



Structural Assessment

Job No.: SAM

Caruso Engineering LLC
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Client: SAMPLE CLIENT Site Visit Date: DATE

Address: ADDRESS CITY, OH ZIP Engineer:

General Information: Number of Stories 1
Exterior: Vinyl Lap, Metal Lap, Wood Shake, Wood Lap, Clay Brick X, Stone, Other Exterior

Foundation: Full Basement, Walkout Basement, CMU Block, Poured Concrete, Clay Brick, Not Accessible, Clay Tile, Fieldstone, Perm Wood, Not Visible, Crawlspace, Conc Piers, Post & Beam, Other

Floor Structure: Wood Joists X, Wood Trusses, Concrete Slab, Not Accessible, I Joists, Metal Bar Joists, Not Visible, Other

Wall Structure: Wood Frame X, Masonry X, Metal Stud, Not Accessible, Not Visible, Other

Roof Structure: Rafters X, Flat Ceiling, Not Accessible, Trusses, Vaulted Ceiling, Not Visible, Other

Roofing: Asphalt Shingle X, Metal Seam, Slate, Terra Cotta, Other

Porch: Front, Side, Rear, Other

Garage: Attached X, Detached, Other

Deck: Front, Side, Rear, First Floor / Ground, Second Floor, Other

Assessment Checklist (Page 1 of 2)

Checkmarked items were evaluated. *Items without checkmarks were not evaluated.*

Location codes correlate to locations on building sketches

The scope of this assessment is limited to checkmarked items. Defects may exist behind finishes and cannot be evaluated in this assessment.

Basement

		<u>Location Codes</u>			<u>Location Codes</u>
<input type="checkbox"/>	Horizontal Wall Crack	_____	<input type="checkbox"/>	Significant Entrustation	_____
<input type="checkbox"/>	Vertical Wall Crack	_____	<input type="checkbox"/>	Active water inflow	_____
<input type="checkbox"/>	Inclined/Stairstep Wall Crack	_____	<input type="checkbox"/>	Notched or bored Joist	_____
<input type="checkbox"/>	Failed Masonry Unit	_____	<input checked="" type="checkbox"/>	Sagging Beam	1
<input type="checkbox"/>	Bowed Wall	_____	<input type="checkbox"/>	Wood boring insect damage	_____
<input type="checkbox"/>	Deficient Post	_____	<input type="checkbox"/>	Improper Framing	_____
<input type="checkbox"/>	Slab Crack	_____	<input type="checkbox"/>	Missing Blocking	_____
<input type="checkbox"/>	Improper Joist Splice	_____	<input type="checkbox"/>	Unsupported Framing	_____
<input type="checkbox"/>	Other (_____)	_____	<input type="checkbox"/>	Other (_____)	_____

First Floor

<input checked="" type="checkbox"/>	Horizontal Wall Crack	4	<input checked="" type="checkbox"/>	Sloping Floor	2
<input type="checkbox"/>	Vertical Wall Crack	_____	<input type="checkbox"/>	Racked Doorway / Window	_____
<input checked="" type="checkbox"/>	Inclined/Stairstep Wall Crack	2, 9	<input checked="" type="checkbox"/>	Ceiling Crack	2,4
<input checked="" type="checkbox"/>	Leaning Wall	9	<input type="checkbox"/>	Other (_____)	_____

Second Floor

<input type="checkbox"/>	Horizontal Wall Crack	_____	<input type="checkbox"/>	Sloping Floor	_____
<input type="checkbox"/>	Vertical Wall Crack	_____	<input type="checkbox"/>	Racked Doorway / Window	_____
<input type="checkbox"/>	Inclined/Stairstep Wall Crack	_____	<input type="checkbox"/>	Ceiling Crack	_____
<input type="checkbox"/>	Other (_____)	_____	<input type="checkbox"/>	Other (_____)	_____

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<input type="checkbox"/>	Improper Rafter Splice	_____	<input type="checkbox"/>	Notched or Bored Joist	_____
<input type="checkbox"/>	Improper Ceiling Joist Splice	_____	<input type="checkbox"/>	Wood Boring Insect Damage	_____
<input type="checkbox"/>	Cut Truss Member	_____	<input type="checkbox"/>	Other (_____)	_____
<input type="checkbox"/>	Other (_____)	_____	<input type="checkbox"/>	Other (_____)	_____

