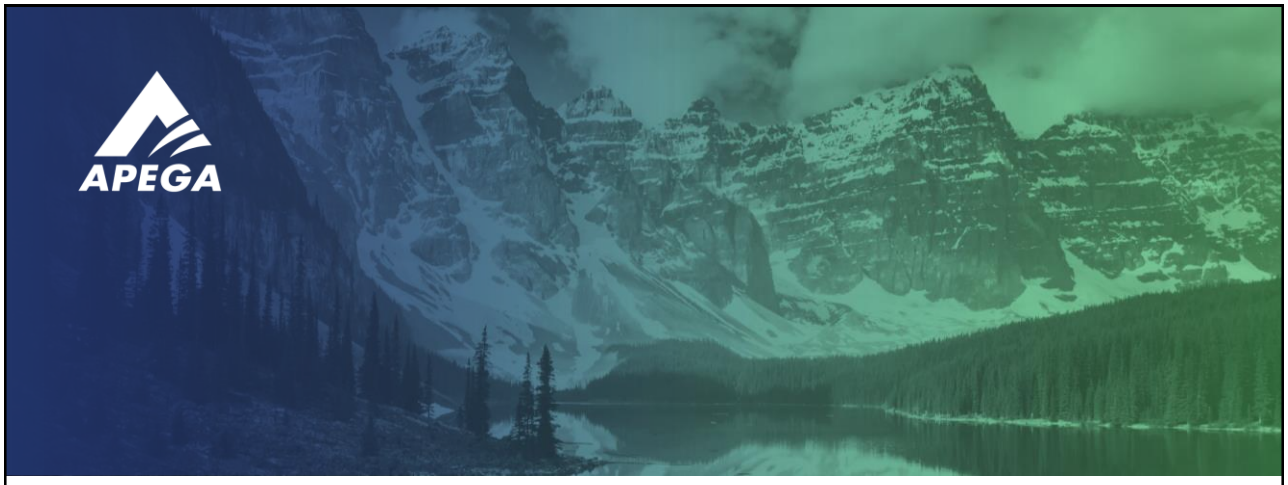

What Authentication to Look For, and What's in a Name?

Presentation to Safety Codes Council Summit Conference 2023

Allan Ng, P.Eng. - Director, Professional Practice & Andy Smith, P.Eng. – Deputy Chief Regulatory Officer

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Purpose of Session

The purposes of the session are to:

- Inform you what to look for in authenticated documents
- Inform you how you can address incorrectly authenticated work
- Review the different designations regulated by APEGA and ASET, and what it means for SCOs
- Answer questions related to the content or any other appropriate topic

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About APEGA

- Created on April 10, 1920, the Association of Professional Engineers and Geoscientists of Alberta (APEGA) regulates the practices of engineering and geoscience in Alberta on behalf of the Government of Alberta through the Engineering and Geoscience Professions Act.
- We are the largest regulator of self-regulated professionals in Western Canada. Our registrants work in diverse industries, contributing significantly to Alberta's economic success and enhancing the quality of life Albertans enjoy.
- Our main regulatory function is licensing individuals and companies that want to practise engineering and geoscience in Alberta. Applicants and companies that meet APEGA's standards for ethical, professional, and technical competency earn the right to practise and use reserved titles and designations.

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APEGA's Responsibilities

- License professional engineers and geoscientists
- Set practice standards
- Develop codes of conduct and ethics that govern registrants and permit holders
- Investigate and discipline registrants and permit holders
- Investigate and take action against individuals and organizations that practise our professions without licences or permits
- Investigate and take action against individuals and organizations that use our protected titles without licences or permits
- Provide services to registrants and permit holders to support them in their professional practices

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APEGA Overview and Self-Regulation

APEGA's duties under the *Engineering and Geoscience Professions Act* are to:

- protect the public interest
- protect the integrity of the professions
- regulate the practice of the professions
- regulate the competence and conduct of registrants

Self-regulation is a unique instance where the legislature entrusts oversight of a profession to the profession

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Self-Regulation – What Is It?

- Registrants regulate themselves by exceeding expected performance and professional standards and supporting regulatory activities
- Registrants regulate each other by openly and ethically addressing issues with other registrants
- Permit holders oversee the practice of staff registrants and other permit holders, with added obligation to ensure registrants they employ are engaged in self-regulation
- APEGA regulates as the final tier of protection of the public welfare and by setting & enforcing standards of practice

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Authentication: Why do registrants do it?

