☐ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☒ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments:

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

610.021(20)

Address: 100 Twitty Drive
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: 5th & 6th Grade Center
Use: K-12 School
Latitude: 36.875001 **Longitude:** -89.569236
S_S: 2.468g **S_1:** 0.919g
Screener(s): CS, JE, DK **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1973 ☐ EST
Total Floor Area (sq. ft.): 61,268 **Code Year:** Unknown
Additions: ☐ None ☒ Yes, Year(s) Built: DNK

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) Split level @ gym
☐ Plan (type) ____

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

COMMENTS:
- Strip lights anchored to ceiling grid in egress
- Natural gas water heater & roof top equipment unanchored

☐ 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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: 0.8 0.6

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.2 ☐ 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 RC = Reinforced concrete TU = Tilt up MH = Manufactured Housing FD = Flexible diaphragm
SW = Shear wall LM = Light metal RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards

FEMA P-154 Data Collection Form

Level 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: 5th & 6th Grade Center	**Final Level 1 Score:**	S_{L1} = **0.6**	*(do not consider S_{MIN})*
Screener: CS, JE, DK	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **-0.3**	*Plan Irregularity,* P_{L1} = **0**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*			Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.		-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.		-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.		-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).		-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.		-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.		-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.		-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.		-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.		-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.		-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.		-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.		-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.		-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.		-0.7	V_{L2}= -0.4
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.		-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*			-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.			-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.			-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.			-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.			-0.2	P_{L2}= 0.0
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.			-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.			+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	*(Cap total pounding modifiers at -0.9)*	-0.7	
		One building is 2 or more stories taller than the other.		-0.7	
		The building is at the end of the block.		-0.4	
S2 Building	"K" bracing geometry is visible.			-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.			-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*			+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).			+0.2	
URM	Gable walls are present.			-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.			+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.			+1.2	M= -0.5

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: **0.2** *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick Veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.		X	
	Other observed interior nonstructural falling hazard:	X		

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments:

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

610.021(20)

Address: 510 Lindenwood Ave.
Sikeston, MO Zip: 63801
Other Identifiers: Sikeston R-6 District
Building Name: 7th & 8th Grade Center
Use: K-12 School
Latitude: 36.892651 Longitude: -89.605366
S_S: 2.316g S_1: 0.847g
Screener(s): Varnell/Mills Date/Time: 9-11-15/ 10:00 am

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 1985 ☐ EST
Total Floor Area (sq. ft.): 84,020 Code Year: Unknown
Additions: ☒ 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: NONE ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☐ Vertical (type/severity)
☒ Plan (type) Re-entrant Corners

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

COMMENTS:
- Canopy at front entrance is an exterior falling hazard (appendage)
- Crack located in Mechanical room at N.W. corner
- Unsecured book case
- Unsecured hot water tank

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	0.7	0.7	0.7	0.5	0.5	0.5	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, $S_{L1} \geq S_{MIN}$: **0.7**

EXTENT OF REVIEW

Exterior: ☐ Partial ☐ All Sides ☒ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 1.1 ☐ 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; RC = Reinforced concrete; SW = Shear wall; 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 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: 7th & 8th Grade Center	**Final Level 1 Score:**	S_{L1} = **0.7**	*(do not consider S_{MIN})*
Screener: Varnell/Mills/Griffin	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.4**
Date/Time: 9-11-15/ 10:00 am	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **1.1**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*			Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.		-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.		-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.		-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).		-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.		-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.		-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.		-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.		-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.		-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.		-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.		-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.		-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.		-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.		-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.		-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*			-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.			-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.			-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.			-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.			-0.2	P_{L2}= -0.2
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.			-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.			+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	*(Cap total pounding modifiers at -0.9)*	-0.7	
		One building is 2 or more stories taller than the other.		-0.7	
		The building is at the end of the block.		-0.4	
S2 Building	"K" bracing geometry is visible.			-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.			-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*			+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).			+0.2	
URM	Gable walls are present.			-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.			+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.			+1.2	M= +0.2

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: **1.1** *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.		X	
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.	X		Brick walls @ entrance
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		CMU partitions
	Other observed interior nonstructural falling hazard:	X		Contents

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Lights sampled safe-tied. CMU partition walls not restrained OOP. Book cases, storage cabinets and electric water heater unrestrained.

