



**CSS ARCHITECTS, INC.**

**ARCHITECTURE • PLANNING • INTERIOR DESIGN**



**BUILDING ENVELOPE EVALUATION  
NEWTON HEALTH DEPARTMENT BUILDING  
1294 CENTRE STREET  
NEWTON, MA**

*MARCH 6, 2008*



*Members of the American Institute of Architects and USGBC*

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CSS Architects Incorporated  
Wakefield, Massachusetts

**BUILDING ENVELOPE EVALUATION**

Newton Health Department Building  
Newton, MA

06 March 2008

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## **EXECUTIVE SUMMARY**

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### **INTRODUCTION**

CSS Architects Incorporated was retained by The City of Newton to conduct a building envelope evaluation and A.A.B compliance review of the Newton Health and Human Services Department at 1294 Centre Street, Newton, MA. The objective was to review the existing building envelope and handicap compliance. This report summarizes the findings from CSS Architects and Thompson & Lichtner's inspection of the building envelope; comprised of exterior masonry and stucco walls, slate roofs, gutters and downspouts, windows and exterior doors and handicap accessibility. The report provides recommendations for repairs and a rough estimate of repair costs.

## **EXISTING CONDITIONS**

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### **BACKGROUND**

The Newton Health Department Building was originally designed as a branch library for Newton Centre by Ritchie, Parsons & Taylor Architects and Engineers in 1927. The building is listed as the Newton Centre Branch Library on the National Register of Historic Places. The building is a rectangular structure with one horizontal wing extending out from the center of the north elevation of the long side of the main building section. The exterior walls are terracotta brick with brick or stucco cladding. The roof areas are covered with slate roofing installed with progressive exposure. At three dormer roofs, two brick walls project above the abutting roof eaves, one on the north and one on the south elevation. The south elevation also has one stucco-clad wall. Metal cap flashings are located at the three brick end walls. The copper gutters and downspouts are original to the building. The wood windows are a combination of double-hung, fixed casement and transoms and are original to the building. The building addresses A.A.B compliance with the addition of a concrete ramp, interior platform lift and accessible toilet.

## EXISTING CONDITIONS

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### OBSERVATIONS

#### A. WOOD WINDOWS:

The exterior windows are original to the building and are approximately 80 years old. The windows inspected consisted of 25 window openings having several different types and configurations. The window types consist of wood double-hung, fixed casements and fixed transoms. See window survey schedule Appendix II-01

The exterior sill and frames have failed paint to no paint coverage; however the wood appears to be in good condition and will require moderate wood repair applications. The sills are heavily weathered with some fissure and splits in the wood. The main area of deterioration is the paint coverage and decayed sills (see Appendix photos #W-1 – W-12). The deteriorated wood is mainly at the exterior sills on the north side of the building.

Overall the existing sash joinery is in mostly good condition. The muntin assembly is in good condition. The glass is mostly intact with only about 1% broken or cracked, but the glazing compound is in poor condition.

There does not appear to be any caulking between the window trim and the brick, creating a gap where water could penetrate.

All window openings have brick sills that are in various levels of deterioration of the mortar joints. The pointing mortar lifts off easily or is missing, exposing a softer deteriorating mortar.

In conclusion the overall condition of the wood and the wood components on the above features averages fair to poor. However they are well within limits for a cost effective and successful wood repair and weather sealing.

#### B. EXTERIOR DOORS:

The main entry doors are a pair of 2'-6" x 7'-6" wood stile and panel doors with leaded glass insert and leaded glass transom above. The doors are in good condition.

The ornate entry is comprised of fluted wood pilasters topped by an arched metal covered hood with carved wood consoles, wood cornice modillions, etc., and feature a carved urn in the center.

## **EXISTING CONDITIONS**

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The hooded roof overhang shows areas of rot and deterioration from water entering through the metal roof covering particularly on the left side and also the base of the pilasters is rotted. The right side of the entry trim has pulled away from the brick exposing the wood support blocking allowing water to enter behind the pilaster. The painted finish is peeling down to bare wood.

The three side doors have been replaced recently and are in good condition.

### **C. HANDICAP ACCESSIBILITY:**

Handicap access is presently accommodated via a concrete ramp with steel railing at the rear door entering at the upper level near corridor. Presently due to the uneven floor the door threshold is higher than ½” The lower level is accessed via an interior handicap lift.

A unisex accessible toilet is located at the upper level.

The front entrance is not accessible due to a series of concrete stairs, sloped concrete walks and two (2) pairs of 5’-0” double doors at the entry vestibule.

Most visitors and employees arrive by car and use the entrance located at the (driveway) south side of the building which is closer to the parking area. The driveway is shared by adjacent retail stores and is very narrow with parking for the Health Department located along the driveway. Pedestrians or people parked in a remote location would use the more visible “ Ceremonial” front entry.

The condition of the existing accessible concrete ramp is poor with areas of spalled and deteriorated concrete surface. The metal railings are rusted and do not meet the requirements of AAB.

The condition of the concrete walks leading from the public sidewalk to the front entry are also in poor condition with large areas of spalled or missing concrete.

The handicap accessible parking is located adjacent to the ramp with a slope of more than 2%.

## EXISTING CONDITIONS

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### COMMENTS

Based on the results of our investigation we have the following comments relative to the condition of the Newton Health Department Building.

