



BUILDINGS

PROFESSIONAL RESPONSIBILITIES
FOR THE DESIGN AND INSTALLATION
OF ELEVATING DEVICES
IN NEW BUILDINGS

VERSION 2.0
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ENGINEERS &
GEOSCIENTISTS
BRITISH COLUMBIA

ENDORSED BY:



**ARCHITECTURAL
INSTITUTE OF
BRITISH COLUMBIA**

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PREFACE

These *Professional Practice Guidelines – Professional Responsibilities for the Design and Installation of Elevating Devices in New Buildings* were developed by Engineers and Geoscientists British Columbia (the Association) to guide professional practice related to the design, construction, installation, and commissioning of Elevating Devices in new buildings.

These guidelines were first published in 2016 to address uncertainty in the industry regarding which professionals should be taking responsibility for various aspects of an Elevating Device in a new building.

This current revision of these guidelines clarifies the responsibilities listed in the Elevator Professional Responsibility Matrix ([Appendix A, Table A - 1](#)), includes an assurance statement related to mechanical systems of new Elevating Devices ([Appendix B](#)) to satisfy the requirements of Technical Safety BC for professional assurance, and provides reference to quality management requirements.

These guidelines outline the appropriate standard of practice to be followed at the time they were prepared. However, this is a living document that is to be revised and updated as required in the future, to reflect the developing state of practice.

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ABBREVIATIONS

ABBREVIATION	TERM
AIBC	Architectural Institute of British Columbia
BC	British Columbia
<i>BCBC</i>	<i>British Columbia Building Code</i>
VBBL	Vancouver Building By-law

DEFINED TERMS

The following definitions are specific to these guidelines. These words and terms are capitalized throughout the document.

TERM	DEFINITION
Act	<i>Engineers and Geoscientists Act</i> [RSBC 1996], Chapter 116.
Architect	An individual who is registered as an architect by the Architectural Institute of British Columbia under the <i>Architects Act</i> [RSBC 1996], Chapter 17, and entitled to practice the profession of architecture in British Columbia. As the Registered Professional of Record, the Architect takes overall responsibility for all items—including Item 1.11 Elevating Devices—under the architectural discipline on Schedule B of the Letters of Assurance in Division C, Part 2, of the <i>British Columbia Building Code (BCBC)</i> and the Vancouver Building By-law (VBBL).
Association	The Association of Professional Engineers and Geoscientists of the Province of British Columbia, also operating as Engineers and Geoscientists BC.
Authority Having Jurisdiction	The jurisdictional body (usually municipal) with authority to administer and enforce the <i>BCBC</i> , the VBBL, or a local building bylaw or code.
Bylaws	The Bylaws of the Association made under the <i>Act</i> .
Coordinating Registered Professional	A Registered Professional retained under Clause 2.2.7.2.(1)(a) of Division C of the <i>BCBC</i> or VBBL to coordinate all design and field reviews of the Registered Professionals who are required for a project.
Electrical Engineer	The Engineering Professional with general responsibility for the integrity of the electrical systems in an elevator. The Electrical Engineer may also be, but is not necessarily, the Registered Professional of Record for all items under the electrical discipline on Schedule B of the Letters of Assurance in Division C, Part 2, of the <i>BCBC</i> and the VBBL.
Elevating Device	A hoisting and lowering mechanism, equipped with a car guided by rails, that moves between two or more landings for the carrying of passengers and freight.
Elevating Device Consulting Engineer	The Engineering Professional who provides specialized consulting services on issues related to the installation of Elevating Devices. An Elevating Device Consulting Engineer may not be present on a given project. An Elevating Device Consulting Engineer, where necessary for a given building project, is typically retained by the owner of the building project.

TERM	DEFINITION
Elevating Device Contractor Engineer	The Engineering Professional who takes responsibility for the design of the Elevating Device equipment being installed in accordance to the requirement of ASME A17.1/CSA B44 Safety Code for Elevators and Escalators. The Elevating Device Contractor Engineer is usually employed or retained by the contractor who supplies the Elevating Device.
Engineering Professional(s)	Professional engineers and licensees who are registered or licensed by the Association and entitled under the <i>Act</i> to engage in the practice of professional engineering in British Columbia.
Engineers and Geoscientists BC	The business name for the Association.
Fire Protection Engineer	The Engineering Professional with general responsibility for the integrity of the fire suppression systems associated with an elevator. The Fire Protection Engineer may also be, but is not necessarily, the Registered Professional of Record for all items under the fire suppression systems discipline on Schedule B of the Letters of Assurance in Division C, Part 2, of the <i>BCBC</i> and of the <i>VBBL</i> .
Letters of Assurance	Uniform, mandatory documents included in the <i>BCBC</i> and the <i>VBBL</i> that are intended to clearly identify the responsibilities of key individuals in a building project.
Mechanical Engineer	The Engineering Professional with general responsibility for the integrity of the mechanical systems in an elevator. The Mechanical Engineer may also be, but is not necessarily, the Registered Professional of Record for all items under the mechanical discipline on Schedule B of the Letters of Assurance in Division C, Part 2, of the <i>BCBC</i> and the <i>VBBL</i> .
Registered Professional	Defined in the <i>BCBC</i> as: “a) a person who is registered or licensed to practice as an architect under the <i>Architects Act</i> , or b) a person who is registered or licensed to practice as a professional engineer under the <i>Engineers and Geoscientists Act</i> .” For the purposes of the <i>Engineers and Geoscientists Act</i> , this can include professional engineers and licensees having the appropriate scope of practice, all of whom must be qualified by training or experience to provide designs for building projects.
Registered Professional of Record	Defined in the <i>BCBC</i> as a Registered Professional retained to undertake design work and field reviews in accordance with Subsection 2.2.7. of Division C.
Structural Engineer	The Engineering Professional responsible for the structural design of the elevator components, its connections, and its installation. For some or all components, the Structural Engineer may also be, but is not necessarily, the Registered Professional of Record for all items under the structural discipline on Schedule B of the Letters of Assurance in Division C, Part 2, of the <i>BCBC</i> and of the <i>VBBL</i> .

TERM	DEFINITION
<p>Supporting Registered Professional</p>	<p>The Registered Professional providing supplementary design and/or Field Review services to the Registered Professional of Record for a particular component or sub-component of a discipline.</p> <p>It is recommended that the Registered Professional of Record obtain and retain in the project file any Schedules S-B and S-C from the Supporting Registered Professional, in the form as provided in the <i>Joint Professional Practice Guidelines – Professional Design and Field Review By Supporting Registered Professionals</i> (AIBC and Engineers and Geoscientists BC 2020).</p>
<p>Technical Safety BC</p>	<p>An independent, self-funded public body in British Columbia which is mandated, under the <i>Safety Standards Act</i> [SBC 2003], Chapter 38, to oversee the safe installation and operation of technical systems and equipment, including elevators and escalators. In addition to issuing permits, licences, and certificates, Technical Safety BC works with industry to reduce safety risks through assessment, education and outreach, enforcement, and research.</p>

VERSION HISTORY

VERSION NUMBER	PUBLISHED DATE	DESCRIPTION OF CHANGES
2.0	September 3, 2020	Revised to clarify the responsibilities listed in Table A - 1: Elevator Professional Responsibility Matrix for New Construction , add an assurance statement for professional assurance related to mechanical systems in an Elevating Device, and provide reference to quality management requirements.
1.0	April 1, 2016	Initial version.

