

MEETING MINUTES

Committee Meeting- AKG70 – (PART II)
Foundations of Bridges and Other Structures

Date: Monday, January 09, 2023

Time: 07:30 PM – 10:00 PM (EST)

Location: Marriot Marquis, Silver Linden

Chairman, Sharid K. Amiri

Minutes by Hisham Sunna

Committee Scope: This committee is concerned with the local and global behavior, stability, and interaction of structural foundations, and their supporting materials, for permanent and temporary transportation structures.

Welcome

- Annual Meeting PART I (Virtual) is on website.

Attendance was taken online via QR code. There were technical difficulties with virtual meeting initially but Gavin finally got it working and people were able to join online and were asked to put their names in the chat. One committee member Bernhardt “Bernie” Hertlein had passed away on December 9, 2022, and the discussion was to do a release and hold a webinar or workshop in his name.

Sign in		Role	Attendance	Name	Organization
1	Chair	Member	In-Person	Sharid Amiri	Caltrans
2	CCC	Member	In-Person	Gavin Gautreau	Louisiana Transp. Research Ctr. (LTRC)
3		Member	In-Person	Nick Harmon	SCDOT
4		Member	In-Person	Ben Arndt	RJ Eng
5	Page 1	Member	In-Person	Aaron Zdinak	HDR Engineering, Inc.
6		Member	In-Person	Chad Harden	Michael Baker International
7		Friend	In-Person	Matthew Glisson	Deep Foundations Institute
8		Member	In-Person	Erik Loehr	University of Missouri

9		Member	In-Person	Heather Shoup	Illinois Dept. of Transportation
1					
0		Friend	In-Person	Liz Smith	Terracon Consultants, Inc.
1					
1	Page 2	Friend	In-Person	Theresa Engler	DFI
1					
2		Friend	In-Person	Erik Skulstad	Terracon Consultants, Inc.
1					
3		Friend	In-Person	Ismaail Ghaaowd	FHWA/TFHRC/HPTECH
1					
4		Friend	In-Person	Majid Sarraf	MGE Engineering, Inc.
1					
5		Friend	In-Person	Jeff Greenwald	Geo-Institute
1					
6		Friend	In-Person	Andrzej S. Nowak	Auburn University
1		Member			
7	Page 3	r	In-Person	Victor H. Aguilar	Universidad San Sebastian
1					
8		Friend	In-Person	Conrad Felice	CWFLLC
1					
9		Friend	In-Person	Jesse Rauser	LADOTD
2					
0		Friend	In-Person	Bob Mitchell	Shannon & Wilson
2					
1		Student	In-Person	Nafis Bin Masad	University of Wyoming
2				Atsou Komla Herve	
2		Student	In-Person	Agbemenou	University of Nevada, Reno
2					
3	Page 4	Friend	In-Person	Trevor Towery	Elastizell Corp. of America
2					
4		Friend	In-Person	Kadijah Thomas	NJDOT
2					
5		Friend	In-Person	Miranda Perkins	LADOTD
2					
6		Friend	In-Person	Augusto Lucarelei	Itasca Consulting Group
2					
7		Friend	In-Person	Joe Nietfeld	MnDOT
2					
8		Friend	In-Person	Kyle Rollins	Brigham Young University
2					
9	Page 5	Friend	In-Person	Peggy Hagerty Duffy	ADSC / Hagerty Eng.
3					
0		Friend	In-Person	Mostafe Ebrahimi	Southern Illinois University (SLU)
3		Member			
1		r	In-Person	Masoud Nobahar	Jackson State University
3		Member			
2		r	In-Person	Tejo Bheemasetti	University of Arizona

