

LIST II-31.1 - PORTABLE BARRIERS

MASH COMPLIANT

NAME	MANUFACTURER	PEB #	PAY ITEM #	APPROVED DATE	APPROVED TYPE	Notes
MOBILE BARRIERS	Mobile Barriers, LLC. 24918 Genesee Trail Rd; Golden, CO 80401 303-526-5995 http://mobilebarriers.com/contact.htm	2390	726_	8/6/2012	NCHRP-350 TL-2 & TL-3 MASH TL-3 & TL-3	
DEFENDER BARRIER (Model 100LDS)	Safe Barriers of North America, LLC. 755 Grand Blvd. Suite B105-227, Miramar Beach, FL 32550 888-215-4535 http://www.safebarriers.com	4859	726_	7/10/2018	MASH TL-3	
DEFENDER BARRIER (Model 100HC)	Safe Barriers of North America, LLC. 755 Grand Blvd. Suite B105-227, Miramar Beach, FL 32550 888-215-4535 http://www.safebarriers.com	4860	726_	7/10/2018	MASH TL-4	
ZONEGUARD	Hill & Smith 987 Buckeye Park Road; Columbus, OH 43207 614-340-6294 http://www.hillandsmith.com/zoneguard/	2063	726_	2/1/2016	NCHRP-350 TL-3 & TL-4 MASH TL-3	Approved for temporary installations in Construction Work Zones
HV2 SAFETY BARRIER	Saferoads 288 Paynes Depot Road, Lexington, KY 40511 859-469-0364 https://www.saferoads.com.au/	4955	726_	4/13/2020	MASH TL-4	
J-J HOOKS	Easi-Set Worldwide 5119 Catlett Road, Midland, VA 22728 800-547-4045 http://www.EasiSet.com	4869	726_	7/10/2018	MASH TL-3	
J-J HOOKS (PIN DOWN / BOLT DOWN)	Easi-Set Worldwide 5119 Catlett Road, Midland, VA 22728 800-547-4045 http://www.EasiSet.com	4240	726_	6/4/2019	MASH TL-3	
J-J HOOKS (20 FT LENGTH)	Easi-Set Worldwide 5119 Catlett Road, Midland, VA 22728 800-547-4045 http://www.EasiSet.com	5048	726_	3/2/2020	MASH TL-3	F-Shape Free-Standing only

T-LOK (12 FT LENGTH)	Rockingham Precast 3330 Kratzer Road, Harrisonburg, VA 22802 540-433-8282 https://www.rockinghamprecast.com/	5278	726_	6/8/2021	MASH TL-3	F-Shape Free-Standing only
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NON-MASH COMPLIANT

NAME	MANUFACTURER	PEB #	PAY ITEM #	APPROVED DATE	APPROVED TYPE	Notes
ARMORGUARD GATE SYSTEM (Formerly Safeguard Gate System)	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 http://www.lindsayafricagb.com/armorguard-steel-barrier-gate	1535	726_	7/6/2004	NCHRP-350 TL-3	
ARMORGUARD LINK SYSTEM (Formerly Safeguard Gate System)	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 http://www.lindsayafricagb.com/armorguard-steel-barrier-gate	1411	726_	6/30/2003	NCHRP-350 TL-2, TL-3	
BARRIERGUARD	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 http://www.lindsay.com/road-safety-products	1645	726_	10/3/2005	NCHRP-350 TL-3, TL-4	
BARRIERGUARD 800 GATE	Highway Care 7068 Fire Opal Drive; Las Vegas, NV 89131 702-204-0732 (Contact: Sam Arnold) http://highwaycareusa.com/traffic.php?page=barrierguard800_gate	2619	726_	6/5/2012	NCHRP-350 TL-3	
BARRIERGUARD 800 GATE VLB (VARIABLE LENGTH BARRIER)	Highway Care 7068 Fire Opal Drive; Las Vegas, NV 89131 702-204-0732 (Contact: Sam Arnold) http://highwaycareusa.com/traffic.php?page=barrierguard800_gate	2620	726_	6/5/2012	NCHRP-350 TL-3	
DRAGNET VEHICLE ARRESTING SYSTEM	Entwistle Mfg. Co. 6 Biglow Street; Hunson, MA 01749-2649 508-481-4000 http://www.entwistleco.com/defense/danville/dragnet.htm	781	726_	12/3/1990		
SAFE-T-CURVE (STCR02-100110)	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 http://www.lindsayafricagb.com/safe-t-curve	2235	726_	8/1/2011	NCHRP-350 TL-2, TL-3	