1.0 INTRODUCTION

Engineers and Geoscientists British Columbia (the Association) is the regulatory and licensing body for the engineering and geoscience professions in British Columbia (BC). To protect the public, the Association establishes, maintains, and enforces standards for the qualifications and practice of its registrants.

The Association provides various practice resources to its registrants to assist them in understanding their professional and ethical obligations under the *Engineers and Geoscientists Act*. One of those resources are professional practice guidelines, which establish the standard of practice for specific professional activities. The Association works with experts in their fields to develop professional practice guidelines where additional guidance is beneficial or required.

These *Professional Practice Guidelines – Professional Responsibilities for the Design and Installation of Elevating Devices in New Buildings* provide guidance on professional practice for Engineering Professionals involved in the design, construction, installation, and commissioning of Elevating Devices for new buildings.

Historically, some Engineering Professionals have placed a high degree of reliance on the Technical Safety BC inspectors who sign off on Elevating Devices at the conclusion of a building project, assuming or expecting that the inspectors are also conducting Field Reviews of the Engineering Professional’s work, when in fact the role of Technical Safety BC inspectors is to perform tests related to only the safety and performance of Elevating Devices. Engineering Professionals are required to design in accordance with all applicable codes and regulations, and to provide assurance that the installation of an Elevating Device is substantially compliant with those codes and regulations.

Under the *Safety Standards Act*, Technical Safety BC has the regulatory responsibility for Elevating Devices. However, the *British Columbia Building Code (BCBC)* and the Vancouver Building By-law (VBBL) contain various provisions pertaining to Elevating Devices, and those provisions must be considered to confirm that the final installation of an Elevating Device in a new building is in substantial compliance with the *BCBC* and/or other applicable enactments respecting safety.

Over the years, changes to the ASME A17.1/CSA B44 Safety Code for Elevators and Escalators with respect to how Elevating Devices respond to building fire alarm signals, and changes in Elevating Device technology—in particular the advent of the machine room-less Elevating Device—have made the final acceptance of Elevating Devices more complicated.

These guidelines were first published in 2016. This revision clarifies the responsibilities listed in the Elevator Professional Responsibility Matrix ([Appendix A, Table A - 1](#)), adds an assurance statement to satisfy the requirements of Technical Safety BC for professional assurance related to mechanical systems in an Elevating Device, and provides reference to quality management requirements.

1.1 PURPOSE OF THESE GUIDELINES

This document provides guidance to Engineering Professionals on the responsibilities of the various professionals involved in the design, construction, installation, and commissioning of Elevating Devices in new buildings.

In addition, guidance has been provided on how to meet the quality management requirements under the *Act* and Bylaws when carrying out the professional activities identified in these professional practice guidelines. (See [Section 3.0 Quality Management in Professional Practice](#).)

1.2 ROLE OF ENGINEERS AND GEOSCIENTISTS BC

These guidelines were prepared by a working group of subject matter experts from Engineers and Geoscientists BC and reviewed by various stakeholders, including Technical Safety BC and the Architectural Institute of BC (AIBC). The final draft of these guidelines underwent a final consultation process with various committees and divisions of the Association. These guidelines, as revised, were approved by the Association's Council and, prior to publication, underwent final legal and editorial reviews.

These guidelines form part of Engineers and Geoscientists BC's ongoing commitment to maintaining the quality of professional services that Engineering Professionals provide to their clients and the public.

An Engineering Professional must exercise professional judgment when providing professional services; as such, application of these guidelines will vary depending on the circumstances, such as in the event that there are changes in legislation, regulations, or the building code subsequent to the publication of these guidelines.

The Association supports the principle that appropriate financial, professional, and technical resources should

be provided (i.e., by the client and/or the employer) to support Engineering Professionals who are responsible for carrying out professional activities, so they can comply with the standard of practice provided in these guidelines. These guidelines may be used to assist in the level of service and terms of reference of an agreement between an Engineering Professional and a client.

These guidelines are intended to assist Engineering Professionals in fulfilling their professional obligations, especially regarding the first principle of the Association's Code of Ethics, which is to "hold paramount the safety, health and welfare of the public, protection of the environment and promote health and safety in the workplace." Failure to meet the intent of these guidelines could be evidence of unprofessional conduct and lead to disciplinary proceedings by the Association.

1.3 INTRODUCTION OF TERMS

See the [Defined Terms](#) section at the front of the document for a full list of definitions specific to these guidelines.

1.4 SCOPE OF THESE GUIDELINES

These guidelines are intended to apply solely to the construction of new buildings, and do not cover projects involving:

- retrofits or renovations of existing buildings;
- retrofits or renovation of existing Elevating Devices;
- the removal of Elevating Devices from existing buildings; or
- Elevating Devices not constructed or installed in a building.

Also, these guidelines do not provide interpretation of the *BCBC*, the *VBBL*, the *ASME A17.1-2016/CSA B44-16 Safety Code for Elevators and Escalators* (referred to from here on as "*CSA B44-16*"), or the *Canadian*

Electrical Code. These guidelines do discuss these codes and some commonly encountered issues related to integrating Elevating Device systems into the systems of new buildings.

These guidelines provide guidance to Engineering Professionals who assist Architects with the design and installation of Elevating Devices on new construction projects. They are not intended as guidance to Architects.

1.5 APPLICABILITY OF THESE GUIDELINES

These guidelines provide guidance on the responsibilities of the various professionals and stakeholders who carry out the design, construction, installation, and commissioning of Elevating Devices in new buildings.

An Engineering Professional's decision not to follow one or more aspects of these guidelines does not necessarily mean a failure to meet his or her professional obligations. The making of such a determination will depend upon weighing facts and circumstances to determine whether other reasonable and prudent Engineering Professionals, in similar situations, could have conducted themselves similarly.

1.6 ACKNOWLEDGEMENTS

This document was reviewed by a group of technical experts, as well as by various committees and divisions of the Association. Authorship and review of these guidelines does not necessarily indicate the individuals and/or their employers endorse all aspects of these guidelines.

The Association thanks the authors and reviewers of the original document, as well as the authors and reviewers of this revision, for their time and effort in sharing their knowledge and experience.

The AIBC and Technical Safety BC reviewed these guidelines and provided their endorsement.

2.0 ROLES AND RESPONSIBILITIES

2.1 COMMON FORMS OF PROJECT ORGANIZATION

The design and construction of new buildings generally involves a wide range of professionals.

Schedule B of the Letters of Assurance from Division C, Part 2 of the *BCBC* and *VBBL*, Item 1.11 Elevating Devices assigns professional responsibility for Elevating Devices to the individual who signs off for the architectural discipline—namely, the Architect for a new building construction project.

Since Elevating Devices are complex systems, they also require consideration and input from professionals with expertise in other disciplines, the need for which should be appropriately identified and coordinated.

2.2 RESPONSIBILITIES

These guidelines summarize the responsibilities of professionals who are involved in work related to the integration of Elevating Devices with new buildings.

