BUILDING OFFICIAL IN-TRAINING

TRAINING PLAN GUIDE

INTRODUCTION

The building official in-training (BOIT) or trainee qualification of building and plumbing officials was established to help local authorities meet the mandatory qualification requirements for building and plumbing officials that come into force under the ***Building Act*** (Act) on February 28, 2021. The trainee class helps provide a way for individuals to start their career as a building or plumbing official. It can also help existing building and plumbing officials who want to achieve higher levels of qualification or require some additional time to complete their qualification exams. **Information about the BOIT qualification can be found on the Association website**.

PURPOSE

This document will help trainees, mentors, and employers develop training plans that identify relevant educational goals and activities that trainees will complete as they work towards standard qualification as a building or plumbing official. It describes aspects of training plan administration, provides guidance on elements on an effective training plan, and identifies roles and responsibilities for all parties involved. **A template training plan is also provided for guidance**.

The document does not describe a single process for developing a training plan or prescribe the educational activities that trainees must complete beyond passing the qualification exams. This recognizes that trainees will have diverse backgrounds and experiences and employers face different resource and logistical constraints. A flexible approach also helps training plans focus on the specific learning styles and educational needs of individual trainees. The result is intended to be a relevant training plan that prepares trainees to complete the qualification exams and helps them acquire the practical and professional skills needed to enjoy a long career as an effective building or plumbing official.

TRAINING PLAN ADMINISTRATION

Before applying for a building official in-training qualification, the trainee must complete the trainee exam. This exam is multiple choice, open book and does not require a proctor. **Find more details about the exam process and content**.

An optional course has also been developed to provide students with information needed to be successful on the exam. **Find additional information about the course**.

Once the exam is completed, **individuals must submit a BOIT application**. The training plan endorsed by the trainee, mentor, and employer must be submitted with the application.

The submitted training plan will be reviewed by the Association as part of the application process. Association staff may contact the trainee to get additional information or clarity with respect to the training plan before their application can be processed.

Mentors should be a member of the Association in good standing and certified as a building or plumbing official at or above the level of qualification that the trainee is attempting to obtain. This person can be employed by the same organization as the trainee or a different organization.

Progress under the training plan will need to be reported to the Association at specified intervals for the trainee to maintain their qualification. Like all qualified officials, trainees are responsible for tracking completed educational activities in the member portal on the Association website. Additional information about reporting will be provided in the coming weeks.

Trust is paramount in the trainee and mentor relationship. Conversation and other communication between the trainee and mentor are confidential unless both parties agree otherwise. This aligns with the Rules of Professional Conduct, which are established in Association bylaw and require building officials to maintain the confidentiality of information obtained in the course of their employment. The Association manages all personal information in accordance with the *Freedom of Information and Protection of Privacy Act*.

It is understood that exceptional circumstances (e.g. medical, parental leave) could affect the content or delivery of the training plan. In such circumstances, please be aware that:

- substantive amendments to training plans due to exceptional circumstances must first be discussed with the Association. A new training plan may be required depending on the nature and extent of the proposed changes. Smaller updates can be identified as part of regular reports to the Association.
- if a change in mentors is required, the employer must submit a written request to the Association by email at **info@boabc.org**, along with a written letter from the new mentor confirming that they have reviewed the training plan and are committed to helping the trainee achieve their goals.
- should a trainee leave employment during the term of their trainee qualification, the Registrar must cancel that qualification as employer support is required for someone to hold a trainee qualification. An individual must reapply and submit an updated training plan if they wish to continue as a trainee with a new employer.

At the conclusion of the trainee qualification, the trainee will be required to submit a summary report to the Association, which includes a final copy of the training plan and any other supporting documents (e.g. log of plan reviews or site inspections completed). This report will need to be reviewed by the mentor and employer before it is submitted. Trainees, mentors, and employers will also be asked to complete a survey to help the Association assess and enhance its qualification and education programs.

For further information about the administration of trainee qualifications or training plans, please contact the Association at 604-270-9516 or **info@boabc.org**.

TRAINING PLAN DEVELOPMENT

Trainees, mentors, and employers are encouraged to collaborate and take a flexible and innovative approach to developing a training plan that supports the trainee and meets employer needs. The following information provides guidance to assist with developing an effective and relevant plan:

1. Regular communication between trainees and mentors is critical to the success of the training plan. There is no 'standard' to determine how much communication is required, but trainees and mentors should establish schedule of regular communication and check-ins that provides appropriate support for the trainee given their background and experience. Expectations and commitments made regarding communication between the trainee and mentor should be documented in the training plan to establish clear expectations.

