



Professional Engineering Ethics in Stormwater Management

2024 Waukesha County Stormwater Workshop

Thurs., April 4, 2024

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EMERALD ACRES FLOOD MITIGATION PROJECT PEWAUKEE, WISCONSIN

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**SEPTEMBER 16, 2019
BID PLAN SET**

NOT TO SCALE
SOURCE: WWW.GOOGLE.COM

DRAWING INDEX

DWG NO.	SHEET TITLE
0000	COVER SHEET
01	GENERAL NOTES, LEGEND AND SHEET INDEX
02	EROSION CONTROL PLAN AND CONSTRUCTION ACCESS
03	STORM WATER CHANNEL TYPICAL SECTION
04	RAIN FLOW MANAGEMENT CONSTRUCTION TYPICAL SECTION
05	EROSION CONTROL AND STORM SEWER DETAILS
06	EROSION CONTROL DETAILS
07	EROSION CONTROL NOTES
08A	SINGLE STORM SEWER PLAN AND PROFILE
08B	SINGLE STORM SEWER PLAN AND PROFILE
08C	SINGLE STORM SEWER PLAN AND PROFILE
08D	TRIPLE GROUND-CULVERT PLAN AND PROFILE
08E	TRIPLE GROUND-CULVERT TYPICAL SECTION
08F	SETTLEMENT MONITORING PLAN AND PROFILE
09	CULVERT ENHANCEMENT PLAN AND SECTIONS
09A	CULVERT ENHANCEMENT NOTES AND DETAILS

WISCONSIN PROFESSIONAL ENGINEERING BOARD
ERIC J. EILERTSON
BARABOIS, WI
9-17-2019

CALL DIGGERS HOTLINE
1-800-242-8511
TOLL FREE

FAX A LOCATE 1-800-338-3569
TDD (FOR HEARING IMPAIRED) 1-800-542-2289

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CANADIAN PACIFIC RAILROAD ONE CALL
CP Call before you Dig (CP CBDO)
1-866-291-0741

DISTING UTILITIES SHOWN IN PLANS ARE INDICATED IN ACCORDANCE WITH LOCAL ORDINANCES FROM CITY AND BY PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF LOCATIONS AND DEPTHS OF ALL UTILITIES AND CROSSING POINTS.

AECOM

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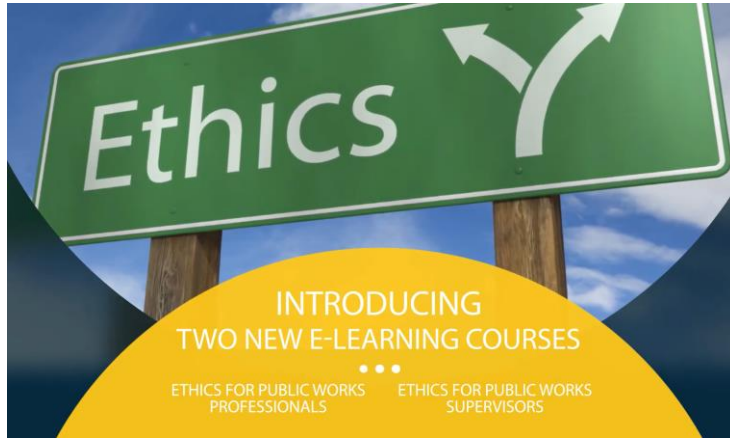
CITY OF PEWAUKEE
EMERALD ACRES FLOOD MITIGATION PROJECT
COVER SHEET

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1-262-681-0770
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Professional Engineering Ethics in Stormwater Management

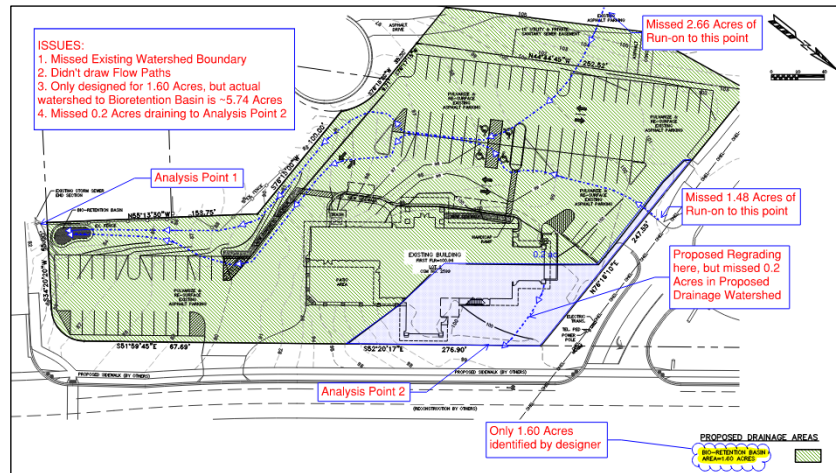
Sources of Content



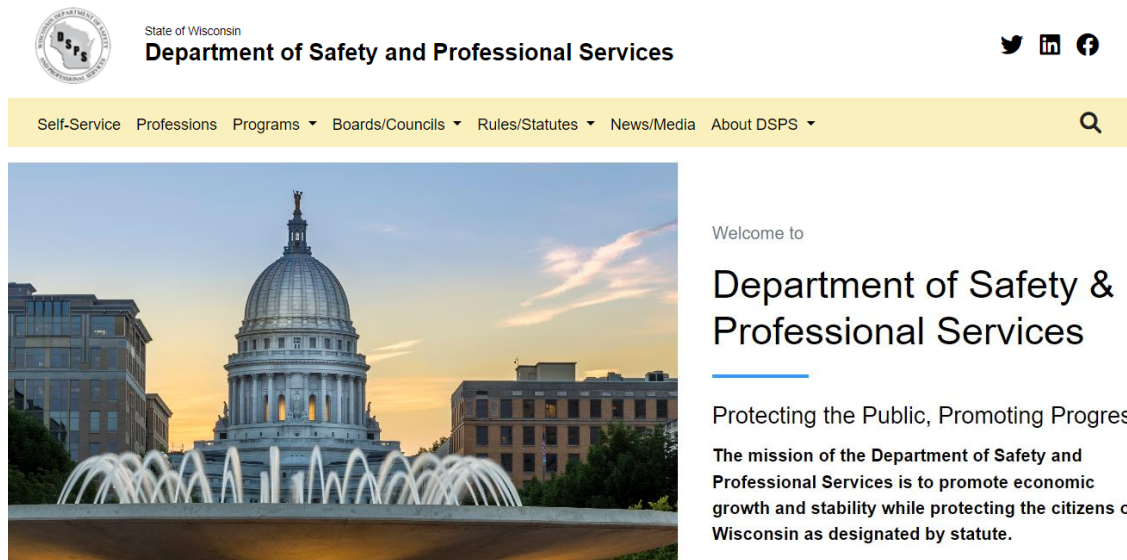
APWA E-Learning Courses by Nick Arena & Sue Hann



