



Midwest Bridge Preservation Partnership

Agenda – Monthly Teleconference Tuesday, May 3, 2022

Business Meeting: 12:30 – 1:00 PM Central

Technical Session: 1:00 – 2:00 PM Central

12:30 PM – BUSINESS MEETING

1. Treasury Update

- Nancy has asked for update, but hasn't received it yet. Darlene will email to check. Kathy – we made a profit on the AZ conference, so we are in good shape – final numbers coming shortly.

2. Travel and Attendance Scholarships (Board)

Sarah S motioned for approval for scholarships to attend the meetings below – estimated cost \$2k per traveler say \$10k. **All voted in favor.**

- AASHTO Committee on Maintenance – Sarah Sondag & Bill Oliva
- NE Regional Meeting – Sarah Sondag
- West Regional Meeting – Jim Leaden
- SE Regional Meeting – Sarah Wilson

3. MWBPP Working Groups

Updating the working groups website - if they have become National Groups, may move them to another page.

- Bridge Preservation Research – Glenn Washer. Possibly asking for research topics / needs input at the annual meeting. Working group may assemble the list. Revisit after annual meeting.
- Midwest Bridge Deterioration Modeling – may send link or send some preliminary documents to be added to the website from the Midwest Modelling. Hopefully to publish the final report here as well.
- Systematic Preventative Maintenance Group – **Sunset.**
- Preservation Matrix – any interest in updating the Matrix? Might have morphed into the National Bridge Deck Committee's Bridge Product Database for overlay products. **Sunset.**
- Local Agency Outreach – now National – **Sunset.**
- Annual Meeting Working group on going.

4. Future Meeting Topic Ideas

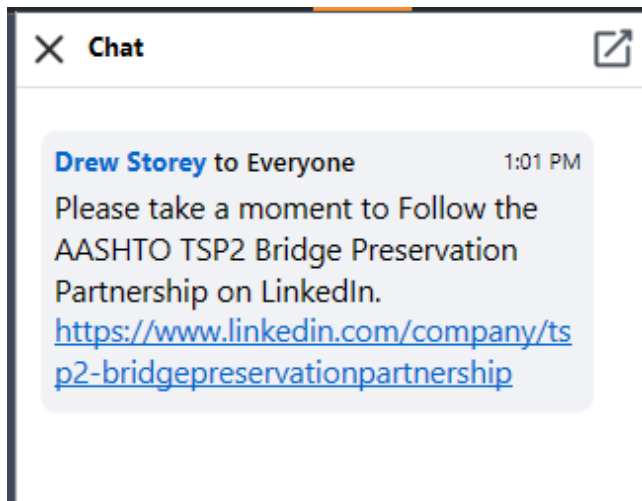
Alchemco offered ITD Update on their sealer product. Possibly combine with agency practices to mitigate early age deck cracking. Admixture options, internal curing options, possibly other research reports. Research from Wisconsin – on lightweight aggregate, and polymer admixture, other options (see WI Hwy Research Page and draft spec – done by CTL Group, look for presenter).

Other News

Drew Storey offered some updates on the National Working Groups:

National Local Agency Outreach – looking at Local Agency Portal for website.

National Outreach Social Agency – looking at improving our Linked In page. (here's the link if you aren't already following the TSP2 Bridge Preservation Group – Join It)



1:00 PM - TECHNICAL SESSION

1. Roll Call

See Chart at end of meeting minutes.

2. Approval of Minutes

March Minutes – were approved. Motion – Drew Storey / 2nd – Bill Oliva – all in favor. Approved.

April Minutes – Motion Jim, 2nded all in favor. Approved.

3. New Generation Rigid Concrete Overlay Finish Machine (Luke O'Hara and Chuck Smith from Terex Bid-Well)

Full Presentation at the end of the minutes.. Contact information for presenter is below.



Questions?

Contact Info:

Engineering:	Sales:
Luke O'Hara	Brian Severson
Email: luke.ohara@terex.com	Email: brian.severson@terex.com
Phone: 605-223-6171	Phone: 605-223-6170

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Kent Miller asked if any state specs were overly difficult to address. Noted that consistency certainly will help with price. Primarily – states are North and South Dakota, Wisconsin.

Bill Oliva – asked about if they wanted offers of experimental use, as a pilot program. Some state specs require vibrating screen rather than roller drum – possibly causing increases in cost.