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

610.021(20)

Address: 200 Pine Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Building A
Use: K-12 School
Latitude: 36.879228 **Longitude:** -89.572154
S_S: 2.445g **S_1:** 0.908g
Screener(s): M. Griffin/B. Smith **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1960 ☐ EST
Total Floor Area (sq. ft.): 24,328 **Code Year:** Unknown
Additions: ☐ None ☒ Yes, Year(s) Built: Various small additions

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 NONE

Irregularities: ☐ Vertical (type/severity) ____
☒ Plan (type) Re-entrant corner

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

COMMENTS:
- Multiple additions & fill-ins over the years:
  - Café is RC w/URM in-fill
  - Seating area below café is constructed of STL knee-braced frames
  - Remainder is STL bar joists w/Bulb-T roof diaphragm and CMU Brg walls
- Classrooms have hard ceilings
- Lights safety'd; drop ceilings braced
- Egress corridors nice & clear
- Kitchen equipment UA with gas piping unbraced
- 3" dia. gas header unbraced

☐ Additional sketches or comments on separate page

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

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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: 0.7 0.9 0.6

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mie Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.2 (min) ☐ 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 RC = Reinforced concrete URM INF = Unreinforced masonry infill MH = Manufactured Housing FD = Flexible diaphragm
RD = Braced frame SW = Shear wall TU = Tilt up LM = Light metal RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards — **Level 2 (Optional)**

FEMA P-154 Data Collection Form — **VERY HIGH Seismicity**

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School – Building A	**Final Level 1 Score:**	S_{L1} = **0.6 (URM)**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.3**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*			Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.		-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.		-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.		-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).		-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.		-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.		-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.		-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.		-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.		-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.		-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.		-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.		-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.		-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.		-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.		-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*			-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.			-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.			-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.			-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.			-0.2	P_{L2}= -0.2
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.			-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.			+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	*(Cap total pounding modifiers at -0.9)*	-0.7	
		One building is 2 or more stories taller than the other.		-0.7	
		The building is at the end of the block.		-0.4	
S2 Building	"K" bracing geometry is visible.			-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.			-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*			+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).			+0.2	
URM	Gable walls are present.			-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.			+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.			+1.2	M= -0.7

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: **0.0** *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Exterior & Interior
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	Limited OK
	Other observed exterior nonstructural falling hazard:			
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		URM partition walls
	Other observed interior nonstructural falling hazard:			

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Gas header unbraced. Gas kitchen equipment unrestrained.

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

610.021(20)

Address: 200 Pine Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Building B
Use: K-12 School
Latitude: 36.879228 **Longitude:** -89.572154
S_S: 2.445g **S_1:** 0.908g
Screener(s): M. Griffin/B. Smith **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1960 ☐ EST
Total Floor Area (sq. ft.): 19,399 **Code Year:** Unknown
Additions: ☐ None ☒ Yes, Year(s) Built: Interior Renovations

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) Re-entrant corners

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

COMMENTS:
- Welding shop is steel gravity w/CMU Brg wall, URM bar joist w/Bulb-T light wt concrete roof diaphragm
- Classroom areas are STL bar joists to Brg CMU walls. Roof diaphragm is lite weight concrete w/Blub-T's.
- Lights safety'd
- Maintenance room has gas boilers, UA.
- Gas pipe unbraced
- Interior partitions not braced
- Some tall storage cabinets in classrooms unrestrained

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: **0.6**

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.7 ☐ 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 2 (Optional)**

FEMA P-154 Data Collection Form — **VERY HIGH Seismicity**

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School – Building B	**Final Level 1 Score:**	S_{L1} = **0.6**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.3**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*			Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.		-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.		-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.		-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).		-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.		-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.		-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.		-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.		-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.		-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.		-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.		-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.		-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.		-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.		-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.		-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*			-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.			-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.			-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.			-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.			-0.2	P_{L2}= -0.2
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.			-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.			+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	*(Cap total pounding modifiers at -0.9)*	-0.7	
		One building is 2 or more stories taller than the other.		-0.7	
		The building is at the end of the block.		-0.4	
S2 Building	"K" bracing geometry is visible.			-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.			-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*			+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).			+0.2	
URM	Gable walls are present.			-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.			+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.			+1.2	M= 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.7 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Exterior
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		CMU partitions, no OOP
	Other observed interior nonstructural falling hazard:	X		Contents

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Tall storage cabinets UA. Boilers UA. Gas hot water tanks UA. Generally pretty clean in classrooms. Halls nice & clear.