To organize the responsibilities for the various matters related to these projects, a matrix cross-referencing disciplines or areas of responsibilities with the appropriate types of Registered Professionals has been provided in [Table A - 1: Elevator Professional Responsibility Matrix for New Construction](#) (located in [Appendix A](#) and referred to as simply “Table A-1” from here on).

In addition, [Section 3.1 Quality Management Requirements](#) provides guidance on the quality management responsibilities of Engineering Professionals.

2.2.1 ORGANIZATION OF THE RESPONSIBILITY MATRIX

The matrix in [Table A - 1](#) cross-references the disciplines or areas of responsibility to the appropriate types of Registered Professionals, to clarify which professionals should be taking responsibility for the various aspects of an Elevating Device in a new building.

The following disciplines or areas of responsibilities are involved in the design of Elevating Devices for new buildings; these categories are listed in the rows of [Table A - 1](#):

- Architectural
- Structural engineering
- Seismic engineering
- Mechanical engineering
- Electrical engineering
- Fire protection/suppression engineering
- General Elevating Device engineering

The following Registered Professionals, as well as Technical Safety BC, are involved in the design, construction, installation, and commissioning of a typical Elevating Device; these categories appear in the columns of [Table A - 1](#):

- Architect
- Elevating Device Contractor Engineer
- Elevating Device Consulting Engineer
- Structural Engineer
- Mechanical Engineer
- Electrical Engineer
- Fire Protection Engineer
- Coordinating Registered Professional

See the [Defined Terms](#) section at the front of this document for definitions and descriptions of the roles and responsibilities of each of these professionals.

The rows under each discipline in [Table A - 1](#) identify the code references and descriptions that apply to Elevating Devices, and checkmarks in the matrix indicate which Registered Professionals are involved in each activity. [Table A - 1](#) also lists the requirements of the *BCBC*, the *VBBL*, the *ASME A17.1-2016/CSA B44-16 Safety Code for Elevators and Escalators*, and the *Elevating Devices Safety Regulation of the Safety Standards Act*. Specific clauses or requirements of any referenced standards (for example, *CAN/CSA-B355 Lifts for Persons with Physical Disabilities*) in these documents are not generally included.

2.2.2 AUTHORITY HAVING JURISDICTION

The local Authority Having Jurisdiction is responsible for ensuring regulatory compliance with relevant parts of the applicable building code (*BCBC* or *VBBL*).

The Authority Having Jurisdiction must be assured that the design and installation of an Elevating Device substantially complies, in all material respects, with the applicable requirements of the *BCBC* or *VBBL* and other applicable enactments regarding safety, and with the plans and other documents supporting an application for a building permit. Professional assurances are to be provided in accordance with Division C, Part 2, Subsection 2.2.7. of the *BCBC* or *VBBL*.

2.2.3 ARCHITECT

Since Item 1.11 Elevating Devices of Schedule B of the Letters of Assurance in Division C, Part 2 of the *BCBC* or *VBBL* belongs to the architectural discipline, it is expected that the Architect will act as the Registered Professional of Record who will provide the required assurances to the Authority Having Jurisdiction by way of Letters of Assurance. In fulfilling the role of Registered Professional of Record for this item, the Architect is responsible for determining the extent and type of supporting services required from Supporting Registered Professionals.

2.2.4 REGISTERED PROFESSIONALS

[Table A - 1](#) identifies Registered Professionals who may provide supporting services for the various items listed. Where appropriate, Registered Professionals acting as Supporting Registered Professionals may be requested and should be prepared to provide supporting Schedules S-B and S-C in accordance with the *Joint Professional Practice Guidelines – Professional Design and Field Review By Supporting Registered Professionals* (AIBC and Engineers and Geoscientists BC 2020).

In addition to the technical professional responsibilities listed in [Table A - 1](#), Engineering Professionals providing services related to Elevating Devices in new buildings have a professional responsibility to uphold the principles outlined in the Association’s Code of Ethics, including protection of public safety and the environment.

As such, Engineering Professionals must use a risk-based approach to decision making when providing professional services, and one of the risk factors that must be considered is climate change implications. The Engineering Professional has a responsibility to notify the client of future climate-related risks, reasonable adaptations to lessen the impact of those risks, and the potential impacts should the client refuse to implement the recommended adaptations. The Engineering Professional has a responsibility to be aware of and meet the intent of any climate change requirements imposed by the client or the Authority Having Jurisdiction.

Furthermore, among other future climate-related risks, the Engineering Professional must consider resiliency related to flood hazards and the flood construction level. Considerations may include locating the elevator control space/machine room above the flood construction level, providing moisture sensors and alarms in flood risk levels, and specifying alternate automatic recall levels in case moisture is detected.

2.2.5 ELEVATING DEVICE ASSURANCE STATEMENT

Technical Safety BC requires that an Engineering Professional sign and seal a letter to verify that the relevant mechanical systems of an Elevating Device meet certain building code requirements. This is outlined in the “BC P. Engineers Documentation” section of the Technical Safety BC document titled “General Contractors Passenger and Freight Elevator Pre-Inspection Checklist Form 1222” (Technical Safety BC 2020).

Appendix B of these guidelines contains the Elevating Device Assurance Statement that, when completed and submitted by the responsible Engineering Professional, fulfills this requirement.

The purpose of the assurance statement is to confirm that the elevator pit drainage and machine room/space ventilation for a particular project has been designed in accordance with the requirements of Technical Safety BC, the *Elevating Devices Safety Regulation* of the *Safety Standards Act*, the *BC Plumbing Code*, and CSA B44-16. By means of completing the assurance statement, the Engineering Professional also confirms that the installations have been reviewed on site for substantial conformance to the design.

Note that some Elevating Devices may be designed for and installed in areas where the *National Building Code of Canada* is the applicable code (for example, on federal lands within the province of British Columbia) and where Letters of Assurance are not required. However, Elevating Devices in these areas still require the same level of professional design and oversight as those in areas where the *BCBC* or the *VBBL* apply.

3.0 QUALITY MANAGEMENT IN PROFESSIONAL PRACTICE

3.1 QUALITY MANAGEMENT REQUIREMENTS

Engineering Professionals must adhere to the applicable quality management requirements during all phases of the work, in accordance with the Association's Bylaws. It is also important to be aware of whether additional quality management requirements exist from Authorities Having Jurisdiction or through service contracts.

To meet the intent of the quality management requirements, Engineering Professionals must establish and maintain documented quality management processes for the following activities:

- The application of relevant professional practice guidelines
- Authentication of professional documents by the application of the professional seal
- Direct supervision of delegated professional engineering activities
- Retention of complete project documentation
- Regular, documented checks using a written quality control process
- Documented field reviews of engineering designs/recommendations during implementation or construction
- Where applicable, documented independent review of structural designs prior to construction

3.1.1 PROFESSIONAL PRACTICE GUIDELINES

In accordance with the *Act*, s.4(1) and Bylaw 11(e)(4)(h), Engineering Professionals are required to comply with the intent of any applicable professional practice guidelines related to the engineering work they undertake. One of the three objectives of the Association, as stated in the *Act* is “to establish, maintain, and enforce standards for the qualifications and practice of its members and licensees”. Practice guidelines are one means by which the Association fulfills this obligation.

