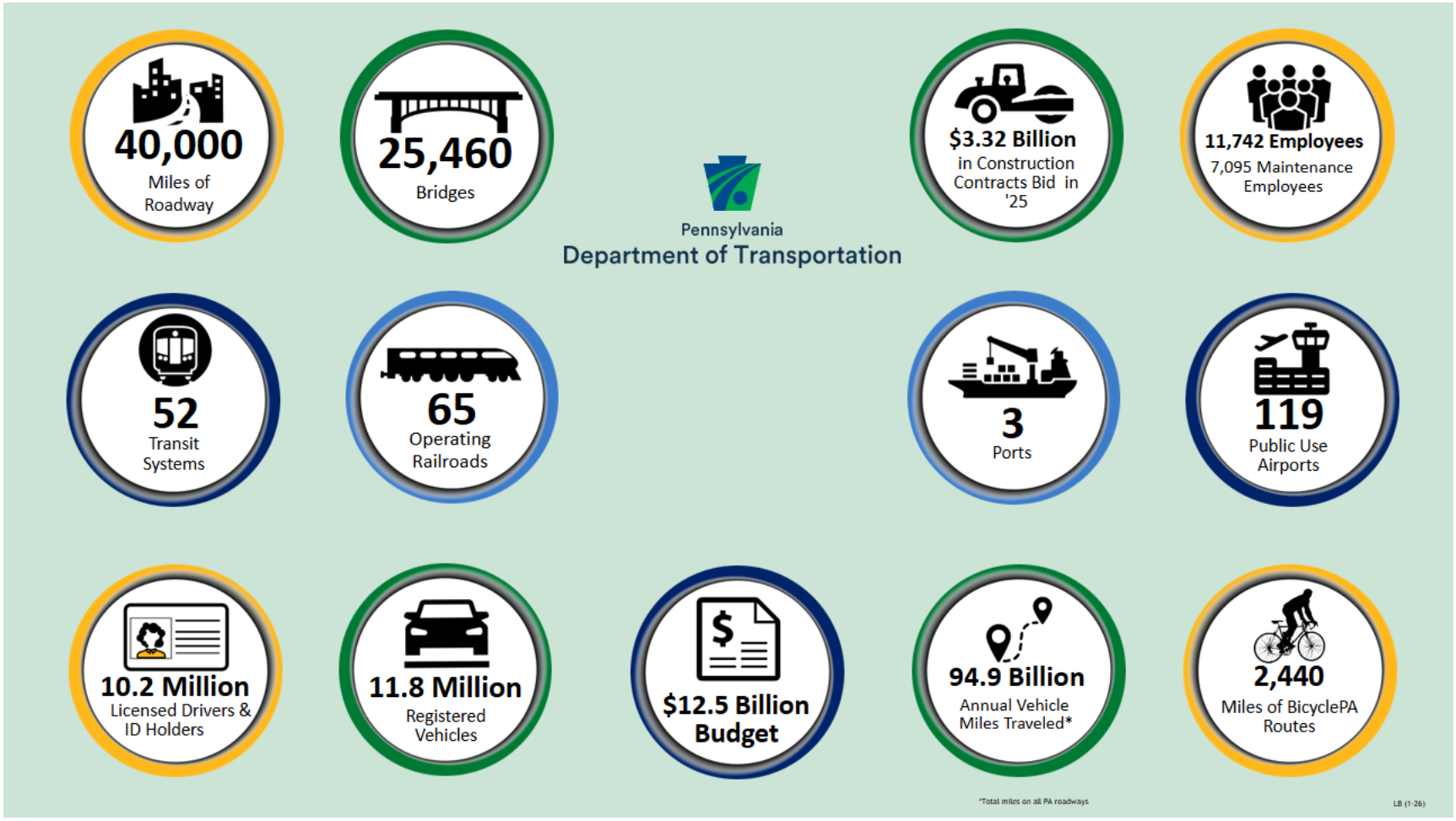
PennDOT
Engineering District 4
State of the District

Jonathan A. Eboli, P.E.- District Executive

ASHE NE Penn

April 16, 2026

Remembering Rich Roman, P.E.


40,000
Miles of Roadway
25,460
Bridges
$3.32 Billion
in Construction Contracts Bid in '25
11,742 Employees
7,095 Maintenance Employees
Pennsylvania
Department of Transportation
52
Transit Systems
65
Operating Railroads
3
Ports
119
Public Use Airports
10.2 Million
Licensed Drivers & ID Holders
11.8 Million
Registered Vehicles
$12.5 Billion
Budget
94.9 Billion
Annual Vehicle Miles Traveled*
2,440
Miles of BicyclePA Routes
*Total miles on all PA roadways
LB (1-26)

District 4 at a Glance

800 + employees

2,100 bridges

4,000 road miles

2026 - Largest program in D4 history

District Priorities

Safety

Quality

Urgency

PennDOT Engineering District 4

Welcome – Jennifer Borino, P.E., Assistant Portfolio Engineer

- Introductions
- Capital Program
- Interstates
- Bridges
- Portfolio
- Consultant Services - Agreements
- Bridge Design
- Roadway Design
- Design Services
- Construction
- Maintenance

Engineering District 4 Design – Capital Program

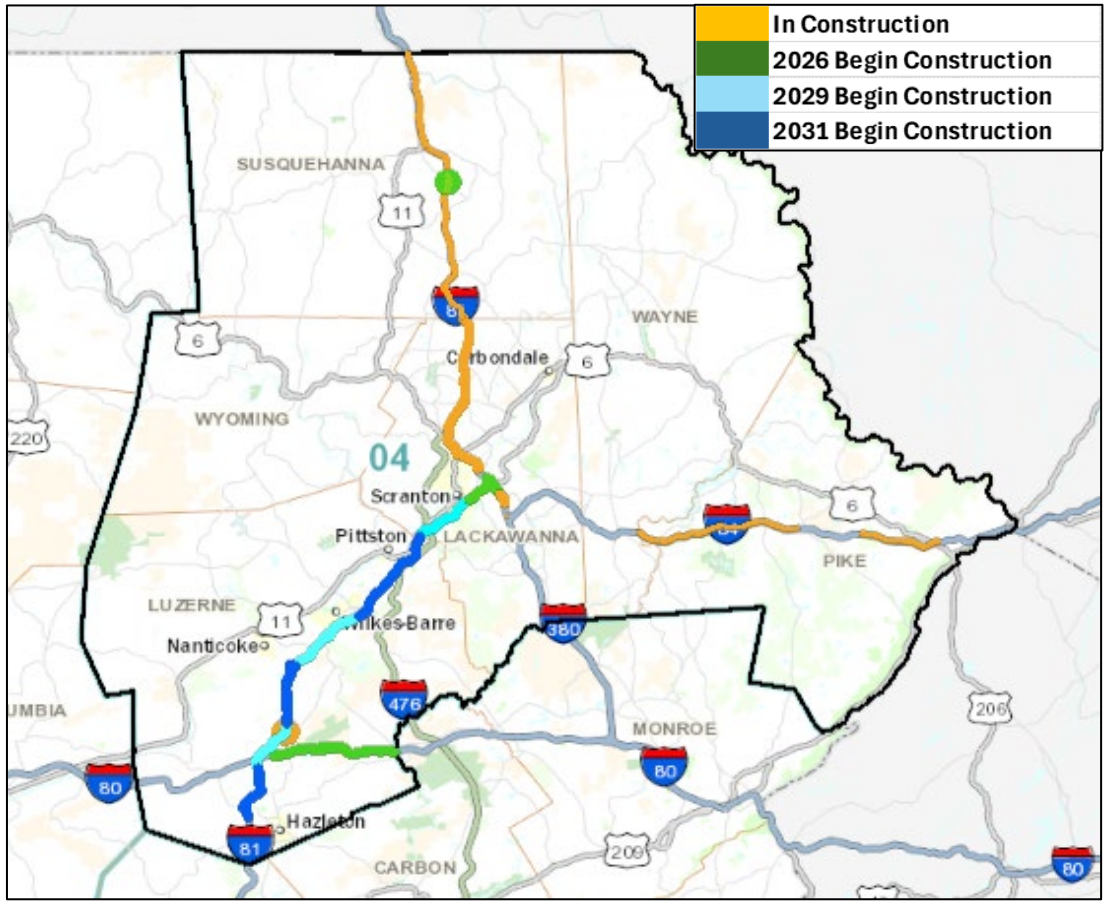
Interstate Program

- Statewide competitive program
- $4.5 Billion need
- 12 Designs underway

Regional Program

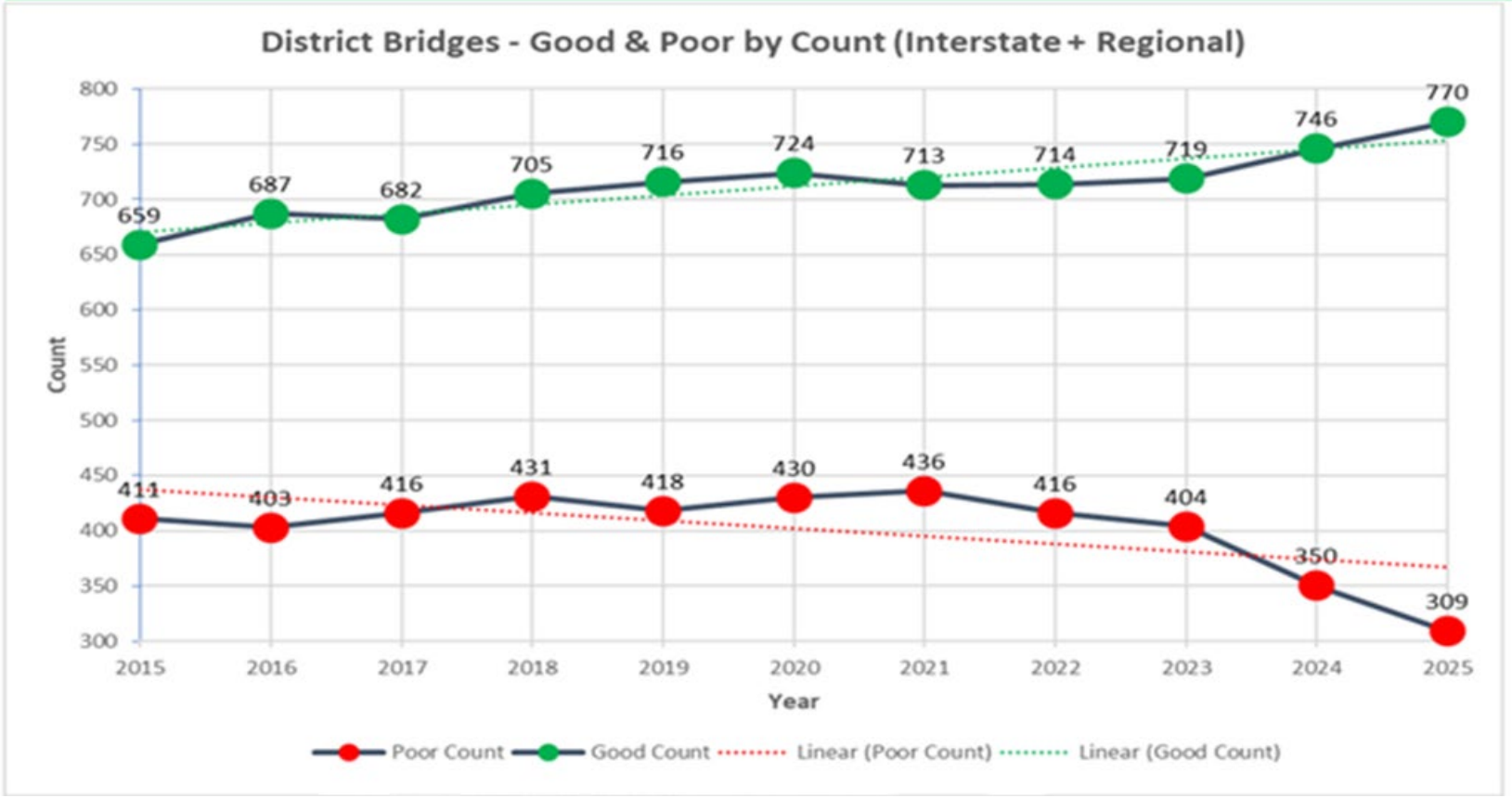
Bridge 10 Year Plan

- Preservation
- Rehabilitation
- Replacement
- 220 Projects underway and 129 projects prioritized to begin