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

610.021(20)

Address: 200 Pine Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Building C
Use: K-12 School
Latitude: 36.879228 **Longitude:** -89.572154
S_S: 2.445g **S_1:** 0.908g
Screener(s): M. Griffin/B. Smith **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1960 ☐ EST
Total Floor Area (sq. ft.): 25,477 **Code Year:** Unknown
Additions: ☐ None ☒ Yes, Year(s) Built: Over 20 years ago – library west

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: NONE ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☒ Vertical (type/severity) Vertical set-back
☒ Plan (type) Re-entrant corner

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

COMMENTS:
- Steel TS framing w/masonry infill
- Tectum roof system w/Bulb-T's
- Suspended rigid drywall ceiling
- Interior CMU partition walls without OOP bracing
- Corridor classroom walls have at the floor return air openings. Timber framed, some short shelving is supt'd from walls. Some tall shelving near classroom exits.
- Library shelving is restrained
- Corridors clear

☐ 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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: **0.5(0.0)**

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 1.3 ☐ 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; RC = Reinforced concrete; 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 2 (Optional)**

FEMA P-154 Data Collection Form — **VERY HIGH Seismicity**

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School – Building C	**Final Level 1 Score:**	S_{L1} = **0.0**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **-0.7**	*Plan Irregularity,* P_{L1} = **-0.4**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **1.1**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2}= 0.0
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total Pounding Modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M= +0.2

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: **1.3** *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick Veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		Interior CMU & brick partition
	Other observed interior nonstructural falling hazard:	X		Contents

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Minor interior contents, tall unrestrained bookshelves near classroom exists. Other small misc. contents as well. Generally clear.

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

610.021(20)

Address: 200 Pine Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Building D, Girls Gym
Use: K-12 School
Latitude: 36.879228 **Longitude:** -89.572154
S_S: 2.445g **S_1:** 0.908g
Screener(s): M. Griffin/B. Smith **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1960 ☐ EST
Total Floor Area (sq. ft.): 13,421 **Code Year:** Unknown
Additions: ☒ 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) Out-of-plane set-back
☒ Plan (type) Torsion-upper window openings

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

COMMENTS:
- Tectum roof system over steel girders & steel joists
- CMU bearing wall system. One side of gym has upper window openings between girder pilaster columns
- Gym CMU walls have vertical cracks ~ 25' o.c. no control joists were observed
- Gym floor was attached to base of perimeter wall with STL angle…. Said it was a retrofit?

☐ 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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: **0.2(0.0)**

EXTENT OF REVIEW
Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☒ Yes ☐ No partial
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?
☒ Yes, Final Level 2 Score, S_{L2} 0.4 ☐ 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; 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 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School -Bldg D,Girls Gym	**Final Level 1 Score:**	S_{L1} = **0.0**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **-0.6**	*Plan Irregularity,* P_{L1} = **-0.3**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2}= 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2}= -0.5
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M= 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: **0.4** *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick Veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		Interior CMU partition
	Other observed interior nonstructural falling hazard:		X	

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

- ☐ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended
- ☒ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required
- ☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Minor issue with masonry interior partition walls.

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

610.021(20)

Address: 200 Pine Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Building F Band/Music
Use: K-12 School
Latitude: 36.879228 **Longitude:** -89.572154
S_S: 2.445g **S_1:** 0.908g
Screener(s): M. Griffin/B. Smith **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1960 ☐ EST
Total Floor Area (sq. ft.): 4,137 **Code Year:** Unknown
Additions: ☒ 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)
☒ Plan (type) Torsion w/canopy structure

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

COMMENTS:
- 1959 Drawings
- Reinforced concrete frame
- Columns have #3@12 shear ties
- Spread footings
- Bookcases not restrained to walls
- Shelves (music) on wheels, but wheels were locked
- Infill walls have no OOP restraint

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	0.7	0.7	0.7	0.5	0.5	0.5	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, $S_{L1} \geq S_{MIN}$: 0.6

EXTENT OF REVIEW
Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?
☒ Yes, Final Level 2 Score, S_{L2} 0.4 ☐ 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; 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 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School-Bldg F, Band Music	**Final Level 1 Score:**	S_{L1} = **0.6**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.3**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2} = 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
Overhead RC cover	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2} = -0.5
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M = 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.4 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	Canopy integral to structure
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		CMU partition walls
	Other observed interior nonstructural falling hazard:	X		Contents

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

- ☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended
- ☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required
- ☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Shelving on wheels, locked at back of room. Shelving, tall, unrestrained to walls. CMU partition walls with no OOP bracing.