- It's the law
  - Authentication is required in the legislation (Section 54(1))
  - Absence of authentication
- APEGA helps its registrants know their obligations
  - Requirements set out in standards of practice are mandatory
  - Consistency in authentication & validation

General Regulation: 54(1) A **stamp or seal** issued to a professional member …. *must be applied* …… to all final plans, specifications, reports or documents of a professional nature

(a) …prepared under the professional member's or licensee's supervision….

(b) …prepared by another person where the professional member or licensee has thoroughly reviewed them and accepted professional responsibility for them.

It's required by the legislation

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Obligations when Authenticating

- Practising status and registered with APEGA
- Abide by the Code of Ethics
- Authenticate work **prepared** by you, under your **direct supervision and control**, or **thoroughly reviewed** by you
- Absence of authentication is a violation of the *EGP Act*

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What to Authenticate?

THE AUTHENTICATION TEST

1	Does the output contain technical information?	YES ☑	NO ☐
2	Is the technical information complete and final for the intended purpose of the output?	YES ☑	NO ☐
3	Will others rely on the technical information related to the output's intended purpose?	YES ☑	NO ☐

If the answers to these 3 questions are "YES", the output is a professional work product and must be authenticated and validated.

Technical Information is content or data derived from the practice of engineering or geoscience as defined in the *EGP Act* including advice, analysis, assessments, calculations, designs, evaluations, inputs, interpretations, notes, opinions, recommendations, and process descriptions

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Other Situations

You must authenticate if required to do so by other legislation

Examples: *Occupancy Permit, Fire Alarm Verification Certificate, Alberta Building Code (i.e. schedules), Safety Codes Act, Occupational Health & Safety Act, Pressure Equipment Safety Regulation, etc.*

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No Authentication

- ✓Technical document submitted **only for review & comment**
- ✓Documents **not** containing work of a professional nature
- ✓General **informative pieces** (e.g. journal articles, conference papers, magazine articles, slide presentations, etc.)
- ✓Documents **derived from** PWPs but not PWPs themselves (cost estimates, material lists)

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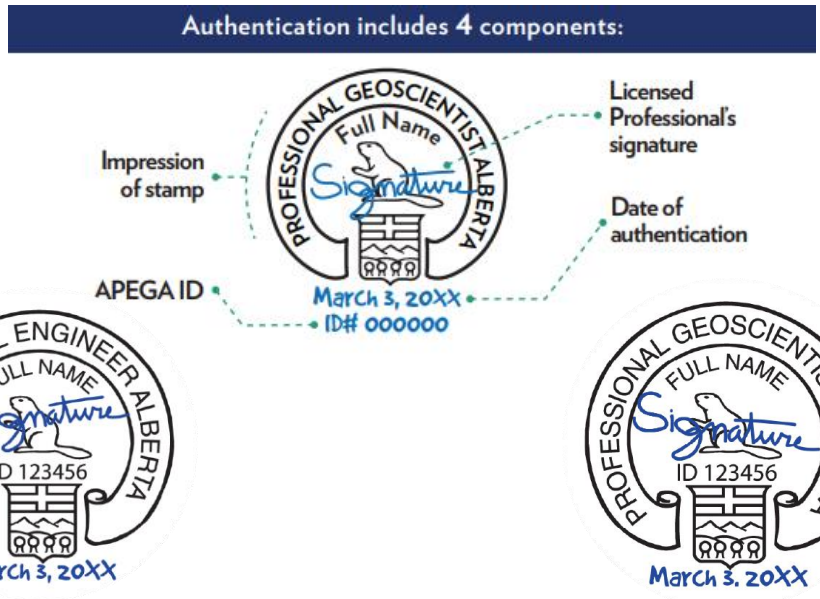
What Does Authentication Include?



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What Is Validation?

General Regulation

S49. When the practice of engineering or geoscience is carried on by a partnership, corporation or other entity … all final plans, specifications, reports or documents of a professional nature must

(a) be signed by and be stamped by…

(i) the professional member or licensee who prepared them or under whose supervision and control they were prepared, or

(ii) in the case of plans, specifications, reports or documents that were prepared by other persons, …

and

(b) show the permit number issued to the partnership, corporation or other entity under section 48.

