

DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS
PERMIT OPERATIONS DIVISION

CONSTRUCTION CODES VARIANCE/MODIFICATION APPLICATION

Date: 26 February 2014

Type of Construction: Type IIB / IIA
Height of Construction: 79 feet
Construction Valuation: \$112 mill.
Use Group: E
Lot: 0802 Square: 2915
Gross Floor Area: 327,870 SF
Sprinklered Yes ☒ No ☐
Standpipe Yes ☒ No ☐
Fire Alarm Yes ☒ No ☐
Plans Attached Yes ☐ No ☒

APPLICATION NUMBER:

MVA1400263
Teresa Luther, DC Dept. of General Services (202) 674-4093

Owner's Name Phone Number
1250 U Street, NW, 3rd Floor, Washington, DC 20009

Owner's Address Zip Code
Mary R. Rankin, Perkins Eastman DC (202) 681-1325

Agent's Name Phone Number
690 Water Street, SW, Washington, DC 20024

Agent's Address Zip Code
4301 13th Street, NW, Washington, DC 20011

Project Address:

Project or Permit Number: Not Applicable (Permit not yet filed)

In accordance with Section 104.10 of the District of Columbia Construction Code Supplement of 2008, DCMR 12A, as amended, I hereby request a variance/modification to the D.C. Construction Codes, specifically:

Code 2013 DCMR 12J Section Number 202, 1105 Section Title 202: Definitions; Addition
1105: Height & Area

The following special circumstances or hardship exists: Refer to the attached memorandum.

Proposed alternative means of compliance with the regulation specified above: Refer to the attached memorandum.

This proposal meets the intent of the Code specified above because: Refer to the attached memorandum.

I, the owner/owner's agent, assume full responsibility for non-compliance with said Code Section(s) and render the D.C. Government harmless for any consequent liabilities.

Waiver request is based on: Application denial Yes ☐ No ☐ Plan review comments: Yes ☐ No ☐

Field Inspection disapproval: Yes ☐ No ☐ Other: Yes ☒ No ☐

Owner's Signature

Agent's Signature

David P. Wilmont (AON FPE), david.wilmont@aon.com

Contact Person

Phone

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Recommendation:

Reviewed by: J. S. Khokhar

Date: 6/23/14

☒ Approval

☐ Disapproval

COMMENTS:

All new work to be of type IIA construction maintaining the model of the 1970's expansion work.

☒ Approved
☐ Disapproved

Authorized Code Official

Date

06.24.2014

Board of Zoning Adjustment
District of Columbia
CASE NO.19116
EXHIBIT NO.11

STATEMENT OF CONDITIONS OF BUILDING AND WAIVER

(APPLICANT MUST COMPLETE THIS WAIVER APPLICATION SUPPLEMENTAL FORM THROUGH ITEM 21)

Project Address: 4301 13th Street, NW, Washington, DC 20011

Lot: 0802

Square: 2915

Date of Waiver Application: 26 February 2014

AFFIDAVIT

The information on the building, the premises and the project for which I am applying for a waiver hereafter, to the best of my knowledge is complete and correct

Signature: Mary R. Rankin

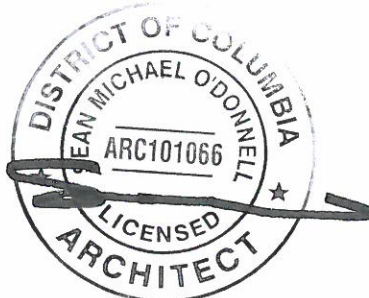
Name (print): Mary R. Rankin

DATA ON BUILDING

1. HEIGHT OF BUILDING: Four (4) STORIES ABOVE GRADE
2. FLOOR OF TOPMOST STORY IS 75'-0" FEET ABOVE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS.
3. TYPE OF CONSTRUCTION (Check One):
☐ 1A ☐ 1B ☒ 2A ☒ 2B ☐ 2C ☐ 3A ☐ 3B ☐ 4 ☐ 5A ☐ 5B
4. USE GROUPS IN THE BUILDING (Check all applicable):
☐ A-1A ☐ A-1-B ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
☐ B ☒ E ☐ F ☐ F-1 ☐ F-2 ☐ H ☐ I-1 ☐ I-2
☐ I-3 ☐ M ☐ R-1 ☐ R-2 ☐ R-3 ☐ S-1 ☐ S-2 ☐ U