Engineering District 4 Design - Bridges

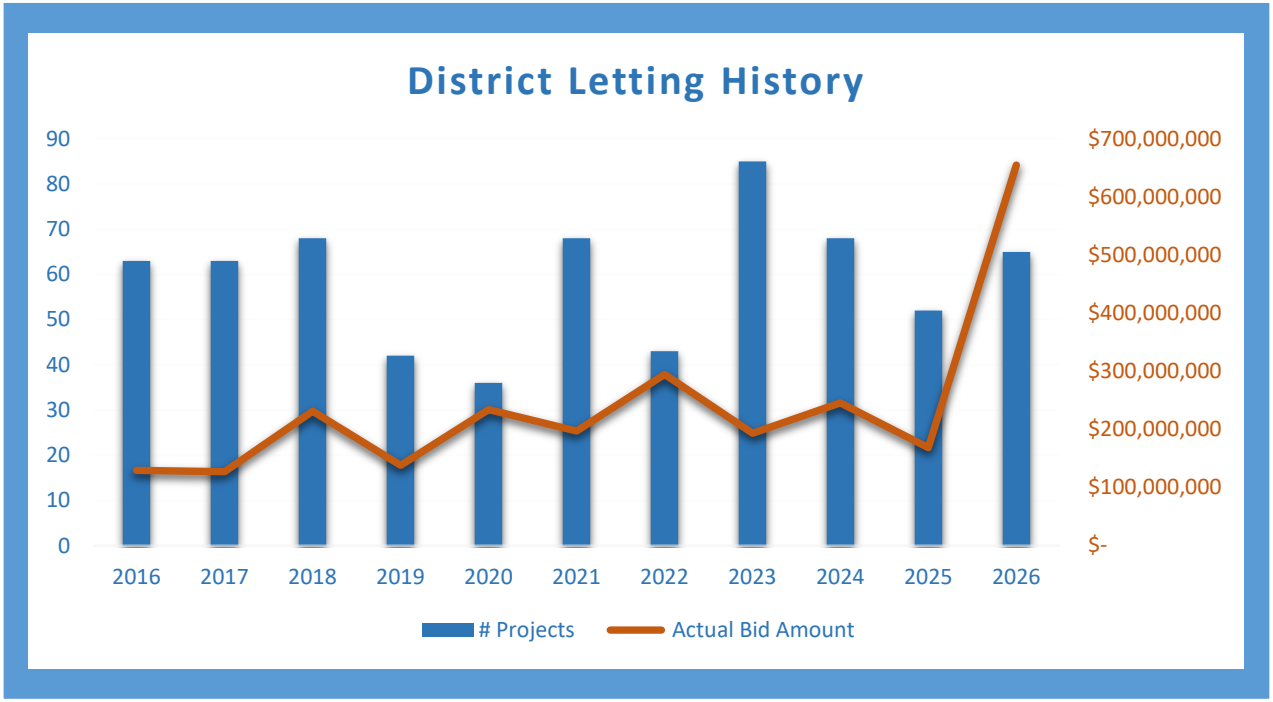
History – Interstate + Regional Bridges (Non-Local), Span ≥ 8’: Good/Poor Count



Engineering District 4 Design - Portfolio

Lettings and ASTA – Julianne Lawson, P.E.

- **Letting status**
- **Cost Estimates**
- **ASTA**
  - All projects
  - Monthly updates



Engineering District 4 Design-Portfolio

TRANSPORTATION ALTERNATIVES AND LOCAL PROJECTS

Engineering District 4 - Agreements

Agreements – Chris Tomaszewski

- 2025 Recap
- Upcoming for 2026
- Field Views
- Constructability Reviews
- Coordination
- Working in District 4-0
- Consultant Assistance
- Future Project List

LUZERNE COUNTY

County	BMS ID	SR	SECT	Features Under	Location	Superstructure	Bridge Length	Scope of Work	PROJ. MANAGER	MPMS #	ECMS #	Anticipated Planned Project
Luzerne	40 7401 1815 0001	7401	BRG	Rogers Ave over Solomon Crk	41.123965,-75.540309	PS Concrete Multiple Box Beam	24	Replacement	Laury Estevez	73756	E05330	2nd Quarter 2026
Luzerne	40 7401 0301 0002	7401	BRG	Carey St. over Solomon Crk	41.125942, -75.5416.36	2 Span Concrete Tee Beam	52	Replacement	Laury Estevez	73757	E05330	2nd Quarter 2026
Luzerne	40 7215 0342 5810	7215	BRG	T-392 Faux Rd over Wapallopen Crk	41.040981, -76.031448	Truss	44	Rehab/Replacement	Laury Estevez	8765	E06472	1st Quarter 2026
Luzerne	40 1021 0060 0000	1021	000	Abrahams Creek	41.3258530, -75.8514440	Concrete Slab	38	Rehab/Replacement	TBD	67468	E06557	4th Quarter 2026
Luzerne	40 0029 0210 1495	0029	337	Harveys Creek	41.2636920, -76.033694	2 Span Concrete T-Beam/Concrete Slab	78	Rehab/Replacement	TBD	67388	E06557	4th Quarter 2026
Luzerne	40 0309 0460 0000	309	379	Wapwallopen Creek	41.1629090, -75.885213	Concrete Slab	19	Rehab/Replacement	TBD	67442	E06557	4th Quarter 2026

Engineering District 4 - Bridge Design

Bridge Design – Gerard Babinski, P.E.

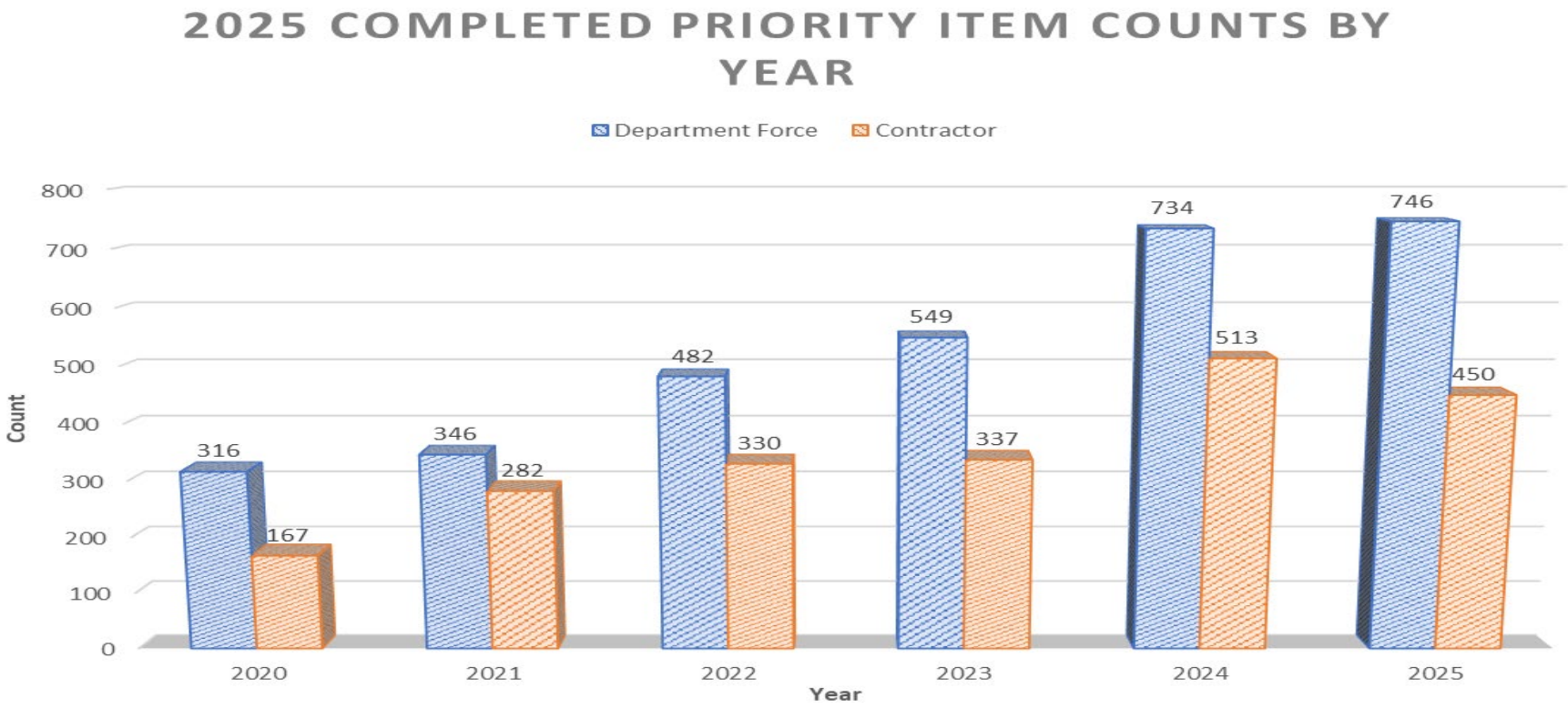
- Priority Maintenance Items
- Deck Overlay Policy
- Protective Coatings
- Design Storms
- Waterproofing
- Culvert End Sections

Engineering District 4 - Bridge Design

District 4 Bridges on State Route System, Span 8' or Greater
Summary of Priorities for Bridges by County
Information Obtained from Crystal Reports
ALL Priority Counts

