

**GENERAL EARTHQUAKE DAMAGE INSPECTION CHECKLIST**

AEP: 8145 ELEM EDJ: 11031

Where description is indicated, attach additional pages of notes and photographs keyed to appropriate checklist item.

**A. GENERAL INFORMATION**

10:00AM

1. Street Address of the School: PR-486, Km 5.5 P.O. QUEBRADA  
 City: CAMUY State: P.R. Zip: 00627
2. School Name: SANTIAGO R. PALMER (PRIMARIA)  
K-8<sup>vo</sup>
3. Date of inspection: 31 | ENERO | 2020
4. Inspector's Name: FERNANDO E. FAGUNDO, PhD, PE

**B. BUILDING SITE INSPECTION**

5. Utility Service Safety:

IMPORTANT—Immediately following an earthquake, check the entire property, especially near appliances, for the smell of gas. If gas odor is detected, turn off the gas at the meter where it enters the house. Locate and repair leaks before turning gas back on. If the gas odor persists after the gas has been shut off, vacate the building and contact the gas utility company immediately.

IMPORTANT—Before entering a damaged, vacant building verify that gas is off. Check the gas meter for damage and position of main gas valve, either a manual valve or a seismically-activated gas shut-off valve. Do not enter the building if gas odor is detected.

- a. Odor of natural gas leakage?  YES  NO      b. Downed powerlines?  YES  NO

6. Surrounding topography: (▶▶check one)

- Flat  
 Gently sloping (easily walkable)  
 Steeply sloping (difficult or impossible to walk in some areas)

7. Building pad: (▶▶check one)

- Flat  
 Terraced or multilevel  
 Gently sloping (less than 4-foot ground surface elevation difference across house)  
 Steeply sloping (greater than 4-foot ground surface elevation difference across house)

8. Geotechnical Issues: (if yes, provide description and photos)

- |   | YES                      | NO                                  |
|---|--------------------------|-------------------------------------|
| a. New cracks in the ground?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Signs of fresh cracking in or movement of hardscape?   | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Signs of fresh cracking in or movement of retaining walls?                                     | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Patterns of cracking that extend through the ground surface, hardscape, and improvements?      | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e. Evidence of sand boils or other fresh-appearing deposits of sand or mud?                       | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f. Unusual slumping, rising, or bulging of the ground surface?                                    | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g. Evidence of rock falls or slope instability above site?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h. Ground movement or wet areas indicating possible broken underground utility lines?             | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i. Other phenomena (e.g., septic tanks surfacing, differential settlement, ground consolidation)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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### B. BUILDING SITE INSPECTION (continued)

YES

NO

9. Evidence of earthquake-induced permanent ground deformation in the immediate vicinity of the property?  YES  NO

### C. GENERAL BUILDING INFORMATION

10. Safety Assessment Tag: (▶▶)check one  None  Green  Yellow  Red  
 (others):  Yellow  Red

11. a) Year of original construction (best estimate): \_\_\_\_\_

b) Total square footage (best estimate): \_\_\_\_\_

YES

NO

12. Have any repairs, modifications, or demolition been performed since the earthquake?  YES  NO

If yes, describe \_\_\_\_\_

13. Building configuration:

- a. Single story  
 b. Combination one and two story  
 c. Full two story  
 d. Three story  
 e. Split level  
 f. Typical  
 g. Other, describe \_\_\_\_\_

16.

Sill bolting: (N/A)

- a. Structure bolted to foundation  
 b. Structure not bolted to foundation  
 c. Don't know

14. Exterior wall finish:

- a. Stucco (CEMENT)  
 b. Panel siding  
 c. Metal siding  
 d. Masonry veneer  
 e. Other, describe \_\_\_\_\_

17.

Roof configuration:

- a. Gable  
 b. Hip  
 c. Flat or very low slope  
 d. Shed  
 e. Other, describe \_\_\_\_\_

15. Foundation configuration:

- a. Slab-on-grade (SPREAD FOOTING)  
 b. Crawlspace without cripple walls  
 c. Crawlspace with cripple walls  
 d. Exposed piers or posts  
 e. Typical  
 f. Metal  
 g. Other, describe \_\_\_\_\_

18.