1st
5. AREA OF LARGEST FLOOR: Floor SQUARE FEET 122,967 SF
6. EXISTING FIRE SUPPRESSION SYSTEMS (Check all applicable):
☒ FULLY SPRINKLERED BUILDING
☐ PARTIALLY SPRINKLERED BUILDING (Specify below)
☐ NO SPRINKLER SYSTEM
☐ HALON SYSTEM
☒ FULL STAND PIPE COVERAGE
☐ NO STAND PIPES
☐ OTHER (Specify Below)

7. NUMBER OF FLOORS BELOW GRADE: none
8. WINDOWLESS BASEMENT LEVELS? (Check One):
☒ NO ☐ YES
If Yes, which? (Check all applicable)
☐ B 1 ☐ B 2 ☐ B 3 ☐ B 4 ☐ B 5 ☐ B 6
Parking Only
9. EXISTING FIRE PROTECT VE SIGNALING SYSTEMS (Check ONE):
☐ VOICE ALARM SYSTEM
☒ AUDIO/VISUAL ALARM SYSTEM
☐ AUDIBLE ALARMS ONLY ☐ NONE
10. EXISTING FIRE PROTECTIVE SIGNALING SYSTEM INITAITING DEVICES (Check all applicable)
☐ MANUAL PULL STATION ONLY
☒ PULL STATION AND AUTOMATIC DETECTION DEVICES
☐ SMOKE DETECTORS
☐ HEAT DETECTORS
☒ SPRINKLER FLOW SWITCHES
☒ TAMPER SWITCHES
☐ NONE
11. EXISTING EMERGENCY POWER BACKUP SYSTEM (Check all applicable):
☒ GAS FIRED OR DIESEL DRIVEN EMERGENCY GENERATOR
☐ CENTRALIZED INVERTER SYSTEM (BATTERY PACK)
☐ UNINTERRUPTIBLE POWER SYSTEM (UPS)
☐ UNIT BATTERY PACK 3 ☐ NONE
12. EXISTING FIRE PUMP (Check one):
☐ ELECTRIC MOTOR DRIVE
☐ ENGINE DRIVEN ☒ NONE



13. EXISTING ELEVATOR EQUIPMENT (Check all applicable):

- ☒ ELEVATOR RECALL, PHASES 1 AND 2
☐ ELEVATOR PUMP BACKUP
☒ WHEELCHAIR ACCESSIBLE CABS
☒ ELECTRIC ☒ HYDRAULIC ☐ NONE

14. POWER OPERATED DOORS Check all

- applicable and circle applicable floors):
☒ YES (Complying with Section 1003.3.1.8.2)
☐ YES (Special approval) ☐ NONE

B6 B5 B4 B3 B2 B1 1 2 3 4 5 6 7 8 9 10 11 12 13 14

15. EXISTING SPECIAL CONDITIONS (Check all applicable)

- ☒ ATRIUM BUILDING ☐ MALL BUILDING
☐ PRESSURIZED ATAIRWAY ENCLOSURES
☒ MECHANICAL SMOKE CONTROL SYSTEM
☒ COMMERCIAL KITCHEN EXHAUST SYSTEM
☐ NONE OF THE ABOVE

16. WHEELCHAIR ACCESSIBILITY (Check all applicable)

- ☒ ACCESSIBLE ENTRANCE TO BUILDING
☒ ACCESSIBLE ELEVATOR TO ALL FLOORS
☐ LIMITED ELEVATOR ACCESSIBILITY
☒ ACCESSIBLE TOILET FACILITIES THROUGHOUT BLDG
☐ LIMITED ACCESSIBILITY OF TOILET FACILITIES
☐ WHEELCHAIR LIFTS
☒ WHEELCHAIR ACCESSIBLE PARKING FACILITIES
☐ LIFT-EQUIPPED VAN PARKING SPACES
☐ NONE OF THE ABOVE

WAIVER DATA

(Check one for each question)