Data Date	County	Total Bridge Count	Total Deck Area (Msf)	P0 Count	P1 Count	Completed P1 Count	New P1 Count	P2 Count	P3 Count	P4 Count	P5 Count	Total Count
1/1/2023	*TOTAL*	*2,101*	*7.502*	*0*	*332*	*NA*	*NA*	*2,215*	*4,026*	*1,896*	*389*	*8,858*
4/1/2023	*TOTAL*	*2,109*	*7.501*	*14*	*329*	*8*	*5*	*2,236*	*4,065*	*1,921*	*388*	*8,953*
7/1/2023	*TOTAL*	*2,109*	*7.520*	*13*	*318*	*34*	*23*	*2,212*	*4,145*	*1,959*	*390*	*9,037*
10/1/2023	*TOTAL*	*2,110*	*7.519*	*9*	*281*	*43*	*6*	*2,217*	*4,157*	*1,965*	*407*	*9,036*
1/1/2024	*TOTAL*	*2,106*	*7.515*	*0*	*239*	*58*	*16*	*2,149*	*4,227*	*2,041*	*392*	*9,048*
4/1/2024	*TOTAL*	*2,113*	*7.558*	*0*	*237*	*19*	*17*	*2,146*	*4,322*	*2,102*	*410*	*9,217*
7/1/2024	*TOTAL*	*2,115*	*7.541*	*2*	*223*	*26*	*12*	*2,111*	*4,400*	*2,137*	*414*	*9,287*
10/1/2024	*TOTAL*	*2,104*	*7.549*	*0*	*212*	*41*	*30*	*2,053*	*4,345*	*2,131*	*396*	*9,137*
1/1/2025	*TOTAL*	*2,114*	*7.582*	*0*	*190*	*39*	*17*	*2,005*	*4,379*	*2,121*	*392*	*9,087*
4/1/2025	*TOTAL*	*2,119*	*7.599*	*0*	*197*	*12*	*19*	*2,003*	*4,471*	*2,149*	*398*	*9,218*
7/1/2025	*TOTAL*	*2,111*	*7.499*	*0*	*182*	*28*	*13*	*1,938*	*4,505*	*2,190*	*452*	*9,267*
10/1/2025	**TOTAL**	**2,111**	**7.499**	**0**	**175**	**23**	**16**	**1,938**	**4,505**	**2,190**	**452**	**9,202**
2025 - 4th Quarter	Lackawanna	418	2.157	0	24	4	0	277	890	496	114	1,801
	Luzerne	579	2.968	0	54	13	4	630	1,289	650	106	2,729
	Pike	183	0.534	0	13	0	1	96	300	164	21	594
	Susquehanna	417	0.768	0	32	2	1	408	851	323	92	1,706
	Wayne	316	0.503	0	20	4	0	309	683	334	67	1,413
	Wyoming	202	0.581	0	19	0	4	137	459	199	41	855
1/1/2026	**TOTAL**	**2,115**	**7.512**	**0**	**162**	**23**	**10**	**1,857**	**4,472**	**2,166**	**441**	**9,098**

Engineering District 4 - Bridge Design



	2020	2021	2022	2023	2024	2025
Department Force	316	346	482	549	734	746
Contractor	167	282	330	337	513	450

Deck Overlays Best Practice Update

- There is no need to scarify a new deck prior to placing a new overlay.
- Finish Deck Elevations are to include ½” integral wearing surface.
- Latex overlays are to be included as an alternate overlay option.
- Scarification is to be done with ¼” passes to limit damage to remaining deck.
- S1. PPC surface is the preferred deck surface treatment for high volume roads.
- PPC can be used to fill type II patches. Volume item needed.
- S3. Latex Overlays: Be sure to include sufficient quantity for variable depth CY latex beneath the SY latex item.
- S4. Do not tab any type 2 deck repair items on latex decks (or PPC decks) with hydro-demolition as they will be included in the variable depth. Verify the appropriate depth with the Bridge Engineer prior to finalizing quantities.

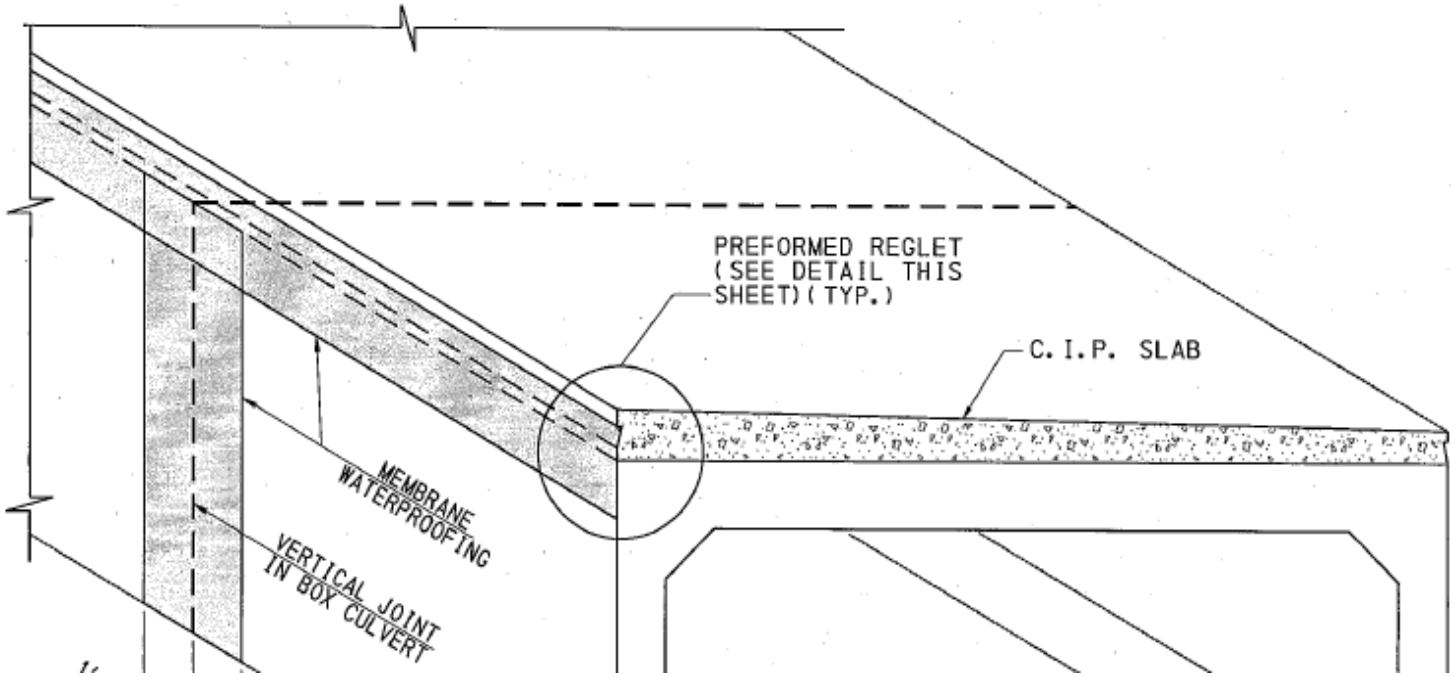
Protective Coatings

- BDBR5. Apply protective coating for reinforced concrete surfaces (penetrating sealers, bridge superstructure) to the entire bridge deck and bridge barriers down to the drip notches. Apply protective coating on box culverts to all exposed surfaces prior to backfilling.

- Apply penetrating sealers to phased bridge decks not fully completed and overlayed by winter.

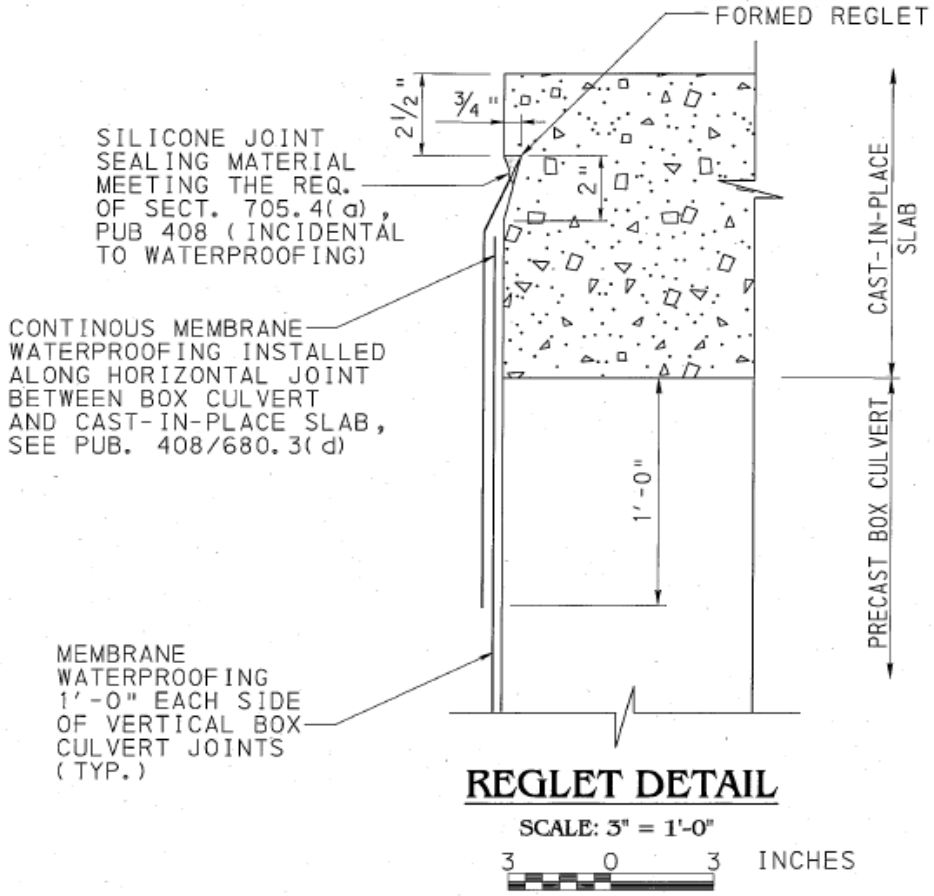
- Do not apply epoxy paint to concrete beams over water.

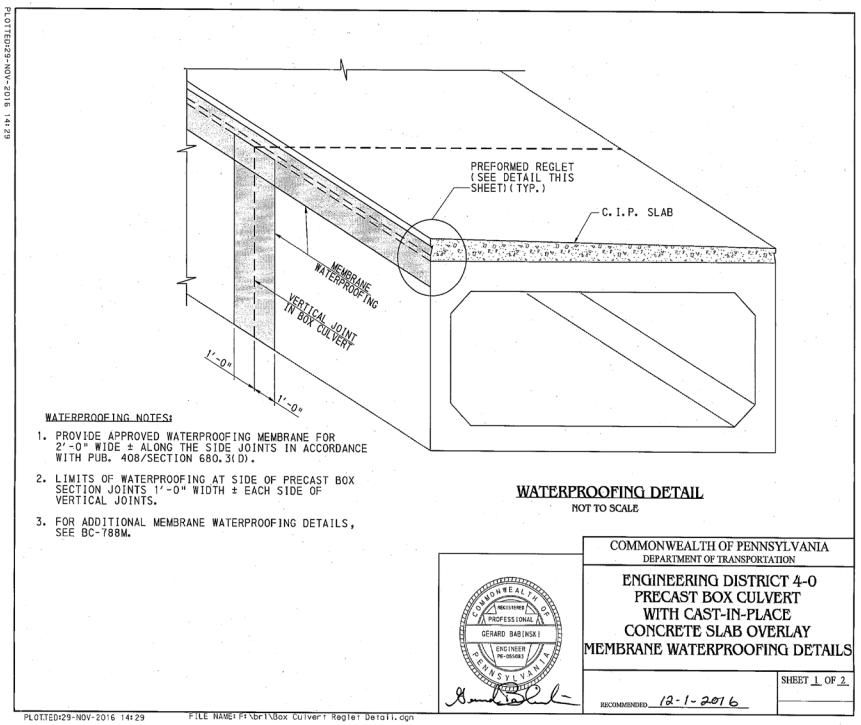
Concrete Distribution Slab Waterproofing



Engineering District 4 - Bridge Design

Culvert Slab Waterproofing Detail





Design Storm and Resiliency

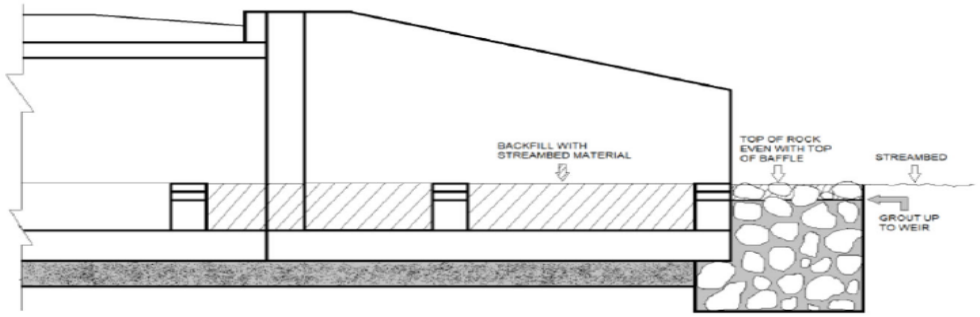
- S19. Structures need to evaluate the 25-year storm event for DEP design. If it cannot pass, a full 105 permit may be required.