Roof covering:

- a. Asphaltic membrane  
 b. Wood shingle or shake  
 c. Concrete  
 d. Metal  
 e. Elastomeric  
 f. Other, describe \_\_\_\_\_

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### D. EXTERIOR BUILDING INSPECTION

	YES	NO	N/A
19. General: (if yes, provide description and photos)			
a. Collapse, partial collapse, or building off foundation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Obvious lean in any story?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
20. Exterior walls: (if yes, provide description and photos)			
a. Fresh cracking at corners of door and window openings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Fresh cracking at building corners?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Door or window openings racked out of square?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Broken glass in windows or doors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Wall leaning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Bulging or delamination of stucco?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
g. Pattern of cracking that extends from the ground surface, through foundation, and wall?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
h. Evidence of recent relative movement at mudsill line?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
i. At locations where the exterior stucco is continuous from the framing down over the foundation, is there cracking of stucco along the mudsill level accompanied by indications of permanent displacement (sliding) of the building relative to the foundation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j. Collapse, partial collapse, or separation of masonry veneer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
k. Severe cracking, separations, or offsets at building irregularities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21. Foundation: (if yes, provide description and photos)			
a. Fresh cracking of exposed perimeter foundation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Relative movement between slab and footing in "two-pour" slab-on-grade foundations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Ask homeowner if any earthquake retrofits have been done to the home? If Y describe: <i>DIRECTOR SCHOOL HAS ONE STRUCTURAL STEEL EXOSKELETAL FRAME SEISMIC RETROFIT</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. If the answer to c is Y, were bolts added to connect the home to the foundation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. If the answer to c is Y, were plywood or sheathing added to any cripple walls under the home?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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### D. EXTERIOR BUILDING INSPECTION (continued)

	YES	NO	N/A
22. Kitchen Hood (if yes, provide description and photos)			
a. Present on external wall?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Present at internal location?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Collapse or partial collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Visible damage or cracking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Visible tilting or separation from building?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Shifted or loose and displaced	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Deterioration or deformation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
23. Roof: (if yes, provide description and photos)			
a. Shifted or dislodged or concrete damage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Impact damage to roof from falling object?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Displaced rooftop HVAC units?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Significantly sagging roof ridgelines?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Signs of movement between rafter tails and wall finishes at eaves?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Buckled/dislodged flashing or tearing of roof membrane, roof/wall intersections in split level buildings, additions, or other building irregularities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Tearing of roof membrane or deck waterproofing at re-entrant corners?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Toppling, shifting, or damage/leakage at refrigerant and electrical lines of rooftop mechanical equipment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Shifting of or damage to <u>solar panels</u> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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### D. EXTERIOR BUILDING INSPECTION (continued)

- |  | YES                      | NO                                  | N/A                      |
|--|--------------------------|-------------------------------------|--------------------------|
| 24. Attached or abutting improvements: (if yes, provide description and photos)  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| a. Collapse, partial collapse, or separation of attached porches, carports, Gazebos, or awnings?   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Evidence of recent settlement or displacement of exterior steps, patios, or walkways relative to the building?                            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. Signs of movement between building floor and/ or exterior hardscape or retaining wall along the uphill side of non steeply sloping sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. Toppling, shifting, or damage/leakage at refrigerant and electrical lines of air conditioning condenser unit(s)?                          | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 25. Independent exterior improvements: (if yes, provide description and photos)  |                          |                                     |                          |
| a. Damaged detached gazebo?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b. Damage to fences / privacy walls?   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c. Damage to retaining walls?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d. Damage to walkway?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e. Evidence of leakage from water supply lines?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f. Toppling, shifting, or damage/leakage at fuel connection of propane tanks?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g. Others damage   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

### E. INTERIOR INSPECTION

#### 26. General information

- |  |  |
|--|--|
| <p>a. If interior access not possible, identify reason <span style="color: blue;">(N/A)</span></p> <p><input type="checkbox"/> i. Red tag</p> <p><input type="checkbox"/> ii. Hazardous materials</p> <p><input type="checkbox"/> iii. Other hazardous condition, describe _____</p> <p><input type="checkbox"/> iv. Other, describe _____</p> | <p>b. Typical wall and ceiling finish</p> <p><input type="checkbox"/> i. Drywall</p> <p><input type="checkbox"/> ii. Plaster on gypsum lath</p> <p><input type="checkbox"/> iii. Plaster on wood lath</p> <p><input checked="" type="checkbox"/> iv. Other, describe <u>CEMENT PLASTER</u></p> |
|--|--|

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### E. INTERIOR INSPECTION (continued)

		YES	NO	N/A
27.	Walls: (if yes, provide description and photos)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>NOTE</i>	a. Fresh cracking, buckling, spalling, or detachment of interior wall finish at corners of door and window openings? <i>NOTE: NON-STRUCTURAL DAMAGE TO MASONRY WALL AREA BETWEEN DOOR AND WINDOW OPENING.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Fresh cracking of wall finishes at wall corners or wall/ceiling intersections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	c. Door or window openings racked out of square?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	d. Wall leaning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	e. Pattern of cracking that extends from the floor slab through the wall?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	f. Movement or sliding of walls relative to the floor?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	g. Severe cracking, separations, or offsets at building irregularities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	h. Doors damaged, difficult to operate, or inoperable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	i. Windows damaged, difficult to operate, or inoperable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
28.	Ceilings: (if yes, provide description and photos)			
	a. Collapse of ceiling finish?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	b. Fresh cracking of ceiling finishes, especially at re-entrant corners; cracks along corner bead at stairwell openings; cracking or tearing of finishes at ceiling/wall juncture; or multiple "nail pops"?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	c. Damage to ceiling finishes in vicinity of corridors or commons places?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	d. Separations or cracks in ceiling finishes at split-levels, re-entrant corners, additions, appendages, or other building discontinuities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	e. Water damage or evidence of recent leakage from plumbing lines or roofing?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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### E. INTERIOR INSPECTION (continued)