Open to questions – reach out to Luke O'Hara

4. Construction Quality Working Group Update (Fouad Jaber, Nebraska DOT)

See TSP2 website at <https://tsp2bridge.pavementpreservation.org/national-working-groups/#Construction%20Quality%20of%20Bridge%20Preservation%20Working%20Group>

Construction Quality of Bridge Preservation Working Group

TSP-2 National Working Group	“Construction Quality of Bridge Preservation Working Group”
Leader(s)	Chair: Fouad Jaber, Nebraska DOT Vice-Chair: Richard Dunne, GPI Secretary: Nancy Huether, NCPP
Work Scope	This working group is focused on the constructed quality (and thus, future performance) of the installed bridge preservation/maintenance treatment(s). While the working group consists of core members, other subject matter experts will be invited to participate based on their expertise with the specific preservation treatments being evaluated.
Deliverable Products	1. Collaborate with the bridge owners (survey) to develop a list of bridge preservation / maintenance treatments which bridge owners have identified as being difficult to construct with quality, thereby potentially reducing the anticipated service life extension by implementing the preservation treatment. 1. A. Develop and execute a plan to fully evaluate the construction practices associated with the specific preservation treatment(s) B. Propose instructions, “how to” guides, and examples of how the specific bridge preservation / maintenance treatments should be constructed with quality to insure the activity achieves the desired performance C. Share this information through Regional TSP-2 Meeting presentations, AASHTO and TRB presentations, and Webinars 2. Collaborate with the bridge owners (survey) to develop a list of bridge preservation / maintenance treatments which bridge owners have identified as

	being readily and routinely constructed with quality 1. A. Develop and execute a plan to fully evaluate and document the construction practices associated with these specific preservation treatments (Best Practices) B. Share these Best Practices through Regional TSP-2 Meeting presentations, AASHTO and TRB presentations, and Webinars 3. Collaborate with the bridge owners (survey) to identify other methods to deliver bridge preservation / maintenance treatments which bridge owners have identified as being effective in ensuring construction with quality, e.g., contract type (low bid, warranty, time and materials); specifications (performance vs. prescriptive), etc. 1. A. Share these topics through Regional TSP-2 Meeting presentations, AASHTO and TRB presentations, and Webinars. B. Annually assess progress and post the assessment on the TSP-2 website.
Expected Completion	The Working Group will be an ongoing initiative. An end date cannot be determined until the list of bridge preservation / maintenance treatments identified for evaluation has been developed.
Future Needs	1. Monthly conference calls to assess progress, define new initiatives, and monitor activities.
Attachments	None at present.
Conclusion	TBD

Polyester Overlay Investigation - then other topics to be considered.

Fouad is looking for suggested topics and new members to the group. Please get in touch with him.

Looking at good practices and bad practices. Top 3 challenges and Top 3 successes. Have spreadsheet with responses from 41 states, compiling the information to share in the future.

5. National Working Groups – Request for Volunteers

- Bridge Preservation Coatings Working Group
 - Members? Not much going on – historically has been SE and Florida, but want membership from all regions.
- Bridge Preservation BMS Working Group
 - Looking for people to participate, both at the top and bottom tier. Get your contact information to Nancy or Chris. (Dick Dunne, GPI) It's a great group to get involved with if you are struggling.
- Innovative Technology Demonstrations Working Group
 - ITD meeting demonstrates new materials and technologies.
- Local Agency Outreach Working Group
 - NACE (County Engineers) seem to feel that bridge preservation not a priority. Federal Level priority to push and help them to make bridges a priority.

6. Next Monthly Meeting

a.) June 7, 2022

Survey closed for Regional Meeting presentations, but if you have any last minute suggestions, you can get that information to Sarah S.

Sealing Practices Survey from National Bridge Deck

Siva – 100 year service life modeling. Possibly a presentation to the regional meeting.