VULCAN BARRIER	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products/products_vulcan_tl3.asp	2018	726_	6/8/2009	NCHRP 350, TL-2, TL-3, TL-4	
VULCAN GATE	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products/products_vulcan_tl3.asp	2017	726_	6/8/2009	NCHRP 350 TL-2, TL-3, TL-4	

LIST II-31.2 - IMPACT ATTENUATORS

GROUND MOUNTED IMPACT ATTENUATORS (MASH COMPLIANT)

NAME	MANUFACTURER	PEB #	PAY ITEM #	*IMPACT FREQUENCY	APPROVED TYPE	Notes
DELTA	Traffix Devices, Inc. 160 Avenida La Pata, San Clemente, CA 92673 949-573-9228 https://www.traffixdevices.com/	5365	720_ 726_	Moderate	TL-3 MASH	Bi-Directional Permanent or Workzone
QUADGUARD M10	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products/products_quadguardM10.asp	2982	720_ 726_	Moderate	TL-2 TL-3 MASH	Bi-Directional Permanent or Workzone
QUADGUARD M WIDE	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products/products_quadguardM10.asp	5218	720_ 726_	Moderate	TL-2 TL-3 MASH	Bi-Directional Permanent or Workzone
QUADGUARD ELITE M10	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products/products_quadguardM10.asp	4224	720_ 726_	High	TL-2 TL-3 MASH	Bi-Directional Permanent or Workzone
QUADGUARD ELITE M10 WIDE	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products/products_quadguardM10.asp	5219	720_ 726_	High	TL-2 TL-3 MASH	Bi-Directional Permanent or Workzone
REACT M	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products/products_quadguardM10.asp	5381	720_ 726_	High	TL-3 MASH	Bi-Directional Permanent or Workzone
SCI (SCI100GM)	Work Area Protection Corporation 2500 Production Drive; St. Charles, IL 60174 800-327-4417 https://hillandsmith.com/products/smart-cushion/	1523	720_ 726_	High	TL-3 MASH	Bi-Directional Permanent or Workzone
SCI (SCI70GM)	Work Area Protection Corporation 2500 Production Drive; St. Charles, IL 60174 800-327-4417 https://hillandsmith.com/products/smart-cushion/	1523	720_ 726_	High	TL-2 MASH	Bi-Directional Permanent or Workzone

TAU-M	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 http://www.barriersystemsinc.com/tau-m-crash-cushion	4961	720_ 726_	Moderate	TL-2 TL-3 MASH	Bi-Directional Permanent or Workzone
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* **Approximate Impact Frequency:** + Intended to be the predominant category used unless local knowledge dictates

Frequency	Estimated Impact Rate	High	2 major impacts every year
Very High	3 or more major impacts per year where self-restoration is a consideration	+Moderate	1 major impact every 2 to 3 years
		Low	1 impact every 5 years

GROUND MOUNTED IMPACT ATTENUATOR MANUFACTURERS CHART

WORKZONE USE ONLY - DO NOT USE IN PERMANENT SITUATIONS

MASH Sunset Deadline 1-1-2025. (After MASH sunset date, non-MASH compliant devices will not be approved for inclusion in any projects.)
 Non-MASH compliant attenuators purchased before 1-1-2020 may be used as a work zone device through their useful life or until the sunset date, whichever comes first.