Assessment Checklist (Page 2 of 2)

Checkmarked items were evaluated. *Items without checkmarks were not evaluated.*

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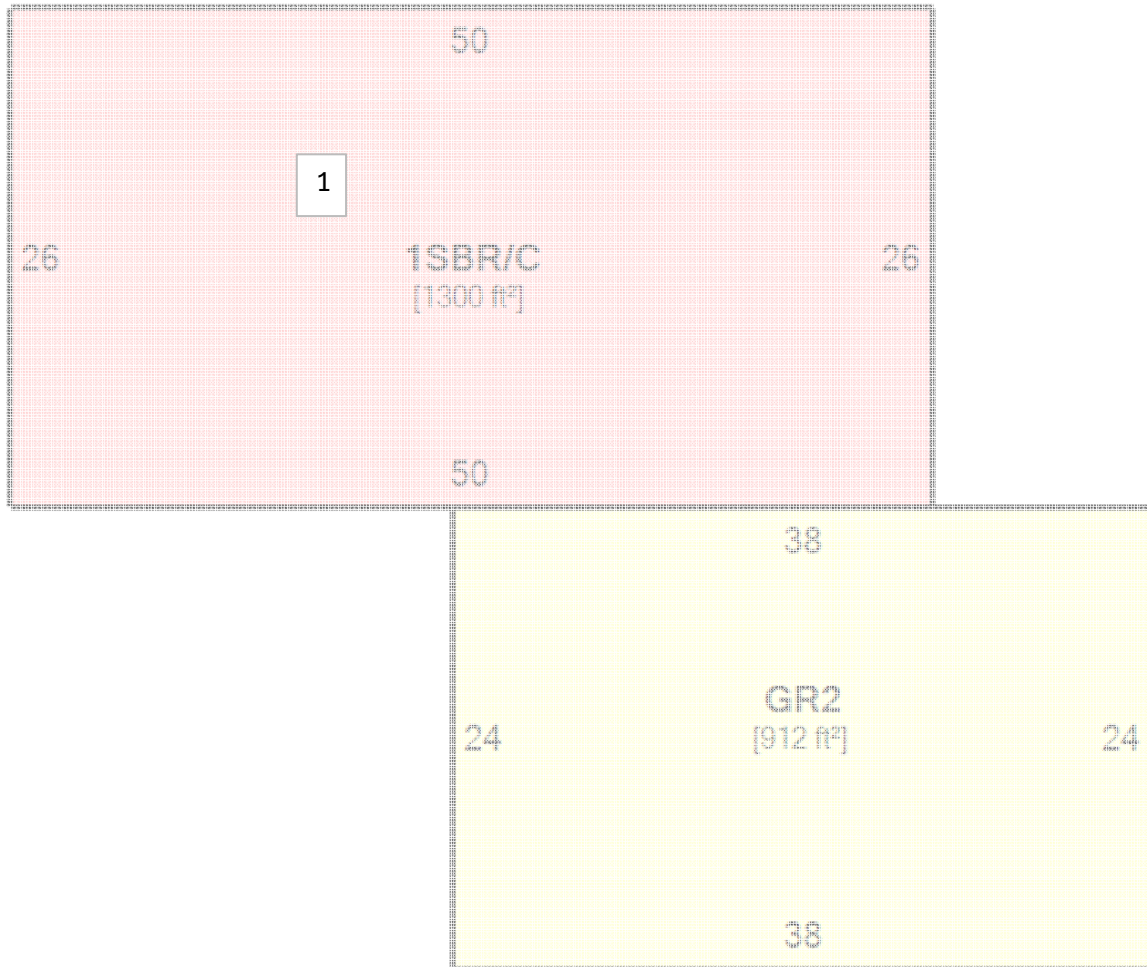
Exterior