Attendance Chart – MWBPP Teleconference May 3, 2022

NCPP Representatives			Industry Representatives		
Darlene Lane	NCPP	☒	Tim Woolery	Adv. Chem. Tech.	☒
Nancy Huether	NCPP	☒	Brad Ehle	Adv. Chem. Tech.	☒
Chris Keegan	NCPP	☐	Lorella Angelini	Angelini Consulting	☒
			Patrick Martens	Br Pres & Insp Svcs	☐
			Allen Scarborough	CMC	☐
			Mike Stroia	CMC	☒
State Agency Representatives			Barritt Lovelace	Collins Eng.	☒
			Drew Garceau	Collins Eng.	☐
Sarah Wilson(Secretary)	Illinois DOT	☒	Thomas Collins	Collins Eng.	☒
Adam Post	Indiana DOT	☐	Marc Parker	Collins Eng.	☒
Jennifer Hart	Indiana DOT	☐	Brent Toller	DS Brown	☒
Jeremy Hunter	Indiana DOT	☐	Mark Ericson	ECHEM	☐
Mark Swiderski	Indiana DOT	☐	Ray Breer	ECHEM	☐
Joe Stanisz	Iowa DOT	☒	Andy Castillo	EMSEAL	☐
Scott Neubauer	Iowa DOT	☒	Diana Hellman	FujiFilm	☒
Dewight Jones	Iowa DOT	☒	Jason Fogg	HDR, Inc.	☒
Dominique Shannon	Kansas DOT	☒	LJ Dickens	HNTB	☐
Don Whisler	Kansas DOT	☐	Ed Liberati	Hughes Group	☐
Jim Leaden (Vice-Chair)	Kansas DOT	☒	Blake Liberati	Hughes Group	☒
John Culbertson	Kansas DOT	☒	Kevin Irving	Int. Zinc Assoc.	☐
Josh Rogers (Director)	Kentucky TC	☐	Greg Heilman	Jet Filter System	☒
Dora Alexander	Kentucky TC	☒	Paul Vinik	GPI	☐
Brandon Boatman	Michigan DOT	☐	Richard Dunne	GPI	☒
Jacob Creisher	Michigan DOT	☐	Paul Jensen	Jensen Eng.	☒
Jason DeRuyver (Director)	Michigan DOT	☒	Dave Juntunen	Mott MacDonald	☒
Paul Pilarski	Minnesota DOT	☒	Drew Storey (Vice Chair)	Mott MacDonald	☒
Sarah Sondag (Chair)	Minnesota DOT	☒	Bobby Scarpitto	Kwikbond	☒
Mark Spafford	Minnesota DOT	☐	Gregg Freeman	Kwikbond	☒
Jerry Goodman	Missouri DOT	☒	Josh Bunderson	Metal Fatigue Soln.	☐
Todd Miller	Missouri DOT	☒	Adam Hales	Phoscrete	☐
Fouad Jaber	Nebraska DOT	☒	Kyle Bartfay	Phoscrete	☐
Kent Miller	Nebraska DOT	☒	Paul Imbrock	PoreShield	☐
Mark Traynowicz	Nebraska DOT	☐			
Babrak Niazi	Nebraska DOT	☒	Richard Huza	Salit Steel	☐
Miles Nelson	North Dakota DOT	☐	Derrick Castle	Sherwin Williams	☒
Ida Narbuvooll	North Dakota DOT	☒	Mark Hudson	Sherwin Williams	☒
Matthew Kurle	North Dakota DOT	☒	Aamer Syed	Sika	☒
Brad Noll	Ohio DOT	☐	Fabio Puzzo	Sika	☐
Jared Backs	Ohio DOT	☒	Siva Venugopalan	Siva Corrosion	☒

Mike Brokaw	Ohio DOT	☐	Chris Davis	Structural Tech	☒
Walt Peters	Oklahoma DOT	☒	Tom Donnelly	Transpo	☐
David Coley	South Dakota DOT	☒	Michael Stenko	Transpo	☐
Todd Thompson	South Dakota DOT	☐	Lawrence Kirchner	TranSystems	☒
Alex Pence	Wisconsin DOT	☐	David Brodowski	TrueTech Bridge	☐
Bill Oliva (Director)	Wisconsin DOT	☒	Peter Seibert	UHPC Soln.	☒
Philip Meinel	Wisconsin DOT	☒	Kevin Stumpf	Uretex USA	☐
Ryan Bowers	Wisconsin DOT	☒	Kevin Stull	Washer Coatings	☐
Travis McDaniel	Wisconsin DOT	☒	Nick Graziani (Director)	Watson Bowman	☒
David Bohnsack	Wisconsin DOT	☒			
Anthony Stakston	Wisconsin DOT	☒			
Local Agency Representatives					☐
Mel Quick-Miller	Harrison Cty IN	☐			
Javier Romero	Cook County, IL	☒	Guest / Mixed Affiliation		
Academia Representatives					
Basak Bektas	MN State Mankato	☐	Jeff Milton	Virginia DOT	☒
Glenn Washer (Director)	U of Missouri	☒	Marty Bachey		☒
Pat Conner (Director)	Indiana LAP	☒	Matthew Keilson	EMSEAL	☒
			Steve Conley	ECHEM	☒
FHWA Representatives					☐
Larry O'Donnell	FHWA	☒			☐
Raj Ailaney	FHWA	☐			☐
Scott Stotlemeyer	FHWA	☐			☐
Tim Anderson (Director)	FHWA	☒			☐
					☐
					☐
					☐
					☐
					☐
			Guest Speakers		
			Chuck Smith	Terex	☒
			Luke O'Hara	Terex	☒
					☐

