

ASHE / D-9 JOINT WORKSHOP

District 9 Plans Unit Update

Presented to:



James T. Pruss, Jr., P.E.
Portfolio Manager/Plans Engineer

April 16th, 2019



DETOUR APPROVAL COORDINATION

- EMS Coordination
 - In addition to local EMS providers, the appropriate County Emergency Services Center must be invited to all public meetings
 - If a representative from the 911 center does not attend the public meeting, the consultant must contact the director and document the conversation on the Detour Approval Form

DETOUR APPROVAL COORDINATION

COUNTY	DIRECTOR NAME, TITLE	PHONE NUMBER	ADDRESS
Bedford	Dave E. Cubbison, Director	814.623.9117	Bedford County Department of Emergency Services Bedford County Courthouse 200 South Juliana Street Bedford, PA 15522
Blair	Mark Taylor, Director	814.940.5900	Blair County Department of Emergency Services 911 & Emergency Management 615 Fourth Street Altoona, PA 16602
Cambria	Robbin Melnyk, Deputy Director / 9-1-1 Coordinator Allen Kline, Interim County Coordinator	814.472.2500 814.472.2050	Cambria County Department of Emergency Services 401 Candlelight Drive, Suite 100 Ebensburg, PA 15931
Fulton	Brian J. Barton, Director	717.485.3201	Fulton County Emergency Management Agency 219 North Second Street, Suite 106 McConnellsburg, PA 17233
Huntingdon	Joe Thompson, Director	814.643.6613	Huntingdon County Emergency Management Agency Court House 223 Penn Street Huntingdon, PA 16652
Somerset	David L. Fox, 9-1-1 Coordinator	814.445.1525	Somerset County Emergency Management Agency 100 East Union Street Somerset, PA 15501

PRE-BID DESIGN FILES

- Increased use of Automated Machine Guidance
- 3D design files will be attached to the PDC for projects with:
 - Alignment files
 - Survey
 - New or re-aligned roadway
 - Over 5,000cy of concentrated earthwork
- ECMS doesn't accept .xml files so they need to be in a zip file format with the PS&E

PRE-BID DESIGN FILES

OS-600 (12-15)



MEMO

DATE: Insert Date

SUBJECT: Pre-Bid 3D Design Files
SR XXXX, Section XXX
ECMS # XXXXXX

TO: File

FROM: PM

The purpose of this memo is to identify the need to include 3D files in the form of Land XML in the Pre-Bid Design Files. Any variance from this policy will require written approval from the District Plans Engineer.

1. Does the subject project include any alignment files?
 - Yes: Alignment files will be provided in the Pre-Bid Design Files in Land XML format.
 - No
2. Does the subject project include a survey of the existing ground?
 - Yes: 3D files of the existing surface will be provided in the Pre-Bid Design Files in Land XML format.
 - No
3. Does the subject project include a new or realigned section of roadway?
 - Yes: 3D files of the final surface for the new/realigned portion of the project will be provided in the Pre-Bid Design Files in Land XML format.
 - No
4. Does the subject project include over 5,000 CY of concentrated earthwork?
 - Yes: 3D files of the final surface for the limits of the concentrated earthwork will be provided in the Pre-Bid Design Files in Land XML format.
 - No

If all answers are No, then Land XML files are not required in the Pre-Bid Design Files.

1. Does the subject project include any alignment files?
 - Yes: Alignment files will be provided in the Pre-Bid Design Files in Land XML format.
 - No
2. Does the subject project include a survey of the existing ground?
 - Yes: 3D files of the existing surface will be provided in the Pre-Bid Design Files in Land XML format.
 - No
3. Does the subject project include a new or realigned section of roadway?
 - Yes: 3D files of the final surface for the new/realigned portion of the project will be provided in the Pre-Bid Design Files in Land XML format.
 - No
4. Does the subject project include over 5,000 CY of concentrated earthwork?
 - Yes: 3D files of the final surface for the limits of the concentrated earthwork will be provided in the Pre-Bid Design Files in Land XML format.
 - No

If all answers are No, then Land XML files are not required in the Pre-Bid Design Files.

> Sight Distance and Intersections

- 2011 AASHTO Greenbook, pg 9-29
 - *"If the available sight distance for an entering or crossing vehicle is **at least equal to the appropriate stopping sight distance** for the major road, then **drivers have sufficient sight distance** to anticipate and avoid collisions.*
 - *To enhance traffic operations, intersection sight distances that exceed stopping sight distances are **desirable** along the major road."*

Pub 13M – DM-2: Matrix of Design Values

2015

**TABLE 1.4 (ENGLISH)
MATRIX OF DESIGN VALUES – COMMUNITY ARTERIAL**

Community Arterial	Rural	Suburban Neighborhood	Suburban Corridor	Suburban Center	Town/Village Neighborhood	Town/Village Center	Town/Village Center
Roadway							
Lane Width ¹	11' to 12'	10' to 12'	11' to 12'	10' to 12'	10' to 12'	10' to 12'	10' to 12'
Shoulder Width ^{2,3}	8' to 10'	4' to 8' (if No Parking or Bike Lane)	8' to 10'	4' to 6' (if No Parking or Bike Lane)	4' to 6' (if No Parking or Bike Lane)	4' to 6' (if No Parking or Bike Lane)	4' to 6' (if No Parking or Bike Lane)
Parking Lane	NA	7' to 8' Parallel	NA	8' Parallel	7' to 8' Parallel	7' to 8' Parallel	7' to 8' Parallel
Bike Lane ⁴	NA	5' to 6' (if No Shoulder)	5' to 6' (if No Shoulder)	5' to 6'	5' to 6'	5' to 6'	5' to 6'
Median (if needed)	4' to 6'	16' to 18' for Left Turn 12' to 18' for Left Turn; 6' to 8' for Pedestrians	16' to 18' for Left Turn 12' to 18' for Left Turn; 6' to 8' for Pedestrians	16' to 18' for Left Turn 12' to 18' for Left Turn; 6' to 8' for Pedestrians	16' to 18' for Left Turn 12' to 18' for Left Turn; 6' to 8' for Pedestrians	16' to 18' for Left Turn 12' to 18' for Left Turn; 6' to 8' for Pedestrians	16' to 18' for Left Turn 12' to 18' for Left Turn; 6' to 8' for Pedestrians
Curb Return ⁵	25' to 50'	25' to 35'	25' to 50'	20'	25' to 35'	25' to 35'	15' to 40'
Travel Lanes	2 to 4	2 to 4	2 to 4		2 to 4	2 to 4	2 to 4
Cross Slopes (Minimum) ^{6,7}	2.0%	2.0%	2.0%		2.0%	2.0%	2.0%
Cross Slopes (Maximum) ⁸	8.0%	6.0%	6.0%		6.0%	6.0%	6.0%
Bridge Widths ^{9,10,16,17}	Lane Widths Plus Shoulders Each Side	Lane Widths Plus Shoulders Each Side	Lane Widths Plus Shoulders Each Side	Lane Widths Plus Shoulders Each Side	Lane Widths Plus Shoulders Each Side	Lane Widths Plus Shoulders Each Side	Lane Widths Plus Shoulders Each Side
Vertical Grades (Minimum) ¹¹	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Vertical Clearance (Minimum)	16'-6", See Chapter 2	16'-6", See Chapter 2	16'-6", See Chapter 2	16'-6", See Chapter 2	16'-6", See Chapter 2	16'-6", See Chapter 2	16'-6", See Chapter 2
Roadside ¹²							
Clear Sidewalk Width	NA	NA	NA	6'	6' to 8'	6' to 10'	8' to 14'
Buffer ¹³	NA	NA	NA	4' to 6'	4' to 6'	4' to 6'	4' to 6'
Shy Distance	NA	NA	NA	0' to 2'	0' to 2'	2'	2'
Total Sidewalk Width	NA	NA	5' to 6'	10' to 14'	10' to 16'	12' to 18'	14' to 22'
Clear Zone Width	See Chapter 12	See Chapter 12	See Chapter 12	See Chapter 12	See Chapter 12	See Chapter 12	See Chapter 12
Clear Zone Length	Varies	Varies	Varies	Varies	Varies	Varies	Varies
Design Speed	30-35 mph	30-35 mph	35-50 mph	30 mph	25-30 mph	25-30 mph	25-30 mph
See	2011 AASHTO Green Book, Table 7-1	2011 AASHTO Green Book, Table 7-1	2011 AASHTO Green Book, Table 7-1	2011 AASHTO Green Book, Table 7-1	2011 AASHTO Green Book, Table 7-1	2011 AASHTO Green Book, Table 7-1	2011 AASHTO Green Book, Table 7-1
Distances (Minimum)	See Table 2.1	See Table 2.1	See Table 2.1	See Table 2.1	See Table 2.1	See Table 2.1	See Table 2.1
Vertical Grades (Maximum)	2011 AASHTO Green Book, Table 7-2	2011 AASHTO Green Book, Table 7-4	2011 AASHTO Green Book, Table 7-4	2011 AASHTO Green Book, Table 7-4	2011 AASHTO Green Book, Table 7-4	2011 AASHTO Green Book, Table 7-4	2011 AASHTO Green Book, Table 7-4

NO ISD CRITERIA LISTED ON MATRIX OF DESIGN VALUES

Pub 10X – DM-1X Appendix P – Design Exceptions

Appendix P - Design Exceptions

Publication 10X (DM-1X)
2017 - Change #1

5. Superelevation: This refers to:

- Superelevation rates that are less than required. For example, criteria requires 8% superelevation and only 5% is proposed, then a design exception is required.
- The rate of superelevation transition exceeding the maximum allowable relative gradient.* For example, if the required maximum relative gradient is 0.5% and 0.70% is proposed, then a design exception is required. This is only applicable for projects using New and Reconstruction criteria.
- Superelevation transition located further into the curve than required.* For example, if criteria allows up to a third of the superelevation transition to occur into the curve and it is proposed to locate the transition more than a third of the transition into the curve, then a design exception is required. This is only applicable for projects at new locations.*

6. Maximum Grade: This refers to the maximum vertical grade.

7. Stopping Sight Distance (SSD): This refers to vertical and horizontal SSD.

It also refers to the sight triangle associated with a sight triangle for a vehicle pulling out or crossing an intersecting roadway from a crossroad. The SSD on the main roadway must meet or exceed the SSD requirements, so that the approaching vehicle can stop and avoid impact. The height of the drivers' eye and the vehicle set back on the cross road are the same dimensions as for determining intersection sight distance (ISD)*.

FULL ISD CRITERIA IS STILL DESIRABLE

D9 SIGHT DISTANCE EVALUATION

- 3R Projects
 - Criteria: The lessor of Existing or SSD (Full ISD Desirable)
 - Exception: Intersection w/ sight distance related crash history is required to meet SSD
 - Crash history is defined as 1 or more crashes in 5 years
 - Evaluations will be presented to the Safety Review Committee and documented in the Design Criteria Matrix

DESIGN CRITERIA MATRIX

①

MPMS NO. _____

SR _____ SEC _____ COUNTY

②

PROJECT DESCRIPTION:

NHS? (Y / N)

STRAHNET? (Y / N)

③

DESIGN DESIGNATION

SR

DESIGN CRITERIA

AREA SYSTEM (Urban / Rural)

FUNCTIONAL CLASSIFICATION

ROADWAY TYPOLOGY

TOPOGRAPHY

REMARKS

④

TRAFFIC DATA

OPENING YEAR ADT (Average Daily Traffic)

DESIGN YEAR ADT (Average Daily Traffic)

DESIGN YEAR (for Design Year ADT)

DHV (Design Hourly Volume)

D (Directional Distribution)

T (Truck Percentage)

⑤ CRITERIA*	LOCATION (ENTIRE PROJECT OR BY STATION)	EXISTING VALUE	REQUIRED VALUE	PROPOSED VALUE	CRITERIA MET?	SOURCE OF DESIGN CRITERIA (AASHTO or DM-2 Reference)	REMARKS (NOTE ANY DESIGN EXCEPTIONS)
Design Speed							
Lane Width							
Shoulder Width							
Minimum Bridge Width							
Minimum Horizontal Radius							
Maximum Superelevation Rate							
Vertical Grade	Minimum						
	Maximum						
Minimum Stopping Sight Distance (SSD/HLSD) (vertical and horizontal)							
Minimum Intersection Sight Distance (ISD)							
Minimum Cross Slope							
Minimum Vertical Clearance							

Locations
Require DE

See ISD Table on Next Page

Y/N

* FHWA has established thirteen (13) controlling criteria requiring formal approval of design exceptions. Refer to Publication 10X, Design Manual Part 1X, Appendix P for more information.

⑥

Any pedestrian and bicycle concerns / needs? Explain.

Any ADA compliance issues? Explain.

Any transit issues? Explain.

Any additional design issues? Explain.

ISD Table – 3R Projects

Below is the format for the table that should accompany the Design Criteria Matrix. In submissions, this table should be right after the Matrix.

ISD Value “= Desirable”

Existing Value or SSD

Location (STA) / Intersecting Rd	Side	Looking Left From Minor Rd				Looking Right From Minor Rd				LT From Major Rd			
		Existing	Required (Existing/ SSD)	Proposed	Desirable (ISD)	Existing	Required (Existing/ SSD)	Proposed	Desirable (ISD)	Existing	Required (Existing/ SSD)	Proposed	Desirable (ISD)

Red shaded cell indicates that criteria is not met and a Design Exception is Required

This will be the actual value up to 50' above the “Desirable”, if greater than 50' above “Desirable” state such; example if “Desirable” is 650' show as >700'

D9 SIGHT DISTANCE EVALUATION

- New and Reconstruction Projects
 - Criteria: SSD (Full ISD Desirable)
 - All intersections must be evaluated and documented in the Design Criteria Matrix
 - Design Exceptions are required at each and every intersection that SSD is not met and must be presented to the Safety Review Committee for approval

D9 SIGHT DISTANCE EVALUATION

Below is the format for the table that should accompany the Design Criteria Matrix. In submissions, this table should be right after the Matrix.

SSD Value

ISD Value “= Desirable”

Location (STA) / Intersecting Rd	Side	Looking Left From Minor Rd				Looking Right From Minor Rd				LT From Major Rd			
		Existing	Required (SSD)	Proposed	Desirable (ISD)	Existing	Required (SSD)	Proposed	Desirable (ISD)	Existing	Required (SSD)	Proposed	Desirable (ISD)

Red shaded cell indicates that criteria is not met and a Design Exception is Required

This will be the actual value up to 50' above the “Desirable”, if greater than 50' above “Desirable” state such; example if “Desirable” is 650' show as >700'

D9 SIGHT DISTANCE EVALUATION

- Driveways
 - Evaluate and include completed M-950S in the Safety Review Submission if:
 - A potential reduction in sight distance exists
 - Along and/or adjacent to re-aligned or widened sections of roadway
 - There is a crash history related to substandard sight distance (1 or more crashes in 5 years)
 - Concurrence is needed by the Safety Review Committee for a proposed driveway that:
 - Reduces sight distance below FSD, or
 - In the case of an existing driveway that does not meet FSD, further reduces sight distance

D9 SIGHT DISTANCE EVALUATION

- The sight distance tables and M-950S's should be submitted with Safety Review submission
- Sight distance will be discussed at safety review and photo documentation should be included where necessary
- Ask your PM for a copy of the District 9-0 Guidance

DESIGN CRITERIA MATRIX

Design Criteria Matrix was updated to reflect DM-2 criteria revisions

3) DESIGN DESIGNATION		4) TRAFFIC DATA				5) CRITERIA*	
DESIGN CRITERIA	SR	OPENING YEAR ADT	DESIGN YEAR ADT	DESIGN YEAR	DHV	D	T
AREA SYSTEM (Urban / Rural)	New Construction / Reconstruction	(Average Daily Traffic)	(Average Daily Traffic)	(for Design Year ADT)	(Design Hourly Volume)	(Directional Distribution)	(Truck Percentage)
FUNCTIONAL CLASSIFICATION	Resurfacing, Restoration, and Rehabilitation (3R)						
ROADWAY TYPOLOGY	New Bridge						
TOPOGRAPHY	Replacement Bridge						
REMARKS	Superstructure Replacement						
	Deck Replacement						
	Bridge Preservation						
	Non-Roadway, Non-Bridge Project						

CRITERIA*	LOCATION (ENTIRE PROJECT OR BY STATION)	EXISTING VALUE	REQUIRED VALUE	PROPOSED VALUE	CRITERIA MET?	SOURCE OF DESIGN CRITERIA (AASHTO or DM-2 Reference)	REMARKS (NOTE ANY DESIGN EXCEPTIONS)
Design Speed							
Lane Width							
Shoulder Width							
Minimum Horizontal Curve Radius							
Superelevation	Rate						
	Gradient						
Maximum Vertical Grade							
Minimum Stopping Sight Distance (SSD) (vertical and horizontal)							
Minimum Intersection Sight Distance (ISD)	See ISD Table on next page						
Cross Slope (min/max)							
Minimum Vertical Clearance							
Accel and Decel Lane Lengths	See Accel / Decel Table (if applicable)						

New Bridge
Replacement Bridge
Superstructure Replacement
Deck Replacement

FHWA has established ten (10) controlling criteria requiring formal approval of design exceptions. PennDOT requires an 11th criteria (Accel and Decel Lane Lengths). Refer to Publication 10X, Design Manual Part 1X, Appendix P for more information.