	<u>Location Codes</u>		<u>Location Codes</u>
<input checked="" type="checkbox"/> Inclined Crack (brick)	3,5,6,7	<input type="checkbox"/> Wood boring insect damage	_____
<input checked="" type="checkbox"/> Horizontal Crack (brick)	3,6	<input type="checkbox"/> Water damage to structure	_____
<input checked="" type="checkbox"/> Corroded Steel Lintel (brick)	5	<input type="checkbox"/> Spalled Stone/Brick Veneer	_____
<input type="checkbox"/> Clogged Gutters	_____	<input type="checkbox"/> Other (_____)	_____
<input type="checkbox"/> Clogged Downspout	_____	<input type="checkbox"/> Other (_____)	_____
<input type="checkbox"/> Improper Downspout Conn.	_____	<input type="checkbox"/> Other (_____)	_____
<input type="checkbox"/> Sagging Beam	_____	<input type="checkbox"/> Other (_____)	_____
<input type="checkbox"/> Other (_____)	_____	<input type="checkbox"/> Other (_____)	_____

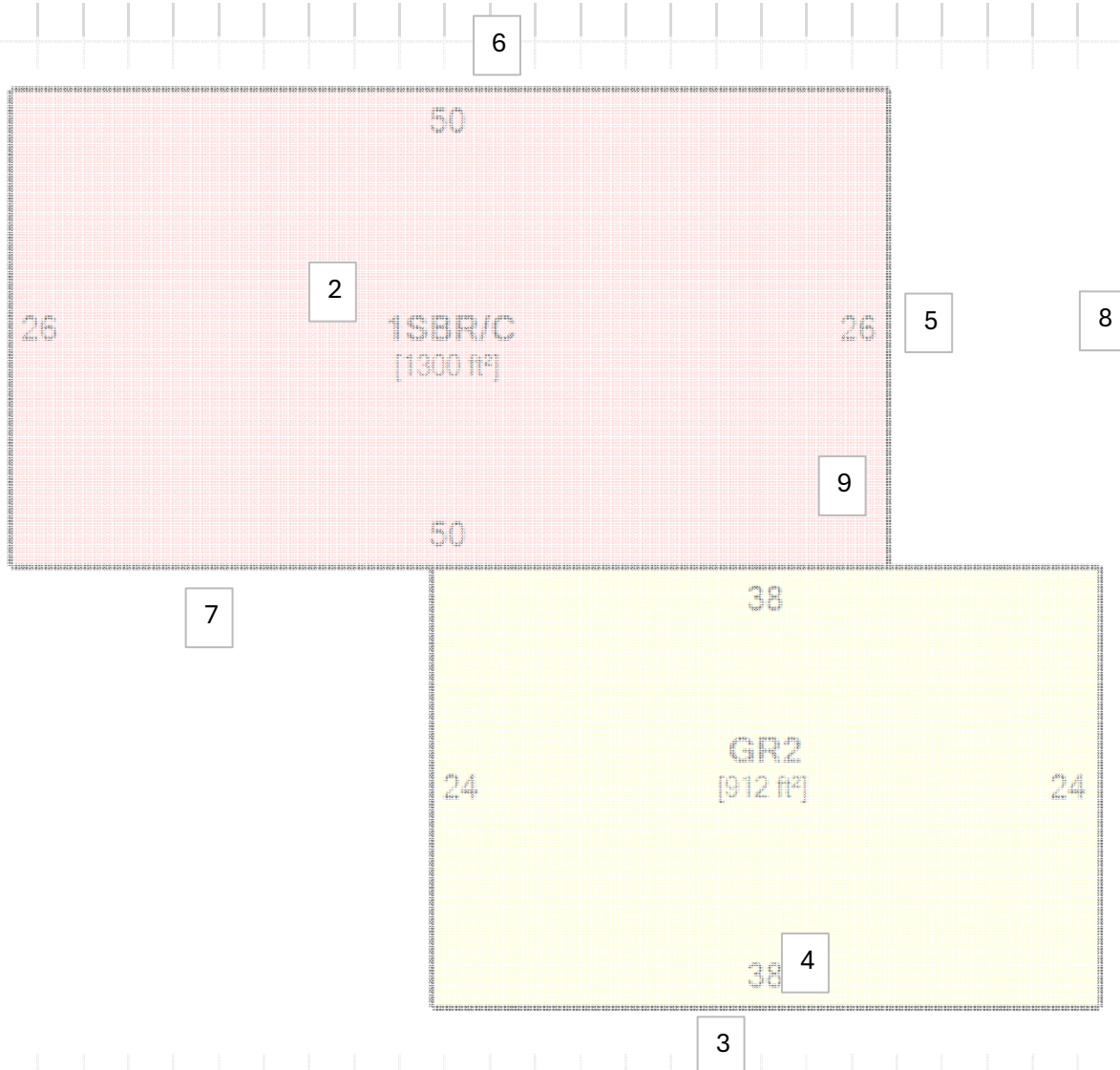
Notes

1,2	Sagging hallway/living room floor and interior drywall cracking are due to a sagging crawlspace beam. Crawlspace was entered in January to confirm beam condition - was not entered in this visit.
3,4	Exterior brick façade cracking due to corrosion of steel lintel. Separation of CMU backing at the lintel elevation was observed. The section of wall above the lintel has been pulled out likely due to wind suction pressure. Wall and façade are currently stable, but the situation could change quickly.
5,8	Over-spanned lintel has led to cracking in the brick façade. Yard in this area is very wet. Plans for a french drain were noted on site. Drainage in this area is critical to mitigating potential settlement (see item 9).
6	Over-spanned lintel has led to cracking in the brick façade. Since façade height above windows is short and there are several windows in succession, the top facade courses are separating from the wood frame wall sheathing across the whole back of the house.
7	Over-spanned lintel has led to cracking in the brick façade.
9	Exterior wall observed to be leaning out at the top. Potential settlement cracking also observed in the closet and around the window. Standing water noted in the yard (item 8). This area may have experienced moderate settlement in the past.

Location: Basement



Location: First Floor



Recommendations

Checkmarked items are recommended. Items without checkmarks are not currently needed or recommended.