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

610.021(20)

Address: 200 Pine Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Building G
Use: K-12 School
Latitude: 36.879228 **Longitude:** -89.572154
S_S: 2.445g **S_1:** 0.908g
Screener(s): M. Griffin/B. Smith **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1968 ☐ EST
Total Floor Area (sq. ft.): 19,198 **Code Year:** Unknown
Additions: ☐ None ☒ Yes, Year(s) Built: Unknown

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) Re-entrant corners

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

COMMENTS:
- CMU Brg wall (URM)
- Tectum roof system over STL bar joists
- Possible addition between classrooms 2-3 & 9-8 as change is floor elevation
- Glass in corridor partitions, w/bottom open for return air flow
- Suspended drywall ceilings, lights directly attached

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: **0.6**

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.9 ☐ 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 RC = Reinforced concrete URM INF = Unreinforced masonry infill MH = Manufactured Housing FD = Flexible diaphragm
TU = Tilt up LM = Light metal RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards

FEMA P-154 Data Collection Form

Level 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School – Building G	**Final Level 1 Score:**	S_{L1} = **0.6**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.3**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2} = 0.0 *(Cap at -0.9)*
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2} = 0.0 *(Cap at -0.7)*
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M = 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.9 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		Partition walls CMU
	Other observed interior nonstructural falling hazard:	X		See below

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Electric transformer is UA. Chiller (new) is UA. CMU partition walls with no OOP bracing. Corridor walls have glazing. Cooling tower is marginally anchored.

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

610.021(20)

Address: 200 Pine Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Building H
Use: K-12 School
Latitude: 36.879228 **Longitude:** -89.572154
S_S: 2.445g **S_1:** 0.908g
Screener(s): M. Griffin/B. Smith **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1967 ☐ EST
Total Floor Area (sq. ft.): 17,717 **Code Year:** Unknown
Additions: ☐ None ☒ Yes, Year(s) Built: Auto Diagnostics, unknown

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) Vertical set-back
☐ Plan (type)

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

COMMENTS:
- URM CMU Brg wall system
- Tectum roof system over STL bar joists
- Auto mechanics is now child care
- Power mechanics is now screen printing shop
- AG is now culinary arts

☐ 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	**2.1**	**1.9**	**1.8**	**1.5**	**1.4**	**1.6**	**1.4**	**1.2**	**1.0**	**1.2**	**0.9**	**1.1**	**1.0**	**1.1**	**1.1**	**0.9**	**1.1**
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: **0.3**

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.9 ☐ 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; 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 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School – Building H	**Final Level 1 Score:**	S_{L1} = **0.3**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **-0.6**	*Plan Irregularity,* P_{L1} = **0**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2} = 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2} = 0.0
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M = 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.9 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		Partitions
	Other observed interior nonstructural falling hazard:	X		Minor contents

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Hard drywall ceilings & suspended. Tall URM CMU partition walls. Questionable girder end connection to Brg wall. Inadequate gas bottle chain Supts.

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

610.021(20)

Address: 200 Pine Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Building I
Use: K-12 School
Latitude: 36.879228 **Longitude:** -89.572154
S_S: 2.445g **S_1:** 0.908g
Screener(s): M. Griffin/B. Smith **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1969 ☐ EST
Total Floor Area (sq. ft.): 9,798 **Code Year:** Unknown
Additions: ☒ 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)
☒ Plan (type) Re-entrant corner

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

COMMENTS:
- Tectum roof over bar joists & Steel girders to CMU Bearing walls
- Very little interior walls
- Auto & carpentry trades
- Minor contents & equipment hung overhead issues

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	0.7	0.7	0.7	0.5	0.5	0.5	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, $S_{L1} \geq S_{MIN}$: 0.6

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 0.9 ☐ 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 RC = Reinforced concrete URM INF = Unreinforced masonry infill MH = Manufactured Housing FD = Flexible diaphragm
TU = Tilt up LM = Light metal RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards

FEMA P-154 Data Collection Form

Level 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School – Building I	**Final Level 1 Score:**	S_{L1} = **0.6**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **-0.3**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2} = 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2} = 0.0
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M = 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.9 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		Minimal interior CMU
	Other observed interior nonstructural falling hazard:	X		Overhead fans with no bracing

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Overhead HVAC units without bracing. CMU partition walls unreinforced. Parts storage shelving unrestrained.

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

610.021(20)

Address: 200 Pine Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Field House
Use: K-12 School
Latitude: 36.879228 **Longitude:** -89.572154
S_S: 2.445g **S_1:** 0.908g
Screener(s): M. Griffin/B. Smith **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1969 ☐ EST
Total Floor Area (sq. ft.): 5 5116 **Code Year:** Unknown
Additions: ☒ 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) Vertical set-back
☐ Plan (type)

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

COMMENTS:
- Concrete frame @ interior
- Perimeter sections are steel bar joists and URM CMU walls
- Tectum roof system
- Boilers unattached
- Chiller unattached
- CMU partitions have no OOP bracing
- Exterior transformer and cooling towers anchored

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	0.7	0.7	0.7	0.5	0.5	0.5	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, $S_{L1} \geq S_{MIN}$: 0.3 0.3

EXTENT OF REVIEW
Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?
☒ Yes, Final Level 2 Score, S_{L2} 0.9 ☐ 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; 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 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School – Field House	**Final Level 1 Score:**	S_{L1} = **0.3 (C3)**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **-0.6**	*Plan Irregularity,* P_{L1} = **0**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2} = 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2} = 0.0
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M = 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 0.9 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		CMU interior partitions
	Other observed interior nonstructural falling hazard:	X		Overhead lights, banners etc.