Anyone shown with Unknown Affiliation can email the Secretary at Sarah.Wilson@illinois.gov with an update for the roll call.

Overlay Finisher (OF)

Terex: Bid-Well
Canton, SD



Prepared by: Luke O'Hara

Prepared on: May 2022



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Machine Use: "Low Slump Overlay"



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Sample Overlay Spec (Minnesota):

- **2404.3 E.2 Finishing Machine Requirements**
 - (1) Contains at least one oscillating screed; and (2) Designed to consolidate the concrete to 98 percent of rodded density by vibration. Install identical vibrators or pillow blocks with eccentric cams to provide at least one vibrator or source of vibration for each 5ft of screed length. If only vibrating one screed, vibrate the front screed. Ensure the bottom face of the screed is at least 5 inches wide and contains a turned-up or rounded leading edge to minimize surface tearing. Ensure each screed produces a pressure of at least 75 lbs per sq. ft of screed area on the bottom face. Provide each screed with positive control of the vertical position, angle of tilt, and shape of the crown. Equip the finishing machine with an adjustable power-operated paddle or auger to strike off concrete in front of the first screed.



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Jobsite & Existing Machine Overview



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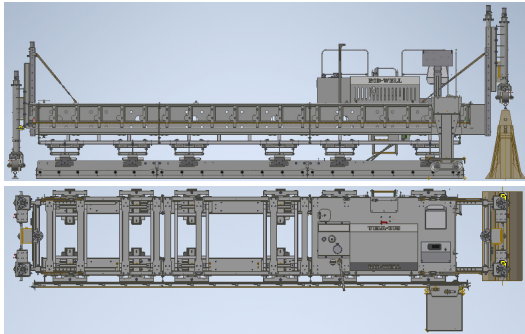
New Machine Overview

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Machine Overview: Max Length 28'

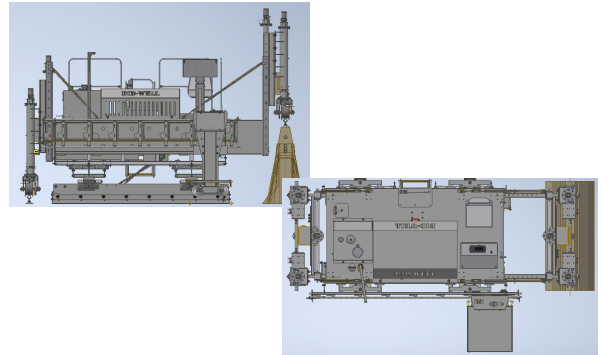


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Machine Overview: Min Length (Standard) 10'



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Size Offerings:

- 10' Standard (Min) – 28' Max
- Screed & Truss sizes:
 - 10'
 - 8'
 - 6'
 - 4'
 - 2'
 - 1' (no truss insert needed; screed is non vibratory)
 - 3" and 6" non-vibratory screed caps



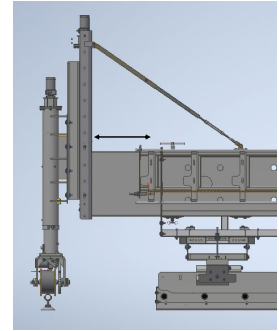
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General Specifications: Telescopic Truss

Telescopic Truss:

- 2' Travel
- Potential Max Length: 32'



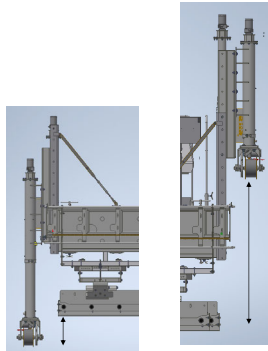
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General Specifications: Leg Height Adjustment