   Communication at the outset will focus on getting acquainted, identifying the educational needs of the trainee and appropriate learning activities, and establishing expectations with respect to communication. After the trainee begins working through the training plan, conversation with the

mentor may focus on understanding code provisions, reviewing work product, resolving challenges, or preparing for or debriefing after writing qualification exams.

Remember that discussions between the trainee and mentor should remain confidential to help build a relationship based on trust and facilitate candid conversation.

2. Review and incorporate core competencies and job tasks identified in the **National Occupational and Training Standard** for building officials. The five broad areas of building official competency are:
   - **Communication** (e.g. written, verbal)
   - **Conduct Review to Determine Compliance** (e.g. plan reviews, alternative solutions)
   - **Investigations and Inspections** (e.g. site inspections and investigations)
   - **Legislation** (e.g. provincial legislation, technical codes, municipal bylaw)
   - **Personal and Professional Attributes** (e.g. integrity, client service orientation)

3. Develop educational goals and activities that reflect the multi-faceted nature of the important work performed by building or plumbing officials. This work requires officials to be knowledgeable about building codes and standards, legislation, and local bylaws; apply technical knowledge through plans reviews and site inspections; and communicate professionally with a multitude of diverse stakeholders.

   Well-rounded training plans should include educational activities that address the diversity of technical and non-technical competencies identified in the national standard. An inclusive approach will help provide the trainee with code knowledge needed to pass the qualification exams and develop the practical and 'soft skills' needed to be an effective building or plumbing official. For example, in addition to taking code training to prepare for exams, a trainee could seek opportunities to increase their knowledge about zoning bylaws and improve their conflict resolution skills or report writing. Conducting plan reviews and site inspections under the supervision of the mentor or another qualified building official should be considered to help the trainee apply their knowledge in practice.

4. Appendix A provides a list of potential learning subjects appropriate for each class of standard or trainee qualification. This information can be used to identify potential topics and activities that are appropriate for trainees given their scope of practice.

5. Consider the education, experience, and career development of the trainee. The BOIT qualification is accessible to inexperienced individuals who are just starting their careers as building officials and experienced officials who are looking to achieve higher level qualifications. Variation in the education and experience of trainees will naturally shape the training plan that is developed. For example, a training plan for a new and unexperienced individual might prioritize formal code education and knowledge of the local permitting process while a trainee attempting higher qualifications might prioritize peer reviews of work by more experienced colleagues.

6. Education can be effectively delivered in many ways. Training plans can include activities delivered online or through webinar, at a workplace or construction site, and in a classroom with others or

through self-study. Incorporating different types of activities into learning plans can help provide a more engaging experience for the trainee and mentor.

7. Many organizations deliver education that is relevant to the core competencies of building and plumbing officials. The Association and other educational institutions deliver code education that will help trainees prepare for the qualification exams. Employers often provide professional development opportunities for staff. Technical and regulatory subjects are addressed through ongoing professional development offered by the Association, code or standard development organizations, industry associations and many others.

8. Employers generally have training and development plans in place for existing employees as part of established performance planning processes. The content in these plans could be leveraged when developing the training plan to support the BOIT qualification.

9. The mentor plays a critical role as the primary source of guidance and advice for the trainee. At the same time, trainees may benefit from working with other experienced building and plumbing officials. This network could include colleagues, peers working for other local governments, retired building officials, or other professionals in the building industry. Involving others in the training plan may, for example, be helpful in situations where the mentor is a plans reviewer and is wanting to expose the trainee to site inspections.

ROLES AND RESPONSIBILITIES

The primary roles and responsibilities of the trainee, mentor, and employer are identified below:

TRAINEE

RESPONSIBILITIES	CONSIDERATIONS
• Lead development of the training plan and complete the identified goals and tasks. • Maintain regular communication with the mentor, including formal and informal check-ins. • Be open to learning and receiving honest, constructive feedback. • Maintain confidentiality with respect to discussion with the mentor. • Report completed learning activities in the online professional development portal on the Association website. • Complete the exams required for standard qualification within the term of the trainee classification.	• What is the background of the trainee? • Is the trainee new to the field or an experienced building official who is seeking to advance their qualifications? • What is the trainee's preferred learning style? • What competencies does the trainee excel in and what are their specific learning needs and opportunities? • How do the trainee's learning needs relate to core competencies established in the national occupational analyses? • How can the training plan address the breadth knowledge, practical skill, and personal attributes needed to be an effective building or plumbing official?

