CANADIAN FIRE SAFETY ASSOCIATION

CFSA NEWS

1971 - 2021

Fire Safety is Everybody's Business

SPRING 2022

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CANADIAN FIRE SAFETY ASSOCIATION
NEWS
1971 - 2021
Fire Safety is Everybody's Business
SPRING 2022

Inside This Issue

Editor: Lesley-Anne Coleman
The CFSA News Magazine is published 4 times per year: Winter, Spring, Summer and Fall.

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President's Message

With 2021 in our collective rear view mirror, we are left to reflect on our accomplishments, pivots and misses as we plot our path into 2022. This new season of spring will bring warmer temperatures and a renewal optimism for how we will continue working and living with C19. With adjusted professional and personal goals, it continues to be challenging to untangle our work and personal time while we "Work remote or work from home". As we press forward together into the spring and summer we must remember that talking about and sharing our experiences and knowledge remains as important as ever.

To help encourage membership collaborate and continued learn, we are currently offering online Technical Sessions again along with an in-person Annual Educational Forum (AEF) in the Fall. The next Technical Session (May 5th, 2022) will also include our Annual General Meeting (AGM) with a great presentation from Neil Chaudhuri from FM Global regarding Storage Sprinkler Discharge Obstructions. Our AEF is scheduled for Sept 22, 2022 and is planned to be in person.

Within future messages and email communication, look for more information for both events. I am very pleased again to report that the CFSA will be offering free memberships to students attending a Corporate plus category University or Colleges. This membership program was a great success over the last two years (See our website for more information). We believe in strongly supporting the next generation of fire and life safety professional. This memberships and our scholarship programs are great examples of this intent. Our scholarship program has expanded in 2022 with $13,000 spread across 14 different awards. Information and application forms are also on our website.

Be sure to follow or connect with us using Twitter @CFSA_NextGen along with @CFSA_Canada. Please feel free to contact me at any time President@CanadianFireSafety.com

Stay safe,

Scott Pugsley
CFSA President

Mark your calendar and plan to attend...

CANADIAN FIRE SAFETY ASSOCIATION
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1971 - 2021

What is The CFSA?

The Canadian Fire Safety Association is a non-proit organization established in 1971, to promote fire safety through the use of seminars, safety training courses, information newsletters, scholarships, and regular meetings.

Our Mission Statement

"To disseminate fire and life safety information and promote a fire safe environment in Canada."

www.canadianfiresafety.com

CFSA NEWS

CANADIAN FIRE SAFETY ASSOCIATION

The Canadian Fire Safety Association (CFSA) produces a quarterly News magazine which is distributed electronically to all members and is available for download from the CFSA website.

The CFSA News provides articles on industry related information, updates on codes & standards and overviews of various CFSA educational seminars provided throughout the year. In addition, Corporate Members and their selected representatives are recognized.

Click on a cover below to view that issue online ...

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416-491-5050 ext. 22525 | scott.pugsley@senecacollege.ca

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905-470-7723 | davidmorris@firetronics.ca

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416-221-0093 | ocarroll@innovativefire.com

SECRETARY: Alex Yarmoluk
ARENCON Inc.
905-615-1774 # 230 | ayarmoluk@arencon.com

DIRECTORS

Lesley-Anne Coleman [NEWSLETTER]
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David Dilliot
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705-739-4220 ext. 3228 | Kate.Schramm@barrie.ca

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905-401-5094 | ontfireprevention@gmail.com

CFSA OFFICE

2800 14th Avenue, Suite 210, Markham, ON L3R 0E4
416-492-9417 | Fax: 416-491-1670

ADMINISTRATION: Melonie Hart
operations@canadianfiresafety.com

EVENT COORDINATOR: Rachel Gilmour
rachel@associationconcepts.ca

2021 Annual Education Forum

By: Anthony Rago
Chair – Annual Education Forum

As the COVID-19 pandemic continued in 2021, the Canadian Fire Safety Association, Annual Education Forum Committee made the decision to switch the Annual Education Forum (AEF) from the customary in-person event to an all-virtual event. In addition to that change, the forum also switched from a one-day event to two half-days. The AEF was held on September 21-22, 2021, and was delivered via the Pheedloop virtual conference platform. This year's event offered seven presentations across two days and was attended by over 100 delegates.

The theme for this AEF was *Codes & Compliance,* which was carried over from the postponed 2020 event. The first day of the event offered presentations from local experts and included the Keynote Address, presented by Ryan Duggan, Director of Fire and Life Safety at the City of Toronto. The keynote address focused on proposed changes to the Ontario Fire Code developed by the City of Toronto Fire and Life Safety Program Office, Toronto Fire Service, and a working group of industry experts. The day was rounded out with presentations on the *Ontario Building Code 2022 Changes, Past and Present* presented by David Vickers, B.Sc., C.E.T., CFPS, RHFAC Professional of Matteo Gilfillan & Associates Inc., and a *Guide to Industrial Occupancy Classification: High, Medium, or Low*, presented by Melinda Amador, P.Eng. of CodeNext Inc.

The second day of the event offered a four-part presentation related to Lithium-Ion Batteries and Energy Storage Systems. The virtual format of the event provided a unique opportunity as three of the four presenters provided their presentation from the US. The presentations offered on this day were: *Lithium-Ion Batteries – Fundamentals and Hazards* presented by Amir Baroughi, M.Sc., P.Eng.; *Introduction to Energy Storage Systems* presented by Dan Gottuk, PhD, PE; *Energy Storage System – Protection and Case Study* presented by Jens Conzen; and *Handling, Storage & Fire Protection of Lithium-Ion Batteries* presented by Jason Sutula, PE. All of the second day presenters were from Jensen Hughes.

The Canadian Fire Safety Association would not be able to provide this educational event if it were not for our generous sponsors. We would like to say a tremendous Thank You to all our 2021 event sponsors:

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The Annual Education Forum is looking forward to welcoming all our delegates, speakers, and sponsors at our 2022 Annual Education Forum scheduled for September 22, 2022 and planned to be an in person event at the Paramount Event Centre in Vaughan, Ontario.

Continue to follow us on social media for any changes or updates as we are looking forward to having all of you attend. ◆

Scott Pugsley
President

Primary role as President, additionally within the Technical Sessions, Membership, Scholarship, Newsletter, Social Media and NextGen Committees

Professor and Industry Coordinator within the School of Fire Protection Engineering Technology at Seneca College

As a Fire Protection Professor, I create lesson plans and supporting media necessary for the successful presentation of subject matter within a lecture and or lab session format. Provide detailed explanations and real world examples of situations where the subject matter can be directly applied. As Industry Coordinator, I work to identify, develop and maintain external relationships with industry partners, individual companies and related trade associations for the enrichment of students, the College and Fire Protection community at large.

Other Involvement:
NFPA Instructor, CFAA National Director and Ontario Chapter VP, Fire Marshal's Public Fire Safety Council (FMPFSC) Director, Member of ULC S1001 and TC-S4400, UL STP 199, 203, 260, 262, 300, 1821, 2901, S1001

Scott.Pugsley@SenecaCollege.ca
Tel: (416) 491-5050 X 22525
1750 Finch Ave E,
Toronto, ON M2J 2X5
Twitter @PugsleySeneca

Anthony Rago
1st Vice President

Primary role as First Vice President, Chair of the Annual Education Forum Committee, Member of the Finance Committee, Member of Revitalization & Membership and Technical Sessions Committee

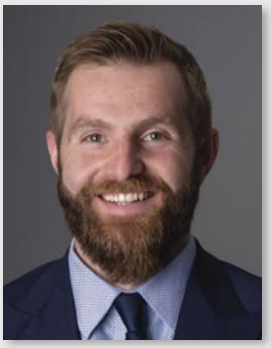
Team Lead - East Canada, Jensen Hughes

As the Team Lead – East Canada, I am responsible for managing the Jensen Hughes operations in the Toronto area. My duties including managing team members workload, securing new project work, providing training, technical guidance and mentoring to junior staff.

I also serve as the Jensen Hughes Account Manager for Nordstrom, in this role I am responsible for both the fire protection system design and code consulting for all Nordstrom Full-line and Rack project throughout Canada and the USA.

Other Involvement:
Society of Fire Protection Engineers - Southern Ontario Member;
Construction Specification Canada - Member
Canadian Automatic Sprinkler Association - Member

ARago@jensenhughes.com
O: 416 762 3808 D: 647 557 3672
M: 416 476 5341
2150 Islington Ave., Suite 100
Toronto, ON M9P 3V4



Alex Yarmoluk
2nd Vice President

Primary role as the 2nd Vice President of the CFSA and Chair of the CFSA Public Education Committee

Associate Principal, Fire Protection and Life Safety Consultant with ARENCON INC.

Alex Yarmoluk specializes in the area of fire protection and life safety consulting. Alex Yarmoluk is an Associate Principal with ARENCON Inc., and has been with the firm for 8 years. His responsibilities require a broad oversight of strategizing methods of approach to technical challenges, including review and evaluation of technical work and provide recommendations to attain project objectives. Project related experience focuses primarily on fire protection and life safety systems, client management, and system commissioning.

Alex Yarmoluk holds an Advanced Diploma in Fire Protection Engineering Technology as a graduate from Seneca College and is a Certified Member of Ontario Association of Engineering Technicians and Technologists (OACETT).

AYarmoluk@arencon.com
Tel: 905 615 1774 Ext 230
Fax: 905 615 9351
www.arencon.com

What does an Authority Need to Accelerate the Building Permit Process?

A study to understand a building permit process

By: Avinash Gupta, P.Eng., CBCO, CRBO, LBO
Dominic Esposito, P.Eng.

Background

The value of building permits issued by Canadian municipalities rose 6.1% to $9.0 billion in August 2019, largely because of increases in multi-family and industrial permits. Gains were reported in seven provinces, with over one-third of the national increase in Québec. *{Source(s): Statistics Canada Table 34-10-0066-01}*

The value of permits for multi-family dwellings rose in every province, except Nova Scotia, increasing 18.8% to $3.3 billion in August 2019. Québec also contributed to the increase, up $143 million compared with July 2019.
The value of permits for single-family dwellings rose 3.2% to $2.4 billion nationally, led by Ontario. These gains were largely attributable to several developers filing additional permits prior to an upcoming increase in development costs in the region.

Industrial permits were the only component in the non-residential sector to increase in value, rising 18.9% to $675 million. The increase was largely due to a high-value permit for a biopharmaceutical company in the Canadian Medical Association (CMA) of Toronto.

The value of commercial permits declined 5.9% to $1.9 billion, following gains in July 2019. Québec showed some strength in the commercial component (+$73 million) despite the national decrease.

Five provinces reported declines in the value of institutional permits, down 10.7% to $651 million.

The value of permits was down in all three non-residential components in British Columbia, which also reported the most significant provincial declines in the values of commercial (-$118 million) and institutional (-$48 million) permits.

Purpose

This educational article explains the following:

- Drawings and specifications that must be submitted to the Authority Having Jurisdiction (AHJ) to obtain a building permit quickly,
- Information that must be included in the building permit submission,
- The building permit's purpose, when it is required, when it can be refused and when it can be revoked,
- Which and when drawings are required to be sealed and signed by a professional licensed to practice in the province/territory, and
- The professional designer's seal's purpose and intent.

Limitation

The article attempts to illustrate the building permit process's essence, and the designer must refer to the local by-laws for more specific information. The building permit's anatomy is immense, and each municipality has its building permit process; therefore, it is not practically feasible to pack all the information in this article.

