CURING CONCRETE BRIDGE DECKS

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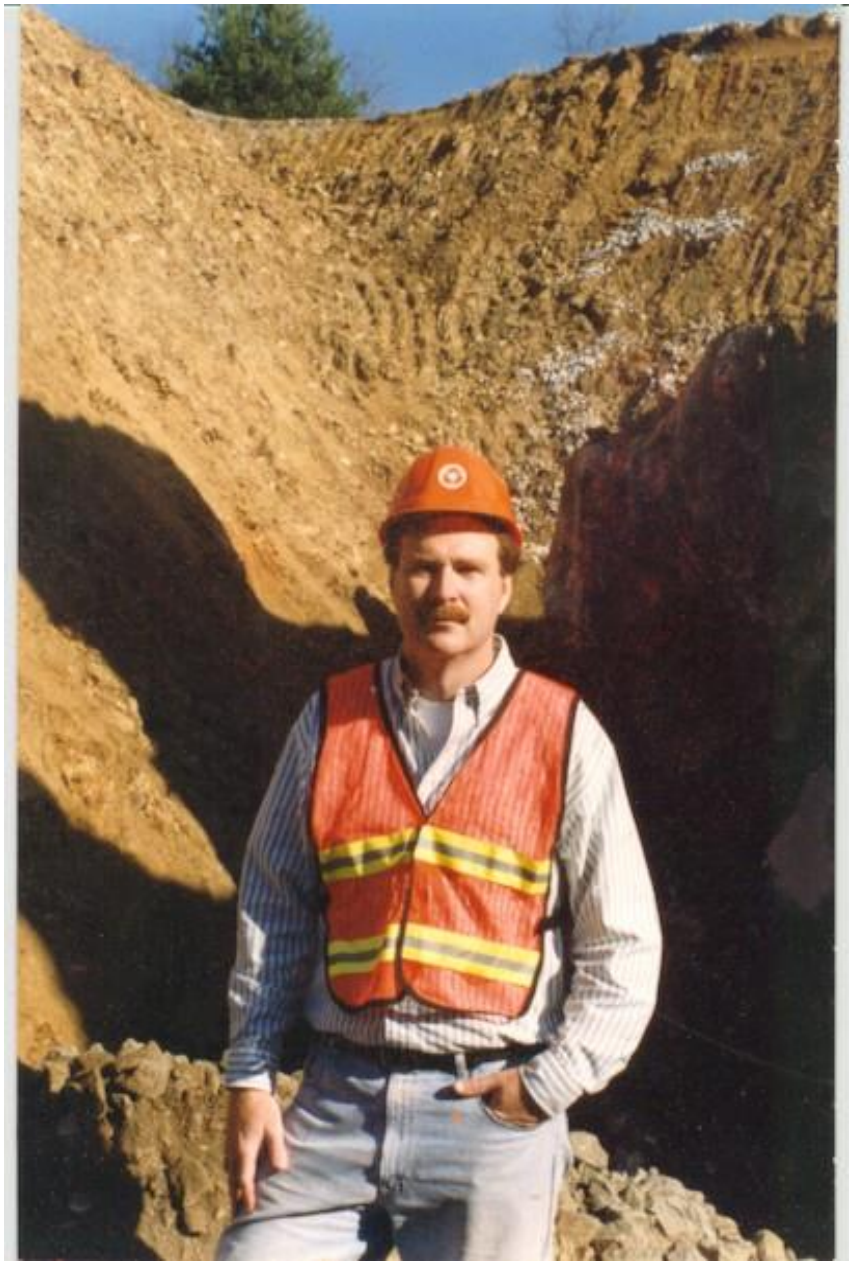
How long ago was all this and why is it relevant today?



Vienna Bypass / Route 50

HPC?

Research Project

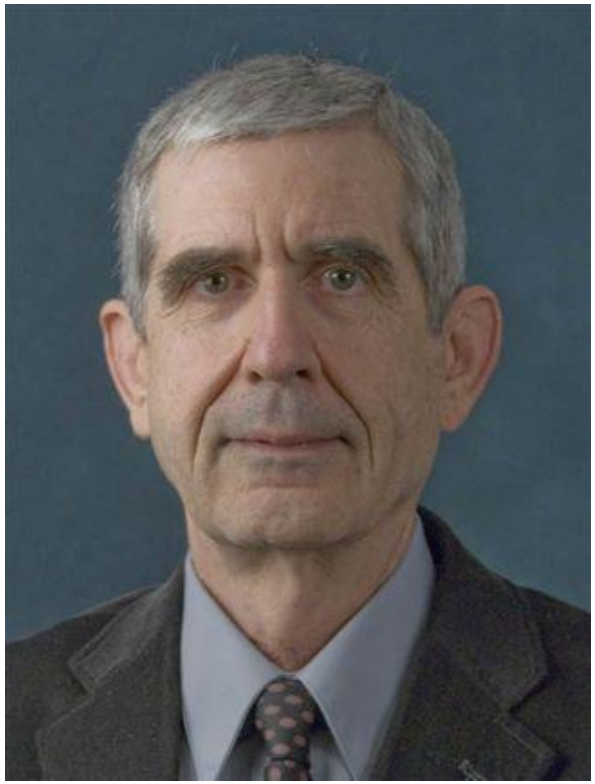
- Investigate bridges built over a 10 year period
- Measure and map crack patterns
- Identify type(s) of cracks
- Look for correlations with bridge designs
- Look at correlations with mix designs
- Make recommendations for eliminating or minimizing the cracks

