

Engineering Ethics

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Presentation Disclaimer

This presentation is intended to act as a primer to discuss the differences in how ethics is viewed and applied. In no way is this presentation legal advice or replace independent professional judgement. Ethics laws vary widely between states and even between municipalities and therefore require review for each situation.

Bottom Line: Do your own research as each situation is unique.

References presented were accessed in October 2021.

Safety Moment

Always remember your PPE on the job site!

Every jobsite is different and may require different PPE.



Protect Yourself Construction Personal Protective Equipment (PPE)

Eye and Face Protection

- Safety glasses or face shields are worn any time work operations can cause foreign objects to get in the eye. For example, during welding, cutting, grinding, nailing (or when working with concrete and/or harmful chemicals or when exposed to flying particles). Wear when exposed to any electrical hazards, including working on energized electrical systems.
- Eye and face protectors – select based on anticipated hazards.

Foot Protection

- Construction workers should wear work shoes or boots with slip-resistant and puncture-resistant soles.
- Safety-toed footwear is worn to prevent crushed toes when working around heavy equipment or falling objects.

Hand Protection

- Gloves should fit snugly.
- Workers should wear the right gloves for the job (examples: heavy-duty rubber gloves for concrete work; welding gloves for welding; insulated gloves and sleeves when exposed to electrical hazards).

Head Protection

- Wear hard hats where there is a potential for objects falling from above, bumps to the head from fixed objects, or of accidental head contact with electrical hazards.
- Hard hats – routinely inspect them for dents, cracks or deterioration; replace after a heavy blow or electrical shock; maintain in good condition.

Hearing Protection

- Use earplugs/earmuffs in high noise work areas where chainsaws or heavy equipment are used; clean or replace earplugs regularly.

For more complete information:

 **Occupational
Safety and Health
Administration**
U.S. Department of Labor
www.osha.gov (800) 321-OSHA

OSHA 1326-DUM-05

Missouri's Ethic's Laws

<https://pr.mo.gov/apelsla.asp>

Code of State Regulations

DIVISION 2030 - MISSOURI BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, PROFESSIONAL LAND SURVEYORS, AND PROFESSIONAL LANDSCAPE ARCHITECTS
• Chapter 1 - Organization
• Chapter 2 - Code of Professional Conduct
• Chapter 3 - Seals
• Chapter 4 - Applications
• Chapter 5 - Examinations
• Chapter 6 - Fees
• Chapter 7 - Nonresidents
• Chapter 8 - Land Surveying
• Chapter 10 - Corporations
• Chapter 11 - Renewals
• Chapter 12 - Complaints
• Chapter 13 - Supervision
• Chapter 14 - Definitions
• Chapter 15 - Public Records
• Chapter 16 - Missouri Standards for Property Boundary Surveys
• Chapter 17 - United States Public Land Survey Corners
• Chapter 18 - First and Second Order Horizontal and Vertical Control
• Chapter 19 - Standards for Surveyors Real Property Report
• Chapter 20 - Mapping Survey Standards
• Chapter 21 - Professional Engineering

State Statutes

Chapter 327 - Architects, Professional Engineers, Professional Land Surveyors and Professional Landscape Architects

Other Pertinent Statutory Provisions

Chapter 60 - Missouri Department of Agriculture's Missouri Standards for Property Boundary Surveys

Chapter 324 - Occupations and Professions General Provisions

- **324.001.** Division of professional registration established, duties--boards and commissions assigned to--reference to division in statutes.
- **324.015.** Fees, waiver of, when - definitions - procedure - rulemaking authority. (Low Income Individuals and Military Families)
- **324.022.** Rulemaking authority.
- **324.024.** Applications to contain Social Security numbers, exceptions.
- **324.031.** Collection and deposit of fees, requirements.
- **324.032.** Registry of licenses, permits, and certificates issued, contents--copying of registry information.
- **324.038.** Issuance of license subject to probation permitted, when, procedure.
- **324.043.** Statute of limitations for disciplinary proceedings--notice requirements--tolling, when.

Chapter 41 - Military Forces

- **41.946.** Licensure or certification by state, continuing education--exemption from requirements for active military service.
- **41.950.** Members of military forces called to active duty--relieved from certain provisions of law.

Chapter 8 - State Buildings and Lands

- **8.285.** Policy on contracts for architectural, engineering, land surveying services.
- **8.287.** Definitions.
- **8.289.** Agencies using services to be furnished statement of firm's qualifications and performance data.
- **8.291.** Negotiation for contract--not applicable for certain political subdivisions.