MENTOR

RESPONSIBILITIES	CONSIDERATIONS
• Help the trainee develop their training plan. • Provide advice and guidance to the trainee but does not make decisions for them. • Monitor trainee progress against the training plan. • Maintain regular communication with the trainee, including both formal and informal check-ins. • Provide the trainee with honest and constructive feedback. • Maintain confidentiality with respect to discussions with the trainee. • Review samples of work (e.g. plan reviews, site inspections) as set out in the training plan.	• What is the background of the mentor and does that background speak to the learning needs of the trainee? • Does the mentor have the time and capacity needed to be effective in their role? • How does the training plan address the breadth knowledge, practical skill, and personal attributes needed to be an effective building or plumbing official?

EMPLOYER

RESPONSIBILITIES	CONSIDERATIONS
• Help the trainee develop their training plan. • Provide and coordinate appropriate time and resources to support the trainee and mentor. • Ensure trainee and mentor adherence to the training plan. • Ensure status reports are submitted to the Association at the prescribed intervals.	• What educational opportunities are already available within the organization? • How does the training plan address the breadth knowledge, practical skill, and personal attributes needed to be an effective building or plumbing official?

ASSOCIATION

RESPONSIBILITIES	CONSIDERATIONS
• Assist trainees, mentors, and employers with understanding requirements for the trainee qualification or identifying potential learning opportunities. • Provide templates and online functionality to assist with program administration and compliance. • Collect and review reports provided on trainee progress. • Conduct evaluations and solicit stakeholder feedback to improve program quality. • Report program data back to building officials, government, stakeholders and the public.	• Do trainee qualification materials and templates meet needs stakeholders? • How can the Association address improvement opportunities identified through program evaluation and stakeholder feedback?

APPENDIX A - LEARNING SUBJECTS BY QUALIFICATION LEVEL

The following provides a list of learning subjects appropriate for each level of building and plumbing qualification. Some subjects are general and relevant to all levels while others are code or technical subjects applicable to a specific level of building or plumbing official. This information can help select goals and activities that are both relevant to the trainee and consistent with their scope of practice.

SCOPES OF PRACTICE

Scopes of practice for standard and trainee qualifications are the same and can be summarized as follows:

BUILDING TYPES			PLUMBING SYSTEMS	
Level 1	Level 2	Level 3	Level 1	Level 2
Single-family dwellings and basic building types (Simple Part 9)	Small industrial and multi-family dwellings (Complex Part 9)	Large or complex industrial and public buildings (Part 3)	*Simple* plumbing matters. Some kinds of buildings, such as hospitals, are excluded.	*Advanced* plumbing matters which can be found in any kind of building.
E.g. Houses, duplexes, and rowhouses under four storeys.	*E.g.* Low-rise apartments and townhouses, small industrial, mercantile.	*E.g.* High-rise apartments, industrial and mercantile, public buildings.		
Note that it is possible for an official to be registered in both a building and a plumbing class. Also, classifications are sequential and must be completed in order.				

Specific details about the scopes of practice for building and plumbing officials can be found in Tables 1 (Building) and 2 (Plumbing) of the Building Act General Regulation.

GENERAL TOPICS RELEVANT TO ALL BUILDING AND PLUMBING OFFICIALS

These legislative and compliance monitoring subjects are applicable, in varying degrees, to all levels of building official. The extent or depth of knowledge and ability grows as building and plumbing progress in their careers and achieve additional levels of qualification.

LEGISLATION AND AUTHORITY DOCUMENTS

- *Building Act*
  - Building Act General Regulation
  - B.C. Building Code
- Community Charter
- *Homeowner Protection Act*
- *Local Government Act*
- *Safety Standards Act*

COMPLIANCE MONITORING SKILLS AND ABILITIES

- Customer Relations
- Plans Review
- Letters of Assurance
- Alternative Solutions
- Permit Issuance
- Site Inspections

- Municipal Bylaw
  - Building
  - Zoning or Land Use
- Association Bylaws
  - Rules of Professional Conduct and Code of Ethics
  - Investigations
  - Report Writing
  - Occupancy Permits

CODE AND TECHNICAL LEARNING SUBJECTS

The following code and technical subjects are arranged according to the scopes of practice for each level of building and plumbing official as described in the table above.

BUILDING OFFICIAL LEVEL 1 (INCLUDES LEVEL 1 TRAINEE)

GENERAL ADMINISTRATIVE REQUIREMENTS

- Application and interpretation of the BC Building Code and about inspections, plans, specifications and professional design and review
- Identify the suitability and use of materials according to the listing and labelling and approved installation methods
- Verify conformance with structural requirements of the code including snow loads, deflections, and foundation conditions

ROOMS, SPACES, DOORS AND WINDOWS

- **Room Height** – verify that rooms, including living rooms, kitchen, bedrooms, bathrooms, water-closet rooms, and hallways comply with the minimum dimensions, area and ceiling height requirements
- **Glass** – verify that glazing is correctly installed, and has required glass thickness and is in conformance with code requirements
- **Doors, Windows and Skylights** – Verify doors comply with code requirements regarding locations, size, type and windows, and skylights have required areas for light and openable areas

