

May 4, 2006

Re: Team Inspection for 7801 Holmes Road – # CRTI 200610025

Thank you for the opportunity to assist you with our Team Inspection Service. Our site visit and subsequent evaluation yields the following answers to the questions you have raised. Unless noted otherwise, references to the IBC reflect the currently adopted 2003 International Building Code (IBC). The 2003 International Existing Building Code (IEBC) has been adopted and may be utilized as applicable to existing conditions. Any proposed modifications to the adopted codes shall be made via the Code Modification Request (CMR) process.

Date of inspection: April 20, 2006

DCA representative(s): Greg Franzen

Proposed use: School for grades K through 12 (IBC Occupancy E)

Existing (or previous) use: Nursing Home (IBC Group I-2)

### **Existing building**

The existing building has 4 levels. Due to the sloping site, the building might be classified as a 3 or 4 story building (see IBC definitions). The total floor area is roughly 102,000 square feet. The prior use of this building was a nursing home, but is currently unoccupied.

The building was built in three different phases. There does not appear to be any fire wall compartmentation. There does appear to be smoke barrier compartmentation, consistent with an institutional occupancy. There is a physical plant connected by a concrete tunnel that appears to be separated from the main building by a fire barrier.

### **Proposed use**

The proposed use of this building is a school for children in grades K-12. The school use is classified as occupancy group E. Administrative office space (occupancy group B) can be considered as accessory to the group E occupancy. Assembly areas, if provided, are occupancy group A. The change of use to a school is proposed be phased to occur one floor at a time. The proposed use is a change of use group from the existing use, and as such is subject to all requirements of the currently adopted code. A new certificate of occupancy is required for the proposed use.

The proposed scope of work is to create classrooms by demolishing existing construction as needed to combine 2-3 patient care rooms.

## **Daycare**

If a daycare use is also considered, see Information Bulletin 111 at <http://www.kcmo.org/codes/IBS/IB111.pdf> for a summary of daycare requirements. If the daycare is classified as occupancy group E, then these same building code comments apply.

## **Type of construction**

The building is primarily of concrete frame construction. A portion of the roof system is steel framing with spray-applied fireproofing. The building appears to be at a minimum construction type II-A. It could possibly be construction type I-A or I-B. The type of construction shall be identified with the design submittal. It appears the construction type II-A would be compliant for this building if determined to be 3 stories in height [IBC 503].

For the purpose of allowable height and area, a change of use from group I-2 to group E is a change to a less hazardous use. Therefore, provided that there is no addition or expansion, the existing type of construction may be accepted. [IEBC 812.4.2]

## **Occupant load**

The design occupant load shall be determined in accordance with the IBC. The occupant load factor of 20 square feet per person is provided for educational classrooms. The occupant load factor of 15 square feet per person is provided for unconcentrated assembly spaces such as lunchrooms. Net areas are used for this calculation, and are exclusive of non-simultaneous use areas such as toilet rooms, access hallways, etc. The occupant load factor of 100 square feet (gross area) per person is provided for office space. The total design occupant load for the new use shall be identified with the design submittal. [IBC 1004]

## **Exits**

The existing building is served by four fire-rated exit stair enclosures. There is an egress corridor system throughout – the corridor appears to be fire-rated on some floors but not others. If the building is protected throughout by a fire sprinkler system, fire-rated corridors are not required for an occupancy group E [IBC 1016]. For the purpose of exit systems, a change of use from group I-2 to group E is a change to a less hazardous use --therefore, existing corridor construction in compliance with IEBC 605.5 may be accepted [IEBC 812.4.1.2]. It shall be demonstrated that the egress capacity is sufficient for the design occupant load -- however, it appears that there is ample egress width provided. In occupancy group E, corridors are required to be 72” in width – lockers are permitted in the corridors provided this clear width is maintained.