Code of Conduct Training Highlights at Rick's workplace



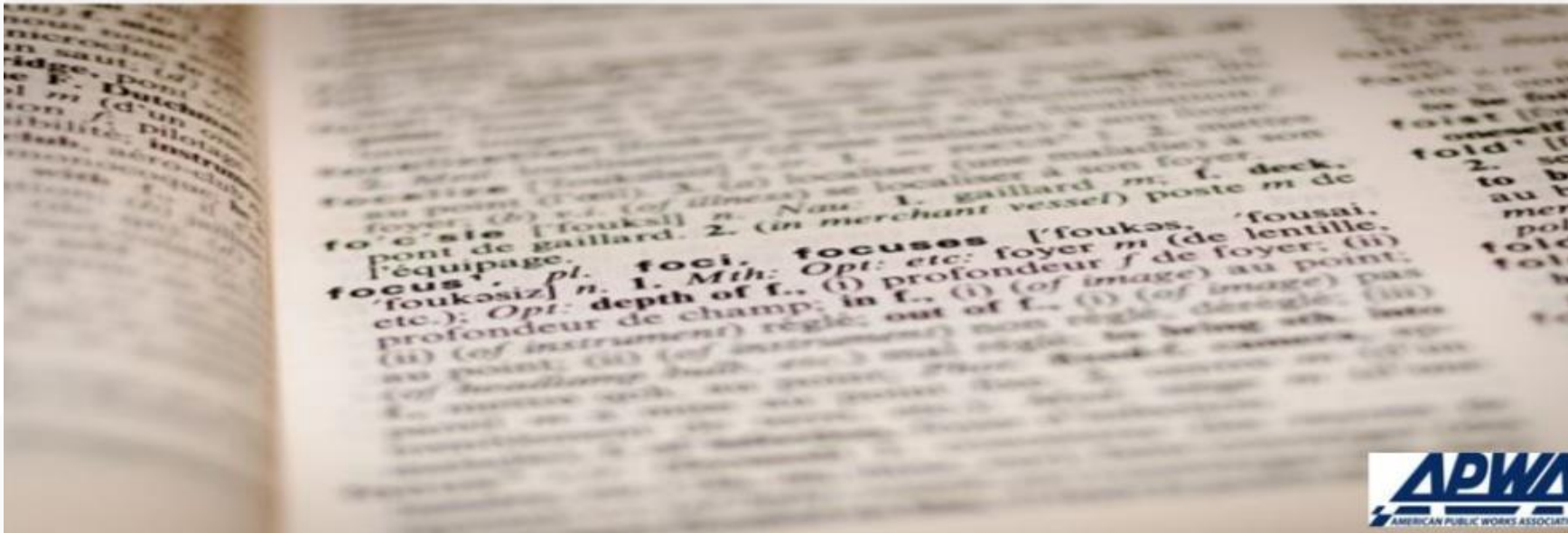
Stormwater Plan Examples in WI



Content on [WI's DSPS web site](#)

Ethics Definition

Ethics or moral philosophy is a branch of philosophy that involves systematizing, defending, and recommending concepts of right and wrong conduct. The term ethics derives from Ancient Greek ethikos, from ethos, meaning "habit, custom".



Rules of behavior based on ideas about what is morally good and bad

Belief or standard that is in line with social standards

A set of standards used to determine right from wrong

Develop an Ethical Culture

Many of the cultural norms and expectations of an organization are never expressed in writing but are inferred once you closely observe the environment. Clear expectations for behavior among all members of an organization is the first step towards a more ethical organizational culture.



01

Develop Norms

Work together to develop norms

02

Commit

Make a personal commitment

03

Discuss

Discuss norms and ethical issues regularly

Ethical Tests

The steps below are provided to help you make ethical distinctions between competing options when you are faced with a difficult choice. Making ethical choices requires the ability to make distinctions between competing options. Below are four steps to help you make better decisions:



Legal

Is it legal



Policy

Does it violate policy?



Professional Standards

Does it violate professional standards?



Personal Standards

Does it violate personal standards?

Rules

Do the right thing

Doing the right thing might not be easy, but it will make you successful.

Smell Test

The smell test requires one to step back and look at the decision the way society sees it.

Friends and Family

Ask your friends and family for their opinion.

Most Ethical Person I Know

Ask the most ethical person you know to see what their opinion is.

Golden Rule

Do unto others as you would have them do unto you.

Sleep Test

When faced with an ethical dilemma, sleep on it and see what you think the next morning.

Front Page Headlines

Ask yourself how you would feel if the issue appeared in the newspaper.

Appearance

Ask yourself if viewed from the outside, if it would appear ethical.



Perception is reality...



Ethical Policies – See Handout



**STANDARDS OF
PROFESSIONAL
CONDUCT**



**CODE
OF
ETHICS**



**CODE
OF
ETHICS**



**CODE
OF
ETHICS**

APWA Standards of Professional Conduct

1. **Public Trust:** I will maintain the public trust and avoid personal gain from privileged information or relationships.
2. **Public Interest:** I will prioritize the public interest over individual, group, or societal interests, viewing my occupation as an opportunity to serve society.
3. **Sustainability:** I will promote sustainability by responsibly managing natural, financial, and human resources.
4. **Health and Safety:** I will consider public health and safety in all aspects of my work.
5. **Integrity:** I will conduct myself with personal integrity, honoring the reputation of the profession, my employer, my community, and the Association.
6. **Legal Compliance:** I will ensure that my work complies with all legal requirements set by local, state, provincial, or federal governments.
7. **Environmental Stewardship:** I will plan, design, build, maintain, and operate public infrastructure with respect for the environment and future generations¹.



Code of Ethics at Rick's Workplace



Course Menu

27 min.