DESIGN CRITERIA MATRIX

- FHWA reduced controlling criteria from 13 to 10
- PennDOT added an 11th

PREVIOUS

5

CRITERIA*

Design Speed	
Lane Width	
Shoulder Width	
Minimum Bridge Width	
Minimum Horizontal Radius	
Maximum Superelevation Rate	
Vertical Grade	Minimum
	Maximum
Minimum Stopping Sight Distance (SSD/HISD) (vertical and horizontal)	
Minimum Intersection Sight Distance (ISD)	
Minimum Cross Slope	
Minimum Vertical Clearance	

CURRENT

5

CRITERIA*

Design Speed	
Lane Width	
Shoulder Width	
Minimum Horizontal Curve Radius	
Superelevation	Rate
	Gradient
Maximum Vertical Grade	
Minimum Stopping Sight Distance (SSD) (vertical and horizontal)	
Minimum Intersection Sight Distance (ISD)	
Cross Slope	(min/max)
Minimum Vertical Clearance	
Accel and Decel Lane Lengths	

Submit for approval prior to L&G submission

GUIDERAIL

- Guiderail Distribution
 - Guide rail removed with projects in all counties will be the contractor's property
- Grading at end treatments should be evaluated and designed in accordance with RC standards
 - Item Number 0205-0100 Foreign Borrow Excavation is included if grading is necessary prior to placement of shoulder backup
 - Amount of required material is depended on field conditions and should not be tabbed as embankment

GUIDERAIL

ION OF QUANTITIES GUIDE RAIL

REVISION NO.	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
								OF



FOREIGN BORROW EXCAVATION		SELECTED BORROW EXCAVATION ROCK, CLASS R-3		ANCHORED BACKSLOPE TERMINAL, TYPE 1		PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)		TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT REMOVE CONCRETE ANCHORAGE		REMARKS	SIDE	STATIONS
0205 0100 CY	0205 0363 TON	0619 0051 EACH	0619 0459 EACH	0620 0010	0620 0000 EACH	0620 0000 EACH	0620 0000 EACH	0620 0000 EACH	0620 0000 EACH			
498	39	1	2	1	1	1	1	1	1			
5	56	1	1									
										GRADING FOR ITEM 0619-0459 - STRING 7	RT	351+56.00 to 354+52.00
										GRADING FOR ITEM 0619-0459 - STRING 7	RT	351+56.00 to 354+62.00

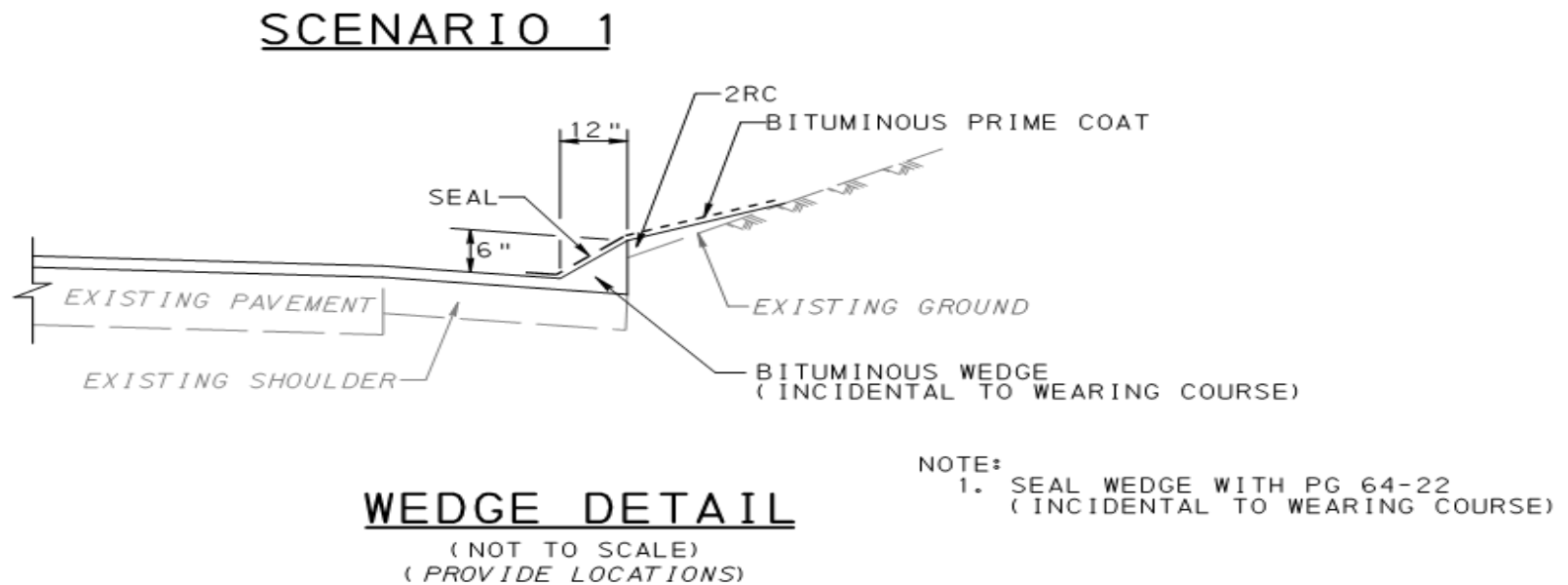
CAMBRIA COUNTY

SEE DETAIL ON SHEET 9

STATION	START	END
LT	332+94.00	359+49.00
LT	333+31.00	359+51.00
RT	336+32.00	338+39.00
RT	336+37.00	338+52.00
RT	351+56.00	354+52.00
RT	351+56.00	354+62.00

BITUMINOUS WEDGE

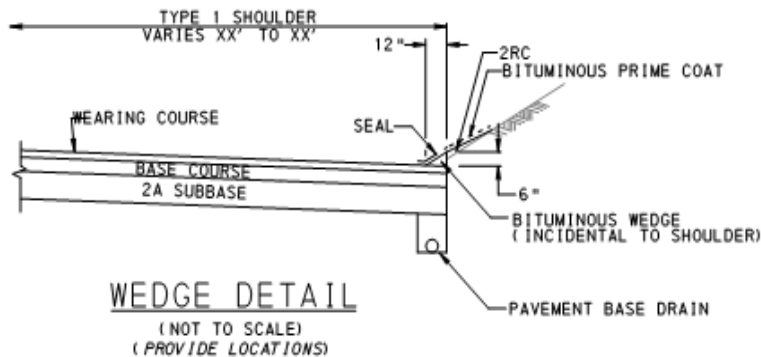
- Scenario 1: Wedge is being removed and reinstalled
 - Incidental to wearing course
 - Only applies when widening is not required for wedge to tie into slope



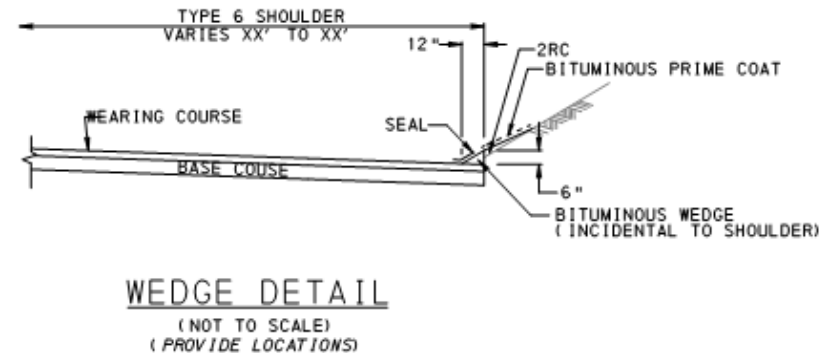
BITUMINOUS WEDGE

- Scenario 2: Full or partial depth widening is required to tie into slope
 - 2A: Subbase to be outlet – Type 1 Shoulder
 - 2B: No subbase – Type 6 Shoulder
 - If separate pay items are used to pay for shoulder, wedge is incidental to wearing course

SCENARIO 2A



SCENARIO 2B



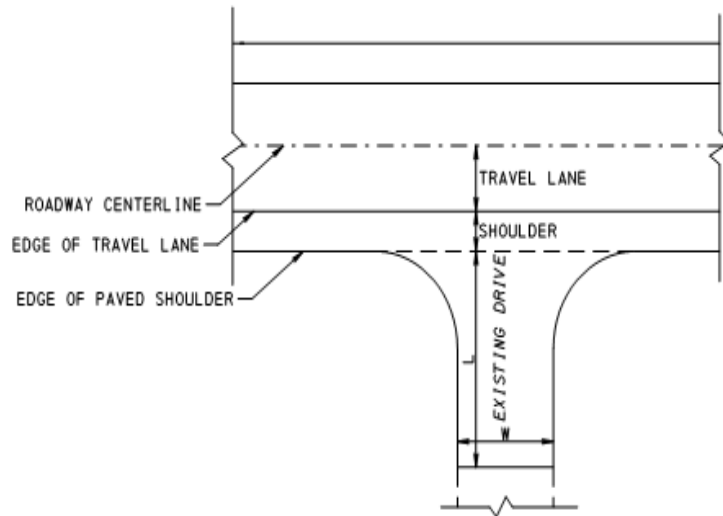
DRIVEWAY TIE-INS

- When driveway tie-ins exceed 10 feet
 - If driveway currently meets PA Code 64 it shall continue to meet the code after construction
 - If driveway does not currently meet PA Code 64, the driveway cannot be made worse after construction and pre-construction grades will be documented
- Evaluate turning movements on driveways
 - Pre vs post construction
 - Pay close attention to areas that move the white line closer to the driveway

DRIVEWAY TIE-INS

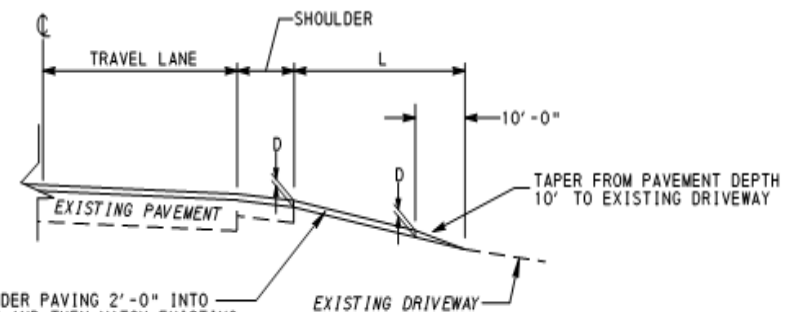
SEG/OFF OR STA	SIDE	L	W	NOTES

L - DRIVEWAY OVERLAY LENGTH INCLUDING 10' TAPER
W - EXISTING DRIVEWAY WIDTH
D - DEPTH OF OVERLAY AT EDGE OF SHOULDER



DRIVEWAY ADJUSTMENT PLAN VIEW

(NOT TO SCALE)



EXTEND SHOULDER PAVING 2'-0" INTO THE DRIVEWAY AND THEN MATCH EXISTING DRIVEWAY MATERIAL BEYOND THAT POINT

DRIVEWAY ADJUSTMENT PROFILE VIEW

(NOT TO SCALE)

STATEMENTS OF INTEREST

- Refer to the General Requirements listed in the agreement

low the Minor Projects Design Procedures and the selection criteria in the advertisement will consider the quality of the consultant's QA/QC program.

swers are required to go through ECMS's "Questions and Responses" forum.

rest, at a minimum, should indicate how the selected firm will accomplish the tasks outlined and provide the services as detailed. The anticipated duration of the a

staged Business Enterprise (DBE) participation in this agreement shall be 10 % of the total agreement cost. Cost included in a DBE firm's price proposal as direct
concerning DBE participation in this agreement is contained in the General Requirements and Information Section referenced below.

regarding this Agreement/Advertisement and Statement of Interest requirements are contained in the [General Requirements](#) document.

STATEMENTS OF INTEREST

Statement_of_Interest.pdf documents shall comply with the following unless otherwise specified in the advertisement:

1. The maximum acceptable file size for the Statement_of_interest.pdf file is 500 kilobytes.
2. Limited to a maximum of four (4) (8 1/2" x 11") pages, typed using 12 font size or larger. The font size will be checked for the entire pdf document by using Adobe Pro or similar software. If Adobe Pro is unavailable, the project manager (PM) will convert the pdf document to a word document. The PM will open the word document and verify the text size. The first three (3) pages will contain the consultant's approach to the project. The only information allowed on the fourth page is the conflict of interest statements and the consultant's position regarding content that it considers to be confidential proprietary information, trade secrets or otherwise exempt from public access.
3. Identify the Agreement project manager.
4. Identify Agreement staff that is key to the Agreement success.
5. Include full disclosure of any potential conflict of interest by the prime or any sub consultant based on Engineering Involvement Restrictions Guidelines as referenced in Publication 93 (03-18), Section 1.5 - Engineering Involvement Restrictions. If there are no potential conflicts you shall include the following statement: "I have reviewed Publication 93 (03-18), Section

- Only three page SOI's may have an additional page for the conflict of interest statement.
- If the general requirements are revised for a four or five page SOI, an additional page is not allowed for the conflict of interest statement

STATEMENTS OF INTEREST

REVISION TO GENERAL REQUIREMENTS:

UNDER:

Statement_of_Interest.rtf documents shall comply with the following unless otherwise specified in the advertisement:

CHANGE:

2. Limited to a maximum of four (4) (8 1/2" x 11") pages, typed using 12 font size or larger. The font size will be checked for the entire pdf document by using Adobe Pro or similar software. If Adobe Pro is unavailable, the project manager (PM) will convert the pdf document to a word document. The PM will open the word document and verify the text size. The first three (3) pages will contain the consultant's approach to the project. The only information allowed on the fourth page is the conflict of interest statements and the consultant's position regarding content that it considers to be confidential proprietary information, trade secrets or otherwise exempt from public access.

TO:

2. Limited to a maximum of five (5) pages (8 1/2" x 11"), typed using 12 font size or larger. The font size will be checked for the entire pdf document by using Adobe Pro or similar software. If Adobe Pro is unavailable, the project manager (PM) will convert the pdf document to a word document. The PM will open the word document and verify the text size.

- You can use the entire 5th page as long as it also includes the conflict of interest statements and the consultant's position regarding confidential info, etc

STATEMENTS OF INTEREST

- DBE Good Faith Effort is only required on 100% State Agreements
 - This will be noted on the agreement page
 - If selected, and good faith effort is required it will be noted on your selection email from ECMS
- Remember not to include reference to cost or proximity of office to the district office

STATEMENTS OF INTEREST

Resumes.pdf documents shall comply with the following unless otherwise specified in the advertisement:

1. Resumes must use the resume template from the Annual Qualifications Package and **must not exceed two pages per individual.**
 2. The maximum number of resumes included with your Statement of Interest shall be as stated in this advertisement. If the advertisement does not specify the maximum number of resumes, **you shall not include resumes of more than five individuals** you believe to be key to the Agreement success. You may include resumes tailored to this Agreement's needs for individuals even if your Annual Qualification Package includes a resume for that individual.
- 2 page resumes per person
 - No more than 5 resumes per SOI
 - Unless specified in the advertisement

MISCELLANEOUS

- NOITE letters are to be re-issued yearly
 - Letters are sent regular mail
 - Submit one letter and an excel file for the District's use (mail merge)
- Public Meeting Advertisements
 - Revised Sunshine Law language
 - Public meetings will be advertised two weeks prior to the meeting date and the advertisement posted at the public meeting facility

MISCELLANEOUS

- Any work within 25' of railroad property requires coordination
 - This includes signing, paving, drainage, etc.
- Use Non-Tracking Tack Coat (Item No. 0460-0003) on all projects
- When pdf's in our District Best Practices Guide reference an attachment, the file is attached to the .pdf file
 - It can either be found in the "attachment" line of the .pdf email or in the attachment menu in Adobe or Bluebeam



Thank You

Questions?



District 9 Maintenance Overview

Ed Steinbugl, P.E.
Maintenance Programs Engineer





- Maintenance Priorities

- Winter Services

- Core Maintenance Activities

- Seal Coat

- Crack Sealing

- Shoulder Cutting



- Winter Overview

- Planning

- Materials
 - Equipment Prep/Snow routes

- Operations

- Situational Awareness
 - Storm Management
 - AVL
 - RWIS

fleet center

03/14/2019 00:00 ⇒ 03/15/2019 00:00 US/Eastern | Vehicles: 258 | Drivers: 0

Time & Resources

Today

Time Zone: (GMT-4:00) US/Eastern

Advanced Reporting

Mapping

Administration

Preferences

Mapping

Tools

Map navigation icons: zoom in, zoom out, pan, home, location, layers, print, full screen

Vehicle Status

Download List

Vehic...	Vehicle	Last Record	Street	City	State / ...	Speed	GPS Fix	Reason	Direction
●	0920-609-8076	2019-03-14 11:36...	Cemete...	Hollida...	PA	0	Fix	Time Stop ...	SE
●	0910-626-8077	2019-03-14 11:36...	090 Sta...	Everett	PA	0	Fix	Time Stop ...	SW
●	0910-503-8087	2019-03-14 11:36...				40	Fix	#	W
●	0950-516-8076	2019-03-14 11:36...	State Rt...	Calvin	PA	0	Fix	Time Stop ...	NE

Page 1 of 3

VAISALA / Navigator Pennsylvania DOT District 9

Map Station Summary Station Wall Stations Forecast Alerts Reports Traffic Cameras

Stations

District 9

- 1-70 E/B MM 170 @ MD / PA Border Fulton Co.
- 1-70 W/B @ Exit 156 Town Hill Fulton Co.
- 1-99 @ Bellwood Blair Co**
- SR 22 @ Cresson Cambria Co
- SR 31 @ Laurel Ridge Somerset Co
- SR 56 @ Babcock Mt Somerset Co
- SR 219 N/B @ Meyersdale Bypass Somerset Co.
- US 219 SB Garrett Bypass

I-99 @ Bellwood Blair Co (Show station on map)

Station Overview Graph Camera History History Table

Current conditions 14-Mar-2019 11:45

- Air Temperature **50.5 °F**
- Dew Point Temperature **32.5 °F**
- Visibility **31995 ft**
- Level of grip **0.82**
- Surface State **dry**
- Surface Temperature **55.2 °F**

Wind 14-Mar-2019 11:45

276°
1.6 mph

Roadside camera 14-Mar-2019 11:46



- Core Maintenance Activities

- Seal Coat
 - 7 year cycle
- Crack Sealing
 - 5 year cycle
- Shoulder Cutting
 - 6 year cycle

- Secondary Roads Program
 - Dedicated program for low ADT routes
 - Lower cost alternative treatments
 - District 9 examples from 2018
 - SR 1002 Winterset Road
 - SR 2022 Juniata Valley Road











- RAP Paving Observations

- Needs to be the right treatment for the right road
- Resource Intensive
- Costs at or near traditional warm mix paving



