

SEPTEMBER 2023

# Traffic Tech Talk



# TRAFFIC TECH TALK TOPICS

## SEPTEMBER 27, 2023

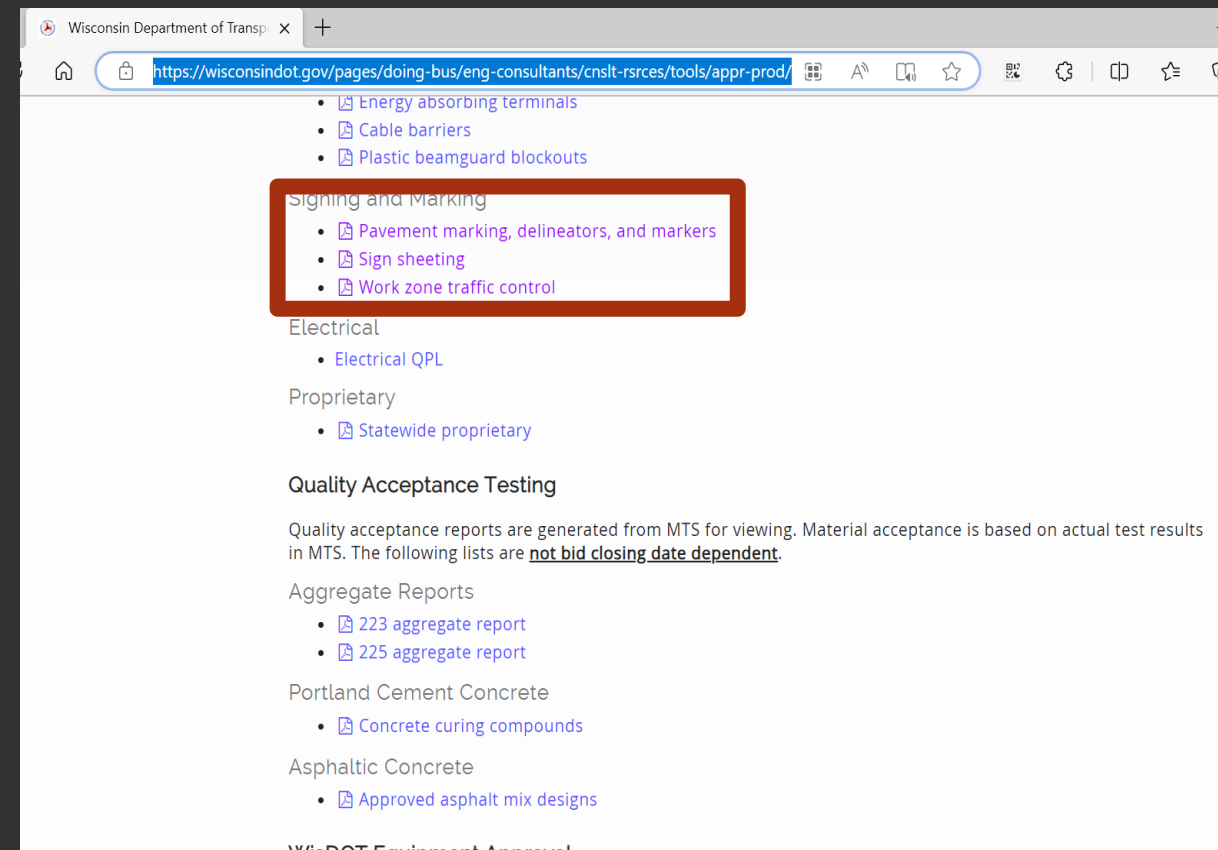
- Introduction
- Navigating the Approved Products Lists
- Approved Products List Application Process
- Evaluation & Audit Solutions (formerly NTPEP) & WisDOT Involvement

# INTRODUCTION

- Linette Rizos
  - Signing, Marking & Work Zone Materials Engineer
  - Evaluation & Audit Solutions (formerly NTPEP) Pavement Marking Materials Chair
  - Materials Inquiries:  
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# NAVIGATING THE APPROVED PRODUCTS LISTS (APL)

- Three APLs under the Traffic Design Unit:
  - Signing Materials
  - Marking Materials
  - Work Zone Materials & Devices



# NAVIGATING THE APPROVED PRODUCTS LISTS (APL) SIGNING MATERIALS CATEGORIES

- Type H (Partial Cubed Prismatic Sheeting)
- Type F (Fluorescent Yellow Green and Fluorescent Yellow)
- Type SH (Full Cubed Prismatic Sheeting)
- **Work Zone Sheeting**
  - Reboundable Sheeting
  - Type XI (Sheeting for Barricades)
  - ASTM D4956 Type VI (Roll-Up Sheeting)

# NAVIGATING THE APPROVED PRODUCTS LISTS (APL) SIGNING MATERIALS CATEGORIES



## Approved Sign Sheeting Products

Date Last Edited: AUGUST 2023



### Products Currently Permitted on the Approved Products List:

- Type H (Partial Cubed Prismatic Sheeting)
- Type F (Fluorescent Yellow Green and Fluorescent Yellow)
- Type SH (Full Cubed Prismatic Sheeting)

### Work Zone Sheeting

- Reboundable Sheeting
- Type XI (Sheeting for Barricades)
- ASTM D4956 Type VI (Roll-Up Sheeting)

### Procedure for New Sign Sheeting Material Acceptance:

1. Vendor, supplier or manufacturer submits request to have product reviewed and considered for addition to the WisDOT Approved Sign Sheeting Products List.
2. The vendor, supplier or manufacturer submits Quality Control Plan (including warranties), Data Sheets (MSDS, Product Data Bulletins, etc.), Installation Specifications, Two (2) 12"x12" samples of each color, 3 Year NTPEP Test Data from Minnesota Test Deck and Accelerated Indoor weather Testing from an independent Lab (if NTPEP Data is unavailable).
3. Evaluate product information to ensure compliance with the appropriate Standard Specification and the daytime luminance values contained in ASTM D4956 and 655 CFR Subpart F.
4. WisDOT BTO sends response letter to vendor, supplier or manufacturer.
5. Update the WisDOT Approved Sign Sheeting Products List accordingly.