These professional practice guidelines summarize the responsibilities of professionals who are involved in work related to the integration of Elevating Devices with new buildings. Engineering Professionals who carry out these activities are required to meet the intent of these guidelines.

3.1.2 USE OF SEAL

In accordance with the *Act*, s.20(9), Engineering Professionals are required to seal all professional engineering documents they prepare or deliver in their professional capacity to others who will rely on the information contained in the documents. This applies to documents that Engineering Professionals have personally prepared and those that others have prepared under their direct supervision.

Failure to seal these engineering documents is a breach of the *Act*.

For more information, refer to *Quality Management Guidelines – Use of Seal* (Engineers and Geoscientists BC 2017).

3.1.3 DIRECT SUPERVISION

In accordance with the *Act*, s.1(1) and 20(9), Engineering Professionals are required to directly supervise any engineering work they delegate. When working under the direct supervision of an Engineering Professional, unlicensed persons or non-members may assist in performing engineering work, but they may not assume responsibility for it. Engineering Professionals who are limited licensees may only directly supervise work within the scope of their license.

With regard to direct supervision, the Engineering Professional having overall responsibility should consider:

- the complexity of the project and the nature of the risks;
- which aspects of the work should be delegated;
- the training and experience of individuals to whom work is delegated; and
- the amount of instruction, supervision, and review required.

Careful consideration must be given to delegating field reviews. Due to the complex nature of field reviews, Engineering Professionals with overall responsibility should exercise judgment when relying on delegated field observations, and should conduct a sufficient level of review to have confidence in the quality and accuracy of the field observations. (See [Section 3.1.6 Documented Field Reviews During Implementation or Construction.](#))

For more information, refer to *Quality Management Guidelines – Direct Supervision* (Engineers and Geoscientists BC 2018a).

3.1.4 RETENTION OF PROJECT DOCUMENTATION

In accordance with Bylaw 14(b)(1), Engineering Professionals are required to establish and maintain documented quality management processes that include retaining complete project documentation for a minimum of ten (10) years after the completion of a project or ten (10) years after engineering documentation is no longer in use.

These obligations apply to Engineering Professionals in all sectors. Project documentation in this context includes documentation related to any ongoing engineering work, which may not have a discrete start and end, and may occur in any sector.

Many Engineering Professionals are employed by organizations, which ultimately own the project documentation. Engineering Professionals are considered compliant with this quality management requirement when a complete set of project documentation is retained by the organizations that employ them using means and methods that are consistent with the Association’s Bylaws and guidelines.

For more information, refer to *Quality Management Guidelines – Retention of Project Documentation* (Engineers and Geoscientists BC 2018b).

3.1.5 DOCUMENTED CHECKS OF ENGINEERING AND GEOSCIENCE WORK

In accordance with Bylaw 14(b)(2), Engineering Professionals are required to perform a documented quality checking process of engineering work, appropriate to the risk associated with that work.

Regardless of sector, Engineering Professionals must meet this quality management requirement. In this context, ‘checking’ means all professional deliverables must undergo a documented quality checking process before being finalized and delivered. This process would normally involve an internal check by another Engineering Professional within the same organization. Where an appropriate internal checker is not available, an external checker (i.e., one outside the organization) must be engaged. Where an internal or external check has been carried out, this must be documented.

Engineering Professionals are responsible for ensuring that the checks being performed are appropriate to the level of risk. Considerations for the level of checking should include the type of document and the complexity of the subject matter and underlying conditions; quality and reliability of background

information, field data, and elements at risk; and the Engineering Professional's training and experience.

For more information, refer to *Quality Management Guidelines – Documented Checks of Engineering and Geoscience Work* (Engineers and Geoscientists BC 2018c).

3.1.6 DOCUMENTED FIELD REVIEWS DURING IMPLEMENTATION OR CONSTRUCTION

In accordance with Bylaw 14(b)(3), field reviews are reviews conducted at the site of the construction or implementation of the engineering work. They are carried out by an Engineering Professional or a subordinate acting under the Engineering Professional's direct supervision (see [Section 3.1.3 Direct Supervision](#)).

Field reviews enable the Engineering Professional to ascertain whether the construction or implementation of the work substantially complies in all material respects with the engineering concepts or intent reflected in the engineering documents prepared for the work.

For more information, refer to *Quality Management Guidelines – Documented Field Reviews during Implementation or Construction* (Engineers and Geoscientists BC 2018d).

3.1.7 DOCUMENTED INDEPENDENT REVIEW OF STRUCTURAL DESIGNS

Bylaw 14(b)(4) refers to an independent review in the context of structural engineering. An independent review is a documented evaluation of the structural design concept, details, and documentation based on a qualitative examination of the substantially complete structural design documents, which occurs before those documents are issued for construction. It is carried out by an experienced Engineering Professional qualified to practice structural engineering, who has not been involved in preparing the design.

For more information, refer to *Quality Management Guidelines – Documented Independent Review of Structural Designs* (Engineers and Geoscientists BC 2018e).

4.0 REFERENCES AND RELATED DOCUMENTS

Documents referenced in these guidelines and the appendices appear in Section 4.1: Acts, Regulations, and Codes and Section 4.2 References.

4.1 ACTS, REGULATIONS, AND CODES

Architects Act [RSBC 1996], Chapter 17.

Engineers and Geoscientists Act [RSBC 1996], Chapter 116.

Safety Standards Act [SBC 2003], Chapter 39.

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4.2 REFERENCES

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5.0 APPENDICES

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APPENDIX A: ELEVATOR PROFESSIONAL RESPONSIBILITY MATRIX FOR NEW CONSTRUCTION

These guidelines describe the responsibilities of professionals who are involved in work related to the integration of Elevating Devices with new buildings.

To organize the responsibilities for the various matters related to these projects, a matrix has been provided in this appendix as [Table A - 1: Elevator Professional Responsibility Matrix for New Construction](#).

This matrix cross-references the disciplines or areas of responsibility to the appropriate types of Registered Professionals, to clarify which professionals should be taking responsibility for various aspects of an Elevating Device in a new building.

The rows under each discipline in [Table A - 1](#) identify the code references and descriptions that apply to Elevating Devices, and checkmarks in the matrix indicate which Registered Professionals are involved in each activity.

The table also lists the requirements of the *BCBC*, the VBBL, the ASME A17.1-2016/CSA B44-16 Safety Code for Elevators and Escalators, and the *Elevating Devices Safety Regulation* of the *Safety Standards Act*.

For more information, see [Section 2.0 Roles and Responsibilities](#) of these guidelines.