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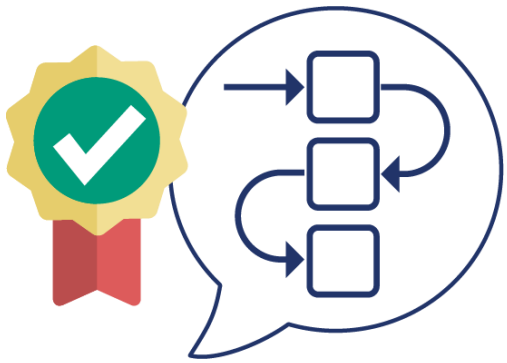
Obligations of the Responsible Member Validating

- Responsible Members validate PWPs after they are authenticated
  - Does not mean they take professional responsibility for the work
- Ensures:
  - The authenticated PWP is in authenticator's scope of practice
  - That the PPMP is followed (Quality Control & Assurance)
  - The PWP is prepared in accordance with the Act, and the Code of Ethics
- Note: Sole Proprietors do not validate



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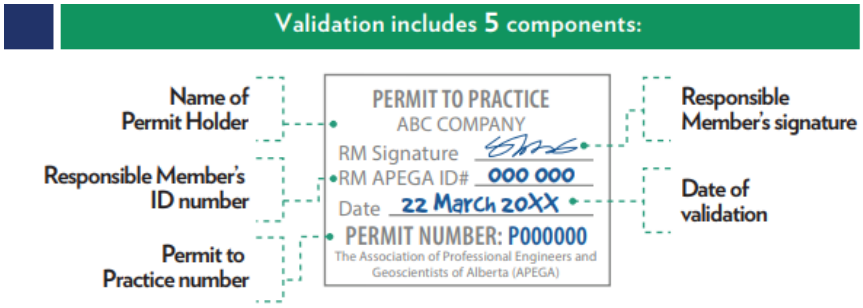
What Does Validation Include?



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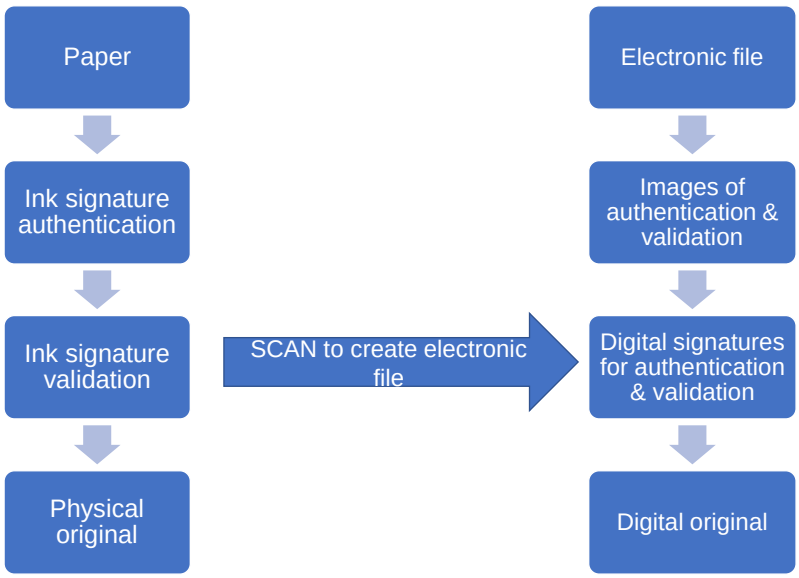
Physical vs Digital Authentication



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Digital Signatures

- Provided by Notarius
- Mandatory for digital PWPs
- Can be invisible – they don't have to be associated with each stamp impression…but you do need stamp images & signatures, etc., for a valid PWP
- What about revisions or comments on digitally signed PWPs?
  - Yes you can, but do not ask the P.Eng. to remove their digital signature
- Notarius provides training on how to verify a digital signature

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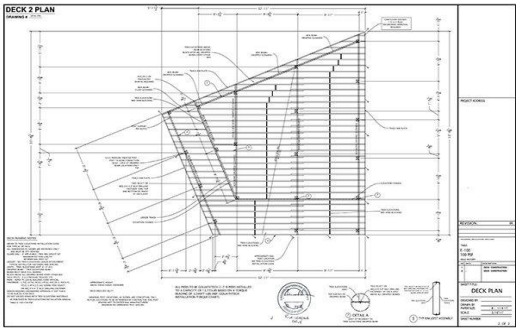
What if it is improperly authenticated?