Egress doors shall provide a minimum clear opening of 32” when measured with the door open 90 degrees. Egress doors shall swing in the direction of egress where serving a design occupant load of 50 or more. Egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort. Panic hardware is required for an occupant load of 100 or more [IBC 1008]. Exit signs and exit path illumination with an emergency power source are required when two exits are required.

### **Automatic sprinkler system**

The building has a Class III standpipe system. Limited areas of the building are provided with an automatic fire sprinkler system. An automatic sprinkler system is required for a group E occupancy if the undivided fire area exceeds 20,000 square feet, or if an educational use is located below the level of exit discharge. [IBC 903.2] It appears that each story of the building, as well as the physical plant, would qualify as a separate fire area (a two-hour rated fire barrier is required between fire areas for a group E occupancy). If so, then the sprinkler system could be added floor-by-floor upon occupancy of a floor by the school use [IBC 706.3.7]. An automatic sprinkler system shall be monitored by an approved 24 hour monitoring station.

A Class III standpipe system is required for buildings where the highest occupied floor level is 30 feet or more above the lowest level of fire department vehicle access. A Class I system is permitted if the building is fully sprinkled. Unless shown to not be required, the existing 1-1/2” valves and hoses shall remain in place until the building is sprinkled throughout. [IBC 905.3]

### **Fire alarm**

The building is provided with an existing fire alarm system consisting of manual pull stations and alarm horns. A manual fire alarm system (manual pull stations and horn/strobe devices) is required for a group E occupancy with a design occupant load of 50 or more persons [IBC 907.2.3]. See IBC 907.2.3, exception 2, for additional design options. A required fire alarm system shall be monitored by an approved 24 hour monitoring station.

### **Plumbing facilities**

Plumbing facilities shall be provided in accordance with the minimum number required by IBC Chapter 29 based on the design occupant load when the new use is subject to greater fixture requirements than the prior use. For educational use, one water closet and one lavatory is required for each 50 males and each 50 females. Currently, there are numerous single-user toilet rooms, each with a toilet and lavatory, plus accessible multi-user men’s and women’s toilet rooms on the ground level.

### **Ventilation**

Natural or mechanical ventilation is required per IBC 1203. The ventilation system shall be capable of providing 15 cfm outside air per person based on the design occupant load. [IMC Table 403.3]

## **Accessibility**

Accessibility for existing buildings is regulated by IBC 3409 and ICC/ANSI A117.1-1998. An existing building or area undergoing a change of occupancy shall be provided with the following features at a minimum [IBC 3409.3]:

1. At least one accessible entrance.
2. At least one accessible route from an accessible entrance to primary function areas.
3. Signage complying with IBC 1109.
4. Accessible parking, where parking is being provided.
5. At least one accessible passenger loading zone, where loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

If technically infeasible to comply with the ANSI standard for these items, they shall comply to the maximum extent feasible. The costs to provide an accessible route to an area of primary function are not required to exceed 20% of the costs of the alteration for the area served. Any new construction shall comply with the accessibility standard.

There is an interior elevation change on the ground floor -- there is an accessible entrance at both levels. All stories of the building are served by elevators. The public toilet rooms on the ground level are accessible.

## **Zoning**

This property is zoned R4. Compliance to the zoning ordinance and parking station ordinance is required. A zoning determination may be obtained from the Permit Office, 5<sup>th</sup> Floor of City Hall, 816-513-1500. Screening of the parking station from adjoining residential lots is required (See Information Bulletin 129 at <http://www.kcmo.org/codes/IBS/IB129.pdf>). Variances to the Zoning Ordinance may be proposed to the Board of Zoning Adjustment (BZA).

## **Summary**

The preceding discussion of code requirements should not be considered to be a comprehensive list of deficiencies for this building. This document serves only as a record of the answers to questions generated during the team inspection for this project. The answers may depend in part or entirely on information provided by the applicant. Additional code requirements may be revealed during demolition, design, or plans review. Please feel free to contact me at (816) 513-1500 if you have any further questions.

Sincerely,

Greg Franzen, P.E., M.C.P.  
Division Manager of Inspections