3					
3		Friend	In-Person	Murad Abu-Farsakh	LTRC/LSU
3					
4		Friend	In-Person	Silas Nichols	FHWA
3		Member			
5	Page 6	r	In-Person	Negin Yousefpour	University of Melb
3					
6		Friend	In-Person	Eli Cuelho	Tri Environmental
3					
7		Friend	In-Person	Chris Merklin	Ohio DOT
3					
8		Friend	In-Person	Daryl Greer	Kentucky Transportation Center
3					
9		Friend	In-Person	Evan Garich	FHWA-Western Federal Lands Division
4					
0		Friend	In-Person	Brian Collins	BGC
4		Member			
1	Page 7	r	In-Person	Kathryn Petek	Shannon & Wilson
4		Member			
2		r	In-Person	Nick Machairas	Haley & Aldrich
4		Member			McMahon & Mann Consulting Eng. &
3		r	In-Person	Ken Fishman	Geology
4		Member			
4		r	In-Person	Hisham Sunna	Ayres
4		Member			
5		r	In-Person	Gerald Verbeek	Eijkelpkamp North America
4		Member			
6		r	In-Person	Monica Prezzi	Purdue University
4	Page 8	Member	In-Person	Matt Riegel	HNTB Corp
7					
4					
8		TRB	In-Person	Nancy Whiting	TRB
4					
9		Friend	In-Person	Brent Robinson	Pile Dynamics
5					
0		Friend	In-Person	Hani Titi	University of Wisconsin-Milwaukee
5					
1		Friend	In-Person	Jamal Nusarat	El Robinson Engineering
5		Member			
2	Page 9	r	In-Person	Mohammed Mulla	ECS Southeast LLP
5					
3		Friend	In-Person	Scott Hidden	NCDOT
5					
4		Friend	In-Person	Kam Ng	University of Wyoming
5					
5		Friend	In-Person	Magued Iskander	NYU
5					
6	Page 10	Friend	In-Person	Jeremy Hung	WSP

5				
7		Friend	In-Person	Allen Cadden Schnabel Eng
5				
8		Friend	In-Person	Khalid Alshibli University of TN
5				
9		Friend	In-Person	Kyle Kershaw Rose-Hulman Institute of Technology
6				
0		Friend	In-Person	Lei Wang University of Cincinnati
6				
1		Friend	In-Person	Travis Konda HNTB Corp
6				
2		Friend	In-Person	Ann Beaver TN DOT
6				
3	Page 11	Friend	In-Person	Robert Gladstone AMSE
6				
4		Friend	In-Person	Daniel Alzamora FHWA
6				
5		Friend	In-Person	Derrick Dasenbrock FHWA
6	via			
6	Zoom		Virtual	Chien.Chen
6	via			
7	Zoom		Virtual	Parrish, Matt
6	via			
8	Zoom		Virtual	S. Chris Chen
6	via			
9	Zoom		Virtual	Paola Bandini, New Mexico State University (Paola@nmsu.edu)
7	via			
0	Zoom		Virtual	Ronaldo Luna, SLU / Luna Consulting, LLC
7	via			
1	Zoom		Virtual	Jiangl
7	via			
2	Zoom		Virtual	Naresh C. Samtani
7	via			
3	Zoom		Virtual	Mahsa Khosrojerdi (Arup)
7	via			
4	Zoom		Virtual	Barry Christopher, Friend of Committee
7	via			
5	Zoom		Virtual	Andrew
7	via			
6	Zoom		Virtual	Hossein Bahmyari, Kiewit Engineering Group
7	via			
7	Zoom		Virtual	Thien Tran, Colorado DOT
7	via			
8	Zoom		Virtual	Izzaldin Almohd, TRC (ialmohd@trccimpanies.com)
7	via			
9	Zoom		Virtual	Ahmed Nasr, CalTrans
8	via			
0	Zoom		Virtual	John Bischoff, Utah DOT

8	via		
1	Zoom	Virtual	Grant Gummow
8	via		
2	Zoom	Virtual	Chad Harden
8	via		
3	Zoom	Virtual	Frank. Jalinoos
8	via		
4	Zoom	Virtual	Andy Boeckmann, Dan Brown & Associates
8	via		
5	Zoom	Virtual	Md. Mashfiqul Islam
8	via		
6	Zoom	Virtual	Todd Schlittenhart
8	via		
7	Zoom	Virtual	Wajahat Nassar

General Items

- Review of Committee Name and Scope. Gerald started discussion was to add sustainability and resilience to the committee scope. Sharid asked for any suggested modifications to be emailed to him.
- TRB Announcements (*Nancy Whiting*) Almost 11 thousand attending in-person climbing back to the 14 thousand record pre-covid. RNS are now on MyTRB. Victoria Sheehan is new Executive Director. Nancy thanked people for hard work in doing reviews. Over 5000 papers were reviewed. Built 550 sessions. TRR Impact factor has jumped dramatically to over 2. Next Annual Meeting scheduled for January 7-11, 2024.