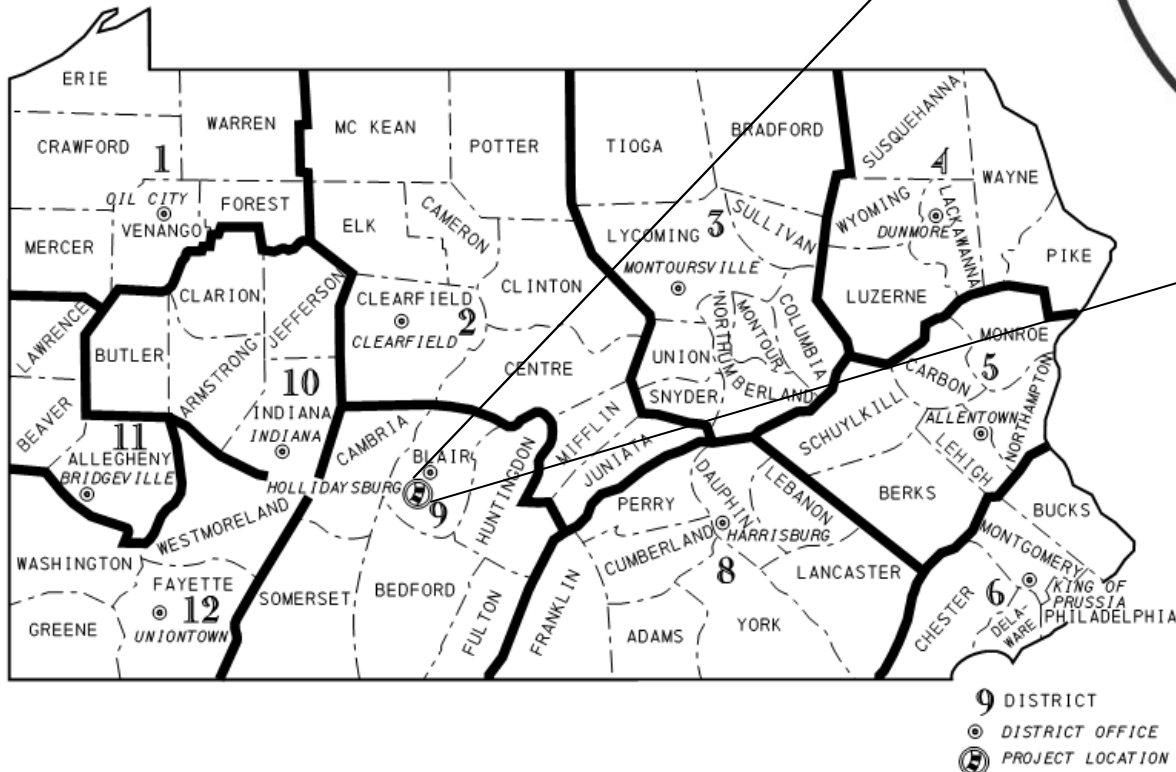
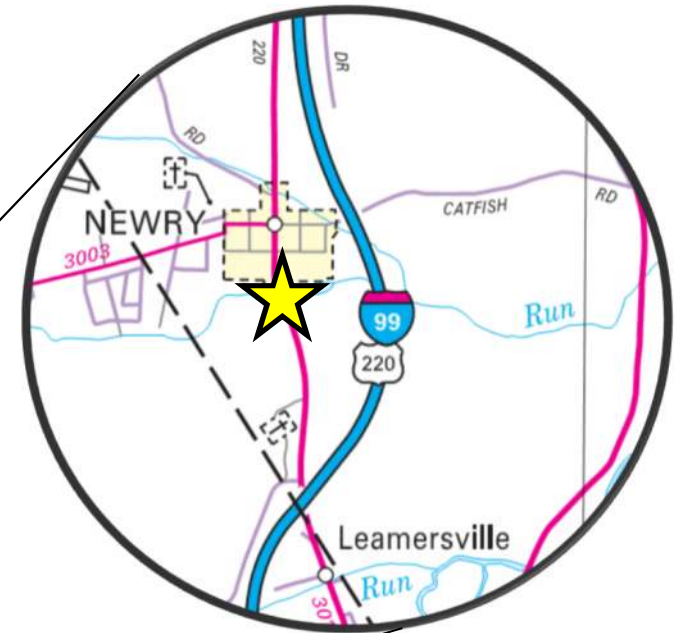
Questions?



SR 3013 over Poplar Run Newry Accelerated Bridge Project

Project Location

- Blair Township, Blair County, PA
- 10 miles South of Altoona
- Outside the Borough of Newry



Project Site



Project Goals & Challenges

- Replace the deteriorated bridge.



- Built circa 1926
- Rehabilitated 1972
- 43'-0" Span length
- 32 ft. curb-to-curb
- Concrete T-beams widened with box beams
- Classified SD due to poor condition of superstructure & deck

Project Goals & Challenges

- Minimize disruptions for nearly 10,000 vehicles per day while maintaining access to the adjacent commercial and residential properties during construction.



- Urban Minor Arterial
- 9,645 ADT (5% Trucks)
- Design Speed 35 MPH

Project Goals & Challenges

- Provide improved access management for the adjacent commercial properties.



Project Goals & Challenges

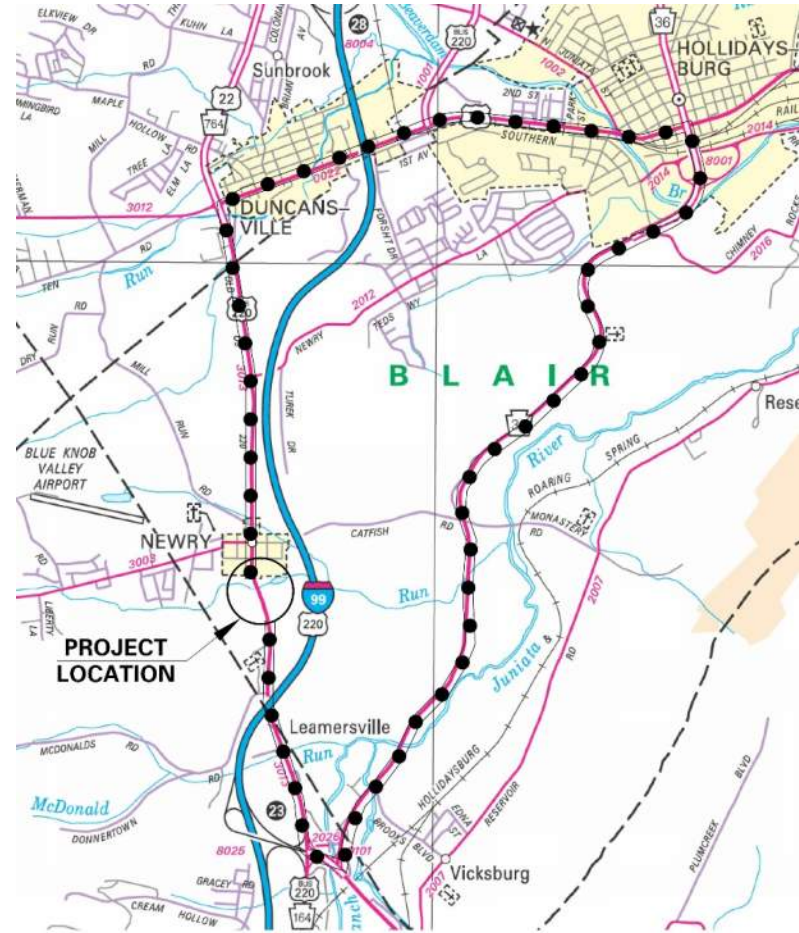
- Develop a strategy for maintaining access during construction for visitors to the weekly Sunday Flea Market.



Traffic Control Alternatives

Conventional Detour:

- 11.9 mile detour
- 3 month duration
- RULD's > \$57,000 per day



Traffic Control Alternatives

Single Lane Staged Construction:

- 10,000 vehicles per day results in excessive traffic queues.
- Access management difficult due to uncontrolled ingress and egress at adjacent commercial properties.
- Longest construction duration due to traffic control staging.

Traffic Control Alternatives

Temporary road on east side of bridge:

- Impacts parking for the weekly Flea Market for the entire season.
- Access management difficult due to uncontrolled ingress and egress at adjacent commercial properties.
- Increased traffic congestion for the entire construction season.

Traffic Control Alternatives

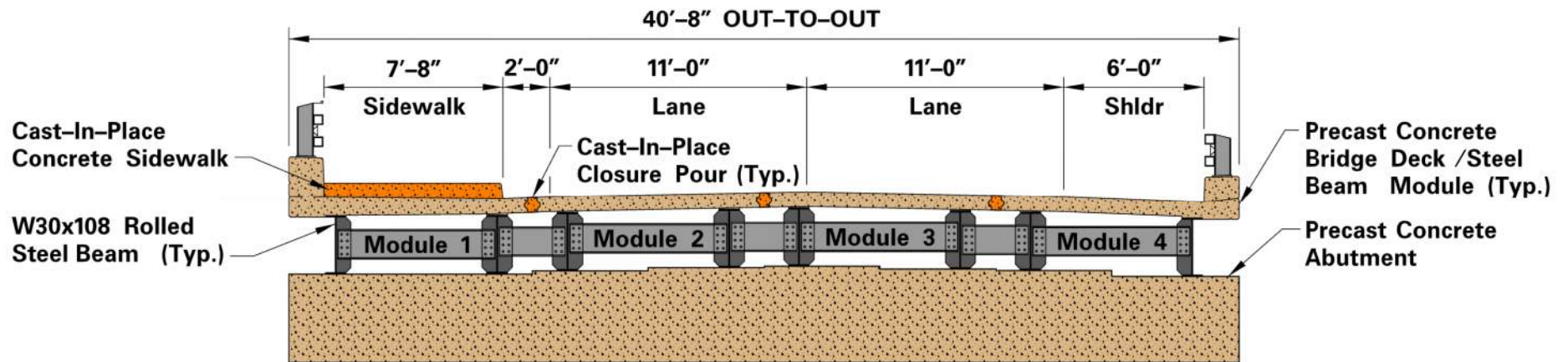
Accelerated Bridge Construction with Detour:

- More manageable inconvenience to the adjacent properties & flea market due to short duration.
- Congestion along the detour route will be a limited duration.
- Construction can be restricted to coincide with off-peak dates for businesses.

Why ABC?

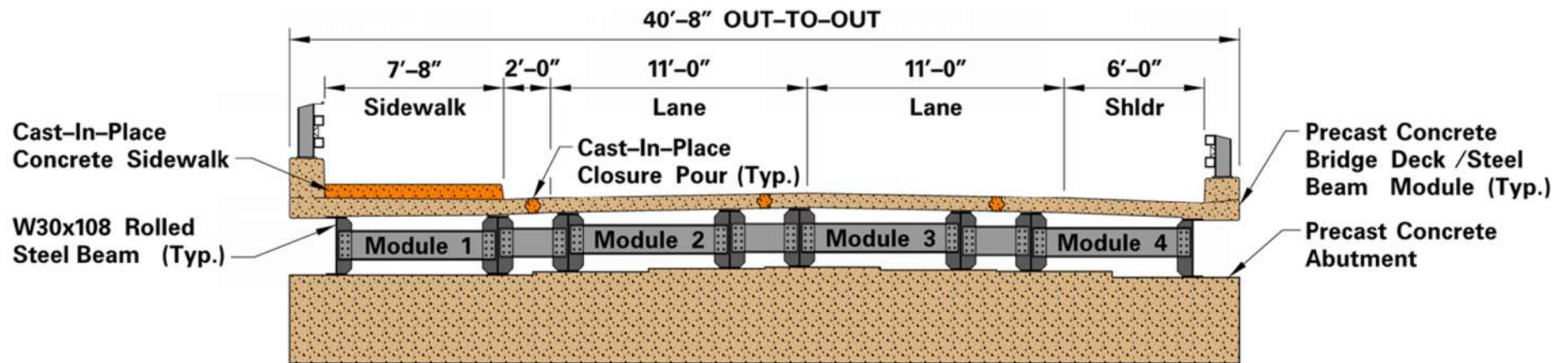
- Single lane construction not practical at this site.
- Cost comparable to temporary road construction.
- Reduce detour duration to 13 days maximum
- Disruption to Flea Market limited to 1 Sunday.
- Avoid July 4th and Fall Harvest peak business times.
- Well received by businesses (with skepticism!)

Newry Bridge – Design



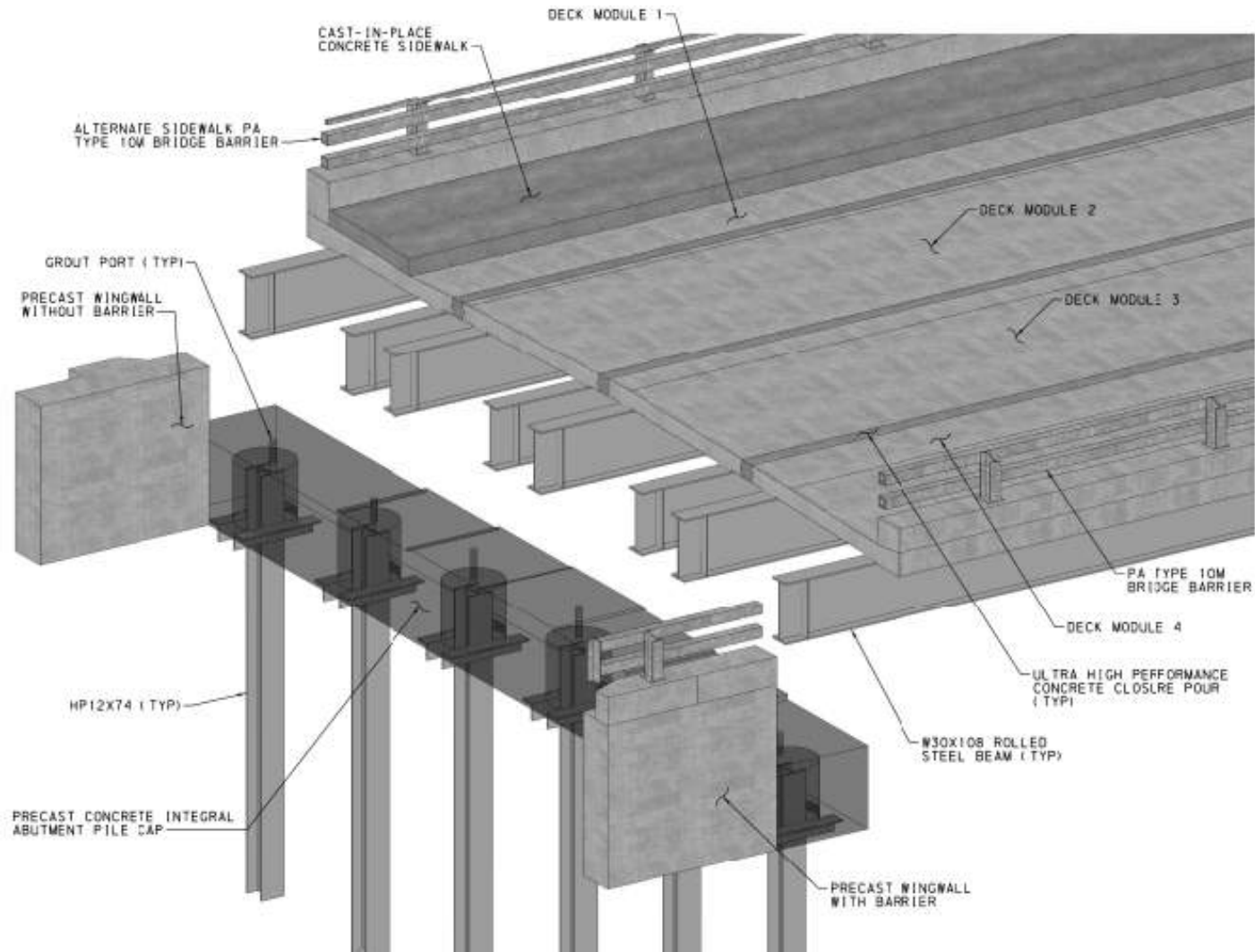
- Precast integral bridge abutments & wingwalls
- (4) Precast bridge deck modules
- UHPC concrete closure pours between modules

Newry Bridge – Design

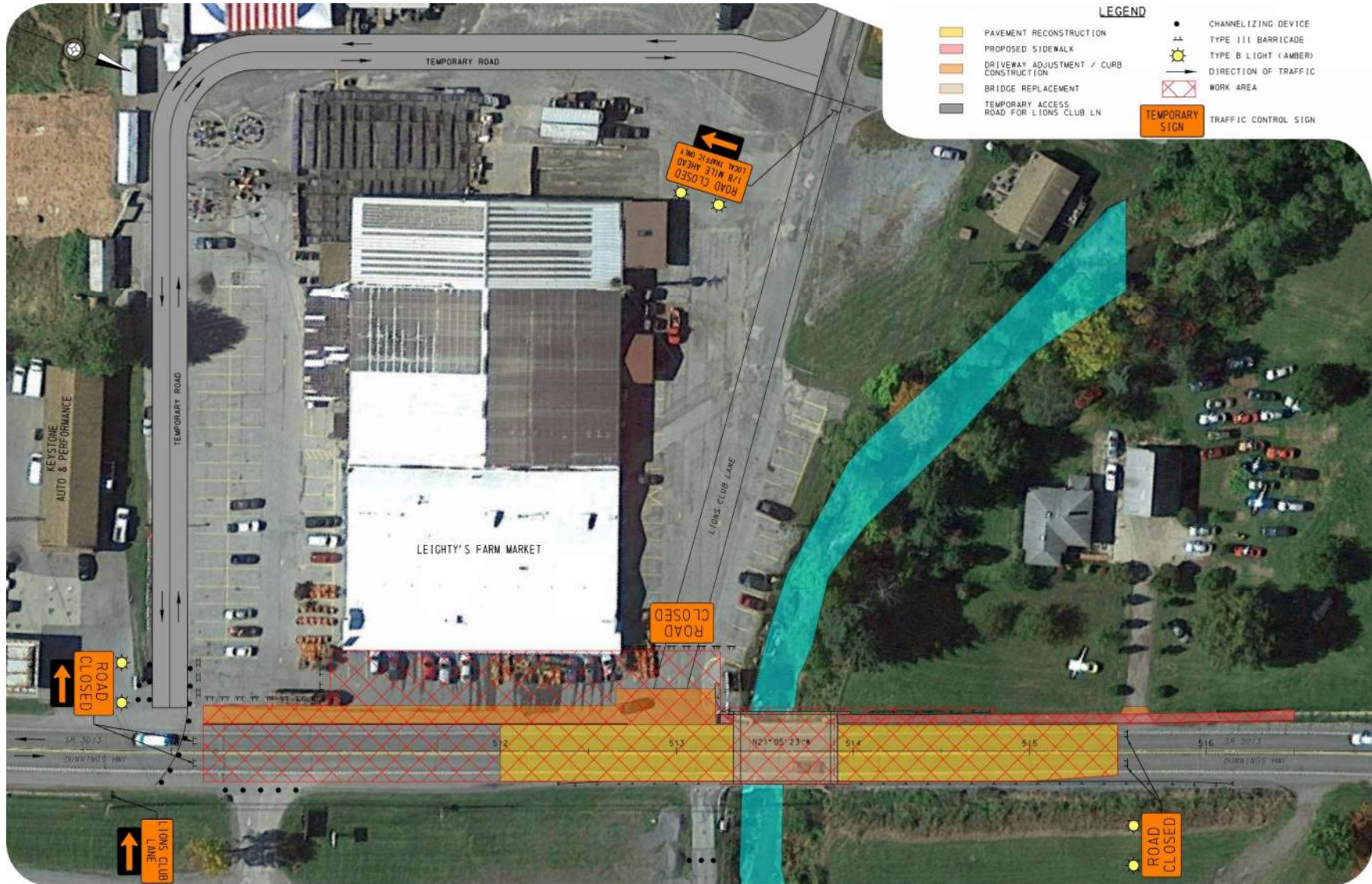


- Accelerated concrete closure pours at abutments
- Bridge barrier curb precast to exterior deck modules
- Replace approach slabs with reinforced backfill

Newry Bridge – Design



Newry Bridge – Design



Newry Bridge – Design

Advertised for Construction 11/16/17:

- 13-day, 5 hour detour permitted between July 8, 2018 to August 5, 2018
- \$57,276 per day RULD's for not meeting detour restrictions
- *Final design estimate - \$2.01 million*
- Awarded to Francis J. Palo, Inc. 1/3/18
- **Bid Total - \$1.99 million**

Newry Bridge – Construction

Pre-Detour:

- Cribbing Installed beneath bridge for demolition.
- Abutment piles predrilled, installed, and backfilled.