This is the course menu.

Complete each section of the training to receive credit.

You can access the Menu, Resources, and Preferences using the icons at the top.



Pre-Course Assessment



Introduction



Speaking Up:
What's Stopping Me?



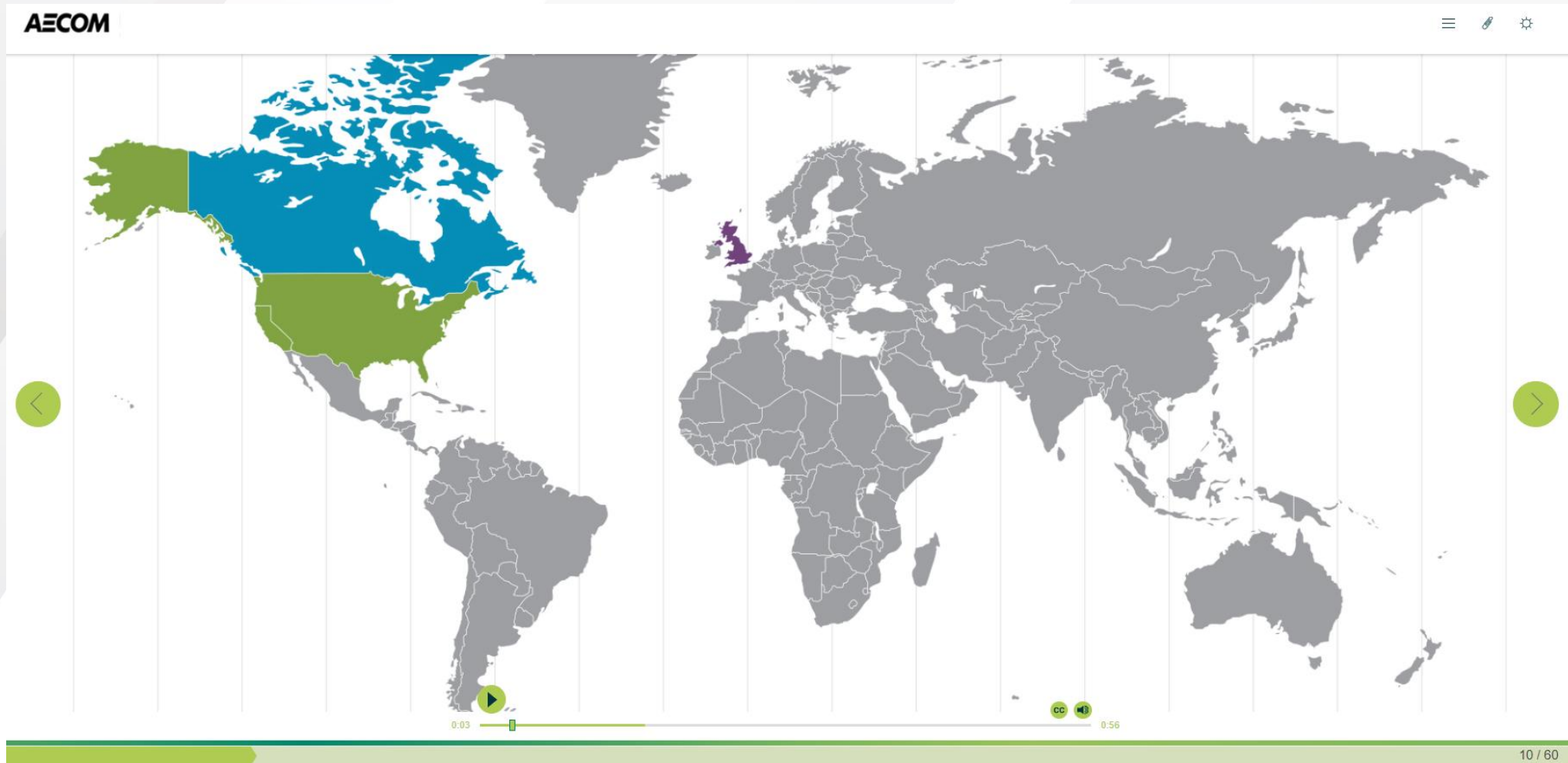
Creating a Harassment Free Workplace



Summary



Code of Ethics at Rick's Workplace



Code of Ethics at Rick's Workplace

AECOM

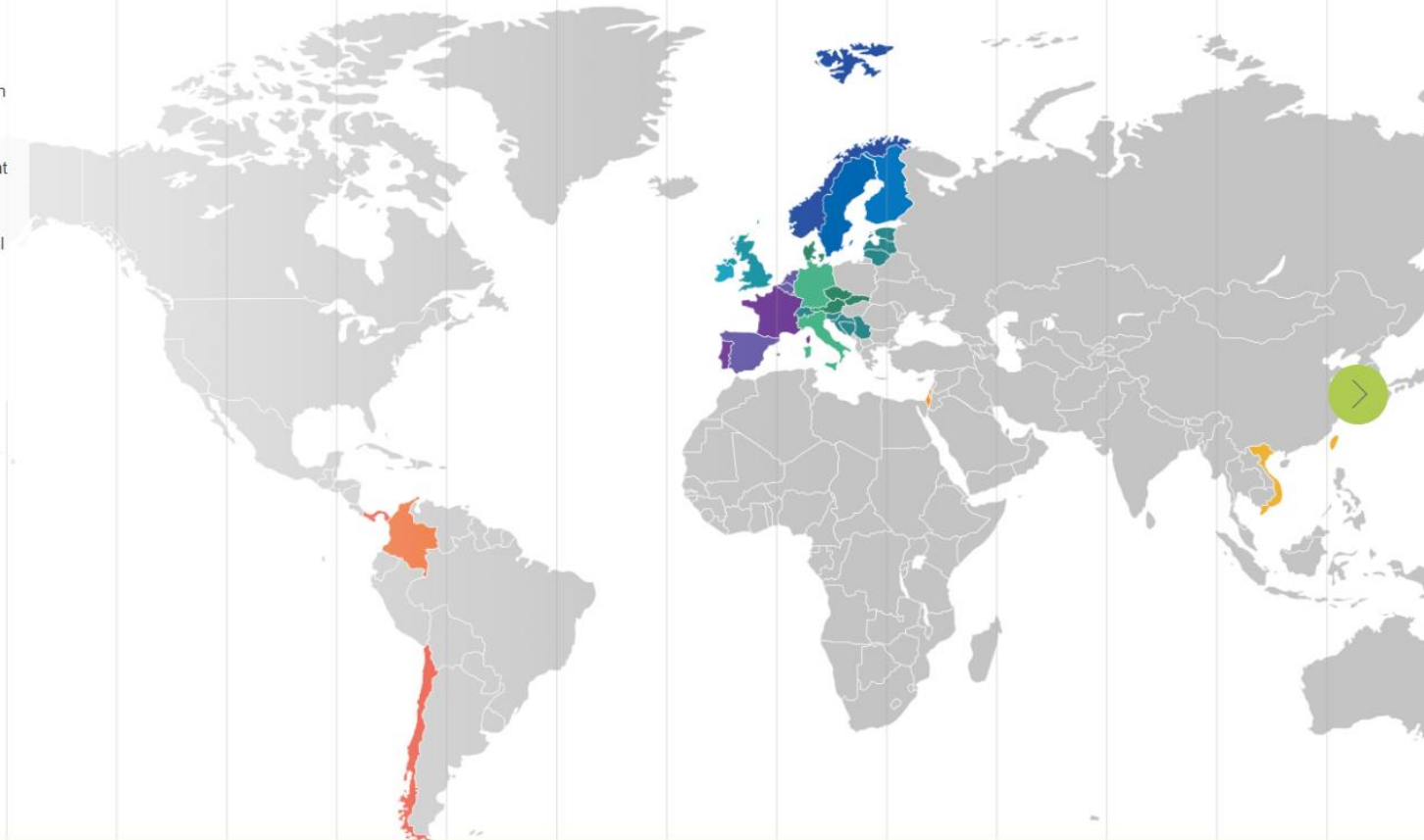


Dignity and Respect

The word "dignity" is included in the definition of sexual harassment in over a dozen EU country laws. Sexual harassment is also seen as a dignity violation in places such as the Philippines, Taiwan, Vietnam, Chile, and Colombia. In a few European countries, sexual harassment is part of prohibited conduct in the same law that prohibits bullying.

While bullying is not generally legally prohibited in the U.S., it is illegal in numerous countries, under the same rationale as sexual harassment—that it violates an individual's dignity.

This map shows countries that refer to dignity in their laws when referencing sexual harassment.



15 / 60

Code of Ethics at Rick's Workplace

Key Takeaways

Remember to:



Feel empowered

We value an ethical culture where employees make good decisions and feel empowered to ask questions or report concerns related to our Code of Conduct.



Feel safe

You can safely speak up without fear of retaliation, whether you have an ethical concern or need to ask for advice.



Refer to the Code

As you make decisions in your daily work, keep in mind the Code of Conduct topics you have explored. Remember, the decisions you make impact our ethical culture and make the company a better place to work for all.

Code of Ethics at Rick's Workplace

Rick Eilertson, PE, ENV-SP

Project Engineer/Manager, Water, US West

[\(He, him, his\)](#)

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Professional Engineering Ethics in Stormwater Management

Wisconsin PE Stamp Requirements

Wisconsin Administrative Code § A-E 2.02

1. Registration Seals – 1.625” to 2” diameter
2. Approved designs for stamps =====>
3. Rubber stamp may be used
4. Each sheet of plans, drawings, documents, specifications and reports for Arch, LA, PE, Design, or PLS shall be signed, sealed and dated by registrant/permit holder who prepared, or directed and controlled preparation, except as specified in sub. (5).
5. If > 1 sheet is bound, the registrant may sign, seal, and date just the title or index sheet if the signed sheet clearly identifies all other sheets, otherwise all individual sheets must be signed.



Professional Engineering Ethics in Stormwater Management

Wisconsin PE Stamp Requirements, continued

Wisconsin Administrative Code § A-E 2.02