### Contact:

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### Type H (Partial Cubed Prismatic Sheeting)

Sheeting for Rigid Signs, Delineators, and Markers (ASTM D4956 Type IV)		
Manufacturer	Product	Approval Date
3M	3M HIP Type IV 3930 - White	2/19/2014
	3M HIP Type IV 3931 - Yellow	2/19/2014
	3M HIP Type IV 3932 - Red	2/19/2014
	3M HIP Type IV 3934 - Orange	2/19/2014
	3M HIP Type IV 3935 - Blue	2/19/2014
	3M HIP Type IV 3937 - Green	2/19/2014
ORAFOL	3M HIP Type IV 3939 - Brown	4/1/2012
	Oralite HIP Type IV 5900-010 White	12/10/2012
	Oralite HIP Type IV 5900-020 Yellow	12/10/2012
	Oralite HIP Type IV 5900-030 Red	12/10/2012
	Oralite HIP Type IV 5900-050 Blue	12/10/2012
	Oralite HIP Type IV 5900-060 Green	12/10/2012
Avery Dennison	Oralite HIP Type IV 5900-080 Brown	12/10/2012
	Avery Dennison HIP T-6500 White	2/19/2014
	Avery Dennison HIP T-6501 Yellow	9/17/2009
	Avery Dennison HIP T-6504 Orange	9/17/2009
	Avery Dennison HIP T-6505 Blue	9/17/2009
	Avery Dennison HIP T-6507 Green	9/17/2009
	Avery Dennison HIP T-6508 Red	9/17/2009
	Avery Dennison HIP T-6509 Brown	9/18/2009

### Type F (Fluorescent Yellow Green, Fluorescent Yellow and Fluorescent Orange)

Sheeting for Rigid Signs, Delineators, and Markers (ASTM D4956 Type XI)		
Manufacturer	Product	Approval Date
Avery Dennison	Avery Dennison Omni-Cube T-11511 Fl. Yellow	11/28/2011
	Avery Dennison Omni-Cube T-11513 Fl. Yellow - Green	11/28/2011
	Avery Dennison Omni-Cube W-11514 Fl. Orange	11/28/2011
3M	3M DG3 Type XI 4081 - Fl. Yellow	2/19/2014
	3M DG3 Type XI 4083 - Fl. Yellow - Green	2/19/2014
	3M DG3 Type XI 4084 - Fl. Orange	2/19/2014
ORALFOL	ORALITE 9900 Brilliant Grade Premium Type F - Fl Yellow Green (029)	7/24/2023
	ORALITE 9900 Brilliant Grade Premium Type F - Fl Yellow (037)	7/24/2023
	ORALITE 9900 Brilliant Grade Premium Type F - Fl Orange (039)	7/24/2023

### Work Zone Sheeting

Reboundable Sheeting (Drums, 42-Inch Cones, Flexible Tubular Markers, etc.)		
Manufacturer	Product	Approval Date
Avery Dennison	Avery Dennison WR-7100 - Reboundable White	2/19/2014
	Avery Dennison WR-7114 - Reboundable Fl. Orange	2/19/2014
3M	3M 3910 - Reboundable White	2/19/2014
	3M 3911 - Reboundable Fl. Yellow	5/29/2014
	3M 3914 - Reboundable Fl. Orange	2/19/2014
Orafol	5935 Marathon Reboundable Sheeting - White	11/29/2022
	5935 Mrathon Reboundable Sheeting - Fluorescent Orange	11/29/2022

### Sheeting for Barricades (Type XI)

Manufacturer	Product	Approval Date
Avery Dennison	Avery Dennison W-11100- OmniCube Orange & White 6 in	7/22/2014
3M	3M Diamond Grade DG3 446 Orange & White	7/22/2014

### Roll-up Sheeting for Signs (ASTM D4956 Type VI)

Manufacturer	Product	Approval Date
Orafol	Oralite® Marathon Roll-up Sign Sheeting	1/1/2016
3M	3M™ Diamond Grade™ Roll-Up Sign Sheeting Series RS641	1/1/2016
Avery-Dennison	Avery Dennison WU-7014 FO Roll-Up Retroreflective ASTM D 4956 Type VI	8/15/2023

### Rigid Sheeting for Signs

Manufacturer	Product	Approval Date
Use Type H or Type SH Sheeting from the Approved Products List, except for orange and yellow. For orange and yellow sheeting, use Type F from the Approved Products List.		

# NAVIGATING THE APPROVED PRODUCTS LISTS (APL) MARKING MATERIALS CATEGORIES

## ▪ Pavement Marking

- Waterborne Paint
- Epoxy
- Permanent Tape
- Removable Tape
- Temporary Raised Pavement Markers
- Wet Reflective/Recoverable Elements

## ▪ Delineators & Marker Posts

- Culvert End Markers
- Delineator Flexible Posts
- Guardrail Delineators
- E.A.T. Marker Posts

# NAVIGATING THE APPROVED PRODUCTS LISTS (APL) PAVEMENT MATERIALS CATEGORIES



## Pavement Marking & Delineators 2022

Date Last Edited: NOVEMBER 2022

### Pavement Marking

- Waterborne Paint
- Epoxy
- Permanent Tape
- Removable Tape
- Temporary Raised Pavement Markers
- Wet Reflective/Recoverable Elements

### Delineators and Marker Posts

- Culvert End Markers
- Delineator Flexible Post
- Guardrail Reflectors
- E.A.T. Marker Posts

### Flexible Tubular Marker Posts

\*Devices have been moved to Work Zone Traffic Control Devices.

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### Pavement Marking

Waterborne Paint				
Manufacturer	Product	Color	NTPEP Number	Approval Date
Sherwin-Williams	Yellow Premium Waterborne (11Y3)	Yellow	PMM-2011-01-098	JANUARY 2017
	Yellow Premium Waterborne (13Y1)	Yellow	PMM 2013-01-034	JANUARY 2017
	White Premium Waterborne (11W2)	White	PMM 2011-01-095	JANUARY 2017
Ennis-Flint, Inc.	High Build Waterborne Paint 985222 Yellow	Yellow	2011-01-062	JANUARY 2017
	High Build Waterborne Paint 985221 White	White	2011-01-056	JANUARY 2017
	Low Temp Waterborne Paint 985352 Yellow	Yellow	PMM-PA-55 (991156)	JANUARY 2017
	Low Temp Waterborne Paint 985351 White	White	PMM-PA-51 (991152)	JANUARY 2017
	Standard Fast Dry Waterborne 984902	Yellow	PMM-2010-01-33	JANUARY 2017
	Standard Fast Dry Waterborne 984901	White	PMM-2010-01-37	JANUARY 2017
	Fast Dry Traffic Paint 984932	Yellow	PMM-2011-01-061	FEBRUARY 2018
Diamond-Vogel	Fast Dry Traffic Paint 984931	White	PMM-2011-01-051	FEBRUARY 2018
	VP13-Y7 Yellow Waterborne Traffic (UC35-11926)	Yellow	PMM-2013-01-068	JANUARY 2017
	VP13-W2 White Waterborne Traffic (UC15-11928)	White	PMM-2013-01-063	JANUARY 2017
Swarco	VP13-Y6 Yellow Waterborne Traffic (UC35-15663)	Yellow	PMM-2013-01-067	JANUARY 2017
	VP13-W3 White Waterborne Traffic (UC15-15562)	White	PMM-2013-01-064	JANUARY 2017
	Yellow High Build Waterborne Traffic Paint	Yellow	PMM-2011-01-062	JANUARY 2017
Ozark Materials	White High Built Waterborne Traffic Paint	White	PMM-2011-01-081	JANUARY 2017
	White Fast Dry Waterborne 14245	White	PMM-2017-01-139	OCTOBER 2019
	Yellow Fast Dry Waterborne 24245	Yellow	PMM-2017-01-140	OCTOBER 2019
	White Cold weather Waterborne 17245	White	PMM-2017-01-137	NOVEMBER 2019
	Yellow Cold Weather Waterborne 27245	Yellow	PMM-2017-01-138	NOVEMBER 2019