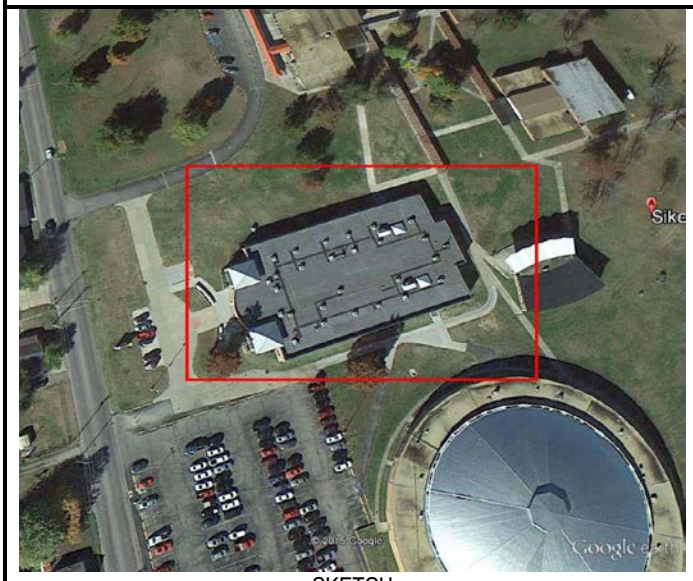
Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

- ☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended
- ☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required
- ☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Overhead suspended lights & duct unbraced. Interior CMU partition walls unbraced, some very tall in arena.

Rapid Visual Screening of Buildings for Potential Seismic Hazards — **Level 1**

FEMA P-154 Data Collection Form — **VERY HIGH Seismicity**



SKETCH

Address: 200 Pine Street
Sikeston, MO Zip: 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Math/Science
Use: K-12 School
Latitude: 36.879228 Longitude: -89.572154
S_S: 2.445g S_1: 0.908g
Screener(s): M. Griffin/B. Smith Date/Time: 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 Year Built: 2007 ☐ EST
Total Floor Area (sq. ft.): 33,089 Code Year: 2003 IBC
Additions: ☒ 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) NONE
☐ Plan (type) NONE

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

COMMENTS:
- 2003 IBC
- SE; Tahiliani Assoc., Memphis TN
- Seismic '96 BOCA
  A_v = 0.280 A_a = 0.264
  Sheg = Group 1 ; SPC = D
  Soil type = S2
  Concentric steel braced frame
  Brace gussets detailed per buckling criteria

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: 2.5

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☒ Yes ☐ No
Soil Type Source: S2 - Drawings
Geologic Hazards Source: Regional data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 2.7 ☐ 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 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School-Math/Science	**Final Level 1 Score:**	S_{L1} = **2.5**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **0**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **2.5**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2} = 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2} = 0.0
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M = +0.2

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: 2.7 *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

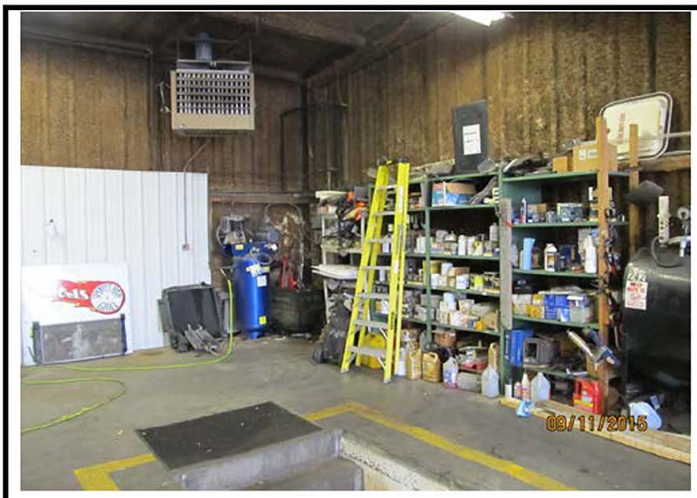
Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.		X	
	Other observed interior nonstructural falling hazard:		X	

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

- ☐ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended
- ☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required
- ☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Lights safe-tied. Ceiling unbraced. Metal stud partition walls full height. Sprinkler braces attached to bottom of joist chords OOP. Chemical shelves restrained.