NAME	MANUFACTURER
ABSORB 350	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 https://www.lindsay.com/usca/en/infrastructure/brands/barrier-systems/solutions/crash-cushions/absorb/
ABSORB M	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 https://www.lindsay.com/usca/en/infrastructure/brands/barrier-systems/solutions/crash-cushions/absorb/
ACZ- 350	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products/products_acz.asp
COMPRESSOR SYSTEM	Traffix Devices, Inc. 3780 Paul Samuel Rd; Kennesaw, GA 30152 770-778-8281 (Contact: David Evans) http://www.traffixdevices.com/products/attenuators/compressor/
HEART	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/heart.html

QUADGUARD	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products_permanent.asp
QUADGUARD II	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products_permanent.asp
QUADGUARD ELITE	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products_permanent.asp
QUEST System	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products_permanent.asp
REACT-350	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products_permanent.asp
REACT-350 II	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.energyabsorption.com/products_permanent.asp
SLED END TREATMENT SYSTEM (MASH)	Traffix Devices, Inc. 3780 Paul Samuel Rd; Kennesaw, GA 30152 770-778-8281 (Contact: David Evans) http://www.traffixdevices.com/products/attenuators/sled/
MINI SLED END TREATMENT SYSTEM (MASH) TL-2	Traffix Devices, Inc. 3780 Paul Samuel Rd; Kennesaw, GA 30152 770-778-8281 (Contact: David Evans) http://www.traffixdevices.com/products/attenuators/sled/
TAU-II	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 http://www.barriersystemsinc.com/tau-ii-crash-cushion

TRACC	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/tracc.html
UNIVERSAL TAU-IIR	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 http://www.barriersystemsinc.com/tau-ii-crash-cushion
X-TENUATOR	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 https://www.lindsay.com/usca/en/infrastructure/brands/barrier-systems/solutions/crash-cushions/x-tenuator-crash-cushion/

LIST II-31.3 - END ANCHORS
MASH COMPLIANT END ANCHORS

NAME	MANUFACTURER	PEB #	PAY ITEM #	APPROVED DATE	APPROVED TYPE
MFLEAT (TL-3)	Road Systems, Inc. 3616 Old Howard County Airport Road; Big Springs, TX 79720 432-263-2435 www.roadsystems.com	5007	630C	11/4/2019	Type 10 Series MASH TL-3
SOFTSTOP SYSTEM (TL-2)	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/SoftStop.html	4702	630C	7/10/2017	Type 20 Series MASH TL-2
SOFTSTOP SYSTEM (TL-3)	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/SoftStop.html	4701	630C	7/10/2017	Type 20 Series MASH TL-3
MSKT (TL-3)	Road Systems, Inc. 3616 Old Howard County Airport Road; Big Springs, TX 79720 432-263-2435 www.roadsystems.com	4599	630C	8/7/2017	Type 20 Series MASH TL-3
MAX-TENSION (TL-2)	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 http://www.lindsay.com/	4915	630C	11/5/2018	Type 20 Series MASH TL-2
MAX-TENSION (TL-3)	Lindsay Transportation Solutions, LLC 180 River Road; Rio Vista, CA 94571-1208 707-374-6800 http://www.lindsay.com/	4738	630C	1/8/2018	Type 20 Series MASH TL-3
SGET (TL-3)	SPIG Industries 14675 Industrial Park Road, Bristol, VA 24202 276-644-9510 https://spigindustry.com/	4928	630C	4/13/2020	Type 20 Series MASH TL-3

Notes:

NON-MASH COMPLIANT END ANCHORS

NAME	MANUFACTURER	PEB #	PAY ITEM #	APPROVED DATE	APPROVED TYPE
* FLEAT-350	Road Systems, Inc. 3616 Old Howard County Airport Road; Big Springs, TX 79720 432-263-2435 www.roadsystems.com		630C		Type 10 series
* FLEAT-SP	Road Systems, Inc. 3616 Old Howard County Airport Road; Big Springs, TX 79720 432-263-2435 www.roadsystems.com	4553	630C	7/11/2016	Type 10 series NCHRP 350
* SRT-350	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/et-srt350.html	NA	630C		Type 10 series
* SRT-350-HBA	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/et-srt350.html	NA	630C		Type 10 series
* SRT-27SP	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/et-srt350.html	2093	630C	9/14/2009	Type 10 series
** ET-PLUS	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/etplus.html	NA	630C		Type 20 series
** SKT-350	Road Systems, Inc. 3616 Old Howard County Airport Road; Big Springs, TX 79720 432-263-2435 www.roadsystems.com	NA	630C		Type 20 series
** SKT-SP	Road Systems, Inc. 3616 Old Howard County Airport Road; Big Springs, TX 79720 432-263-2435 www.roadsystems.com	4552	630C		Type 20 Series TL 2 & TL 3

* C-A-T	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/cat350.html	713	630C		Type 22 Series TL 2 & TL 3
* FLEAT-MT	Road Systems, Inc. 3616 Old Howard County Airport Road; Big Springs, TX 79720 432-263-2435 www.roadsystems.com	1302	630C		Type 22 Series TL 2 & TL 3

Notes:

1. NA - These are systems with FHWA approval letters and have been allowed by ALDOT for several years and are considered approved.
2. FLEAT 350 may or may not have an assigned PEB number.

*** MASH Compliance Deadline 6-30-2018. (After MASH Compliance date, these devices will not be approved for inclusion in contract projects on NHS Routes.)**

**** MASH Compliance Deadline 1-1-2018. (After MASH Compliance date, these devices will not be approved for inclusion in contract projects on NHS Routes.)**

LIST II-31.4 - CABLE GUIDERAIL SYSTEMS

NON-MASH COMPLIANT

NAME	MANUFACTURER	PEB #	PAY ITEM #	APPROVED DATE	NOTES
BRIFEN WIRE ROPE SAFETY FENCE	Brifen USA, Inc. 12501 North Sante Fe; Oklahoma City, OK 73114 866-422-4336 http://brifenusacom/	2785	624A	2/9/2012	NCHRP-350
NUCOR US CABLE BARRIER HIGH TENSION, (TL-4)	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/cb.html	1971	624A	7/6/2009	NCHRP-350
CASS CABLE SAFETY SYSTEM	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/cassTL4.html	2976	624A	9/18/2012	NCHRP-350
SAFENCE HIGH TENSION CABLE BARRIER	Gregory Industries, Inc. 4100 13th St SW; Canton, OH 44710 330-477-4800 https://www.gregorycorp.com/index.htm	2376	624A	6/5/2012	NCHRP-350
GIBRALTAR CABLE BARRIER SYTEM TL-4 (4-Cable)	Gibraltar Global, LLC. 1208 Houston Clinton Dr.; Burnet, TX 78611 833-715-0810 https://gibraltarglobal.com/	4548	624A	9/6/2016	NCHRP-350

MASH COMPLIANT

BRIFEN WIRE ROPE SAFETY FENCE (O-POST) (level terrain)	Brifen USA, Inc. 12501 North Sante Fe; Oklahoma City, OK 73114 866-422-4336 http://brifenusacom/	5237	624A	1/6/2021	MASH TL-3 6:1 or flatter
BRIFEN MASH TERMINAL (level terrain)	Brifen USA, Inc. 12501 North Sante Fe; Oklahoma City, OK 73114 866-422-4336 http://brifenusacom/	5237	624B	1/6/2021	MASH TL-3 6:1 or flatter
CASS S3 M10 (4:1 or flatter) cable only, does not include anchors	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/cassTL4.html	5220	624A		MASH TL-3 cable only, not anchors 4:1 or flatter 4' from top of slope break only
CASS S3 M10 (10:1 or flatter) cable only, does not include anchors	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://trinityhighway.com/products/cassTL4.html	5220	624A		MASH TL-4 cable only, not anchors 10:1 or flatter