6. Any addition, deletion or other revision to each sheet which affects public health and safety or any state or local code requirements may not be made unless signed, sealed and dated by the registrant/permit holder.
7. All seals or stamps shall be original (e.g. crimp, rubber stamp or electronic meeting requirements of ch. [137](#), Stats.)
8. Plans, specifications and calculations for buildings and structures not exempt under s. [443.15](#), Stats. by non-WI registrant shall have certificate, dated, signed and sealed by the WI registrant with description and statements.

When is the WI PE Renewal Period? What do I need to do?

- Per [440.08](#), Wis. Stats., the renewal period for Wisconsin Professional Engineers is: **Aug. 1 of each even-numbered year**
 - Renew at: [DSPS Professional Engineer \(wi.gov\)](#) by July 31
- Per [13.03](#), Stats., WI PE's need at least **30** professional development hours (PDHs) per biennium, including at least **2** PDHs in professional conduct and ethics
- At least **13** of the **30** PDHs need to be real time with active participation with the instructor
- Instructors earn double the PDHs per hour of instruction
- Active participation in professional/technical societies earns 2 PDHs per year

When is the WI PE Renewal Period? What do I need to do?

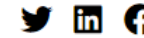
- Per [440.08](#), Wis. Stats., the renewal period for Wisconsin Professional Engineers is: **Aug. 1 of each even-numbered year**
 - Renew at: [DSPS Professional Engineer \(wi.gov\)](#) by July 31
 - Tracking sheets are available at: [DSPS PE Continuing Education \(wi.gov\)](#)
- Per [AE-13.03](#), Stats., WI PE's need at least **30** professional development hours (PDHs) per biennium, including at least **2** PDHs in professional conduct and ethics
- At least **13** of the **30** PDHs need to be real time with active participation with the instructor
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Professional Engineering Ethics in Stormwater Management

Who oversees WI's Professional Engineer Section?



State of Wisconsin
Department of Safety and Professional Services



Self-Service Professions Programs ▾ Boards/Councils ▾ Rules/Statutes ▾ News/Media About DSPS ▾



Professional Engineer Section

Additional Resources

[A-E Board Page](#)

[Apply to Serve](#)

[Meeting Schedule and Agendas](#)

[Suggest an Agenda Item](#)

[Statutes and Administrative Code](#)

Related Links

[A-Z Profession List](#)

[Check for Pending Rules](#)

[Orders and Disciplinary Actions](#)

[Professional Assistance Procedure](#)

[Monitoring](#)

[File a Complaint](#)

Contact

Professional Engineer Section

The Professional Engineer Section of the Examining Board of Architects, Landscape Architects, Professional Engineers, Designers, Professional Land Surveyors, and Registered Interior Designers is created in [Wis. Stat. § 15.405\(2\)](#) and has authority as outlined in [Wis. Stat. ch. 443](#).