Newry Bridge – Construction

Pre-Detour:



Newry Bridge – Construction

Day 1 :

- Detour implemented 6 PM July 15, 2018
- Bridge Demolition
- Excavate abutment piles and drive to refusal
- Place AASHTO #57 abutment bedding
- Install abutment support angles to piles
- Cut abutment piles to length

Newry Bridge – Construction

Day 1:



Newry Bridge – Construction

Day 1:



Newry Bridge – Construction

Day 1:



Newry Bridge – Construction

Day 2:

- Place precast abutments onto steel piles
- Place precast wingwalls
- Place rock protection in front of abutments
- Erect precast deck modules

Newry Bridge – Construction

Day 2:



Newry Bridge – Construction

Day 2:



Newry Bridge – Construction

Day 2:



Newry Bridge – Construction

Day 2:



Newry Bridge – Construction

Day 2:



Newry Bridge – Construction

Day 2:



Newry Bridge – Construction

Day 2:



Newry Bridge – Construction

Day 2:



Newry Bridge – Construction

Day 2:



Newry Bridge – Construction

Day 3 thru Day 5:

- Grout abutment pile caps
- Form, reinforce, and cast concrete end diaphragms
- Form and reinforce sidewalk
- Install steel bridge railing

Newry Bridge – Construction

Day 3 thru Day 5:



Newry Bridge – Construction

Day 3 thru Day 5:



Newry Bridge – Construction

Day 6:

- Place Ultra High Performance concrete closure pours between deck modules



Newry Bridge – Construction

Day 6:



Newry Bridge – Construction

Day 6:



Newry Bridge – Construction

Day 7 thru Day 11:

- Construct reinforced backfill behind abutments
- Complete Drainage and approach Roadway Reconstruction
- Place cast-in-place sidewalks

Newry Bridge – Construction


Day 7 thru Day 11:



Newry Bridge – Construction

Day 7 thru Day 11:





Newry Bridge – Construction

Day 12 & Day 13:

- Complete Paving
- Install Guide Rail and Line Striping
- Bridge opened 3 PM July 28th (12 days, 21 hours)

Newry Bridge – Construction

Day 12 & Day 13:



Newry Bridge – Construction

Post Construction:



Newry Bridge – Construction

Post Construction:



Newry Bridge – Construction

Post Construction:



Newry Bridge – Construction





Questions?

SR 219 Project
February 5, 2019

Tom Helsel, PENNDOT
Transportation Construction Manager 3

Rick Kruse, EADS Group
Inspector In-charge - Structures



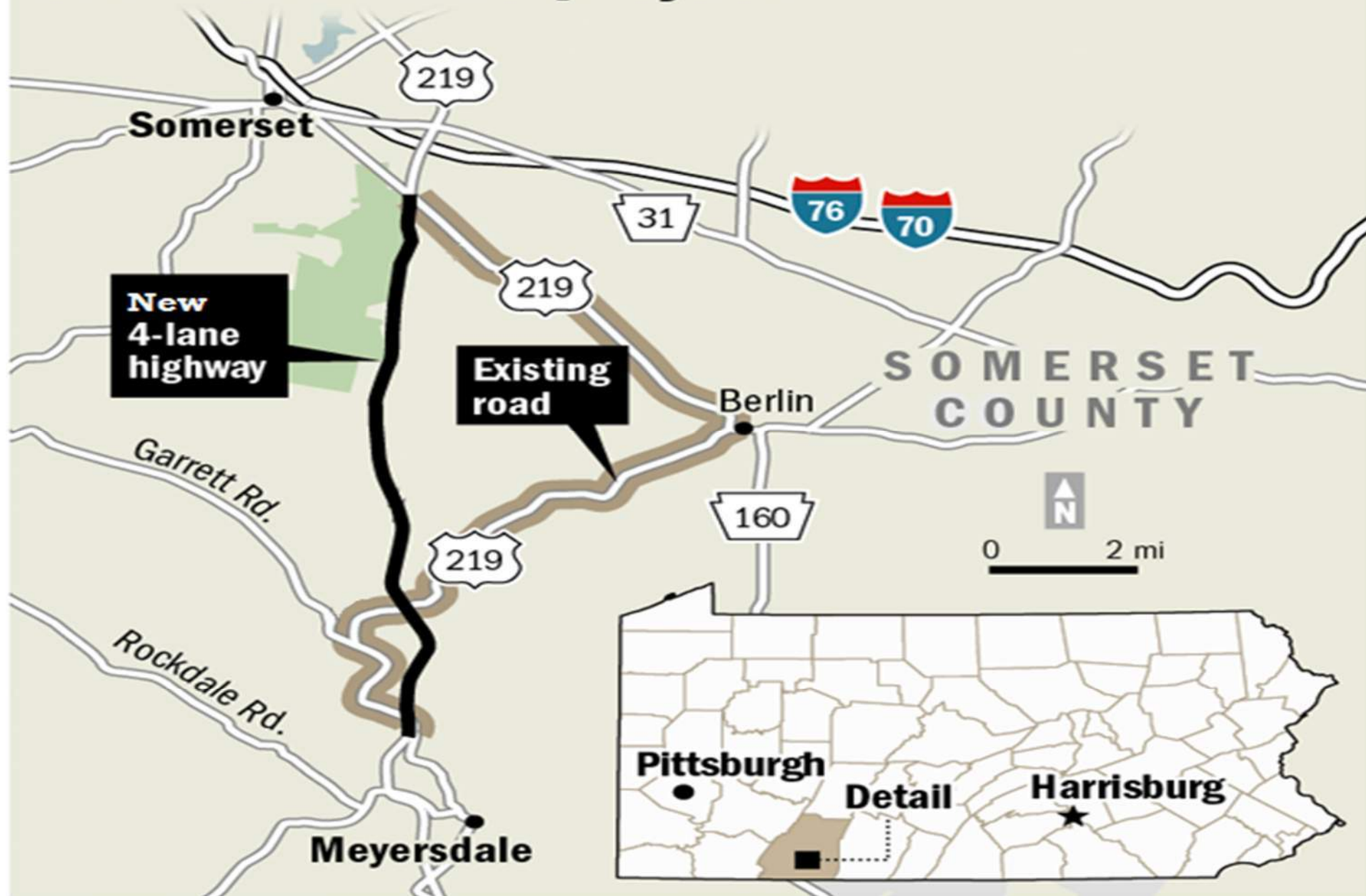
Contracts to Complete SR 219 Meyersdale to Somerset

1. Tree Removal:	K W Reese & Beeghly Tree Service LLC	\$362,969
2. Garrett Mine Void Grouting:	Howard Concrete Pumping Co. Inc.	\$1,369,266
3. Garrett Earthwork:	Joseph B Fay	\$110+ million
4. Garrett Structures:	Joseph B Fay	\$67+ million
5. Garrett Paving:	NESL	\$52+ million
6. Living Snow Fence:	W.G. Land Co., LLC.	\$355,285
7. US 219 I.T.S.:	Power Contracting Co.	<u>\$1,537,577</u>
		\$232,625,097

Project NTP 8/30/13 project opened on 11/21/18



U.S. Route 219 project



IN PA THE SHORTEST
DISTANCE BETWEEN 2
POINTS IS UNDER
CONSTRUCTION



- US 219 New Highway Construction

**-122 acres of farmland
acquired for project.**

**- 270 acres of forests
acquired for project**



Tree Removal Contract: \$362,969

February 2013 – March 2013



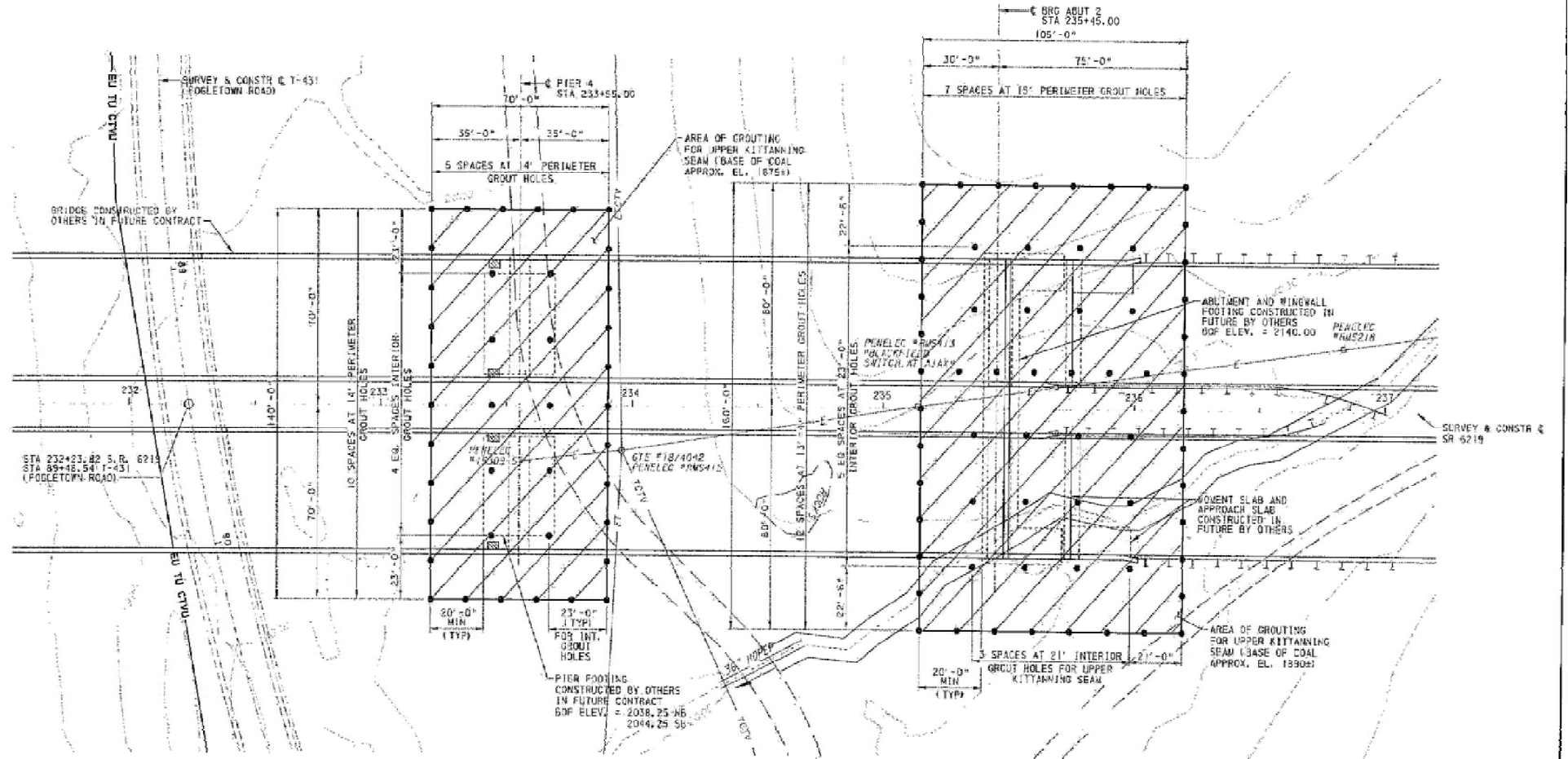
Clearing and Grubbing



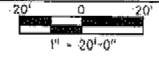
Garrett Mine Void Grouting: \$1,369,266
July 2013 – October 2013



DISTRICT	COUNTY	ROUTE	SECTION	SHEET
9-0	SOMERSET	6219	20C	5 OF 9
BROTHERS VALLEY TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	



GROUTING PLAN AT PROPOSED PIER 4 AND PROPOSED ABUTMENT 2



LEGEND

- GROUT HOLES
(HOLES REPRESENT HORIZONTAL LOCATION AT NINE FOOT DEPTH)

NOTES:

1. ANGLED INJECTION HOLES ARE REQUIRED TO AVOID DRILLING IN EXISTING STREAMS, UTILITIES, AND TO FACILITATE MAINTENANCE AND PROTECTION OF TRAFFIC.
2. PERFORM 3" PERFORMANCE TEST BORINGS PER GROUT PLAN LOCATION.



MINE GROUTING LIMITS
GEOTECHNICAL TREATMENT DETAILS



Earthwork Contract: \$110+ million

August 2013 – November 2016



Buffalo Creek Bridge area

Photo 11/20/13

Earthwork project started 8/13 and completed 11/16 moved 10 million cubic yards or 650,000 dump truck loads





Existing 219

Office location



Bog

Prison

Abandoned Prison
Sewage Lagoon



Large excavation area to remove coal





110,000 tons of coal

100 headaches



Tons of coal, much of which was sold to local coal company to get rid of it.

**7/21/14 Coal Seam Treatment to protect streams water quality
Used this treatment in many places on project.**





Coal Seam Slurry Treatment

Buffalo Creek Bridge northern fill area



All cuts are completed



**Photo taken 9/26/16 showing southern
mainline 4 lane completed.**

**Over 3.5 million yards moved to the
large waste areas**



Over 400 Drain Inlets/Manholes
and over 70,000 Linear Feet (13.2
Miles) of Drainage Pipe Installed



**Earthwork Contract
completed 10/5/16**



Garrett Structures Contract:

Let 12/2014: \$67.4 million - Completed 7/2018: \$68.3 Million

8/29/16 photo of Buffalo Creek Bridge



Structures on SR 6219 Sections 20A/B ECMS # 23620 and 20C ECMS # 75362

- Between the two projects there are the following major quantities of materials:
- 35,400 Cubic Yards of concrete
- 9.2 Million Pounds of structural steel
- 6.35 Million Pounds of reinforcement bars
- 29,000 LF of piles

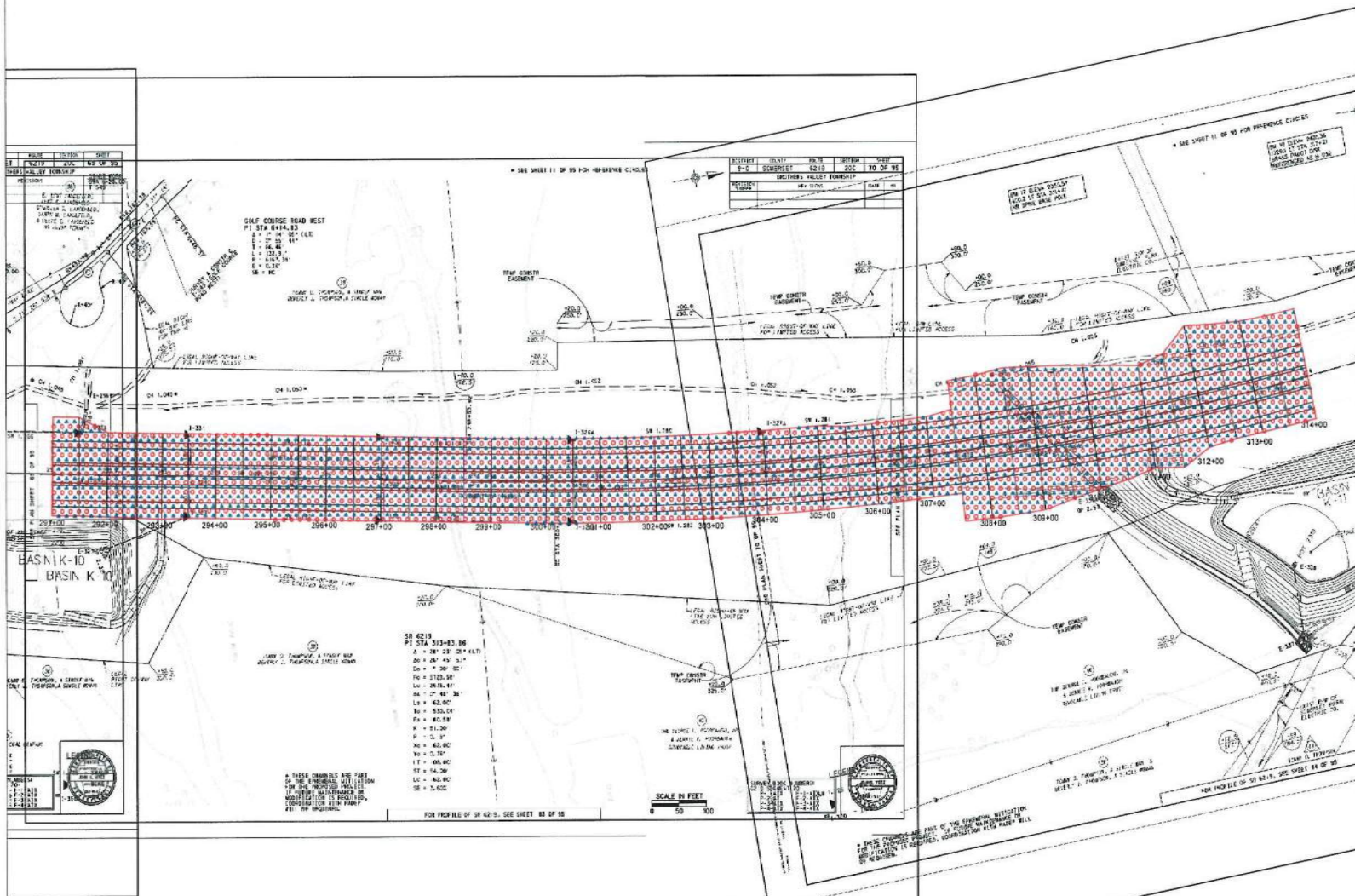
Section 20A/B - Widen one set of dual structures over the CSX RR tracks, one new set of dual structures over Pine Hill and construct 4 precast reinforced box culverts - \$110.6 million

- CSX Bridge over the railroad - \$3.13 million widening of the Dual Structure 2 Span Steel Curved Girder Bridges. 1,220 CY concrete, 550,000 lbs structural steel and 256,000 lbs of rebars
- Pine Hill Bridge – \$3.65 million Dual Continuous Composite PA Bulb-Tee Bridges, 482' long 4 span Southbound and 524' long 5 span Northbound. 5,000 CY concrete, 1.09 million lbs rebars and 2,000 LF piles.
- 4 Precast Box Culverts - \$1.81 Million

Section 20C – Construct 5 dual structures and 1 single structure - \$68.3 million

- Blue Lick Creek Bridge - \$650,000 Single Span Prestressed Concrete Bulb Tee Beam Bridge 65.5' long, 10' high. 240 CY concrete and 66,600 lbs of rebars
- Swamp Creek Bridge - \$13 million Dual 3 span Continuous Composite Steel Multi-Girder Bridges 714' long 130' high. 8500 CY concrete, 3.65 million lbs structural steel, 1.42 million lbs rebars and 7,600 LF piles
- Buffalo Creek Bridge - \$18.9 million Dual 5 Span Composite Steel Girder Bridges 1,100' long, 220' high and piers 2 & 3 are hollow with an access ladder inside to the top. 15,174 CY concrete, 5 million lbs structural steel, 2.87 million lbs rebars and 17,600 LF piles
- Mud Pike Bridge – \$1.75 million Dual Single Span Composite PA Bulb-Tee Bridges 127' long with 17-1/2' clearance. 1,000 CY concrete, 206,000 lbs rebars and 1090 LF piles
- Garrett Shortcut Bridge - \$2.75 million Dual Single Span Composite PA Bulb-Tee Bridges 127' long with 15-1/2' clearance. 3,000 CY concrete and 212,000 lbs rebars
- Walter's Mill Bridge - \$1.8 million Dual Single Span Prestressed Concrete I-Beam Bridges 127' long with 15-1/2' clearance. 1160 CY concrete, 217,000 lbs rebars and 1,000 LF piles

Deep Dynamic Compaction - \$276,000



General Notes

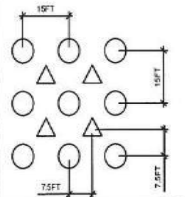
- PRIMARY PASS
- △ SECONDARY PASS

2 PASSES
 15FT GRID
 15TN DROP WEIGHT
 60FT DROP HEIGHT
 7-9 DROPS PER POINT



NORTH

DROP PATTERN (TYP.)