Missouri's Code of State Regulations

- Professional licensure is codified under the Department of Commerce and Insurance in Division 2030
- 20 CSR 2030-2.010 (3) – Professional Conduct
 - (A) **Act with reasonable care and competence and apply the technical knowledge and skill** which are ordinarily applied by architects, professional engineers, professional land surveyors, or professional landscape architects of good standing, practicing in Missouri. In the performance of professional services, licensees hold their **primary responsibility to the public welfare** which should not be compromised by any self-interest of the client or the licensee.
 - (B) Undertake to perform architectural, professional engineering, professional land surveying, and professional landscape architectural services only when they are **qualified by education, training, and experience** in the specific technical areas involved.
 - (C) In the conduct of their practice, **not knowingly violate** any state or federal criminal law.
 - (D) Comply with state laws and regulations governing their practice. In the performance of architectural, professional engineering, professional land surveying, or professional landscape architectural services within a municipality or political subdivision that is governed by laws, codes, and ordinances relating to the protection of life, health, property, and welfare of the public, a licensee **shall not knowingly violate these laws, codes, and ordinances**.

Missouri's Code of State Regulations Cont.

- 20 CSR 2030-2.010 (3) – Professional Conduct
 - (E) Recognize that their **primary obligation is to protect the safety, health, property, or welfare of the public**. If the professional judgment is overruled under circumstances where the safety, health, property, or welfare of the public are endangered, they are to notify their employer or client and other authority as may be appropriate.
 - (F) **Not assist non-licensees in the unlawful practice of architecture, professional engineering, professional land surveying, or professional landscape architecture.**
 - (G) Not assist in the application for licensure of a person known by the licensee to be unqualified in respect to education, training, experience, or other relevant factors.
 - (H) Truthfully and accurately represent to others the extent of their education, training, experience, and professional qualifications and not misrepresent or exaggerate the scope of their responsibility in connection with prior employment or assignments.

Missouri's Code of State Regulations Cont.

- 20 CSR 2030-2.010 (3) – Professional Conduct
 - (I) Not accept compensation, financial or otherwise, from more than one (1) party, for services pertaining to the same project, unless the circumstances are fully disclosed and agreed to by all interested parties. The disclosure and agreement shall be in writing.
 - (J) Make full disclosure, suitably documented, to their employers or clients of **potential conflicts of interest**, or other circumstances which could influence or appear to influence their judgment on significant issues or the unbiased quality of their services.
 - (K) Not offer, give, solicit, or receive, either directly or indirectly, any commission, contributions, or valuable gifts, in order to secure employment, gain an unfair advantage over other licensees, or influence the judgment of others in awarding contracts for either public or private projects. This provision is not intended to restrict in any manner the rights of licensees to participate in the political process; to provide reasonable entertainment and hospitality; or to pay a commission, percentage, or brokerage fee to a bona fide employee or bona fide established commercial or marketing agency retained by the licensee.

Missouri's Code of State Regulations Cont.

- 20 CSR 2030-2.010 (3) – Professional Conduct
 - (L) Not solicit or accept financial or other valuable consideration, either directly or indirectly, from contractors, suppliers, agents, or other parties in return for endorsing, recommending, or specifying their services or products in connection with work for employers or clients.
 - (M) Not attempt to, directly or indirectly, injure the professional reputation, prospects of practice or employment of other licensees in a malicious or false manner, or both.
 - (N) Not reveal confidential, proprietary, or privileged facts or data, or any other sensitive information obtained in a professional capacity without the prior consent of the client or employer except as authorized or required by law or rules of this board.
- 20 CSR 2030-2.010 (4) – Professional Conduct
 - Licensees having knowledge of any alleged violation of this Code shall cooperate with the proper authorities in furnishing information or assistance as may be required.

Missouri's Code of State Regulations Cont.

- 20 CSR 2030-2.010 (1) - Evaluation Criteria for Building Design
 - For building design, the board shall use, in the absence of any local building code, the **2018 edition of the International Building Code**, as the evaluation criteria in determining the appropriate conduct for any professional licensed or regulated by this chapter and being evaluated under section 327.441.2(5), RSMo. The International Building Code 2018 Edition is incorporated herein by reference and may be obtained by...
- 20 CSR 2030-2.050 - Title Block
 - Reminder – there are minimum standards for all title blocks
- 20 CSR 2030-13.010 – Immediate Personal Supervision
 - (4) Specifications, drawings, reports, design surveys, or other technical submissions will be deemed to have been prepared under the immediate personal supervision of a licensee when the following circumstances exist:
 - (C) The licensee is not employed by the **client solely for the purpose of reviewing and approving** specifications, drawings, reports, design surveys, or other technical submissions prepared by an unlicensed person, employee, or contractor of the client;