Table A - 1: Elevator Professional Responsibility Matrix for New Construction

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b							REMARKS
		ARCHITECT	ELEVATING DEVICE CONTRACTOR ENGINEER	ELEVATING DEVICE CONSULTING ENGINEER	STRUCTURAL ENGINEER	MECHANICAL ENGINEER	ELECTRICAL ENGINEER	FIRE PROTECTION ENGINEER	
ARCHITECTURAL									
1	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Table 3.1.13.7. • <i>CSA B44-16</i>, section 2.14.2.1.1(a) – Maximum flame-spread ratings for elevator cars 	✓	✓						<ul style="list-style-type: none"> • 75 for walls and ceilings, 300 for floors. • Input is required from the Elevating Device Contractor Engineer.
2	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Table 3.1.13.7. • <i>CSA B44-16</i>, section 2.14.2.1.1(b) – Maximum smoke developed classification for elevator cars 	✓	✓						<ul style="list-style-type: none"> • 450 for walls, ceilings, and floors. • Input is required from the Elevating Device Contractor Engineer.
3	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Clause 3.2.2.3.(1)(d) – Fire protection for steel members 	✓							<ul style="list-style-type: none"> • Fire protection is not required for steel members for framework around the elevator hoistway doorways, steel members for the support of the elevator and dumbwaiter guides, counterweights, and other similar equipment.
4	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Clause 3.2.6.5.(3)(b) – Firefighters' elevator – vestibule 	✓							
5	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Clause 3.2.6.5.(3)(c) – Firefighters' elevator – corridor 	✓							

Table A - 1: Elevator Professional Responsibility Matrix for New Construction (continued)

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b								REMARKS
		ARCH	EDGE	EDE	SE	ME	EE	FPE	CRP	
ARCHITECTURAL (continued)										
6	<ul style="list-style-type: none"> • <i>BCBC</i>/<i>VBBL</i>, Division B, Sentences 3.2.6.5.(1) and (2) • CSA B44-16, section 2.27.3 – Firefighters’ elevator – basic requirements 	✓	✓	✓			✓			<ul style="list-style-type: none"> • Provides minimum size and mandatory requirements for firefighters’ elevator. • CSA B44-16, section 2.27.3 requires all elevators to be equipped with firefighters’ provisions.
7	<ul style="list-style-type: none"> • <i>BCBC</i>/<i>VBBL</i>, Division B, Sentence 3.2.8.4.(3) – Elevator hoistway opening into an interconnected floor space 	✓				✓				<ul style="list-style-type: none"> • An exit opening into an interconnected floor space shall be protected at each opening into the interconnected floor space by a vestibule.
8	<ul style="list-style-type: none"> • <i>BCBC</i>/<i>VBBL</i>, Division B, Sentence 3.3.5.4.(1) – Vestibule required between elevator and storage garage 	✓								
9	<ul style="list-style-type: none"> • <i>BCBC</i>/<i>VBBL</i>, Division B, Subclause 3.4.4.2.(2)(e)(iv) • CSA B44-16, section 2.27.3.1.6(a) – Passenger elevators opening into exit lobbies 	✓								<ul style="list-style-type: none"> • Under emergency recall situations, CSA B44-16, section 2.27.3.1.6(a) requires that a car travelling toward the designated level shall continue non-stop to the designated level, and power-operated doors shall open and remain open.
10	<ul style="list-style-type: none"> • <i>BCBC</i>/<i>VBBL</i>, Division B, Sentence 3.5.2.1.(1) – Requires vertical transportation to comply with the <i>Elevating Devices Safety Regulation</i> 	✓								<ul style="list-style-type: none"> • The <i>Elevating Devices Safety Regulation</i> mandates compliance with CSA B44-16.
11	<ul style="list-style-type: none"> • <i>BCBC</i>/<i>VBBL</i>, Division B, Sentence 3.5.2.1.(3) • CSA B651 – Requirements of CSA B44-16, Appendix E (accessible design) 	✓		✓						<ul style="list-style-type: none"> • While Appendix E to CSA B44-16 is titled as “non-mandatory,” barrier-free access is required and enforced under the <i>BCBC</i>/<i>VBBL</i>.
12	<ul style="list-style-type: none"> • <i>BCBC</i>/<i>VBBL</i>, Division B, Article 3.5.3.1. and Table 3.5.3.1. • CSA B44-16, section 2.27.3.1.6(a) – Fire separations for elevator hoistways (vertical service space separation between storeys) 	✓								<ul style="list-style-type: none"> • Under emergency recall situations activated by manual key-operated switches, CSA B44-16, section 2.27.3.1.6(a) requires that a car travelling towards the designated level shall continue non-stop to the designated level and power-operated doors shall open and remain open.

Table A - 1: Elevator Professional Responsibility Matrix for New Construction (continued)

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b								REMARKS	
		ARCH	EDCE	EDE	SE	ME	EE	FPE	CRP		
ARCHITECTURAL (continued)											
13	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Article 3.5.3.3. • <i>CSA B44-16</i>, section 2.1.1.1 <ul style="list-style-type: none"> – Fire separations for elevator machine rooms 	✓									<ul style="list-style-type: none"> • The machine/control room must conform with the applicable codes. • Note that there is a discrepancy^c between the <i>BCBC/VBBL</i> and the <i>CSA B44-16</i> requirements for machine room-less elevators with a hall jamb mounted controller.
14	<ul style="list-style-type: none"> • <i>CSA B44-16</i>, sections 2.7.1.1 and 2.7.1.2 <ul style="list-style-type: none"> – Fire separation between machinery spaces, machine rooms, control spaces, and control rooms and building 	✓									
15	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Article 3.5.4.1. <ul style="list-style-type: none"> – If one or more elevators are provided, each storey with access to an elevator shall be served by at least one elevator, which must accommodate a 2010 x 610 mm stretcher in the prone position and be clearly identified 	✓	✓	✓							<ul style="list-style-type: none"> • This requirement is waived for a limited-use or limited-application elevator designed and installed in accordance with the <i>Elevating Devices Safety Regulation</i>.
16	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Article 3.8.3.7. <ul style="list-style-type: none"> – Connection of floor levels at different elevations of a ramp, lift, or elevator 	✓									<ul style="list-style-type: none"> • If an elevator is used, it must conform to Appendix E of <i>CSA B44-16</i>.
17	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Articles 5.6.1.1. and 5.7.1.2. <ul style="list-style-type: none"> – Elevator entrance exposed to the outside 	✓								✓	<ul style="list-style-type: none"> • Protection from precipitation from the outside. • Protection from surface water from the outside.
18	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Article 5.8.1.1. <ul style="list-style-type: none"> – Protection from noise in residential buildings 	✓									
19	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Section 3.6. • <i>CSA B44-16</i>, section 2.7.3 <ul style="list-style-type: none"> – Access to machine rooms and control spaces 	✓			✓						<ul style="list-style-type: none"> • General requirements are found in both codes that apply to the access of the elevator machine rooms. • The requirements of WorkSafe BC also apply.