- The 25-year storm is the DEP check storm.

- Bottom line here is to always include the 25-year storm on the permit application, TS&L and final plans.

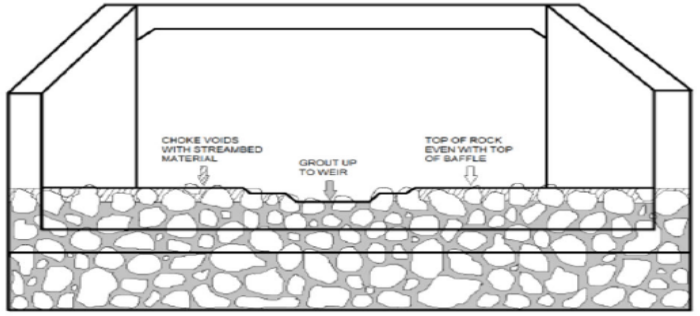
- BDBC3. Resiliency consideration: This has now been included in DM-2 Chapter 10. This is comparing the as designed structure and flow with the resiliency design flows.

Fish and Boat Alternate Baffle Design



TYPICAL PROFILE

Baffles are evenly spaced through the entire structure.
Top of baffles aligns with the existing streambed elevation.
Aprons are backfilled with streambed material.



TYPICAL CROSS-SECTION OF INLET/OUTLET

Grout extends up to and is even with the bottom of the weir.
Rock scour protection aligns with the top of the baffle.
Voids are choked with streambed material.

BAFFLE/WEIR DESIGN

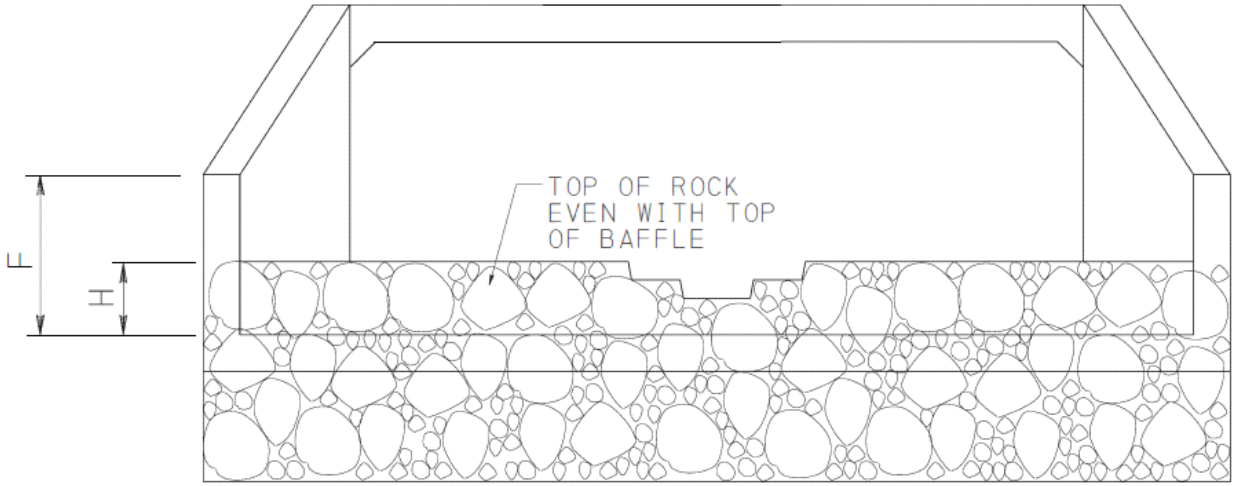
All baffles are full-width and have a two-tiered weir.
Weirs are centered in the baffle unless modification is warranted.

CULVERT SLOPE (%)	BAFFLE SPACING (ft)	CULVERT DEPRESSION (ft)	BAFFLE HEIGHT (ft)
≤2.0	10	1.0	1.0
>2.0 to ≤4.0	8	1.5	1.5
>4.0	6	2.0	2.0

ALTERNATE BAFFLE DESIGN
Rev. 9/2021

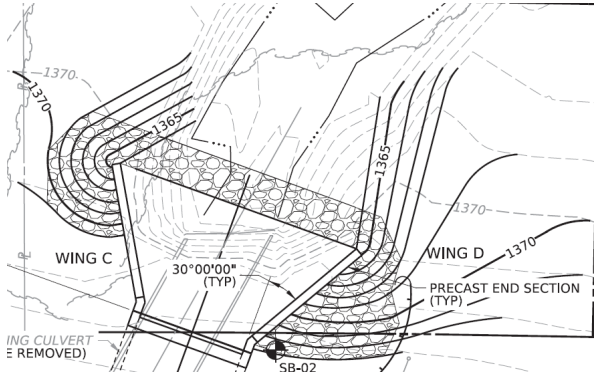
Engineering District 4 – Bridge Design

Culvert Free End Wing Height



TYPICAL CROSS-SECTION OF INLET/OUTLET
ROCK SCOUR PROTECTION ALIGNS WITH THE TOP OF THE BAFFLE

Baffle Height	Free End Height	Height Above baffle
H	F	
1'-0"	3'-10"	2'-10"
1'-6"	4'-4"	2'-10"
2'-0"	4'-10"	2'-10"



Engineering District 4 – Bridge Design

Innovation (STIC) State Transportation Innovation Council

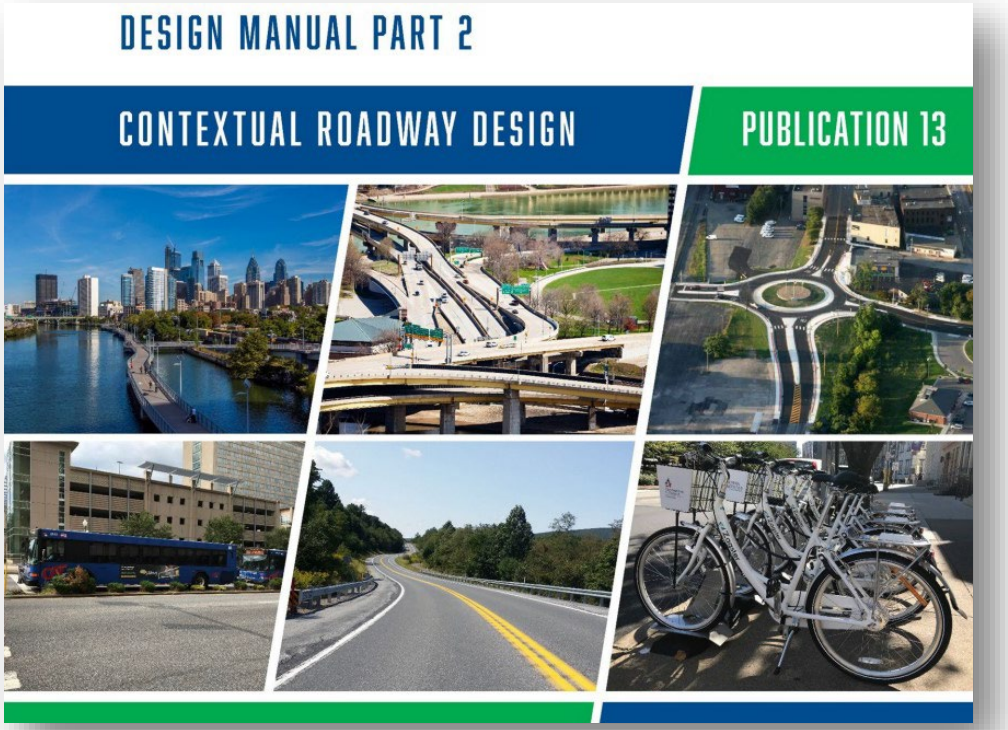
Question: Is there any innovations District 4-0 is pursuing or currently using?

- PPC / HCSC Overlay
- Rapid Set Latex Overlay
- InQuik Bridge Systems
- Welded Galvanized rebar mat for deck placement acceleration
- Digital Delivery

Engineering District 4 – Roadway Design

Roadway Design – Paul Petruzzi, P.E.

- **DM-2 Updates for Change 8 and 9**
  - **Chapters 7, 10, 12, 13, and 20 updated, placed in Publication 13, and removed from Publication 13M.**



Engineering District 4 – Roadway Design

Chapter 7 – Grade Separation and Interchanges

- **Published April 2025**
- **Updates include desirable access control distance, roundabout interchanges, and partial cloverleaf interchanges**

Engineering District 4 – Roadway Design

Chapter 10 – Drainage – Published April 2025

- **Alternate Pipe Designs**
  - **Alternate pipe designs no longer required but can be used.**
  - **District 4 will not require alternate pipe designs. Choose material based on design and project need, other than for BPN4 routes or Maintenance projects. Specify thermoplastic pipes on the projects, as the design allows.**

Exhibit 10.3.6 Alternate Pipe Selection Criteria Based Upon Location of Drainage Pipes

Location of Drainage Pipes		Types of Pipe	
Cross Drains Under Pavement, Shoulder, or Between Curbs and Parallel Storm Sewers Under Pavement or Between Curbs	Fill Height*	Interstate, Freeways, Expressways, and Arterials	Collectors and Locals
	< 2 ft	100 Years Life (Pipes 1, 2, 5 & 7)	50 Years Life (Pipes 1 & 3 thru 7)**
	2 ft - 15 ft Pipe 10 limited to 2 ft - 12 ft	100 Years Life (Pipes 1, 2, 5, 7 & 10)	50 Years Life (Pipes 1 & 3 thru 8)**
	> 15 ft	100 Years Life (Pipes 1, 2, 5 & 7)	100 Years Life (Pipes 1, 2, 5 & 7)
Parallel Storm Sewers Outside of Pavement or Curbs	50 Years Life (All pipes in LEGEND)		
Cross Drains Outside of Pavement, Shoulder or Curbs (Cross Drains in Medians, etc.)	50 Years Life (All pipes in LEGEND except 9)		
Combination Storm Sewer and Underdrain and Other Special Drainage System	100 Years Life•	Pipe 2, open joint, & perforated pipes 5 & 7	
	50 Years Life••	Fill Height* < 2 ft	Pipe 3, open joint, & perforated pipes 4, 5 & 7
		Fill Height* ≥ 2 ft	Pipe 3, open joint, & perforated pipes 4, 5, 7 & 8
Slope Pipes	50 Years Life (Pipes 4 thru 9)		
Side Drains (Driveways, etc.)	25 Years Life (All pipes in LEGEND)		

* Fill height is defined as the material from the top of pipe barrel to the riding surface, including the pavement structure.