LIST II-31.5 - POLYMER & COMPOSITE BLOCKOUTS *

MASH TL-3 COMPLIANT

PRODUCT	PRODUCER	PEB #	APPROVED DATE	Notes
MONDO 8" BLOCK GB14SH (1)	Mondo Polymers Technologies, Inc. 27620 State Route 7 North, Box 250 Reno, OH 45773 740-376-9396 https://www.mondopolymer.com/	1310	2/11/2019	
MONDO 8" BLOCK GB14SH (2)	Mondo Polymers Technologies, Inc. 27620 State Route 7 North, Box 250 Reno, OH 45773 740-376-9396 https://www.mondopolymer.com/	4900	2/11/2019	
MONDO 12" BLOCK MGS14SH	Mondo Polymers Technologies, Inc. 27620 State Route 7 North, Box 250 Reno, OH 45773 740-376-9396 https://www.mondopolymer.com/	4901	2/11/2019	
8" KING MASH16 COMPOSITE BLOCK	Trinity Highway Products, LLC 2525 Stemmons Freeway Dallas, TX 75207 205-473-2664 https://trinityhighway.com/	5213	10/5/2020	

MASH TL-3 ADJUSTABLE HEIGHT COMPLIANT

PRODUCT	PRODUCER	PEB #	APPROVED DATE	Notes
MONDO 8" BLOCK GB14SH (1)	Mondo Polymers Technologies, Inc. 27620 State Route 7 North, Box 250 Reno, OH 45773 740-376-9396 https://www.mondopolymer.com/	1310	2/11/2019	

*** Wood blockouts meeting AASHTO PDB01a-b are allowed.**

NCHRP-350 COMPLIANT			
PRODUCT	PRODUCER	APPROVED DATE	Notes
MONDO BLOCK	Mondo Polymers Technologies, Inc. 27620 State Route 7 North, Box 250 Reno, OH 45773 740-376-9396 https://www.mondopolymer.com/	5/5/2003	
TIMBEREX OFFSET BLOCKOUT	Mobile Chemical P O Box 5445 Norwalk, CT 06856	4/5/1993	
"CENTRAL" RECYCLE PLASTIC BLOCK	Central Fabricators P O Box 930 Kosciusko, MS 39090 662-289-2958	8/3/1998	
CAMCO PLASTIC BLOCKOUT	Cammco, Inc. 1800 Greenbrier Road Anniston, AL 36207	5/8/2000	
VALLEY RUBBER 6" BLOCKOUT	Valley Rubber, LLC P O Box 1209 Hartselle, AL 35640 256-784-5231 https://www.valleyrubber.solutions/	1/2/2001	
VALLEY RUBBER 8" BLOCKOUT	Valley Rubber, LLC P O Box 1209 Hartselle, AL 35640 256-784-5231 https://www.valleyrubber.solutions/	4/2/2001	

KING BLOCK	Trinity Highway Products, LLC 2525 Stemmons Freeway Dallas, TX 75207 205-473-2664 https://trinityhighway.com/	1/7/2002	
POLYLUMBER PL5814R RECYCLED PLASTIC OFFSET BLOCK	Ramco International of Delaware, LLC P O Box 56 Imperial, PA 15126	1/6/2003	
MONROEVILLE 8" COMPOSITE OFFSET BLOCK	Monroeville Industrial Molding, Inc. 75 Ontario Street Norwalk, OH 44857	6/10/2009	
POLYLUMBER PLASTIC BLOCKOUT	Ramco International of Delaware, LLC p o box 9625 Pittsburg, PA 15226	2/6/2001	