Slow Dry Epoxy				
Manufacture	Product	Color	NTPEP Number	Approval Date
Poly Carb, Inc	Mark 55	Yellow		JULY 2020
	Mark 55	White		JULY 2020
	Mark 55.4	Yellow	PA - 2002	JANUARY 2017
	Mark 55.4	White	PA - 2001	JANUARY 2017
	Mark 55.9	Yellow	PMM-2013-01-84	JANUARY 2017
	Mark 55.9	White	PMM-2011-01-83	JANUARY 2017
Ennis-Flint, Inc.	HPS-2 Slow Cure Epoxy	Yellow	PMM-2011-01-056	JANUARY 2017
	HPS-2 Slow Cure Epoxy	White	PMM-2013-01-055	JANUARY 2017
	LS-60	Yellow	PMM-PA-055	JANUARY 2017
Epoplex	LS-60	White	PMM-PA-054	JANUARY 2017
	LS-65	Yellow	PMM-2008-01-193	JANUARY 2017
	LS-65	White	PMM-2008-01-192	JANUARY 2017
P3 Infrastructure, Inc.	Clarus LL Slow Set Epoxy Pavement Marking	Yellow	PMM-2014-01-122	1/1/2017
	Clarus LL Slow Set Epoxy Pavement Marking	White	PMM-2014-01-121	1/30/2017
Sherwin Williams	Yellow Slow Cure Epoxy TM 8221	Yellow	PMM-2008-01-203	4/4/2017
	White Slow Cure Epoxy TM 8220	White	PMM-2008-01-202	4/4/2017

\*If black epoxy is required, you shall use any of the above products that come in black.

Temporary Raised Pavement Markers Type 1			
Manufacturer	Product	Color	Approval Date
Ennis-Flint, Inc.	Stimonite	White	-
	Stimonite	Yellow	-
www.3m.com	3M 290	White	-
	3M 290	Yellow	-
	3M 291	White	-
	3M 291	Yellow	-
Ray-O-Lite	Round Shoulder 8800 Series	-	-
	AA 9700 Series	-	-
Apex Universal, Inc	Apex 921 Series	White	-
	Apex 921 Series	Yellow	-

Wet Reflective/Recoverable Elements			
Manufacturer	Product	Application Rate	Approval Date
3M	3M Wet Reflective Elements Series 70E	4.1 pounds per gallon of 3M Wet Reflective Elements per 18-22 pounds per gallon of M247 Type 1 Beads.	November 2018
Potters	VisiMax Plus	10 pounds per gallon of VisiMax Plus Wet Recoverable Elements per 10 pounds per gallon of M247 Type 1 Beads.	November 2018
	VisiUltra EP (Previously named VisiUltra NC. Product is unchanged.)	8 lbs per gallon of VisiUltra per 6-8 lbs per gallon of M247 Type 1 Beads.	October 2019

### Delineators & Marker Posts

Culvert End Markers			
Manufacturer	Product	Color	Approval Date
	Safe-Hit	White	-
Pexco-Davidson	SH248GP3-WV	White	-
	FG 500 Series	White	-
Carsonite Composites	Survivor 01	White	-
	Curve-Flex Marker 01	White	-
Shur-Tite	Shur-Flex Drivable Delineator (#SD0031)	White	-

Delineator Flexible Posts			
Manufacturer	Product	Color	Approval Date
	Safe-Hit	White	-
Pexco-Davidson	SH248GP3-WS	White	-
	FG 500 Series	White	-
Carsonite Composites	Survivor 01	White	-
	Survivor 02	White	-
	Curve-Flex Marker 01	White	-
Shur-Tite	Shur-Flex Drivable Delineator (#SD0031)	White	-

Guardrail Reflectors			
Manufacturer	Product	Color	Approval Date
Pexco	FatCat Guardrail Marker	-	-
Artuk	STR413	-	11/12/2021

E.A.T. Marker Posts			
Manufacturer	Product	Color	Approval Date
Pexco-Davidson	FG 500 Series	Yellow	-
Carsonite Composites	Survivor 02	Yellow	-

[pavement-marking.pdf \(wisconsin.gov\)](https://www.wisconsin.gov/pavement-marking.pdf)



# NAVIGATING THE APPROVED PRODUCTS LISTS (APL) WORK ZONE TRAFFIC CONTROL DEVICES CATEGORIES

- Category 1
  - Drums
  - 42-Inch Cones
  - Flexible Tubular Markers
  - Traffic Channelizing Curb System
- Category 2
  - Type 1 Barricade
  - Type 2 Barricade
  - Type 3 Barricade
  - Sign Stands
  - Vertical Panels
  - Pedestrian Barricade
- Category 3
  - Truck & Trailer Mounted Attenuator
- Category 4
  - Arrow Board
  - Portable Changeable Message sign
  - Speed Radar Trailers
  - Digital Speed Limit Trailer
- Other
  - Type A Lights
  - Type B Lights
  - Type C Lights
  - Pedestrian Surface
  - Temporary Detectable Warning Field
  - Automated Flagger
  - Temporary Portable Rumble Strips

# NAVIGATING THE APPROVED PRODUCTS LISTS (APL) WORK ZONE TRAFFIC CONTROL DEVICES CATEGORIES



## Work Zone Traffic Control Devices

Date Last Edited: AUGUST 2023

### Category 1

- Drums
- 42-Inch Cones
- Flexible Tubular Markers
- Traffic Channelizing Curb System

### Category 2

- Type I Barricades
- Type II Barricades
- Type III Barricades
- Sign Stands
- Verical Panels
- Pedestrian Barricade

### Category 3

- Truck & Trailer Mounted Attenuator

\*\*Please see the Temporary Traffic Control Device Application at the end of this document if you wish to submit products for review.