** 100 Years Life may be used under collectors and locals if desired or necessary based on site conditions.

Engineering District 4 – Roadway Design

Chapter 10 – Drainage – Published April 2025

- **Implementation of Changes – Attachment A**

Attachment A: Implementation of Changes in DM-2 Chapter 10 (April 2021 Edition, Change No. 8 released April 2025) **Based on Project Schedule**

Project Development Stage	Permit Submitted By 12/31/2025?	Let Date By 1/1/2027?	Using PROTECT Funds?	Required Action
Final Design	no	no	no	Implement all significant Chapter 10 changes **EXCEPT RDA**.
Preliminary Engineering or Final Design	yes	yes	no	Project Development Stage does not require adherence to Chapter 10 updates.
	yes	no	no	
	no	yes	no	
Preliminary Engineering or Final Design	yes	yes	yes	Project Development Stage does not require adherence to Chapter 10 updates; RDA may be required for PROTECT funding.
	yes	no	yes	
	no	yes	yes	
Preliminary Engineering or Final Design	no	no	yes	Implement **ALL** changes to Chapter 10.
Preliminary Engineering	no	no	no	Implement **ALL** changes to Chapter 10.
Preliminary Engineering begins 10/1/2025 or after	Implement **ALL** changes to Chapter 10.			

Engineering District 4 – Roadway Design

Chapter 10 – Drainage – Published April 2025

- **Section 10.6.7 - Resilient Design Assessment**

Exhibit 10.6.4 Vulnerability Scores by Condition

Concern	Condition	Number to Add to Score	
		Yes	No
Access (Essential)	The site provides access to essential services, such as hospitals, other emergency services, major utilities, etc., or is an evacuation route for residential or public facilities, such as nursing homes or prisons.	4	0
Detour	The official detour length for alternate access, if the project site is closed due to an emergency, exceeds 10 miles.	3	0
Access (Sole)	The route is an only point of access for homes, schools, businesses, etc., with no available detour.	4	0
Access (Mobility)	Serves members of the community that rely on non-motorized transportation options.	3	0
Flooding	The site is located in a FEMA Zone AE floodplain (detailed study area).	1	0
Overtopping	The site has a proposed overtopping frequency of 0.01 AEP (100-year) or more.	2	0
Buildings	There are buildings in the 0.01 AEP (100-year) floodplain.	1	0
Scour	There are existing scour or stream stability concerns, such as migration or deposition, or the site has potential for future concerns.	3	0
Pressure Flow	The proposed bridge is under pressure flow for the 0.01 AEP (100-year) event or more frequent.	2	0

Exhibit 10.6.5 Resilient Design Discharge Multiplier

Vulnerability Score (Based on Exhibit 10.6.4) or Pre-Determined RDL*	Discharge Multiplier
0-3 (Level 1)	1.1 (10% increase)
4-7 (Level 2)	1.2 (20% increase)
8+ (Level 3)*	1.3 (30% increase)

*RDL Level 3 may be assigned by PennDOT during project scoping.

Engineering District 4 – Roadway Design

Chapter 10 – Drainage – Published April 2025

- **Section 10.6.7 - Resilient Design Assessment**

Exhibit 10.6.6 Resilient Design Checklist for Bridges and Culverts

	Parameter		Proposed Condition (Existing Flows)	Proposed Condition (Flows with Discharge Multiplier)	Indicates Potential for Resilient Design
Site Data	Hydrology Method	-			N/A
	Embankment Instability	Y/N			
	Overtopping Frequency	years			
	Design Event Frequency	years			N/A
	Provides Access to Critical Services	Y/N			
Design Event	Discharge	cfs			N/A
	% Q Bridge	%			
	Pressure Flow	Y/N			
	Bridge Velocity	ft/s			
	Overtopping Velocity	ft/s			
	Overtopping Depth (Roadway)	ft			
	Overtopping Depth (Structure)	ft			
	Adjacent Roadway(s) Impacted	Y/N			
0.01 AEP Event	Discharge	cfs			N/A
	% Q Bridge	%			
	Pressure Flow	Y/N			
	Bridge Velocity	ft/s			
	Scour Depth	ft			
	Riprap Size	R Class			
	Overtopping Velocity	ft/s			
	Overtopping Depth (Roadway)	ft			
	Overtopping Depth (Structure)	ft			
	Adjacent Roadway(s) Affected	Y/N			
Eligible for PROTECT Funding?			☐ Yes		☐ No

Exhibit 10.6.7: Resilient Design Checklist for Roadways

	Parameter		Proposed Condition (Existing Flows)	Proposed Condition (Flows with Discharge Multiplier)	Indicates Potential for Resilient Design
Site Data	Hydrology Method	-			N/A
	Embankment Instability	Y/N			
	Overtopping Frequency	years			
	Design Event Frequency	years			N/A
	Provides Access to Critical Services	Y/N			
Bank full Flow	Discharge	cfs			N/A
	Channel Velocity	ft/s			
	Scour Depth	ft			
	Event Frequency	years			
Design Event	Discharge	cfs			N/A
	Channel Velocity	ft/s			
	Overtopping Velocity	ft/s			
	Overtopping Depth (Roadway)	ft			
0.01 AEP Event	Discharge	cfs			N/A
	Channel Velocity	ft/s			
	Overtopping Velocity	ft/s			
	Overtopping Depth (Roadway)	ft			
Eligible for PROTECT Funding?			☐ Yes		☐ No

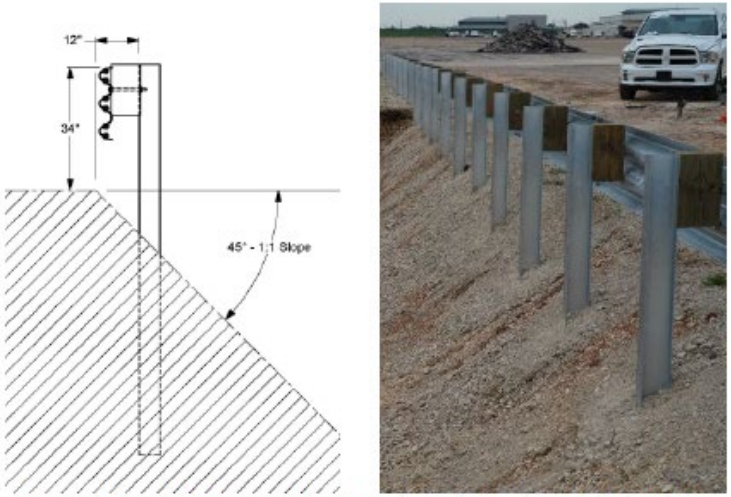
ASHE 2026

Engineering District 4 – Roadway Design

Chapter 12 – Roadside Design Guide – Published April 2025

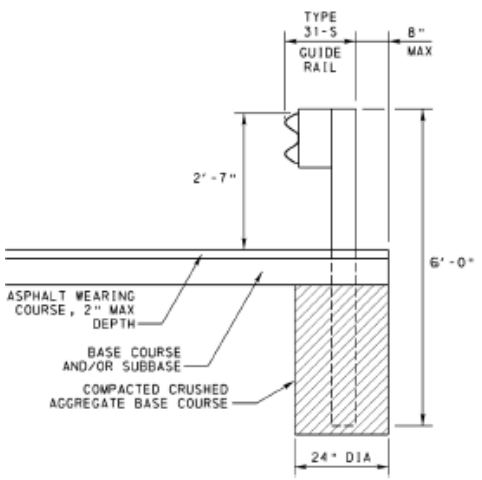
- **More specific direction on which scenarios are standard vs. non-standard guide rail installation.**
- **MASH compliant guiderail when installed on 1:1 slopes and in asphalt**

Exhibit 12.3.6 – Strong Post Guide Rail (Thrie-Beam) Beyond Slope Break (Hinge) Point on 1:1 Fill Slope



Source: Texas A&M Transportation Institute, Test Report No. 617771-01&02

Exhibit 12.3.7 – Type 31 Strong Post Guide Rail Placed in Asphalt



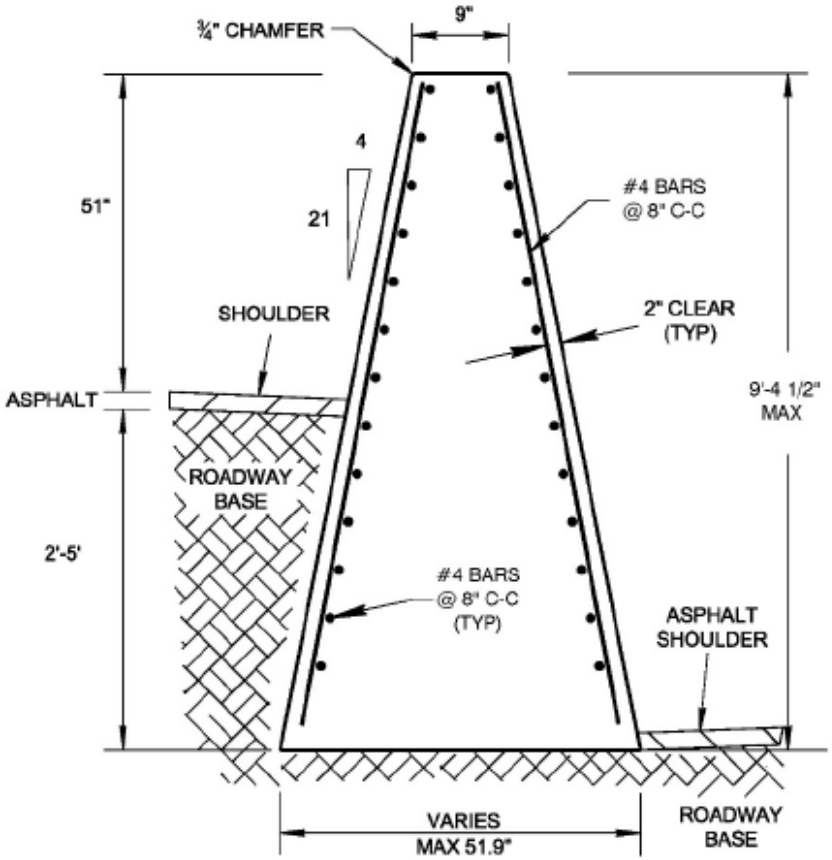
Source: Texas A&M Transportation Institute, Test Report No. 619441-01 09&10

Engineering District 4 – Roadway Design

Chapter 12 – Roadside Design Guide – Published April 2025

- **Bifurcated single slope concrete median barrier (MASH)**

Exhibit 12.5.2 Bifurcated Single Slope Concrete Median Barrier



urce: Tennessee Department of Transportation, Standard Roadway Drawing S-SSME

Engineering District 4 – Roadway Design

Chapter 13 – Pedestrian Facilities– Published Dec. 2025

- **Broader scope of guidance. Expands beyond curb ramps and ADA compliance to include sidewalks, shared use paths, crossings, etc.**
- **Stronger Emphasis on Planning and Context**
- **Updated ADA & Universal Design Approach**
- **Streamlined Appendices and Support Materials**
- **Expanded Crossing and Facility Guidance**
- **Incorporates Publication Updates.**