Members

The members of the Professional Engineer Section are appointed by the Governor and confirmed by the Legislature to serve 4-year terms. The Section consists of 3 engineer members and 2 public members.

Member	Officer	Member Type	Term Expiration
Linck, Karl L.	Chairperson	Engineer Member	7/1/2025
Scholl, Colleen M.	Vice Chairperson	Engineer Member	7/1/2027
Hook, Steven J.	Secretary	Public Member	7/1/2014*
Cotham, Kristine A.		Engineer Member	7/1/2021*
Vacant		Public Member	

*Section members whose terms have expired may continue to serve until their successor is confirmed by the Senate.

What does WI's Professional Engineer Section do?

- Board issues certificates to qualified PEs
- Board has authority to revoke/suspend certificates
- Disciplinary action involves:
 - Unethical conduct
 - Incompetence
 - Unlicensed practice
 - Misrepresentation
 - Plan stamping, and
 - Other practice allegations
- Board reviews complaints and schedules hearings if violations are noticed

Professional Engineering Ethics in Stormwater Management

Where can Orders and Disciplinary Actions be found?



State of Wisconsin

Department of Safety and Professional Services



Self-Service Professions Programs ▾ Boards/Councils ▾ Rules/Statutes ▾ News/Media About DSPS ▾



Orders and Disciplinary Actions

This website provides public access to records of the Wisconsin Department of Safety and Professional Services Reports of Decision. These records are open to public view under Wisconsin's Open Records law, sections 19.31-19.39 Wisconsin Statutes.

[DSPS Orders and Disciplinary Actions \(wi.gov\)](https://www.dsp.wisconsin.gov/orders-disciplinary-actions)

Please Read This Agreement Prior to Viewing Reports of Decisions

- The Reports of Decisions is designed to contain copies of all orders issued by credentialing authorities within the Department of Safety and Professional Services from November, 1998 to the present. In addition, many but not all orders for the time period between 1977 and November, 1998 are posted. Not all orders issued by a credentialing authority constitute a formal disciplinary action.
- Reports of Decisions contains information as it exists at a specific point in time in the Department of Safety and Professional Services database. Because this database changes constantly, the Department is not responsible for subsequent entries that update, correct, or delete data. The Department is not responsible for notifying prior requesters of updates, modifications, corrections, or deletions. All users have the responsibility to determine whether information obtained from this site is still accurate, current, and complete.
- There may be discrepancies between the online copies and the original document. Original documents should be consulted as the definitive representation of the order's content. Copies of original orders may be obtained by mailing requests to the Department of Safety and Professional Services, PO Box 8935, Madison, WI 53708-8935. The Department charges a copying fee. *All requests must cite the legal services (LS) case number, the date of the order, and respondent's name as it appears on the order.*
- Reported decisions may have an appeal pending, and discipline may be stayed during the appeal. Information about the current status of a credential issued by the Department of Safety and Professional Services is shown on the Department's [License Look-Up](#) site. The status of an appeal may be found on court access websites at: <https://wcca.wicourts.gov/index.xsl> and <https://wscca.wicourts.gov/index.xsl>.
- Records not open to public inspection by statute are not contained on this website.

Please indicate that you have read the above and agree to the use of the Reports of Decisions subject to the above terms, and that you understand the limitations of this online database.

I Agree


Professional Engineering Ethics in Stormwater Management

What Stormwater Management Documents need PE Stamps?


1. Stormwater Management Plan Reports
2. Plan Sets/Sheets for Stormwater Systems/Facilities
3. Project Manuals/Specifications
4. Addenda

EMERALD ACRES FLOOD MITIGATION PROJECT
PEWAUKEE, WISCONSIN

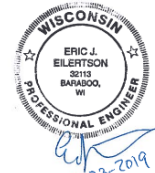
SEPTEMBER 16, 2019
BID PLAN SET




DWG NO.	SHEET TITLE
GENERAL	COVER SHEET
01	GENERAL NOTES, LEGEND AND SHEET INDEX
02	EROSION CONTROL, PLAN AND CONSTRUCTION ADDRESS
D1	STORM WATER CHANNEL, TYPICAL SECTION
D2	RAILROAD FURNISHMENT CONSTRUCTION, TYPICAL SECTION
D3	EROSION CONTROL AND STORM SEWER DETAILS
D4	EROSION CONTROL DETAILS
D5	EROSION CONTROL NOTES
CS1	60-INCH STORM SEWER PLAN AND PROFILE
ST-1	60-INCH STORM SEWER PLAN AND PROFILE
ST-2	60-INCH STORM SEWER PLAN AND PROFILE
ST-3	60-INCH STORM SEWER PLAN AND PROFILE
ST-4A	TRIPLE 60-INCH CULVERT PLAN AND PROFILE
ST-4B	TRIPLE 60-INCH CULVERT TYPICAL SECTION
ST-4C	SETTLEMENT MONITORING PLAN AND PROFILE
ST-1	CULVERT ENDWALLS PLAN AND SECTION
S2	CULVERT ENDWALLS NOTES AND DETAILS



9-17-2019



9-23-2019



CITY OF PEWAUKEE
EMERALD ACRES FLOOD MITIGATION PROJECT
COVER SHEET

W240 N3085 PEWAUKEE ROAD
PEWAUKEE, WI 53072
1-262-691-0770
WWW.CITYOFPEWAUKEE.US

AECOM

Project Manual

Emerald Acres Flood Mitigation Project

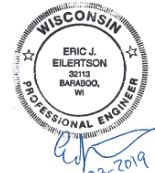
for the
City of Pewaukee, Wisconsin

Project No. 60185225

Prepared by:

AECOM
1350 Deming Way, Suite 100
Middleton, WI 53562
Telephone: 608-838-8800

September 2019



9-23-2019

Professional Engineering Ethics in Stormwater Management

Proper method of signing, sealing, and dating

Which are proper ways to sign, seal, and date SWMPs and Plan Sets to meet [Wisconsin Administrative Code § A-E 2.02](#)?