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### Category 4

- Arrow Board
- Portable Changeable Message Sign
- Speed Radar Trailers
- Digital Speed Limit Trailer

### Other

- Type A Lights
- Type B Lights
- Type C Lights
- Pedestrian Surface
- Temporary Detectable Warning Field
- Automated Flagger
- Temporary Portable Rumble Strips

Category 1					
Drums					
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #	
Lakeside Plastics	Director Drum	OCTOBER 2017			
Traffic Devices	1800S Series Drum	OCTOBER 2017			
Plaste Safety Systems	LifeGuard II	OCTOBER 2017		643.0300	
Plaste	Commander Drum	OCTOBER 2017			
(Former Work Area Protection)	Econocade II Drum	SEPTEMBER 2019			
Bent Manufacturing Company	Lane Changer Traffic Drum - 8500 LC	OCTOBER 2017			
Bent Manufacturing Company	Superdome Drum	JULY 2018			
Cortina	Cortina Channelizer Boss Drum	APRIL 2021			
42-Inch Cones					
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #	
Lakeside Plastics	Diverter Channelizer	OCTOBER 2017			
ISS	Navigator, 42" Slimline Channelizer	OCTOBER 2017			
Plaste	42" Channelizer C-42	DECEMBER 2017		643.1070	
(Former Work Area Protection)	Navigate Channelizer Cone	JANUARY 2018			
Bent Manufacturing Company	Tear Drop and T-Top Channelizers	JULY 2018			
Traffic Devices	Loopier Cone (42") 16 lb & 30 lb Bases	JULY 2018			
UAT	NG Gorilla Grip 42" Channelizer	JULY 2020			
Cortina	Grip N Go 42" Channelizer Cone	APRIL 2021			
Flexible Tubular Marker					
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #	
Pexco	FG 300 Series Posts	OCTOBER 2017			
	CityPost Bolt Down	OCTOBER 2017			
	CityPost 5M Surface Mount	OCTOBER 2017			
	CityPost 60 Glow Down	OCTOBER 2017			
	Davidson FG 300 UR Series	OCTOBER 2017			
	Flexi-Guide FG 300 Model PE Series	OCTOBER 2017			
	Flexi-Guide FG 300 Model EFX Series	OCTOBER 2017			
	Davidson DP 200 Channelizer Post	OCTOBER 2017			
	FlexStake	FlexStake 1M750 Series	OCTOBER 2017		643.0500
	Valtir, LLC	Dura-Post	OCTOBER 2017		643.0600
(Formerly Trinity)	Safe-Hit	OCTOBER 2017			
Bent Manufacturing Co.	MasterFlex Post-EX Series	OCTOBER 2017			
New Direction Manufacturing	350 Surface Mount	OCTOBER 2017			
Shur-Tite	Shur-Flex Surface Mount	OCTOBER 2017			
Lakeside Plastics	Divider - Surface Mount Post	OCTOBER 2017			
Impact Recovery Systems	MP2 Flex Post	MARCH 2018			
Safe-Hit	DMBA-HST - 0P2	JULY 2018			
Impact Traffic	Don-Post	OCTOBER 2017			
Impact Traffic	Tuff Post (DFC-FPB)	OCTOBER 2017			
*Flexible Tubular Markers Devices may be used for Work Zone or Permanent Application					
Traffic Channelizing Curb System					
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #	
Shur-Tite	Shur-Curb Traffic Separator	OCTOBER 2017			
Quick Curb, Inc.	Cwick Curb	OCTOBER 2017			
Pexco	FG 300 Template Curb System	OCTOBER 2017			
Pexco	FG 300 Interstate Grade Curb System	OCTOBER 2017			
Impact Recovery Systems	Tuff Curb	MARCH 2018			
Impact Recovery Systems	Tuff Curb XLP	MARCH 2018			

Category 2				
Type I Barricades				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Qent-A-Flash	T3 Wood Barricade (W2-54)	OCTOBER 2017		
Plaste	Combocade Type I	OCTOBER 2017		
Warning Lites of Min	Aluminum Barricades	OCTOBER 2017	1/1/2025	643.0405
Traffic Control & Protection Inc	Type I Barricade	MAY 2018		
Type II Barricades				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Bent Manufacturing Company	W2-54	OCTOBER 2017		
Traffic Devices	Universal Plastic Barricade	JULY 2018		
Bent-A-Flash	3000 Series	OCTOBER 2017		
T2 Wood Barricade (W0-54)	OCTOBER 2017			
Plaste	Combocade Type II	OCTOBER 2017		643.0410
Warning Lites of Min	Aluminum Barricades	OCTOBER 2017	1/1/2025	
Traffic Control & Protection Inc	Type II Barricade	MAY 2018		
United Rentals Highway Technology	Type II Barricade with Wooden Pines & Steel Angle Uprights	JULY 2018		
	Lo-Pro 350 Sign Stand	JULY 2018		
Type III Barricades				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Pexco	W2-380	SEPTEMBER 2019		
Warning Lites of Min	Aluminum Barricades	OCTOBER 2017		
Q3	Aluminum Type III Barricade	OCTOBER 2017		
Bent-A-Flash	T3 Wood/Plastic (W2-43)	OCTOBER 2017	1/1/2025	643.0420
ISS	Anchor Mast Barricade System	OCTOBER 2017		
	LaneGuard 3, Callapelite Barricade System	OCTOBER 2017		
Plaste	PlasteGuide Velogrip Type III Barricade	OCTOBER 2017		
	PowerPost Type II with Volcano Base	DECEMBER 2017		
	Angle Iron Type III Barricade - 3900 Series	MARCH 2018		
Bent Manufacturing Company	Type III Barricade	OCTOBER 2019		
Sign Stands				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Traffic Devices	Little Buster 24000 Series (W2-108)	OCTOBER 2017		
	Big Buster Part #6090 - BRU (with Roll-Up)	MARCH 2018		
	Big Buster Part #6090 - BRB (with Rigid Sign Bracket)	MARCH 2018		
	TwinFlex (TF-18)	OCTOBER 2017		
Dickie Tool	TR60-RUB or RGB	FEBRUARY 2017		
	LF2000R	MARCH 2021		
MDI	501BK	OCTOBER 2017		
	480K	JANUARY 2018		
	481R	JANUARY 2018		
Bone Safety Signs	SZ-484-25	OCTOBER 2017		
Quality Restoration Services Inc.	QRS Vertical Sign Stand	OCTOBER 2017		
Mathy Construction Company	Mathy Work Zone A-Frame Sign Stand	MAY 2018		
United Rental Highway Technologies	Lo-Pro 350 Sign Stand	JULY 2018		
	Hi-Pro 350 Sign Stand	AUGUST 2019		
Telegar	Temporary Sign Stand	OCTOBER 2019		
	S58800 Sign Stand	JULY 2020		
	S5520A Sign Stand	JULY 2020		
	S5410A Sign Stand	JULY 2020		
	S5420A Sign Stand	JULY 2020		
	S5340A Sign Stand	JULY 2020		
	S5310A Sign Stand	JULY 2020		
	S5300 Sign Stand	JULY 2020		
	S5300A Sign Stand	JULY 2020		
	S5300 Sign Stand	JULY 2020		
	S5100 Sign Stand	JULY 2020		
	S5100 Sign Stand	JULY 2020		
Cortina	Quadraflex VI Single Spring Sign Stand (W07-816-1)	MARCH 2023		

