

How to Gain Valuable Career Experience as an EI

NC Chapter of the American Water Works
Association

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Outline

- Before You Graduate...
- Challenges as an EI
- How-To Points
- Communication and Teamwork
- Questions?



DISCLAIMER

- These tips come from my personal experiences
- This list is not all-encompassing!
- Talk to other EIs and experienced people in your company to gain more perspective



Before You Graduate...

- Try to gain relevant experience
 - Internships and co-ops
 - Job shadowing
 - Offer to volunteer
 - Skills and certifications
- My experience...
 - Internships in public and private sectors



WR at the NC State Engineering Career Fair



Before You Graduate...

- **Start making connections now**
 - Networking events
 - Conferences
 - Clubs/organizations
- **Take the FE!**

Engineers
Without
Borders

American
Water Works
Association

Tau Beta Pi



So You Finally Graduated



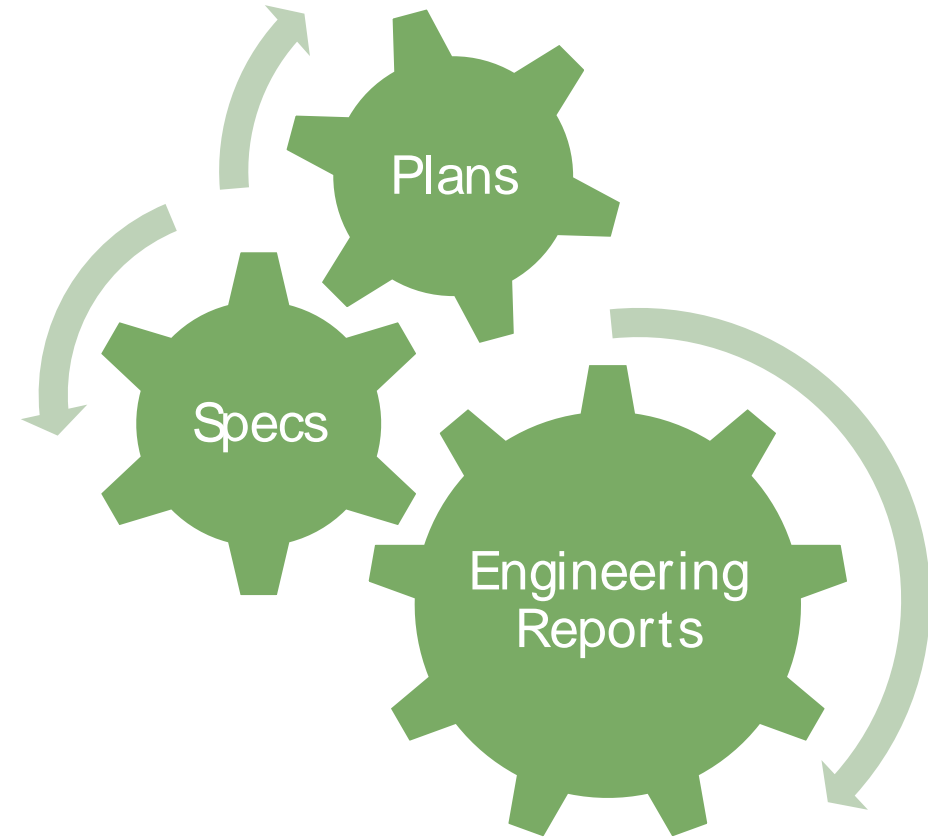
- You're pretty much an expert, right?

Wrong!



Challenges as an EI

- **Lack of experience**
 - Can lead to frustration, feeling under-utilized
- **Lack of confidence**
 - Can lead to lack of initiative, not taking full advantage of opportunities



How to Capitalize on Time as an EI

1. Ask thoughtful questions
2. Build meaningful relationships
3. Get your hands dirty
4. Work on different projects in different roles
5. Take on responsibility
6. Learn the “business side”
7. Be passionate
8. Remember you will make mistakes!

1. Ask Thoughtful Questions

“If I had an hour to solve a problem and my life depended on it, I would use the first 55 minutes determining the proper questions to ask.”

Albert Einstein

- Utilize experience of project engineers and managers
- The only dumb question is the one not asked!
- It's o.k. to disagree with teammates



2. Build Meaningful Relationships

Talk to
people!