17. HAS ANY OTHER WAIVER(S) BEEN GRANTED TO THIS BUILDING?

- ☒ NO ☐ YES ☐ UNKNOWN

If Yes, provide number of Waiver request(s) _____

18. IS THERE ANY OTHER WAIVER REQUEST(S) PENDING FOR THIS BUILDING?

- ☒ NO ☐ YES ☐ UNKNOWN

If Yes, provide number

of Waiver Request(s) _____

DATA ON CURRENT PROJECT

19. FLOOR LEVELS INVOLVED IN CURRENT CONSTRUCTION PROJECT (Circle all applicable)

B6 B5 B4 B3 B2 B1 1 2 3 4 5 6 7 8 9 10 11 12 13 14

20. FLOOR LEVELS AFFECTED BY PRESENT WAIVER REQUEST (Circle all applicable):

B6 B5 B4 B3 B2 B1 1 2 3 4 5 6 7 8 9 10 11 12 13 14

21. CODE SECTION FROM WHICH WAIVER IS BEING REQUESTED:

2013 DCMR 12J CODE SECTION# 202: Definitions; Addition
1105: Height & Area

OFFICIAL USE ONLY
CONDITIONS OF APPROVAL OF WAIVER REQUEST

A. SPRK. FLRS. ☐ FUL: B6-B5-B4-B3-B2-B1-1-2-3-4-5-6-7-8-9-10-11-12-13-14 ☐ PRT: B6-B5-B4-B3-B2-B1-1-2-3-4-5-6-7-8-9-10-11-12-13-14, ☐ FUL. SPRK. BLDG.

B. ☐ SMK. DET.; ☐ F.A.CON.; ☐ HD.; WR.; SGL.; ST.;
☐ BAT. SGL. ST.

C. ☐ TYP. CNST. UPGR: A 2A 2B 3A 5A

D. ☐ EXT. STOP.; ☐ THRU. BLDG.; ☐ FUL. FLR. COV.; B6-B5-B4-B3-B2-B1-1-2-3-4-5-6-7-8-9-10-11-12-13-14

E. ☐ FPSS UPGR.; ☐ VC.; ☐ AUDNIS: ☐ AUD

F. ☐ FPSS ADD. DEV.; ☐ SD; ☐ HID; ☐ SFS
☐ TS

G. ☐ EN. BKUP UPGR.; ☐ GEN.; ☐ INV.; ☐ UPS
☐ UNIT BP

H. ☐ F.PP.; ☐ EL.J.; ☐ DSL.; ☐ GAS

I. ☐ ELV. UPGR.; ☐ REC.; ☐ PWR BKUP.; ☐ ACC CAB; ☐ ACC. CTRL.

J. OTHER: ☐ ST.PR.; ☐ RMP.; ☐ CH.LF
☐ UNSX. ACC.TLT.; ☐ BLDG.; ☐ FLR; ☐ ACC
☐ DRKF.; ☐ _____ PKG. SP.; ☐ _____ VAN PKG SP
☐ SPEC. _____



Attachment to Construction Modification Request

Proposed 2013 DCMR 12J Existing Buildings Code / 2012 International Existing Buildings Code; Section 1105 Heights & Areas, Section 202 Definitions - *Additions*

**Roosevelt High School
4301 13th Street, NW
Part of Square 2915
Part of Lot 0802**

February 26, 2014

Background

Roosevelt High School is an existing building located at 4301 13th Street, NW Washington, DC. The existing building is three stories above grade with a Ground Floor level and a Pool Level below, with a total gross building area of approximately 331,900 square feet. (See Figure 3 – Building Section).

The Academic Building, Auditorium, and Gymnasium, shown in Figure 1 below, were originally constructed in 1932 of unprotected non-combustible concrete and steel construction. In 1976, the school underwent a major expansion with the construction of the Arts Building around the Auditorium to the north, a Natatorium added to the Gymnasium to the south, an additional story to the east wing of the Academic Building. Construction documents explicitly identifying the construction type of the 1970's expansions are not available. However, architectural surveys of these areas identified steel members with spray-applied fire proofing material indicative of a non-combustible, protected, construction type.

The 1932 Academic Building is separated from the construction to the north and south by its original masonry exterior walls. These existing walls provide an equivalent 2-hour fire resistance rated fire barrier construction. The structural independence between the 1970's additions and the 1932 Academic Building cannot be readily determined, or achieved without significant hardship, thus designating the separating construction as *firewalls* complying with the current requirements of the 2012 International Building Code (specifically Section 706.2) is not applicable.

Figure 1 below identifies the existing conditions of Roosevelt High School, denoting each major program area and its approximate year of construction. Since the expansions in the 1970's, the building has not undergone any major renovations or new construction.