Other				
Type A Lights				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Empco-Lite	Model 2006	OCTOBER 2017		
	Toughlite 2000	OCTOBER 2017		
	Empco Y2K Barricade Light	MARCH 2018		
	Empco SV 400 LED	SEPTEMBER 2019		
Dicke Safety Products	IC40-NA	OCTOBER 2017		643.0705
Ph Variables, Inc	BR3-AC-D3/D4	OCTOBER 2017		
	BR6-AC-D3/D4	OCTOBER 2017		
	BC3-AC-D3/D4	OCTOBER 2017		
	BC6-AC-D3/D4	OCTOBER 2017		
Ph Variables, Inc	BS-AC-D3/D4	OCTOBER 2017		
	BS-AC-D3/D4	OCTOBER 2017		
	BS-AC-D3/D4	OCTOBER 2017		
	BS-AC-D3/D4	OCTOBER 2017		
	Type A Lights	JULY 2018		
Type B Lights				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Checkers Industrial Safety Products	BR3 & D3/D4	OCTOBER 2017		
	BR6 & D6/D4	OCTOBER 2017		
Empco-Lite	Toughlite 2000	OCTOBER 2017		643.0710
	Empco Y2K Barricade Light	MARCH 2018		
	Empco SV 400 LED	SEPTEMBER 2019		
Type C Lights				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Empco-Lite	Model 2006	OCTOBER 2017		
	Toughlite 2000	AUGUST 2019		
	Empco Y2K Barricade Light	MARCH 2018		
	Empco SV 400 LED	SEPTEMBER 2019		
Dicke Safety Products	IC40-NA	OCTOBER 2017		643.0715
Checkers Industrial Safety Products	BR3-AC-D3/D4	OCTOBER 2017		
	BR6-AC-D3/D4	OCTOBER 2017		
	BC3-AC-D3/D4	OCTOBER 2017		
	BC6-AC-D3/D4	OCTOBER 2017		
F & C Lights (now owned by Checkers Industrial Safety Products)	BS-AC-D3/D4	OCTOBER 2017		
	Type C Lights	JULY 2018		
Pedestrian Surface (Pedestrian Walkway Systems)				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
ISS	Boardwalk Ramp	OCTOBER 2017		
	Boardwalk Platform 2	OCTOBER 2017		
	RapidRamp: The express ADA Ramp	MARCH 2023		
	Pod Utility Trench Cover	JULY 2020		
Diamond Discs Inter	CS Ramp 1	JANUARY 2021		
Central State Construction	Veranast Ground Protection Mat	JUNE 2021		
Checkers Safety Industrial Products	Greatmats Ground Protection Mat 1/2 Inch x 4x8	MAY 2023	1/1/2025	
Greatmats	Greatmats Ground Protection Mat 1/2 Inch x 4x8	MAY 2023		
Chippewa Concrete Services	CS-3-WI	MAY 2022		
Blue Gator	Blue Gator Ground Protection Mats	JULY 2022		
FDOS	GFPM Ground Protection Mat, Model #1200 AM	JULY 2022		
Spartan Composites	Sign Mat	MARCH 2023		
James Peterson Sons, Inc	IPS Curb Ramp	AUGUST 2023		
Detectable Warning Systems	Detectable Warning Systems Acrylic Truncated Cones	AUGUST 2023		
Temporary Detectable Warning Field				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
ADA Solutions	ADA - SA248-1	MAY 2022		
Automated Flagger Devices				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
North America Traffic Inc.	PTL-2.0 Portable Flagger Light	JUNE 2019		
	PTL-4.0 Portable Flagger Signal	JUNE 2019		
	RCFZA Automated Flagger Assistance Device	JUNE 2019		
ITB	Sentinel AF40	JULY 2023		
WANGCO	WARAD	JULY 2023		
Synergy Technology	Automated Flagger AF-100	APRIL 2022		
Ver-Mac	Ver-Mac Flagger Mac	FEBRUARY 2023		
Temporary Portable Rumble Strip				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
ISS	RoadQuake 2	JANUARY 2020		
	RoadQuake 2P	JANUARY 2020		
Traffic Devices	Alert High Speed Rumble Strip	JANUARY 2020		
Temporary Traffic Signals				
Manufacturer	Product	Approval Date	Expiration Date	Bid Item #
Horizon Signal Technologies	SG2	JANUARY 2022		
Ver-Mac	TLD-2312 Trailer Mounted Traffic Signal	AUGUST 2022		

# APPLICATION PROCESS

- Signing, Marking & Work Zone Approved Products Lists have the Application Process Listed within the online document.
- Each process is very similar but has minor differences.
- All applications are to be submitted to [DOTSignMarkWZMaterials@dot.wi.gov](mailto:DOTSignMarkWZMaterials@dot.wi.gov)

# APPLICATION PROCESS

- Signing & Marking Approval:
  - Materials submitted are reviewed to make sure all submitted materials meet the approval criteria.
- Work Zone Temporary Traffic Control Devices Approval:
  - Work Zone Engineers & TDU Materials Engineer Meet once a month to review any submitted products and discuss any concerns or compliance questions
- APLs are only updated ONCE a month, and ONLY updated in the instances there are product name changes, product changes, new product submissions, discontinued use of a product type or a product is no longer being produced.

# APPLICATION PROCESS SIGNING

- Procedure for application can be found on page 1.
- Application for product submission is found on page 4.

## Procedure for New Sign Sheeting Material Acceptance:

1. Vendor, supplier or manufacturer submits request to have product reviewed and considered for addition to the WisDOT Approved Sign Sheeting Products List.
2. The vendor, supplier or manufacturer submits Quality Control Plan (including warranties), Data Sheets (MSDS, Product Data Bulletins, etc.), Installation Specifications, Two (2) 12"x12" samples of each color, 3 Year NTPEP Test Data from Minnesota Test Deck and Accelerated Indoor weather Testing from an Independent Lab (if NTPEP Data is unavailable).
3. Evaluate product information to ensure compliance with the appropriate Standard Specification and the daytime luminance values contained in ASTM 04956 and 655 CFR Subpart F.
4. WisDOT BTO sends response letter to vendor, supplier or manufacturer.
5. Update the WisDOT Approved Sign Sheeting Products List accordingly.