MEANS OF EGRESS

- **Stairs and Ramps** – Verify that stairs and ramps have required tread, width, riser, landing and headroom dimensions
- **Handrails and Guardrails** – Verify that handrails and guardrails are provided and have the proper dimensions and are installed as required by code

- **Exiting** – Verify that egress doors have correct height, width and proper hardware; that windows intended for use as emergency egress have correct clear opening areas, clear width and sill height and that exits have proper access, signs, lighting, and fire protection

DETAILED REGULATIONS

- **Fire Protection** – Verify that fire separations are located where required and have correct fire-resistance rating and that fire protection of structural members, rating of openings and penetrations, spatial separation between buildings, fire stops, flame spread limits of building materials, and alarm and detection systems comply with code; verify provisions for fire fighting
- **Sound Control** – Verify compliance with code provisions for sound transmission ratings
- **Crawl Spaces/Roof Spaces** – Verify that crawl spaces have proper access, ventilation, clearance, drainage, ground cover and fire protection. Verify that roof spaces have proper access and ventilation
- **Electrical Facilities/Plumbing Facilities** – Verify that electrical installations are installed according to code provisions and that lighting outlets are provided as required. Verify that required plumbing facilities and a sewage disposal system are installed and that water supply, distribution and water heating are installed properly
- **Garages and Carports** – verify code compliance for the construction of garages and carports
- **Spatial Separations** – Verify that spatial separation for buildings meets code requirements

EXCAVATIONS, FOOTINGS AND FOUNDATIONS

- Verify that excavations are of the proper depth and inspect backfill against foundation and basement walls
- **Waterproofing and Dampproofing** – verify that the moisture barrier beneath concrete slabs and for foundation and basement walls meet code requirements for waterproofing and dampproofing
- **Drainage** – Verify compliance with code provisions for subsurface and surface drainage
- **Footings and Foundation** – Verify that concrete footings have proper depth, reinforcement (where required), and that concrete has required compressive strength and air content. Verify that wood foundations, where permitted, are properly constructed and protected against termites and decay. Verify proper size, height above grade, reinforcement size, type, and grade of foundations
- **Slabs-On-Grade** – Inspect concrete slabs, verifying proper sizing, placement, and support of welded wire fabric and reinforcing bar, and proper placement/location of control/construction joints
- **Soil Gas Control** – Verify that where soil gas controls are required, gas barriers are installed at wall, roof and floor assemblies separating conditioned space from the ground

FRAMING

- **Columns** – Verify that wood, steel, masonry, and solid concrete columns meet code requirements

- **General Framing/Framing Members** – Inspection foundations, sills, sleepers, trusses, joists and rafters and foundation studs, verifying proper grade, size, bearing, support, span, spacing, blocking, bracing or bridging, and fasteners. Inspect roof, wall and floor framing, verifying proper span, grade, and fasteners. Verify that steel stud wall framing complies with code provisions for size, thickness, fastening and load bearing characteristics
- **Fastening/Drilling/Notching** – Verify that anchor bolts and other structural fasteners are of proper size, spacing and installation. Ensure the integrity of framing members and beams from any defects, cutting, drilling or notching
- **Beams and Lintels** – Verify that beams, girders and lintels are of proper grade, size, bearing, support, span, spacing, blocking, and bracing or bridging
- **Sheathing and Subfloor** – Inspect roof, wall and floor sheathing, verifying proper thickness, grade and fastening methods

MASONRY AND INSULATING CONCRETE FORM WALLS

- **Above-Grade Masonry** - Inspect masonry units, verifying required dimensions, minimum thickness, alignment of finished work, joint construction, mortar quality, bonding and tying, lateral support, chases and recesses, and installation of cleanouts where required. Inspect masonry reinforcement, verifying adequate size, grade and clearances
- **Chimneys and Flues** – Verify that chimneys and flues are of proper construction, that; masonry and concrete chimney construction conform to code and that proper clearance from combustible construction is maintained
- **Fireplaces** – Verify that fireplace openings and hearth comply with code requirements, that fireplace walls and liners have the proper dimensions and construction and that a damper is properly installed. Verify clearances of combustible material
- **Insulating Concrete Form Walls** – Inspect Insulating concrete form walls for conformance to code provisions

THERMAL INSULATION, VENTILATION AND HEATING

- **Insulation** – Inspect wall, ceiling, and floor insulation, verifying correct flame-spread rating, and correct placement of vapour barrier
- **Ventilation** – Verify that requirements for natural and mechanical ventilation are met
- **Heating and Air Conditioning** – Verify the installation of adequate heating facilities and fire protection requirements for gas and electric ranges