02	RF 31MAR2016	CW
No.	Revisor/Issue	Date

DENSIFICATION INC
 40650 HURLEY LANE
 PAEONIAN SPRINGS, VA 20129
 (540) 882-4404 PH
 WWW.DENSIFICATION.COM
 DYNAMIC COMPACTION SPECIALIST

PENNDOT
 US219
 SOMERSET COUNTY PA
 STATIONS 291+00 to 314+00

Project	DC0822	Sheet	1 OF 7
Date	16MAR2016		
Scale	NTS		

in several passes, with the
grid, followed by either
grid at footing locations.

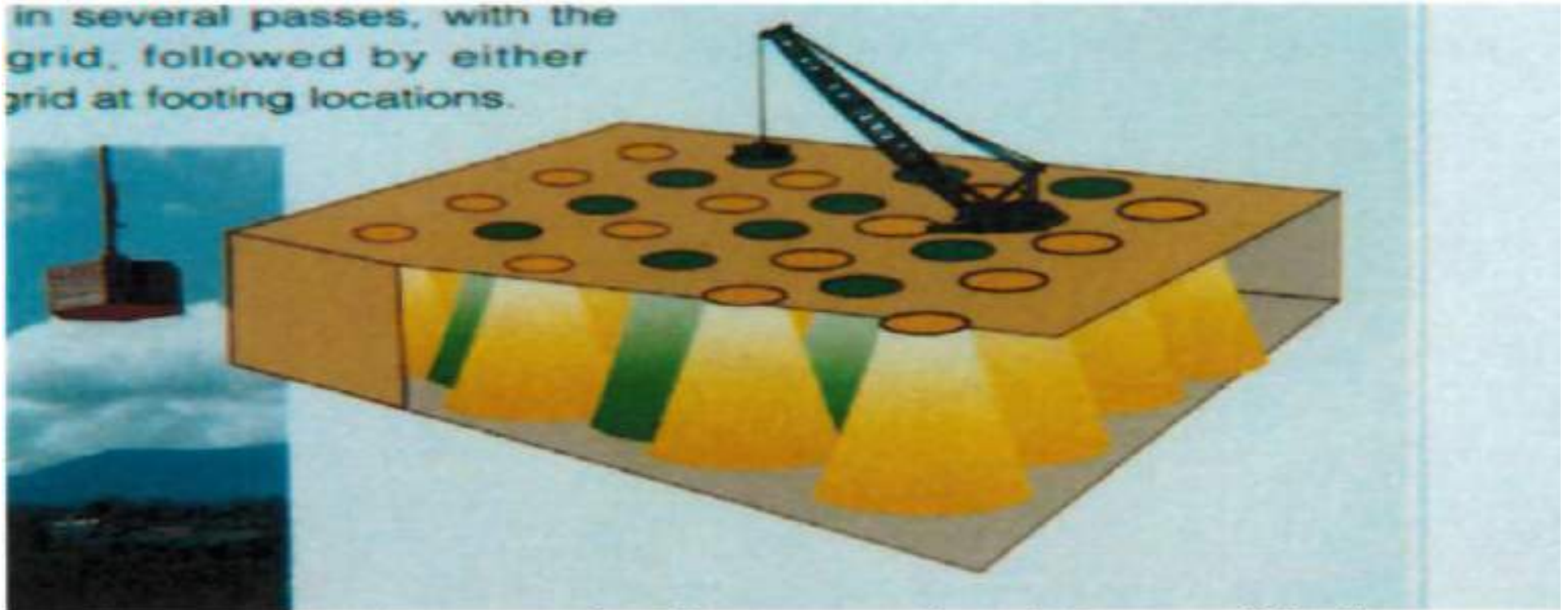
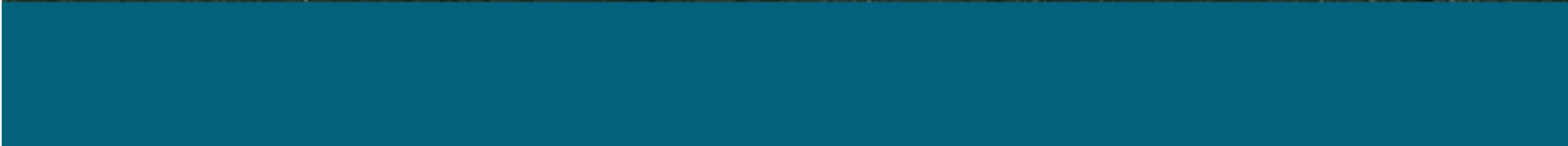


Figure 1 – Dynamic Compaction Zone of Influence



\$1.3 Million of Temporary Shoring











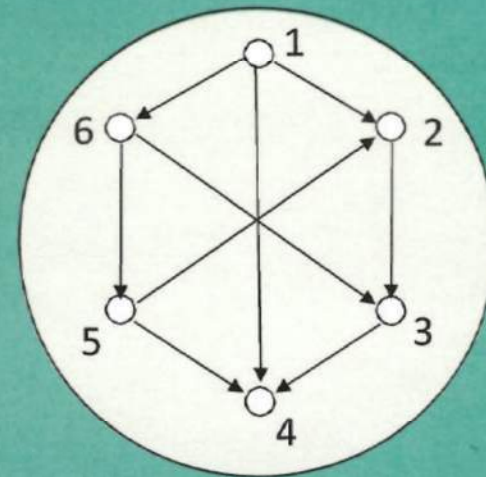
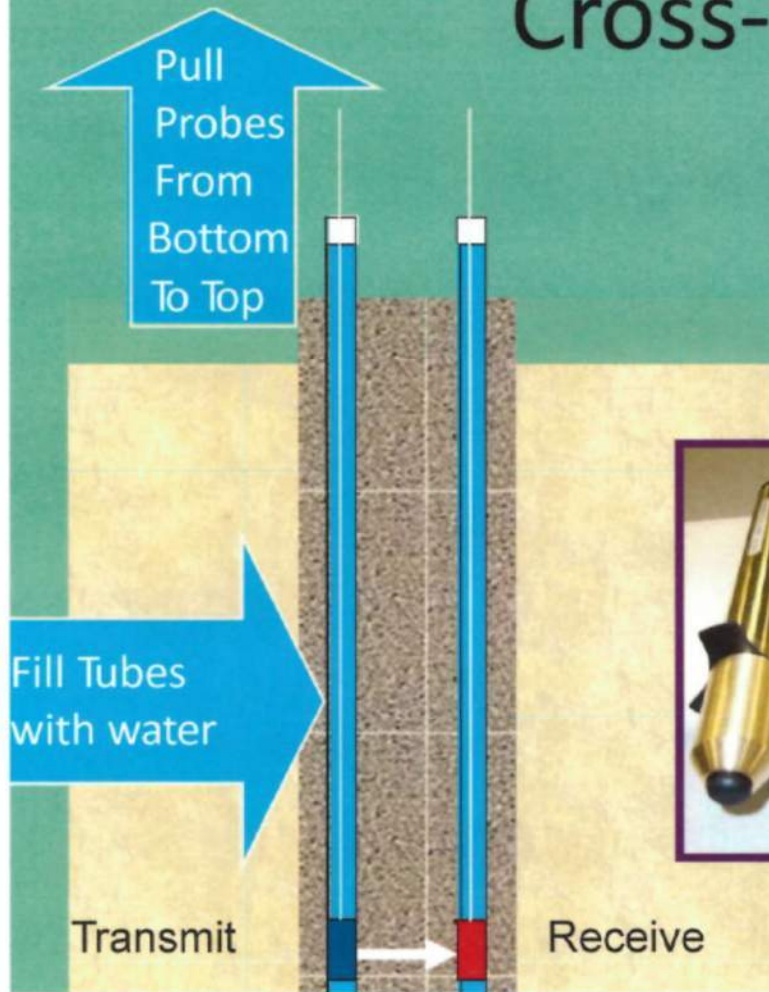


- **Cross-hole Sonic Logging (CSL)**
 - Is the process of transmitting an ultrasonic signal to a receiver. Utilizing a series of tubes filled with water.

- **Thermal Integrity Profiling (TIP) Method**
 - Measures the heat generation of hydrating cement.

