

CHAMPION EXCELLENCE



**GEOPROFESSIONAL
BUSINESS
ASSOCIATION**

ANNUAL CONFERENCE

APRIL 18-20, 2024

JW MARRIOTT, ANAHEIM RESORT



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GEOPROFESSIONAL
BUSINESS
ASSOCIATION



Becoming a Champion of our Profession for Future Geoprofessionals

Carrie L. Foulk, P.E., G.E.

Senior Geotechnical Engineer

BSK Associates



Why do I care?

Why do we care?

Why is there a shortage?

What can be done about it?

What have I done about it?

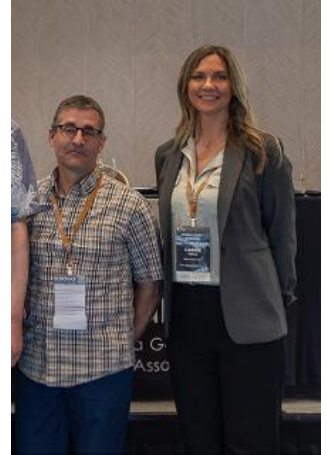
What can *YOU* do about it?

My story:

High
School

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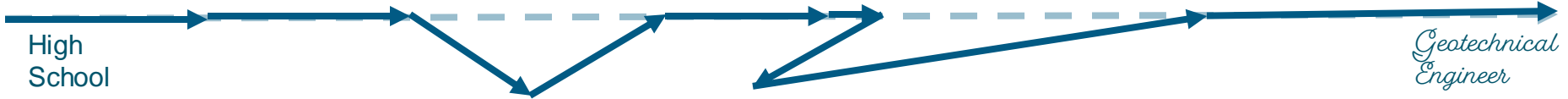
*Geotechnical
Engineer*



My story:

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- Interested in engineering because of a chemistry teacher my junior year, who sparked an interest in “how things work”
- Decided I would become an environmental engineer to SAVE THE WORLD!
- Planes are boring, so I wanted a change and decided to try geotech!
- Started in geotechnical engineering in New Mexico in 1998.
- Worked for 3 years, got a master's degree in geotech at Berkeley.
- Stayed home for 6 years and came back to the field part time to try it out again
- Came to BSK in 2013 and have never looked back.



- Came out of college with a 4-year degree with an emphasis on structural engineering, and a very vague idea of what geotechnical engineering was.
- Worked for 2.5 years as a structural engineer at Boeing.
- Worked for 2 more years. Began strongly disliking geotechnical engineering.
- Had my second child and quit in 2006, determined to never work in this field again.

Why am I talking about this?

I'm tired and I want to retire with a clear conscience.

Geoprosessionals are the foundation of a civil society.

Why do we care?

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Is this actually a problem?

- We sure all complain about it!
- What do the statistics say: (BPELSG in California*)

License Type	Status	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Geotechnical Engineer	Active ¹	1,378	1,317	1,364	1,338	1,324
	Out of State	214	210	201	191	189
	Out of Country	11	8	10	8	10
	Delinquent/Expired	71	71	82	153	110
	Retired Status <i>if applicable</i>	82	92	100	117	129
	Inactive	0	0	0	0	0
	Other ²	0	0	0	0	0

About 1,000 active

About 10 to 15 retire every year

*BPELSG 2023-2024 Sunset Review Report

Table 8. Examination Data				
California Examinations:				
License Type		Professional Geologist	Professional Geophysicist	Geotechnical Engineer
Exam Title		California Specific (CSE)	Professional Geophysicist (PGp)	Geotechnical Engineer (GE)
FY 2018/19	Number of Candidates	253	4	35
	Overall Pass %	49	25	20
	Overall Fail %	51	75	80
FY 2019/20	Number of Candidates	289	3	78
	Overall Pass %	41	33	38
	Overall Fail %	59	67	62
FY 2020/21	Number of Candidates	185	5	60
	Overall Pass %	47	40	35
	Overall Fail %	53	60	65
FY 2021/22	Number of Candidates	261	9	74
	Overall Pass %	45	44	35
	Overall Fail %	55	56	65
FY 2022/23	Number of Candidates	145	3	81
	Overall Pass %	46	100	27
	Overall Fail %	54	0	73
	Date of Last OA	2019	2019	2018
	Name of OA Developer	Board	Board	Board
	Target OA Date	2024	2025	2024