Eric J. Eilertson
February 9, 2022

A



February 9, 2022

B



Eilertson, Rick

Digitally signed by Eilertson, Rick
DN: CN="Eilertson, Rick",
OU=USM&N1, OU=US,
OU=AMER, OU=AECOM, Inc.,
DC=us, DC=aecom, DC=com
Date: 2022.02.09 05:15:10 -0500

C

Professional Engineering Ethics in Stormwater Management

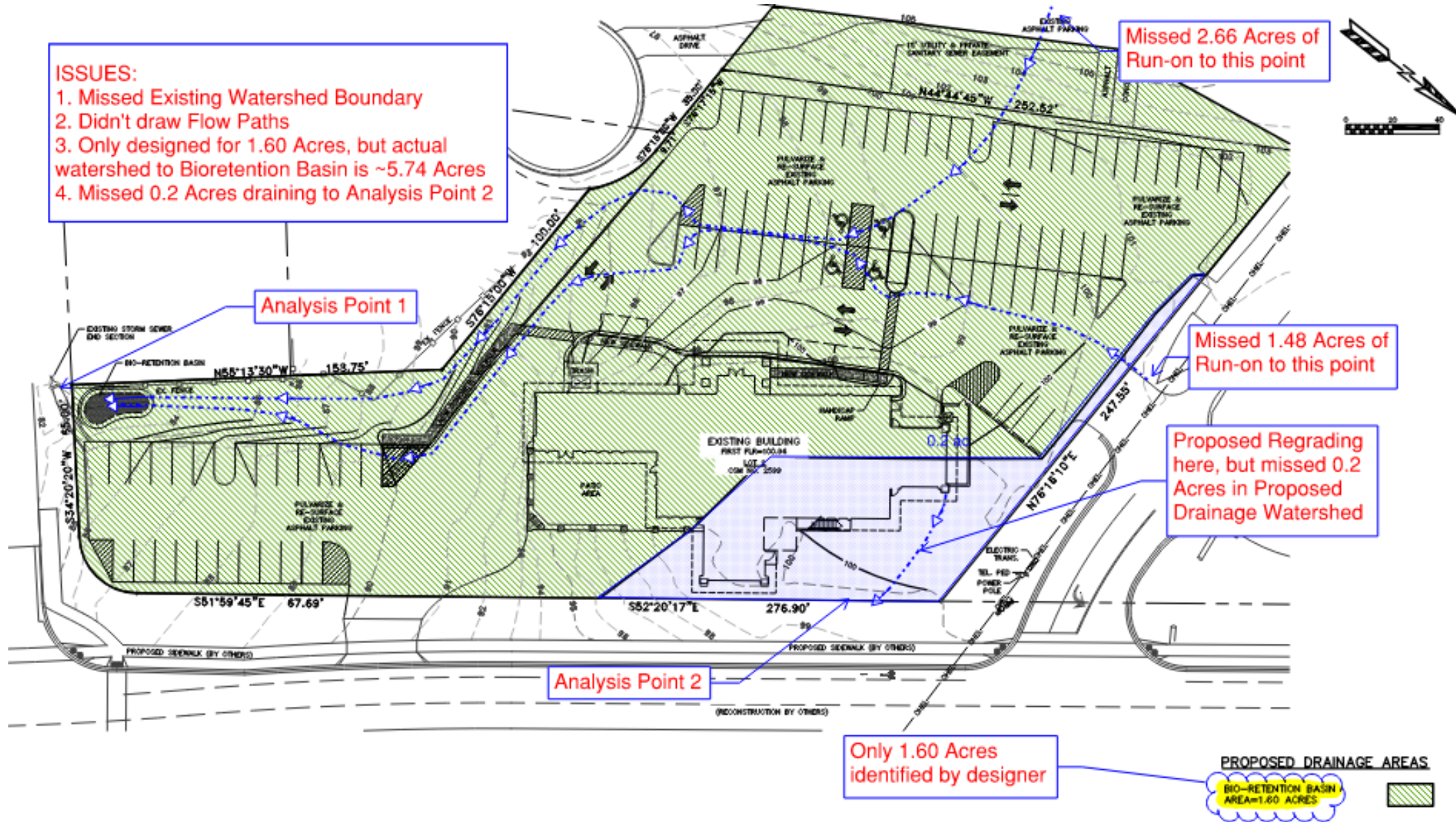
Example Stormwater Analysis Issues

Review watersheds entering and leaving the “project limits”

1. Identify any “run-on” onto the site and whether this is routed around or through the proposed stormwater system
2. Verify each “run-off” analysis point
3. Verify that the predeveloped and post-developed watersheds have the same boundary.
4. Create Flow Paths and identify Time of Concentration (T_c) for each Flow Path
 - Flow path should be from the “most hydraulically distant point” to the analysis point leaving the site
 - Maximum sheet flow was 300’ in original TR-55, but is now 100’ before becoming shallow concentrated flow => This makes a HUGE difference!