*** Wood blockouts meeting AASHTO PDB01a-b are allowed.**

LIST II-31.6 - MISCELLANEOUS

NAME	MANUFACTURER	PEB #	APPROVED DATE	NOTES
SHUR-TITE CABLE BARRIER DELINEATOR #SC2755	Shur-Tite Products P.O. Box 2283; Round Rock, TX 78680 512-388-0417 https://shur-tite.com/	2242	5/3/2012	
SAFENCE TERMINAL	Gregory Industries, Inc. 4100 13th St SW; Canton, OH 44710 330-477-4800 https://www.gregorycorp.com/index.htm	1912	12/3/2007	
SENTRY WATER-CABLE BARRIER	Traffix Devices, Inc. 3780 Paul Samuel Rd; Kennesaw, GA 30152 770-778-8281 (Contact: David Evans) http://www.traffixdevices.com/	2241	3/5/2012	
SAFENCE 4	Gregory Industries, Inc. 4100 13th St SW; Canton, OH 44710 330-477-4800 https://www.gregorycorp.com/index.htm	1911	12/3/2007	
GLARE SCREEN	Flexstake, Inc. 2150 Andrea Ln; Fort Myers, FL 33912 800-348-9839 http://flexstake.com/	1073	9/6/2005	
SAFE-HIT GLARE SCREEN	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.coralsales.com/products/highwayproducts/guardrailandendtreatments/retrorail/	1341	12/1/2003	
RETRO RAIL GUARDRAIL RETROFIT	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.coralsales.com/products/highwayproducts/guardrailandendtreatments/retrorail/	4408	7/11/2016	MASH
GUARDIAN 5 MASH TL-5 MEDIAN AND LONGITUDINAL BARRIER	Gregory Industries, Inc. 4100 13th St SW; Canton, OH 44710 330-477-4800 https://www.gregorycorp.com/index.htm	4978	11/4/2019	MASH

NU-GUARD-31 (5#) MASH TL-3 MEDIAN AND LONGITUDINAL BARRIER	NUCOR Steel Marion, Inc. 912 Cheney Ave, Marion, OH 43302 740-223-4357 https://nucor.com/	5010	3/2/2020	MASH
ETI-GR02-TL4 MASH TL-4 MEDIAN AND LONGITUDINAL BARRIER	ETI USA, Inc. 14 Ormond Park Rd., Glen Head, NY 11545 215-789-5763 https://www.etiusainc.com/	5347	8/9/2021	MASH TL-4
HIGHWAY GUARD BARRIER	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.coralsales.com/products/highwayproducts/guardrailandendtreatments/retrorail/	5382	4/4/2022	MASH TL-3 TL-4
HIGHWAY GUARD LDS BARRIER	Trinity Highway Products, LLC 2525 Stemmons Freeway; Dallas, TX 75207 205-473-2664 http://www.coralsales.com/products/highwayproducts/guardrailandendtreatments/retrorail/	5383	4/4/2022	MASH TL-3 TL-4

GROUND MOUNTED IMPACT ATTENUATOR SELECTION CHART^{Note 1}

WORKZONE ONLY - NOT TO BE USED IN PERMANENT APPLICATIONS

MASH Sunset Deadline 1-1-2025. (After MASH sunset date, non-MASH compliant devices will not be approved for inclusion in any projects.)