As part of the District of Columbia (DC) Department of General Services and DC Public Schools' School Modernization Program, Roosevelt High Schools is approved to undergo a \$112 million dollar building modernization that will replace or upgrade all building systems and components to new condition and modifying the building interior to meet the programmatic requirements of DC Public Schools.

As part of this modernization program, there are a number of important factors to recognize in the context of this code modification request:

- The building will not undergo a change of occupancy
- The exterior physical boundaries (i.e. footprint) of the existing building will not undergo any substantial expansion or new horizontal building additions. The only change to the existing building footprint beyond that shown in Figure 1 will be the inclusion of a 3,000 square foot pedestrian connector between the Academic Building and Athletic Building (Gymnasium and Natatorium) on Ground and First Floors. This connector will also create a new entryway into the school from the east.
- The project does not include a new vertical construction otherwise making the existing building taller in height or stories beyond what currently exists.
- The existing exterior courtyard in the center of the Academic Building will be enclosed with a new roof creating a new four-story atrium, with new interior occupiable habitable space of 10,000 square feet on Ground Floor only.
- The 1970's infill between the 1932 Academic Building and Auditorium will be demolished, recreating an exterior open air courtyard, and thus eliminating 17,000 square feet of currently occupiable building area.
- Complete automatic sprinkler protection will be throughout the entire Roosevelt School as well as a new building fire alarm system.