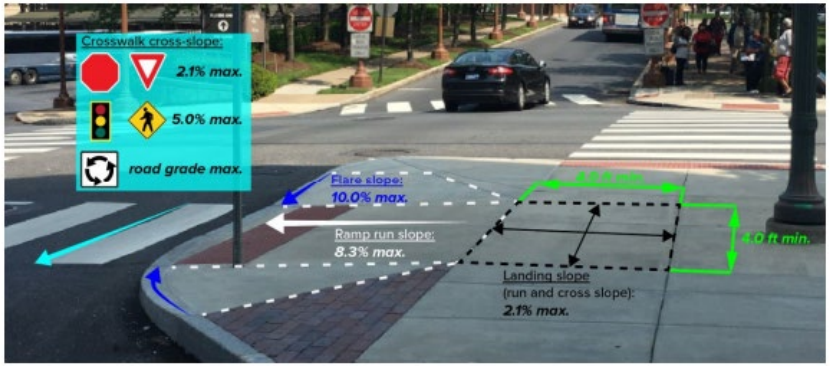


Exhibit 13.1.7 Maximum Vertical Elevation Change

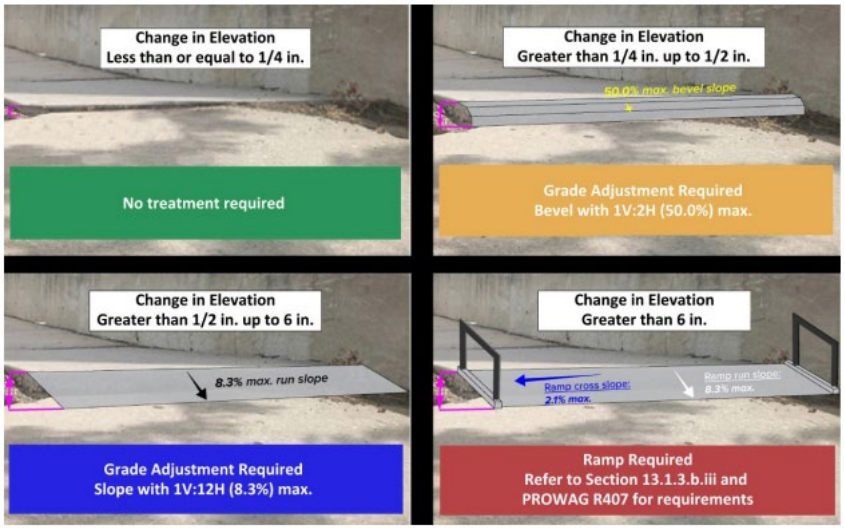
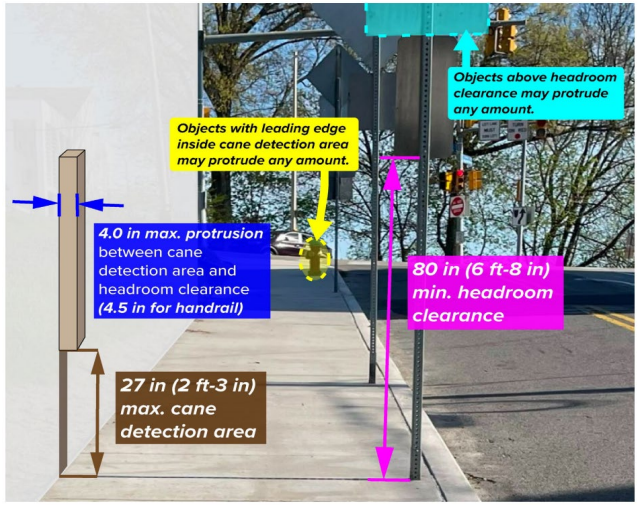


Exhibit 13.1.13 Protruding Objects



Engineering District 4 – Roadway Design

Chapter 20 – Lighting– Published April 2025

- **Reorganized. Mostly same information as previous Pub. 13M, Chapter 5, Lighting with minimal updates.**

Example of a Tunnel in Bi-Directional Traffic Mode

Engineering District 4 – Roadway Design

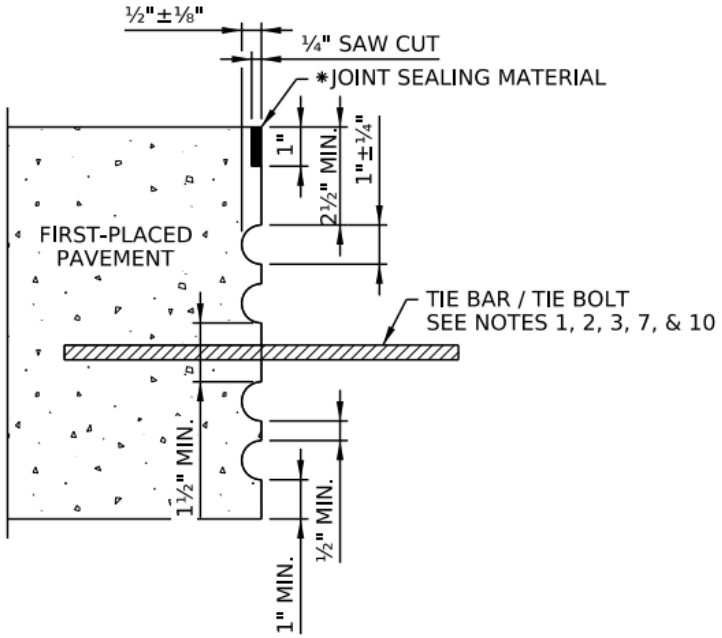
DM-1, 1C, and 1X Updates

- **DM-1 –**
  - **December 2025 - Change 4**
- **DM-1C –**
  - **September 2024 - Change 6**
  - **November 2025 - Change 7**
- **DM-1X –**
  - **February 2025 Change 6**
  - **November 2025 Change 7**

Engineering District 4 – Roadway Design

RC Standards Update

- **Initial Edition – February 10, 2026**
- **Converted to ORD**
- **Updated Terminology**
- **Removed Metric**
- **Incorporated updates from CT H-25-007 (RC-23M Bridge Approach Slabs & RC-24M Pavement Relief Joint)**
- **Incorporated updates from CT H-25-015 (RC-20M Concrete Pavement Joints)**



Engineering District 4 – Roadway Design

District 4 Best Practices

- **28' preferred width, 26' minimum for all structure replacements to accommodate plow trucks.**

Engineering District 4 – Roadway Design

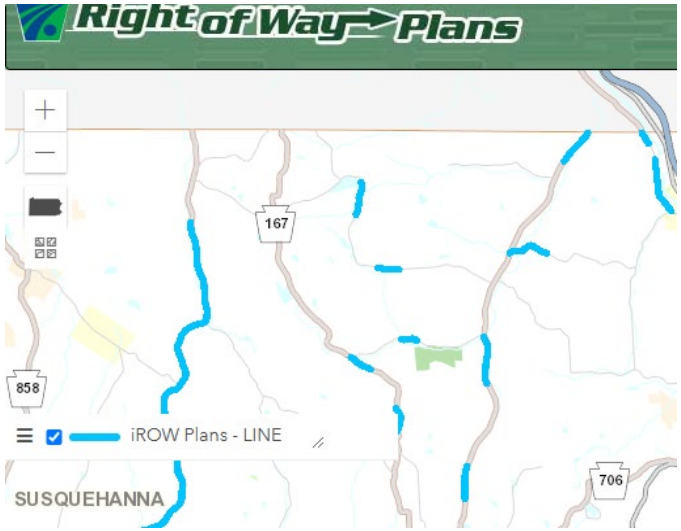
Other Updates and Reminders

- **Roll Plan Update**
- **Limit 9000 Item Usage**
- **LGT / DFV**
- **Digital Delivery Update**
- **PennDOT Autodesk Pilot**

Engineering District 4 - Design Services

Design Services – Tom Opalka, P.E.

- **Environmental Unit**
  - Bat restrictions and IPaC



- **Right of Way Unit**
  - iROW update
  - https://gis.penndot.pa.gov/irow/

- **Survey**
  - U.S. made drone requirement
    - Rule created 2019/2020
    - Full implementation 12/22/2025

PennDOT – Engineering District 4 - Construction

Harold Hill, P.E., ADE – Construction

- **2025 Construction Review**
  - 52 Projects Bid for $168 Million
  - 92 Projects in Construction
  - 49 Bridges Completed
  - 102 Miles of Roadway Resurfaced

- Construction Dollar Value in 2025 -$892 Million
  Contractor Payments in 2025 - $250 Million

PennDOT – Engineering District 4 - Construction

- **PennDOT District 4-0 Contractors and Consultants**
  - 21 Prime Contractors
    - Subcontractors
    - Material Suppliers and Vendors

    = **Thousands of jobs created**
  - 20 Consultant Engineering Firms
    - 21 Active + 5 Planned Project Specific Agreements for Inspection and Construction Services
    - 8 Active + 3 Planned Open Ends Agreements for Inspection and Construction Services

    = Hundreds of jobs created

PennDOT – Engineering District 4 - Construction

SR 0209 Ov Sawkill Creek | Pike County

- Project Designer: CDR Maguire
- Prime Contractor: Kriger Construction
- Consultant Inspection: Dept. Force Inspection, JMT
- Project Let Date: 02/15/2024
- Contract Bid: $7,230,816.20
- Project Completion Date: 06/29/2026

PennDOT – Engineering District 4 - Construction

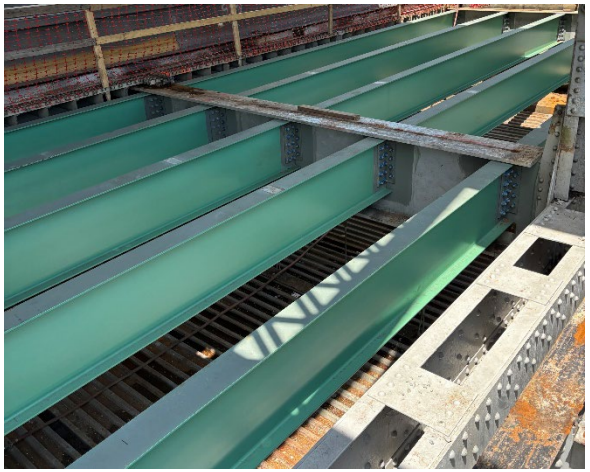
SR 0209 Ov Sawkill Creek | Pike County

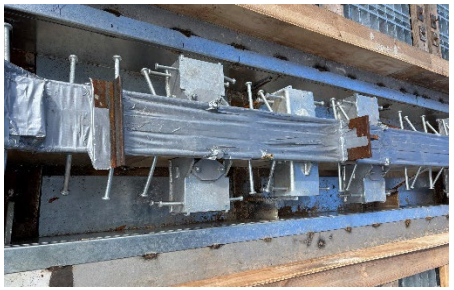
PennDOT – Engineering District 4 - Construction

SR 6 over Delaware River | Pike County

- Project Designer: CDR Maguire, Inc.
- Prime Contractor: J.D. Eckman
- Consultant Inspection: KJ Consulting & Env. Services
- Project Let Date: 07/11/2024
- Contract Bid: $22,577,425.31
- Project Completion Date: 04/15/2027

SR 6 ov Delaware River | Pike County





PennDOT – Engineering District 4 - Construction

SR 1002 ov Delaware River | Wayne County

- Project Designer: AECOM
- Prime Contractor: JD Eckman, Inc.
- Consultant Inspection: Dept. Force
- Project Let Date: 02/28/2025
- Contract Bid: $8,173,409.00
- Project Completion Date: 12/31/2025

PennDOT – Engineering District 4 - Construction

SR 1002 ov Delaware River | Wayne County

SR 435 ov Roaring Brook Ck & Lackawanna Co Rail Authority | Lackawanna County

Current Project Site

- Project Designer: Benjamin Martz, CDR Maguire, Inc.
- Prime Contractor: Susquehanna Valley Construction Corporation
- Consultant Inspection: Construction Methods and Coordination, Inc.
- Johnson, Mirmiran, and Thompson, Inc.
- Project Let Date: January 9, 2025
- Contract Bid: $22,491,000.00
- Project Completion Date: October 7, 2027

SR 435 ov Roaring Brook Ck & Lackawanna Co Rail Authority | Lackawanna County

Existing Structure #1
Reinforced Concrete Arch Culvert
over Roaring Brook Creek

Existing Structure #2
Reinforced Concrete T-Beam and Steel
Riveted Thru Girder over D & L Railroad

Two (2) New Structures are being constructed on State Route 435 for this project.