EXTERIOR FINISH

- **Roofing** – Verify the proper use of roofing materials appropriate to the type of roof, flashing, eave protection, roof underlay, and the proper application of cedar and shake shingles. Verify that build-up roofs comply with code requirements
- **Siding** – Inspect exterior wall and roof siding, verifying proper application and attachment appropriate for the type of siding and flashing

- **Stucco** – Verify that proper stucco materials and lath and reinforcing materials are used, that lath and reinforcing are properly fastened and that the stucco application meets code requirements
- **Protection from Precipitation** – Verify that the exterior assembly, including fastening, the exterior cladding, capillary break, first and second plane of protection are provided, including checking the provision for the moisture index where appropriate

INTERIOR FINISH

- **Wall and Ceiling** – Inspect interior plastering, sheathing, wallboard, plywood and hardwood finish, fibreboard finish, particleboard and waferboard finish, and wall tile, verifying correct type and thickness, and correct size, type, and location of fasteners
- **Flooring** – Inspect floor underlay, wood strip flooring, parquet flooring, resilient flooring and ceramic tile, verifying correct type, thickness, size and fastening

BUILDING OFFICIAL LEVEL 2 (INCLUDES LEVEL 2 TRAINEE)

DESIGN AND AREAS OF SPACES, GLASS, DOORS, WINDOWS, AND SKYLIGHTS

- **Room Height and Doorway Size** – Verify that rooms, including living rooms, kitchens, bedrooms, bathrooms, water-closet rooms, and hallways comply with the minimum dimensions, area and ceiling height requirements. Verify conformance with code requirements for door location, size, type and installation
- **Glass** – Verify compliance with code requirements for materials, structural sufficiency, and protection of glass

MEANS OF EGRESS AND STAIRS, RAMPS, HANDRAILS, AND GUARDS

- **Stairs, Ramps, and Landings** – Verify that private and public stairs have the required rise, run and tread; ramps have required slope, and that landings are configured and dimensioned as required. Verify the required width and headroom dimensions for stairs, ramps and landings
- **Handrails and Guards** – Verify that private and public handrails and guards are provided and have the proper dimensions and are installed as required by code
- **Means of Egress** – Verify that access to exit and exit paths, including doors have correct clear height and width and are fitted with proper hardware. Verify code requirements for egress from living areas, decks and roof decks. Verify access to exits and exits have proper signage and lighting. Verify fire protection of means of egress. Verify obstructions are within permitted restrictions.

FIRE PROTECTION

- **Occupancy Classification and Occupancy Load** – Verify occupancy classification and compliance with code requirements

- **Ratings** – Verify how fire-resistance, fire-protection, and flame spread ratings for assemblies are derived. Verify fire exposure expectations for fire separations and assemblies with required fire-resistance ratings. Verify wall fire-resistance rating on each side.
- **Building Size Determination/Mezzanines** – Verify that building size and mezzanines comply with code provisions
- **Fire-Rated Assemblies** – Verify penetrations permitted in wall and ceiling assemblies and fire separations between rooms and spaces in the building. Verify fire protection of openings.
- **Fire Block and Flame Spread** – Verify proper fire block, and flame spread limits of materials
- **Spatial Separations Between Buildings** – Verify that the spatial separation between meets code requirements
- **Alarm and Detection Systems, Smoke Alarms, and Firefighting** – Verify that alarm and detection systems and smoke alarms comply with code. Verify provisions for firefighting
- **Prevention of Fire Spread at Exterior Walls and Between Storeys** – Verify requirements for protection of soffits, exterior walls meeting at an angle
- **Doors and Dampers and Closures in Fire-Separations** – Verify correct fire-protection ratings, size, type, hardware, and location of doors, dampers and closures
- **Interconnected Floor Spaces** – Verify code compliance for interconnected floor spaces
- **Fire Walls** – Verify that fire walls meet code requirements

MASONRY AND INSULATING CONCRETE FORM WALLS

- **Above-Grade Masonry and Insulating Concrete Form Walls** – Verify that masonry units are of required dimensions and minimum thickness and that alignment of finished work, joint construction, mortar quality, bonding and tying, reinforcement, and lateral support, chases and recesses, and installation of cleanouts meet code requirements. Verify insulating concrete form walls are installed in accordance with code requirements

INTERIOR FINISH

- **Wall and Ceiling** – Verify that application and attachment of interior wall and ceiling finishes, meets code requirements
- **Flooring** – Verify that application and installations of flooring materials meet code requirements