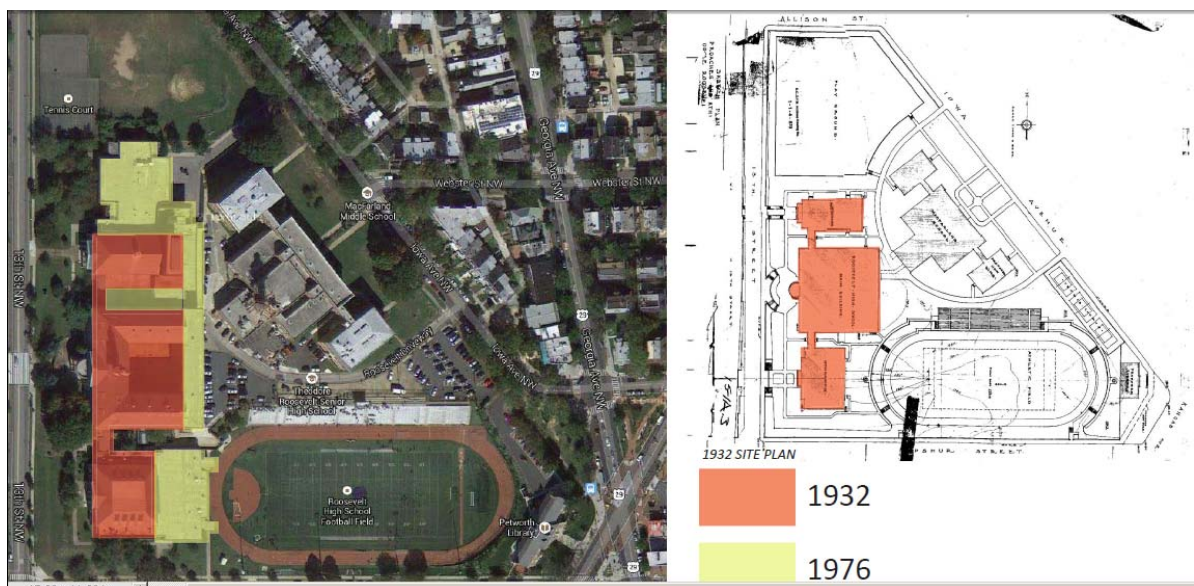


Figure 1 – Roosevelt High School Existing Conditions

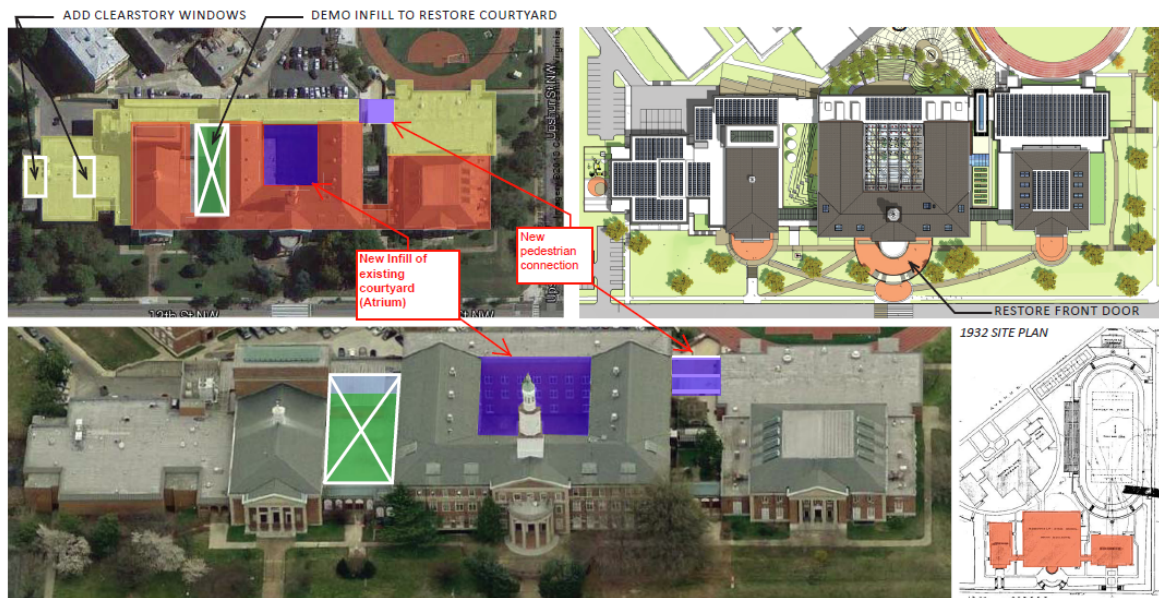


Figure 2 – Roosevelt High School
Building Area Modifications

Applicable Code

At the onset of the project's design efforts by Perkins Eastman DC, it was anticipated DC was to adopt the 2012 International Codes and amend such codes as proposed in the October 2013 DC Register. As such, the project design reflects the 2012 International Codes and October 2013 proposed amendments.

As an existing building undergoing modernization, the primary applicable codes and those relevant to this request include the following:

- 2013 DC Existing Buildings Code (DCMR 12J) as proposed in the October 4, 2013 DC Register Volume 60, Number 43 – Part 2, adopting and amending the 2012 International Existing Buildings Code (IEBC).
- 2013 DC Building Code (DCMR 12A) as proposed in the October 4, 2013 DC Register Volume 60, Number 43 – Part 2, adopting and amending the 2012 International Building Code (IBC).

Issue

The IEBC Section 202 defines an *Addition* as follows:

ADDITION. An extension or increase in floor area, number of stories, or height of a building or structure.

The inclusion of the new 3,000 square foot connector between the Academic Building and the Athletic Building and the enclosure of the Academic Building's existing courtyard creating an atrium both constitute *additions* per strict and literal application of the IEBC definition. Furthermore, site work around the perimeter of the existing Academic Building is such that the existing Ground Floor no

longer meets the criteria for classification as a basement, and thus reclassifies as a story above grade plane, thereby resulting in a four story above grade plane condition.

The IEBC addresses compliance of an existing building's construction type in only two scenarios, buildings undergoing a *change of occupancy*, or an *addition*. As previously noted, the building will not undergo a *change of occupancy* and thus only height and area requirements regarding *additions* are applicable.

Chapter 11 of the IEBC requires:

1102.1 Height limitations.

No addition shall increase the height of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the International Building Code for new buildings.

1102.2 Area limitations.

No addition shall increase the area of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the International Building Code for new buildings unless fire separation as required by the International Building Code is provided.

Exception: *In-filling of floor openings and nonoccupiable appendages such as elevator and exit stair shafts shall be permitted beyond that permitted by the International Building Code.*

Area

The presence of unprotected non-combustible members in the Academic Building necessitates a construction type classification of Type IIB. Whereas, the spray applied fireproofing materials (protected, noncombustible) in the 1970's construction could support a minimum classification of Type IIA. However, since the structural independence of the existing walls separating the Academic Building from the 1970's additions cannot be determined to support a designation as *firewalls*, the entire existing building would necessitate a Type IIB construction type classification.