- **New Structure #1** - Single Span Composite Prestressed Concrete Bulb Tee Beam Bridge
- **New Structure #2** - Two Span Composite Steel Plate Girder Bridge

SR 435 ov Roaring Brook Ck & Lackawanna Co Rail Authority | Lackawanna County

Temporary Roadway
(South)

At Grade Intersection at
Front Street and Delaware and
Lackawanna Railroad (D&L)

Temporary Roadway
(North)

Temporary Bridge over
Roaring Brook Creek

Temporary Roadway
(Front Street and D&L Railroad)

Precast Concrete Box Culverts over
Tributary to Roaring Brook Creek

PennDOT – Engineering District 4 - Construction

SR 84-282 Twin Bridges Project | Lackawanna County

- Project Designer: CDR Maguire
- Prime Contractor: JD Eckman
- Consultant Inspection: Urban Engineers
- Project Let Date: February 27, 2020
- Contract Bid: $113 Million
- Project Completion Date: October 2026

PennDOT – Engineering District 4 - Construction

SR 84-282 Twin Bridges Project | Lackawanna County

PennDOT – Engineering District 4 - Construction

SR 115 over I-81 | Luzerne County

- Project Designer: Modjeski & Masters, Inc.
- Prime Contractor: Kriger Construction, Inc.
- Consultant Inspection: TRC Engineers, Inc.
- Project Let Date: June 6, 2024
- Contract Bid: $60,740,428.50
- Project Completion Date: 1/1/2028

PennDOT – Engineering District 4 - Construction

SR 115 over I-81 | Luzerne County

PennDOT – Engineering District 4 - Construction

- **2025 Construction Season Inspection Support**
  - Active Open End Agreement Summary
    - 25 Work Orders
    - 39 TCI Staff
  - Active Project Specific Agreement Summary
    - 41 Active Parts
    - 88 Staff (TA, TCI, TCIS, TCM Roles)
- **Consultant Reminders**
  - Timely Invoicing to Verify Remaining Funding
  - Annual Overhead Rate Submissions
    - Anticipated NTP will not be supported by District.

PennDOT – Engineering District 4 - Construction

- **Project Specific Agreements in Process:**
  - E06418 I-81 Section 230 ECMS 92435
  - E06447 I-80 Section 311 ECMS 107495
- **2026 Anticipated Inspection Agreements**
  - 4 Open End Agreements
  - 4 Project Specific Agreements (CM/CI Services)
- **Statement of Interest Review**
  - Inspector Certifications
  - New Inspector Training and Consultant Support
  - ECMS Documentation Experience thru Closeout
  - Flexibility for Potential Nighttime Operations

PennDOT – Engineering District 4 - Construction

- **Additional Consultant Support**
  - **3Rd Party Constructability Reviews**
    - District Constructability Review Checklist
    - ASTA Schedule Review
  - **Structure Control Reviews**

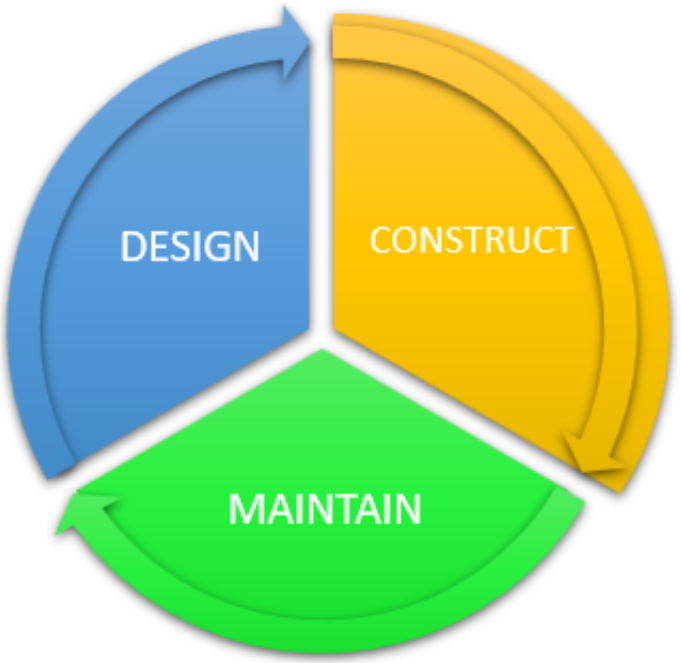
Constructability Process

Christopher E. Rood, P.E.

Senior Assistant Construction Engineer

Importance of Constructability

- "Begin with the end in mind." Ensure what is designed can be constructed and maintained.
- Ensures quality and reduces cost and time.
- Identify obstacles and refine the projects design to increase efficiency.
- Identify one buildable way to safely construct a quality project



Constructability Review Process

- Early Involvement from Construction during Design Phases
- Construction Division field views projects with Design PM to determine potential conflicts in the field.
- Construction Division attends environmental scoping to assist with defining scopes of work or limits of projects.

Constructability Review Process

- Surface Treatment Projects/Line Painting Contracts
  - 90% Review
    - Examples include all SIP projects, pipe replacements, line painting, ITS.
- Minor Complexity Projects
  - 75%-90%
    - Examples include box-culvert projects, small bridge replacements, intersection improvements, safety improvement projects.
- Major Complexity Projects
  - 30%, 60%, 90%
    - Examples include I4R projects, major interchange projects, major river crossings.

30-60-90 Reviews

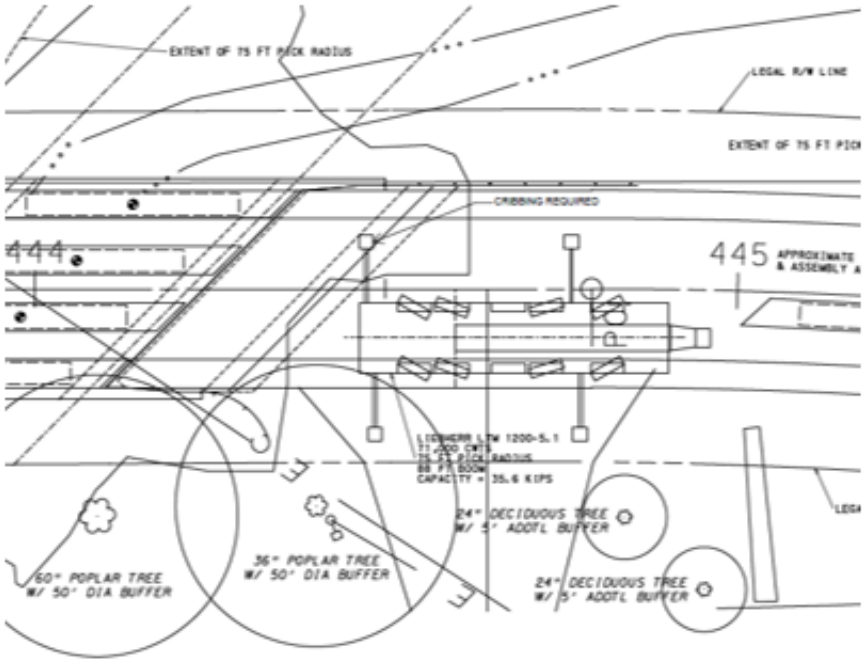
30% completed after LG&T

60% completed after DFV

90% completed during FD prior to PS&E

Construction attends LG&T / DFV

Pre-Bid Meetings on large projects



Key Elements Reviewed

- Safety
  - Ensure overall project layout considers safety.
- Phasing/MPT
  - Ensure all project phasing interacts correctly. E&S/MPT phasing coincide with each other.
- Earthwork Operations
  - Looking at cuts/fills throughout projects.
  - Ensuring cut areas are completed prior to fill areas where applicable.
- Critical Operations
  - Demo, Crane Picks, Utility Relocations, Deck Placements

3rd Party Reviews

- District 4-0 utilizes consultant 3rd party constructability reviews for complex or large-scale projects.
- Allows an independent consultant to review the entire package on large scale complex projects.
- Typically brought in for 60% and 90% mark to ensure all changes or comments are followed through during the design process.

Lessons Learned

- Projects without a constructability review typically go over time and over budget.
- Opens the Department and the Contractor to risks and delays.
- One Example in District 4
  - Original completion days: 585 days
  - Current completion days: 1249 days (additional anticipated)
  - Redesigns, legal agreements, additional contractor payments, and NPDES revisions all required on this project.
  - Final product is already causing maintenance issues.

Engineering District 4 - Maintenance

Lonell C. Tomaine, P.E., ADE – Maintenance

Focus Areas of District 4 Maintenance

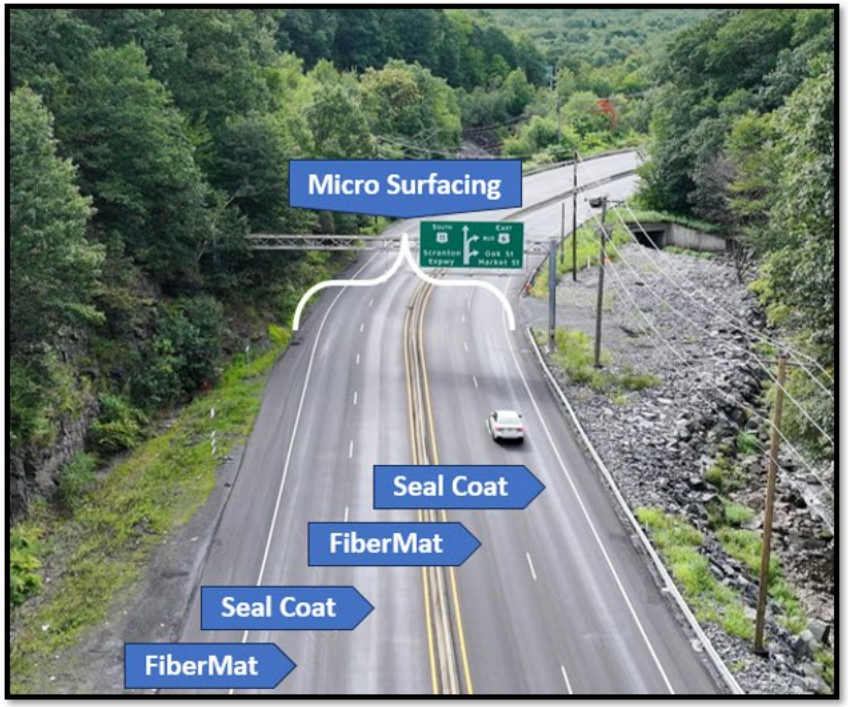
- Back to Basics Maintenance
- Winter Traffic Services
- Overall Bridge Conditions
- Safety




Engineering District 4 - Maintenance

Asset Management

- Secondary roadways
- Consistent goals and objectives
- Planning and scheduling
- Properly allocating resources
- Pavement Preservation
  - State Route 11 Cape Seal



Engineering District 4 - Maintenance

Operation Yellow Jacket

- Collaborative effort between PSP and PennDOT to enhance safety within our work zones.
- Deter unsafe driving practices.