Example: AWWA
career and
volunteer events

Utilize
LinkedIn



Clemson AWWA Career Panel



3. Get Your Hands Dirty



Elkin Water Tank

- Get out of the office and do some field work
- These experiences will be helpful in design in the future



3. Get Your Hands Dirty

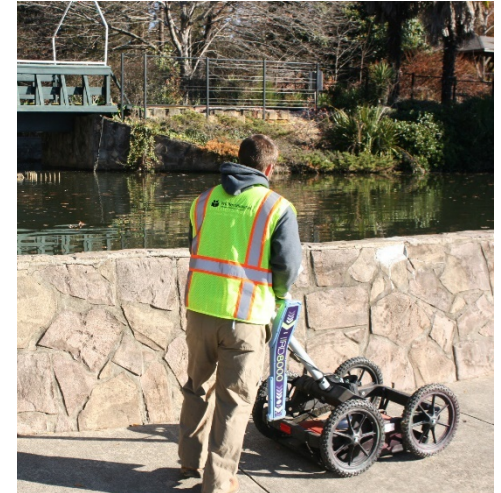
Sample Collection



Construction Oversight

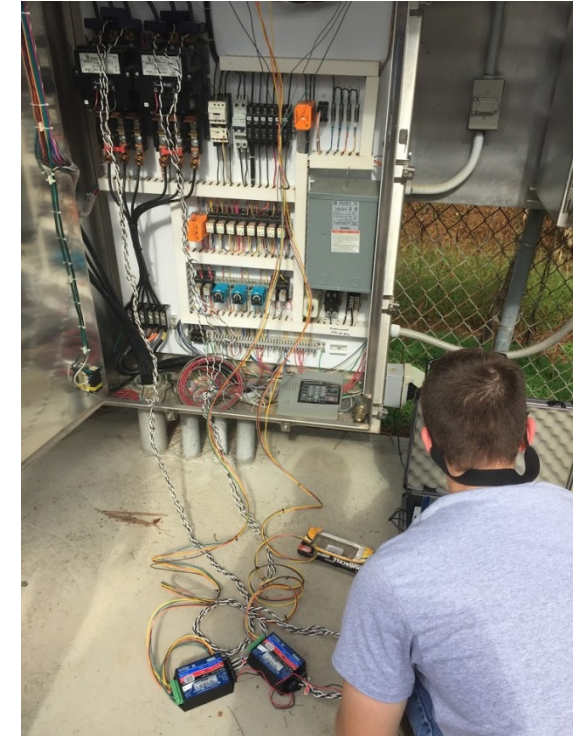


Utility Location



Lift Station Analysis

- Determine how efficiently pump stations are functioning
- Output data includes:
 - Electrical efficiency
 - Pump run time and data
 - Abnormalities



Sanford, NC Lift Station Test



Fire Flow Testing



- Determine if fire flow requirements are met for new construction
- Need this testing for new construction permits