Location codes correlate to locations on building sketches

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Basement

<input type="checkbox"/>	Patch cracks and observe 6-12 months for return	_____
<input type="checkbox"/>	Install 3" steel screw post or wood post (4x4 or (2)2x4), fasten to slab and structure at top	_____
<input type="checkbox"/>	Install permanent steel post with concrete footing (DESIGN REQUIRED)	_____
<input type="checkbox"/>	Sister existing Joist, full length (support to support)	_____
<input checked="" type="checkbox"/>	Lift and Level Beam	1 _____

First and Second Floors

<input checked="" type="checkbox"/>	Patch cracks and observe 6-12 months for return	2,4,9 _____
<input checked="" type="checkbox"/>	Reinforce CMU Wall	4 _____

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<input type="checkbox"/>	_____	_____
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Exterior

<input type="checkbox"/>	Clean out Gutters and Downspouts	_____
<input type="checkbox"/>	Jet or scope underground drain system	_____
<input type="checkbox"/>	Correct grading adjacent to the home (should slope away from the home)	_____
<input checked="" type="checkbox"/>	Install a french drain (buried drain pipe)	8 _____
<input checked="" type="checkbox"/>	Post overspanned lintels or remove upper brick.	3,5,6,7 _____
<input checked="" type="checkbox"/>	Tie brick back to house	6 _____

Notes

- 1. Beam should be shimmed over existing brick pier support. Piers did not appear to have settled.
- 4. CMU block wall should be replumbed and reinforced with #4 bar @ 24" in grouted cells. Existing lintel should be removed. Brick façade above window can be removed and replaced with siding panels. If brick façade is restored, a new steel angle lintel will need to be sized and installed.
- 3,5,6,7: Overspanned lintels can be posted in the middle with 2x4's to increase stiffness and prevent future façade cracks. Brick should be tied back to sheathing with masonry screws. If wet sheathing is found, recommend further investigation.
- 8,9: Yard drainage and drainage along the home should be improved to minimize settlement risk. Once drainage is improved, interior cracks should be patched and observed. If cracks return, re-evaluation by an engineer is recommended to determine if the cracks indicate an active settlement problem in the area.

Location 4



Location 4



Location 6



Location 5, 8