My first job in Research

Findings

- Significant cracking on 30% of our bridges
- Cracks were drying shrinkage cracks
- No correlation with design
- No correlation with mix designs or mix components
- After calling all the smart guys I could in the DOT network (Celik Ozyildrium and Cecil Jones were especially helpful), placed the blame on curing

Celik

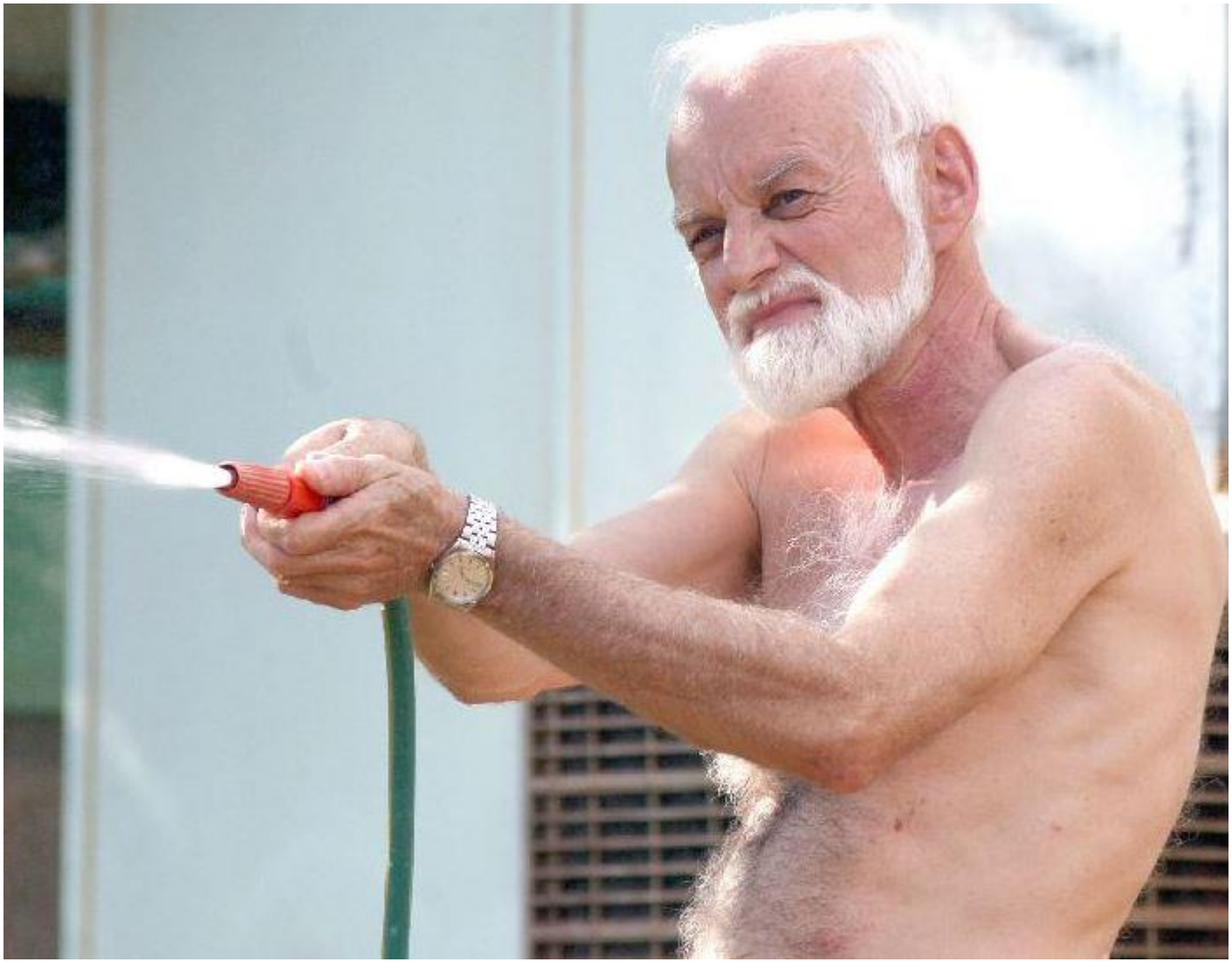


Cecil

Fogging (What I had in mind)


BIDWELL

Fogging (What I got)



Bad spec writing / what is an atomized fogger?

Interesting way to write a spec: Fogging to be pre approved by Henry


ZEDDEMORE
WORKMAN
STANTZ

Foggers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Out of 30 bridges cured with wet burlap only one had any degree of cracking – and that one had not been cured correctly.

What did I learn?

- Curing is important in preventing drying shrinkage cracks
- Writing a specification and enforcing a specification are two different animals
- You need to get buy in from inspectors and contractors to get them to do what you want them to do
- We need to do a better job enforcing our specs and training inspectors

Ancillary lessons

Questions?