**Wisconsin Department of Transportation  
Sign Sheeting: Approved Products Application**

**Application Information**

Company Name: \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
Address: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Website: \_\_\_\_\_

Please only submit one application per product. You may submit multiple colors of the same product on the same application.

**Product Information**

Product Name: \_\_\_\_\_  
Color(s): \_\_\_\_\_  
Sheeting Type:  
 Type H (Partial Cubed Prismatic Sheeting)  
 Type F (Fl. Yellow Green, Fl. Yellow & Fl. Orange Sheeting)  
 Type SH (Full Cubed Prismatic Sheeting)  
 Reboundable Sheeting  
 Type XI (Sheeting for Barricades)  
 ASTM D4956 Type VI (Roll-Up Sheeting)  
Primary Use:  
 Permanent  
 Temporary/Work Zone  
 Other

Has this product, or similar products been used previously by WisDOT?  Yes  No  
If yes, please explain: \_\_\_\_\_

**Documents to Submit**

Quality Control Plan (including warranties)  
 Data Sheets (MSDS, Product Data Bulletins, etc.)  
 Installation Specifications  
 Submit two (2) 12"x12" samples of each color  
 3-year NTPEP Test Data from Minnesota Test Deck  
 Accelerated Indoor Weather Testing from an Independent Lab (if NTPEP Data is unavailable)

**Signature**

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Submit this application and supporting documents to:  
**Linette Rizos**  
Bureau of Transportation Operations  
Department of Transportation  
3609 Pierstoff St.  
Madison, WI 53704  
[DOTSignMarkWZMaterials@dot.wi.gov](mailto:DOTSignMarkWZMaterials@dot.wi.gov)

# APPLICATION PROCESS MARKING

- Procedure for application can be found on page 6.
- Application for product submission is found beginning on page 9.
- Appendices B & C for required test values are found on page beginning on page 11.

**Pavement Marking Approval Process**

**1. INTRODUCTION**  
The pavement marking materials are covered by this approval process.

**QUALIFICATION**  
The Wisconsin Department of Transportation provides manufacturers or vendors two options to apply for addition to the approved products list in Wisconsin. In order to be considered, the vendor or manufacturer must initiate the evaluation of their pavement marking material.

**Qualification for Immediate Approval**

1. The subject material has been tested and has NTPEP data for two (2) years or more from the Northern test decks from 2008 or later. Refer to Appendix B & C for required test values.
2. Submit the required Application Form, Test Data, Installation Specifications, Product Specifications, Report, and Product Sample as follows:
  - **Application Form**
  - **Test Data:** Submit NTPEP test data from participation in Northern Test Deck for comparison to Wisconsin Department of Transportation's (WisDOT) qualification and performance requirements. The NTPEP data will include:
    - Durability Data
    - Retro-reflectivity Data
    - Color Data
    - Bead Data
    - Application Data
    - Traffic Data
    - Weather Data
    - Limitations
  - **Installation Specifications:** Submit proper product installation instructions along with a website address where the installation specifications can be located.
  - **Product Specifications:** Submit product specifications that include the material safety data sheet and any other literature along with a website address where the specifications can be located
  - **Report:** Submit a written report containing all of the following information and a statement agreeing to the provisions of the application and review process.
    - **Technical Assistance:** The name(s), telephone number(s) and email addresses for the vendor or manufacturer representatives.

**Wisconsin Department of Transportation  
Pavement Marking: Approved Products Application**

**Application Information**  
Company Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
Address: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Website: \_\_\_\_\_

**Distributor Information**  
Company Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
Address: \_\_\_\_\_  
Email Address: \_\_\_\_\_

**Product Information**  
Product Name and Model: \_\_\_\_\_  
Type of Marking:  
 Solventborne Paint  Tape  
 Waterborne Paint  Other: \_\_\_\_\_  
 Epoxy

Has this product, or similar products been used previously by WisDOT?  Yes  No  
If yes, please explain: \_\_\_\_\_

**Documents to Submit:**  
 Quality Control Plan  
 Data Sheets  
 Installation Specifications  
 Material Safety Data Sheet  
 Technical Assistance  
 Other Literature  
 Submit a 1 pint or 10 ft sample of your product  
 NTPEP Testing year & product name (From PA or MN): \_\_\_\_\_

**Signature**  
Signed: \_\_\_\_\_ Title: \_\_\_\_\_  
Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_

Submit this application and supporting documents to:  
Linette Rizos  
Department of Transportation  
3609 Pierstoff St.  
Madison, WI 53704  
(414) 333-6234  
[DOTSignMarkWZMaterials@dot.wi.gov](mailto:DOTSignMarkWZMaterials@dot.wi.gov)

**APPENDIX B**

White Color Requirements							
Daytime Chromaticity Coordinates (Corner Points)							
1		2		3		4	
x	y	x	y	x	y	x	y
0.355	0.355	0.305	0.305	0.285	0.325	0.335	0.375

Yellow Color Requirement							
Daytime Chromaticity Coordinates (Corner Points)							
1		2		3		4	
x	y	x	y	x	y	x	y
0.560	0.440	0.490	0.510	0.420	0.440	0.460	0.400

White					
Material	Expected Life (years)	Initial Retro	Retro After 1 year	Retro After 2 years	End of Life Durability
Paint	2	275	200	100	7
Epoxy	4	275	225	150	8
Permanent Tape	8	650	400	350	8

Yellow					
Material	Expected Life (years)	Initial Retro	Retro After 1 year	Retro After 2 years	End of Life Durability
Paint	2	185	100	--	7
Epoxy	4	185	140	100	8
Permanent Tape	8	425	335	250	8

Material	Expected Life (months)	Initial Retro	Retro After 6 Months
Temporary Tape - White	6	300	150
Temporary Tape - Yellow	6	200	100

# APPLICATION PROCESS WORK ZONE TRAFFIC CONTROL DEVICES

- Procedure for application can be found beginning on page 6.
- Application for product submission is found on page 8.
- Requirements for devices can be found starting on page test values are found on page 9.

**Temporary Traffic Control Device Approval Process**

**I. INTRODUCTION**

The temporary traffic control devices are covered by this approval process.

**QUALIFICATION METHOD**

The Wisconsin Department of Transportation provides traffic control contractors and county forces with the process to apply for addition to the approved products list in Wisconsin. To be considered, the traffic control contractor and county forces must initiate the evaluation of their temporary traffic control device.