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



610.021(20)

Address: 200 Pine Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Sikeston Senior High School – Bus Garage
Use: Vehicle Repair
Latitude: 36.879228 **Longitude:** -89.572154
S_S: 2.445g **S_1:** 0.908g
Screener(s): M. Griffin/ B. Smith **Date/Time:** 9-11-15/

No. Stories: Above Grade: 1 Below Grade: 0 **Year Built:** 1980 ☐ EST
Total Floor Area (sq. ft.): 3,900 **Code Year:** Unknown
Additions: ☒ 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) NONE
☐ Plan (type) NONE

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

COMMENTS:
- Built-up truss beam/column frames. Old style pre-engineered building system.

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	0.7	0.7	0.7	0.5	0.5	0.5	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

EXTENT OF REVIEW
Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?
☒ Yes, Final Level 2 Score, S_{L2} 1.3 ☐ 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; 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 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Sikeston High School-Bus Garage	**Final Level 1 Score:**	S_{L1} = **1.3**	*(do not consider S_{MIN})*
Screener: M. Griffin/B. Smith	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **0**	*Plan Irregularity,* P_{L1} = **0**
Date/Time: 9-11-15/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **1.3**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2} = 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2} = 0.0
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M = 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: **1.3** *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.		X	
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.		X	
	Other observed interior nonstructural falling hazard:	X		Minor parts contents

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

☒ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended

☐ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required

☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Parts storage shelving unrestrained.

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

610.021(20)

Address: 733 Greer Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: Adult Basic Education
Use: Office/Classroom
Latitude: 36.878703 **Longitude:** -89.576256
S_S: 2.439g **S_1:** 0.905g
Screener(s): Varnell/Mills **Date/Time:** 9-11-15/ 2:00 pm

No. Stories: Above Grade: 2 Below Grade: 0 **Year Built:** 1962 ☐ EST
Total Floor Area (sq. ft.): 6,000 **Code Year:** Unknown
Additions: ☒ 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: NONE ☐ Pounding ☐ Falling Hazards from Taller Adjacent Building

Irregularities: ☒ Vertical (type/severity) Severe
☐ Plan (type)

Exterior Falling Hazards: ☐ Unbraced Chimneys ☐ Heavy Cladding or Heavy Veneer
☐ Parapets ☐ Appendages
☒ Other: NONE

COMMENTS:
- Out-of-plane set-back
- Unbraced hot water tank with improper flue connection
- Unsafe guard rail at upper level deck

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	0.7	0.7	0.7	0.5	0.5	0.5	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, $S_{L1} \geq S_{MIN}$: 0.3(0.2)

EXTENT OF REVIEW
Exterior: ☐ Partial ☐ All Sides ☒ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?
☒ Yes, Final Level 2 Score, S_{L2} 0.9 ☐ 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 Guard rail
☐ 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; 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 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: Adult Basic Education	**Final Level 1 Score:**	S_{L1} = **0.2**	*(do not consider S_{MIN})*
Screener: Varnell/Mills/Griffin	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **-0.7**	*Plan Irregularity,* P_{L1} = **0**
Date/Time: 9-11-15/ 2:00 pm	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **0.9**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*		Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.	-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.	-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.	-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).	-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.	-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above. **Not critical**	-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.	-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.	-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.	-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.	-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.	-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.	-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.	-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.	-0.7	V_{L2} = 0.0
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.	-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*		-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.		-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.		-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.		-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.		-0.2	P_{L2} = 0.0
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.		-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.		+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	-0.7	
		One building is 2 or more stories taller than the other.	-0.7	
		The building is at the end of the block.	-0.4	
		(Cap total pounding modifiers at -0.9)		
S2 Building	"K" bracing geometry is visible.		-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.		-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*		+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).		+0.2	
URM	Gable walls are present.		-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.		+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.		+1.2	M = 0.0

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: **0.9** *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.		X	
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.		X	
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.	X		CMU partitions
	Other observed interior nonstructural falling hazard:	X		Water heater

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

- ☐ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended
- ☒ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required
- ☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: Lower level appears to have been a garage, but has been infilled.