Missouri's State Statutes

- Codified under Title XXII
- Chapter 327
- 327.181. Any person **practices in Missouri** as a professional engineer who renders or offers to render or holds himself or herself out as willing or able to render any service or creative work, the adequate performance of which requires **engineering education, training, and experience in the application of special knowledge** of the mathematical, physical, and engineering sciences to such services or creative work as **consultation, investigation, evaluation, planning and design of engineering works and systems**, teaching of advanced engineering subjects or courses related thereto, design surveys and studies, the design coordination of services furnished by engineers and other consultants as they relate to engineering work, **construction observation and the inspection of construction** for the purpose of compliance with drawings and specifications, any of which embraces such service or work either **public or private**, in connection with any utilities, structures, buildings, machines, equipment, processes, work systems or projects and including such architectural work as is incidental to the practice of engineering; or **who uses the title "professional engineer" or "consulting engineer" or the word "engineer"** alone or preceded by any word indicating or implying that such person is or holds himself or herself out to be a professional engineer, or who shall use any word or words, letters, figures, degrees, titles or other description indicating or implying that such person is a professional engineer or is willing or able to practice engineering.

American Council of Engineering Companies (ACEC)

Professional & Ethical Conduct Guidelines Fundamental Cannons

- Consulting engineers, in the fulfillment of their professional duties, shall:
 - Hold paramount the safety, health and welfare of the public in the performance of their professional duties.
 - Perform services only in areas of their competence.
 - Issue public statements only in an objective and truthful manner.
 - Act in professional matters for each client as faithful agents or trustees.
 - Avoid improper solicitation of professional assignments.

Association of Conservation Engineers (ACE)

Bylaws – Objectives of this Association

- c. To encourage and broaden the educational, social and economic interests of engineering practices.
- d. To promote the recognition of the importance of sound engineering practices in fish, wildlife and recreation development.
- e. To enable each member to utilize the experiences of other members.
- f. To generally take all such proper action that may be necessary to further the cause of fish, wildlife and recreational developments.

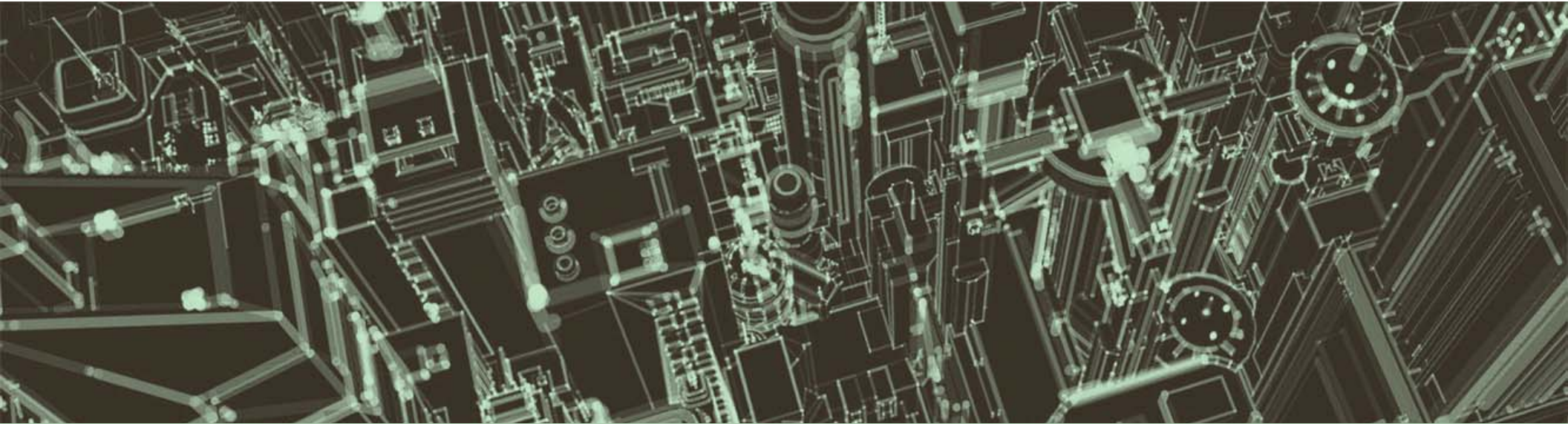
What do we Follow?

- Multiple laws and requirements
- Varies from state to state
- Varies by organization

What if They Conflict?