Results

Year	Traffic Stops	Citations	Warnings
2023	259	245	90
2024	619	758	124
2025	216	270	16
TOTAL	**1,094**	**1,273**	**230**

Engineering District 4 - Maintenance

2025-2026 Winter Material Usage

- **97,000** tons of salt
- **66,000** tons of anti-skid
- **1.9** million gallons of brine

2025 Standard of Care

- **25,000** hours of litter/debris pickup
- **38,000** hours of brushing and tree removal
- **105,000** tons of patching

Engineering District 4 - Maintenance

2025 Accomplishments

Cyclical Maintenance

- **487** miles of seal coat - Over **2.4** million gallons of oil
- **1,040** lane miles of crack sealing
- **1,230** lane miles of shoulder cutting

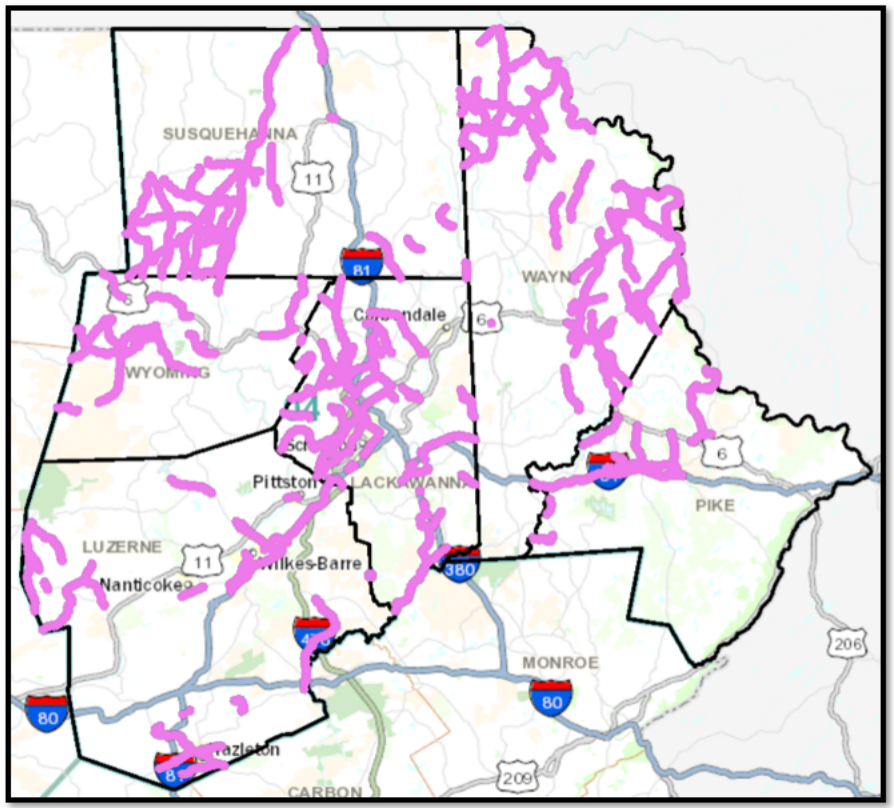
- **Beyond the Pavement**
  - **18,700** feet of pipe and culvert cleaning
  - **291,300** feet of drain cleaning/swales
  - **1,920** Highway Occupancy Permits issued
  - Over **2,700** customer care concerns addressed.

- **Bridges and Pipes**
  - **51** Priority 1 bridge items addressed
  - **736** total priority bridge items addressed
  - **10,600** feet of pipe replacements
  - **$2.9M** spent on Department Force bridge work

Engineering District 4 – Maintenance

2026 Crack Sealing

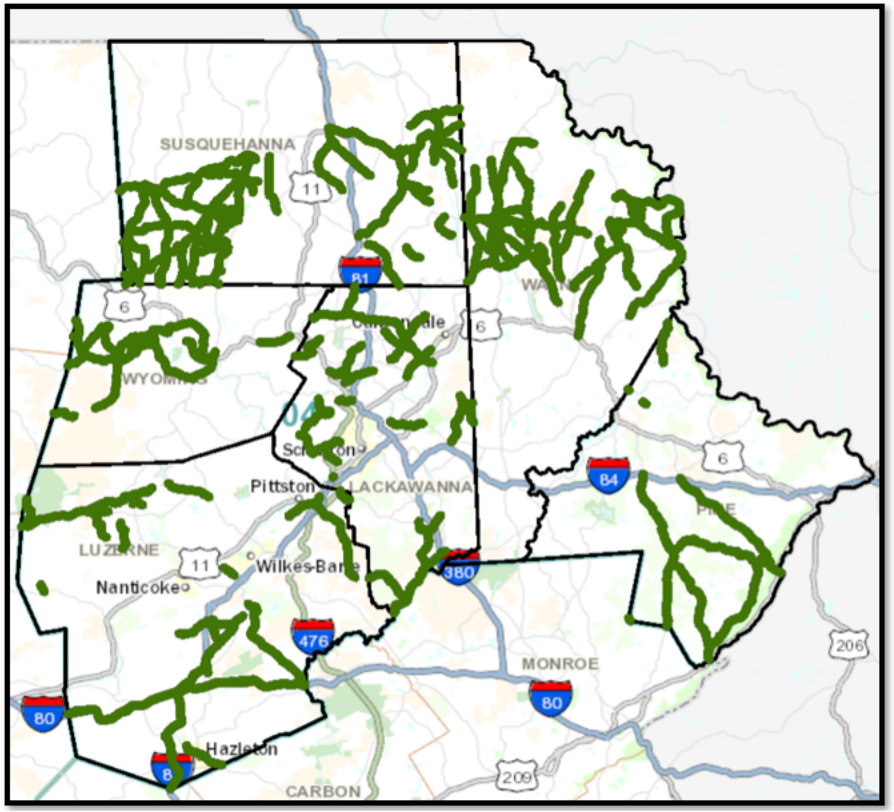
County	Planned
Lackawanna	311
Luzerne	259
Pike	122
Susquehanna	255
Wayne	262
Wyoming	141
TOTAL (Lane Miles)	**1,350**



Engineering District 4 – Maintenance

2026 Shoulder Cutting

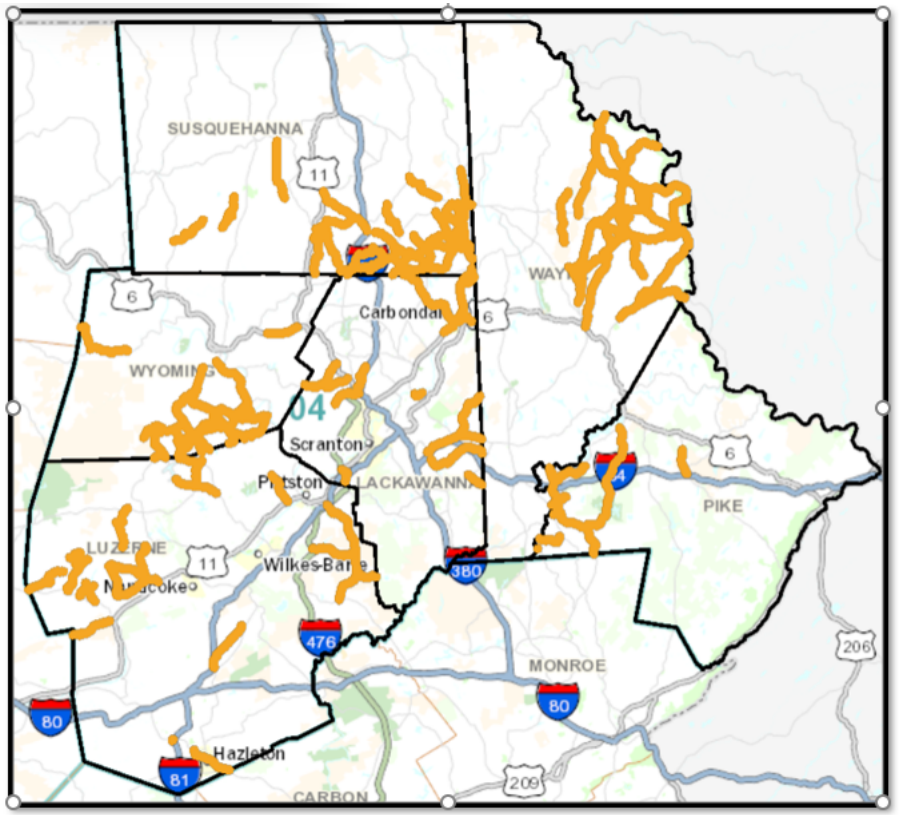
County	Planned
Lackawanna	186
Luzerne	254
Pike	146
Susquehanna	394
Wayne	191
Wyoming	137
TOTAL (Lane Miles)	**1,308**



Engineering District 4 – Maintenance

2026 Seal Coat

County	Planned
Lackawanna	53
Luzerne	74
Pike	36
Susquehanna	101
Wayne	107
Wyoming	68
TOTAL (Miles)	**439**

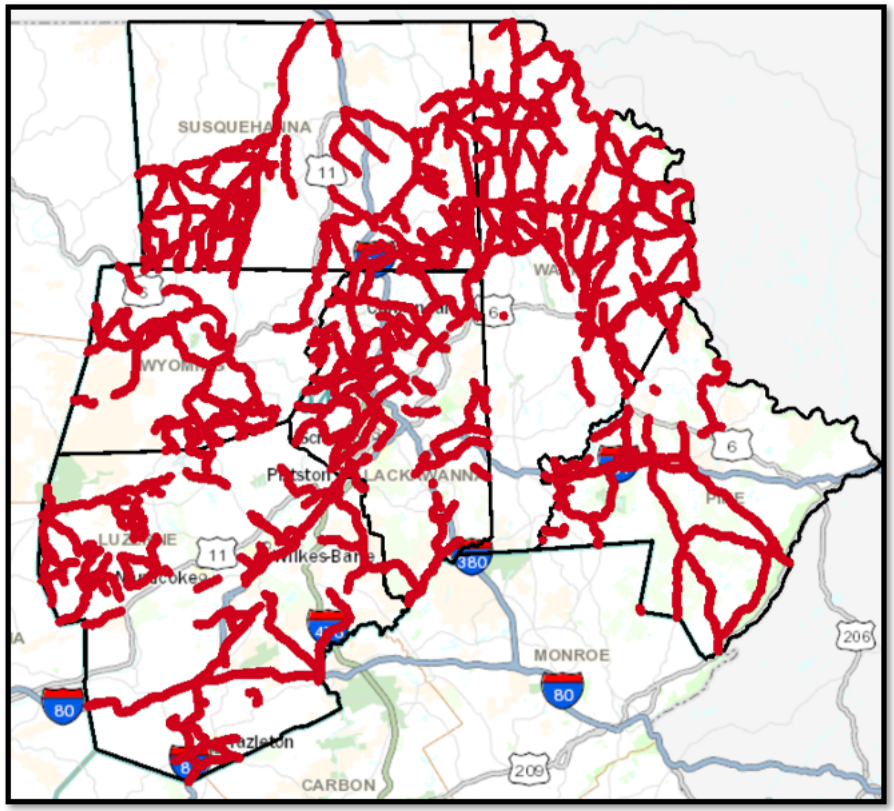


Engineering District 4 – Maintenance

2026 Planned Work

County	Planned
Lackawanna	234
Luzerne	346
Pike	179
Susquehanna	317
Wayne	341
Wyoming	154
TOTAL (Miles)	**1,571**

40% of the Network



Thank You