Y ^{Product Name}	TL-2	TL-3	Φ ^{Work Zone}	Permanent	Bi-Directional	Note 4 ^{Width}	Note 5 ^{Impact Frequency}	Gores	Gating	MASH Compliant ?	Pay Item #	PEB#	Approved Date
Absorb 350	Yes	Yes	Yes	No	No ^{Note 3}	2'-0"	N/A	No	Yes	No	726D	1258	2/8/2009
ABSORB M	Yes	Yes	Yes	No	No ^{Note 3}	2'-0"	N/A	No	Yes	Yes	726D	5051	2/1/2021
ACZ 350	Yes	Yes	Yes	No	No ^{Note 3}	2'-0"	N/A	No	Yes	No	726D	2115	7/6/2009
Compressor System	Yes	Yes	Yes	No	Yes	2'-0" & Wider	Very High	Yes	No	No	726D	3055	2/4/2013
QUADGUARD	Yes	Yes	Yes	No	Yes	2'-0" to 7'-6"	Moderate	Yes	No	No	726D	2148	9/14/2009
QUADGUARD II	Yes	Yes	Yes	No	Yes	2'-0" to 7'-6"	Moderate	Yes	No	No	726D	2148	9/14/2009
QUADGUARD ELITE	Yes	Yes	Yes	No	Yes	2'-0" to 8'-0" for TL-2 & 3, 2'-0" to 3'-0" for 70 mph	High	Yes	No	No	726D	4224	7/6/2015
Quest	Yes	Yes	Yes	No	Yes	2'-0"	Low	Yes ^{Note 2}	No	No	726D	1742	5/1/2006
REACT-350 II	Yes	Yes	Yes	No	Yes	3'-0"	Very High	Yes	No	No	726D	2659	10/3/2011
SLED END TREATMENT	Yes	Yes	Yes	No	No ^{Note 3}	1'-10.5"	N/A	No	Yes	Yes	726D	3056	2/4/2013
TAU-II	Yes	Yes	Yes	No	Yes	2'-0" to 8'-0"	Moderate	Yes	No	no	726D	2744	8/16/2012
TRACC	Yes	Yes	Yes	No	Yes	2'-0" & Wider	Moderate	Yes	No	No	726D		
UNIVERSAL TAU-IIR	Yes	Yes	Yes	No	Yes	2'-0" to 8'-0"	High	Yes	No	No	726D	2744	8/16/2012
X-TENUATOR	Yes	Yes	Yes	No	Yes	2'-0"	Moderate	Yes	No	No	726D	2414	5/4/2012

PERMANENT INSTALLATIONS (MAY BE USED IN WORKZONES ALSO)

DELTA		Yes	Yes	Yes	Yes	2'-6"	Moderate	Yes	No	Yes	720A, 726D	5365	9/7/2021
QUADGUARD M10	Yes	Yes	Yes	Yes	Yes	2'-0"	Moderate	Yes	No	Yes	720A, 726D	2982	7/19/2012
QUADGUARD M WIDE	Yes	Yes	Yes	Yes	Yes	5'-9"	Moderate	Yes	No	Yes	720A, 726D	5218	11/2/2020
QUADGUARD ELITE M10	Yes	Yes	Yes	Yes	Yes	2'-0"	High	Yes	No	Yes	720A, 726D	4224	6/9/2015
QUADGUARD ELITE M10 WIDE	Yes	Yes	Yes	Yes	Yes	5'-9"	High	Yes	No	Yes	720A, 726D	5219	11/2/2020
REACT M		Yes	Yes	Yes	Yes	2'-6"	Very High	Yes	No	Yes	720A, 726D	5381	4/4/2022
SCI	Yes	Yes	Yes	Yes	Yes	2'-0"	High	Yes	No	Yes	720A, 726D	1523	11/4/2019
TAU-M	Yes	Yes	Yes	Yes	Yes	2'-3 1/2"	Moderate	Yes	No	Yes	720A, 726D	4961	5/29/2019

Note 1 - This Chart is based on a benefit/cost evaluation with the predominant impacts being head-on hits. Consideration is made for maintenance efforts and duration.

Note 2 - May be used in gores greater the 20' from either traveled way.

Note 3 - May be used on a roadway with 2-way traffic if it is on the roadside and not separating traffic. It must be at least 40 feet from opposite direction of traffic, not seperating traffic.

Note 4 - Wider Systems increase Impact Attenuator Length.

Note 5 - Approximate Impact Frequency

Frequency	Estimated Impact Rate
Very High	3 or more major impacts per year where self-restoration is a consideration
High	2 major impacts every year
* Moderate	1 major impact every 2 to 3 years
Low	1 impact every 5 years

Y See Ground Mounted Impact Attenuator Manufacturers Chart

Φ Also approved for temporary applications

* Intended to be the predominant category used unless local knowledge dictates