#### A. WINDOWS

1. The following components require restoration and repair:
  - a. Sashes, exterior trim and sills have heavily peeling paint.
  - b. Rotted window sills
  - c. Broken sash cords
  - d. Weather stripping and caulking

#### B. DOOR ENTRIES

1. The "Ceremonial Entry" has the most amount of decay and is in need of immediate repair. Deterioration and water damage of the curved roof overhang appears to be caused by water entering through openings in the metal roof. There is also some decay at the base of the fluted pilasters caused by water damage which will require repair.
2. The remaining door slabs have been replaced and are not original to the building. They are in good condition and do not need to be replaced.

#### C. HANDICAP ACCESSIBILITY

1. To bring the building into compliance the entry to the building needs to be addressed (521.25.1). The location of the accessible entry should be reviewed. The handicap accessible entry is approximately 65 foot distance from the parking and is remote from the most utilized public entry which is used mainly by visitors arriving by car. The "Ceremonial Entry" is used mainly by pedestrians or people parked remotely and is not handicap accessible.
2. Location of parking and signage will also have to be reviewed.
3. The existing accessible toilet will need slight modifications to meet code.

## RECOMMENDATIONS

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### RECOMMENDATION A – WINDOWS

The windows are in poor condition, but are structurally sound and can be repaired. We recommend restoring the existing windows to maintain the historical integrity of the building. The following program should include:

1. Remove sashes to be restored off site. Save interior sash stops.
2. Remove all loose and flaking paint from exterior frames, stops, trim and sills.
3. Replace rotted sills with custom mahogany sills.
4. Reinstall restored sashes replacing sash cords and using existing brass pulleys. (See Drawing A-7)
5. Add interior storm windows that are operable and fixed for energy efficiency. (See Appendix II, Sheets II-02, II-03)

### RECOMMENDATION B. – DOORS/ENTRIES

The recommendation for the “ Ceremonial Entry” would be removal of the copper roof hood and replacement of deteriorated sheathing, provide ice and water shield and install a new metal roof of either zinc or copper material. The effectiveness of the blind flashing should be reviewed and the addition of step flashing might be warranted. Loose and flaking paint should be removed from all wood components and any areas requiring epoxy repair. Remove decayed, soft and discolored wood until sound material is located and epoxy restorative methods should be applied as required.

### RECOMMENDATION C – HANDICAP ACCESSIBILITY (Entry) – OPTION ONE

To meet the requirements of A.A.B. 521 CMR 3.3 create a new accessible main entry to the building near the parking area and designate the ceremonial entrance as exit only. The other entries would be service entries or egress only. This would require interior programmatic changes. Concrete walkways should be removed and replaced as indicated. (See Drawing A-5)

Comment: The new accessible entry would require Massachusetts Historic Commission input. Designation of the accessible entry as the new main entry to the building would cause concerns with the safety of pedestrians or others remotely parked having to use the shared narrow driveway which does not have a sidewalk. The “ Ceremonial Entry” would be a better option. Interior programmatic changes to accommodate the new entry would cause space constraints.



## RECOMMENDATIONS

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### RECOMMENDATION D – HANDICAP ACCESSIBILITY (Entry) – OPTION TWO

Apply to AAB for a variance under historic building status (521 CMR 3.9 & 4.1) to maintain the current location for the accessible entry ramp. Rebuild ramp to comply with code (521 CMR 24). Level and install new flooring to meet the ½” maximum threshold height. Accessible parking and proper directional signage should be provided (521 CMR 25.6 - Signage). Deteriorated concrete walkways should be removed and replaced as indicated. (See Drawing A-6)

Comment: Option Two would maintain the three current entries. The accessible parking would be located as close as possible to the rebuilt ramp.

### RECOMMENDATION E – HANDICAP ACCESSIBILITY( Toilet)

The configuration of the unisex toilet will meet the requirements of AAB with the following recommendations:

1. The door hardware should be changed to lever type (521 CMR 26.11.1)
2. Provide grab bars as per code (521 CMR 30.8 – Grab bars).
3. Provide alarm/strobe if building is equipped with a fire alarm system.

**COST ESTIMATE**

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**BUILDING ENVELOPE EVALUATION**

Newton Health Department Building  
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<u>ITEM</u>	<u>ESTIMATED COST</u>
<b>RECOMMENDATION A-WINDOWS</b>	
1. Repair and restore/paint windows.....	50,000
2. Provide interior storm windows.....	15,000
<b>RECOMMENDATION B- DOORS ENTRIES</b>	
1. Repair, restore and paint ceremonial entry( Excluding copper barrel roof- see consultants report).....	10,000
<b>RECOMMENDATION C- ACCESSIBLE ENTRY –OPTION ONE</b>	
1. Provide new concrete ramp and metal railings .....	15,000
2. Provide covered entry .....	8,000
3. Provide accessible parking and signage.....	5,000
4. Replace deteriorated concrete walks .....	10,000
<b>*RECOMMENDATION D –ACCESSIBLE ENTRY- OPTION TWO</b>	
1. Provide new concrete ramp and railings in present location to meet A.A.B compliance .....	15,000
2. Provide accessible parking and signage.....	5,000
3. Replace deteriorated concrete walks .....	10,000
<b>RECOMMENDATION E –ACCESSIBLE TOILET</b>	
1. Provide door hardware and grab bars .....	1,000
2. Add horn/strobe device to existing system .....	1,000

See Consultants Report for Cost Estimate

Note: Costs do not include General Conditions ( 10%), Insurance/bonds (2%), Overhead and Profit(15%)