Impact of Delay in Obtaining a Permit
The delay in obtaining a valid building permit has enormous consequences on an overall project in terms of financial budget, schedule over-run, arbitration,

Setbacks are created essentially for public safety, privacy, environmental protection, ensuring uniform appearance in the neighbourhood, and preventing houses from crowding adjacent structures or streets. On the other hand, spatial separation is the safe distance required by the building code for protecting the adjacent properties from a building in a fire; the Zoning bylaws enforce setbacks, and the adopted building code enforces spatial separation requirements. Usually, in most municipalities, there is no coordination between the plans examiner and the zoning officer.

disputes, lawsuits, and finally, moving to desertion or abandonment of a project. In a case where a project is abandoned, the law may investigate the role of the AHJ to scrutinize if the AHJ has abused their power. Nonetheless, the AHJ enjoys immunity, and the local bylaws notifies under what circumstances a building permit can be refused or revoked by the AHJ.

Development, Zoning and Building Permits

A development permit is not a building permit. A permit means a legal authorization in writing by the AHJ to begin constructing a proposed building, and in case of an occupancy permit, to occupy a building or part thereof. A valid permit must be obtained before the start of any construction, and it includes building, demolition, plumbing, mechanical, heating, ventilation and air-conditioning (HVAC) electrical, structural, sprinkler, occupancy, or any other permit required by the AHJ.

Differentiating Between the Zoning and Spatial Separation Requirements

A zoning development permit is required for any change in land use or site development. It is a tool used by municipalities and planning districts to regulate the use and development of land and buildings. Zoning primarily works by dividing land into zones like residential, industrial, commercial, etc. A zoning bylaw prescribes general development requirements for each zone. These regulate the use of land and construction or use of buildings, ensure incompatible uses do not get built next to each other like a liquor store adjacent to a school. Fixing dimensions for the front and rear setbacks for a lot, the distance of the land/lot from a waterbody and, establishing the Airport Vicinity Protection Area (AVPA) are the parts of zoning bylaws. The AVPA defines land uses and development restrictions in areas surrounding the airport and along designated flight paths to reduce residential exposure to aircraft noise.

The applicant must fully understand which documents/ construction plans are required to be sealed and signed by the respective professional/designer, what types of permits are issued by the Authority, what is the turnaround time for issuing a permit, any program that is available with the Authority for bringing a permit under fast-track permitting. A few Authorities issue a building permit for certain types of buildings based on letters of assurance from the professionals/designers responsible for designing a building.

Setbacks and Spatial Separation

The purpose of the front or rear setback differs from the spatial separation requirements of the building code and should not be confused. However, setbacks and spatial separation are two distinguished components of a building permit process. Setbacks are decided by the zoning bylaws of the municipality and spatial separation by the adopted building code of the province or the territory. In land use, a setback is a minimum distance from which a building or other structure must be set back from a street or road, a river or stream, a shore or flood plain, or any other place that is considered to need protection. Setbacks are created essentially for public safety, privacy, environmental protection, ensuring uniform appearance in the neighbourhood, and preventing houses from crowding adjacent structures or streets.

The zoning bylaws decide the gross floor area, height, and the use of a building based on the firefighting capabilities and adequate water supply. However, the Code does not restrict the size of a building based on the capability of the local municipal fire department. It is the responsibility of the local municipality to ensure that buildings' size and height do not exceed their firefighting capabilities and available water supply. The Code assumes that firefighting resources are available in the event of a fire emergency.

On the other hand, spatial separation is the safe distance required by the building code for protecting the adjacent properties from the building in a fire. A zoning officer enforces setbacks required by the zoning bylaws, while a plans examiner regulates spatial separation requirements based on the adopted building code. Usually, there is no visible coordination between a plans examiner and a zoning/development officer in most municipalities. Therefore, a decisive and rhythmical coordination process between the municipality's two independent departments (inspection and planning) is beneficial for developing safe buildings.

Purpose of a Permit and When it is Required and When it is Not

A plan review of the building permit drawings allows the AHJ to review the project design before construction begins to ensure compliance with the adopted codes, other related bylaws, and regulations.

The proponent must understand which work requires a permit before applying for a permit. This list provided for the work requiring a building permit is not exhaustive; however, most municipalities require a permit for the following: Construction and occupancy of all new buildings, reconstruction, demolition, removal and relocation of buildings, additions (horizontal or vertical or both) to existing buildings, alterations (interior or exterior), change of use and occupancy,

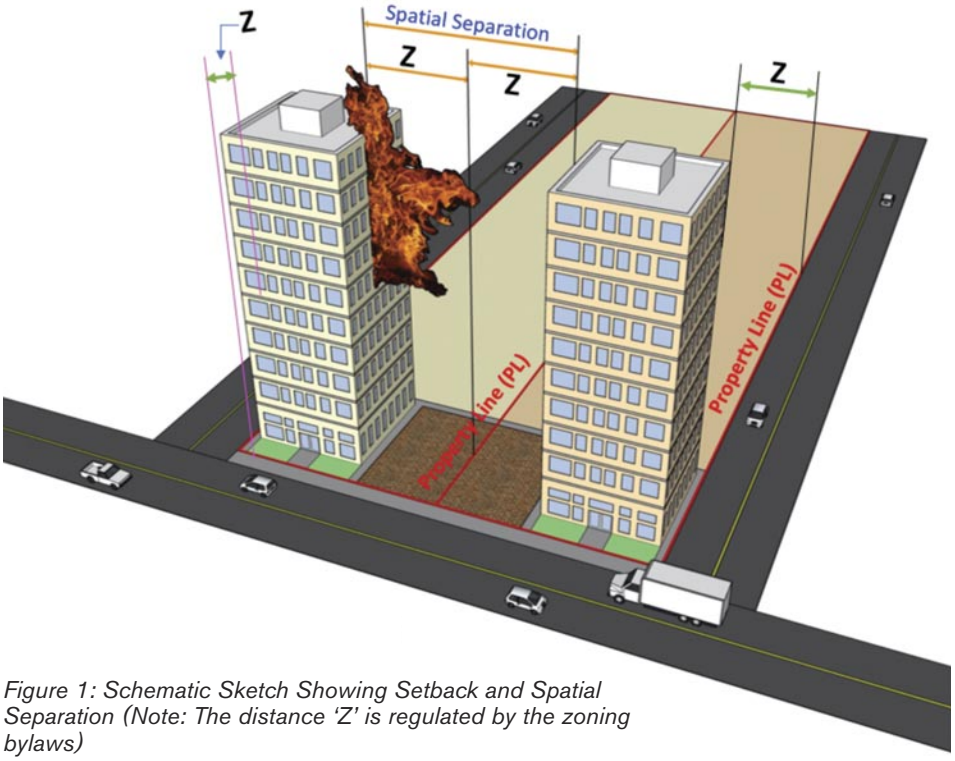


Figure 1: Schematic Sketch Showing Setback and Spatial Separation (Note: The distance 'Z' is regulated by the zoning bylaws)

site-built and factory-constructed buildings, tents and air-supported structures, underground and storage tanks inside buildings, farm buildings, a detached building (garage, storage shed, gazebos, and other similar structures) more than 10 m2 in building area, open decks over 600 mm high from ground level, swimming pools or any device capable of holding more than 600 mm of water, finishing previously unfinished spaces in a home such as a basement, attics etc., foundation repairs, installing a wood stove or a fireplace, ramps for wheelchairs, temporary structures larger than the building area prescribed in local bylaws.

However, most municipalities do not require a permit for patching, painting, and decorating, installing cabinets and shelves, replacing doors and windows with the same material and frame size. A permit is not required for repair works or replacement of all types, like stucco, siding of identical types or shingles with identical material.

Repair work includes interior or exterior alterations and pertains to replacing existing building components with functionally compatible components. It includes removing and replacing any existing part, component, equipment, or fixture using a new part, component, equipment or fixture that serves the same purpose having the identical or better configuration, performance or characteristics. Repair work includes replacing any part or component of an existing building to maintain or correct damage or failure. For example, maintenance or repair of fire alarm systems, exits, elevators, automatic sprinkler systems, standpipe systems, smoke control systems.

Familiarization and Documents to be Submitted for Preventing Delays

Part 2, Division C of the National Building Code of Canada (NBCC), covers the information required for submission to obtain a valid permit. However, for preventing delays in the approval process, the design team/owner should familiarize themselves with at least with the following documents before applying for a permit: Bylaws and regulations of the local Authorities (City, Federal, and Provincial) where a project is located, Act or Acts providing specific powers to building officials for review and inspection of buildings, and adopted codes and standards, including amendments and dispute resolution process.

The applicant must fully understand the following:

- ✓ Which documents/construction plans required to be sealed and signed by the respective professional/designer?
- ✓ What types of permits are issued by the Authority, and what is the turnaround time for issuing a permit?
- ✓ Any program that is available with the Authority for bringing a permit under a fast-track permitting. A few Authorities issue a building permit for certain types of buildings based on the letters of assurance from the professionals/designers responsible for the design.
- ✓ Any program that is available for issuing a building permit, with a limited or without a review. Such programs like the 'Certified Professional (CP) Program' for the City of Vancouver and 'Certified Permit Coordinator Program' for the City of Winnipeg are available.
- ✓ Any provision for a pre-review or pre-submission meeting with the Authority's plan examiner, zoning officer, and other relevant staff to discuss the questions related to a proposed project.
- ✓ The number and set of drawings and specifications required for submission.
- ✓ In addition to the information in Section 2.3., Division C of NBCC, the proponent must check the format in which an alternative solution proposal must be submitted to the AHJ. Check with

the Authority, who must seal and sign an alternative solution; a few Authorities require a fire protection engineer.

One of the significant and most common reasons for a delay in obtaining a building permit is the misconception of applying the fire-resistance rating Tables embedded in Part 9 of Division B of NBCC. The design team must clarify with the AHJ if the Part 9 Tables are acceptable for use for buildings covered under Part 3 of Division B of NBCC.

Documents to be Submitted-Scope of Work

The design team should include the following in the scope of proposed work in the submission document: Estimated cost, date of start of work, construction time, and expected occupancy date.

In addition, the use of the proposed building should be clearly stated along with the building area and building height (number of storeys). The use of a building determines the building's classification; therefore, explaining the building's use is of significant consequence.

Documents submitted to the Authority must include what type of work is proposed; for example, new construction, an interior alteration, an addition (horizontal or vertical or both) to an existing building, or a change of use of an existing building? Whether the proposed building is designed as per Part 9 of Division B (Housing and Small Buildings) or Part 3 of Division B (buildings not covered in Part 9) of the building code should be specified in the scope. Also, it should be stated what type of permit is requested from the Authority and if the proposed building is a heritage building.

Types of Permits

The owner or their authorized agent may request any of the following types of permits: a full permit, a shell permit, a partial permit, a conditional permit, an interior alteration or tenant fit-up, a demolition permit, and an occupancy permit.

One of the significant and most common reasons for a delay in obtaining a building permit is the misconception of applying the fire-resistance rating Tables embedded in Part 9 of the Model Code. The design team must clarify with the AHJ if the fire-resistance ratings listed in the Part 9 Tables are acceptable for Part 3 buildings covered in the Code.