Cross-hole Sonic Logging

Top view of shaft with
6 access tubes



Test all paths

Thermal Wire[®] Cables

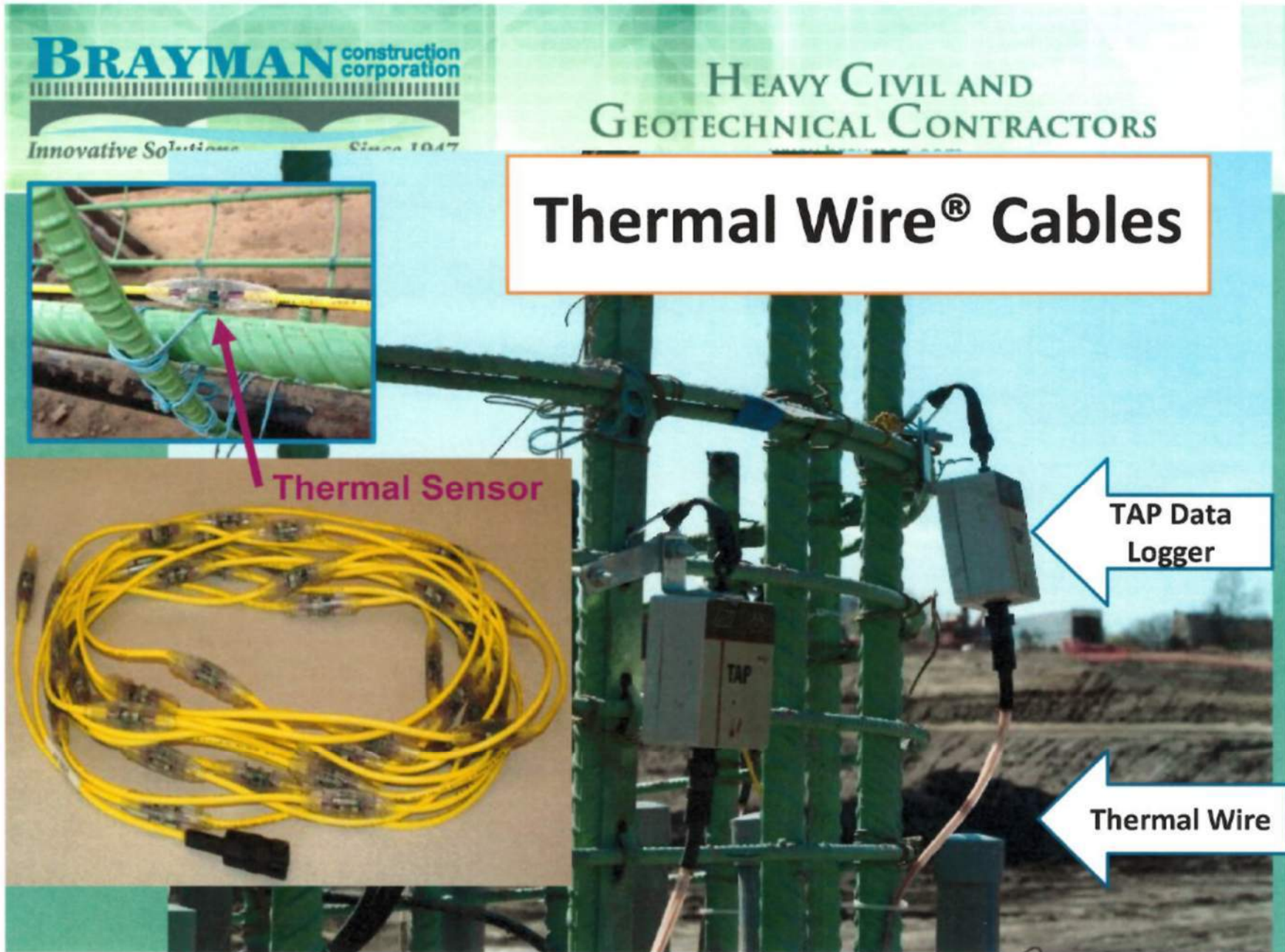


Thermal Sensor



TAP Data
Logger

Thermal Wire



BRAYMAN construction
corporation

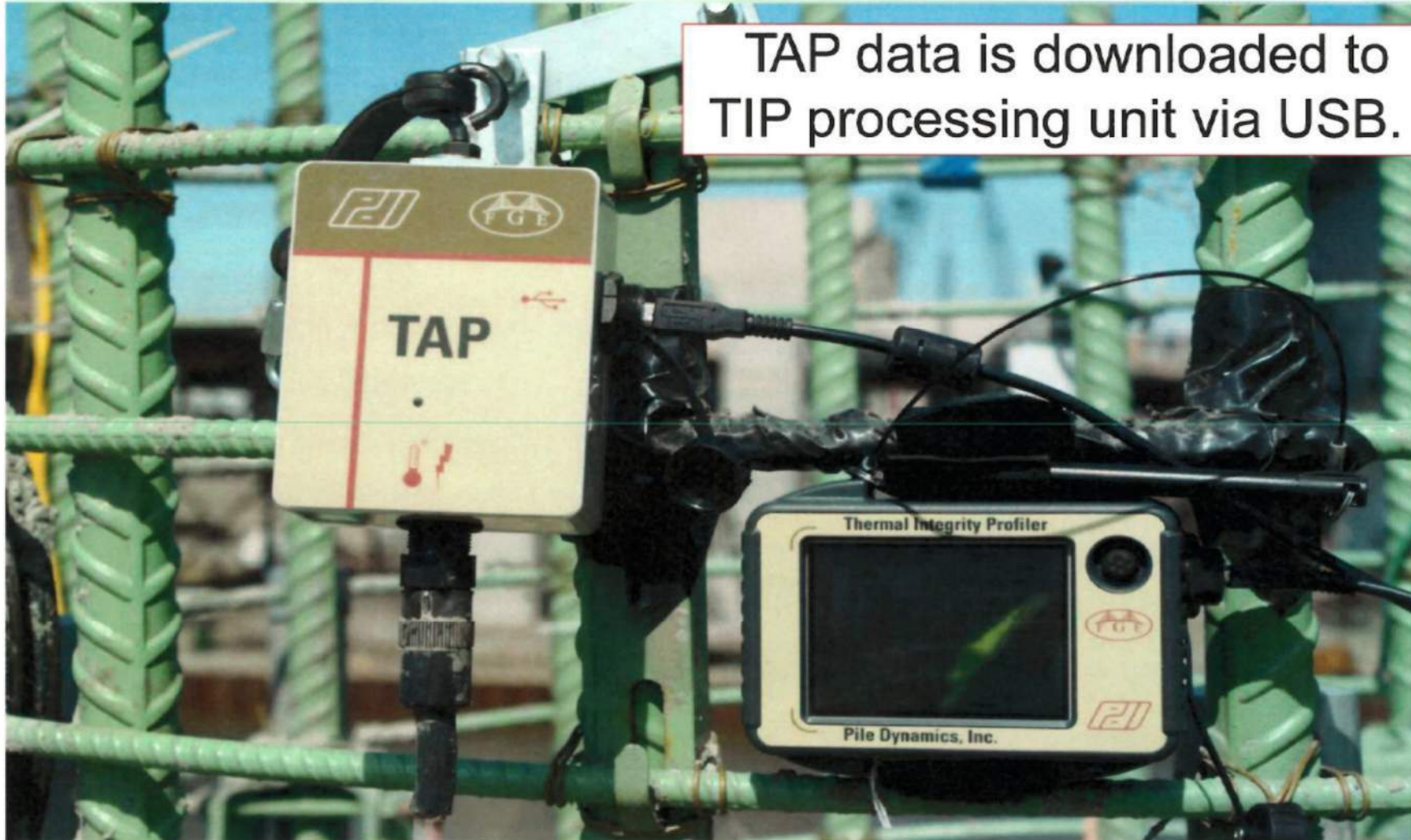
Innovative Solutions

Since 1947

HEAVY CIVIL AND
GEOTECHNICAL CONTRACTORS

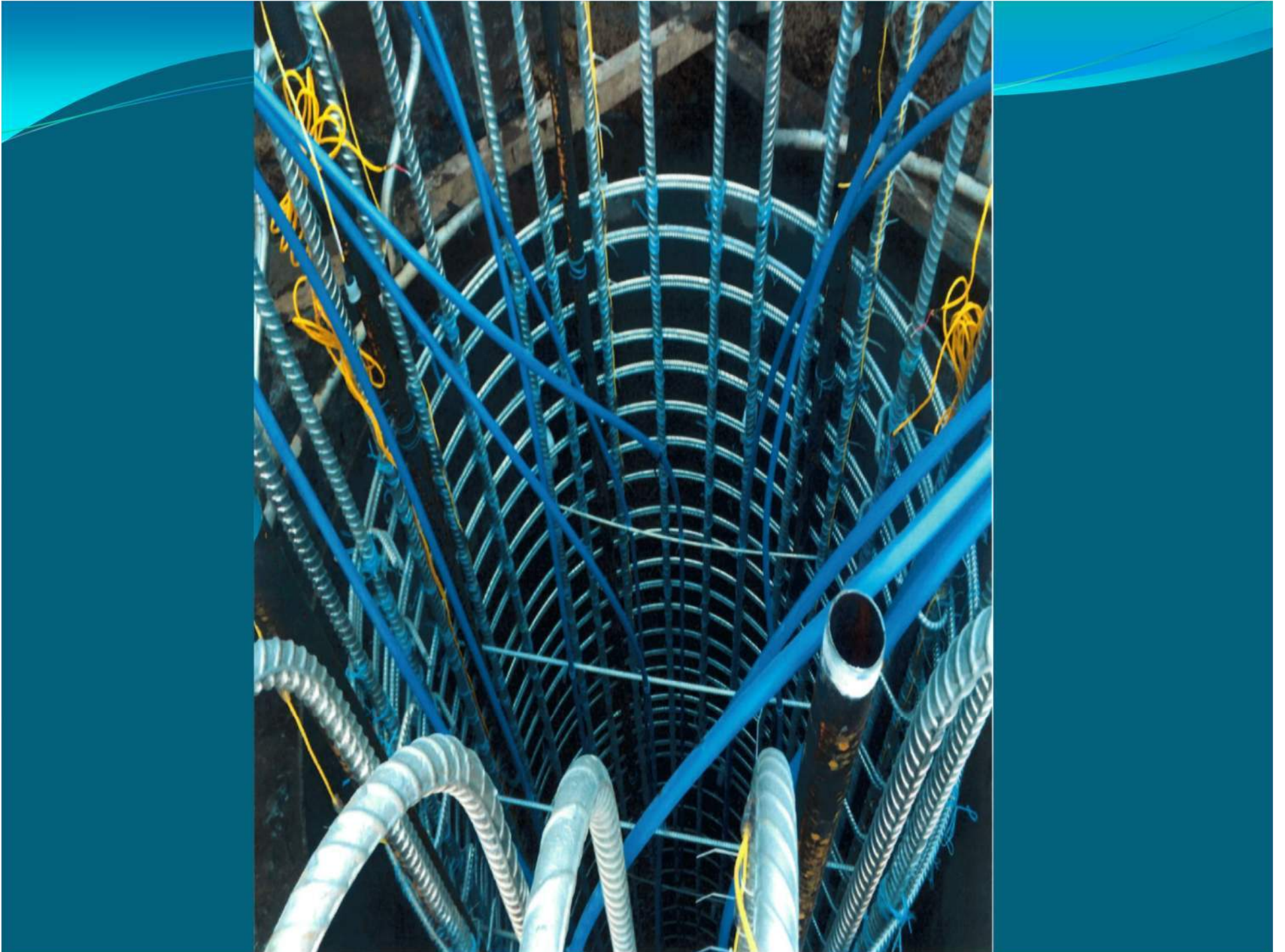
www.brayman.com

TAP data is downloaded to
TIP processing unit via USB.









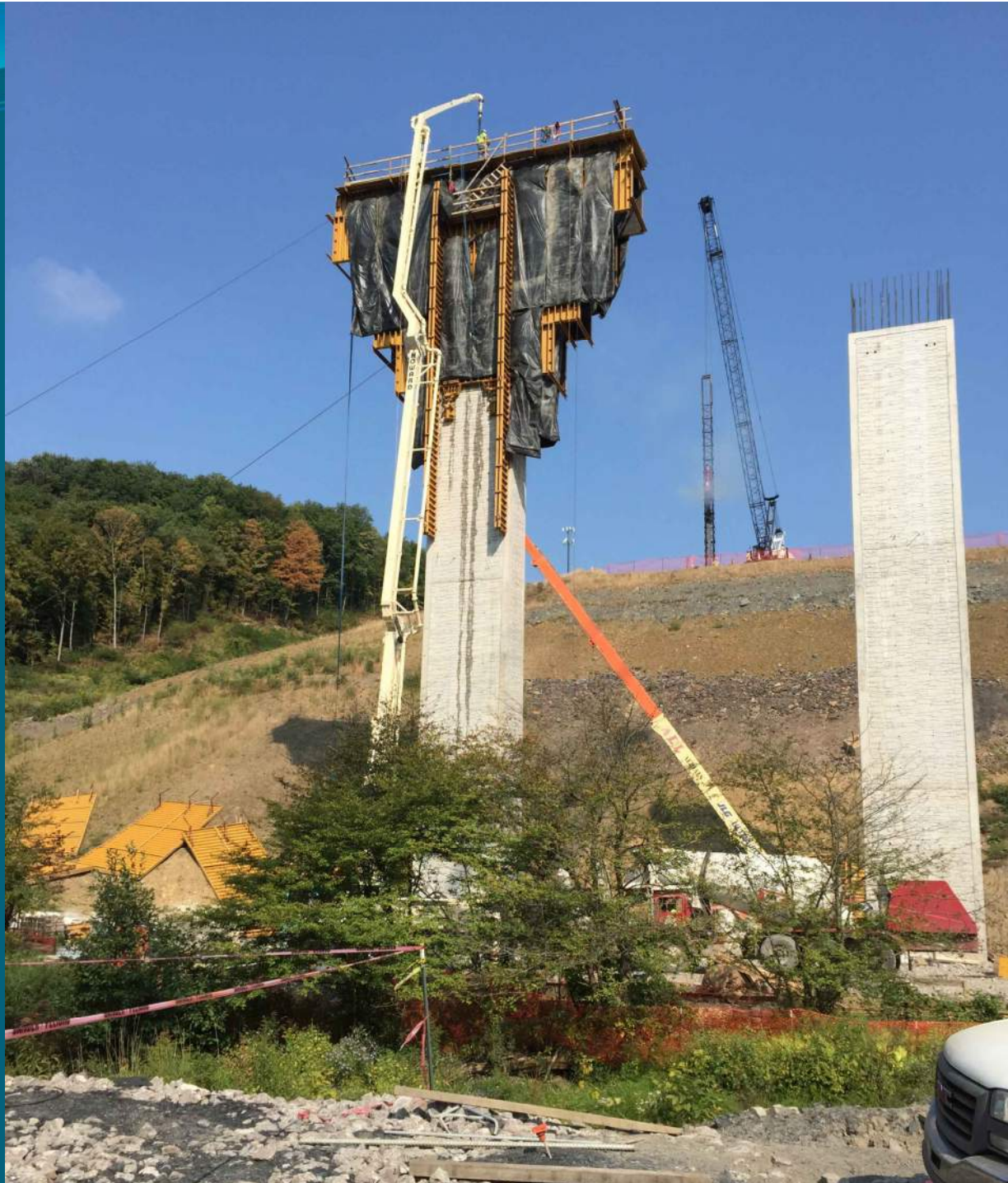




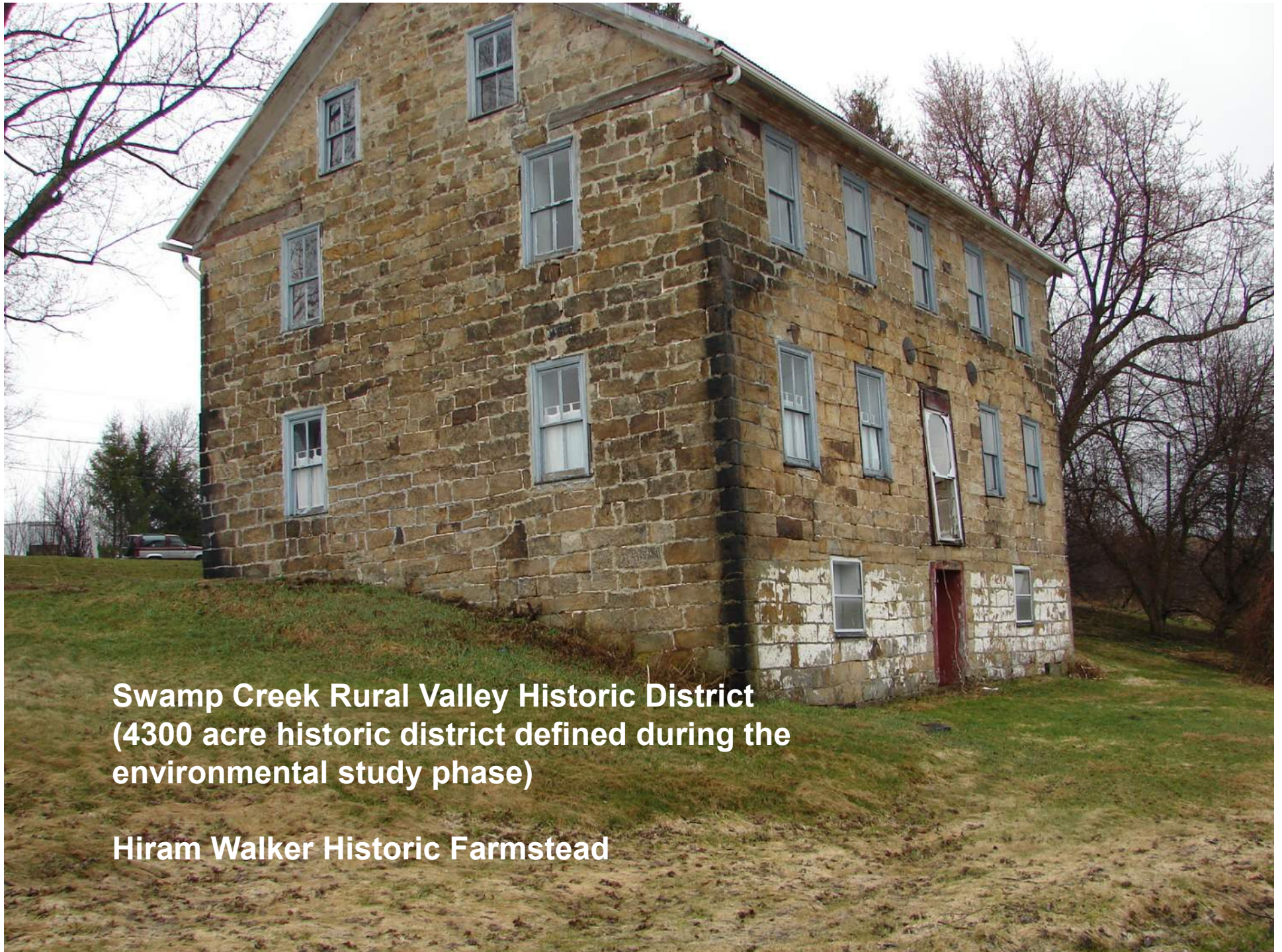












**Swamp Creek Rural Valley Historic District
(4300 acre historic district defined during the
environmental study phase)**

Hiram Walker Historic Farmstead



Pine Hill Bridge

Architectural Treatment - \$45,000





**Swamp Creek 140' columns
3/16/16 Photo, 7 layers of architectural
treatment stain - \$133,000**













Swamp Creek Bridge







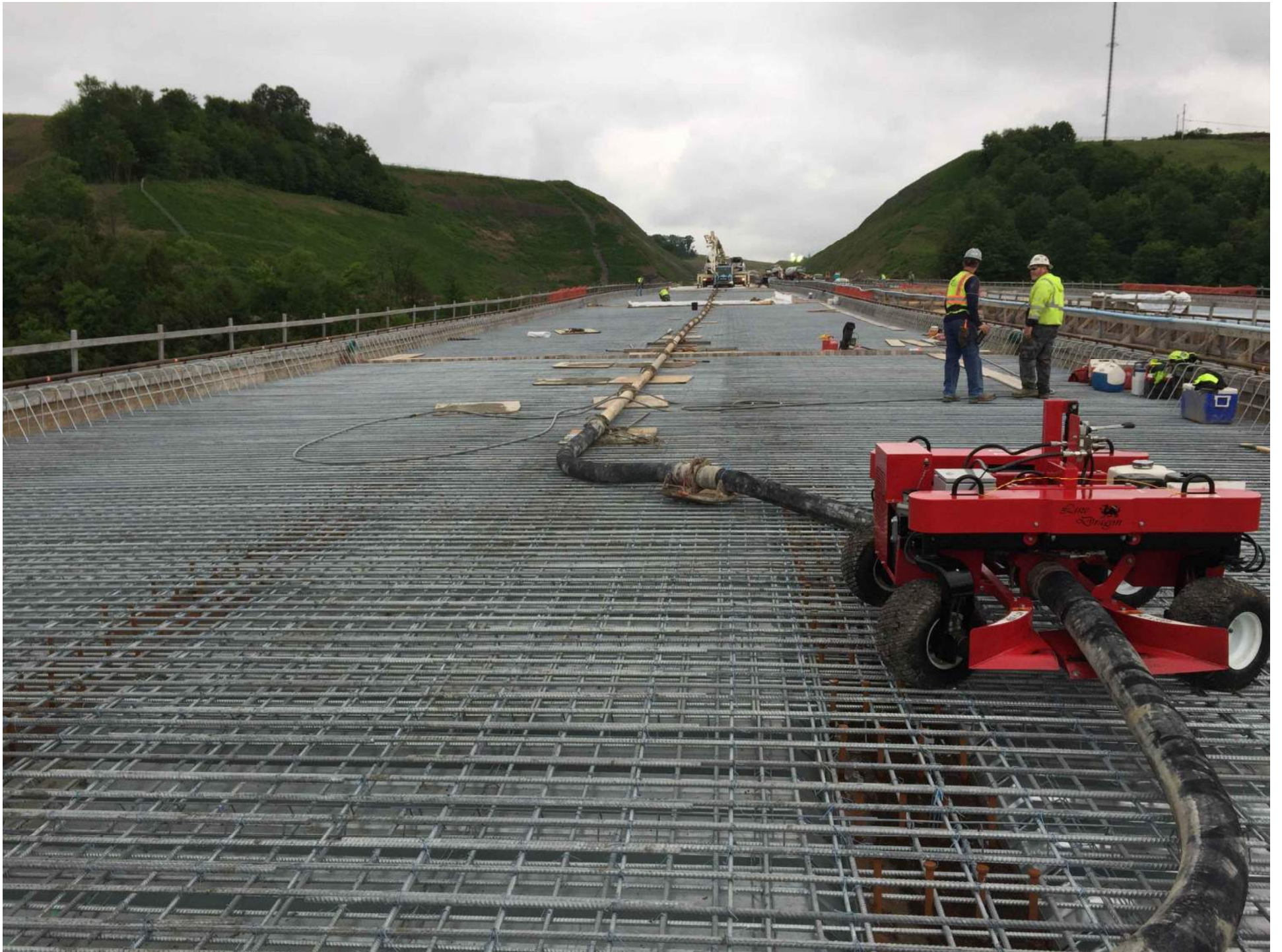






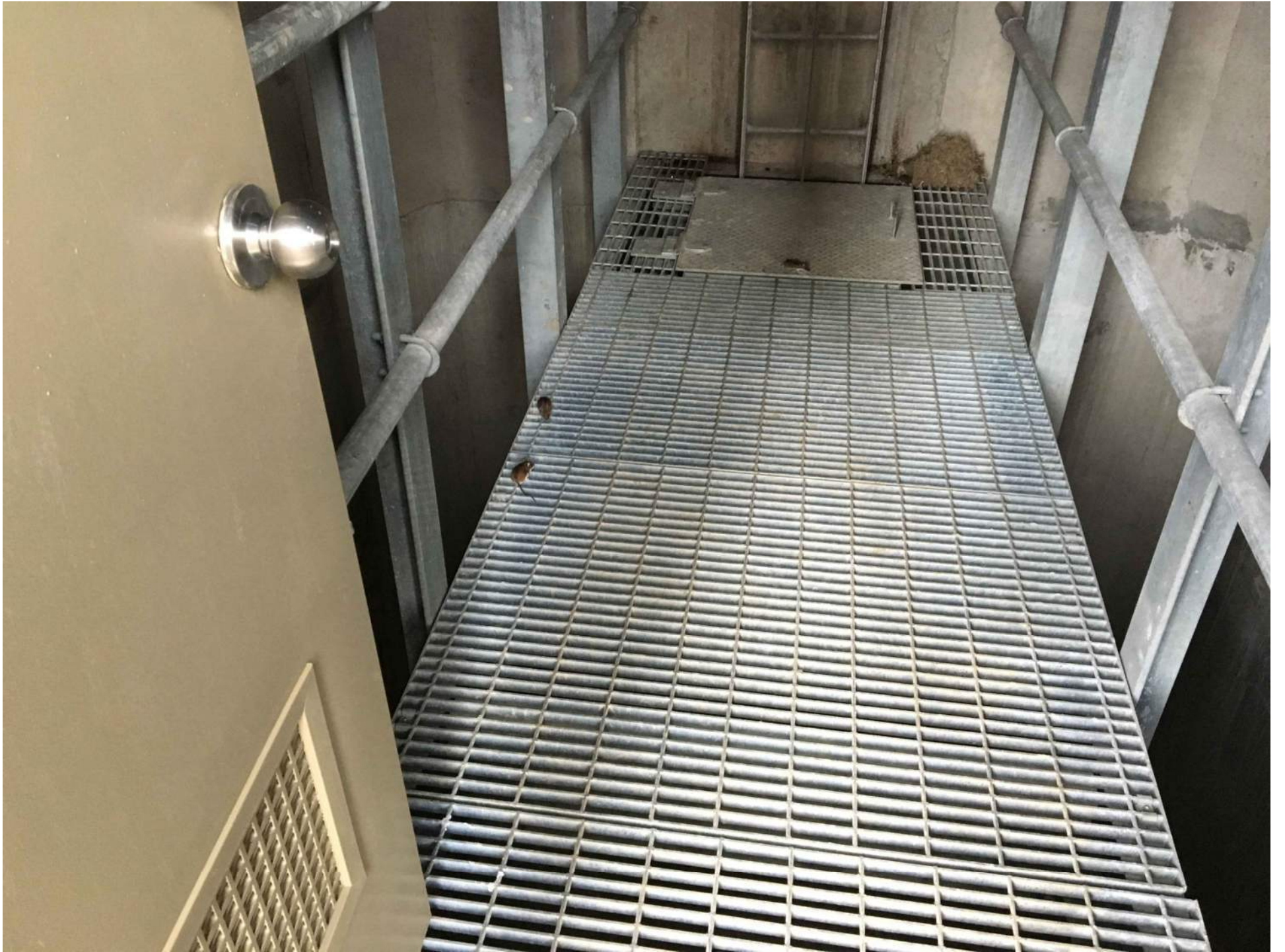














Buffalo Creek Bridge





HECKLE BRIDGE

Between 1891 and 1998, a 114-foot-long steel pin-and-eyebars parallel-truss bridge crossed Pratt through the river at this location. The bridge was fabricated and erected by the Pittsburg Bridge Company, and the abutments were constructed by Zigler & Long, a masonry contractor. The bridge is an integral part of the growth of rural Summit Township throughout the twentieth century.







No need to worry about money, we found a pot of gold on the project!

Garrett Paving Contract: \$52+ million

Let April 2016 - November 2018

10/5/16 of NESL Temporary Batch plant at Mud Pike



LOOKING BACK

























Approximately 134,000 Cubic Yards of Concrete Pavement









- 27 Storm Water Management Basins





Indiana Bat



USFWS



Environmental Monitoring required Permits

7/27/16 Aerial Photo showing the
Airesman wetland complex
13.66 wetland acres

7TG2

7TG1

Wetland Cells

Basin P-7

A

B

C

D

Airesman Aerial

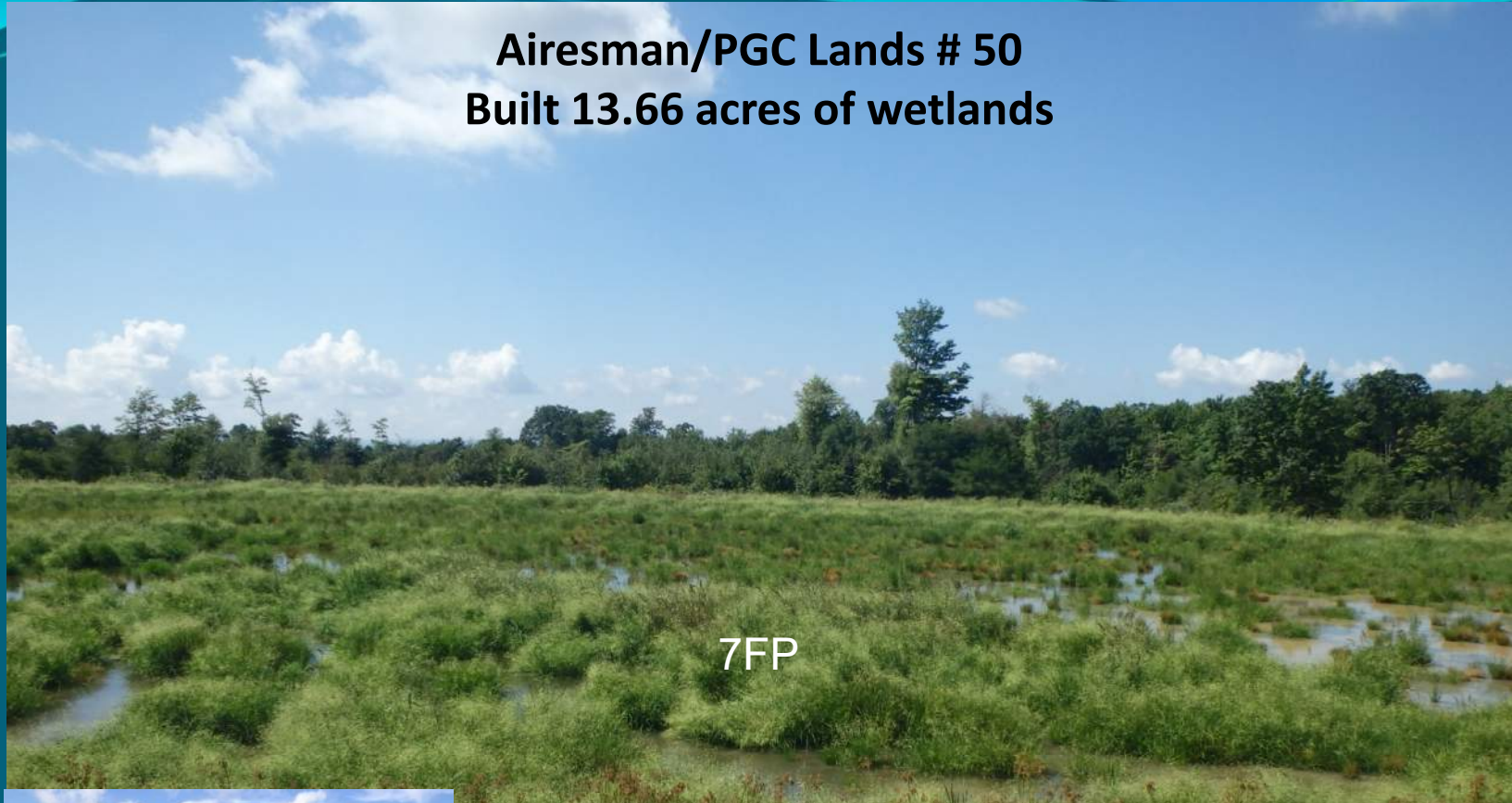
7FP

Basin P-8

Farm Pond



Airesman/PGC Lands # 50
Built 13.66 acres of wetlands



7FP



Environmental Mitigation

Wetlands are very successful

9/21/16 photo

Tree Plantings –

Off-site: Approximately 22,000

On-site: Approximately 12,000

34,000



Wildlife Culvert
With two trail-cameras
to document wildlife use.



07/04/2018 07:52 AM 66°F



12/8/16 photo



06/30/2018 03:19 PM 69°F

Critter Crossings



Critter Crossings –

- 4 sets of 2 concrete pipes
 - 1 – 18” and 1 – 36”
- 6” of Topsoil placed in pipes
- Located where the highway bifurcated a wetland

Wildlife may safely cross four-lane Route 219 through culvert

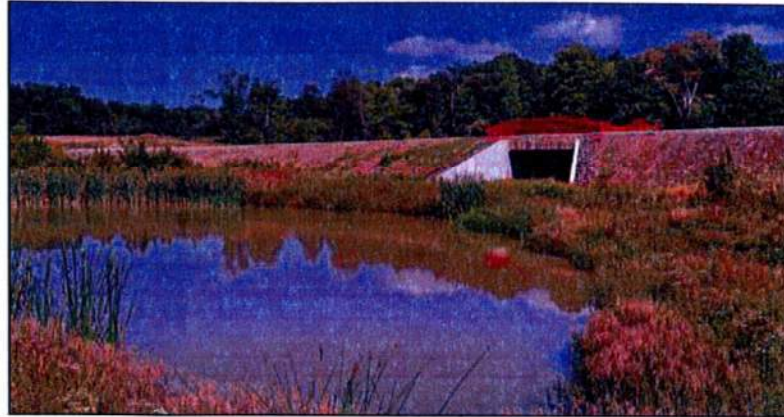
By VICKI ROCK
VICKI.ROCK@DAILYAMERICAN.COM

A wildlife culvert, called a critter crossing, is located at the Airesman Mitigation Site.

"It will allow deer and bears to pass under the highway," said J. Dain Davis, environmental department supervisor for The EADS Group, an engineering firm with offices in Somerset. "The wetlands were bifurcated; that's why the culvert is needed."

Joseph B. Fay Co., of Tarentum, the prime contractor for the four-lane Route 219 construction, built the wildlife culvert, which was required under the wetlands mitigation plan.

The 16-foot-long, 10-foot-wide wildlife culvert is the first in this area. A tributary of Laurel Run passes through the culvert, along with a dirt walkway. Six inches of soil were placed inside to encourage snakes to go through. Two trail cameras have



A wildlife culvert that will allow deer, bears and other animals to safely pass under the four-lane Route 219 in the area of the Airesman Mitigation Site. Additional photos are online at www.dailyamerican.com.

been mounted on the walls of the culvert. The mitigation site has been turned over to the Pennsylv-

ania Game Commission to be part of state Game Land 50. Trevor Young, environmental

specialist with EADS, said that once the skylights are uncovered and traffic begins using the new

roadway, animals should find the culvert.

"They will establish travel patterns, especially deer," he said. "Once some start going through and feel safe, the rest will follow."

Travis Anderson, land management officer for the Pennsylvania Game Commission, said based on tracks, smaller animals are already using the pipe culvert. Anderson said he believes a bear is in the wetlands area. Each wetland cell bank has a water control structure to adjust the level of water from storm-water runoff. The metal lid was ripped off one structure, which could only have been done by a large animal. A bear might have been investigating the sound of rushing water.

"Give credit to PennDOT and the Game Commission for working together to build a natural resource for Somerset County," Davis said.

219

(Continued from A1)

The land was seeded with an emergent seed mix and native wetland seeds. Each cell has a water control structure to adjust the level of water from runoff. Even in droughts there should be sufficient water for the trees and plants. The U Co., of Confluence, was putting down fertilizer on Tuesday.

"An evergreen buffer of 1,500 trees was planted for wildlife," said Trevor Young, environmental specialist with EADS. "It will be a living snow fence for the public."

Biotic Earth, material that is derived from living organic material that can be used as a growth medium to help plants, is being used on a test basis in areas that aren't doing well. In Pennsylvania it has only been used where a gas line exploded in Westmoreland County last year. It is about a third of the cost of mushroom moss.

Travis Anderson, land management officer for the Pennsylvania Game Commission, is in his second year of tagging ducks on the site.

"I caught fewer ducks this year than last year," he said. "I did catch some of the same ducks this year as last year. Especially wood ducks, that typically return year after year."

Wetlands are critical habitats that are im-

portant for all species of wildlife because of the diversity of life that they attract, Anderson said. State Game Land 50 is located in Black and Somerset townships.

"Game Lands 50 is over 3,000 acres, historically with bear, deer, waterfowl, muskrats, mink and songbirds of all types," he said. "Everything needs wetlands. They are an important part of wildlife. So many wetlands nationwide are being impacted by development. Anytime we can create a new wetlands, it's a good thing."

A 3- to 5-acre bog is at the north end of the project. A bog is a groundwater recharge with unique vegetation. The state Department of Environmental Protection, the federal Environmental Protection Agency

and the Army Corps of Engineers all said that the bog, identified in the 1980s, has to be protected.

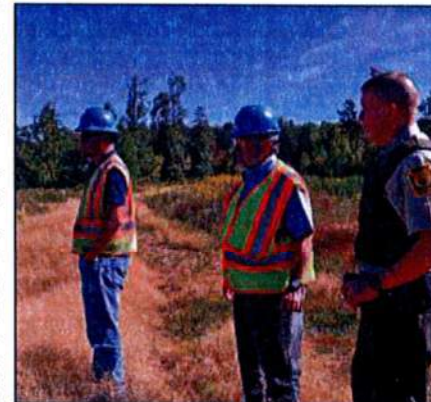
"Out here, a bog is an ecological rarity," Young said. "They just don't occur here."

Davis said the Airesman Mitigation Site is already a success.

"It is an excellent wildlife habitat, particularly in dry periods," he said. "Wetlands filter water for groundwater and flood control. From a recreational standpoint, hunters and photographers will be allowed on the property."

EADS will continue to monitor the Airesman site for 10 years after the Route 219 project is completed to ensure that mitigation is working.

"These wetlands have done well and will continue to do well," he said.



Staff photo by Vicki Rock

Trevor Young, environmental specialist for The EADS Group, an engineering firm, left, J. Dain Davis, environmental department supervisor for EADS, and Travis Anderson, land management officer for the Pennsylvania Game Commission, at the Airesman Mitigation Site, a wetlands project built to replace wetlands lost in the construction of Route 219. Additional photographs appear online at www.dailyamerican.com.

US 219 I.T.S. Contract: \$1,537,577

November 2017 - Present



NEW SECTION
US-219
NOW OPEN

5 New Variable Message Boards

3 New CCTV cameras

RWIS





Living Snow Fence Contract: \$355,285





First growing seasons growth

First Cutting: November 1 – November 15







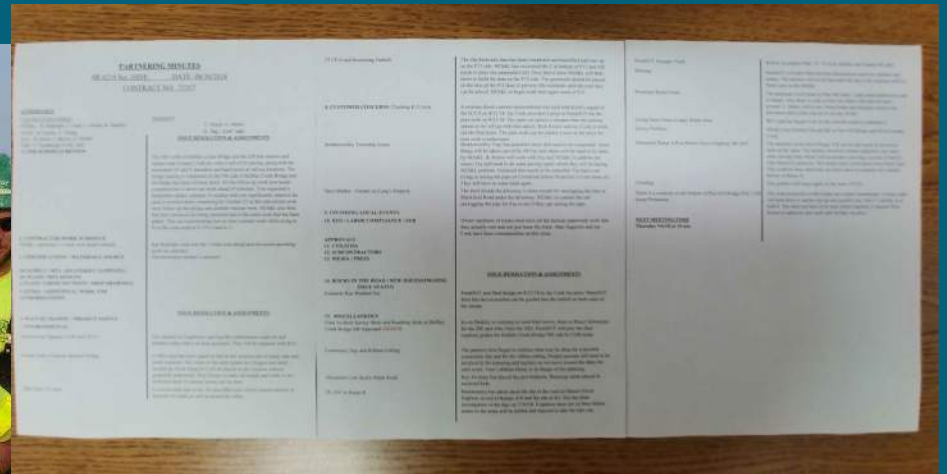
- 11,640 Linear Feet (that's roughly 2.2 miles for you engineers) of Living Snow Fence
- 6 locations on new alignment
- 2 locations on Garrett Shortcut Road

Stutzmantown Road





Partnering



DESIGN AND CONSTRUCTION TEAM



Design Consultants



Construction Inspection



Contractors



CONCRETE PUMPING COMPANY INC.



Environmental Agencies

1. Army Corp of Engineers
2. U.S. Fish and Wildlife
3. D.E.P.
4. PA Fish and Boat Commission
5. PA Game Commission
6. Somerset Conservation District

In Summary

- Approximately 11 miles of new 4-lane from Meyersdale to Somerset
- 2 new interchanges
- 7 new bridges constructed
- 10 million cubic yards of earthwork
- 5 million cubic yards of waste disposed offsite
- 134,000 cubic yards of concrete paving
- 29.54 wetland acres provided as mitigation
- 1312.5 linear feet of stream provided as mitigation

Questions?

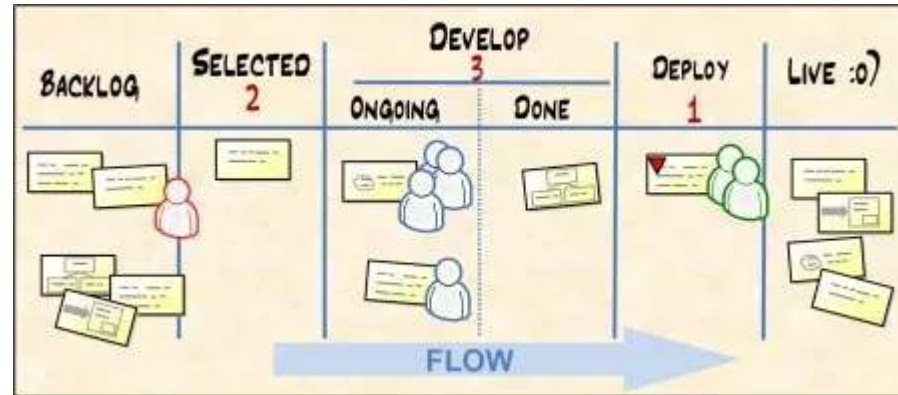


Project Development and TIP Impacts



David Lybarger
Planning & Programming Manager

Project Development and TIP Impacts



- How does a project begin?
- What is evaluated pre-TIP?
- How does a project get onto the TIP?
- What is the TIP life cycle?

Project Development and TIP Impacts



- Collect asset management priorities
- Local candidate priorities
- Anticipate carryover projects
 - Evaluate roadway bridge split
 - Determine anticipated levels of available funding
- Identify list of candidate projects for evaluation

Project Development and TIP Impacts

- PennDOT Connects
 - Pedestrian
 - Bicyclists
 - Public Transit
 - Congestion
 - Freight/Economic Activity/Manufacturing
 - Stormwater and Green Infrastructure
 - Safety
 - Public Controversy
 - Other Planned Infrastructure or Development
 - Other (Utility, Health/Culture Events)



Project Development and TIP Impacts

- Visioning Field Views

The project will resurface the roadway maintaining existing pavement and shoulder widths, mill and fill in curbed areas.

Additional Items:

- Reestablish crosswalks
- Evaluate all ADA ramps. They were constructed prior to the new standards.
- Evaluate the super elevations
- Drainage and guiderail upgrades
- Complete sidewalk missing links – from Sheetz to 6th Avenue and from Sheetz to 31st Street. Coordinate with City. See PennDOT Connects forms.
- Tree trimming
- Sign replacement
- Signal upgrades – See PennDOT Connects
- Bicycle safe grates
- Coordinate with City on street lighting project
- Evaluate sight distance issues at side roads. Look at parking restrictions on side roads.



▶ Project Development and TIP Impacts

- Carryover project estimates are confirmed.
 - August 1st 2019
- TIP/TYP programming takes place



▶ Project Development and TIP Impacts



Project Development and TIP Impacts

- What was that about estimates?
- PennDOT Pub 352
 - Planning (TIP development)
 - Scoping
 - Design Field View
 - Final Design Office Meeting
 - PS&E
- District 9 Best Practices
 - February 1st
 - August 1st



▶ Project Development and TIP Impacts

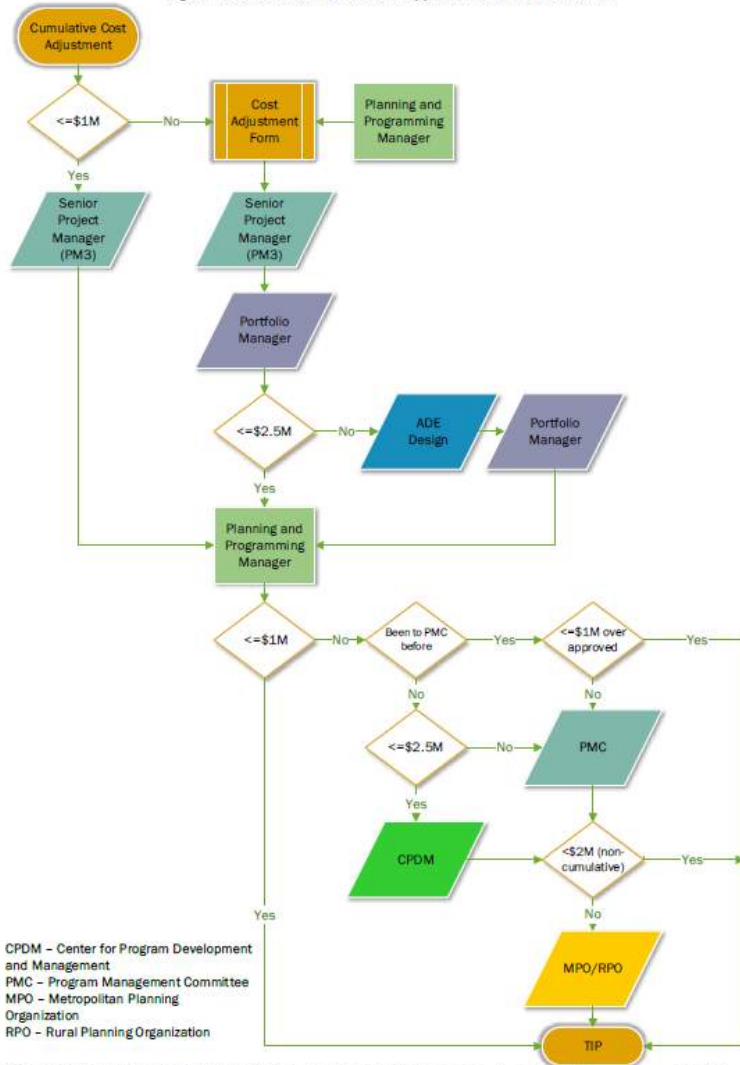
- TIP's are fiscally constraint.