Leg Height Location:

- Lowest: 10" below grade
- Highest: 5' 6" above grade



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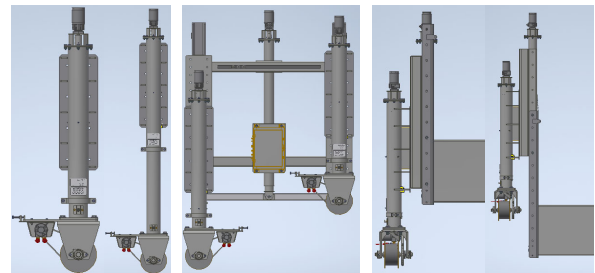
15

General Specifications: Leg Height Adjustment

Leg Travel: 28"

Manual Leg Mnt: 21"

PWR Dual Leg Lift: 42"

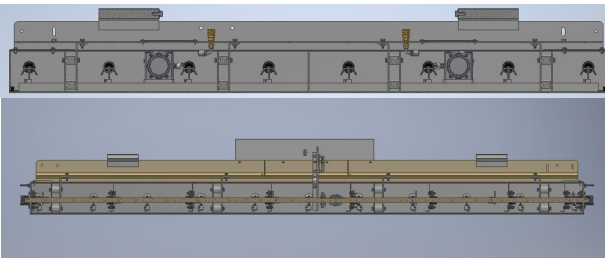


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Vibratory Screed Comparison

- **VPM Range:** 3500-5000 VPM
 - In accordance with ACI 309R-96 for externally vibrated concrete
- **Vibration Force:** Vibe motors were calculated to provide the same performance at all frequencies as the previous design.



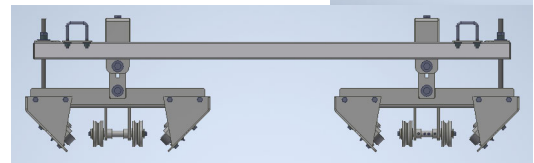
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Oscillation

• **Cam Arm:**

- Push/Pull mechanism to generate oscillation
- +/- 3" screed travel

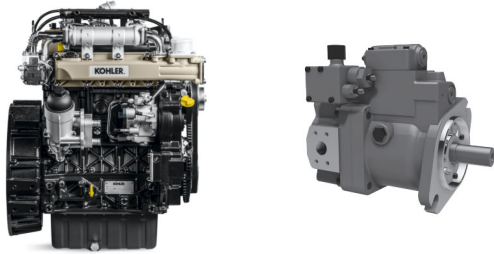


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Engine/Pump

- Kohler 56HP Diesel
- Kawasaki Axial Piston Pump

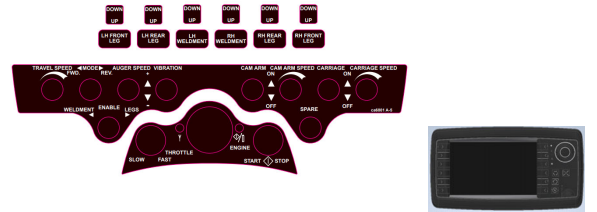


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Controls

- 7" HMI Screen on Platform
- RC Bellypack



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Additional Features

- **Enclosures for Exposed Valve Bodies**
- **Hydraulic Oil** – *temp and pressure monitoring*
- **Diagnostic System** – *electronics*
 - *Fault codes shown on HMI screen*
- **Telematics Port** - *possible add-on*
- **Sonic Sensors** – *leg height positioning*
 - *5" leg lift application*
- **Emergency Stops** – *magnetic/place anywhere*
- **Limit Switches for Carriage Travel**
 - *Smooth directional changes*



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Multi-Purpose Use

- Our intent moving forward is to use the main platform of this machine for other paving applications.
- For those of you who are familiar with the existing OF machine: this is why many of the paving components specific to this type of overlay are easily removable.



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Timeline

- Full structural analysis complete
- Hydraulic/Electronic System: designed & ordered
- Prototype Build: in process
 - Expected Prototype Completion date: May-June 2022
- Testing
 - Spring/Summer 2022
- Production
 - Orders available Q3/Q4 2022
 - Machines available for the 2023 paving season



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Questions?

Contact Info:

Engineering:

Luke O'Hara
Email: luke.ohara@terex.com
Phone: 605-223-6171

Sales:

Brian Severson
Email: brian.severson@terex.com
Phone: 605-223-6170



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