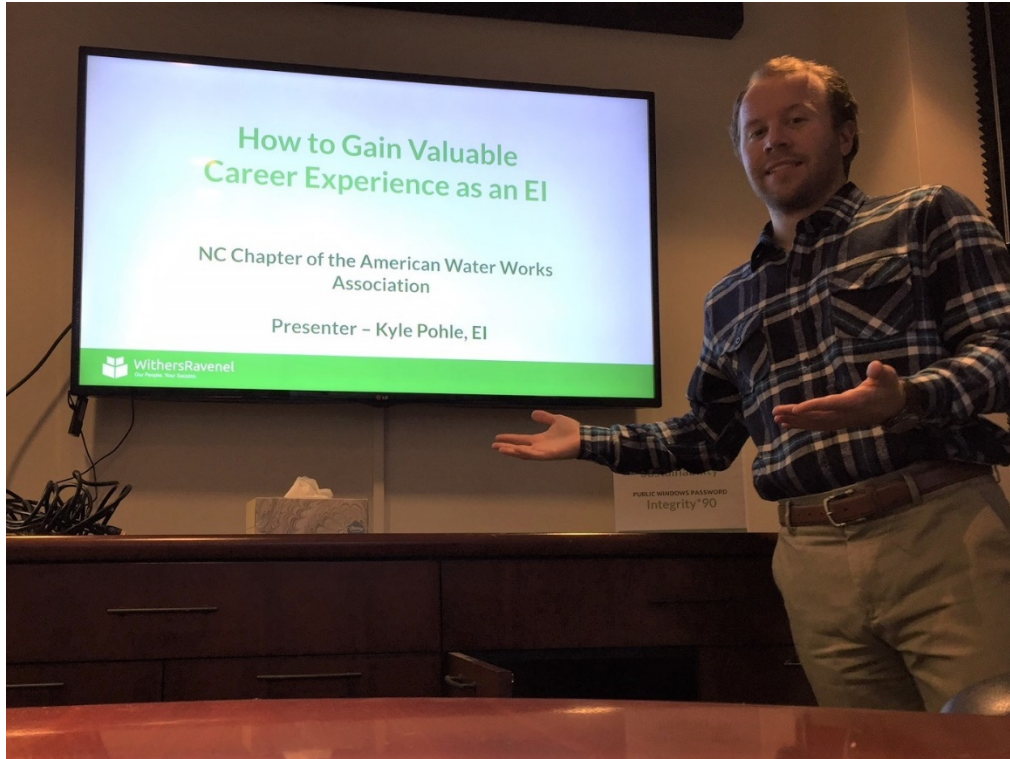


4. Work in Different Roles

- Different roles allow you to see the 'big picture'
- Some examples of roles in a project include:
 - Permitting
 - Design phase
 - Fieldwork
 - Communications with clients



5. Take on Responsibility




AWWA and NCRWA Presentations

- Don't be afraid to take on responsibility
- Taking initiative will likely give you a more involved role in project

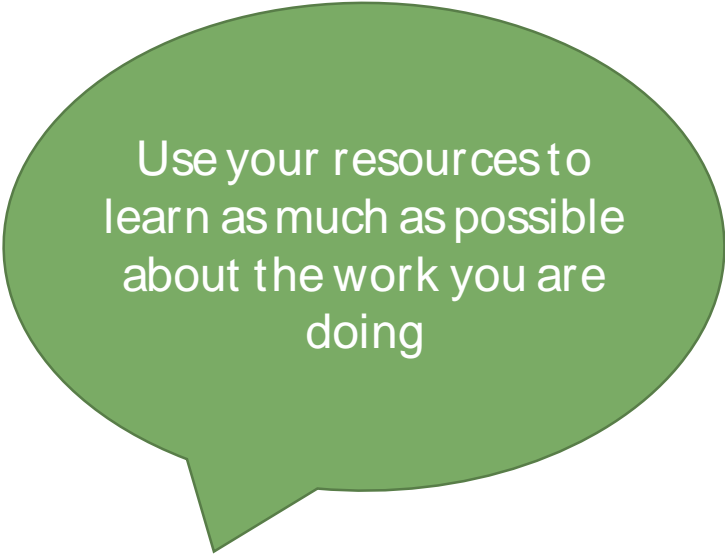


5. Take on Responsibility

- Examples



Be proactive; offer
to help with
projects before you
are asked



Use your resources to
learn as much as possible
about the work you are
doing



Learn about the Industry

- “Brown Bag” lunches and Webinars
 - Continuing education
 - Examples of topics include pre-cast concrete, pipe basics, pump basics



- Work with experienced professionals
 - Charles Underwood - VFDs
 - VFD = variable frequency drive



6. Learn the “Business Side”

- Is the requested effort of a task equal to the budget?
- Other examples include:
 - How projects are funded
 - Budgets and cost estimates
 - Revenue and expenses
 - How much do water/WW goods and services cost?



Basal Creek Pump Station

7. Be Passionate

Love what you
are doing and
you will succeed

Go the
extra mile



“Your work is going to fill a large part of your life, and the only way to be truly satisfied is to do what you believe is great work. The only way to do great work is to love what you do. If you haven’t found it yet, keep looking. Don’t settle.”

Steve Jobs



8. Remember You Will Make Mistakes!



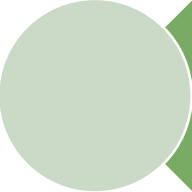
- It's o.k., it happens to everyone
- BUT, take steps to reduce mistakes
 - Have others check your work
 - Ask questions to people who have done the work before
 - Communicate clearly



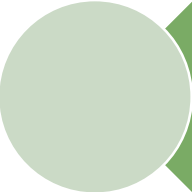
Some Mistakes I've Made...



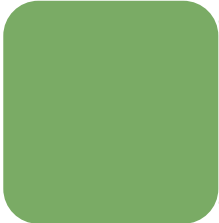
Reporting data to DEQ



Mistakes: not asking questions; not getting work checked



Result: poor-quality product; unhappy PM



- Collecting drinking water samples



- Mistake: not asking questions



- Result: unhappy water customer and wasted time



Conclusions

- It all boils down to:

TEAMWORK

COMMUNICATION

*Take advantage of the experienced people around you who want
to see you, the company, and the clients succeed*



At WithersRavenel...

- I've been able to put many of these items into practice
 - Diversity of utilities work
 - Experienced engineers on staff
 - Commitment to clients
 - Teamwork and Communication



Questions?

Thanks for your time!

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