Considering the entire 331,900 square foot Roosevelt High School building as one building, without firewall separation, of Type IIB construction is a condition that would not comply with current codes. Furthermore, inclusion of the new courtyard and pedestrian connection floor areas would violate the conditions of IEBC Section 1102.2.

Height

To provide direct exterior egress from the Academic Building Ground Floor, also the base of the atrium, and offer increased day lighting through the space, existing grading conditions will be pulled back from the base of the building, see Figure 3 below. These site work modifications in limited areas around the Academic Building are such that the Ground Floor would no longer be in strict compliance as a "basement" as defined by the IBC, and thus qualify as a story above grade plane. Classifying the existing building as a five-story building, simply resulting from exterior site work in select locations has monumental consequences to the project - most notable are a noncompliance condition of a five story Type IIB construction.

Figure 3 – Section Plan, Site Work Modifications at Ground Floor

Full compliance in the most strict and literal applications would require upgrading the entire 1932 construction to that of Type IIA; this would include new spray applied fire proofing to attic and roof

steel members, modifications to existing floor slabs, and new spray fireproofing for the limited number of new steel members associated with the Floor 1 connector, and support of the new atrium roof structure. The other alternative is subdividing the existing building with new firewall construction, an infeasible approach due to the structural independence requirements for firewalls prescribed by IBC Section 706.2.

Having to provide extensive retrofit application of fireproofing methods to the existing construction of the 1932 Academic Building, or compliance with IBC Section 706.2 for firewall subdivision presents a logistical, design, and economic hardship never envisioned by any stakeholder associated with the project.

Alternate Method of Compliance

Pursuant to DCMR 12A/IBC Section 104.11, the design team simply seeks to retain the existing construction of Roosevelt High School without modification, and unprotected steel in the limited applications supporting the new atrium roof structure, and that of the First and Ground Floor connector/entry. Specifically, this would include the following:

- Retaining the existing unprotected noncombustible (Type IIB) construction of the 1932 Academic Building without modification
- Retaining the existing protected noncombustible (Type IIA) construction of the 1970's construction without modification; any existing spray applied fire proofing damaged during construction would be repaired or replaced
- Maintaining the existing level of building fire area separation provided by the original exterior walls of the Academic Building without modifications to achieve structural independence as required for firewalls

The following section offers the technical justification and rationale in support of retaining the existing construction conditions described above when incorporating a number of unique project features and special circumstances.

Supporting Rationale

In limiting the height and area of a building, the Building Code seeks to accomplish two fundamental objectives:

- Limit the amount of fuel available that may be exposed to a single fire incident
- Limit the number of persons at risk in any single fire incident

To help protect against “large loss” fires in the early and middle 20th Century, model building codes sought to limit the spread of a fire by limiting the amount of combustibles exposed to a single fire event. Doing so would protect against urban conflagrations, and contain a single fire incident within the capabilities of the fire department. Furthermore, by limiting the size of buildings, or areas within fire resistive boundaries, the number of occupants whom may be endangered would also be reduced.

The relationship between building height, area, and construction type has changed very little over the past 60 years when first introduced into the model codes. These requirements were developed from an analysis examining the hazards associated with a specific occupancy and different construction features. The hazards for each were derived from historical fire data from the 1930's. The occupancy hazard considers both the fuel or fire load of a specific occupancy, as well as the life safety hazards to occupants. Construction features consider three conditions, contributing to the fire load (i.e.

combustible), not contributing to fire load (non-combustible), or extended protection for specific occupancy hazards (i.e. fire resistive).

In understanding these points, the modernization of Roosevelt High School as described does not introduce any new fuel load or occupancy hazards that would otherwise necessitate the retrofit inclusion of new firewall construction, or upgrades to the building's existing construction features simply to comply with the height and area requirements of today's codes. Below are the major contributing factors of substantiation.