1. The subject device will require a letter of self-certification or FHWA eligibility letter. Refer to Appendices for requirements. Devices that do not meet MASH requirements but meet NCHRP 350 may be considered for addition to the list.
2. Submit the required Application Form, Self-Certification Letter or FHWA Eligibility Letter, Installation Specifications, Product Specifications and Report as follows:
  - **Application Form**
  - **Self-Certification Letter or FHWA Eligibility Letter:**
    - o Self-Certification Letter should contain at a minimum:
      - A title, e.g., "Certificate of Crashworthiness";
      - Name and address of vendor making the certification.
      - Unique identification of the certificate (such as serial number) and of each page and the total number of pages;
      - (iv) Description and unambiguous identification of the item tested;
      - Identification of the basis for the self-certification process used and to what Test Level of NCHRP Report 350. This basis as listed in the July 25, 1997-memo as crash test experience with similar devices or years of demonstrably safe operational performance. (Simplified crash testing showing that a device poses no risk to vehicle occupants may be used to support the manufacturer's certification. This simplified testing must, as a minimum, be documented by a written report, observed by an independent, impartial observer, recorded on videotape, and include a means, other than the test vehicle's speedometer, for determining the vehicle speed at time of impact.)
      - A signature and title, or an equivalent identification of the person(s) accepting responsibility for the content of the certificate (however produced), and date of issue;
      - A statement that the certificate shall not be reproduced except in full.

Wisconsin Department of Transportation  
Temporary Traffic Control Device: Approved Products Application

**Traffic Control Contractor or County Information**  
Company or County Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
Physical Address: \_\_\_\_\_  
Email Address: \_\_\_\_\_

**Vendor Information**  
Vendor Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
Address: \_\_\_\_\_  
Website: \_\_\_\_\_

**Product Information**

<b>Category 1</b> Drums 42" Cones Flexible Tubular Markers Traffic Channelizing Curb System	<b>Category 2</b> Type I Barricades Type II Barricades Sign Stands Vertical Panels Pedestrian Barricade	<b>Category 3</b> Truck & Trailer Mounter Attenuator <b>Category 4</b> Arrow Board Portable Changeable Message Sign Speed Rader Trailers	<b>Other</b> Type A Lights Type B Lights Type C Lights Pedestrian Surface Temporary Detectable Warning Field Automated Flagger Temporary Portable Bumble Strips Other _____
---	--	---	---

Product Name and Model: \_\_\_\_\_

Has this product, or similar products been used previously by WisDOT?  Yes  No

If yes, please explain: \_\_\_\_\_

**Documents to Submit:**  
Self-Certification Letter or FHWA Eligibility Letter  
Installation Specifications  
Product Specifications  
Report  
MASH Compliance Letter

**Signature**  
Signed: \_\_\_\_\_ Title: \_\_\_\_\_  
Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_

Submit this application and supporting documents to:  
Linette Rhee  
Department of Transportation  
DOTSapMarWZMaterials@dot.wis.gov

Page 1 of 9

Wisconsin Department of Transportation  
Temporary Traffic Control Device: Approved Products Application

**APPENDIX A**

**CATEGORY 1**

- Category 1 devices are "self-certified" by each Manufacturer and no testing of these devices is required to meet MASH-16 requirements. These devices may be allowed for use based on the developer's self-certification subject to approval by the individual highway agencies.
- DRUMS
  - o Weighted Rubber Base
    - Tire or molded base
    - Weight of base should follow manufacturer recommendations
  - o Orange
  - o Dimensions and Sheeting requirements meet SDD 15C11-b
  - o MASH Compliant
- 42" TRAFFIC CONTROL CONES
  - o Weighted Rubber Base
    - Molded
    - Weight of base should follow manufacturer recommendations
  - o Orange
  - o Dimensions and Sheeting requirements meet SDD 15C11-b
  - o Written submission of certification from manufacturer or distributor for compliance to MASH
- FLEXIBLE TUBULAR MARKERS
  - o Plastic bases that hold tube with locking pin
  - o Locking pin mechanism for securing device
  - o Orange (work zone application)
  - o White (permanent application)
  - o Yellow (permanent application)
  - o Work Zone Application
    - Dimensions and sheeting requirements meet SDD 15C11-a
  - o Permanent Application
    - Dimensions and sheeting requirements meet SDD 15A04-a
  - o MASH Compliant
- TRAFFIC CHANNELIZING CURB SYSTEM
  - o Submit FHWA federal-aid reimbursement eligibility letters
  - o Requirements meet MUTCD Section 3H.01 and 6F-72



Formerly known as:

**NTPEP**



NATIONAL TRANSPORTATION  
PRODUCT EVALUATION PROGRAM



# WHAT IS PRODUCT EVALUATION & AUDIT SOLUTIONS (FORMERLY KNOWN AS NTPEP)?

- ASHTO's Evaluation & Audit Solutions (formerly National Transportation Product Evaluation Program or NTPEP) is responsible for evaluating over 26 different types of products used within the construction of roads and bridges and this program also conducts manufacturing audits for 8 different types of construction products.

# PRODUCTS EVALUATED BY EVALUATION & AUDIT SOLUTIONS

- Pavement Marking Materials (PMM)\*\*
- PCMS/Flashing Arrow Panels (PCMS/FAP)\*
- Raised Pavement Markers (RPM)\*
- Snow Plowable Raised Pavement Markers (SPRPM)\*
- Sign Sheeting Material /Roll Up Signs (SSM/RUP)\*
- Temporary Traffic Control Devices (TTCD)\*
- Guardrail/Guiderail (GRL)
- Asphalt Binder Suppliers (ABS)
- Asphalt Mixture Additives (AMA)
- Asphalt Release Agents (ARA)
- Composite Concrete Reinforcements (CCR)
- Concrete Admixtures & Concrete Curing Compounds (CADD/CCC)
- Corrugated Metal Pipe (CMP)
- Elastomeric Bridge Bearing Pads (EBB)
- Epoxy & Resin Based Adhesive Bonding Systems (ERB)
- Erosion Control Products (ECP)
- Detectable Warning Systems (DWS)
- Geosynthetics (GTX & REGEO)
- High Friction & Thin Overlays (HFTO)
- PCC Joint Sealants (JS) & HMA Crack Sealers (CS)
- Thermoplastic Pip (THP)
- Rapid Set Concrete Patch Materials (RSCP)
- Reinforcing Steel & Wire (RSW)
- Pipe Lining Systems (PLS)
- Portland & Blended Cement (PBC)
- Protective Coatings (SSC & CCS)
- PCC Joint Sealants (JS) & HMA Crack Sealers (CS)
- Warm Mix Asphalt Technologies (WMA)

# WHAT IS THE PAVEMENT MARKING MATERIALS (PMM) TECHNICAL COMMITTEE?

- Members of the PMM Technical Committee consists of representatives from Departments of Transportation with pavement marking expertise and representatives from the marking industry
  - DOT from each participating state representatives are voting members
- The committee meets to collaborate on the procedures and parameters that are required for the assessment and performance of pavement marking materials submitted for evaluation.