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

610.021(20)

Address: 1002 Virginia Street
Sikeston, MO **Zip:** 63801
Other Identifiers: Sikeston R-6 District
Building Name: SPS Board Office
Use: Office Space
Latitude: 36.874502 **Longitude:** -89.568097
S_S: 2.472g **S_1:** 0.921g
Screener(s): CS, JE, DK **Date/Time:** 9-11-2015/

No. Stories: Above Grade: 1 Below Grade: 1 **Year Built:** 1975 ☐ EST
Total Floor Area (sq. ft.): 8,133 **Code Year:** Unknown
Additions: ☒ 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) Sloping Site - Severe
☐ Plan (type)

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

COMMENTS:
- Unanchored cabinets & copy machines
- 2x2 lights not secured
- Electric water heater not secured

☐ 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	2.1	1.9	1.8	1.5	1.4	1.6	1.4	1.2	1.0	1.2	0.9	1.1	1.0	1.1	1.1	0.9	1.1
Severe Vertical Irregularity, V_{L1}	-0.9	-0.9	-0.9	-0.8	-0.7	-0.8	-0.7	-0.7	-0.7	-0.8	-0.6	-0.7	-0.7	-0.7	-0.7	-0.6	NA
Moderate Vertical Irregularity, V_{L1}	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.4	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.3	NA
Plan Irregularity, P_{L1}	-0.7	-0.7	-0.6	-0.5	-0.5	-0.6	-0.4	-0.4	-0.4	-0.5	-0.3	-0.5	-0.4	-0.4	-0.4	-0.3	NA
Pre-Code	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	0.0
Post-Benchmark	1.9	1.9	2.0	1.0	1.1	1.1	1.5	NA	1.4	1.7	NA	1.5	1.7	1.6	1.6	NA	0.5
Soil Type A or B	0.5	0.5	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.1
Soil Type E (1-3 stories)	0.0	-0.2	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.2	0.0	-0.1
Soil Type E (> 3 stories)	-0.4	-0.4	-0.4	-0.3	-0.3	NA	-0.3	-0.1	-0.1	-0.3	-0.1	NA	-0.1	-0.2	-0.2	0.0	NA
Minimum Score, S_{MIN}	*0.7*	*0.7*	*0.7*	*0.5*	*0.5*	*0.5*	*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, $S_{L1} \geq S_{MIN}$: 0.9

EXTENT OF REVIEW

Exterior: ☐ Partial ☒ All Sides ☐ Aerial
Interior: ☐ None ☐ Visible ☒ Entered
Drawings Reviewed: ☐ Yes ☒ No
Soil Type Source: Vs30
Geologic Hazards Source: Regional Data
Contact Person: Mike Brown

LEVEL 2 SCREENING PERFORMED?

☒ Yes, Final Level 2 Score, S_{L2} 1.1 ☐ 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 RC = Reinforced concrete URM INF = Unreinforced masonry infill MH = Manufactured Housing FD = Flexible diaphragm
TU = Tilt up LM = Light metal RD = Rigid diaphragm

Rapid Visual Screening of Buildings for Potential Seismic Hazards

FEMA P-154 Data Collection Form

Level 2 (Optional)
VERY HIGH Seismicity

Optional Level 2 data collection to be performed by a civil or structural engineering professional, architect, or graduate student with background in seismic evaluation or design of buildings.

Bldg Name: SPS Board Office	**Final Level 1 Score:**	S_{L1} = **0.9**	*(do not consider S_{MIN})*
Screener: CS, JE, DK	**Level 1 Irregularity Modifiers:**	*Vertical Irregularity,* V_{L1} = **-0.9**	*Plan Irregularity,* P_{L1} = **0**
Date/Time: 9-11-2015/	**ADJUSTED BASELINE SCORE:**	$S' = (S_{L1} - V_{L1} - P_{L1})$ = **1.8**	