Table A - 1: Elevator Professional Responsibility Matrix for New Construction (continued)

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b								REMARKS
		ARCH	EDGE	EDE	SE	ME	EE	FPE	CRP	
ARCHITECTURAL (continued)										
20	<ul style="list-style-type: none"> CSA B44-16, section 2.14.2.3.3 – Observation elevator with glass walls exposed to direct sunlight 	✓	✓	✓		✓	✓			<ul style="list-style-type: none"> Minimum air handling requirement and auxiliary power source requirement. To be coordinated with electrical and mechanical, as required.
21	<ul style="list-style-type: none"> CSA B44-16, section 2.1.1.2.2(e) – Requirements for glass in hoistways 	✓	✓	✓		✓	✓			
22	<ul style="list-style-type: none"> CSA B44-16, section 2.11.1.2 – Emergency doors in blind hoistways 	✓	✓	✓						<ul style="list-style-type: none"> The maximum distance between entrances in a single hoistway is 11 meters.
23	<ul style="list-style-type: none"> TSBC Directive No. D-L4 090722 2 – This directive titled “Safety Zone for Elevating Devices” has been rescinded. 	✓								<ul style="list-style-type: none"> The <i>BCBC/VBBL</i> has minimum applicable requirements that apply to accessibility and egress. Refer to Appendix E of CSA B44-16.
STRUCTURAL ENGINEERING										
24	<ul style="list-style-type: none"> <i>BCBC/VBBL</i>, Division B, Part 4 CSA B44-16, section 2.1.2.3 – Support for buffers in pit 	✓	✓		✓					<ul style="list-style-type: none"> The Elevating Device Contractor Engineer is to provide load requirements to the Structural Engineer.
25	<ul style="list-style-type: none"> <i>BCBC/VBBL</i>, Division B, Part 4 CSA B44-16, section 2.9 – Support for elevator equipment 	✓	✓		✓					<ul style="list-style-type: none"> The Elevating Device Contractor Engineer is to provide load requirements to the Structural Engineer.
26	<ul style="list-style-type: none"> <i>BCBC/VBBL</i>, Division B, Part 4 CSA B44-16, section 2.9 – Machinery and sheave beams, supports, and foundations 	✓	✓		✓					<ul style="list-style-type: none"> The Elevating Device Contractor Engineer is to provide load requirements to the Structural Engineer.
27	<ul style="list-style-type: none"> <i>BCBC/VBBL</i>, Division B, Part 4 CSA B44-16, section 2.11.11.9 – Support for elevator entrance assemblies 	✓	✓		✓					<ul style="list-style-type: none"> The Elevating Device Contractor Engineer is to provide load requirements to the Structural Engineer.

Table A - 1: Elevator Professional Responsibility Matrix for New Construction (continued)

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b								REMARKS
		ARCH	EDGE	EDE	SE	ME	EE	FPE	CRP	
STRUCTURAL ENGINEERING (continued)										
28	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Part 4 • CSA B44-16, section 2.23.5.2 – Support for elevator rail brackets 	✓	✓		✓					<ul style="list-style-type: none"> • The Elevating Device Contractor Engineer is to provide load requirements to the Structural Engineer.
29	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Part 4 • CSA B44-16, section 2.23.5.2 – Fastening detail for elevator rail brackets 	✓	✓		✓					
SEISMIC ENGINEERING										
30	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Part 4 • CSA B44-16, section 8.4(a)(3) – Determination of seismic requirements based on geographic location 	✓	✓		✓					<ul style="list-style-type: none"> • The submission from the Elevating Device Contractor Engineer to Technical Safety BC requires a check of seismic requirements; therefore, the Elevating Device Contractor Engineer is responsible for the determination. • The Structural Engineer must be aware of the additional load requirements.
31	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Appendix C – Climatic Data and Seismic Information • CSA B44-16, section 8.4 – Elevator equipped to meet the seismic requirements 	✓	✓		✓					<ul style="list-style-type: none"> • Where required by CSA B44-16, section 8.4.1. and the <i>BCBC/VBBL</i>. • Note that there is a discrepancy^c between the <i>BCBC/VBBL</i> and the CSA B44-16 requirements for seismic zoning.
MECHANICAL ENGINEERING										
32	<ul style="list-style-type: none"> • <i>BC Fire Code</i>, Division B, Part 4 • <i>Elevating Devices Safety Regulation</i>, section 42 • TSBC Directive No. D-L4 110303 1 – Hydraulic elevator machinery space/room ventilation 	✓				✓				<ul style="list-style-type: none"> • Hydraulic elevators must be vented directly to the outside. • Indirect venting may be permitted in the Elevating Devices Safety Regulation.

Table A - 1: Elevator Professional Responsibility Matrix for New Construction (continued)

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b								REMARKS
		ARCH	EDGE	EDE	SE	ME	EE	FPE	CRP	
MECHANICAL ENGINEERING (continued)										
33	<ul style="list-style-type: none"> TSBC Directive No. D-L4 110303 1 – Ventilation of hydraulic machine rooms for lifts for persons with physical disabilities 	✓				✓				<ul style="list-style-type: none"> The <i>Elevating Devices Safety Regulation</i>, Part 7, Section 42 states: “A hydraulic elevator machine room must be permanently vented, directly or indirectly, to the building exterior.”
34	<ul style="list-style-type: none"> TSBC Directive No. D-L2 060309 2 – Buried hydraulic systems 	✓	✓	✓		✓	✓			<ul style="list-style-type: none"> Summarizes the requirements of CSA B44-16 and specifies additional requirements with respect to buried hydraulic systems.
35	<ul style="list-style-type: none"> <i>BC Plumbing Code</i>, Division B, Article 2.4.3.6. CSA B44-16, section 2.2 – Pit drains 	✓				✓				<ul style="list-style-type: none"> Required on all elevators equipped with firefighter operation.
36	<ul style="list-style-type: none"> <i>BCBC/VBBL</i>, Division B, Part 6 CSA B44-16, section 2.7.6.3.2(d) – Machinery space/room environment as determined by elevator original equipment manufacturer 	✓				✓				<ul style="list-style-type: none"> For conventional machine rooms or the space where the machinery is located at the top of the hoistway. CSA B44-16 requires the elevator manufacturer to state the temperature and humidity operating ranges.
37	<ul style="list-style-type: none"> <i>BCBC/VBBL</i>, Division B, Part 6 CSA B44-16, section 2.7.9.2 – Control space/machinery space environment as determined by the elevator original equipment manufacturer 	✓				✓				<ul style="list-style-type: none"> Elevator control spaces are not always in the same space as the machinery.
38	<ul style="list-style-type: none"> <i>BCBC/VBBL</i>, Division B, Sentence 3.2.6.6.(4) – No venting of elevator hoistways to the outdoors by windows, wall panels, smoke shafts, or the building exhaust system 	✓	✓			✓				<ul style="list-style-type: none"> For machinery heat venting, not for smoke venting, see <i>BCBC/VBBL</i> Division B, Article 3.2.6.2.
39	<ul style="list-style-type: none"> CSA B44-16, section 2.8.3.4 – No pipes through elevator machinery room and hoistway 	✓				✓				<ul style="list-style-type: none"> Unless directly related to the elevator.