Professional Engineering Ethics in Stormwater Management

Example Stormwater Analysis Issues

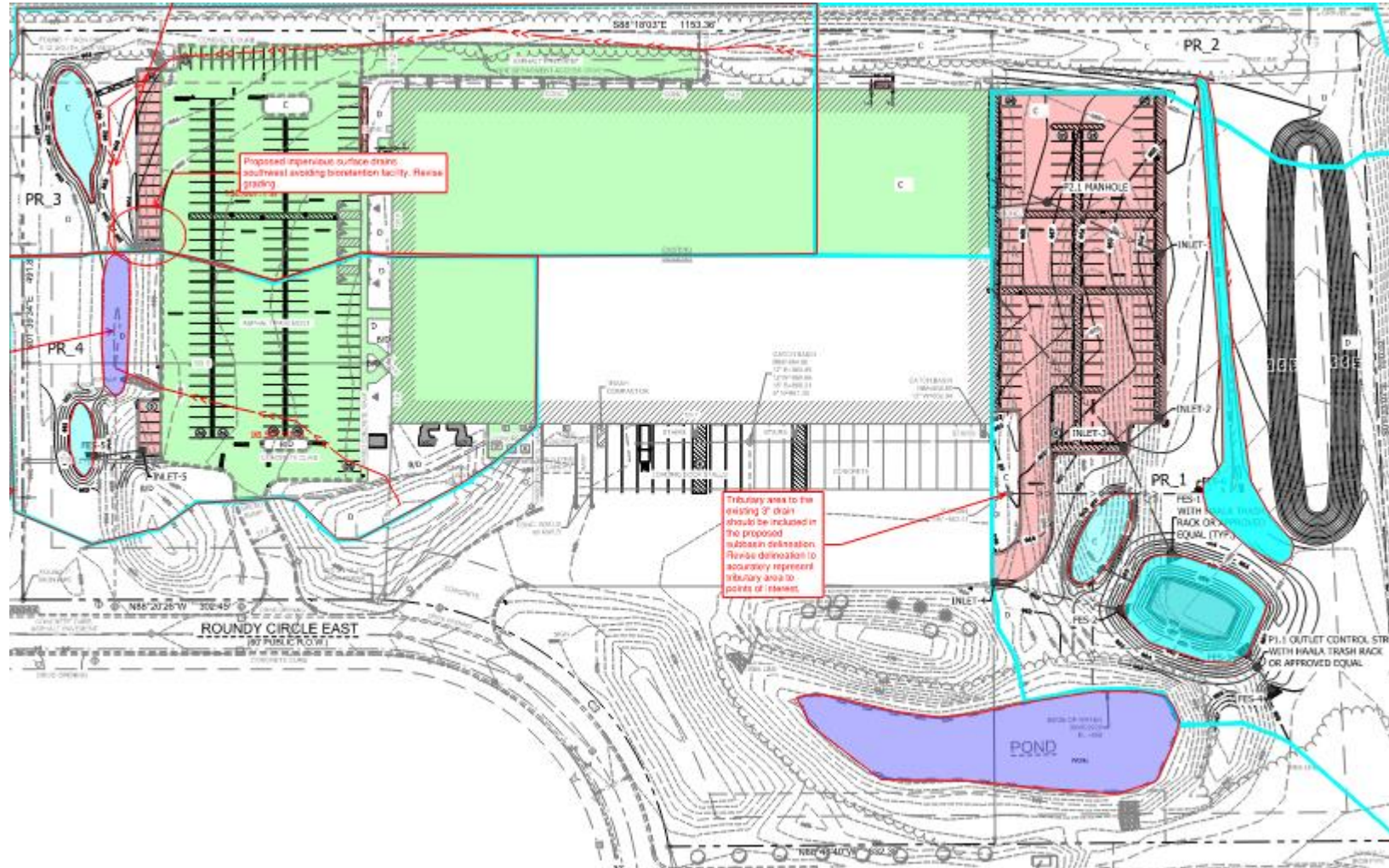


Professional Engineering Ethics in Stormwater Management

Example Stormwater Analysis Issues

Local, County, and State Regulators involved up front?

1. Pre-Application Meeting?
2. Regulators briefed on the project and given the chance to offer any suggestions for a successful design and approval?



Professional Engineering Ethics in Stormwater Management

What Best Practices do you use to communicate during SW Reviews?

Letters? Emails? Virtual Meetings? Web-based PDF Markup Sessions?

The collage displays several AECOM email threads and technical drawings. The emails are dated April 14, 2021, and discuss various aspects of stormwater management, including permit applications, site work, and review comments. Technical drawings include site plans, cross-sections, and diagrams of stormwater infrastructure, with annotations and redlines indicating review points.



The screenshot shows a virtual meeting control bar with several options highlighted by yellow arrows and text boxes:

- Click to share the screen**: Points to the screen sharing icon.
- Click to include audio**: Points to the audio icon.
- Select a window or application**: Points to a dropdown menu showing available windows: Desktop, Meeting | Microsoft Teams, Presentation1 - PowerPoint, and Book1 - Excel.
- Include system audio**: Points to the system audio checkbox.

The screenshot shows a web-based PDF markup session. The main window displays a technical drawing of a stormwater management plan with various annotations, including yellow circles, red lines, and text boxes. A sidebar on the left shows a list of attendees and documents. A 'Markups List' at the bottom shows a table of changes:

Subject	Page Label	Comments	Author	Date	Status
○ Modifier	[4] 4 Kathr...		stevie parse	1/14/2022 2:10:02 PM	
○ Modifier	[4] 4 Kathr...		stevie parse	1/14/2022 2:10:06 PM	
○ Modifier	[4] 4 Kathr...		stevie parse	1/14/2022 2:10:54 PM	

Reflection Question

Have you *witnessed* ethical misconduct at your workplace?

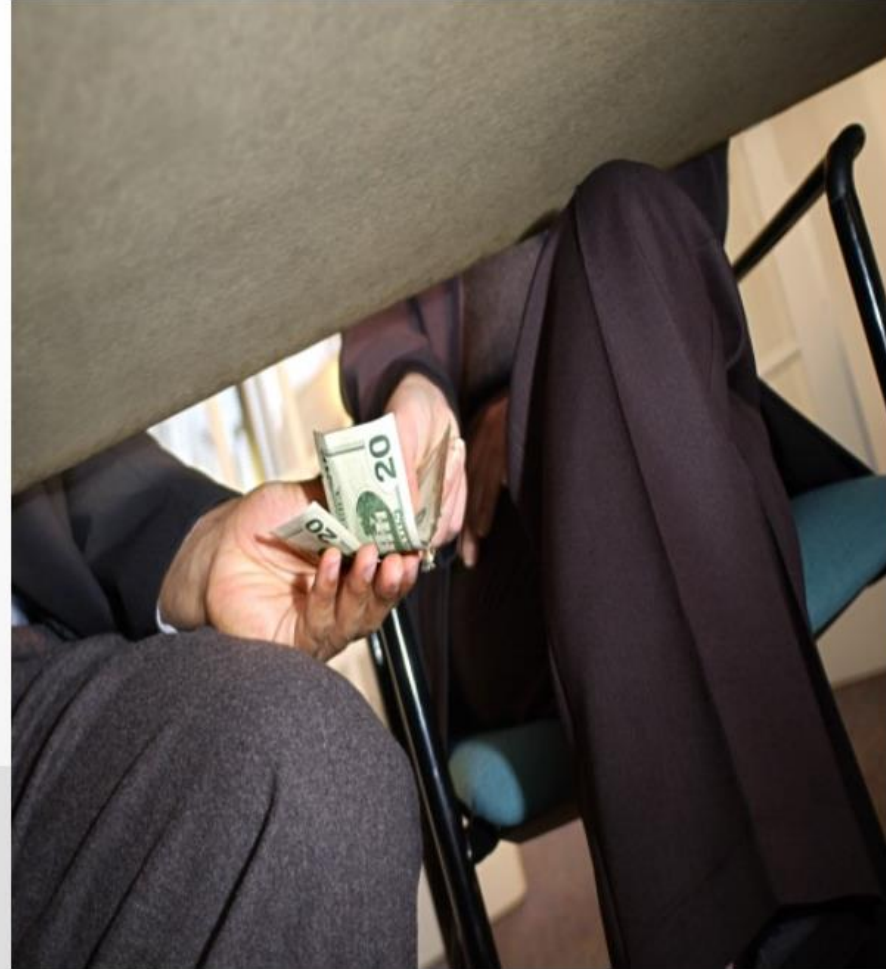


Yes

No

Maybe

Don't Know



Reflection Question

Consider your workplace, is the environment conducive to ethical misconduct?



