



Testing Of Integrated Fire Protection And Life Safety Systems

The Building Standards Department issues Builder Tips as part of our customer service program. They are designed to provide an improved understanding of the Building Code and to reduce the costs associated with correcting infractions. Please contact your area building inspector for further information or call the Building Standards Department at 905.475.4848 extension 2189

3.2.9. Testing of Integrated Fire Protection and Life Safety Systems

3.2.9.1. Testing

(1) Where fire protection and life safety systems, and systems with fire protection and life safety functions, are integrated with each other, the systems shall be tested as a whole in accordance with CAN/ULC-S1001, “Standard for Integrated Systems Testing of Fire Protection and Life Safety Systems,” to verify that they have been properly integrated. (See Note A-3.2.9.1.(1))

OBJECTIVE

Integrated fire protection systems and life safety systems must meet their proper standards. Failure could result in the systems not performing in the way they were intended in a fire situation. This could lead to inadequate water supply to fire suppression systems, or a fire not being controlled and spreading to the other parts of the building. In addition, properly functioning and integrated fire protection systems and life safety systems should avoid delays in the evacuation or movement of persons to a safe location.

The Certificate in this Builder Tip has been designed as a checklist for the owner to have their professional or Integrated Testing Coordinator complete and submit it to the Building Inspector as part of the occupancy requirements for the building. The Certificate must be completed for all new buildings or for existing buildings where their fire protection or life safety systems have not undergone any initial integrated tests.

Below are applicable definitions from the CAN/ULC-S1001-11 standard for reference in the application of this Builder Tip;

Acceptance Testing – The evaluation of a fire protection and life safety system to ensure that the system is installed in accordance with its design criteria and the relevant Standards associated with its installation.



Design Criteria – Documents prescribed by a design professional for a fire protection and life safety system to meet the requirements of the owner and applicable Codes and Standards.

Fire Protection System – A system designed to detect and/or react to a fire condition and;

A Aid in the warning, protection, or evacuation of building occupants,

B Suppress or control the spread of fire and its by-products, or

C Any combination thereof

Integrated Testing Coordinator – The person, firm, corporation, or organization responsible for the development and implementation of the integrated testing plan. Where a firm, corporation or organization is responsible for integrated fire protection and life safety systems testing, a representative of that firm, corporation, or organization shall be designated as the integrated testing coordinator.

Integrated Testing Plan – A written specific document, prepared by the integrated testing coordinator, outlining the required tests and necessary functional results to conduct integrated fire protection and life safety systems testing.

Integrated Testing Report – A written project specific document, prepared by the integrated testing coordinator, documenting the implementation of the integrated testing plan.

Life Safety System – A system designed to enhance or facilitate the safety of building occupants during an emergency condition.