Committee Business Updates

- Technology Transfer Working Group- *Aaron Zdinak*, Group was founded 2 years ago, working on e-Circular. Machine Learning, Big Data, with regard to site characterization. It's an online Google document and authors can go in and put a proposal or papers that were published to be added. We have experience from the last circular so should be easier this time.
- Subcommittee for Geoseismic Issues of Bridges, AKB50(1) – *Kyle Rollins* described what committee is about. Right now looking into Skewed bridge abutments; mentioned research at BYU, research directed by Caltrans. Seismic slope stability. Liquefaction of gravelly soils. Meeting is scheduled for 10:15 am Wednesday morning.
- FHWA Update – *Silas Nichols* Mentioned site characterization and geohazards. Continued issues with geotechnical application of LRFD. Cross discipline issues, biggest being scour. Recently finished a new GEC 15 – Foundation Acceptance,

trying to achieve uniform reliability, developing repurposed GEC-1 – basically a geotech 101, GEC-11 on MSE Walls. There are three ongoing research projects LRFD application defining failure Initiation; project on evaluating performance of tremie concrete; NexScour for looking at and characterizing scour of foundation. Geotechnical Asset Management and Data Management DIGGS. Working with USGS and Geo Institute. Two implementation workshops. Lots of content development – ebook, self-paced learning; new content management systems.

Ken Fishman representing AKG70 committee was a member of the Committee on the corrosion of buried steel at new and in service new infrastructure a member and contributed to the development of a report titled: “Corrosion of Buried Steel at New and in Service Infrastructure”, link below. Ken mentioned that the study discussed in part, differences between those involved in pipeline industry and geotechnical investigations. Microbial effect on corrosion.

[Corrosion of Buried Steel at New and In-Service Infrastructure |The National Academies Press](#)

CRC Tony is off and a new CRC will be appointed – solicited volunteers. Duties involve getting RNS. Reaching out to other committee CRCs – there is a Research Coordinators Council that Sharid attended. Sharid already has a volunteer and looking for emails for more.

- Review comments have been submitted by TRB in late 2022 for our committee’s TSP- Sharid Amiri will share the comments with the committee and will ask the committee members to provide input on the review comments. .
- Committee membership - Sharid stated one third of the committee will need to rotate off in April 2023.

Presentations

- Ben Arndt: Case History Nominal Bearing Resistance. Dealt with spread footing on a steep slope. Could be an RNS or synthesis topic if others have run into this issue.
- Negin Yousefpour: Scour Sense AI Early Warning System for Bridge Scour – correlation between Sonar data, stage and scour.
- Scott Anderson and Evan Garich . Denali National Park bridge at Pretty Rocks Landslide. Discussed solutions such as micro piles to stabilize foundation laterally, pre-tensioning the piles.

Discussion on Research Topics and Proposals

Sharid mentioned that the committee's last RNS submitted back in October of 2021 to NCHRP was titled: **"Development of Machine Learning Algorithms for Geotechnical Applications and Assembly of a Quality Database of Deep Foundation Load Tests"** which was not approved by AASHTO. There are two NCHRP projects that were submitted by the AKG70 committee and approved by AASHTO which are 1- on the pile down drag and 2- Construction effects on drilled shaft and driven piles are currently are projects in progress.

Sharid has one gentleman who is volunteering to be CRC and clean up the website. Hoping for input from committee members and friends. Went around table for ideas for data, e.g. expansive soils for foundation, seismic. Some mentioned were:

- No AASHTO guideline or statistically calibrated factor in LRFD Downdrag on battered piles
- Chad: Liquefaction and kinematic effect – maybe a synthesis
- Peggy Haggerty - Tennessee - Drilled Shaft Foundation in Karst – exploration and instrumentation to minimize construction issues, not just at the bottom of the shaft.

Ken mentioned there is a form that would state which committees support the RNS. They get voted on and result in Research Proposal. More committees supporting is favorable.

Sharid asked to leverage what each state's issues are.

Gavin mentioned the LinkedIn site

- Communications/website & AKG70 LinkedIn
[https://sites/google.com/site/trbcommitteeafs30](https://sites.google.com/site/trbcommitteeafs30)

<https://www.linkedin.com/groups/12447553/>

Discussion ensued about Geotechs actively engaging in 3D. Looking at site characterization of a corridor and use of AI. AASHTO is changing to reliability based. More borings allows higher resistance factor. Also mentioned design of foundation using AI.

Sharid proposed follow up for a virtual meeting to discuss. Doesn't want to wait for another year.

Meeting was adjourned at 10:30 PM..