Full Permit

A full permit means approval of a site layout plan, fire, life safety and accessibility, structural, mechanical (HVAC), plumbing, and electrical design. Nevertheless, mechanical, and electrical systems such as commercial cooking operations and manufacturing processes are permitted to be excluded from the full plan review; in such a case, separate permits are required for the mechanical and electrical systems.

Shell Permit

A shell permit means approval of a site layout plan, fire, life safety and accessibility, and a building's structural design to a shell stage. In case of a shell permit, occupancy of a building constructed to the shell stage is not permitted. Separate permits and review of fire, life safety and accessibility for the interior configuration, electrical, and mechanical are required before granting an occupancy permit.

Partial Permit

A partial permit means allowing construction to proceed before a full plan review has been completed by the AHJ.

The review process for the partial permit consists of either preliminary plans of construction or plans of construction that do not include final architectural-fire, life safety and accessibility, structural, electrical, and mechanical drawings. However, partial permits are issued in stages based on submitting final construction plans for the work submitted for review and approval. The following types of partial permits are issued for a building:

a) Partial foundation permit,
b) Partial structural frame permit, and
c) Partial superstructure permit.

Partial Foundation Permit

A partial foundation permit means allowing construction to proceed for completing the foundation works up to grade level only. The review process for a partial foundation permit includes a final review of a site layout plan, complete foundation drawings, preliminary review of architectural drawings; and a preliminary review of superstructure drawings, including a review of vertical design loads, lateral loads, and the structural framing system for transferring loads to the foundation.

For a horizontal or/and vertical addition to an existing building, the document that the AHJ sometimes requires along with the structural drawings; a letter sealed and signed by the designer validating that the addition conforms to 'Commentary L-Application of NBC Part 4 of Division B of the Structural Evaluation and Upgrading of Existing Buildings'.

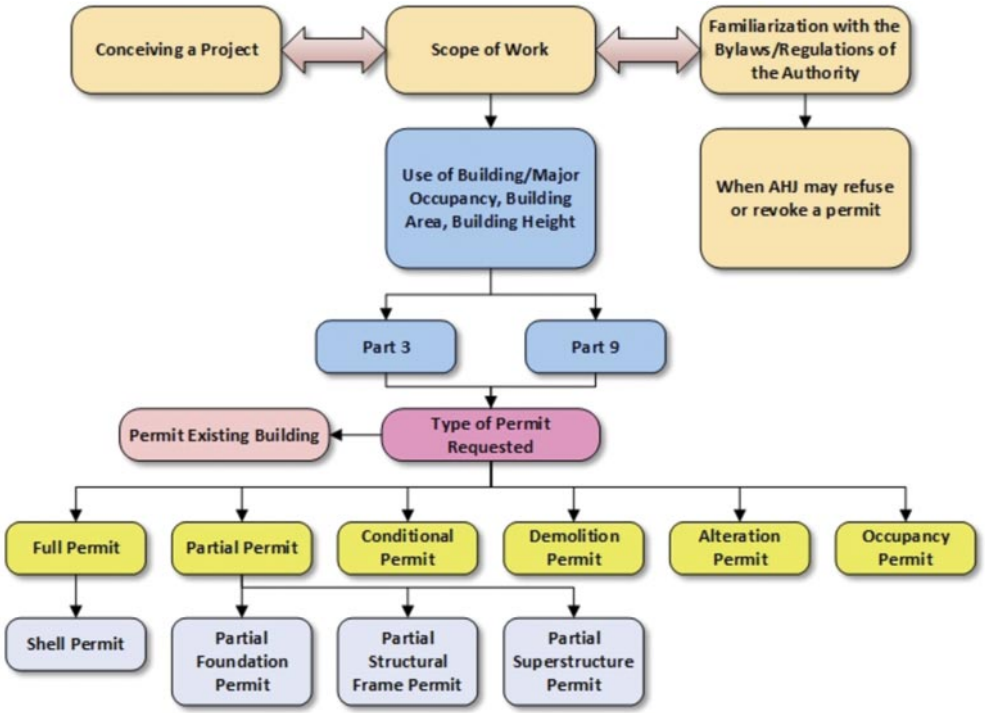


Figure 2: Typical Flow Chart Explaining the Building Permit Process

A partial foundation permit includes a fire, life safety and accessibility review of the following: Use of building to determine the major occupancy classification, building construction requirements (type of construction), exit locations, passenger elevator/lift locations, spatial separations, fire access route to a building, and the location of accessible parking spots.

Proper use of a professional seal is essential, not only for complying with the Professional Engineers Act /Architects Act/ qualifications (BCIN) required by the adopted building code but assuring the public of the profession's commitment to standards of care and excellence. Use of the seal is not automatic. It is done after the professional/designer has evaluated and accepted the responsibility they are assuming.

Partial Structural Frame Permit

A partial structural frame permit is generally issued after obtaining a partial foundation permit. A partial structural frame permit is similar to a shell permit. A partial structural frame permit is issued after reviewing fire, life safety and accessibility and a complete review of a building's structural design drawings. However, separate permits and review of fire, life safety and accessibility for the interior configuration, electrical, and mechanical design are mandatory before granting an occupancy permit. An AHJ issues partial permits in stages based on the final construction plans for the work submitted for review and approval.

Partial Superstructure Permit

A partial superstructure permit is comparable to a full permit except that a separate permit is required for doing tenant fit-ups in a building if details of the interior configuration of the space are not included in the architectural drawings. Similar to a full permit, a partial superstructure permit means approval of a site layout plan, fire, life safety and accessibility, structural, mechanical (HVAC), plumbing, and electrical design drawings.

Conditional Permit

A conditional permit is a building permit where not all approvals required for a full building permit have been received. Conditional permits are in practice, for larger development applications. A conditional permit is issued at the Authority's discretion when the applicant can show that the outstanding applicable law approvals are in the process of being obtained, and the approval timeframes are causing unreasonable construction delays. For example, delays in the approval of a fire access route or a street address for the proposed building or delays from the public works department.

However, for considering granting a conditional permit, the Authority evalu-

ates the potential difficulty in restoring the site to its original state and use if required approvals are not obtained. Not all Authorities issue conditional permits.

Conditional versus Partial Permits

Conditional and partial permits are different from each other; partial permits are issued at the design team's request because of the delay at their level. In comparison, conditional permits are issued due to delays attributed to the Authority's departments.

Tenant Fit-up Permit

The terms tenant fit-up and interior alteration permits are interchangeable. Interior alteration is the term typically used for existing buildings and tenant fit-up for new buildings. However, both terms are quite prevalent in the building industry. A tenant fit-up is essentially an act of transforming a space to accommodate the specific requirements for a tenant, including configuring interior walls, washrooms, and means of egress.

The professional seal of a designer or a letter of assurance does not exempt or waive the building plan review process automatically. The professional seal of a designer or the letters of assurance does not abandon or relax any stakeholder's professional, ethical, and financial liability.

Typically, a tenant fit-up does not involve change of existing exits, fire-protection systems, occupancy, and structural design. A tenant fit-up permit is mandatory for obtaining an occupancy permit after a shell and a partial structural permit is issued. An interior alteration permit is compulsory for conducting alterations in an existing building.

The purpose of carrying an interior alteration is similar to a tenant fit-up; however, no change of use of an existing building or part of a building is permitted under an interior alteration permit. A separate permit is mandatory if the proposal is to change the use of an existing building or part of a building. However, a single permit consisting of tenant fit-

up and change of use of a building or part of a building is permitted.

Documents to be Submitted for Obtaining a Permit

The permitting process's anatomy, as stated earlier, involves familiarization with the Authority, types of permits, permit issuing process, and drawings required to be submitted to the AHJ. The last leg of the permitting process for receiving a building permit is what details need to be included on the drawings?

FULL PERMIT

Drawings and specifications required to obtain a 'Full Permit' are final site plan drawing showing the natural contours and finished grade, final architectural drawings, final structural drawings, final mechanical drawings, final electrical drawings, building information typically found on a building code checklist or matrix, original copy of an alternative solution-if proposed by the designer, approval from relevant departments like zoning, public works, and others, and complete set of 'Letters of Assurance' from the respective professionals responsible for the design of project-if required by the local Authority.

SHELL PERMIT

Drawings and specifications required to obtain a 'Shell Permit' are the final site plan drawing showing the natural contours and finished grade, and all other drawings and building information typically found on a building code checklist or matrix complete up to a shell stage.

PARTIAL PERMITS

Partial Foundation Permit

Documents required to obtain a 'Partial Foundation Permit' are the final site plan drawing showing the natural contours and finished grade, final structural foundation drawings, and all other preliminary drawings. Building information typically found on a building code checklist or matrix limited to the foundation, firefighting access route, classification of a building, type of construction, location of exits, elevators, and accessible parking spots and spatial separation requirements shall be included in the submission.

On a similar basis, drawings and specifications are required to obtain a 'Partial Structural Frame Permit' (Similar to a shell permit), and a 'Partial Superstructure Permit' (similar to a full permit) shall be submitted to the Authority for obtaining a permit.

continued...

However, it must be understood that the holder of a partial permit is responsible for proceeding without assurance that a permit for the entire building will be granted.

Conditional Permit

A conditional permit is generally issued under unprecedented conditions like unreasonable construction delays that would occur if it was not granted. It is at the discretion of the AHJ to issue a conditional permit.

Most of the provinces and territories do not issue conditional permits; however, the Ontario Building Act contains the provisions for issuing a conditional permit. A conditional permit can be issued for any stage of construction.

In addition to the drawings and specifications required for the type of permit requested, a written agreement between the applicant and AHJ is mandatory. The agreement includes that the applicant assumes the entire risk of proceeding with the construction. The applicant is responsible for obtaining all the approvals within the time decided in the agreement. The agreement includes removing the building and restoring the site in a specified manner if permissions are not obtained and submitted to the AHJ within the time stipulated in the agreement. A complete set of 'Letters of Assurance' from the professionals responsible for designing a project shall also be submitted, if required by the AHJ.

Purpose of a Professional Seal of a Designer

In most provinces and territories, buildings covered under Part 3 of Division B of the building code are reviewed based on sealed and signed drawings of the respective professional designer. However, a few authorities like Ontario, for specific types of buildings and specific types of permits, allow designers to own the design responsibility, where a designer provides information about their registration, qualification, Building Code Identification Number (BCIN), and signs on every document and drawing submitted for obtaining a building permit.

The professional seal of a designer or a letter of assurance does not exempt or waive the building plan review process automatically. The professional seal of a designer or the letters of assurance does not abandon or relax any stakeholder's professional, ethical, and financial liability.

The professional seal is the distinguishing mark of the profession and an indication to recipients and users of engineering documents that the content of the documents was prepared by or under the personal supervision of a professional. By affixing the seal, the professional assumes responsibility and is answerable for the quality of the work presented therein.

Proper use of the seal is essential, not only for complying with the Professional Engineers Act /Architects Act/ qualifications (BCIN) required by the adopted building code but assuring the public of the profession's commitment to standards of care and excellence. Use of the seal is not automatic. It is done after the professional/designer has evaluated and accepted the responsibility they are assuming.

In conclusion, the details illustrated above, without a doubt, will help the designer to obtain a permit from the Authority faster and without a glitch.

Avinash and the coauthor Dominic are experienced professionals currently working in the building code industry. The views expressed by the authors are for educational purposes only. The educational piece is for generating an objective, transparent, nonpartisan, and unpolluted conversation to help obtain a permit from the AHJ quicker and without a glitch.

For any clarification, please contact Avinash Gupta at avinashguptap.eng@gmail.com ◆

Smoke Control – The Importance of Test Procedures

By: Lui Tai, P.Eng., AIFireE

Introduction

Recently, you have probably heard a lot about "smoke control", and the requirement of the Fire Code to have these tested to a pre-defined procedure. For many Building Owners, it is just one more item they need to add to the annual inspection requirement by their service provider. However, how the contractor tests the smoke control (to what procedure) is unknown to most Building Owners.

The Ontario Fire Code states that for smoke control, *"the inspections and tests for equipment shall be carried out in accordance with procedures established by the designer of the system.". "Where procedures are not available, smoke control systems shall be assessed to ensure satisfactory operation using techniques described in MAH Supplementary Standard SB-4, "Measures for Fire Safety in High Buildings"", and "The procedures shall bear the signature and seal of a Professional Engineer or Architect."*

So what is a test procedure? Why is it so important? If contractors are testing the fans as part of their annual inspections, isn't that good enough? In the last couple of years, when assisting building owners to navigate the smoke control maze at many high-rise buildings in Toronto - some of which were landmark facilities - we have witnessed the importance of establishing the right test procedure for smoke control. Not having the correct test procedure could result in catastrophic failures. I would like to share my experience here to highlight the importance of having the right test procedure, as well as how critical it is to the life safety of a building.

Case Study 1: Never-Connected Automatic Door Operators

At an approximately ten-year-old residential condominium, we were contacted by the condo board as they did not know the test procedure for smoke control for their building.

The condo was served by an Inspection Order from the local Fire Services to have the smoke control measures tested, but their service provider simply carried out the test of the manual controls at the Central Alarm Control Facility (CACF), including fans and dampers. There were also manual controls at the CACF for the automatic door operators located at the top of below-grade stairwell doors, but the contractor noted that the manual control at the CACF for the automatic door operators did not do anything, so they marked it as "N/A" on the inspection report.

Once we understood the situation, we systematically reviewed available documents, including mechanical drawings, and clearly saw that these automatic door operators were part of the original design. However, there was no written procedure or sequences of operations for smoke control. Through on-site investigation, we were able to establish the appropriate MAH SB-4 "measure" associated with the smoke control, but it meant that the automatic door operators had to be part of the smoke control measure.

During our on-site testing, we noted that the corresponding LEDs for door operators at the ON-AUTO-OFF switches at the CACF were operating

correctly, indicating that the doors should have opened accordingly. Moreover, at each of the doors, we heard a distinct "click" sound whenever the switches were operated, and yet the doors did not open. A subsequent service call to the door operator manufacturer confirmed that the fire alarm control relays were correctly installed and programmed. However, the interconnection to the door operators were never installed. This was left deficient for close to 10 years since the condo was built. (Thus, the importance of integrated systems testing – a topic that will be covered separately).

Case Study 2: Hidden Dampers

In a retail complex, smoke control measures included fans, dampers, shutters, doors and roof vents. There is centralized global CACF control, plus a local CACF that is located at the base of each phase or each high-rise building. The automatic and manual functions for these system components, coupled with the priority sequence, makes smoke control for these retail malls extremely complex. What I want to showcase here is only a very small part of the entire smoke control measure, but will serve to demonstrate that every component is critical in achieving the required smoke control measures in a complex building.

The smoke control measures at the retail mall include smoke exhaust from the retail space. This is achieved through a network of ducts and pneumatic actuators for dampers that control the exhaust of smoke from the corresponding quadrant of the retail space depending on the location of the fire. Even though the manual controls at the local CACF indicated that the dampers were functional, the operation of the dampers were never confirmed historically by inspection contractors.

As part of the investigation phase, we attempted to test and confirm each and every automatic and manual function of the smoke control system at the retail mall, but quickly realized that the location of a large number of dampers could not be confirmed. Based on the original smoke control design drawings, more than half of the dampers inside retail units could not be located. Speaking to the Owner, it was confirmed that these retail units typically underwent renovations due to interior design updates or tenant changes.

Further investigation confirmed that when a corresponding manual switch is activated, we could faintly hear the sound of the actuator above the nicely decorated ceiling in a number of retail units. With permission, we cut open the drywall ceiling in a couple of these

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units, and sure enough, have found the smoke exhaust dampers buried inside the ceiling. Obviously, smoke exhaust from the retail units would never have worked. The Owner quickly took action and rectified the issue.

This is more common than you think, since most retail units' renovations are designed by a separate architect from the Owner, and smoke control is usually not considered as part of their design since their scope is limited to that particular unit only.

Case Study 3: Manual Control Disconnected on BAS Upgrade

In a municipal mid-rise building, we were in the process of designing for the upgrade of the fire alarm system for the facility. The municipal building has an interconnected atrium that is open to all storeys. As such, smoke control is a very important part of the life safety design.

We were provided with the original smoke control design drawings for the building, which included fans and damper controls at the CACF. Of course, our fire alarm design included the corresponding control relays and monitoring points to ensure that the smoke control system would continue to function properly.

However, at the installation stage, it was discovered that the wiring to existing control relays were all disconnected. Wiring to the interface modules were all hanging, and not even terminated. When inquiring with the building operator, they indicated that the smoke control system was "fully functional" but was controlled from the Building Automation System (BAS). Apparently, the building recently underwent an upgrade of the BAS. All hard wiring for fan and damper controls were transferred to the softwarebased BAS. However, one fact was totally ignored: The CACF controls for smoke control was rendered non-operational by this BAS takeover, and it would prove to be a disaster should the responding firefighters attempt to use the manual controls at the CACF.

Case Study 4: Stairwell Pressurization Fan with No Relief Outlet

We were retained to produce the smoke test procedure at a health care facility. When we arrived on site, the maintenance manager stated that we were wasting his time, since he just tested the system 3 months ago and everything was in working order. He even suggested that we can bypass the test, and simply use his test report to hand in as a final report.

Of course, we indicated that we were there to ensure every sequence in the smoke control worked according to the original design, and needed to witness the results. The manager reluctantly tagged along for the test.

When we started to test stairwell pressurization at the high-rise tower, we immediately noticed an issue. When the pressurization fan started, we felt the fan turn on and the pressure increased inside the stairwell. However, the door leading out from the stairwell was trying to open, but the pressure from the fan was too great that it pushed the door against the strike, and the automatic door operator could not overcome the pressure to open the door. As a result of not having the relief outlet for the fan, pressure inside the stairwell was very high, and doors leading into the stairwell from the typical floor area could not be opened. One inspector even put his entire body weight against the door, but the pressure was so great that the doors could not be opened. The stairwell pressurization fan was effectively blocking off access into the stairwells for all floors in the health care building. Needless to say, this needed to be rectified immediately since it had a direct impact to the occupants' life safety.

The maintenance manager was caught red-faced, and indicted that he only tested the fan to ensure they were running, but never thought about what the pressurization did to negatively affect the access into the stairwells.

Conclusion

Smoke Control is a complex system that involves many different control systems (fire alarm, HVAC, BAS and security). The interconnection protocol between these systems, with set priority, automatic and manual control all need to be verified and confirmed to produce the desired sequence. Smoke Control Systems also has a lot of seemingly unrelated components (fans, dampers, shutters, doors, maglocks, electric strikes etc.) that must work together to produce the desired outcome. Any missing link in the programing, oversight in one component, or even the uncorrelated timing between the components could result in the smoke control system not preforming the intended tasks during an emergency. Due to the varying features and configurations of each building, smoke control is unique to each building, and each will require a unique set of test procedures.

While contractors may be testing for the operation of some components of smoke control, not having the right smoke control procedure means that the smoke control system is not tested properly. As demonstrated from the above case studies, it could lead to unwanted negative impacts to the life safety in the building and its occupants.

Lui Tai, P.Eng., AIFireE is a Senior Fire Protection Engineer at Vitalis Engineering Inc. Lui has over 32 years of practical experience working in fire protection engineering in Canada, and specializes in fire protection systems design and evaluations, including smoke control systems. He often gives presentations on technical topics, to educate the public on the importance of fire protection. He can be reach at lui.tai@vitalisengineering.ca ◆

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(Open to CFSA members only)

Technical Presentation:

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Speaker: **Neil M. Chaudhuri, P.Eng.**
Operations Chief Engineer for FM Global – Canada Operations

Thursday, May 5, 2022

Time: 9:00 - 10:30 AM ET

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Get Involved and Kick-Start Your Career

5 Industry Leaders Share Their Stories

Russ Leavitt of Telgian Holdings attended a company event to welcome new staff and asked a young woman about her job. She replied, "I'm just a sprinkler system designer." Recently, Russ shared this anecdote and while discussing this young technician's response with a group of industry associates, several of us reminisced about our own early days in the profession. Each of us started our highly successful fire and life safety careers as trainees in administration, installation, or system layout. As we talked, it was apparent that regardless of where we start our journey, we are only truly limited by our own lack of vision and desire.

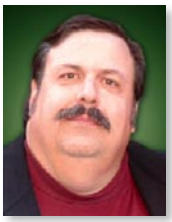
Many of the innovators and leaders in the world of fire and life safety are from the technician side of the industry. In today's world however, it seems that the role of technicians has lost some of its luster and recruiting individuals to train and learn technician skills is becoming increasingly difficult. We all know technicians who earned their professional engineering credential and moved to the consulting world while others became contractors, started businesses, or used their knowledge and skills as AHJ's for the public and private sectors. The fire and life safety professionals involved in the above discussion agreed to share their stories to demonstrate the variety of paths one can take and that no matter what your individual goals might be, they can be attained by those who begin their career as a technician.

The individuals profiled in this article became acquainted with one another while working in California during the early days of their careers. In fact, four of the five worked together in San Diego where they made significant contributions to the fire protection profession and industry. Each has followed their own path to different roles, but they have much in common including the desire to learn, pursuing "outside the box" opportunities, engaging in professional organizations, obtaining certifications and licenses, and finally, a passion for our mission to save lives and property. This passion helped them to recognize and take advantage of opportunities to compose and provide technical training, create dynamic new products, participate in the standards and code development process, and to serve as ambassadors for fire and life safety throughout the world.

On closer examination, you will find that none of the individuals below completed a formal education in engineering. In fact, only two have undergraduate degrees and the degrees are not related to our profession. Most of their technical training took place on the job as there were few institutions or organizations where extended fire protection training could be found for entry- and mid-level technicians. One of the challenges we face in the fire protection community is that this is still largely the case, although some formal training and academic options can be found. In lieu of formal training, we took advantage of every opportunity to learn including seeking out mentors, participating in industry associations, attaining professional certifications, and exchanging information with other like-minded professionals. And we never said "No" or "Not Interested" when opportunities to extend our knowledge and skills were presented.

Steve Leyton, James Golinveaux, Ken Wagoner, Bob Caputo, and Russ Leavitt all had remarkably similar introductions to the fire protection industry. It's safe to say that none of us had a career in the fire sprinkler industry on our minds during our "growing up" years. Most of us did not know anything about fire sprinklers until we were presented the opportunity to be a part of this worthy profession—in other words, the fire sprinkler industry found us rather than any of us seeking out and finding fire sprinklers.

Bob Caputo was first introduced to fire protection systems while serving in the Navy. After discharge, he took a job with a small fire sprinkler contractor in San Diego. He worked in the shop, as an installer, and finally as a design trainee. He still recalls that the worst project he was ever involved with as an installer was a retrofit for a restoration project on which he did the design.



In 1981, **Ken Wagoner** was a 26-year-old looking for a career and answered an ad for a contract administrator with Grinnell Fire Protection. He was offered a job as the engineering department secretary for the Denver office. He transferred to the San Diego office with a position in purchasing. He was eventually asked by his former supervisor to join him in his new venture as a fire sprinkler system design trainee.

Our resumes clearly demonstrate that learning design is a great way to build a solid foundation for a career in this industry, so perhaps it's not a coincidence that our stories are so much

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alike. We all entered the profession between 1980 and 1982; each of us began our design careers using drawing boards and we laid out backgrounds by hand on velum or Mylar; with some experience, we mastered manual hydraulic calculations; as grunts, we ran blueprints in the ammonia room and lived to tell about it. (Steve vividly remembers the day he spilled a half-gallon of anhydrous ammonia on the carpet while trying to change the bottle, then running out of the room and slamming the door behind him.)

Russ Leavitt remembers the feeling of pure joy when he was able to program the Hazen-Williams formula into his handheld calculator for determining friction loss, allowing him to discard multiple 3-ring binders filled with friction loss factors for the various diameters and types of pipe along with the unlimited variations of flow.

While we each had mentors and trainers who taught us many things, most of our skills were developed through our own initiative.

Steve Leyton's path was one of taking advantage of opportunities when they were presented. Less than five years in his career he was invited to join a start-up fire sprinkler contractor as the design manager. Though he was the only designer at the time, he was tasked with building the design department along with setting standards, providing training, and ensuring that projects were delivered on time with a high degree of accuracy. In seven years with the firm, he took on roles in sales and estimating, project management, and corporate administration. He created a residential sprinkler division which included negotiating a residential pay scale with the sprinkler fitter's union and the special training needed to install residential systems. Finally, he conceived and assisted in the creation of software for stock-listing, fabrication, and inventory for sprinkler systems material and equipment; that package, originally known as SLIC was sold to Central Sprinkler where it became the basis for the stock-listing utility in their SprinkCAD software.

"Each of us became involved with trade and professional organizations early on, which has been instrumental in our careers."

James Golinveaux's story is classic. He joined the trade in 1982 as a design trainee with Allied Fire Protection in Oakland CA and rose to the position of Design Manager. In 1991, he took as he calls it, "my biggest leap of faith" when he accepted the position of Director of Technical Services with Central Sprinkler and moved across the country to Lansdale PA. One year later he was promoted to VP of engineering and in 1993 he took the role of Senior VP over Research and Development. He continued in the role after the purchase of Central Sprinkler by Tyco and during his tenure in R&D, he was named on over 60 fire protection patents globally. James has continued to take advantage of opportunities as they were presented.

Each of us became involved with trade and professional organizations early on, which has been instrumental in our careers and accomplishments.

Bob Caputo joined with Russ, Steve, and Ken as founding members of the San Diego Fire Protection Association. Each served as officers and committee members in the association. Involvement with the SDFPA presented opportunities for each of us to provide technical training for our industry and work closely with fire officials, manufacturers, and distributors, as well as associated service providers. In 1986, Bob volunteered to conduct AHJ training for San Diego County fire prevention officers on behalf of the association, a role that Ken took over when Bob moved out of San Diego. Over the course of nearly 20 years, the training sessions were held monthly and eventually led Bob to training opportunities with the American Fire Sprinkler Association (AFSA) and the National Fire Protection Association (NFPA). Bob has traveled the world, providing training sessions on all manner of fire protection systems, and is known globally as one of the best instructors in our industry.

Not to be outdone, James, Ken, Russ, and Steve have each spent their careers providing training throughout the United States and globally. For several years, Steve had an almost permanent presence in the Middle East while James visited dozens of countries providing technical training and leadership. Ken's role has also grown far beyond San Diego, and he has been a senior instructor for the American Fire Sprinkler Association for years. All of us have been regular speakers and presenters at regional, national, and international meetings and conventions for NFPA, NFSA, SFPE, AFSA, along with other trade and professional organizations. One of the most important roles we have all undertaken is to be involved in the development of code and standards. Several organizations are vested with the maintenance and publication of the codes and standards used in our industry, particularly the National Fire Protection Association (NFPA) and the International Code Council (ICC).

Each of us have been deeply involved with NFPA by serving on various technical committees, including installation standards for fire sprinkler systems, fire

pumps, water mist systems, private fire mains, standpipe systems and life safety codes to name a few.

Additionally, we have served as the chairs of committees and councils: Ken previously served and Bob is currently serving as chair for NFPA 24 Standard for the Installation of Private Fire Service Mains; Steve as chair of NFPA 14 Standard for the Installation of Standpipe and Hose Systems; Russ as chair of NFPA 13 Sprinkler System Discharge Criteria technical committee. James has the distinction of serving as chair of the NFPA Standards Council which oversees the development of all NFPA codes and standards which includes approximately 300 documents. Russ serves on the Board of Directors for NFPA and is the incoming Chair. The common theme for this group is that we did not wait to be invited, we simply got involved. We did not base our involvement on whether or not we were going to be reimbursed for the time and expense by our employers. We did not ask, "What is in it for me?" When these opportunities presented themselves, we jumped into them because we understood they would foster personal and professional growth, and also benefit our industry. We each intuitively knew that the more involved and visible we made ourselves that great and unique opportunities would ensue. It would be remiss to not recount some of the technical contributions made by this group of fire protection professionals, as all have been instrumental in the evolution of the fire protection industry as it keeps pace with new and ever progressing technology. Steve was one of the first to recognize the need for A/E firms to include the basis of design for the installation, hanging, and bracing of fire protection systems. He founded his firm with the idea of delivering these comprehensive design consulting services to architects and developers. Protection Design and Consulting was one of the first firms in the United States to offer Revit-based system design.

"The common theme for this group is that we did not wait to be invited, we simply got involved."

In addition to his scientific contributions, James saw the need for the correlation of fire sprinkler design criteria with the full-scale testing which was conducted over the years. He led a two-decade long effort for NFPA 13, The Standard for the Installation of Sprinkler Systems to recognized and incorporate "single-point" design criteria. His efforts were finally rewarded when the proposed change was accepted for the 2022 edition of the Standard.

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Ken has long been nationally recognized as a leader in the outsourcing of plan review services. He was a pioneer in the use of electronic plan submittal technology and procedures. His efforts led to a streamlined and eco-friendly method for contractors and builders to submit drawings for AHJ approval and the issuance of construction permits. We are now seeing not only plans being submitted and approved electronically but the use of technology in the conduction of remote inspections and tests for system acceptance. As a benefit of his membership on the hanging and bracing committee of NFPA 13, Ken developed a series of online courses in seismic protection of fire sprinkler systems through the AFSA.

Bob is a leading international expert on the installation of fire sprinkler systems. He is the author of a widely used and acclaimed program for training in the skills of project and jobsite management. He has written and delivered numerous training programs for industry and professional organizations including NFPA and AFSA. He and Russ wrote and developed the AFSA program and curriculum for the training of water-based inspection technicians.

Russ chaired the task group - which included James and Bob - that was charged with the reorganization of NFPA 13 to bring it in line with modern protection practices and users of the standard. This was a monumental task that was focused on making the standard friendlier to the non-expert user. The resulting document has been praised by contractors, AHJs, and other users for its more intuitive organization and layout.

An important thing to consider in all of this, is that much of the work performed by this group of individuals was done on their own time and often at their own expense. Of course, that does not mean their volunteer efforts did not have a direct positive influence on their career opportunities and earning power. The impact in many cases was profound but it can be safely stated that career advancement and better compensation were not the driving forces for these individuals. It was their passion and love of the industry that was foremost in their minds–the resultant leadership, technical, and career opportunities were the byproducts of their efforts. Along the way, each has been widely recognized for their contributions including awards from industry and professional organizations. AFSA has bestowed their highest honor, the Parmelee Award, to

James, Bob, and Russ for their lifetimes of service.

So where are we now? Consider this:

- James serves as the President and CEO of the Viking Group, a global leader in fire protection manufacturing, and Chair of the NFPA Standards Council
- Bob serves as President of the American Fire Sprinkler Association (AFSA)
- Steve is the Founder and CEO of Protection Design and Consulting
- Ken is President of Parsley Consulting
- Russ is Executive Chair of Telgian Holdings, Inc., and 1st Vice-Chair of NFPA

Not bad for 5 guys who at one time were all "just sprinkler designers", but keep in mind that for each of us, it did not "just happen". At some point and in our own ways, we each committed to learn everything possible about our profession, took full advantage of opportunities when they were presented, and took a vow to "give back" to the profession and industry. Remember, it is not where you start but what YOU choose to do with your career that sets its course. The longest and most adventurous journey begins with a first step. At some point or another, we've all been asked, "How can I do what you have done?" We hope that sharing our stories can at least partially answer that question.

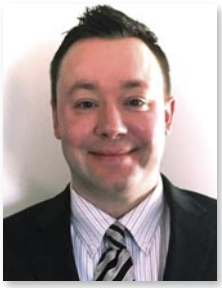
Finally, there is still a lot of runway in front of new and existing fire sprinkler enthusiasts, and we are still learning about the interaction of automatic sprinklers with the ever-changing fire scenarios we face. If we were 18 years old all over again, any one of us would be excited about the opportunities ahead. With dedication to learning and participating in this fantastic industry, the opportunities will find you, but they are rarely given to those who expect it. Volunteer until it hurts, get used to cold rubber chicken banquet dinners and welcome the industry knowledge shared at these events. The rules are established by those with great intentions and reasonable data. Change is inevitable and will be championed by those who participate and have gained knowledge – will you be part of it?

Written by:
Russ Leavitt
James Golinveaux
Bob Caputo
Steve Leyton
Ken Wagoner ◆

CFSA welcomes this new Feature Section in our Newsletter with articles from **Kilo Lima Code Community...**

Bringing together the best of Canadian building code and fire code education, community, and resources.

KILO LIMA CODE COMMUNITY
CANADA'S BUILDING AND FIRE CODE COMMUNITY



An Ocean of Opportunity: Building and Fire Codes are the Boat to Get You There

By: Kyle Chamberlain, A.Sc.T., CBCO
Fire Protection Consultant

What if I told you there was a career path that will open numerous doors and fill your life with interesting options?

What if I told you that you can literally shape the built environment around you?

What if I told you that you will be presented with interesting challenges, situations and projects that will ensure that you don't get stagnant in your career and will keep you sharp?

What if I told you that you will meet a ton of people and will see buildings and places that most people don't get to see?

Finally, what if I told you that this same career path will allow you to literally help in reducing injuries, save people's lives and make a significant, positive difference in society?

You might say to me "LIAR! This is too good to be true! Surely this all can't be done by choosing one career path???"

Well, I'm here to tell you that all the above is 100% true. And the path to get there and open these doors is the understanding of Building Codes, Fire Codes and their associated standards.

It won't come easy though, as nothing worthwhile does. However, as you will see below, the valuable options that you get from understanding and applying these Codes is substantial.

You will need to work hard to learn these complex documents. It will take enrollment in educational programs, studying, training programs, seminars and, of course, application in real world scenarios. However, once you get started and dive into this ocean of opportunity, you will be presented with career options that provide not only good monetary rewards but, more importantly, will keep you engaged and interested in your profession. Additionally, because there are many different paths, if you find that you want to expand your horizons, you will have options to explore different opportunities!

When you start a path to understanding and applying Building and Fire Codes, here are some very brief descriptions of career opportunities that will unfold before your eyes:

Fire Protection Systems Designer

In this role you will analyze building design layouts and design fire protection and life safety systems for the building (fire alarm systems, sprinkler systems, special hazard systems, etc.). You will ensure that the design meets Codes and standards, and you will use state of the art technology to execute the design of these complex systems.

Fire Alarm Technician

A fire alarm technician installs and maintains fire alarm systems in buildings. They will review design documents and install fire alarm systems so that they are Code compliant and operational. The technician will also service and maintain existing fire alarm systems so that they operate as designed and as required by Code.

Fire Protection System Technician

A fire protection system technician is more of a broad term to describe a person who installs fire protection and safety equipment. This can include special hazard systems, kitchen extinguishing and exhaust systems, explosion protection systems and equipment, flammable and combustible liquid protection systems, firestopping, etc.

Sprinkler Fitter

A sprinkler fitter will review and interpret building sprinkler design drawings and will install sprinkler systems in buildings. The installation can be in many different types of buildings and will expose the

fitter to many different job site settings.

Fire Prevention Inspector

Most fire prevention inspectors work for a municipal Fire Department and inspect buildings in a municipality to determine compliance with Building and Fire Codes. They will also review building design drawings for new construction (plans review), review Fire Safety Plans, conduct fire investigations, prosecute offenders of fire safety / attend court and be involved in public education and community outreach.

Fire Protection Consultant / Code Consultant

A fire protection consultant has a multifaceted role but, in a general sense, is involved with helping their clients achieve Code compliance in their buildings. This can be Code compliance in existing buildings or in the design and construction of new buildings. Either way, the fire protection consultant assists their clients with understanding the requirements applicable to the specific building, identifying Code solutions and helping the client navigate the process of building approval by the authorities.

Plans Examiner

A plans examiner will review design drawings for proposed new construction projects and identify areas on the drawings (or in the overall design) that need to be revised to meet Code requirements. A plans examiner will also assist with the building permit process and may also be involved with development proposals, pre-consultation applications, site plan applications and approval, zoning, etc.

Insurance Risk Management Consultant /Inspector

This position involves working for an insurance company and conducting inspections of their insured buildings to determine Code compliance in the interest of reducing risk to the business and, ultimately, the insurance company.

There are extremely rewarding careers in this field. The beauty is that each of the positions described represents outstanding potential for growth and can also lead to new opportunities that are different but interrelated.

Fire Investigator

A fire investigator conducts investigations of fires in order to determine origin and cause of the fire and reports on the findings. A fire investigator may work in the public sector (e.g.; Fire Service / Police) or in the private sector (e.g.; insurance company, engineering firm, etc.).

Public Fire and Life Safety Educator

A public fire and life safety educator typically works for a municipal Fire Department and assists the department with public fire safety initiatives / programs, fire safety events, fire safety messaging, obtaining grants, community outreach and media / public relations.

Sales Representative – Fire Protection Equipment

There are many different types of fire protection equipment available throughout the world and many different companies that produce their own variations of this equipment. Since fire protection equipment is a requirement in the vast majority of buildings, sales in fire protection equipment is a lucrative industry!

Fire Safety / Site Safety Coordinator

There are some buildings / facilities that are so large they need their own fire protection professional with a solid Code background to ensure the building is operating in a fire safe manner (think: hospitals, colleges / university campus, multi-use high-rise towers, etc.). This is where a site specific fire safety coordinator plays a key role.

Project Manager / Management Positions

Many of the positions noted above can graduate into senior management roles in their organization as their professional experience and Code knowledge advances. Many excellent opportunities exist in the fire protection and life safety field to advance into a management role.

Business Owner / Entrepreneur

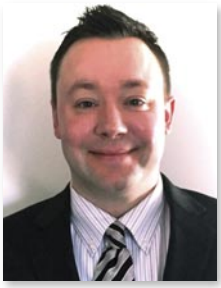
Every single one of the positions noted above represents an opportunity for an individual (or partners) to start their own business! Of course, there are also always opportunities to find new ways of doing things and new fire safety products which also lend to the great entrepreneurial potential of this industry.

The above descriptions are only brief and if any have piqued your interest, I encourage you to do more research and network with people in the industry to find out more information.

There are extremely rewarding careers in this field. The beauty is that each of the positions described represents outstanding potential for growth and can also lead to new opportunities that are different but interrelated.

I'm sure I haven't covered all the avenues and positions that can be pursued in this field and I encourage you to share any I've missed. If you, or someone you know, is looking for an interesting career that will only continue to grow and keep you engaged, look no further as the pursuit of knowledge in Fire and Building Codes can certainly take you there!

Hop in the boat, fire up the engine and get cruising! The wake you leave in your path will be one of a safer world and rewarding personal achievement. ◆



Vacant Buildings and Fire Safety: Negotiating a Balance

By: Kyle Chamberlain, A.Sc.T., CBCO
Fire Protection Consultant

Fire and life safety professionals are typically involved with helping building owners with a range of issues surrounding the occupancy of a building. It is not often that we are approached by a building owner with a proposal to stop using their building and vacate it. A phone call or email of this nature may leave us looking like a "deer in the headlights" after we receive it. However, we may come across this building condition, so what can we expect and what approaches are there to deal with this issue? This blog discusses some fire safety considerations that may be useful when confronted with a vacant building situation.

Vacant Buildings: An Unusual Predicament

Unfortunately, there are circumstances where a building may become vacant. A building that becomes vacant can arise from one or more of the following examples: economic downturns (in general or with a particular industry), financial difficulties for the building owner (foreclosure), real estate issues (saleability), general neglect, abandonment, transitionary periods for building use, zoning changes / land use planning, unfinished projects, etc. The global COVID-19 pandemic has exposed these factors where some buildings in specific sectors have become, or are at risk of becoming, fully vacant. These vacancies may be temporary or prolonged.

There is no definition in the National Fire Code of Canada (NFCC) for "vacant". The Oxford Dictionary defines "vacant" as *"empty; not being used"*. As such, the term "vacant" may mean different things to different people / organizations. An example of this variation of interpretation is an insurance policy. An insurer may define "vacant" in their policy terms, and it could be a lot different than what the typical interpretation of the term "vacant" is and what people perceive it to mean. An insurance company may consider a building vacant if it is left unoccupied for a few days. It is incumbent on an owner to check their insurance policy regarding this.

Talking it out with the AHJ - The Earlier the Better

Whether it can be foreseen that a building may become vacant in the future, or it is something that happens with short notice, in either circumstance, the Authority Having Jurisdiction (AHJ) should be notified as early as possible to get their input. Engaging in early discussions with the AHJ will help the stakeholders to understand the AHJ's position on the matter and help all involved parties to prepare to address the issues surrounding the vacancy of the building. Discussions with the local Fire Department are a must, but the Building Department, By-Law Services and Planning Department (to name a few) may also have concerns that need to be addressed. Open communication with all interested parties is very important in the early stages as it will help to make the building owner(s) aware of the expectations and steps involved to vacate the building in the most prudent and safest way possible.

When engaging in discussions with the AHJ regarding a vacant building, it is important to understand that the case of a vacant building puts the AHJ in a position where they may need to balance things. On the one hand they have a building owner who is obviously undergoing some difficulties but on the other hand the safety and well-being of the community, the protection of municipal resources and the reduction of risk is critical. Here are some examples of preliminary questions the AHJ may ask regarding the vacant building:

- Is the building owner a willing participant in coming to a resolve on how to deal with the property? What is the history of the building?
- What are the reasons for vacating the building? What are the plans for the building? Is this foreseen to be a temporary vacancy or will it be prolonged?
- How will the vacancy of this building impact the surrounding neighborhood?
- Has the building owners' insurance company been notified? What is their

standpoint on the specific building to be vacated? What do they require? (the AHJ may want written verification from the insurance company)

- How will the building owner deal with the maintenance of building systems while the building is vacant?
- Who will be the point of contact for the vacant building? Who will manage / oversee the vacant building?
- How will the building owner deal with security at the building and access control?

The National Fire Code of Canada 2015 (NFCC), Division B, Sentence 2.4.6.1.(1) indicates: "*Vacant buildings shall be secured against unauthorized entry*".

One of the biggest risk factors of a vacant building is that they tend to become targets for vandalism and arson. As such, it is highly likely that the AHJ will want the overall building / property secured in some manner and will want forms of security implemented. Some examples of the forms of security that may be expected include, but are not limited to, the following:

- Boarding up window and door openings in a tamper proof manner,
- Installing locking devices on doors,
- Installing secure fencing surrounding the property,
- Hiring a security company to do building patrols and provide access control,
- Other security measures that are site specific to a certain type of property / use.

Additionally, the AHJ is also going to ask about the existing operation of the building and how it will be maintained. The intent behind this is to prevent the vacant building from becoming a hazardous, derelict safety concern. Here are some likely expectations from the AHJ:

One of the biggest risk factors of a vacant building is that they tend to become targets for vandalism and arson.

- Maintaining existing fire protection and life safety systems in normal, full operating condition,
- Details regarding control of ignition sources (How will they be controlled? Who is responsible?),
- Maintaining fire department access to the site / building to effect firefighting operations,
- Proper notification of the AHJ if building use / conditions change.

The implementation of the above noted examples will depend on the type of building, the complexity of the building and the building ownership. In some circumstances the AHJ may opt to be stringent in their approach based on the risk presented by the vacant building and the history of the building. In other circumstances, the AHJ may have a level of comfortability that one or two of the above noted approaches is sufficient. It really depends on the specific situation, but these examples are a good starting point to get an idea of what may be asked / expected.

Building Owner Absenteeism - Recourse

This blog post assumes that the building owner is an active participant in mitigating hazards associated with a vacant property until it can be sold, re-purposed or demolished. This is a reasonable assumption as building owners can face liability issues and fines if their buildings are not maintained, even if they are vacant. However, you are probably asking yourself: what if the owner simply "walks away" from the building and abandons it? While it is beyond the scope of this blog post to get into the details, a municipality can seek resolutions to a vacant building with an absentee owner, with some examples including, but not limited to: orders / enforcement, legal action / fines, municipal

undertaking of the work to mitigate safety issues and recouping costs through property taxes all the way up to initiating proceedings to have the building demolished (and recoup costs).

Decommissioning Fire Protection Systems in a Vacant Building

There are circumstances where a building owner that is proposing to vacate a building may also want to propose to the AHJ that the active fire protection systems in the vacant building be decommissioned (i.e., shut down). This may occur when it is viewed by *the owner* that it is unsustainable to maintain these systems in the vacant building. This proposal is generally due to the costs associated with maintaining the fire protection systems as well as the costs to maintain heating systems (due to freezing issues) in a vacant / unoccupied building that is not generating any income.

> Decommissioning a fire protection system can not only impact the building from a property protection standpoint but can also impact the responding fire fighters / emergency personnel if a fire does occur.

The decision to decommission fire protection systems is obviously something that should never be taken lightly. In fact, some AHJ's may not even entertain the proposal. However, you can certainly expect that those that do are going to want to see the proposal in writing, are going to have questions and are going to want to see a plan in place that is reasonable and shows that the building owner has done their due diligence in ensuring that fire hazards are sufficiently mitigated on an ongoing basis. Even if a reasonable proposal is put forward, approval by the AHJ is not a foregone conclusion.

Crossing the "t's" and Dotting the "i's" – Seeking Approval

While decommissioning is not discussed in the NFCC, it is mentioned in the Ontario Fire Code, Division B, Article 6.9.1.1. which indicates: *"Except as*

continued…

otherwise provided in this Part, fire protection equipment and life safety systems shall not be decommissioned or permanently taken out of service without ***approval.****"*. The definition of "approved" in the Ontario Fire Code is "approved by the Chief Fire Official".

Regardless of the jurisdiction, when it comes to decommissioning a fire protection system(s), the local Fire Department / AHJ is either required to be notified (in the case of Ontario) or it is prudent, from a safety and liability standpoint, for the building owner to initiate this discussion prior to decommissioning. Decommissioning a fire protection system can not only impact the building from a property protection standpoint but can also impact the responding fire fighters / emergency personnel if a fire does occur.

Here are some preliminary questions that the AHJ may ask the building owner:

- The same security questions noted above. The "human element" within a building is one of the main reason's fires occur. Access control / restricting entry is a critical factor.
- The same insurance questions indicated above. An insurer may not cover a building with intentionally shut-down fire protection systems.
- What type of storage (i.e., ignition sources) will be left inside the building? Will the building be completely emptied of all storage materials?
- What type of outdoor storage will there be?
- What are the existing construction materials of the building?
- How will fire department access to the building be maintained?
- Will fire hydrant coverage be affected?
- Will the means of egress / exiting systems in the building be maintained?
- Will the fire containment systems (fire separations) be maintained?
- If the fuel supply (e.g., natural gas) and electrical power supply is proposed to be turned off, where will these systems be turned off / terminated? Will these systems be terminated outside the building?
- How will any unforeseen work that needs to be done in the building be managed and monitored? Who will be notified? Who will oversee this?
- What modifications are necessary to the buildings' existing Fire Safety Plan (if required)? Does the building need a Fire Safety Plan prepared considering the circumstances?

The majority of these questions deal with the control of ignition sources in the building and how firefighters can still do their job without being put at undue risk. However, as people tend to be the catalyst in fires occurring, questions regarding security of the vacant building are once again a critical factor in the prevention of fires occurring and the risk mitigation strategy. The answers to the above noted questions (as well as any other questions pertinent to the specific building) will have an impact on the AHJ's decision regarding decommissioning fire protection systems.

Although vacant buildings have always been a concern in a community, the COVID-19 pandemic has unfortunately shown us that this problem may become more prevalent due to the hardships that have been placed on building owners in some property sectors. It is important to recognize the risks associated with vacant buildings and start the appropriate discussions with all stakeholders to mitigate the hazards to the property, the community, and the responding emergency personnel.

Good Code information should be easy to find, and even easier to use. Visit **https://kilolimacode.com** ◆

1971 - 2021

Canadian Fire Safety Association

Annual Education Forum 2022

September 22, 2022

Paramount Event Centre
Vaughan, Ontario

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EXCLUSIVE DIAMOND SPONSORSHIP OPTIONS:

[Choose One]

Keynote Address

- Company representative on stage introducing Keynote Speaker
- If available, opportunity for Meet & Greet with Keynote speaker
- Logo on Intro Slide of session

Awards Luncheon

- Custom branded signage Awards Luncheon
- Custom Intro Slide
- Company representative to present an award

Welcome Gift

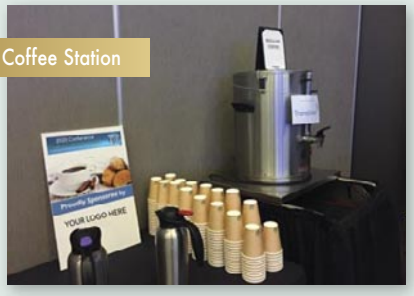
- Logo added to welcome gift provided to delegates

Member Highlight / All-day Coffee Break

- Launch the coffee break with a short address to the audience highlighting how your services helped a member succeed (4 min. max.) Video/Commercial format is also an encouraged format
- Custom signage featuring sponsor logo on the "all-day" coffee station

Keynote Speaker

Awards Luncheon



All-day Coffee Station

Sample Company-branded Welcome Gift

Platinum Sponsor

$2,000 + HST each *[3 Available]*

Included:

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- Logo on all Email Blasts
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- Recognition in the CFSA News
- Ability to provide video (2 min. or less) of company services to play in session room
- Opportunity to provide promotional material/item in registration package
- Double Tabletop Display Space (2 tables)

EXCLUSIVE PLATINUM SPONSORSHIP OPTIONS:

Registration

- Logo added to each registration e-confirmation
- Logo on registration desk directional signage
- Ability to provide company greeters at registration desk

Charging Stations

- Custom message on mini table top chargers throughout forum space

Lanyard

- Custom branded lanyard. Delegates will wear your logo around their neck all day long!

Registration Desk

Company-branded Charging Station

Gold Sponsor

$1,500 + HST each *[3 Available]*

Included:

- Three (3) full conference registrations
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- Recognition in the CFSA News
- Logo on all Email Blasts
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EXCLUSIVE GOLD SPONSORSHIP OPTIONS:

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- Logo embedded on photo gallery

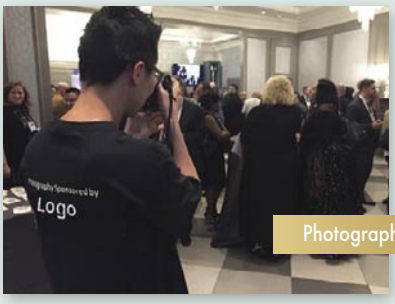
Lunch - Dessert Display

- Custom branded chocolate on Dessert station including custom signage

Session Sponsor

- Ability to introduce session
- Logo on Intro Slide

Company-branded Dessert Station



Photography Sponsor

Silver Sponsor

$1,000 + HST each *[4 Available]*

Included:

- One (1) Tabletop Display
- One (1) full conference registration
- Logo on all Email Blasts
- Opportunity to provide promotional material/items in registration package
- Recognition in the CFSA News
- Logo on all sponsor signage
- Logo on Conference webpage

EXCLUSIVE SILVER SPONSORSHIP OPTIONS:

Hydration Stations

- Custom signage on flavoured water stations throughout the conference area

Wifi

- Company Logo on Launch page

Breakfast – Egg Station

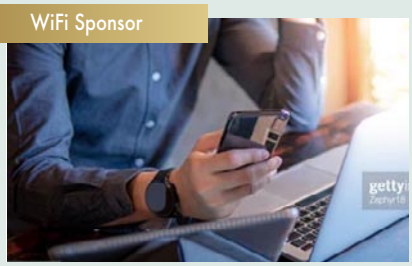
- Logo on signage near Egg Station

Name Badge Sponsor

- Logo on name badge

Hydration Stations

WiFi Sponsor



Egg Station Sponsor

Name Badge Sponsor

CFSA Sponsorship Refund Policy – Annual Education Forum

CFSA has instituted a policy to cover refunds for sponsorship of its Annual Education Forum (AEF):

- Sponsors may cancel their sponsorship of the AEF at any time up to one hundred and twenty (120) days prior to its scheduled start date. Cancellations during this time period will result in a refund of the amount paid, subject to a ten percent (10%) administration charge. If the sponsorship has been committed to but not paid, the sponsor agrees to pay CFSA the administration charge.
- Sponsors may cancel their sponsorship at any time between sixty (60) and one hundred and twenty (120) days prior to the AEF's scheduled start date. Cancellations during this time period will result in a refund of fifty percent (50%) of the amount paid. If the sponsorship has been committed to but not paid, the sponsor agrees to pay CFSA fifty percent (50%) of the total amount committed to.
- Sponsors who cancel their sponsorship less than sixty (60) days prior to the AEF's scheduled start date are not entitled to a refund. The full amount of the sponsorship shall be retained by CFSA. If the sponsorship has been committed to but not paid, the sponsor agrees to pay CFSA the entire amount committed to.

Bronze Sponsor

$600 + HST each *[8 Available]*

Included:

- One (1) Tabletop Display
- One (1) full conference registration
- Logo on all Email Blasts
- Opportunity to provide promotional material/item in registration package

EXCLUSIVE BRONZE SPONSORSHIP OPTIONS:

Breakfast - Bakery Station

- Logo on signage near baked goods

Morning break

- Custom signage on morning break food station

Sweet Tooth break

- Custom signage on afternoon break sweet station

Pop Goes the Weasel!

- Custom signage on soda pop station

Audio Visual

- Recognition on Sponsor Powerpoint loop

First-Time Attendee Contest

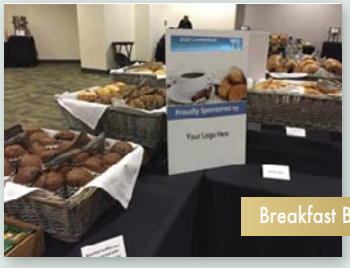
- We're awarding delegates who make first-time attendees feel welcome at the conference. Company name on ballots and representative to present prize on stage.

Early Bird Prize

- Sponsor the Early Bird Prize. Logo on Draw slide.

Coat Check

- Signage at Complimentary Coat Check



Breakfast Bakery Station

Sweet Tooth Break

Soda Pop Station

First-Time Attendee Contest

Coat Check Sponsor

Register your sponsorship online ...

https://canadianfiresafety.com/e-registration/8/aef2022asponsorreg

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Member since 2015
Marc Alam
Ottawa, ON
(613) 747-5544 ext. 232
www.cwc.ca

Canterbury Fire Department
Member since 2009
Clifton Furrow
Canterbury, NB
506-279-2220

Prince Fire Safety Solutions
Member since 2019
Ben Prince
Edwards, ON
613-618-1976

Services Techniques Centurion
Member since 2012
Gaetan Serre
St-Constant, QC
450-638-5558
www.gocenturion.com

Technorm Inc.
Member since 2018
Marc-Andre Langevin
Montreal, QC
514-861-1940

Javier Sanzsole
Member since 2021
Elmvale, ON
705-817-0248

Individual Members (AS OF MARCH 30, 2022)

Abdulafo Ajjawi
Mississauga, ON

Tai Allen
Aurora, ON

Joel Arellano
Ajax, ON

Steve Baxter
Niagara Falls, ON

Domenic Biase
Concord, ON

Aileen Chan
Markham, ON

Anna Chan
Toronto, ON

Brian Cornforth
Edmonton, AB

Sandra Duncan
Toronto, ON

Ehsan Emrani
Markham, ON

Mazen Habash
Mississauga, ON

Dave Hamilton

Melissa Hanlon
Orangeville, ON

Ray Hawkes
Quathiaski Cove, BC

Jeanette James
Toronto, ON

Donna Johnson
Toronto, ON

Larry Keeping
Toronto, ON

John Kewell
Burlington, ON

Colin Lahey
Burlington, ON

Chris Langford
Vaughan, ON

Daniel Langlois
Aurora, ON

Chris Logan
Corunna, ON

Michael Lonergan
Aurora, ON

Michael Mangov
Brampton, ON

Eric Marchand
Chateauguay, ON

Ted Mavraidis
Toronto, ON

Adam McFadden
Port Perry, ON

Andrew McMillan
Corunna, ON

Rabih Melki
Woodbridge, ON

Kayleen Mertz
Pickering, ON

Gordon Miller
Cobble Hill, BC

Fred Muldowney-Brooks
Toronto, ON

Brian Murphy

continued…

Svetlana Nichel
Mississauga, ON

Paul Nickerson
Grimsby, ON

Ryan North
Toronto, ON

Janet O'Carroll
Toronto, ON

Jeff Prevett
Ottawa, ON

Randy Reinert
Bowmanville, ON

Rodger Reiswig
Goode, VA

Remo Sambartolo
Toronto, ON

Kathryn Schramm
Barrie, ON

Pamela Shinkoda
Mississauga, ON

Bill Simpson
Toronto, ON

Alan Speed

Brian Thiessen
St. Catharines, ON

Anthony H. Van Odyk

Beth Weckman
Kitchener Waterloo, ON

Alexander Yarmoluk
Mississauga, ON

New Members (AS OF MARCH 30, 2022)

New Individual Members

Abdulafo Ajjawi
Mississauga, ON

Tai Allen
Aurora, ON

Brian Cornforth
Edmonton, AB

Ehsan Emrani
Markham, ON

Ray Hawkes
Quathiaski Cove

Donna Johnson
Toronto, ON

Chris Langford
Vaughan, ON

Andrew McMillan
Corunna, ON

Jeff Prevett
Ottawa, ON

Remo Sambartolo
Toronto, ON

New Corporate Members

Maple Armor Fire Alarm Device Co., Ltd
Charles Dumont
Gelin Zhan
Brossard, QC
514-631-3131

Multivista Systems LLC
Abdul Mohammed *604-332-8895*
John Morrison *604-988-4280*
North Vancouver, BC
www.multivista.com/firestopping

Student Members

Fanshawe College
Jeffrey Webb

Seneca College
Alexandrea Andison
Julian Aversa
Anthony Carnevale
Dae Kim
Aidan Pinkerton
Nicole Ruehle
Megan Wallwork

Other
Matt Booy
ChristineRobinson
Vamsi Krishna Yadamreddy

CANADIAN FIRE SAFETY ASSOCIATION
ASSOCIATION CANADIENNE DE SÉCURITÉ INCENDIE

1971 - 2021

CFSA Scholarship Program

Your Opportunity to Support Our Students

The CFSA is very proud of its scholarship program and each year we present financial awards to deserving post-secondary students enrolled in a Fire Safety program.

It is important to recognize the achievements of those students who stand out amongst their peers and to assist them with the financial burden. The cost of completing a 3-year program can be as high as $24,000.

As a scholarship sponsor, you will:

- provide the criteria for your award
- participate in the virtual award ceremony at the Annual General Meeting
- be recognized in the CFSA Newsletter and on the CFSA website
- help a deserving student in their quest to become a fire safety professional

Thank you to the generous corporations that provided donations to support the 2021 scholarship program:

- Firetronics 2000 Inc.
- Matteo Gilfillan & Associates Inc.
- The Building Reports Canada
- LRI Engineering Inc.
- Jensen Hughes Consulting Canada
- Nadine International Inc.
- Siemens Canada Ltd.
- City of Markham, Building Standards Dept.
- FCS Fire Consulting Services
- The Mircom Group

Thank you to our new sponsors for the 2022 scholarship program:

- OmniShield
- Harding Fire Protection Systems
- Maple Armor Fire Alarm Device Co.

Please add our company's name to this prestigious list of scholarship sponsors:

Name _____

Company _____

Email _____ **Phone** _____

Scholarship Committee Chair, Kate Schramm, will contact you to discuss opportunities for your company's participation.

SEND TO: 2800 14th Avenue, Suite 210, Markham, Ontario L3R 0E4
Tel: 416-492-9417 Fax: 416-491-1670 Email: cfsa@associationconcepts.ca Website: www.canadianfiresafety.com

CANADIAN FIRESAFETY ASSOCIATION

2022 SCHOLARSHIP ENTRY FORM

$13,000.00 in Scholarships

- **$1,000.00 CFSA Founders Award for Leadership & Excellence Award**
  Presented to the top graduating student of a 3-year full-time Fire Protection Engineering Technology Program or similar University degree, who has demonstrated leadership qualities including a balance of academic excellence, outstanding leadership, motivation, and community service. The applicant should excel in displaying outstanding leadership, display motivation and contribute to the fire safety community, achieve academic and technical skills to impact the fire safety community and outstanding concern for others/volunteerism and an academic proficiency ≥ 3.3 GPA.

- **$1,000.00 CFSA Firetronics 2000 Inc. Fire Safety Award in Memory of Rich Morris**
  Presented to a top 3rd year student in a 3-year full-time Fire Protection Engineering Technology Program with outstanding leadership, motivational, technical skills, and overall academic proficiency ≥ 3.3 GPA.

- **$1,000.00 CFSA Matteo Gilfillan & Associates Inc. Award**
  Presented to a top 3rd year student in a 3-year Fire Protection Engineering Technology Program with exceptional academic proficiency of > 3.6 GPA in Codes and Standards related courses and an overall proficiency > 3.3 GPA.

- **$1,000.00 CFSA OmniShield Award**
  Presented to a top graduating student in a full-time Fire Protection Engineering Technology or related Fire and Life Safety Diploma Program with outstanding leadership, motivational, technical skills, and overall academic proficiency ≥ 3.0 GPA.

- **$ 1,000.00 CFSA The Building Reports Canada Award**
  Presented to a top graduating student of a 2-year Technician or 3-year Technology Program, with exceptional skills focused on Fire Alarm & Sprinkler Inspection, community contribution and an overall proficiency ≥ 3.0 GPA.

- **$1,000.00 CFSA LRI Engineering Inc. Award**
  Presented to a top 2nd year student of a 3-year full-time Fire Protection Engineering Technology Program with exceptional overall skills in Fire Alarm Systems and an academic proficiency ≥ 3.3 GPA.

- **$1,000.00 CFSA JENSEN HUGHES Consulting Canada Award**
  Presented to a top 2nd year student of a 3-year full-time Fire Protection Engineering Technology Program with exceptional overall skills in Codes and Standards and an academic proficiency ≥ 3.0 GPA.

- **$1,000.00 CFSA Nadine International Inc. Award**
  Presented to a top 2nd year student of a 3-year full-time Fire Protection Engineering Technology Program with exceptional overall skills in Fire Suppression Technology and an academic proficiency ≥ 3.3 GPA.

- **$500.00 CFSA FCS Fire Consulting Services Ltd. Award**
  Presented to a top 2nd year student in a 3-year full-time Fire Protection Engineering Technology Program with exceptional overall skills in Fire Code and Retrofit Courses and an academic proficiency ≥ 3.3 GPA.

- **$500.00 CFSA Mircom Group Award**
  Presented to a top 2nd year student in a Technician or Technology Program with exceptional overall skills focused on Fire Alarm system – Code, Design and Practical Lab Skills and an academic proficiency ≥ 3.3 GPA.

- **$1,000.00 CFSA Maple Armor Fire Alarm Device Co. Award**
  Presented to a top 2nd year student of a Fire Protection Engineering Technology or related Fire and Life Safety Diploma Program with an academic proficiency ≥ 3.0 GPA.

- **$1,000.00 CFSA Harding Fire Protection Systems Award**
  Presented to a top 1st or 2nd year student of a 2-year Fire Protection Technician Program with a passion for fire and life safety, exceptional overall skills in Fire Alarm Systems, and an academic proficiency ≥ 3.0 GPA.

- **$1,000.00 CFSA Siemens Canada Ltd. Award**
  Presented to a top 1st year or 2nd year student in a Technician or Technology Program with a primary focus on Fire Alarm – Code and Design and an academic proficiency ≥ 3.3 GPA.

- **$1,000.00 CFSA OmniShield Award**
  Presented to a top 1st year student in Fire Protection Engineering Technology or related Fire and Life Safety Diploma Program with active engagement in their community and an academic proficiency ≥ 3.0 GPA.

QUALIFICATIONS AND RULES:

1) The recipients must be enrolled in a Fire Protection Technology, Fire Protection Technician, or related Fire and Life Safety Diploma Program course at a Canadian college or university.
2) All Scholarship Award entries (c/w academic grades – official or advising transcript is acceptable) must be submitted by **April 29, 2022** by email: education@canadianfiresafety.com.
3) Submit the following to complete your application:
   a. A written response of up to 300 words in paragraph form, providing a brief description of:
      i. Your interest in fire safety and knowledge of CFSA and the donor organization
      ii. The course you are enrolled in and how you would like to utilize your education (i.e., fire service, consulting, sales etc.)
      iii. Any experience you have in fire safety either work related, attendance at conferences, CFSA functions etc. and a statement on your extracurricular involvement (i.e. student clubs, mentoring, tutoring, athletics & community volunteering)
   b. Letter of Reference from faculty about individual.
   c. Completed CFSA Scholarship Application Form, to be found at https://www.canadianfiresafety.com/about/scholarships
4) All entries become the property of the CFSA.

1971 - 2021

CFSA

Membership Application Form

Why Corporate Membership?

Corporate Membership is cost effective because it allows any number of individuals from your organization to participate in the many functions provided by CFSA throughout the year. Any number of persons can attend our monthly dinner meetings/ technical sessions or our annual conference at the preferred member's rate. Your advertisement in the CFSA journal is circulated to CFSA's membership of over 250 professionals in the Fire Safety Industry.

Corporate
Includes 3 individual memberships; Company recognition in each of the four issues of the CFSA journal.

Corporate Plus
Includes 6 individual memberships; Company recognition and a 1/2 page advertisement in each of the four issues of the CFSA journal.

Individual Member:
Includes four issues of the CFSA journal and discounted rates at Association functions.

Student Member:
Includes four issues of the CFSA journal and discounted rates at Association functions.

Associate Member:
For individuals and companies located beyond a radius of 150 km from the Greater Toronto Area. Includes four issues of the CFSA journal and discounted rates at Association functions.

Provincial/Territorial Chapter:
For groups of members within a province or territory. Includes 4 individual memberships; member rate for all staff at dinner meetings, technical seminars and Annual Education Forum; Recognition in each of the four issues of the CFSA journal. Contributes articles in CFSA journal.

canadianfiresafety.com

CFSA Application for Membership

Name _____

Company/Affiliation _____

Title _____

Address _____

City _____

Prov. _____ Postal Code _____

Business Phone _____

Business Fax _____

Email _____

Website _____

Please indicate how you first heard about CFSA

_____

Please indicate in the appropriate box the category that best describes your vocation:

- ○ Architect
- ○ Building Official
- ○ Insurance Industry
- ○ Fire Protection Manufacturer/Supplier
- ○ Building Owner/Developer/Manager
- ○ Other (please specify) _____
- ○ Engineer
- ○ Fire Official
- ○ Fire Consultant

	Rate	+13% HST	Total Rate
○ Corporate Plus (C3)	$ 825.00	$ 107.25	$932.25
○ Corporate	$ 415.00	$53.95	$468.95
○ Individual	$ 85.00	$11.05	$96.05
○ Student	$ 25.00	$3.25	$28.25
○ Associate	$ 56.00	$7.28	$63.28
○ Chapter	$ 180.00	$23.40	$203.40

HST #: 12620 8610 RT0001

Method of Payment:

❑ Cheque Enclosed $ _____

If you prefer to pay by credit card, you can do so online at **https://canadianfiresafety.com/members/join-cfsa/membership-benefits** (and click the "Join" button) or by contacting the office.

Please make cheques payable to:

Canadian Fire Safety Association
2800 - 14th Avenue Suite 210. Markham, ON L3R 0E4
Telephone (416) 492-9417 Fax (416) 491-1670