STRUCTURAL MODIFIERS TO ADD TO ADJUSTED BASELINE SCORE

Topic	Statement *(If statement is true, circle the "Yes" modifier; otherwise cross out the modifier.)*			Yes	Subtotals
Vertical Irregularity, V_{L2}	Sloping Site	W1 building: There is at least a full story grade change from one side of the building to the other.		-0.9	
		Non-W1 building: There is at least a full story grade change from one side of the building to the other.		-0.2	
	Weak and/or Soft Story *(circle one maximum)*	W1 building cripple wall: An unbraced cripple wall is visible in the crawl space.		-0.5	
		W1 house over garage: Underneath an occupied story, there is a garage opening without a steel moment frame, and there is less than 8' of wall on the same line (for multiple occupied floors above, use 16' of wall minimum).		-0.9	
		W1A building open front: There are openings at the ground story (such as for parking) over at least 50% of the length of the building.		-0.9	
		Non-W1 building: Length of lateral system at any story is less than 50% of that at story above or height of any story is more than 2.0 times the height of the story above.		-0.7	
		Non-W1 building: Length of lateral system at any story is between 50% and 75% of that at story above or height of any story is between 1.3 and 2.0 times the height of the story above.		-0.4	
	Setback	Vertical elements of the lateral system at an upper story are outboard of those at the story below causing the diaphragm to cantilever at the offset.		-0.7	
		Vertical elements of the lateral system at upper stories are inboard of those at lower stories.		-0.4	
		There is an in-plane offset of the lateral elements that is greater than the length of the elements.		-0.2	
	Short Column/ Pier	C1,C2,C3,PC1,PC2,RM1,RM2: At least 20% of columns (or piers) along a column line in the lateral system have height/depth ratios less than 50% of the nominal height/depth ratio at that level.		-0.4	
		C1,C2,C3,PC1,PC2,RM1,RM2: The column depth (or pier width) is less than one half of the depth of the spandrel, or there are infill walls or adjacent floors that shorten the column.		-0.4	
	Split Level	There is a split level at one of the floor levels or at the roof.		-0.4	
	Other Irregularity	There is another observable severe vertical irregularity that obviously affects the building's seismic performance.		-0.7	V_{L2}= -0.9
		There is another observable moderate vertical irregularity that may affect the building's seismic performance.		-0.4	*(Cap at -0.9)*
Plan Irregularity, P_{L2}	Torsional irregularity: Lateral system does not appear relatively well distributed in plan in either or both directions. *(Do not include the W1A open front irregularity listed above.)*			-0.5	
	Non-parallel system: There are one or more major vertical elements of the lateral system that are not orthogonal to each other.			-0.2	
	Reentrant corner: Both projections from an interior corner exceed 25% of the overall plan dimension in that direction.			-0.2	
	Diaphragm opening: There is an opening in the diaphragm with a width over 50% of the total diaphragm width at that level.			-0.2	
	C1, C2 building out-of-plane offset: The exterior beams do not align with the columns in plan.			-0.2	P_{L2}= 0.0
	Other irregularity: There is another observable plan irregularity that obviously affects the building's seismic performance.			-0.5	*(Cap at -0.7)*
Redundancy	The building has at least two bays of lateral elements on each side of the building in each direction.			+0.2	
Pounding	Building is separated from an adjacent structure by less than 1.5% of the height of the shorter of the building and adjacent structure and:	The floors do not align vertically within 2 feet.	*(Cap total pounding modifiers at -0.9)*	-0.7	
		One building is 2 or more stories taller than the other.		-0.7	
		The building is at the end of the block.		-0.4	
S2 Building	"K" bracing geometry is visible.			-0.7	
C1 Building	Flat plate serves as the beam in the moment frame.			-0.3	
PC1/RM1 Bldg	There are roof-to-wall ties that are visible or known from drawings that do not rely on cross-grain bending. *(Do not combine with post-benchmark or retrofit modifier.)*			+0.2	
PC1/RM1 Bldg	The building has closely spaced, full height interior walls (rather than an interior space with few walls such as in a warehouse).			+0.2	
URM	Gable walls are present.			-0.3	
MH	There is a supplemental seismic bracing system provided between the carriage and the ground.			+0.5	
Retrofit	Comprehensive seismic retrofit is visible or known from drawings.			+1.2	M= +0.2

FINAL LEVEL 2 SCORE, $S_{L2} = (S' + V_{L2} + P_{L2} + M) \geq S_{MIN}$: **1.1** *(Transfer to Level 1 form)*

There is observable damage or deterioration or another condition that negatively affects the building's seismic performance: ☐ Yes ☒ No

If yes, describe the condition in the comment box below and indicate on the Level 1 form that detailed evaluation is required independent of the building's score.

OBSERVABLE NONSTRUCTURAL HAZARDS

Location	Statement (*Check "Yes" or "No"*)	Yes	No	Comment
Exterior	There is an unbraced unreinforced masonry parapet or unbraced unreinforced masonry chimney.		X	
	There is heavy cladding or heavy veneer.	X		Brick Veneer
	There is a heavy canopy over exit doors or pedestrian walkways that appears inadequately supported.	X		Porch at front
	There is an unreinforced masonry appendage over exit doors or pedestrian walkways.		X	
	There is a sign posted on the building that indicates hazardous materials are present.		X	
	There is a taller adjacent building with an unanchored URM wall or unbraced URM parapet or chimney.		X	
	Other observed exterior nonstructural falling hazard:		X	
Interior	There are hollow clay tile or brick partitions at any stair or exit corridor.		X	
	Other observed interior nonstructural falling hazard:		X	

Estimated Nonstructural Seismic Performance (*Check appropriate box and transfer to Level 1 form conclusions*)

- ☐ Potential nonstructural hazards with significant threat to occupant life safety –> Detailed Nonstructural Evaluation recommended
- ☒ Nonstructural hazards identified with significant threat to occupant life safety –> But no Detailed Nonstructural Evaluation required
- ☐ Low or no nonstructural hazard threat to occupant life safety –> No Detailed Nonstructural Evaluation required

Comments: