Notice to Manufacturers - 16

WARNING:

This document has changed, the APL categorizations have had numerous changes in 2016, the CDOT Form #595 with a revision date of 2/16 must be used, and study the #595 example prior to submitting your #595 to eliminate the vast majority of errors. Failure to re-submit a product prior to its expiration from the APL may cause a 60 day delay in its re-instatement. Read & follow these instructions.

INTRODUCTION

The Notice to Manufacturers is the primary document to guide the Manufacturers who wish to have their product placed on the Colorado Department of Transportation (CDOT) Approved Products List (APL). These submittal instructions are not suggestions but requirements which must to be followed by each applicable manufacturer or their representative.

Questions you should ask yourself as you read through this document:

- Does the product that I want to submit reside on CDOT's APL?
- What documentation is required for an initial product submittal?
- What documentation is required annually if not more frequent?
- What is CDOT's re-submittal / re-evaluation cycle and what documentation is required?

Failure to comply with these instructions will either slow the review and evaluation process down or terminate it immediately. Due to the lack of resources by CDOT any product submittal deemed to be significantly outside of a reasonable effort may be discarded with no attempt to communicate this to the manufacturer. Therefore submitting an envelope that provides nothing more than advertising or marketing documents will be discarded. Submitting a handwritten CDOT Form #595 will be discarded. Excluding the contact information for the individual responsible for the submittal will prevent the process from beginning. However, if you read this entire document and make a significant effort to comply with our needs and provide quality then we will make every effort to assist you through the process.

By working together manufacturers and CDOT can provide the best quality products to the people of Colorado. CDOT created an Approved Products List (APL) to assist contractors, project personnel, and manufacturers with a current list of products that meet or exceed current CDOT quality standards.

1. SCOPE

1.1 The majority of materials submitted for inclusion on CDOT construction projects will fall within one of four methods of product acceptance for their sampling and testing. These methods of acceptance are:

- Pre-Inspection – [(PI) CDOT inspected at the manufacturer's facility.]
- Certified Test Report – [CTR submitted with every product delivered to the project.]
- Certificate of Compliance – [COC submitted with every product delivered to the project.]
- Pre-Approved – [(per APL) Evaluated for placement on CDOT's Approved Products List.]

1.2 Section 2, *Pre-Approved Method of Acceptance*, lists the current categorizations for the CDOT APL. This list is similar to that within the Special Notice to Contractors as published in the CDOT Field Materials Manual. The Special Notice to Contractors will not mirror the category names until the 2017 FMM is issued on July 1, 2016.

1.3 When a Manufacturer requests that their product(s) be Pre-Approved and subsequently placed onto the CDOT Approved Products List (APL) they commit to the <u>perpetual</u> maintenance of their submitted product on this web-site with current and valid information. It is incumbent upon your firm to contact CDOT's Product Evaluation Coordinator (PEC) in writing for any of the following reasons:

- The product has been changed or altered in <u>any</u> fashion,

- A new Technical Data Sheet (TDS) / Product Literature has been issued,
- A new CTR has been generated on the product,
- A new Safety Data Sheet (SDS) has been issued to comply with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) which has replaced the previous Material Safety Data Sheet (MSDS) , and / or
- Anything changes with regard to the Manufacturer or the Product Representative shown on the APL (such as name, address, phone number, e-mail address, web-site address).

An annual review by yourself and subsequent communication in writing with the CDOT Product Evaluation Coordinator (PEC) indicates a genuine interest in assisting CDOT with the accuracy of this web site. Conversely, failure to maintain contact in writing may result in removal of either a singular product or the manufacturer with all associated products. An annual letter must be transmitted every January to the CDOT PEC to verify that the information previously provided is still accurate.

1.4 Colorado's unique geography and climate may preclude many quality products utilized elsewhere from being accepted for use here. If you are contemplating submitting your product for inclusion onto our APL, please consider the effects of our elevation, freeze / thaw, higher UV, heating your product during cold weather for incorporation at the job site, low precipitation, low ambient humidity, or other unique / detrimental elements found in Colorado.

1.5 CDOT will only consider products used by CDOT. A product used only by Colorado local agencies will not be considered. Submitting products that are either of no benefit to CDOT or will not be sold within Colorado wastes both your and our resources.

2. PRE-APPROVED METHOD OF ACCEPTANCE

2.1 The Categories, Sub-Categories, and Base Categories listed below will duplicate the information presented in the Special Notice to Contractors within the 2017 CDOT Field Materials Manual. If the product that you wish to submit is not referenced within this categorization then it is more than likely part of one of the other methods of acceptance. The Special Notice to Contractors, referenced within this web-site as Notice to Contractors, may provide additional guidance. If you have any doubt how your product should be presented, you may also contact the Product Evaluation Coordinator (PEC).

APL Category	APL Sub-Category	APL Base Category
Adhesive:	Anchoring, Lateral:	Acrylic
		Cementitious
		Epoxy
		Polyester
Adhesive:	Anchoring, Overhead:	N/A
Adhesive:	Bonding:	Epoxy
Asphalt:	Asphalt Release Agent:	Truck Bed Only
		Truck & Equipment
Asphalt:	Binder:	PG 58-28
		PG 58-34
		PG 64-22
		PG 64-28
		PG 70-28
		PG 76-28
Asphalt:	Emulsion:	SS-1h
		CSS-1h
		CRS-2
		CRS-2P
		CRS-2R
		CQS-1h
		HFMS-2s
		HFMS-2P
		HFMS-2sP
		ARA-1P

APL Category	APL Sub-Category	APL Base Category
Asphalt:	Hydrated Lime:	N/A
Asphalt:	Roadway Patching:	Pre-Mixed [Bagged]
Bridge Structures:	Geocomposite Drain:	N/A
Bridge Structures:	Thin Bonded Overlay:	Epoxy
		Non-Epoxy
Bridge Structures:	Structural Wrapping Repair:	N/A
Concrete:	Admixture:	Air Entraining
		Water-Reducing
		Retarding
		Accelerating
		Water-Reducing & Retarding
		Water-Reducing & Accelerating
		Water-Reducing, High Range
		Water-Reducing, High Range & Retard.
		Extended Set-Control
		Specific Performance
		(Concrete) Corrosion Inhibitor
		Miscellaneous
Concrete:	Curing Compound:	Type 1 [Clear, Wax Based]
		Type 1 [Clear, Resin Based]
		Type 2 [White Pigmented, Wax Based]
		Type 2 [White Pigmented, Resin Based]
Concrete	Cement:	Portland Cement [ASTM C 150]
		Blended Cement [ASTM C 595]
		Hydraulic Cement [ASTM C 1157]
Concrete:	Pozzolan:	Fly Ash, Class C
		Fly Ash, Class F
		High Reactivity
		Silica Fume
Concrete:	Fiber:	Macro Fiber
		Micro Fiber
Concrete	Grout:	General Purpose [Non-Shrink]
		Post-Tensioned Cable
Concrete:	Repair/Patching:	Rapid Set, Horizontal
		Rapid Set, Vertical & Overhead
		Bonding Agent
Drainage:	Culvert Pipe:	Culvert Lining [Repair]
		Open-Cut / Direct-Bury
Drainage:	Manholes & Inlets:	Manhole Riser
		Trench Drain
		Plastic Drain
Drainage:	Storm Water Separator:	Regular Flow Hydrodynamic
		High Flow Hydrodynamic
Environmental:	Sound Wall:	Absorptive
		Reflective
Erosion Control:	Soil Retention Rolled:	SRB [Biodegradable Class 1]
		SRB [Photodegradable Class 1]
		SRB [Biodegradable Class 2]
		SRB [Photodegradable Class 2]
Erosion Control:	Soil Retention Rolled:	TRM [Class1]
		TRM [Class 2]
		TRM [Class 3]
		TRM [Class 4]

APL Category	APL Sub-Category	APL Base Category
Erosion Control:	Soil Retention Rolled:	Biodegradable Stakes
Erosion Control:	Hydraulic Applied Mulch:	Bonded Fiber Matrix
		Spray-On Mulch Blankets [Type 1]
		Spray-On Mulch Blankets [Type 2]
Erosion Control:	Ditch Control:	Silt Berm
Erosion Control:	Herbicide	Selective Pre-emergent Application
		Selective Contact Application
Sediment/Pollution Control	Construction Inlet Protection:	Storm Drain Inlet Protection (Type 1)
		Storm Drain Inlet Protection (Type 2)
		Storm Drain Inlet Protection (Type 3)
Sediment/Pollution Control	Construction Dewatering:	Dewatering Filter Bag
Sediment/Pollution Control	Temporary Slope Drain:	Flexible Pipe
		Manufactured Channel Liners
Sediment/Pollution Control	Concrete Washout Structure:	Pre-Fabricated [Above Ground]
	Vehicle Tracking Control	Pre-Fabricated
Paint / Coating:	Anti-Graffiti:	N/A
	Paint: Conc. Corrosion Inhibitor:	N/A
	Epoxy Coating:	N/A
	Paint: Structural Conc. Coating:	N/A
	Structural Steel Paint:	N/A
Pedestrian Safety:	ADA Truncated Dome:	Embedded
		Retrofit
Pedestrian Safety:	Joint System	N/A
Right-of-Way Structure:	Mailbox Support System:	N/A
	Utility Enclosure:	N/A
	Fence, Non-Standard Coating:	N/A
	Pole Base Hardware:	N/A
Roadway Safety:	Cable Barrier:	NCHRP 350 TL-3
		NCHRP 350 TL-4
Roadway Safety:	Guardrail W-Beam:	Guardrail End Treatment
		Guardrail End Treatment, Special App.
		Guardrail Synthetic Blockout
Roadway Safety:	Crash Cushion:	Sand Barrel Array
		Guardrail Median Terminal
		Barrier End Treatment (Terminal)
		Impact Attenuator, Std., Perm.
		Impact Attenuator, Wide, Perm.
		Impact Attenuator, Low Maint., Perm.
		Impact Attenuator, Spec. App., Perm.
Roadway Safety:	Railing:	Pedestrian & Bicycle
		Vehicle
Sealant [Joint & Crack]:	Asphaltic Plug Joint:	N/A
Sealant [Joint & Crack]:	Hot Poured, Joint/Crack:	ASTM D 6690, Type II
		ASTM D 6690, Type IV
		ASTM D 5078
Sealant [Joint & Crack]:	Mastic:	N/A
Sealant [Joint & Crack]:	Silicone, Joint:	Non-Sag
		Self-Leveling
Sealant [Joint & Crack]:	Pre-Formed Joint Filler:	N/A
Sealant [Joint & Crack]:	Loop Detector Slot:	One Component
		Two Component

APL Category	APL Sub-Category	APL Base Category
Soil / Geotechnical:	Stabilization:	Chemical, Liquid
	Void Elimination:	Polyurethane Foam, High Density
Steel:	Reinforcing, Non-Standard:	N/A
Traffic Control:	Portable Changeable Message:	Trailer Mount
		Vehicle Mount
Traffic Control:	Arrow Board:	Type A
		Type B
		Type C
		Type D
Traffic Control:	Speed Notification:	Radar / Message Trailer
		Speed Display Trailer
		Speed Display Device
Traffic Control:	Traffic Control Enhancement:	AFAD
		Flashing Beacon
		Warning Light
		Raised Island, Temporary
		Rumble Strip, Temporary
		Glare Screen
Traffic Control:	Channelizing Device:	Cone
		Tubular Marker
		Vertical Panel
		Drum
		Barricade, Type 1
		Barricade, Type 2
		Barricade, Type 3
		Direction Indicator Barricade
		Longitudinal Channelizing Device
		Opposing Traffic Lane Divider
Traffic Control:	Delineator:	Flexible Post
		Flexible, Multiple Hit Post
		Guardrail Mount
Traffic Control:	Reflective Element:	Barrier (Solid Wall) Marker
		Guardrail & Post Marker
		Delineator Post Marker
		Linear Reflector Strip
Traffic Control:	Post Anchoring:	Mechanical System
		Polyurethane Foam, Backfill
Traffic Control:	Traffic Barrier, Temporary:	Barrier, Non-Concrete
		Barrier, Gate
Traffic Control:	Crash Cushion, Temporary:	Impact Attenuator (Temp. – Constr.)
		Truck Mounted Attenuator (TMA)
		Trailer Mounted Attenuator
Traffic Control:	Sign Stand:	N/A
Traffic Control	Sign Sheeting:	ASTM D 4956, Type IV
		ASTM D 4956, Type V
		ASTM D 4956, Type VI
		ASTM D 4956, Type VI [Roll-up & Cone Collar]
		ASTM D 4956, Type VIII
		ASTM D 4956, Type VIII, Fluorescent
		ASTM D 4956, Type IX
		ASTM D 4956, Type IX, Fluorescent
		ASTM D 4956, Type XI
		ASTM D 4956, Type XI, Fluorescent
		Films / Miscellaneous

APL Category	APL Sub-Category	APL Base Category
Traffic Control	Pavement Marking Material:	Preformed Plastic Tape, Type I, Perm.
		Preformed Plastic Tape, Type II, Perm.
		Preformed Plastic Tape, Type III, Perm.
		Thermoplastic, Hot Applied
		Thermoplastic, Preformed, No Preheat
		Thermoplastic, Preformed, Preheat
		Epoxy Paint, Standard
		Epoxy Paint, Modified
		Polyurea Paint
		Methyl Methacrylate (MMA)
		Recessed Pavement Marker
		Raised Flexible Marker
		Temporary/Construction, Tape
		Temporary/Construction, Paint
Waterproofing:	Concrete Sealer:	Alkyl-alkoxy Silane
		Non-Alkyl-alkoxy Silane
		Penetrating Epoxy
		Micro-Subsurface Repair
Waterproofing:	Elastomeric Membrane:	Single Component, Hot Applied
		Non-Asphaltic

2.2 Products or product categories that are not currently addressed in any CDOT publication, or are contrary to current CDOT Specifications, or have been disallowed previously should be directed to the Product Evaluation Coordinator (PEC) and not submitted to a project engineer. In accordance with the CDOT Procedural Directive 1401.1, the PEC is designated as the initial contact for all Manufacturers of products of a construction application.

2.2.1 The PEC is <u>not to be contacted for</u>: office supplies, janitorial supplies, computer supplies, tools, testing equipment, vehicles, etc.

2.2.2 It is the sole responsibility of the Manufacturer to provide a detailed letter summarizing why a new product category should be created or why a Specification should be written or revised to allow their product. Your product may find unenthusiastic support by anyone within CDOT if you do not do an adequate job in promoting your product through your letter, supplying adequate supporting documentation, and completing the required submittal form. CDOT resources are not available to perform research or to act as an independent testing laboratory for any manufacturer. A product may be installed on a CDOT project as an experimental feature if the Manufacturer is willing to work with CDOT in a mutually beneficial approach to evaluating this new product.

3. REQUIRED COMPUTER SOFTWARE

3.1 The Pre-Approved Product Evaluation Request & Summary Form, CDOT's Form #595, is a PDF Writeable form. It has been designed with the intent that the Manufacturer or their Product Representative completes the form in the PDF format that the document is presented in. To maximize efficiency, you are not only completing an application / request for your product to be placed on the APL, but you are completing a standardized technical data sheet that will be displayed on the Web-site. The form with the revision date of 2/16 (February 2016) is to be used for all submittals (even re-submittals).

3.2 To accomplish the task of completing the #595 properly and submitting it in an acceptable manner, the following requirements must be adhered to:

3.2.1 Your computer **<u>must</u>** have Adobe Acrobat Professional Version 5.0, 6.0, 7.0, 8.0, 9.0 or newer. Please review the software within the program menu in your computer to ensure you are meeting this requirement.

3.2.2 The free Adobe Reader will not work. This software allows the user to "read" a PDF'ed document and may even allow the fields within the form to be completed; however, it will not save the document. Sending requires that the document first be saved even though this takes place automatically.

3.2.3 When the CDOT Form #595 is completed and ready to send to CDOT's PEC do not PDF it or scan it. This is a PDF Writeable form that must remain a PDF Writeable form.

3.2.4 The Product Evaluation Coordinator (PEC) must be able to edit the Form #595 when it is received as well as being able to edit the form at any time in the future. Even though the Manufacturer only completes page 1, the two page form must be submitted.

3.3 Some computer brands have been found to alter the allowed font or distort the form. If this occurs you will be required to find a different computer to use and resubmit the form.

4. PRE-APPROVED PRODUCT EVALUATION REQUEST & SUMMARY

4.1 A functional version of the form can be obtained from the link on the Notice to Manufacturers Index page (not the APL Main / Index page) within Section 1.4, *CDOT Form #595*. You will probably be prompted with the option to Open it or Save the file to disk. DO NOT select Save the file to disk, because often this converts it to a Word document. Open it first and then save the blank form before you attempt to enter data in any of the fields.

4.2 A completed example of the CDOT Form #595 is located at Subsection 5.20, CDOT Form #595 Example. Only Part 1 on Page 1 is for the Manufacturer or their Product Representative to complete. CDOT personnel will complete Page 2 – Parts 2, 3, and 4.

4.3 Follow the instructions within this Subsection for the proper completion of the form. If the form is altered in any manner it will not be processed; this includes changing the allowed font size or style of the form field. The field size is set and will not scroll to allow for the expansion of the field size.

4.3.1 Position the pointer inside a form field, and click. The I-beam pointer indicates the beginning of where to type text. The arrow pointer also allows you to select a button, a check box, a radio button, or an item from a list.

4.3.2 After entering text or selecting an item, check box, or radio button, perform one of the following:

- Press Tab – this accepts the form field change and then goes to the next form field.
- Press Shift and Tab together – this accepts the form field change and then goes to the previous form field.
- Press Enter (Windows) to accept the form field change and deselect the current form field.
  In a multi-line text form field such as *Product representative* and *Manufacturer*, Enter goes to the next line in the same form field. You can use Enter on the keypad to accept a change and deselect the current form field. In other multi-line text form fields such as *Description of the product* and *Benefits to CDOT* the text will scroll within the prescribed number of lines.
- Press Escape (esc) to reject the form field change and deselect the current form field.

4.3.3 Once you have filled in all of the form fields in Part 1, please do the following:

- Compare your completed Form #595 to the example Form #595 in Subsection 5.20. The text will obviously be different but the placement of the information should be consistent.
- You should have initially saved the blank Form #595 to your computer. Use *Save As* for the completed form so that you retain a copy for your records.
- Send this completed Form #595 to CDOT's Product Evaluation Coordinator (PEC) as an e-mail attachment.
- The e-mail Subject line must state the name of the Manufacturer, such as *ABC Company Inc.'s CDOT APL Submittal*. Without an informative Subject line your product submittal may get misfiled.

- There must be a text message stating the name(s) of each product submitted. Additionally, the name of the individual making the submittal, company title, and phone number. Indicate the name of the shipping company in which the required supplemental documentation will be sent and the expected receipt date.
- Failure to comply with the previous three bullets (steps) may prevent the e-mail from being received or the attachment from being opened. The CDOT firewall or virus protection protocol will block improperly addressed e-mails.
- If received by the CDOT PEC a reply e-mail will be sent acknowledging receipt.

5. FIELD DESCRIPTIONS on the CDOT Form #595

Note 1: Never state, "see attached" when filling in any #595 form field. The Form #595 is a stand-alone document; therefore, nothing is being physically attached to the form. Product information, specifications, test lab names are to be referenced as stipulated below. Supplemental documentation is to be provided in the order referenced on the CDOT Form #595.

Note 2: Do not use only upper-case alphabetic characters exclusively, but upper and lower case in their standard usage. Improper completion will be grounds for rejecting the form.

5.1 **APL Reference No.:** A unique four digit number is entered onto the form by the CDOT Product Evaluation Coordinator (PEC) after a complete package has been submitted by the Manufacturer or their Product Representative. A complete package means a properly submitted Form #595, all required supplemental documentation, and that it is for an established APL category. A hyphen followed by the last two digits of the submittal calendar year will be revised through time as the product enters a new re-submittal cycle or if new significant documentation is provided.

5.2 **Material code:** FOR INTERNAL CDOT USE. The CDOT PEC will insert the code when the APL reference number is assigned.

5.3 **Material code description full name:** FOR INTERNAL CDOT USE. The CDOT PEC will insert the name when the APL reference number is assigned.

5.4 **Product name:** The product name must be unique to the Manufacturer with a series, model, batch, or lot number included if applicable. This name must be identical to the name on the product literature, the SDS, and all applicable supplemental documentation. Conflicting names will prevent the product evaluation from being performed. If the name is not universally the same on all documents it must be explained and possibly these documents may need to be recreated. For example, if an older report is being provided for historic or comparative analysis and there was a name change for marketing purposes than this must be explained on corporate letterhead with a date and signature.

5.5 **Product category:** List Category\Sub-category\Base category in this format (note that these are back-slashes not forward-slashes). This information is available in Section 2, Pre-Approved Method of Acceptance. If the product can potentially be in more than one categorization then list it within Alternate Product Category at the bottom of Page 1. This secondary categorization must be defended through referenced specifications and if applicable test data. Categorization has changed through the passage of time therefore, do not assume that a previous submittal is still accurate.

5.6 **Product representative:** The name of the individual working with the PEC and able to provide technical support to CDOT is to be listed after "Attn:". The name of the Product representative's company <u>must</u> be listed, whether it is the same as the manufacturer's or not. Include the complete address (P.O. Box is acceptable), the Phone number, and the e-mail address.

5.7 **Web-site address:** The inclusion of a Web address of the Product Representative assists potential customers with more detailed information than is available on the Form #595. If you do not have a Web address then state "None."

5.8 **Manufacturer:** The name of the individual working with the PEC and able to provide technical support to CDOT is to be listed after "Attn:". The name of the Manufacturer's company must be listed. If the product comes from a refinery, specific mills or production facilities then this precise facility is to be listed within the Manufacturer field. The actual physical address is required not a P.O. Box. The Corporate address in this instance is to be listed within the Product Representative field. Include the Phone number and the e-mail address.

5.9 **Web-site address:** The inclusion of a Web address of the Manufacturer assists potential customers with more detailed information than is available on the Form #595. If you do not have a Web address then state "None."

5.10 **Description of the product:** Be precise with the description. Every product category has at least some unique criteria as referenced within the required specifications that can be used as a basis for direct comparison. Include physical dimensions, weight, physical properties, chemical properties, etc. Do not make your description so vague as to be meaningless. This information will be verified; therefore, it should be identical to what is listed on the technical data sheet and the product literature which will in turn be verified against the certified test reports from an independent lab. Do not include advertising and marketing "fluff". A maximum of eight lines of text may be utilized for this form field.

5.11 **Restrictions:** Every product has a restriction. This may be a minimum application temperature or a placement requirement that forbids installation within the roadway. A maximum of one line of text may be utilized for this form field. CDOT may state a restriction during the evaluation.

5.12 **Use of the product:** Be specific to applications on CDOT highway activities only. Do not reference commercial uses. A maximum of one line of text may be utilized for this form field.

5.13 **Benefits to CDOT:** How will your product enhance quality, improve safety, save money, and/or be a better value than other manufacturer's products. A maximum of four lines of text may be utilized for this form field.

5.14 **Specifications:** List the applicable specification(s) that relate to this submitted product. Do not just check the box, but enter the actual specification reference number. Only the most recent publication revision date or specification date should be referenced. It is irrelevant to reference specifications that are no longer current and therefore invalid. A product without a specification may not be considered.

- CDOT: Standard Specifications for Road & Bridge Construction;
  Standard Plans, M & S Standards;
  Noise Guide for Highways, Volume IX, CDOT Design Guide
  Erosion Control and Stormwater Quality Guide
  [http://www.codot.gov/business/designsupport to obtain CDOT specs]
- ASTM: American Society for Testing and Materials
- AASHTO: American Association of State Highway Transportation Officials
- FHWA: Federal Highway Administration
- Other: National or industry specifications.
  i.e. MUTCD (Manual of Uniform Traffic Control Devices), etc.

5.15 **Certificate of Compliance (COC):** A COC is required to certify compliance with the listed specifications. It must be submitted to legally document that the specifications referenced are being complied with.

5.16 **Certificate of Verification (COV):** A COV is required for specific product categories to verify the complete reference of all FHWA Acceptance letters and /or Eligibility letters and their inclusion in

the submittal package as well as the complete reference and inclusion of product testing. It must be signed by a senior corporate officer and notarized. See Section 7 for more details.

5.17 **Product testing**: National / independent laboratories or universities that have performed evaluations of the product submitted. The greater the independence from the influence of the Manufacturer the more credence will be given to the test results. In essence this is the quality assurance of a manufacturer's quality control over their product.

A Certified Test Report (CTR) is required to validate all claims made regarding the product on the Technical Data Sheet / Product Literature. CTRs must list all of the test results indicated in the referenced specifications. CTRs submitted should not have a report date that exceeds one year from the product submittal date to CDOT, and CTRs older than three years are only beneficial from a comparative perspective.

- NTPEP-AASHTO: National Transportation Product Evaluation Program. Reference the most recent published report that includes your product, including the Report No., NTPEP No., and date (always listed on the document). Even with NTPEP's DataMine a hard copy of the test data must be submitted with all other documentation.
- FHWA: Federal Highway Administration. Evaluation and eligibility letters (previously referred to as acceptance letters) for roadway safety or traffic control devices, etc. [Highway Innovative Technology Evaluation Center (HITEC). Reference the most recent published report that includes your product, including the Report No., HITEC No., and date (always listed on the document)].
- Other: National / independent laboratories, Universities, etc. Include report date.
- Other: National / independent laboratories, Universities, etc. Include report date.
- Other: National / independent laboratories, Universities, etc. Include report date.

5.18 **State DOT Approvals:** Do not reference any State that you do not have some form of documentation from, such as a letter or the applicable page from the State's APL web-site. The State DOT letterhead must be present on the letter as well as the approval date. Approval letters older then three years must be attached to a current reference page off the State's web-site. In most cases six approvals should be provided from states comparable to Colorado. If less than six States are provided it must be explained.

5.19 **Re-submittal Cycle:** This is the duration of time before a product will automatically expire from the APL as in products submitted as a batch, or the number of years prior to required re-submittal and therefore re-evaluation. This time frame is added to the CTR date. The specific cycle is referenced in Section 7 for each product category.

5.20 **Sample submitted:** This is a Yes, No, or N/A (not applicable) form field. No samples of a hazardous nature are to be submitted. No samples that cannot be disposed of as legally accepted municipal trash are to be submitted. Contact the PEC if uncertain as to whether a sample should be submitted. All products submitted become the property of CDOT at no cost to CDOT.

- *Yes* indicates that a sample is being mailed at the time this form is being submitted.
- *No* indicates that no sample is being mailed at this time.
- *N/A* is for products too large and/or too expensive to provide to CDOT.

5.21 **Safety Data Sheets (SDS):** This is a Yes, No, or N/A (not applicable) form field. The SDS is product-specific and only the latest revision / analysis date is acceptable. A SDS that does not have a date will not be accepted as valid. All previously created Material Safety Data Sheets (MSDS) should be replaced with the currently required Safety Data Sheet.

5.22 **Alternate Product Category:** Referenced within Subsection 5.5, Product Category. Very few products will be accepted under more than one category.

5.23 **Additional Comments:** This form field allows for three lines of supplemental information that can assist the CDOT Product Evaluation Coordinator or other customers.

An example would be the statement:

- A sample is available upon request at no cost to the DOT or customer.
- The product was previously marketed under the name _____.
- (Cont'd from Description of Product:) _____.
- Installed on ____ roadway between milepost ____ to _____ on the date of _____.

Note 3: As a reminder, failure to comply with the instructions as presented in Subsection 5.4 through Subsection 5.23 may cause the submitted product documentation to be deleted or discarded. It is not the responsibility of the CDOT PEC to review, process, and evaluate a Manufacturer's product submittal when the detailed instructions are not complied with. CDOT's willingness to expend time in the past should not be considered as an indication of current or future policy.

- If the CDOT Form #595 does not have the Revision date of 2/2016 it will be rejected.
- If the CDOT Form #595 is submitted as a hand written document it will be rejected.
- If the CDOT Form #595 is submitted blank then the correct software was not used and it will be rejected.
- If the CDOT Form #595 is submitted as a scanned document or where the PDF writeable form has been PDF'ed then the correct process was not followed and only one e-mail reply will be sent before it is rejected.
- If old and / or poor quality supplemental documentation is provided only one e-mail reply will be sent before the submittal package is discarded.

5.24 **CDOT Form #595 Example:** Verify your intended #595 submittal against the example to ensure that obvious mistakes are not being made. This is an example that has received permission from the Manufacturer to be posted. It is our expectation that the closer to reality the example is the better the likelihood of compliance will be.

COLORADO DEPARTMENT OF TRANSPORTATION

PRE-APPROVED PRODUCT EVALUATION REQUEST & SUMMARY

APL Reference No. 3687-16

Product Evaluation Coordinator
Colorado Department of Transportation
4670 North Holly Street, Unit A
Denver, Colorado 80216

Material code: 614.07.02.00

Material code description full name: Impact Attenuator

INTERNAL CDOT USE

PART 1

Product name: Universal TAU-II-R

Product category: Rdwy Sfty\Crash Cushion\Impact Attenuator, Low Maint,Perm.

Product Representative (name & address):
Attn: Thomas Smith
Lindsay Transportation Solutions / Barrier Systems
180 River Road
Rio Vista, CA 94571
Phone: (707) 374-6800 E-mail: Thomas.Smith@lindsay.com
Web-site address: www.barriersystemsinc.com

Manufacturer (name & address):
Attn: James Francisco
Lindsay Transportation Solutions / Barrier Systems
180 River Road
Rio Vista, CA 94571
Phone: (707) 374-6800 E-mail: James.Francisco@lindsay.com
Web-site address: www.barriersystemsinc.com

Description of the product: (Include specific quantifiable details from tech data sheet. Advertising generalities are not appropriate.)

The Universal TAU-II-R (TAU-II-R) is a highly reusable, redirective, non-gating crash cushion that is ideally suited for high frequency impact areas. The system is designed to protect hazards up to 102 inches in width, such as the ends of rigid barriers, toll booths and other roadside hazards or gore areas. TAU-II-R is tested under NCHRP Report 350 TL-2 and TL-3. It is composed of a number of bays containing Hyperelastic Polyurethane Modules tested to withstand multiple design head-on impacts before requiring replacement. The Universal TAU-II-R System is part of the Universal TAU-II Family so maximum interchangeability between all systems helps keep inventory costs low.

Physical Specifications: Length is 23' 10", Width is 27"-102", Height is 31 1/2", Weight is 1650 lbs. per section

Restrictions, (installation and/or use):
The Universal TAU-II-R cannot protect hard points that are wider than 102 inches and is not suitable for installation on soil.

Use of the product, (be specific to CDOT highway activities only):
The system is designed to shield the ends of longitudinal barriers and other roadside hazards up to a width of 102 inches.

Benefits to CDOT, (how will your product enhance quality, improve safety, save money, be a better value then other manufacturer's products):
The system uses restorable/reusable energy absorbing elements that restore and can be used after multiple impacts. A standard Universal TAU-II system can be converted to a TAU-II-R system by simply replacing the cartridges. Low and high speed requirements as well as narrow and wide hazards can be accommodated using common components. Requires only 21 anchor points for concrete installation thus drastically reducing exposure for crews performing the process. System can be installed over expansion joints without affecting the joints capability. AASHTO standard transitions attach the system to most hazards.

Specifications: (listing those applicable is required)

- ☑ CDOT : Standard Specifications, Section 614.02, 606.02, 630.08
- ☑ ASTM : A-36, A-123
- ☑ AASHTO : M 180 Class B
- ☑ FHWA : NCHRP Report 350 TL-2 and TL-3
- ☐ other :

☑ Certificate of Compliance (COC) provided ☑ Certificate of Verification (COV) provided for select categories ONLY

Product Testing: (National/independent laboratories or universities with Report Date.) **Certified Test Report** (CTR) provided to validate all claims.

- ☐ NTPEP-AASHTO:
- ☑ FHWA : Acceptance Letter, HSST/CC-75D (August 18, 2011)
- ☑ other : Safe Technologies, Inc. Crash Test Services (January 2011)
- ☑ other : Certificate of Verification (January 4, 2016)
- ☐ other :

State DOT Approvals, (current documentation required): AL, FL, ID, ME, MS, MO Re-submittal Cycle: 3 years

Sample submitted: ☐ yes ☐ no ☑ n/a Safety Data Sheets (SDS): ☐ yes ☐ no ☑ n/a

Alternate Product Category: Roadway Safety\Crash Cushion\Impact Attenuator, Standard, Permanent |or| Impact Attenuator, Wide, Permanent

Additional Comments:

*The product names Universal TAU-II-R, TAU-II-R and TAU-IIR are synonymous.

Page 1 of 2 CDOT Form #595 2/16

6. REQUIRED SUPPLEMENTAL DOCUMENTATION

6.1 The Pre-Approved Product Evaluation Request & Summary Form, CDOT Form #595, will need to be completed with the utilization of numerous sources of supporting documentation. This supporting documentation is required to be submitted to CDOT's PEC through non-electronic mail. If an electronic submittal is pre-authorized then each document is required to be its own file and not part of a continuous stream of copied documents.

6.1.1 Two identical packets of documentation are required containing copies of the following:

- CDOT Form #595 (for tracking against the submitted e-mail attachment copy)
- Technical Data Sheets (TDS), Product literature, pamphlets, etc.
- Certificates of Compliance (COC)
- Certified Test Reports (CTR)
- Certificate of Verification (COV) when applicable
- Product testing publication(s), i.e., NTPEP (copies of all relevant pages)
- State DOT Letters of Approval and / or State DOT APL or QPL pages
- Safety Data Sheets (SDS)

Each of these documents must be dated.

6.1.2 Quality of the documentation is essential. Technical Data Sheets that are without detail are worthless. Installation or application instructions are important to be included; however, this should not replace the required engineering technical details. If the original was in color so should the copy be in color. CTRs should be the entire report, not just selected pages. Without a report date and the name of the individual responsible for the report's data then the report's conclusion(s) has no value. Photographs of the product and potentially its installation are relevant to effective evaluation.

6.1.3 Mail the two sets of supplemental documentation packets to CDOT's Product Evaluation Coordinator (PEC). This is the same address that should be used for mailing samples. This information as well as the e-mail address is also listed within *Contact Us*.

Attn: David Kotzer
Product Evaluation Coordinator
Colorado DOT
4670 North Holly Street, Unit A
Denver, CO 80216-6408

7. GENERAL & SPECIFIC PRODUCT CATEGORY GUIDANCE & ASSISTANCE

Information within the Special Notice to Contractors chapter from CDOT's Field Materials Manual (FMM) is of relevance and benefit to the Manufacturers. Examples of what is required on a Certified Test Report (CTR) and on a Certificate of Compliance (COC) is provided. This document is included in the APL web-site.

A document entitled a *Certificate of Verification* (COV) is required for the Roadway Safety category products and for two select sub-categories within the Traffic Control category. The justification for a COV is to ensure through a legal document that CDOT has received all FHWA Acceptance or Eligibility letters and all test reports. The tests involve NCHRP 350 test levels or the new MASH requirements. As destructive testing the cost is very expensive and requiring it every five years or even every ten years would be prohibitive.

The Certificate of Verification is to be signed by a senior corporate officer, not a manager, stipulating that as of the date submitted to CDOT the product is identical to the one tested by _____(list the testing facility's name) from their _____ report (list the report's date) and that there are no FHWA letters concerning this product beyond the last Eligibility Letter provided dated _____. This letter needs to be notarized and the original mailed to the CDOT PEC. A second Certificate of

Verification will be requested by the Subject Matter Expert or the PEC once the evaluation process is completed.

The applicable CDOT Subject Matter Expert (SME) who will act as the product evaluator requires that references to the associated specifications be provided. CDOT Standard Specifications for Road and Bridge Construction references will be listed so that you are aware of CDOT requirements. These will be shortened to Std. Spec. xxx.xx. The products which require a sample to be submitted with the supplemental documentation will be indicated. The re-submittal cycle for the various categories or sub-categories will be indicated.

Note 4: Effective September 1st of 2014 each product's expiration date from CDOT's APL has been redefined. Prior to this date the various durations were added onto the CDOT Subject Matter Expert's (SME) Approval Date. The new policy is to establish the expiration date based on the most current Certified Test Report (CTR) date or the CTR where the majority of required tests are performed. The date on the CTR is the date of the report or final report, not the date in which the product or material was submitted for testing or the draft report date. For products that require a COV the expiration date will be based on the date of the post-evaluation COV. The expiration date is automatic and it is the Manufacturer's responsibility to ensure that a new submittal package with current documentation is provided prior to their product being expired from the web site.

7.01.01 **Adhesive\Anchoring, Lateral\:** ASTM C 881, ASTM E 488, or applicable. [No sample required.] {Re-submittal cycle, 4 years} NTPEP: Epoxy and Resin Based Adhesive Bonding Systems (ERB), retest every 3 years, concrete application only.

7.01.02 **Adhesive\Anchoring, Overhead:** ASTM C 881, ASTM E 488, or applicable. [No sample required.] {Re-submittal cycle, 4 years}

7.01.03 **Adhesive\Bonding\:** Std. Spec. 712.10 (the word epoxy is used generically for an adhesive), ASTM C 881. [No sample required.] {Re-submittal cycle, 4 years}

7.02.01 **Asphalt\Asphalt Release Agent**: NTPEP has replaced Texas DOT for the product testing. After the asphalt release agent has been placed on Texas's acceptance list then you need to submit to CDOT the Form #595 and the required supplemental documentation. If the product is removed from the TX DOT approved list for any reason it will also be removed from CDOT's. [No sample required.] {Re-submittal cycle, 3 years to mirror the same expiration date as the TX DOT web site} NTPEP: Asphalt Release Agents (ARA), retest every 3 years.

7.02.02 **Asphalt\Binder\NA:** Std. Spec. Table 702-1 [PG 58-28, PG 58-34, PG 64-22, PG 64-28, PG 70-28, PG 76-28]; comply with CP 11 of the current Field Materials Manual (FMM). An example of the product name will be PG 58-28 (2016). The product's lifespan on the CDOT APL is a maximum of less than one year because all previous calendar year referenced products are de-activated on February 1st. The manufacturer's name and address is the production facility. [Sample required.] {Re-submittal cycle, annually}

7.02.03 **Asphalt\Emulsion\NA:** Std. Spec. Table 702-2, Table 702-3, Table 702-4, Table 702-6, Table 702-9, AASHTO M 140 Table 1; comply with CP 11 of the current Field Materials Manual (FMM). An example of the product name will be CSS-1h (2016). The product's lifespan on the CDOT APL is a maximum of less than one year because all previous calendar year referenced products are de-activated on February 1st. The manufacturer's name and address is the production facility. [Sample required.] {Re-submittal cycle, annually}

7.02.04 **Asphalt\Hydrated Lime:** AASHTO M 303, Type 1. ASTM C 25, C 110, C 977; comply with CP 11 of the current FMM. [Sample required.] {Re-submittal cycle, 4 years}

7.02.05 **Asphalt\Roadway Patching\Pre-Mixed:** CDOT does not currently have a specification. It will be tested as permanent HMA. [No sample is to be sent until the documentation has been reviewed and a written request made by the PEC.] {Re-submittal cycle, 3 years}

- CDOT

- **CP-L 5106** *Resistance of Deformation of Bituminous Mixtures by Means of Hveem Apparatus* (Stability) **Minimum 28**
- **CP-L 5109** *Resistance of Compacted Bituminous Mixture to Moisture Induced Damage* (Lottmans) **TSR Minimum 70%**
- **CP-L 5112** *Hamburg Wheel-Track Testing of Compacted Bituminous Mixtures* **Maximum of 4mm in 10,000 passes**
- **CP-L 5115 & CP 44, Method A** *Preparing and Determining the Density of Bituminous Mixture Test Specimens Compacted by Superpave Gyratory Compactor* (Bulk Specific Gravity) **Report Results**
- **CP-L 5120** *Determination of Asphalt Binder Content of Bituminous Mixtures by Ignition Method* **Report Results**
- **CP *51*** *Determining the Maximum Specific Gravity of HMA* (Rice) **Report Results**

- AASHTO
  - **T-30** Mechanical Analysis of Extracted Aggregate (Gradation) **Report Results**
  - **T-164** Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA) **Report Results**
- SDS Information
- Installation Instruction
  - Surface Preparation
  - Required surface and ambient temperature
  - Set time required prior to opening to traffic
- Quality Control Plan

Note: All Test Results shall be stamped by a licensed Engineer

7.03.01 **Bridge Structures\Geocomposite Drain:** Std. Spec. 712.08, AASHTO M 288. {Re-submittal cycle, 5 years}

7.03.02 **Bridge Structures\Thin Bonded Overlay\:** Std. Spec. 519 {Re-submittal cycle, 5 years} NTPEP: Polymer Concrete Overlays (PCO), retested every 5 years.

7.03.03 **Bridge Structures\Structural Wrapping Repair\:** Uni-directional or bi-directional. {Re-submittal cycle, 5 years}

7.04.01 **Concrete\Admixture**\: AASHTO M 154 for Air Entraining Admixtures; AASHTO M 194, Type A through G; or ASTM C 494, Type S. [No samples required.] {Re-submittal cycle, 4 years} NTPEP: Concrete Admixtures (CADD), retested every 5 years and 10 years.

7.04.02 **Concrete\Curing Compound**\: ASTM C 309, Type 1 or Type 2. [No samples required.] {Re-submittal cycle, 3 years} NTPEP: Concrete Curing Compounds (CCC), retested every 3 years. Note: AASHTO M 148 has been deleted. Do not reference!

7.04.03 **Concrete\Cement**\: ASTM C 150, ASTM C 595, or ASTM C 1157. Six consecutive months of mill certs / CTRs required. Any product not used on a CDOT project within two full construction seasons will be de-activated from the APL. [A sample of ½ of a five-gallon bucket is required.] {Re-submittal cycle, 4 years}

7.04.04 **Concrete\Pozzolan**\: ASTM C 618 or ASTM C 1240 (and ASTM C 1609), AASHTO M 321. Six consecutive months of mill certs / CTRs required. Any product not used on a CDOT project within two full construction seasons will be de-activated from the APL. [A sample of ½ of a five-gallon bucket is required.] {Re-submittal cycle, 4 years}

7.04.05 **Concrete\Fiber:** ASTM C 1116, ASTM D 7508, Std. Spec. 709. [Sample in a 1 quart bag] {Re-submittal cycle, 4 years}

7.04.06 **Concrete\Grout\:** [Sample of ½ of a five-gallon bucket is required.] {Re-submittal cycle, 4 years}

7.04.06.1 **General Purpose [Non-Shrink]:** ASTM C 1107

7.04.06.2 **Post-Tensioned Cable:** Std. Spec. 618.09 (b), Table 618-1

7.04.07 **Concrete\Repair/Patching\:** Certified Test Reports referencing ASTM C39, C666, C266, C882, and C531 performed by an AMRL/CCRL accredited independent laboratory within the past year (12 months). CTR required to be submitted annually. [Sample of ½ of a five-gallon bucket is required.] {Re-submittal cycle, 4 years} NTPEP: Rapid Set Concrete Patch Materials (RSCP), retested every 5 years.

7.04.07.01 **\Rapid Set, Horizontal:** ASTM C 928

7.04.07.02 **\Rapid Set, Vertical & Overhead:** ASTM C 928

7.04.07.03 **\Bonding Agent:** ASTM C 1059

7.05.01 **Drainage\Culvert Pipe\:** [2 small samples of the material used in culvert lining repair are required.] {Re-submittal cycle, 5 years}

7.05.01.01 **\Culvert Lining [Repair]:** Std. Spec. 603.

7.05.01.02 **\Open-Cut/Direct-Bury:** Std. Spec. 603

7.05.02 **Drainage\Manholes & Inlets\:** Std. Spec. 604. [No sample required.] {Re-submittal cycle, 5 years}

7.05.03 **Drainage\Storm Water Separator\:** Std. Spec. 604. [No sample required.] {Re-submittal cycle, 5 years}

7.06.01 **Environmental\Sound Wall\:** {Re-submittal cycle, 5 years}

7.06.01.1 **\Reflective:** Per CDOT's Noise Guide for Highways (Volume IX of the CDOT Design Guide), the Sound Transmission Coefficient (STC) is < 25, and the Noise Reduction Coefficient (NRC) is < 0.65.

7.06.01.2 **\Absorptive:** Per CDOT's Noise Guide for Highways (Volume IX of the CDOT Design Guide), the Sound Transmission Coefficient (STC) must be ≥ 25, and the Noise Reduction Coefficient (NRC) must be ≥ 0.65.

7.07.01 **Erosion Control, Soil Retention Rolled\:** NTPEP: Erosion Control Products (ECP), Index and Bench Scale Testing Program: Following the initial testing and data release of a product, index and bench scale must be re-tested on an every-three-year cycle to remain published. Geosynthetics (GTX & REGEO), Audit Program participation required annually.

7.07.01.01 **\SRB [Biodegradable Class 1 or 2]:**
\SRB [Photodegradable Class 1 or 2]:
Std. Spec. 216.02. Soil Retention Blankets (SRB) consisting of synthetic and/or organic material installed on steep slopes or channels to prevent erosion until final vegetation is established. [2 samples are required of a minimum 7" x 7" but not to exceed 8" x 10".] {Re-submittal cycle, 5 years}

7.07.01.02 **\TRM [Class 1, 2, 3, 4]:** Std. Spec. 216.02. Turf Reinforcement Mat (TRM) is a permanent erosion control product composed of UV-stabilized, non-degradable, synthetic materials processed into a three-dimensional matrix. [2 samples required of a minimum 7" x 7" but not to exceed 8" x 10".] {Re-submittal cycle, 5 years}

7.07.01.03 **\Biodegradable Stakes:** Std. Spec. 216. New base category for 2016. [2 samples required.] {Re-submittal cycle, 5 years}

7.07.02. **Erosion Control, Hydraulic Applied Mulch\:**

7.07.02.01 **\Bonded Fiber Matrix:** Std. Spec. 213. New base category for 2016. [No samples required.] {Re-submittal cycle, 5 years}

7.07.02.02 **\Spray-On Mulch Blankets [Type 1]:** Std. Spec. 213. New base category for 2016. [No samples required.] {Re-submittal cycle, 5 years}

7.07.02.03 **\ Spray-On Mulch Blankets [Type 2]:** Std. Spec. 213. New base category for 2016. [No samples required.] {Re-submittal cycle, 5 years}

7.07.03 **Erosion Control\Ditch Control\:**

7.07.03.01 **\Silt Berm:** Std. Spec. 208.02. Ultraviolet stabilized polyethylene or approved material used to dissipate water velocity by flowing through or over the structure. [2 samples at actual dimensions of the entire product including stakes are required.] {Re-submittal cycle, 5 years from the CTR.}

7.07.04 **Erosion Control\Herbicide\:**

7.07.04.01 **\Selective Pre-emergent Application:** Std. Spec. 217.02. New base category for 2016. [No samples required.] {Re-submittal cycle, 4 years}

7.07.04.02 **\Selective Contact Application:** Std. Spec. 217.02. New base category for 2016. [No samples required.] {Re-submittal cycle, 4 years}

7.08.01 **Sediment/Pollution Control \ Construction Inlet Protection \:**

7.08.01.01 **Storm Drain Inlet Protection, Type 1, 2, and 3:** Std. Spec. 208.02 (m). Aggregate filled woven geotextile fabric used to control sediment from flowing into curb and drop inlets. [2 samples at actual dimensions without the aggregate are required.] {Re-submittal cycle, 5 years from the CTR.}

7.08.02 **Sediment/Pollution Control \ Construction Dewatering \:**

7.08.02.01 **\ Dewatering Filter Bag:** Std. Spec. 208.02. Manufactured woven geotextile fabric bags used to control sediment discharge in the dewatering application. A dewatering filter bag. [2 samples of the fabric are required of a minimum 7" x 7" but not to exceed 8" x 10".] {Re-submittal cycle, 5 years from the CTR.}

7.08.03 **Sediment/Pollution Control \ Temporary Slope Drain \:**

7.08.03.01 **\Flexible Pipe:** Heavy duty flexible material with a minimum diameter of 12" such as non-perforated corrugated plastic pipe or tubing. Used as temporary slope drains during construction. [2 samples required with the length twice the diameter.] {Re-submittal cycle, 5 years from the CTR Date.}

7.08.03.02 **\Manufactured Channel Liners:** Rigid or flexible watertight linings made from UV resistant HDPE used as temporary slope drains. [No sample required; however, during the evaluation process the SME will arrange a viewing of the product.] {Re-submittal cycle, 5 years from the Evaluation Approval Date.}

7.08.04.01 **Sediment/Pollution Control \ Concrete Washout Structure \Pre-Fabricated:** Std. Spec. 208.02. Manufactured watertight containers designed to contain liquids and solids. [No sample required; however, during the evaluation process the SME will arrange a viewing of the product.] {Re-submittal cycle, 5 years from the Evaluation Approval Date.}

7.08.05.01 **Sediment/Pollution Control \ Vehicle Tracking Control \Pre-Fabricated:** Std. Spec. 208.02 (k). Manufactured mat products engineered to handle road construction equipment. Used to control tracking of soil from construction sites. [No sample required; however, during the evaluation process the SME will arrange a viewing of the product.] {Re-submittal cycle, 5 years from the Evaluation Approval Date.}

7.09.01 **Paint / Coating\Anti-Graffiti:** Std. Spec. 708. [No sample required.] {Re-submittal cycle, 5 years}

7.09.02 **Paint / Coating\Concrete Corrosion Inhibitor:** Std. Spec. 708. [No sample required.] {Re-submittal cycle, 5 years}

7.09.03 **Paint/Coating\Epoxy Coating:** Std. Spec. 708. [No sample required.] {Re-submittal cycle, 5 years}

7.09.04 **Paint/Coating\Structural Concrete Coating:** Std. Spec. 708. [No sample required.] {Re-submittal cycle, 5 years} NTPEP: Concrete Coating Systems (CCS), retested every 7 years.

7.09.05 **Paint/Coating\Structural Steel Paint (Bridge):** Std. Spec. 708. [No sample required.] {Re-submittal cycle, 5 years} NTPEP: Structural Steel Coatings (SSC), retested every 7 years.

7.10.01 **Pedestrian Safety \ ADA Truncated Dome \ Embedded** or **Retrofit:** CDOT M-608-1, ADAAG 4.29.5, ADAAG 1108.1. [2 samples required.] {Re-submittal cycle, 5 years}
7.10.02 **Pedestrian Safety \ Joint System:** [2 samples required.] {Re-submittal cycle, 5 years}

7.11.01 **Right-of-Way Structure\Mailbox Support System:** [No sample required.] {Re-submittal cycle, 5 years}
7.11.02 **Right-of-Way Structure\Utility Enclosure:** CDOT Standard Plan S-614-43, Sheet 8 of 10 Note 1 "Pull Boxes shall be verified by 3rd Party Nationally – Recognized Independent Testing Laboratory as meeting all test provisions of the ANSI /SCTE 77 specification for Underground Enclosure integrity, Tier 22 rating." [No sample required.] {Re-submittal cycle, 5 years}
7.11.03 **Right-of-Way Structure\Fence, Non-Standard Coating:** [No sample required.] {Re-submittal cycle, 5 years}
7.11.04 **Right-of-Way Structure\Pole Base Hardware:** [No sample required] {Re-submittal cycle, 5 years}

7.12.01 **Roadway Safety \ Cable Barrier \ NCHRP 350 TL-3 or TL-4:** Std. Spec. 606. COV required. [Installation required for evaluation] {Re-submittal cycle, 3 years with a Certificate of Verification additionally provided.}

7.12.02 **Roadway Safety \ Guardrail W-Beam\:** Std. Spec. 606.
7.12.02.1 **Guardrail End Treatment:** Std. Spec. 606. [No sample required.] {Re-submittal cycle, 3 years with a Certificate of Verification additionally provided.}
7.12.02.2 **Guardrail End Treatment, Special Application:** Std. Spec. 606. [No sample required.] {Re-submittal cycle, 3 years with a Certificate of Verification additionally provided.}
7.12.02.3 **Guardrail Synthetic Block-out:** Std. Spec. 606. [Sample required.] {Re-submittal cycle, 5 years}

7.12.03 **Roadway Safety \ Crash Cushion\:** {Re-submittal cycle, 3 years with a Certificate of Verification additionally provided.}
7.12.03.1 **Sand Barrel Array:** Std. Spec. 614.
7.12.03.2 **Guardrail Median Terminal:** Std. Spec. 606.
7.12.03.3 **Barrier End Treatment (Terminal):** Std. Spec. 606.
7.12.03.4 **Impact Attenuator, Standard, Permanent:** Std. Spec. 614.
7.12.03.5 **Impact Attenuator, Wide, Permanent:** Std. Spec. 614.
7.12.03.6 **Impact Attenuator, Low Maintenance, Permanent:** Std. Spec. 614.
7.12.03.7 **Impact Attenuator, Special Application, Permanent:** Std. Spec. 614.

7.13.01 **Sealant [Joint/Crack] \ Asphalt Plug Joint \ N/A:** ASTM D 6297. Concrete blocks for testing of the sealants will be in accordance with ASTM D 1985 and CDOT's CP-L 4101-15. Submit on a per batch basis. Each batch will remain on the APL for two years from the CTR date. [No sample required.] {Re-submittal cycle, N/A}

7.13.02 **Sealant [Joint/Crack] \ Hot Poured, Joint/Crack**: ASTM D 6690 Type II & Type IV, ASTM D 5078. Each batch will remain on the APL for two years from the CTR date. [No sample required.] {Re-submittal cycle, N/A} NTPEP: Hot Mix Asphalt Crack Sealant (CS), retested every 3 years. Note: Since CDOT requires a CTR for every batch, NTPEP participation is for a comparative baseline.

7.13.03 **Sealant [Joint/Crack] \ Mastic \ N/A:** CDOT does not currently have a specification. New sub-category in 2016. Contact the PEC for submittal requirements. [No sample is to be sent until the documentation has been reviewed and a written request made by the PEC.] {Re-submittal cycle, 2 years}

7.13.04 **Sealant [Joint/Crack] \ Silicone, Joint\:** [No sample required.] {Re-submittal cycle, 3 years} NTPEP: Portland Cement Concrete Joint Sealants (JS), retested every 3 years.
7.13.04.1 **Non-Sag:** ASTM D 5893, Type NS.
7.13.04.2 **Self-Leveling:** ASTM D 5893, Type SL.

7.13.05 **Sealant [Joint/Crack] \ Pre-Formed Joint Filler:** [Sample required.] {Re-submittal cycle, 4 years}

7.13.06 **Sealant [Joint/Crack] \ Loop Detector Slot**: A CTR with the required test values for tensile strength, tensile elongation, adhesion to cement, and adhesion to asphalt must be submitted. [No sample required.] {Re-submittal cycle, 4 years}

7.14.01 **Soil/Geotechnical \ Stabilization\:** Std. Spec. 206.02. [No sample required.] {Re-submittal cycle, 4 years}
7.14.02 **Soil/Geotechnical \ Void Elimination\:** Std. Spec. 206.02. [No sample required.] {Re-submittal cycle, 4 years}

7.15 **Steel \ Reinforcing, Non-Standard\:** [Sample required.] {Re-submittal cycle, 5 years}

7.16.01 **Traffic Control\Portable Changeable Message Sign\:** It must comply with the 2009 MUTCD, Section 6F.60. [No sample required.] {Re-submittal cycle, 5 years} NTPEP: Portable Changeable Message Sign (PCMS), no retest.
7.16.01.1 **Trailer Mount:**
7.16.01.2 **Vehicle Mount:**

7.16.02 **Traffic Control\Arrow Panel\:** It must comply with the 2009 MUTCD, Section 6F.61. [No sample required.] {Re-submittal cycle, 5 years} NTPEP: Flashing Arrow Panels (FAP), no retest.
7.16.02.1 **Type A:**
7.16.02.2 **Type B:**
7.16.02.3 **Type C:**
7.16.02.4 **Type D:**

7.16.03 **Traffic Control\Speed Notification\:** [No sample required.] {Re-submittal cycle, 5 years}
7.16.03.1 **Radar/Message Sign:**
7.16.03.2 **Speed Display Trailer:**
7.16.03.3 **Speed Display Device:**

7.16.04 **Traffic Control\ Traffic Control Enhancement\:** Must comply with the 2009 MUTCD, Section 6F. [No sample required.] {Re-submittal cycle, 5 years}
7.16.04.1 **AFAD:** (Automated Flagger Assistance Device), 6F.04
7.16.04.2 **Flashing Beacon:** 4L
7.16.04.3 **Warning Light:** 6F.83
7.16.04.4 **Raised Island, Temporary:** 6F.75
7.16.04.5 **Rumble Strip, Temporary:** 6F.87; CDOT Standard Plan S-630-5
7.16.04.6 **Glare Screen:** 6F.88