- You are empowered to ask the engineer to re-submit in accordance with APEGA's Authenticating Professional Work Products practice standard, or
- Contact us at: professionalpractice@apega.ca

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Commercially Engineered Goods vs Customized Engineered Goods

Engineered goods fall into one of two categories:

1. Commercially engineered goods or commercial off-the-shelf engineered goods

WHEN IS AUTHENTICATION AND VALIDATION REQUIRED?		
If purchased commercially and used for its intended purpose as stated in the manufacturer's specifications.	If the user deviates from the designer's or manufacturer's published specifications.	If the good is integrated into a system.
NOT REQUIRED	REQUIRED FOR DEVIATIONS	REQUIRED FOR OVERALL SYSTEM

2. Customized engineered goods

Authentication required

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Engineered Goods in Residential Construction

- The EGP Act & NBC(AE) Div C 2.4.2.1(3) excludes certain buildings from the practice of engineering
  - Typically, those that fall under Part 9
- Therefore, it is up to the Safety Codes Officer to require engineering under Div C 2.4.2.1(9) when something is large or complex
- Design software does not replace an engineer
  - If you are relying on software output, you need to ensure it is in conformance with the requirements
    - NBC(AE) Part 9 / CCMC / etc.
- Technical work produced by an APEGA registrant must be authenticated

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What about Previously Authenticated Work?

- Can I rely on previous work?
  - It depends
    - Is it authenticated already? If not, should it be?
    - Is it still suitable for its intended purpose?
    - Is its intended purpose appropriate for what it is being used for? (e.g. Permit or Construction)
    - Does it meet current regulations, standards, codes?
    - Is it being modified or being fit into another PWP?
  - Use professional judgment – the intention is to have PWPs authenticated to protect the public

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Who can Practise Engineering or Geoscience?

- Anyone can! But many must do so under the supervision of a licensed professional:
  - Certified Engineering Technologists
  - Geoscientists-in-Training
  - Graduates with an Engineering or Geoscience Degree
- … or in limited circumstances:
  - University Professors
  - Members of the Canadian Forces
  - Homeowners
- A better question is who can independently practise.
  - Professional Engineer or Geoscientist
  - Professional Licensee
  - Professional Technologist
- Each of these designations comes with different independent scopes of practice:

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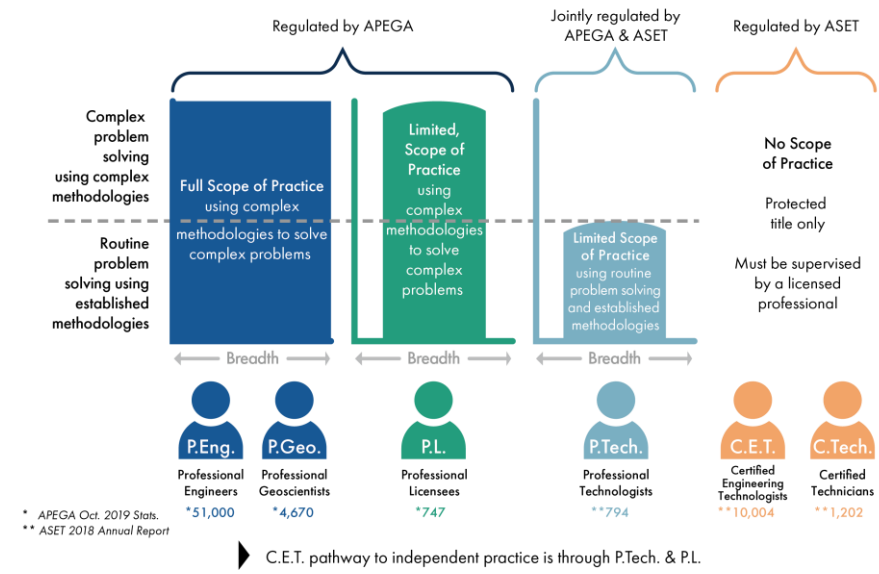
Engineering and Geoscience Designations and Scope of Practice Comparisons