Yes

No

Maybe

Don't Know



Reflection Question

Have you ever *reported* ethical misconduct?



Yes

No



Reflection Question

In your opinion, is it ok to tell little white lies?



Yes

No

Maybe

Don't Know



Reflection Question

If others are behaving unethically,
does that make it ok?



Yes

No

Maybe

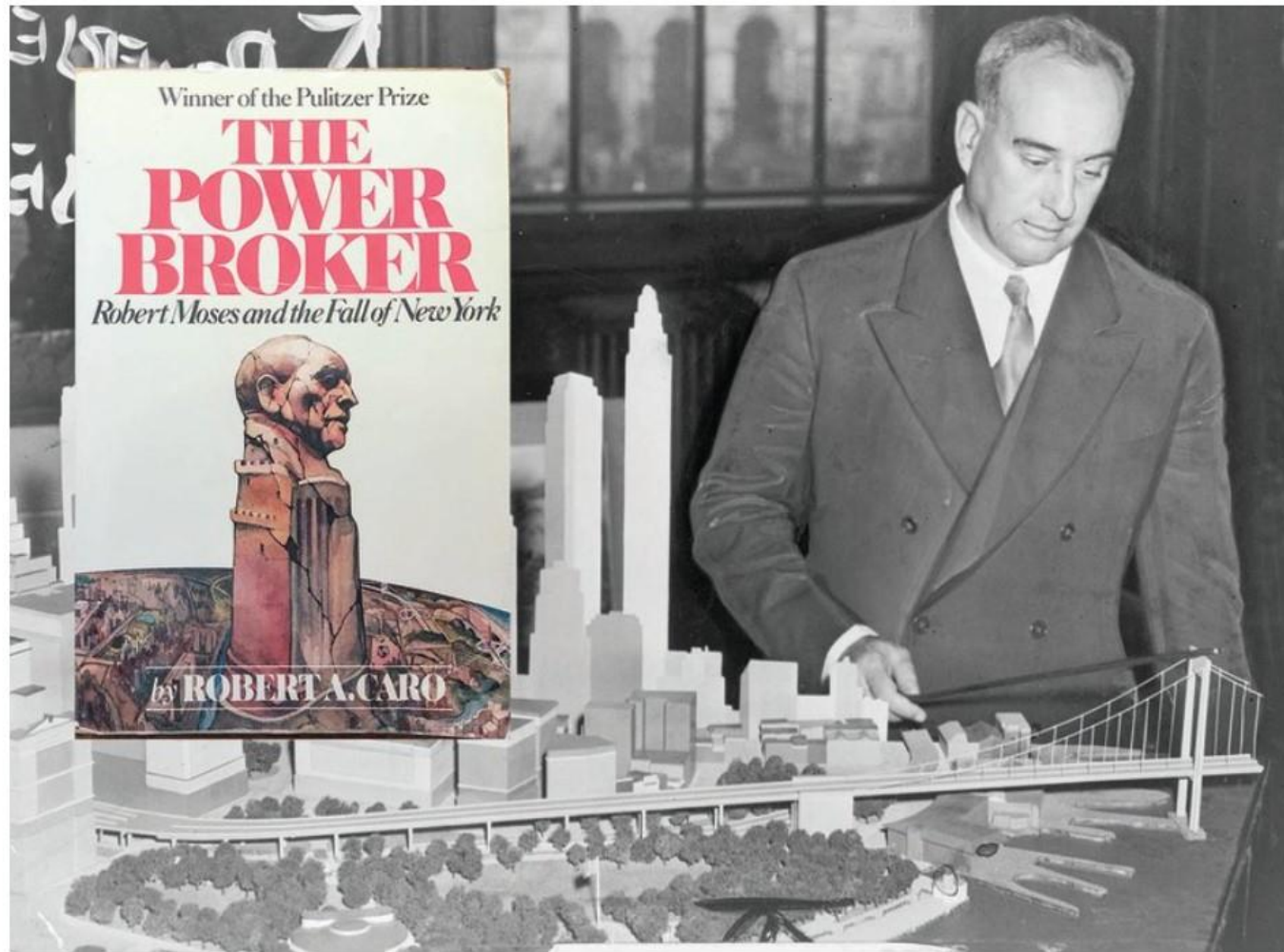
Don't Know



Ethical Quandaries in Public Works

Robert Moses

- 1888 - 1981
- Built significant portion of New York's parks, roads, and bridges
- Bulldozed poor, minority-based neighborhoods and evicted tenants
- Greater "good" vs. individual loss



Background photograph from [Library of Congress](#). Book cover photographed by Untapped New York.

Reflection Question

Would you be willing to commit unethical behavior for a noble purpose?



Yes

No

Maybe

Don't Know



What You Can Control

Your actions, reactions and emotions

Desire to improve

Be consistent in actions and words

Admit mistakes or missteps



Be prepared for grey area dilemmas

Set the example for your agency, organization, family, etc

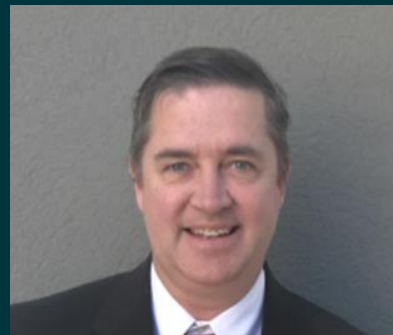
Continually re-evaluate choices made

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Questions?