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26

22

=106
(103)

Increase in licensed GEs in California over the last 5 years:

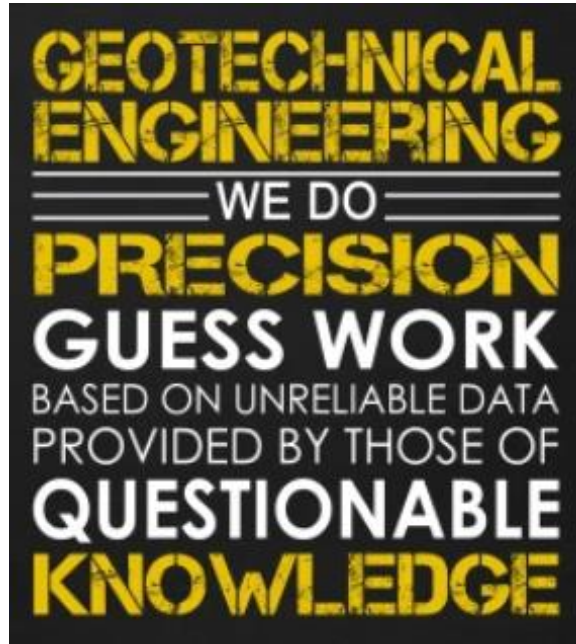
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So, yes, it's a problem if you want to retire
like me.



Why don't students go into geotechnical engineering or the geoprofessions in general?

These are long words, and no one knows what they mean.



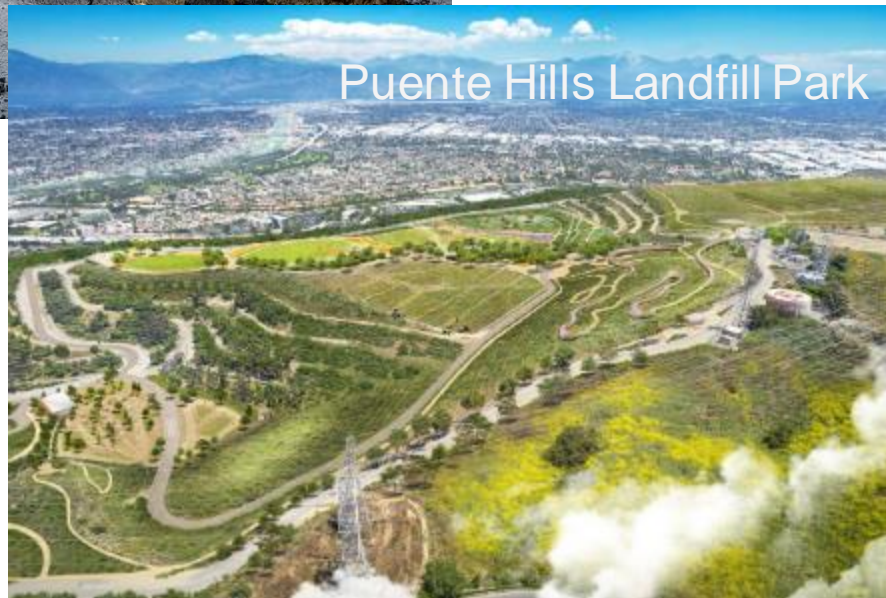
Why don't students go into the geoprofessions?

“You have to
~Billie Jean



Why don't students go into the geoprofessions?