Also:
Engineer-in-Training
Geoscientist-in-Training
Provisional Licensee

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APEGA Code of Ethics

Rules of Conduct #2:

Professional engineers and geoscientists shall undertake only work that **they are competent to perform** by virtue of their training and experience

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P.L.(Eng) Scope of Practice Example

- Within The Discipline Of Civil Engineering: Design And Review Engineered Wood Structures Consisting Of Commercial And Residential Structural Floor And Wall Load Bearing Systems, Including Their Associated Connections And Supports, Using Engineered Wood Products And Proprietary Software.

- In The Discipline Of Mechanical Engineering, In The Field Of Building Systems: Designing, Preparing Plans And Specifications For Heating, Ventilation, Air Conditioning, Plumbing, And Fire Protection Systems For Commercial, Institutional, Industrial And Residential Buildings.

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P.Tech. Scope of Practice Example

- Within the discipline of civil engineering: design and review engineered wood structures consisting of commercial and residential structural floor and wall load bearing systems, including their associated connections and supports, using engineered wood products and proprietary software **that is the routine application of industry recognized codes, standards, procedures and principles and method of problem solving**.

- Within the discipline of Mechanical engineering: design, inspection, operation, and project management of HVAC, plumbing (including natural gas) and fire protection systems and services of commercial, industrial, institutional and residential facilities **that is the routine application of industry recognized codes, standards, procedures and practices using established engineering or applied science principles and methods of problem solving.**

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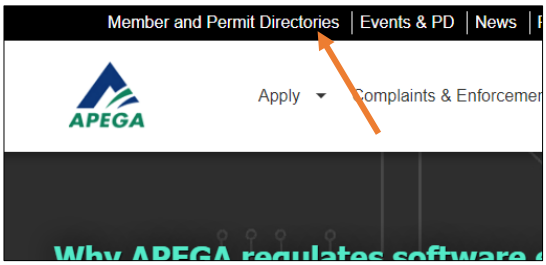
Where to Find Scope of Practice



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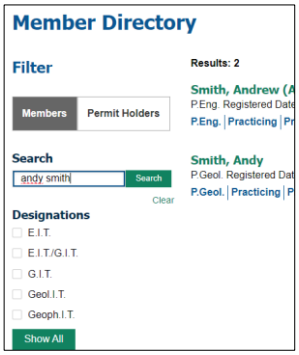

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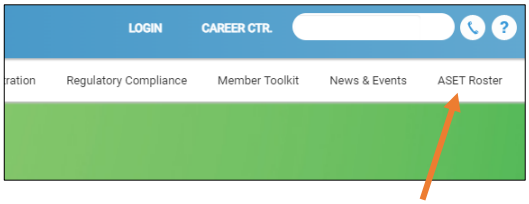

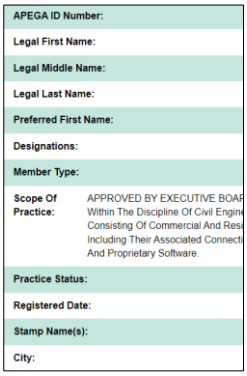

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Where to Get Help

- From Leavitt v APEGA, 2021 ABQB 983:
  - *APEGA was rightly concerned about the prospect of a professional technologist potentially being permitted to act as a supervising professional. As the provincial regulator of the practice of engineering,* ***it is within APEGA's jurisdiction to determine what activities are captured by the "routine application" of engineering knowledge****, and what activities require "complex methodologies" of engineering.*
- APEGA Professional Practice – professionalpractice@apega.ca
- Project currently in progress to develop guidance around complex vs routine

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NBC(AE) Schedules

- Updated NBC(AE) Schedules were published in Spring 2022
- Driven by public safety.
- AMA and Authorities Having Jurisdiction were not clear on the roles of professionals in the context of the NBC(AE) schedules, seeing gaps in professional involvement, delays to projects and unclear lines of authority/responsibility.
- This has been an identified issue since the mid 1990s.
- AMA/SCC/AAA/APEGA determined that AAA & APEGA should lead the initiative to provide clarity going forward.
- The focus of the work on the new schedules is the public interest in ensuring final, constructed buildings are safe, and professionals are accountable.