Table A - 1: Elevator Professional Responsibility Matrix for New Construction (continued)

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b								REMARKS
		ARCH	EDCE	EDE	SE	ME	EE	FPE	CRP	
MECHANICAL ENGINEERING (continued)										
40	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Article 3.2.6.2. <ul style="list-style-type: none"> – Venting via hoistway shafts is not permitted in high buildings 	✓				✓				<ul style="list-style-type: none"> • For machinery heat venting, not for smoke venting, see <i>BCBC/VBBL</i>, Division B, Article 3.2.6.2.
ELECTRICAL ENGINEERING										
41	<ul style="list-style-type: none"> • <i>Canadian Electrical Code</i> (C22.1), Section 38 <ul style="list-style-type: none"> – Elevators, dumbwaiters, material lifts, escalators, moving walks, lifts for persons with physical disabilities, and similar equipment 	✓					✓			
42	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Clause 3.2.6.7.(2)(j) • <i>CSA B44-16</i>, section 2.27.1 <ul style="list-style-type: none"> – Elevator communication – Communication with central alarm and control facility to telephones in elevator cars 	✓	✓	✓				✓	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Article 3.2.6.7.: For high buildings. • <i>CSA B44-16</i>: <ul style="list-style-type: none"> – section 2.27.1.1: Telephone required in each elevator. – section 2.27.1.1.4: Additional two-way communication required where the elevator travel is greater than 18 m (travel distance from top to bottom landing). – section 2.27.1.1.6: All elevator phones shall be monitored 24-7 and it is required that the continuity of the phone line be monitored. 	
43	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Subsection 3.2.4. • <i>CSA B44-16</i>, section 2.27.3 <ul style="list-style-type: none"> – Firefighters’ emergency operation requirements 	✓	✓	✓				✓	<ul style="list-style-type: none"> • The fire alarm design and connections must meet <i>BCBC/VBBL</i> requirements. • <i>CSA B44-16</i> requires that all new elevators be equipped with firefighters’ emergency recall operation including: <ul style="list-style-type: none"> – manual recall; – automatic recall from the fire alarm system; and – in-car operation. 	

Table A - 1: Elevator Professional Responsibility Matrix for New Construction (continued)

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b								REMARKS
		ARCH	EDCE	EDE	SE	ME	EE	FPE	CRP	
ELECTRICAL ENGINEERING (continued)										
44	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Sentences 3.2.6.4.(1) and (2) • CSA B44-16, section 2.27.3.1 <ul style="list-style-type: none"> – Phase 1: Manual firefighters' emergency operation recall 	✓	✓	✓			✓		✓	<ul style="list-style-type: none"> • Provide a three-position key switch at the designated level: On, Off, Reset. • For high buildings, provide an additional recall two-position switch at the central alarm and control facilities: On, Off.
45	<ul style="list-style-type: none"> • CSA B44-16, section 2.27.3.2.2(a) <ul style="list-style-type: none"> – Phase 1: Automatic recall, elevator lobby to designated recall level 	✓	✓	✓			✓		✓	<ul style="list-style-type: none"> • Provide firefighters' emergency operation automatic recall from each level that the elevator serves. • Detectors must be within 6.4 meters of the elevator entrances. • Detectors must be automatic.
46	<ul style="list-style-type: none"> • CSA B44-16, section 2.27.3.2.4 <ul style="list-style-type: none"> – Phase 1: Automatic recall elevator lobby to alternate recall level • <i>BCBC/VBBL</i>, Article 3.2.4.14. 	✓	✓	✓			✓		✓	<ul style="list-style-type: none"> • CSA B44-16 requires all elevators to be equipped with automatic alternate recall. • The <i>BCBC/VBBL</i> requires automatic alternate recall, regardless of whether the building is sprinklered or not. • Note that there is a discrepancy^c between the <i>BCBC/VBBL</i> and the CSA B44-16 requirements in the sections cited.
47	<ul style="list-style-type: none"> • CSA B44-16, section 2.27.3.2.2(b) <ul style="list-style-type: none"> – Phase 1: Automatic recall from machine room signal to designated recall level • <i>BCBC/VBBL</i>, Clause 3.2.4.11.(1)(g) <ul style="list-style-type: none"> – If a fire alarm system is installed, smoke detectors are required in elevator machine rooms • <i>BCBC/VBBL</i>, Sentence 3.2.4.11.(4) <ul style="list-style-type: none"> – Smoke detectors required in 3.2.4.11.(1)(g) (i.e., elevator machine rooms) will recall the elevators upon actuation 	✓	✓	✓			✓		✓	<ul style="list-style-type: none"> • Provide firefighters' emergency operation automatic recall from each detector in the elevator machine room. • The elevators must recall to the designated recall level or alternate recall level, depending on the location of the machine room.

Table A - 1: Elevator Professional Responsibility Matrix for New Construction (continued)

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b								REMARKS
		ARCH	EDGE	EDE	SE	ME	EE	FPE	CRP	
ELECTRICAL ENGINEERING (continued)										
48	<ul style="list-style-type: none"> CSA B44-16, section 2.27.3.2.2(c) <ul style="list-style-type: none"> – Phase 1: Automatic recall from hoistway room signal to designated recall level BCBC/VBBL, Clause 3.2.4.10.(2)(e) <ul style="list-style-type: none"> – If a fire alarm system is required in a non-sprinklered building, fire detectors shall be installed in elevator hoistways BCBC/VBBL, Sentence 3.2.4.10.(4) <ul style="list-style-type: none"> – Fire detector required in a non-sprinklered hoistway 	✓	✓	✓			✓		✓	<ul style="list-style-type: none"> Provide firefighters’ emergency operation automatic recall from each detector in the elevator hoistway. The elevators must recall to the designated recall level or alternate recall level depending on the location of the detector.
49	<ul style="list-style-type: none"> BCBC/VBBL, Sentence 3.2.6.4.(3) CSA B44-16, section 2.27.3.3. <ul style="list-style-type: none"> – In-car firefighters emergency operation switches 	✓	✓	✓			✓			<ul style="list-style-type: none"> For in-car emergency switches, refer to Phase 2 in-car emergency operation. Provide in-car emergency service switches in all cars, regardless of building height.
50	<ul style="list-style-type: none"> BCBC/VBBL, Division B, Article 3.2.6.5. and Sentence 3.2.7.9.(1) CSA B44-16, section 2.27.2 <ul style="list-style-type: none"> – Emergency power 	✓					✓		✓	<ul style="list-style-type: none"> Adequate amount of power. Signal to indicate that the normal power supply has failed and the emergency or standby power is in effect.
51	<ul style="list-style-type: none"> BCBC/VBBL, Article 3.2.7.10. <ul style="list-style-type: none"> – Emergency power wiring and services 	✓					✓			
52	<ul style="list-style-type: none"> BCBC/VBBL, Division B Clause 3.2.7.9.(1)(a) <ul style="list-style-type: none"> – Emergency power by an emergency generator for all elevators serving storeys above the first storey in a building that measures more than 18 m (in VBBL only) or 36 m above grade, and firefighters’ elevators 	✓					✓			<ul style="list-style-type: none"> Here, a building is defined as a high building in the BCBC or the VBBL. See also Item 44 of this table.