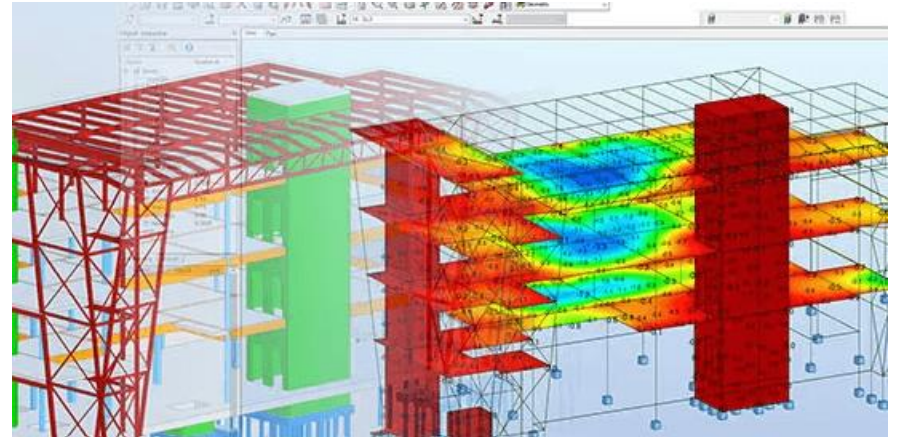
- People don't pay attention to infrastructure (except when it's not working).
- They especially don't pay attention to what they can't see (like what we do).



What does academia say isn't working?

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- Late introduction during civil engineering degree
- Often late junior year or even late senior year
- Already decided to be a structural engineer (gasp)!



What does academia say isn't working?

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- Introduction to the geoprofessions in college can be underwhelming.



What does academia say isn't working?

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- Not enough professors to focus on Geoprofessional classes
- Some universities depend on lecturers like you and me to teach Geoprofessional courses
- Geoprofessional courses don't have enough real-world focus.

Other reasons...

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- Prestige?
- Pay?

What can be done about it?

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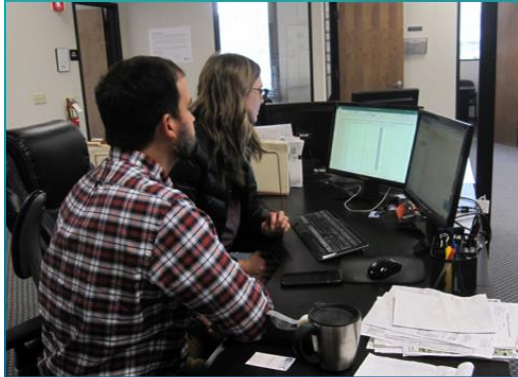
- Think about when you first decided to become an engineer or geologist.
- Think about when you first decided to become more specifically a geotechnical engineer, environmental engineer, or specialist in materials testing and inspection.

What have I done about it?

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- Presentations at high schools

LIVERMORE BSK : ENGINEERS





What have I done about it?

- Presentations at Community colleges



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What have I done about it?

- Presentations at a local 4-year college



INTRODUCTION TO GEOTECHNICAL ENGINEERING

Carrie Foulk, PE, GE
(cfoulk@bskassociates.com)
3/8/24



What have I done about it?

- Introduce a Girl to Engineering (ACEC)



What have I done about it?

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<https://www.acementor.org/>

What have I done about it?

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Talked about it and shared my ideas

What actions can you take?

- Do a presentation in grade school, middle school, high school, or college
- Get a GEO KIT from the ELC!



What actions can you take?

- Teach a geotechnical class at a local college
- Offer quality internships (word will get around if you stick them in the lab)
- Find out from local ASCE/STEM/schools how you can sponsor their programs
- Make a Video and GET ON INSTAGRAM OR YOUTUBE!
- ACE Mentorship
- Read *Strategies to Address Engineering Workforce Challenges*

What else can we do about it (executive level)?

- Elevate our profession
 - Encourage membership and participation in organizations like this.
 - Raise your rates.
 - Encourage your staff to do presentations at schools.
- Increase pay and benefits.
- Change requirements to entry.

A life is not important except in the impact it has on other lives.
~Jackie Robinson

Getting involved will make you feel good.
~Carrie Foulk



Strategies to Address Engineering Workforce Challenges

Public and private sector practitioners highlight best practices to meet generational infrastructure moment

cfoulk@bskassociates.com