What if the Client wants to save money?





Ethical Dilemma

A Few Cases for Consideration



To Pay or Not to Pay?

- Registered professional in good standing with the board.
- Not in compliance with Section 324.010 RSMo (Delinquent Taxes)



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To Pay or Not to Pay?

- APEPLSPLA notified the professional multiple time of their delinquent tax payment.
- Their professional license was suspended.
- Cited Section 324.010, RSMo

324.010. No delinquent taxes, condition for renewal of certain professional licenses. — All governmental entities issuing professional licenses, certificates, registrations, or permits pursuant to sections 209.319 to 209.339, sections 214.270 to 214.516, sections 256.010 to 256.453, section 375.014, sections 436.005 to 436.071, and chapter 317 and chapters 324 to 346 shall provide the director of revenue with the name and Social Security number of each applicant for licensure with or licensee of such entities within one month of the date the application is filed or at least one month prior to the anticipated renewal of a licensee's license. If such licensee is delinquent on any state taxes or has failed to file state income tax returns in the last three years, the director shall then send notice to each such entity and licensee. In the case of such delinquency or failure to file, the licensee's license shall be suspended within ninety days after notice of such delinquency or failure to file, unless the director of revenue verifies that such delinquency or failure has been remedied or arrangements have been made to achieve such remedy. The director of revenue shall, within ten business days of notification to the governmental entity issuing the professional license that the delinquency has been remedied or arrangements have been made to remedy such delinquency, send written notification to the licensee that the delinquency has been remedied. Tax liability paid in protest or reasonably founded disputes with such liability shall be considered paid for the purposes of this section.

(L. 2003 H.B. 600 § 2, A.L. 2004 H.B. 978)

(2006) Section authorizing revocation of a professional license for failure to pay state taxes or file state tax returns does not violate equal protection, is not unconstitutionally vague, and was not unconstitutionally applied retroactively. *Crum v. Missouri Director of Revenue*, 455 F.Supp.2d 978 (W.D.Mo.).

---- end of effective 28 Aug 2004 ----

What Can('t) You See?

- The HOA sent a letter to the Apartment Owner requesting the Owner retain a structural engineer to evaluate the buildings and repairs be made per the structural engineer's findings
- 28 specific complaints regarding the condition of the building were outlined within the HOA letter
- City Building Official also visually inspected building. City official noted the intrusion of presence of water within the exterior finishes.
- City Building Official letter directed the Owner to retain the services of a Professional Engineer to conduct a thorough investigation of the structure and provide a report of findings (including statement of safety and plan of action to the City).



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What Can('t) You See?

- Professional Engineer registered in the State of Missouri and primary in the field of water, highway, and site development
- Conducted the necessary investigation and prepared a report offering the following conclusion:
 - In conclusion, I could find no evidence of structural movement regarding the building and the above-mentioned items do not affect the structural integrity of the building to continue to support the residential condominium loads that rest upon it. It is my professional opinion that the Building complies with the IRC 2012 Building Code.
- QUESTION – what is necessary?



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What Can('t) You See?

- PE's license was placed on suspension for the following:
 - Did not observe structural members
 - Did not direct the owner's representative to remove the fascia, soffit, or sheathing
 - Did not make measurements of the degree of deflection
- APEPLSPLA cited 20 CSR 2030.2.010(3)
 - Failed to act with reasonable care and competence and apply the technical knowledge and skill which are ordinarily applied by a PE of good standing
- PE License on probation for 2 years and \$5,000



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Long term Environmental Care(lessness)?

- You are a consulting Professional Engineer that mainly focuses on site development in environmentally sensitive areas.
- You have been selected to design a new site near an existing environmental sensitive area (ESA)
- You have designed the site utilizing technology and methods that exceed the minimum design requirements of the regulating authorities (local, state, and federal)
- You send the cost estimate and plans to the owner. After review, the owner asks you to only meet the minimum requirements to reduce costs



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What is your
course of action?

Long term Environmental Care(lessness)?

- Does your plan of action change if:
 - The long-term health of the ESA will be detrimentally impacted if you only meet the minimum requirements.



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Thanks for Attending!

Questions?

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Comments?

(573) 522-4115 x3725

Missouri Laws and Rules Exam

Architects, Professional Engineers, Professional Land Surveyors and Professional Landscape Architects - Test your knowledge of Chapter 327, RSMo, the Board Rules, and Practice Ethics. This exam has been approved for 2 CEUs/PDHs/PDUs.

Take the [free](#) Exam online now.

Reminder: Missouri Day is the third Wednesday in October each year