Table A - 1: Elevator Professional Responsibility Matrix for New Construction (continued)

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b								REMARKS
		ARCH	EDCE	EDE	SE	ME	EE	FPE	CRP	
ELECTRICAL ENGINEERING (continued)										
53	<ul style="list-style-type: none"> • <i>BCBC</i>, Division B, Sentence 3.2.6.5.(6) – Firefighters’ elevator – electrical conductors 	✓					✓			
54	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Article 3.2.6.7. and Article 3.2.7.10. – Protection of emergency conductors for firefighters’ elevator 	✓					✓			<ul style="list-style-type: none"> • For high buildings.
55	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Article 3.2.7.1. • <i>CSA B44-16</i>, section 2.11.10.2 – Illumination at landing sills 	✓	✓	✓			✓			<ul style="list-style-type: none"> • Note that there is a discrepancy^c between the <i>BCBC/VBBL</i> and the <i>CSA B44-16</i> requirements in the sections cited.
56	<ul style="list-style-type: none"> • <i>CSA B44-16</i>, section 2.8.2.2 – No wiring (including E-comm) or junction boxes through or in elevator machinery room and hoistway 	✓	✓	✓			✓			<ul style="list-style-type: none"> • Unless directly related to the elevator.
FIRE PROTECTION/SUPPRESSION ENGINEERING										
57	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Sentence 3.2.5.12.(9) • <i>CSA B44-16</i>, section 2.8.3.3 – Sprinklers in elevator machine rooms and hoistways 	✓						✓		
58	<ul style="list-style-type: none"> • <i>BC Fire Code</i>, Subsections 7.2.2. and 7.2.3. – Elevator testing and elevator recall 	✓						✓		<ul style="list-style-type: none"> • The Fire Protection Engineer is responsible for testing fire suppression systems and emergency features.

Table A - 1: Elevator Professional Responsibility Matrix for New Construction (continued)

ITEM	DISCIPLINE, REFERENCE, AND DESCRIPTION ^a	RESPONSIBLE PROFESSIONAL ^b								REMARKS
		ARCH	EDCE	EDE	SE	ME	EE	FPE	CRP	
GENERAL ELEVATING DEVICE ENGINEERING										
59	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Article 3.1.5.22. • CSA B44-16, section 2.8.2 <ul style="list-style-type: none"> – Combustible travelling cables for elevators 		✓	✓						<ul style="list-style-type: none"> • Permitted in a building that is required to be non-combustible.
60	<ul style="list-style-type: none"> • <i>BCBC/VBBL</i>, Division B, Clause 3.2.6.5.(3)(a) <ul style="list-style-type: none"> – Firefighters’ elevator – closure and interlock mechanism 	✓	✓							
61	<ul style="list-style-type: none"> • <i>British Columbia Fire Code</i>, Article 2.8.2.4. <ul style="list-style-type: none"> – The fire safety plan for high buildings is required to include the procedures for use of elevators 	✓							✓	<ul style="list-style-type: none"> • The Coordinating Registered Professional should advise the owner of the requirements.
62	<ul style="list-style-type: none"> • <i>British Columbia Fire Code</i>, Article 2.8.2.7. <ul style="list-style-type: none"> – Fire safety sign required at each elevator entrance indicating that the elevator is not for use in case of fire 	✓								

NOTES:

^a Titles of the following codes and standards were abbreviated in this table. Full references are available in [Section 4.1 Regulations and Codes](#):

BCBC = *British Columbia Building Code*

CSA B44-16 = ASME A17.1-2016/CSA B44-16 Safety Code for Elevators and Escalators

CSA B651 = CSA B651 Accessible Design for the Built Environment

TSBC Directive No. D-L2 060309 2 = Technical Safety BC Directive: Buried Hydraulic Systems (Reference number: D-L2 060309 2)

TSBC Directive No. D-L4 110303 1 = Technical Safety BC Directive: Ventilation of Hydraulic Machine Rooms for Lifts for Persons with Physical Disabilities (Reference number: D-L4 110303 1)

^b Abbreviations: ARCH = Architect; CRP = Coordinating Registered Professional; EDCE = Elevating Device Contractor Engineer; EDE = Elevating Device Consulting Engineer; EE = Electrical Engineer; FPE = Fire Protection Engineer; ME = Mechanical Engineer; SE = Structural Engineer

^c Engineering Professionals should assess and address any discrepancies between the requirements of the *BCBC/VBBL* and CSA B44-16 using their professional judgment, or consult with the Authority Having Jurisdiction to identify the appropriate project-specific requirements. All discrepancies and resolutions must be documented as per *Quality Management Guidelines – Retention of Project Documentation* (Engineers and Geoscientists BC 2018b).

APPENDIX B: ELEVATING DEVICE ASSURANCE STATEMENT

ELEVATING DEVICE ASSURANCE STATEMENT

Note: This statement is to be read and completed in conjunction with the Engineers and Geoscientists BC *Professional Practice Guidelines – Professional Responsibilities for the Design and Installation of Elevating Devices for New Buildings* (Version 2.0) (hereinafter referred to as “these guidelines”).

[Print clearly and legibly]

TO: Technical Safety BC

DATE: _____

RE: Elevator Compliance – Mechanical

FOR:

Name of Project

Elevator Identification Number

Address of Project

Address of Project (continued)

The purpose of this assurance statement is to confirm that the elevator pit drainage and machine room/space ventilation for the above-mentioned project has been designed in accordance with the requirements of Technical Safety BC, the *Elevating Devices Safety Regulation* of the *Safety Standards Act*, the *BC Plumbing Code*, and the ASME A17.1-2016/ CSA B44-16 Safety Code for Elevators and Escalators (hereinafter referred to as “CSA B44-16”). Furthermore, the undersigned hereby confirms that the installations have been reviewed on-site for substantial conformance to the design.

As per CSA B44-16, the *BC Plumbing Code*, and the *Elevating Devices Safety Regulation*, I confirm that the following requirements have been met:

[Check that the following items have been addressed:]

- Per CSA B44-16, section 2.2.2.4, the drainage systems have been installed with positive means to prevent water, gases, and odors from entering back into the hoistway from the building drainage systems and to comply with the following:
 - Per the *BC Plumbing Code*, Article 2.4.3.6., the drainage systems have been connected directly to a sump located outside the elevator pit.
 - Per the *BC Plumbing Code*, Article 2.4.3.6., the drainpipes that connect the sumps to the drainage systems have a backwater valve.
 - Per the *BC Plumbing Code*, Article 2.4.4.3., where the discharge from a fixture may contain oil or gasoline, an oil interceptor has been installed.
- Per CSA B44-16, section 2.2.2.5, the drainage systems have been designed to allow for 11.4 m³/hour (3,000 gallons/hour) removal rate of water per elevator.
- Per CSA B44-16, section 2.7.9.2, the machinery space for each elevator has been provided with natural or mechanical means installed to maintain the space temperature between _____ and _____ degrees Celsius, and the humidity levels at _____, as per the manufacturer’s specifications.
- Per the *Elevating Devices Safety Regulation* (Part 7, Section 42), if a hydraulic elevator machine room is used for the above-mentioned project, it has been permanently vented, directly or indirectly, to the building exterior.

PROFESSIONAL PRACTICE GUIDELINES

PROFESSIONAL RESPONSIBILITIES FOR THE DESIGN AND INSTALLATION OF ELEVATING DEVICES IN NEW BUILDINGS

ELEVATING DEVICE ASSURANCE STATEMENT

I certify that I am an Engineering Professional as defined in these guidelines.

Engineering Professional's Name (print)

Address

Phone Number

Email

(Professional's Seal and Signature)

Date

If the Engineering Professional is a member of a firm, complete the following.

I am a member of the firm _____
and I sign this letter on behalf of the firm. *(Print name of firm)*

NOTES:

NOTES:
