

# Carnes Engineering, Inc.

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## Repair Recommendations

October 22, 2019

**RE:** Repair recommendation options  
1301 Center Street  
Deer Park, TX 77536  
20,000 Sq. Ft. Theater and Courthouse Building

**Prepared for:** Mr. Brent Costlow  
Mr. Charlie Sandberg  
Adam Ballesteros, P.E.

**Prepared by:** Carnes Engineering, Inc. (CEI)  
12605 IH 10 East  
Baytown, TX 77523

### Introduction:

Carnes Engineering, Inc. ("CEI") was retained to provide the engineering work to complete the scope of Work outlined below. The decorative front entry facade for the referenced building consists of three freestanding structures and one attached to the main structure. All four wall surfaces are completely covered with a thin wall stone finish. The thin stone wall covering attachment and underlayment and has been partially removed to expose evidence of deterioration. This work was authorized by the city and will be billed under the original contract as a reimbursable.

### Scope of Work:

- Develop an analysis and outline the cause of the damage and the extent of the failure.
- Develop alternatives for repairs or replacement (i.e. repair in kind, replace underlayment as needed, demolish and re construct.)
- Site inspections as needed.
- Meet with contractors as needed to develop cost. .
- Meet with City to discuss moving forward with repairs or replacement with specific repair or design approach.

**Summary of repair options:**

Repair in Kind. (Estimated cost - \$ 88,761.00)

1. Remove the exposed light gauge steel framing.
2. Repair structural steel.
3. Clean and paint the new and remaining structural steel.
4. Replace Light gauge and Install moisture resistance substrate.
5. Replace the reusable thin stone cover.
6. Replace and caulk stone as needed. \*

Remove outside wall and repair remaining. (Estimated cost - \$ 66,205.00)

1. Remove the exposed light gauge steel framing.
2. Leave and water proof the glass canopy
3. Repair structural steel.
4. Clean and paint the new and remaining structural steel.
5. Replace Light gauge and Install moisture resistance substrate.
6. Replace the reusable thin stone cover.
7. Replace damaged stone as needed

Remove three walls including glass canopy. (Estimated cost - \$ 52,950.00)

1. Remove all exterior light gauge steel framing.
2. Remove structural steel.
3. Remove the glass canopy
4. Replace damaged stone as needed

Install drainage system in front of building to remove rainfall runoff.  
(Estimated cost - \$ 19,500.00)

1. 240 ft. buried 6 in. HDPE system, 12 Catch basins, 40 ft. bore under walkway.
2. 177 ft. buried 6 in. HDPE outfall to street.

All cost includes a 20 % contingency.

\* Replace and install damaged thin stone \$8.00/ sf

Sincerely,



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**Donald Spencer Carnes, P.E.**  
**TX License # 46041**

**Carnes Engineering, Inc.**  
**Firm Registration # F-003737**