EXTERIOR FINISH

- **Roofing** – Verify the proper use of roofing materials appropriate to the type of roof, eave protection, roof underlay, and the proper application of cedar and shake shingles. Verify that build-up roofs comply with code requirements
- **Exterior Wall** – Verify that the exterior cladding, application and attachment meet code requirements. Verify that exterior walls are designed according to code requirements. Verify that wall and roof flashings comply with code requirements

ELECTRICAL SERVICES

- **Electrical and Lighting** – Verify that electrical installations and lighting levels are installed according to code provisions and that lighting outlets are provided as required

STEEL FRAMING

- Verify that wall and ceiling framing using steel framing members complies with code requirements

COMPLIANCE AND ADMINISTRATIVE REQUIREMENTS

- **Application** – Answer general compliance and administration questions about the application and interpretation of the British Columbia Building Code and about plans, specifications, professional design and field review

SERVICE SPACES

- **Vertical and Horizontal Service Spaces** – Verify code compliance for vertical and horizontal service spaces

HEALTH REQUIREMENTS

- **Plumbing Facilities** – Verify that required plumbing facilities are installed in accordance with code provisions including accessible requirements for water closets, water closet compartments, bath and shower, and grab bars

BUILDING REQUIREMENTS FOR PERSONS WITH DISABILITIES

- **Classification Requirements** – Verify code compliance specific requirements and design requirements for different occupancies
- **Design Requirements** – Verify code compliance for all parts of buildings required to be accessible other than plumbing facilities

STRUCTURAL REQUIREMENTS

- **Structural Design Requirements** – Verify code compliance for structural members, connections, capacity, and structural integrity
- **Limit State Design** – Verify that the conditions of the building structure satisfy code requirements for compliance with serviceability, loading, durability, and fatigue limit state designs
- **Dead Loads, Live Loads, and Other Loads** – Verify that the structural components of the building satisfy design requirements for dead loads, live loads, and other loads such as snow, wind, and earthquake loads and effects
- **Foundations** – Verify code compliance for foundations including design requirements, materials, excavations, and special foundations
- **Requirements for Structural Materials & Special Structures** – Verify code compliance for structural materials including glass, wood, masonry, concrete, steel, aluminum, and other metal materials according to the listing and labeling and approved installation methods

ENVIRONMENTAL SEPARATION

- **Environmental separation Requirements** – Verify code compliance for Environmental Separation scope, application, loads, and design procedures

- **Heat Transfer, Air Leakage and Vapour Diffusion** – Verify code compliance for heat transfer, air leakage, and vapour diffusion
- **Moisture in the Ground and Surface Water** – Verify code compliance for Moisture in the Ground and Surface Water
- **Sound Transmission Ratings and Classification** – Verify code compliance for Sound Transmission Ratings and Classification
- **Windows, Doors, and Skylights** – Verify that windows, doors, and skylights are selected, manufactured, site-built, and installed in compliance with code requirements
- **Soil Gas Control** – Verify that where soil gas controls are required, gas barriers are installed at wall, roof and floor assemblies separating conditioned space from the ground

HVAC

- **Design and Installation** – Verify that the design and installation code requirements of natural and mechanical ventilation, air duct systems, and other components are met. Verify the installation of adequate heating facilities. Verify air duct systems comply with code provisions
- **Carbon Monoxide Detectors** – Verify installation of carbon monoxide detectors

ENERGY EFFICIENCY

- **Energy Efficiency** – Verify energy efficiency code requirements are met

BUILDING OFFICIAL LEVEL 3 (INCLUDES LEVEL 3 TRAINEE)

GENERAL REQUIREMENTS

- Code Application and Definitions
- Plans, Specifications, Materials, Documents
- Professional Design and Review
- Design Requirements

CLASSIFICATION/CONSTRUCTION REQUIREMENTS

- Major Occupancy Identification/Separation
- Occupant Load
- Types of Construction
- Building Height, Size
- Major Occupancy Separation
- Spatial Separation
- Exceptions to Structural Fire Protection

PASSIVE FIRE PROTECTION

- Fire Separations and Closures
- Fire Stops
- Flame Spread Rating, Smoke Development
- Firewalls
- Fire Resistance Ratings

VERTICAL TRANSPORTATION AND SERVICE FACILITIES

- Standards
- Fire Separations
- Elevators
- Vertical Transportation
- Service Facilities

ACCESS

- Access to Storeys
- Access Routes
- Roof Access

BUILDING FIRE SAFETY

- Fire Alarm and Detection Systems
- Standpipe and Sprinkler Systems
- Lighting and Emergency Power
- High Buildings

OCCUPANT SAFETY

- Safety within Floors
- Assembly Occupancies
- Care and Detention
- Residential
- Industrial