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NBC(AE) Schedules

- The revisions to the schedules aim to eliminate gaps in professional involvement and accountability within the building discipline and ensure that decisions related to professional involvement are made by those who are licensed to make them appropriately:
  - ✓ Registered Professionals, subject to scope & methodologies
  - × Registered Professionals without appropriate scope & methodologies
  - × Owners
  - × Safety Codes Officers
  - × Contractors
- The work on updating the schedules focused on **what** needed to be done. **Who** could do it flows out of **what** is required.
- The updates also align the schedules with APEGA's *Relying on the Work of Others and Outsourcing* practice standard.

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NBC(AE) Schedules

- We are anticipating some slight adjustments in the new NBC(AE)
- Once we have those finalized, we will update the User Guide and offer another round of presentations on the new schedules to all stakeholders
- User Guide currently available on both AAA and APEGA websites

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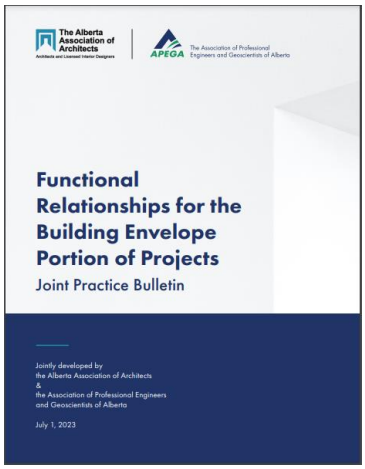
Professional Involvement on Building Envelope Projects

- *Functional Relationships for the Building Envelope Portion of Projects*
  - Joint AAA & APEGA publication, published July 2023
- Not a change to current practice, just confirmation
- Any registered professional can act as coordinating registered professional, subject to scope
- Registered engineering professionals can sign architectural portion of schedules for exclusively building envelope work, subject to scope
- Goes beyond just building envelope work in clarifying who can fulfill the roles specified in the NBC(AE) Schedules



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Thank You for Participating

Further Questions?

Contact us at:
professionalpractice@apega.ca

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professionalpractice@apega.ca

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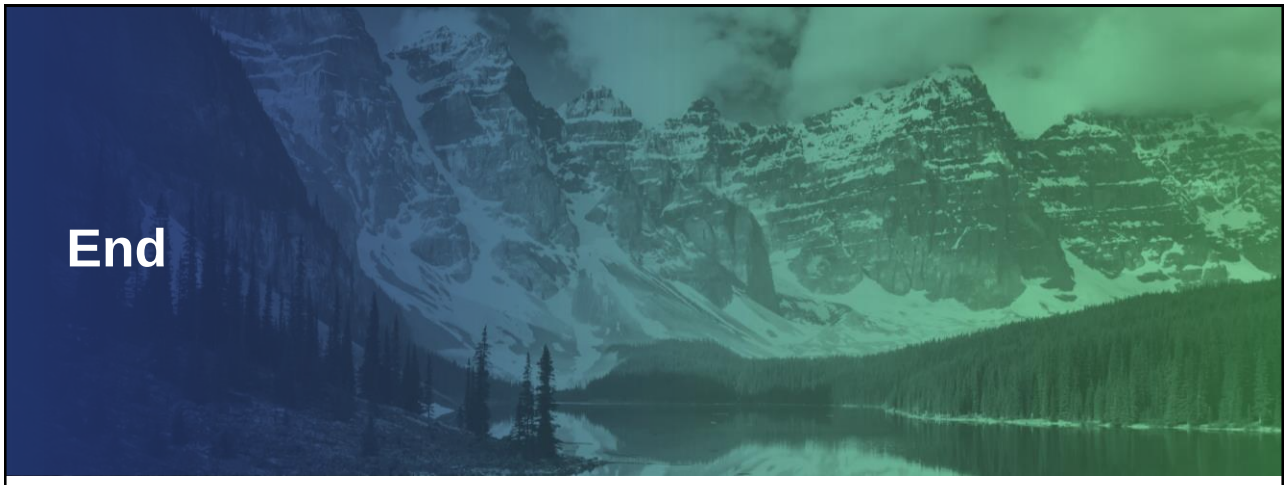

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