- The building will not undergo a *change of occupancy* as part of the renovations.
- The physical size of the existing structure will not increase in length, width or height, thus the existing footprint remains unchanged.
- When written, IEBC Section 1102 did not necessarily envision the "increased floor area" referenced in the definition of *addition* to include conversion of open-air exterior courtyards to interior atriums. The broad requirements of the IEBC Section 1102 are intended for the traditional increases in floor area by way of a newly constructed horizontal expansions (i.e. appendages), or height increases in new vertical construction – neither of which are included in this project.
- The new pedestrian connection between Academic Building and Gymnasium Building does not increase the combustible fuel loading or occupancy hazards of the existing building beyond what currently exists. The connection is intended primarily for pedestrian circulation similar to a *pedestrian walkway*.
 - IBC Section 3104 states that *pedestrian walkways* shall not contribute to the building area of connected buildings.
- The existing exterior walls separating the original 1932 Academic Building construction from the 1976 additions provide fire area separations equivalent to 2-hour fire-resistance rated fire barriers. This separation was compliant at the time of construction, and did not firewall construction with structural independence – a condition that will remain without modification.
 - Constructed in 1976, the previous expansions were subject to the 1961 DC Building Code Article 3-367. For additions to existing buildings where the fire resistance ratings of the new part (e.g. 1976 expansions) differed from the existing building (e.g. Academic Building) by more than $\frac{3}{4}$ hour, a *fire separation* in accordance with Article 3-319 was required
 - It is evident by the observations of spray-applied fire proofing material in the 1976 expansions that two different construction types were provided. 1961 DC Building Code Article 3-319 simply required a 2-hour *fire separation*, a *firewall* was not required.
- Any new or existing openings in the existing 2-hour fire rated construction separating the 1932 Academic Building and 1976 additions will be protected in accordance with IBC Section 716 for fire barriers.
- The courtyard – atrium conversion does not impose any new significant fire loading or occupant hazards not already addressed through compliance with the atrium provisions of IBC Section 404.
 - The use of the atrium will be limited to light hazard contents
 - Any new fuel loads introduced by the atrium will be examined and accounted for in the new atrium smoke control system.
 - Occupant hazards are addressed through the prescriptive requirements for atrium egress and the smoke control system performance criteria of IBC Sections 404.9 and 909.8.1.
 - Ground Floor (e.g. base of atrium) egress now offers direct access to the exterior.

- The increased floor area from the enclosure occurs on only on the Ground Floor of the Academic Building.
- The atrium will be separated from other floors by the existing exterior walls of the Academic Building facing the courtyard. These existing walls provide an equivalent 1-hour fire resistance rating required by IBC Section 404.6. Existing openings will be protected with closely spaced sprinkler protection at the opening, and any new openings will be protected in accordance with IBC Section 716.
- The building will be protected throughout with an automatic sprinkler system and new building fire alarm system. The inclusion of automatic sprinkler protection throughout the building significantly reduces the potential for fire growth and spread to a much lesser extent that what the height and area limits seek to address.
- While the site work will change the calculated average grade plane, in such a manner that the Ground Floor no longer classifies as a basement, and thus a story above grade plane, the project does not include physically increasing the physical number of stories or height from the existing conditions. The site work provides a significant betterment through greater direct exterior egress and fire department ingress in specific locations.
- The absence of structural fireproofing from new steel members supporting only the atrium roof structure is compliance with IBC Table 601 Footnote B. The atrium roof structure is more than 20 feet above the floor immediately below and is not of Group F, H, M or S use.

Conclusion

Strict and literal interpretation of the IEBC's would consider the new floor area of the pedestrian connection, and enclosed atrium an "addition", and thus subject the project to compliance with IEBC Section 1102. The existing construction of Roosevelt High School reflects that of the 1930's and 1970's, all of which can be considered in compliance with the applicable construction codes at the time of construction.

The scope of this modernization project does not physically increase the existing building's height, nor does it expand the footprint of the structure beyond what has existed since 1976. Once courtyard is being covered to create a new interior atrium, whereas another infill is being demolished to create a new courtyard – hear again all within the boundaries of the existing building's footprint.

Neither enclosing the interior courtyard with a roof, nor providing a new pedestrian connection imposes an increased fire hazard that would warrant requiring the construction type of the 1932 Academic Building to be increased to Type IIA or require existing fire area subdivision to be brought into compliance with today's requirements for firewall construction.

Where permitted to remain without modification, the existing height, area, and construction type of Roosevelt High School will not impose a hazard to the health, safety and welfare of building occupants beyond what currently exists.

The information presented herein was presented verbally and in concept to DCRA representatives, and a representative of the project's Third Party Plan Review Agency (Core Engineers) in a February 19, 2014 Preliminary Design Review Meeting.

Any questions related to the information presented herein should be directed to Mr. David P. Wilmot, PE of Aon Fire Protection Engineering at 202.412.0636 or david.wilmot@aon.com