EXITING

- Exit types, Number, Location and Fire Escapes
- Travel Distance and Distance Between Exits
- Exit Width, Height and Capacity
- Fire Separations of Exits
- Exit Signs
- Handrails, Guards, Stairs and Ramps
- Doors and Hardware
- Emergency Access to Floor Areas/Crossover

HEALTH REQUIREMENTS AND BARRIER FREE DESIGN

- Plumbing Facilities
- Barrier-Free Design

STRUCTURAL DESIGN

- Structural Design

ENVIRONMENTAL SEPARATION

- Heat, Air, Vapour, Moisture, and Sound Ratings

HVAC

- Design and Installation

SAFETY WITHIN FLOORS

- Suite Separation
- Means of Egress
- Door Requirements and Number of Egress Doorways
- Corridor Requirements
- Ramps, Stairways and Exterior Passageways
- Handrails and Guards
- Exhaust Ventilation
- Janitor and Laundry Rooms

ASSEMBLY OCCUPANCIES

- Fire Separations
- Fixed Seats and Fixed Bench Type Seats
- Aisles, Doors and Corridors
- Guards and Risers for Stairs
- Stages
- Outdoor Places of Assembly

CARE AND DETENTION

- Fire Separations
- Doors and Corridors
- Hospitals and Nursing Homes
- Areas of Refuge
- Contained Use Areas

RESIDENTIAL

- Fire Separations
- Storage Rooms
- Egress

INDUSTRIAL

- Repair and Storage Garages and Separations
- Multiple Tenant Self Storage
- Vestibules

FIRE ALARM AND DETECTION SYSTEMS

- Fire Alarm Requirements
- Continuity of Fire Alarm System
- Types of Fire Alarms
- Installation and Testing
- Pull Stations
- Annunciator and Zone Indication
- Fire Detectors
- Audibility and Visual Requirements
- Voice Communications
- Smoke Alarms

STANDPIPE AND SPRINKLER SYSTEMS

- Water Supply
- General Standpipe and Sprinkler Requirements
- Hose Connections
- Hose Stations
- Fire Department Connections

LIGHTING AND EMERGENCY POWER

- Lighting Requirements
- Emergency Lighting and Power

HIGH BUILDINGS

- Application
- Fire fighters and elevators
- Limits smoke movement
- Central Alarm and Control Facility
- Venting

BUILDING FIRE SAFETY

- Exceptions to Building Height
- Storage Garages
- Basements and Storage Below Ground
- Streets
- Multiple Major Occupancies
- Automatic Sprinkler Systems

- Construction Requirements
- Interconnected Floors and Mezzanines

PLUMBING OFFICIAL LEVEL 1 (INCLUDES LEVEL 1 TRAINEE)

GENERAL REQUIREMENTS

- **Service Connections and Fixture Locations** – Inspect piping systems for proper connection to public systems
- **Qualified Personnel** – Verify that the piping systems are installed by qualified personnel with proper credentials to inspect piping systems
- **Code Definitions, Usage and Terms** – Communicate with associates, contractors, and the public using code definitions and accepted trade terms found on supply lists, drawings, blueprints, sketches and specifications
- **Plan Reading and Drawings** – Read plans and drawings and verify piping systems, fixtures, and appliances are in compliance with code provisions
- **Compliance** – Determine compliance using Alternative Solutions or Acceptable Solutions of the Code

MATERIALS AND EQUIPMENT

- **Conformance to Standards** – Determine Conformance to standards for materials and equipment
- **Location, Clearance and Access** – Inspect the installation of fixtures, traps and interceptors, fittings and materials to determine they are installed in compliance with code provisions including clearances, access and sealing

PIPING

- **Piping Joints and Connections** – Inspect Piping system joints and connections for compliance with code provisions
- **Piping Protection, Support, Sleeves and Penetrations** – Inspect piping systems to insure they are protected from corrosion, stress and strain, freezing, physical damage including proper bedding and backfilling is used, and determine proper support, sleeving, penetrations and waterproofing of exterior openings
- **Required Tested of Plumbing Systems** – Determine that required tests of piping systems are performed

DRAINAGE SYSTEMS

- **Connection to Drainage Systems** – Determine the connection of fixtures and piping to sanitary drainage systems complies with code provisions for approved materials and use of proper fittings, joints and connectors

- **Location of Fixtures** – Determine that fixtures are located as required by the code with proper locations, clearances, protection, pans and seismic restraint
- **Treatment of Sewage and Wastes** – Determine that provisions are made for treatment of sewage and wastes including chemical treatment, high-temperature and neutralization systems
- **Traps** – Verify that traps are installed according to code provisions including correct type, size, design and location
- **Drainage Piping** – Verify that drainage piping is installed according to code provisions including size, location, slope, cleanouts, backflow prevention, sumps and required ejectors