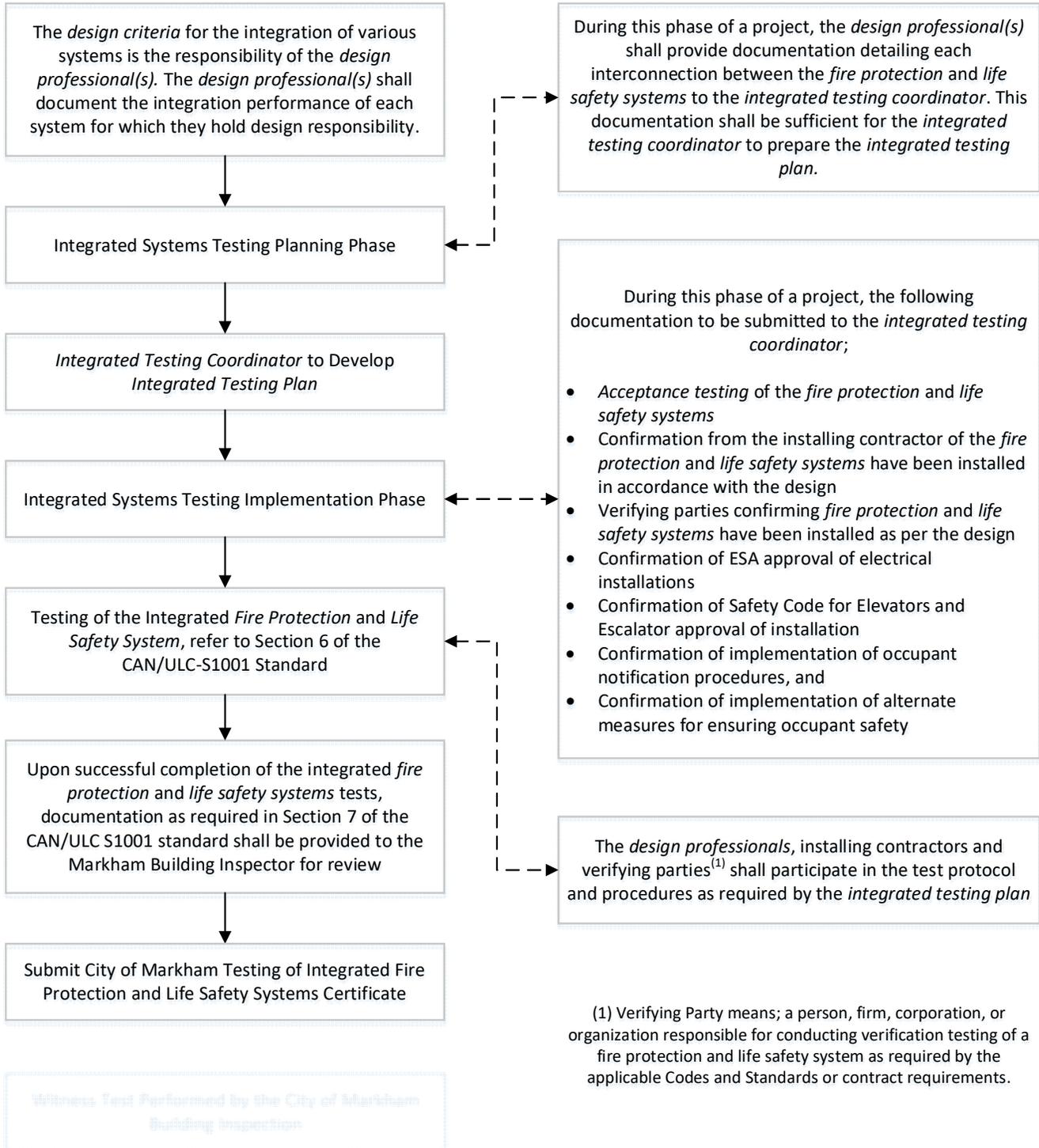
Owner – Any person, firm, corporation or organization controlling the property under consideration.

CAN/ULC-S1001-11 Reference

Section 4.2.1. states; the integrated testing coordinator shall be knowledgeable and experienced in the design, installation, and operation of fire protection and life safety functions of building systems.



Integrated Systems Testing Process
 (testing of new installations or retro-integrated systems or integrated systems testing for modifications)





TESTING OF INTEGRATED FIRE PROTECTION AND LIFE SAFETY SYSTEMS CERTIFICATE

as authorized by the Building Code Act S.O. 1992 c.23, as amended, s. 18(1)

Building Permit # _____ Municipal Address of Project: _____

The building owner shall have this form completed by the appropriate professional(s) or the Integrated Testing Coordinator and submit the form to the Building Inspector prior to any witness tests being conducted by the City of Markham, Building Standards Department. Refer to Markham Builder Tip 100 - 2020 for additional information and requirements.

Scope of the type of integration: New Integrated Systems or Retro-Integrated Systems

Copy of the Integrated Testing Report Attached: Yes or No

Interconnection between the following integrated systems were subject to the test:

Systems Integrated	Yes	No	N/A
Fire Alarm System (including sequence of operation)			
Mass Notification System			
Elevators			
Emergency Elevators			
Audio/Visual and/or Lighting Control Systems			
Notification Systems			
Sprinkler Systems			
Standpipe Systems			
Fire Pumps			
Water Supplies			
Water Supply Control Valves			
Freeze Protection Systems			
Fixed Fire Suppression Systems			
Cooking Equipment Fire Suppression Systems			
Electromagnetic Locking Devices			
Smoke Control Pressurization Systems			
Smoke Control Smoke Exhaust Systems			
Hazardous Protection Monitoring			
Smoke Alarms			
Dust Collection Systems			
Spark Arrest Systems			
Other:			
Other;			

If the answer is 'NO' to any of the above, please provide an explanation. N/A means the system is not within the building.

The undersigned hereby confirms the above systems function according to the intent of their design and that the fire protection and life safety functions of these systems have been tested as a whole in accordance with CAN/ULC-S1001 to verify the systems are properly integrated as per Article 3.2.9.1.(1) of the Building Code.

Name of Professional Engineering Company
Performing the Integration Testing

Signature of P.Eng.

Print Signatory's Name

Send to: The City of Markham, Building Standards Department, 101 Town Centre Blvd., Markham, Ontario L3R 9W3 or email to the Building Inspector

City of Markham, Anthony Roman Centre,
101 Town Centre Blvd., Markham, ON L3R 9W3
905.475.4858 | markham.ca/building