7.16.05 **Traffic Control\Channelizing Device\:** Must comply with the 2009 MUTCD, Section 6F. [No sample required.] {Re-submittal cycle, 5 years}
7.16.05.1 **Cone:** 6F.64
7.16.05.2 **Tubular Marker:** 6F.65
7.16.05.3 **Vertical Panel:** 6F.66
7.16.05.4 **Drum:** 6F.67; NTPEP: Temporary Traffic Control Devices (TTCD), no retest.
7.16.05.5 **Barricade, Type 1:** 6F.68

7.16.05.6 **Barricade, Type 2:** 6F.68
7.16.05.7 **Barricade, Type 3:** 6F.68
7.16.05.8 **Direction Indicator Barricade:** 6F.69
7.16.05.9 **Longitudinal Channelizing Device:** 6F.71
7.16.05.10 **Opposing Traffic Lane Divider:** 6F.76

7.16.06 **Traffic Control\Delineator\:** Must comply with the most recent MUTCD, Section 6F.65. {Re-submittal cycle, 5 years} NTPEP: Temporary Traffic Control Devices (TTCD), no retest.
7.16.06.1 **Flexible Post:** [Sample required]
7.16.06.2 **Flexible, Multiple Hit Post:** [Sample required]
7.16.06.3 **Guardrail Mount:** [Sample required]

7.16.07 **Traffic Control\Reflective Element:** {Re-submittal cycle, 5 years}
7.16.07.1 **Barrier Marker:** [Sample required]
7.16.07.2 **Guardrail & Post Marker:** [Sample required]
7.16.07.3 **Delineator Post Marker:** [Sample required]
7.16.07.4 **Linear Reflector Strip:** [Sample required]

7.16.08 **Traffic Control\Post Anchoring:** [No sample required.] {Re-submittal cycle, 5 years}
7.16.08.1 **Mechanical System:**
7.16.08.2 **Polyurethane Foam, Backfill:**

7.16.09 **Traffic Control\Traffic Barrier, Temporary\:** Must comply with the 2009 MUTCD, 6F.85. [No sample required.] {Re-submittal cycle, 5 years}
7.16.09.01 **Barrier, Non-Concrete:**
7.16.09.02 **Barrier Gate:**

7.16.10 **Traffic Control\Crash Cushion, Temporary\:** [No sample required.] {Re-submittal cycle, 5 years}
7.16.10.1 **Impact Attenuator (Temp. – Constr.):** Must comply with the 2009 MUTCD, 6F.86.
7.16.10.2 **Truck Mounted Attenuator:** (TMA)
7.16.10.3 **Trailer Mounted Attenuator:**

7.16.11 **Traffic Control\Sign Stand:** [No sample required.] {Re-submittal cycle, 5 years}

7.16.12 **Traffic Control\Sign Sheeting\:** ASTM D 4956, Type IV thru Type XI. [Samples required.] {Re-submittal cycle, 5 years} NTPEP: Sign Sheeting Materials / Roll Up Signs (SSM/RUP) retested every 7 years.

7.16.13 **Traffic Control\Pavement Marking Material**: [No sample required.] {Re-submittal cycle, 5 years} NTPEP: Pavement Marking Materials (PMM), retested every 5 years for the cold weather state test decks.

7.17.01 **Waterproofing\Concrete Sealer:** Std. Spec. 515 [No sample required.] {Re-submittal cycle, 4 years}

7.17.02 **Waterproofing\ Elastomeric Membrane**:
7.17.02.1 **Single Component, Hot Applied:** Std. Spec. 705.09 and ASTM D 6690 Type II. Each batch will remain on the APL for two years from the CTR date. [No sample required.] {Re-submittal cycle, N/A}
7.17.02.2 **Non-Asphaltic:**

8. REVIEW AND EVALUATION TIME REQUIREMENTS

8.1 To correlate your expectations with CDOT realities it is important to realize that in only a few categories will a product be evaluated in less than three months. Most products will require one to two years for evaluation due to the lack of available resources or a requirement for installation on a test deck. If CDOT specifications need to be rewritten or created this process can take three years. If the product is being considered as an Experimental Feature per the Procedural Directive then there will be a need for a CDOT evaluation test deck or to wait until a NTPEP laboratory and field test deck has been completed in which case the product's evaluation will be completed when all relevant information is available.

8.2 CDOT Communication Letters to Manufacturers: The following types of letters were developed to be the formal communication between CDOT and the Manufacturers through the evaluation process.

- Initial Response
- Missing Documentation
- Rejected for APL
- Bridge, Non-APL
- Experimental Features
- Forwarded to Evaluator
- Rejection of Product
- Acceptance of Product

Processing these letters has been suspended at this time due to the volume of products being processed since the 2010 APL re-submittal requirement was initiated. Documentation of accepted products can be obtained through the APL Search feature and then printing the applicable page. If a more formal document is required then e-mail your request to the CDOT PEC.

9. APL SEARCH AND PRODUCT COMMENTS

9.1 Within the *APL Search* tab there are four search options: Category, Manufacturers Name, Product Name, and Product Number.

9.1.1 Regardless of which option is selected, the customer will see displayed: Form 595 (the APL Reference Number), Product Name, Material Code, Manufacturer or Categorization (depending on the type of search), and the Producer Supplier Code.

9.2 By clicking on a Form 595 reference number, page 1 of the CDOT Form #595, Pre-Approved Product Evaluation Request & Summary Form, will be displayed. This is beneficial information for the Department's design and project personnel, the contractors, and even the manufacturers.

9.3 By clicking on a manufacturer's name all approved products from that particular manufacturer will be displayed.

9.4 Product Comments:

9.4.1 A product comments column has been temporarily removed until Site Manager Materials has been fully operational. This section allows customers, such as the Project Engineers, Contractors, and Subcontractors to "Add" their own project experiences with regard to the selected product. A data base of provided comments is not yet available on the website.

9.4.2 Only those individuals who are verified as being on specific CDOT projects will be allowed to add product comments.

9.5 Product removal from the APL.

9.5.1 Products may be removed from the APL based on unsatisfactory performance. Some products may fail on construction projects based on the actions of the contractors / subcontractors, and this will be evaluated; however, the Manufacturer has a responsibility to ensure that the quality they purport can be

translated from the laboratory to the field. Stating a product's limitations is as important as stating its capabilities.

9.5.2 Products may be removed immediately from the APL if the current product being submitted on the project is not the same product submitted for evaluation. If any information on the CDOT Form #595 has changed then CDOT's Product Evaluation Coordinator (PEC) must be informed immediately as per Subsection 1.2 of this document. Failure to communicate these changes, in writing, with reference to the APL Reference No., will cause the product(s) or possibly all of the Manufacturer's products to be removed from CDOT's APL.

9.5.3 The protocol for addressing an unacceptable product is the following:

- Has the PEC been informed in writing via the product *Comment* form?
- Specifically how has the product failed from CDOT specifications or expectations?
- The manufacturer's representative or the manufacturer will be contacted prior to the product being removed from actively being displayed on the APL.
- A detailed explanation will be requested from the manufacturer.
- A new CTR from an independent lab may be required prior to the product being considered for reinstatement.
- Does the manufacturer seem to have adequate QC safeguards in place to prevent a repeat of a failed product or batch/lot?

10. DISCLAIMER

10.1 The Colorado Department of Transportation (CDOT) is not obligated to any manufacturer to use any of their products listed in the Approved Products List (APL). The APL simply documents that the listed products have been reviewed, tested, and evaluated against CDOT standards, and were found to be acceptable to be used in CDOT projects. Acceptance is based on product quality; however, price or availability may be the determining factor by a contractor or sub-contractor on the CDOT project.

The product shall be removed from the APL if Product Performance comments indicate that field performance is unacceptable to CDOT quality standards or if the product varies from the data as originally submitted. Additional disclaimer information may be found within the APL web site.

10.2 The CDOT Approved Products List should not be construed as an endorsement of any particular product or manufacturer. Every effort is made to ensure that choice exist within an APL category; however, the CDOT PEC will not solicit product submittals.

10.3 CDOT is opposed to the use of the CDOT APL web site for product advertising or marketing purposes. Discovery of this being done will necessitate an immediate letter from CDOT to cease and desist.