VENTING SYSTEMS

- **Vent Sizing** – Inspect for proper sizing and the minimum venting requirements
- **Venting Methods** – Determine that wet venting, circuit venting, air admittance valves, and other venting methods comply with code requirements

POTABLE WATER SYSTEMS

- **Materials, Joints and Connections** – Determine that approved materials, joints and connections are used
- **Identification, Sizing and Valving** – Inspect the service and distribution piping for proper installation of cold and hot water delivery, identification, sizing and valving
- **Protection against Contamination** – Inspect the potable water supply and distribution piping for proper protection against contamination
- **Pressure and Volume Requirements** – Verify the minimum and maximum pressure and volume requirements
- **Water Efficiency** – Determine that flow rates of fittings supplying water to plumbing fixtures and fixture efficiency comply with code provisions

NON-POTABLE WATER SYSTEMS

- **Non-potable Systems** – Determine that non-potable water systems comply with code requirements including connections, identification and location

PLUMBING OFFICIAL LEVEL 2 (INCLUDES LEVEL 2 TRAINEE)

GENERAL REQUIREMENTS

- **Service Connections and Fixture Locations** – Inspect piping systems for proper connection to public systems
- **Qualified Personnel** – Verify that the piping systems are installed by qualified personnel with proper credentials to inspect piping systems
- **Code Definitions, Usage and Terms** – Communicate with associates, contractors, and the public using code definitions and accepted trade terms found on supply lists, drawings, blueprints, sketches and specifications

- **Plan Reading and Drawings** – Read plans and drawings and verify piping systems, fixtures, and appliances are in compliance with code provisions for the following:
  - Circuit Vent Name – Identify circuit vents
  - Circuit Vent Load and Length – Determine vent loads and length
  - Circuit Vent Size – Determine proper vent size
  - Wet Venting – Identify wet vents, proper load, size and length
  - Water Pipe Sizing – Determine proper water pipe size
  - Drain Waste and Vent Piping for High Buildings – Verify that drain waste and vent piping for high buildings complies with the code.
- **Compliance** – Determine compliance using Alternative Solutions or Acceptable Solutions of the Code

MATERIALS AND EQUIPMENT

- **Conformance to Standards** – Determine Conformance to standards for materials and equipment
- **Location, Clearance and Access** – Inspect the installation of fixtures, traps and interceptors, fittings and materials to determine they are installed in compliance with code provisions including clearances, access and sealing

PIPING

- **Piping Joints and Connections** – Inspect Piping system joints and connections for compliance with code provisions
- **Piping Protection, Support, Sleeves and Penetrations** – Inspect piping systems to insure they are protected from corrosion, stress and strain, freezing, physical damage including proper bedding and backfilling is used, and determine proper support, sleeving, penetrations and waterproofing of exterior openings
- **Required Tested of Plumbing Systems** – Determine that required tests of piping systems are performed

DRAINAGE SYSTEMS

- **Connection to Drainage Systems** – Determine the connection of fixtures and piping to sanitary drainage systems complies with code provisions for approved materials and use of proper fittings, joints and connectors
- **Location of Fixtures** – Determine that fixtures are located as required by the code with proper locations, clearances, protection, pans and seismic restraint
- **Treatment of Sewage and Wastes** – Determine that provisions are made for treatment of sewage and wastes including chemical treatment, high-temperature and neutralization systems
- **Traps** – Verify that traps are installed according to code provisions including correct type, size, design and location
- **Drainage Piping** – Verify that drainage piping is installed according to code provisions including size, location, slope, cleanouts, backflow prevention, sumps and required ejectors

VENTING SYSTEMS

- **Vent Sizing** – Inspect for proper sizing and the minimum venting requirements
- **Venting Methods** – Determine that wet venting, circuit venting, air admittance valves, and other venting methods comply with code requirements

POTABLE WATER SYSTEMS

- **Materials, Joints and Connections** – Determine that approved materials, joints and connections are used
- **Identification, Sizing and Valving** – Inspect the service and distribution piping for proper installation of cold and hot water delivery, identification, sizing and valving
- **Protection against Contamination** – Inspect the potable water supply and distribution piping for proper protection against contamination
- **Pressure and Volume Requirements** – Verify the minimum and maximum pressure and volume requirements
- **Water Efficiency** – Determine that flow rates of fittings supplying water to plumbing fixtures and fixture efficiency comply with code provisions

NON-POTABLE WATER SYSTEMS

- **Non-potable Systems** – Determine that non-potable water systems comply with code requirements including connections, identification and location