		YES	NO	N/A
29.	<b>Floors: (if yes, provide description and photos)</b>			
	a. Evidence of recent sloping, sagging, settlement or displacement of floors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	b. In slab-on-grade locations, fresh cracking of floor slab or floor finishes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	c. Significant sagging or unusual bounciness of floors frames?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	d. Separations or cracks in floor finishes at split-levels, re-entrant corners, additions, appendages, or other building discontinuities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	e. Signs of movement between floor and exterior hardscape or retaining wall along the uphill side of homes on steeply sloping sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	f. A pattern of fresh cracks, gaps, or joint separations in floor finishes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	g. Impact damage to floor finishes from falling contents?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
30.	<b>Mechanical systems: (if yes, provide description and photos)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	a. Displaced connection of appliance flues connected to <u>chimneys?</u> <i>n/a</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	b. Toppling, shifting, leakage from tank, leakage from water connections displaced flue connection or damage/leakage at gas line or electrical connection of water heater?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	c. Shifting, damage/leakage at gas line, flue connection, electrical connection, refrigerant line, and condensate drain connection of <u>furnace or air conditioning fan-coil unit?</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	d. Damage to gas line of <u>gas stoves or gas fueled clothes dryers?</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	e. Damage to toilets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	f. Decreased or restricted water pressure at appliances, faucets, or toilets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	g. Toppling or shifting of free-standing <u>wood stove</u> and/or flue?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	h. Toppling, shifting, damage/leakage at fuel connection of fuel oil tank?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	i. Other Damage in the <u>dining room</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	j. Damage near the <u>gas tank</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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**E. INTERIOR INSPECTION (continued)**

- |     |  | YES                      | NO                                  | N/A                      |
|-----|--|--------------------------|-------------------------------------|--------------------------|
| 31. | Architectural woodwork and special finishes: (if yes, provide description and photos)  |                          |                                     |                          |
|     | a. Shifting of or damage to kitchen or bathroom cabinetry?   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|     | b. Impact damage to countertops from falling objects?  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|     | c. Cracking of ceramic tile in showers or tub/shower enclosures consistent with earthquake damage to adjacent wall finishes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**F. CONTINGENT INSPECTIONS**

- |     |  | YES                      | NO                       | N/A                                 |
|-----|--|--------------------------|--------------------------|-------------------------------------|
| 32. | Retaining Tank Wall damage?                      | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 33. | Water tank or other field subterranean structure | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |



**G. RECOMENDACIÓN AL SECRETARIO**

Departamento de Educación  
 Dr. Eligio Hernández Pérez  
 Secretario de Educación

Hora: 10:00 am

Código: AEP: 0145 DE: 11031

Escuela: Santiago R. Palmer Primaria  
(5-8vo)

Fecha de Inspección: 31 de enero de 2020

Municipio: Camuy

- Abrir Escuela (Verde)
- Abrir Parcialmente la Escuela (Amarillo)
- No Abrir la Escuela (Rojo)

Comentarios: Grietas cerca de marcos de puertas y ventanas deben ser reparadas. El edificio fue remodelado con la adición de armazón externo en acero, esto protegió el edificio de problemas serios. Ver fotos  
Acentamiento de losa sobre piso, probablemente a problema de consolidación del terreno.  
Problema de corrosión en acero, debe ser reparado.

De conformidad con la solicitud de AEP a FEF CONSULTORES, CSP, hacemos constar que este reporte se basa exclusivamente en una inspección visual de las instalaciones en su estado y condición a la fecha de la inspección visual anotada en este documento con el propósito de identificar daños significativos al sistema estructural debido al evento sísmico del 7 de enero de 2020 que puedan haber alterado las condiciones físicas de las edificaciones en comparación con las condiciones antes del evento sísmico mencionado.

La determinación de la condición de la capacidad estructural de las edificaciones y de su condición para cumplir con los códigos de diseño y construcción aplicables al igual que el poder hacer recomendaciones para rehabilitar la facilidad requiere una investigación más extensa que la que se nos ha solicitado y que presentamos en este informe.

Fernando E. Fagundo  
 Nombre (Letra de Molde)

Firma [Firma manuscrita]

6565  
 # Licencia



H. FOTOS