<https://ntpep.transportation.org/technical-committees/pavement-marking-materials-pmm/>

# WHAT IS A EVALUATION & AUDIT SOLUTIONS PMM TEST DECK?

- Evaluation & Audit Solutions (formerly NTPEP) conducts Accelerated Wear Test evaluations of pavement markings in different zones defined by AASHTO to represent various geographical and climatic regions.
- Starting each spring, manufacturers are asked to submit each individual product they would like to have Evaluation & Audit Solutions tested and certified.
- Depending on the type of pavement marking, the product is subjected to a 1-year, 2-year, or 3-year field test, and depending on the class of the pavement marking, a series of applicable laboratory tests.
- Results are reported through the Evaluation & Audit Solutions DataMine website.

# KEY ASPECTS OF THE PROGRAM

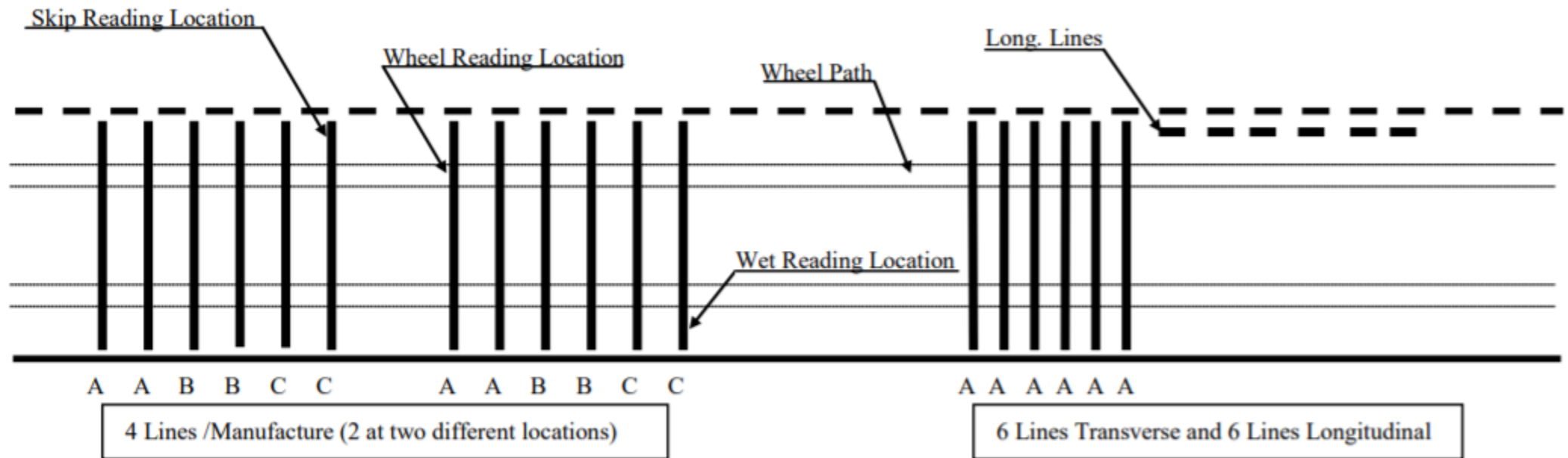
- All performance testing is done on an asphalt concrete (HMA) roadway and a Portland cement concrete roadway.
- These “test decks” are located and classified as one of the following:
  - A snowplow (northern state) or
  - A non-snowplow (southern state)
- Field evaluation on all temporary and permanent products include:
  - Retroreflectivity
  - Durability
  - Daytime color
  - Nighttime color (for yellow materials)
  - Wet night retroreflectivity (if requested by the manufacturer)
- Auto-no-track time is performed for paint products at time of install
- Temporary products are tested for six-months
- Permanent markings are evaluated for 3 years

# KEY ASPECTS OF THE PROGRAM

- Each product is sampled for laboratory testing
- All markings are installed by the manufacture or an appointed representative.
- The following installation data is recorded:
  - Specifics of the pavement markings
    - Mil thickness
    - Bead type
    - Rate applied
  - Conditions during application
    - Air temperature
    - Surface temperature
    - Humidity
- Evaluations are performed by the State hosting the test deck or a contracted research partner (i.e. college or university).
- The laboratory testing is done by a variety of State Transportation laboratories and in rare cases private laboratories.

# KEY ASPECTS OF THE PROGRAM

## TYPICAL TEST DECK LAYOUT



**Permanent Products &  
Non-Removable Tapes**

**Temporary Removable Tapes**

# WISCONSIN 2017 OVERVIEW

- Location was I-43 Southbound (Walworth & Rock County)
- Install completed on June 2017
- Final Data Collected in September of 2020
- Temporary Tape
  - 4 products
- Permanent Markings
  - Total of 145 permanent products
    - 69 Waterborne Paint Products
    - 14 Epoxy Paint Products
    - 14 Extruded Thermoplastic Products
    - 18 Preformed Thermoplastic Products
    - 10 Permanent Tape Products
    - 10 Polyurea Products
    - 4 MMA Products
    - 6 Experimental Products





# 2022 LOCATION

- US 12 (north of Sauk City)
  - Between County Road C to Waterbury Road
  - Closet Residence is on US 12 HMA Section between  $\frac{1}{3}$  mile and  $\frac{1}{2}$  miles from US 12
  - All the structures on both concrete and asphalt are associated with what's left of Badger Ammunition plant or with USDA Dairy Forage Research.



# WISCONSIN 2022 INSTALL

- Install completed on June 23, 2022
- 5 Weeks Total
  - One Week Temporary Tapes
    - 12 Temporary Tapes
  - 4 Weeks Permanent Products
    - 118 total products
      - Waterborne/Solventborne: 38
      - Thermoplastic: 22
      - Preform Thermoplastic: 17
      - Permanent Tape: 15
      - Epoxy: 18
      - Polyurea: 4
      - MMA: 4



# WISCONSIN 2022 INSTALL



# WISCONSIN 2022 INSTALL



# WISCONSIN 2022 INSTALL



# WISCONSIN 2022 INSTALL



# WISCONSIN 2022 INSTALL



# WISCONSIN 2022 INSTALL





# WISCONSIN 2022 ON-GOING

- Data Collection is on-going until 2025.



# QUESTIONS?

## Linette Rizos

- WisDOT BTO Signing, Marking and Work Zone Materials Engineer
- Evaluation & Audit Solutions PMM Technical Committee Chair