Project Development and TIP Impacts

PennDOT District 9-0 Guidance on Project Cost Estimate Revisions

Figure 1. Cost Estimate Review and Approval Procedures Flowchart

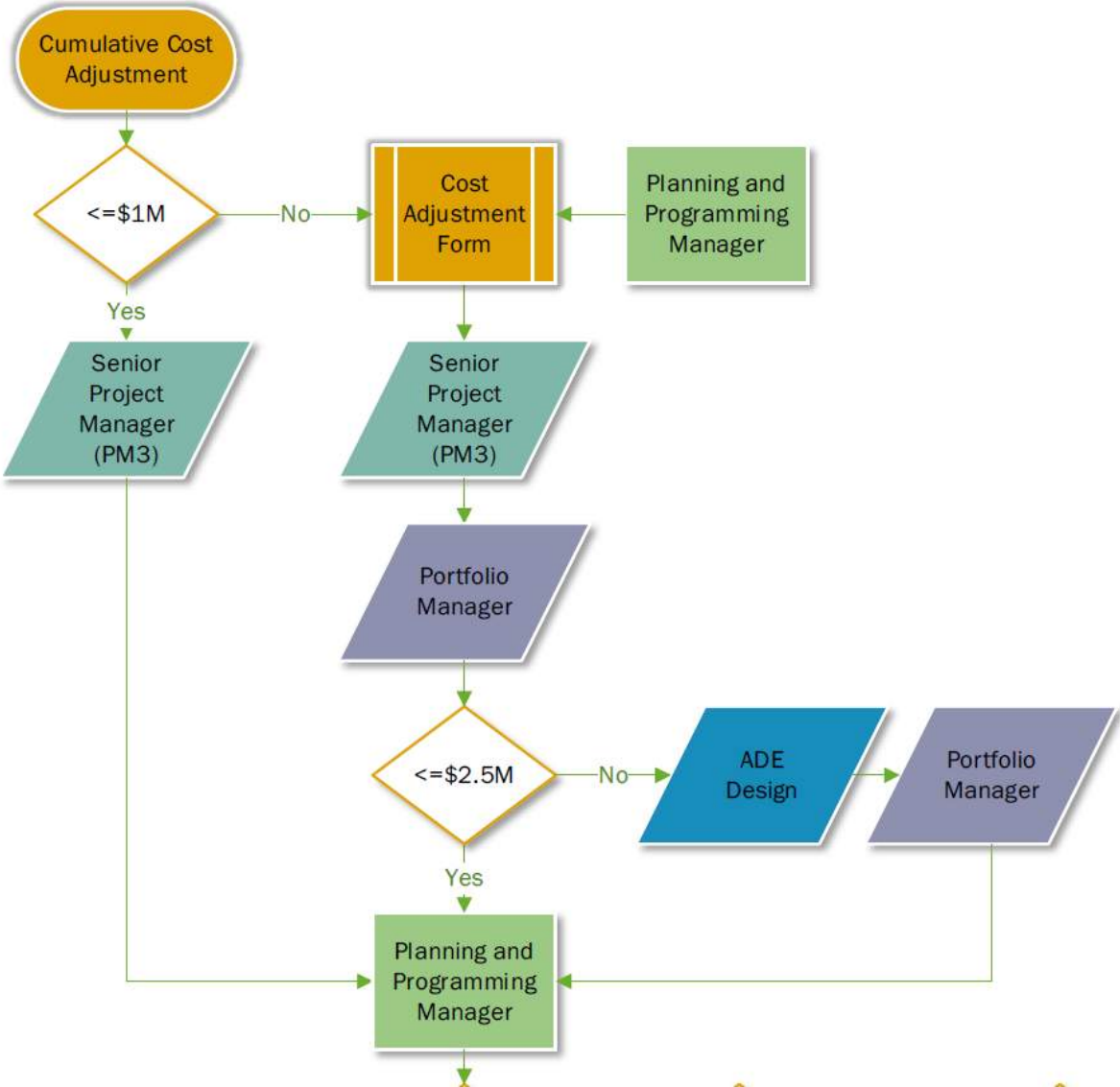


- Three different types of TIP adjustments.
 - <= \$1,000,000
 - \$1,000,000 to \$2,500,000
 - > \$2,500,000

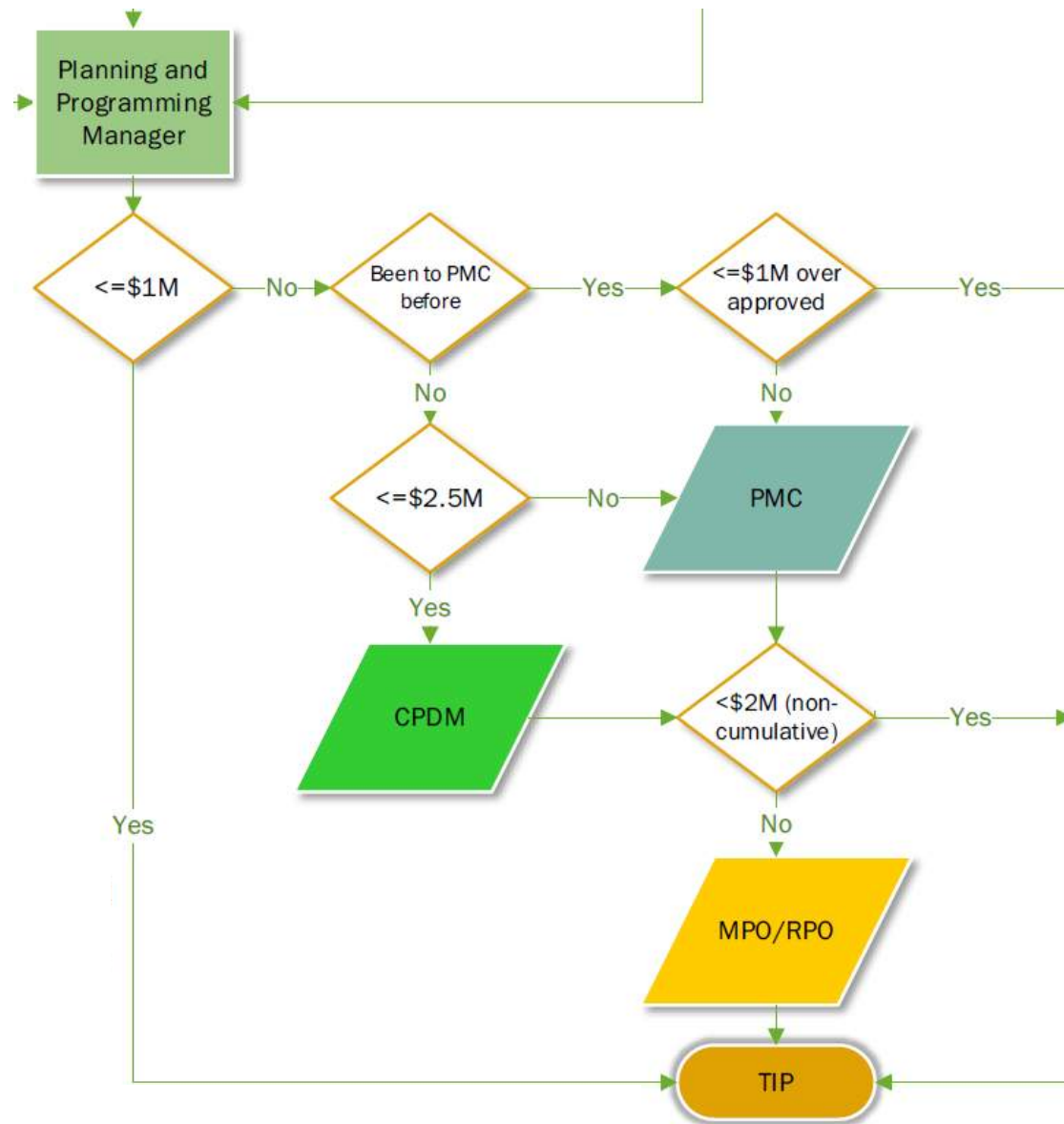


Project Development and TIP Impacts

Figure 1. Cost Estimate Review and Approval Procedures Flowchart



Project Development and TIP Impacts



▶ Project Development and TIP Impacts

Project Information							FFY 2019 Currs				FFY 2020 Currs				FFY 2021 Currs				FFY 2022 Currs												
County	S.R.	Sec.	Project	Project Title	Phase	Area	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	
Bedford	31	11B	36675	Manns Choice Buffalo Run	P	BRDG																									
Bedford	56	01B	105936	Trib Barefoot Run	+C	BRDG																									
Bedford	56	025	110468	PA 56 Pleasantville Mountain Safety Improvements	P	SAMI			561	XXXX,XXXX		XXXX,XXXX																			
Bedford	56	025	110468	PA 56 Pleasantville Mountain Safety Improvements	F	SAMI										561	XXXX,XXXX		XXXX,XXXX												
Bedford	56	025	110468	PA 56 Pleasantville Mountain Safety Improvements	U	SAMI										561	XX,XXX		XX,XXX												
Bedford	56	025	110468	PA 56 Pleasantville Mountain Safety Improvements	+C	SAMI																				HSIP	0,XXXX,XXXX				0,XXXX,XXXX

Project Development and TIP Impacts



Digital Signatures at District 9

Policy & Procedure Update for Digital Signature Usage at District 9

PennDOT / ASHE Workshop
04/16/2019

Digital Signatures at District 9

SOL 481-15-06



DATE: December 10, 2015

SUBJECT: eSignature Process

TO: District Executives

FROM: R. Scott Christie, P.E. /s/
Deputy Secretary for Highway Administration

This Strike-Off Letter (SOL) addresses the implementation of a new eSignature process, which provides the ability to digitally sign a Portable Document Format (PDF) file. This process provides a more efficient means in signing and transmitting documents between parties, while maintaining a method to authenticate the validity of signatures.

This process primarily supports documents requiring signatures that reside outside of existing Information Technology (IT) systems. For example, if a form exists as a Mobile Application or is integrated within an IT system, such as ECMS, then this process would not be applicable nor permitted. Documents requiring signatures, which are ultimately attached to an existing IT system, can use this process for signatures prior to the inclusion of the document within the IT system.

Digital Signatures at District 9

eSignature web address:

<https://sportal.dot.pa.gov/sites/econstruct/SitePages/Home.aspx>

PennDOT Enterprise SharePoint Portal Sites DeStefano, Ralph J

SHARE FOLLOW

Search this site

pennsylvania DEPARTMENT OF TRANSPORTATION /sites/econstruct

Home

Lists

- Certificate Listing
- Certificates Received Last 7 Days
- Deactivated Users
- Inactive Certificates

Libraries

- Shared Documents**
- Site Contents

Welcome to the eSignature Site.

This site is the centralized repository for Public Certificates for both PennDOT and Business Partners. To view the verified Public Certificates, please click on the Certificate Listing item in the left navigation.

If you have any questions concerning this site, please [email](#) the administrators.

Shared Documents

Name	Modified
Create and Export Adobe Acrobat or Adobe Reader Signature Certificate	11/1/2018 8:41 AM
Create an Appearance Adobe Acrobat or Reader DC	11/1/2018 8:40 AM
Create an Appearance Adobe Acrobat or Reader XI	11/1/2018 8:40 AM
Create and Export Adobe Acrobat Pro DC Signature Certificate	11/1/2018 8:40 AM
Business Partner eSignature Application Form v3	8/2/2018 3:55 PM

Newly Added Certificates

Last Name	First Name	Middle Initial	Company	E-mail Address	Certificate	Modified
Adolini	Michelle	L	PennDOT	madolini@pa.gov	View	12/13/2018 2:15 PM
Hallam	Kathaleen	D	PennDOT	khallam@pa.gov	View	12/13/2018 2:17 PM

Announcements

Title	Modified
Signing Documents	1/22/2018 10:56 AM
Business Partners can now view other Business Partner Certificates	12/22/2015 3:31 PM
Business Partner Webinar Available on ECMS	12/16/2015 9:53 AM
Using Standard Text as an Appearance for Signatures	12/14/2015 5:13 PM

Digital Signatures at District 9

The screenshot displays the PennDOT Enterprise SharePoint Portal interface. The top navigation bar includes the site name 'PennDOT Enterprise SharePoint Portal' and the current user 'DeStefano, Ralph J'. Below the navigation bar, the breadcrumb path is '/sites/econstruct' and the page title is 'Shared Documents', which is highlighted with a red rectangular box. The left sidebar shows navigation options such as 'Home', 'Lists', and 'Libraries', with 'Shared Documents' selected under 'Libraries'. The main content area features a search bar and a table of documents.

Name	Modified	Modified By
Business Partner eSignature Application Form v3	August 2	Deiterich, Tina
Business Partner Login	May 3, 2016	Deiterich, Tina
Create a PDF Portfolio using Adobe Acrobat XI	January 14, 2016	Deiterich, Tina
Create an Appearance Adobe Acrobat or Reader DC	November 1	Deiterich, Tina
Create an Appearance Adobe Acrobat or Reader XI	November 1	Deiterich, Tina
Create and Export Adobe Acrobat or Adobe Reader Signature Certificate	November 1	Deiterich, Tina
Create and Export Adobe Acrobat Pro DC Signature Certificate	November 1	Deiterich, Tina
eSignature Process-2015-12-01	April 26, 2016	Deiterich, Tina
eSignature Strike Off Letter	August 4, 2017	Deiterich, Tina
Frequently Asked Questions - eConstruct Site	November 17, 2015	Deiterich, Tina
Importing a Certificate with Bluebeam Revu	January 14, 2016	Deiterich, Tina
Non PennDOT User Portal Access Request v2	July 24, 2017	Deiterich, Tina
Removing a Trusted Certificate User Guide	May 25, 2016	Deiterich, Tina
Signing a PDF Form User Guide for Acrobat and Reader XI	January 14, 2016	Deiterich, Tina
Trusting another user's certificate	January 14, 2016	Deiterich, Tina


Digital Signatures at District 9

PennDOT Enterprise SharePoint Portal Sites DeStefano, Ralph J

BROWSE SHOWME ITEMS LIST

SHARE FOLLOW

Search this site

 /sites/econstruct

Certificate Listing

<input type="checkbox"/>	Last Name	First Name	Middle Initial	Org Code/ID	Company	E-mail Address	Validity End	Certificate	Ink Sign. rec'd	Ink Sign. Form	Status	Reason
	Adolini	Michelle	L	4824	PennDOT	madolini@pa.gov	12/13/2023	View	/A		Active	
	Aiken	Douglas	W	101437	HRV	Daiken@hrvinc.com	9/30/2023	View	es	View	Active	
	Allen	Barbara	J	1363	Larson Design Group, Inc.	ballen@larsondesigngroup.com	1/15/2024	View	es	View	Active	
	Amin	Atul	V	0500	PennDOT	aamin@pa.gov	10/1/2023	View	/A		Active	
	Andersch	Ronald			Rock Hill Concrete, Inc	qcdept@rockhillconcrete.com	4/20/2023	View	es	View	Active	
	Anderson	Dale	R	0200	PennDOT	dalanderso@pa.gov	1/7/2021	View	/A		Active	
	Antosh	Joseph	J	3300	PennDOT	jantosh@pa.gov	12/3/2023	View	/A		Active	
	Arena	Judith	R	0600	PennDOT	jarena@pa.gov	6/8/2023	View	/A		Active	
	Arthur	Joseph		1100	PennDOT	joarthur@pa.gov	11/13/2020	View	/A		Active	
	Atkinson	Linda	A	4800	PennDOT	liatkinson@pa.gov	2/5/2021	View	/A		Active	
	Atwater	Sean	F	101308	HRV	satwater@hrvinspectors.com	12/2/2023	View	es	View	Active	
	Awes	Eric	J	4824	PennDOT	eawes@pa.gov	5/16/2023	View	/A		Active	
	Aylesworth	Ralph	L	0100	PennDOT	rayleswort@pa.gov	3/29/2023	View	/A		Active	
	Aylesworth	Mary	L	MLA1	JC Lee Construction	mary@jclee.net	11/29/2022	View	es	View	Active	
	Babinski	Gerard		0400	PennDOT	gbabinski@pa.gov	5/3/2023	View	/A		Active	
	Raillie	Matthew	R	0500	PennDOT	mhaillie@pa.gov	8/9/2023	View	/A		Active	

Click on 'View' to download individual's PUBLIC certificate

Digital Signatures at District 9

DESIRED OUTCOMES OF CURRENT EFFORT:

1. Simplify Digital Signing Process of Internal PDF Documents
2. Consistency of Digital Signing Process
 - a) Creation of Secure Digital IDs that Can be Authenticated by External Parties
 - b) Use of pre-defined signature fields instead of free-form, self-sized fields
 - c) Uniformity of Signature Appearances
3. Reformatting of Digital Signature Blocks for Uniformity
4. Create and Maintain Repository of Reformatted Forms

Digital Signatures at District 9

CHANGE OF LET DATE REQUEST FORM

		Signature	Date
Updated in MPMS	Planning & Programming Manager Dave Lybarger	<i>David E Lybarger</i>	11/28/18
Concurrence	Portfolio Manager James T. Pruss, Jr., P.E.	<i>James T Pruss Jr.</i>	11/14/18
	ADE Design Vince Greenland, P.E.	<i>Vince Greenland</i>	11/14/2018
	District Executive Tom Prestash, P.E.	<i>Thomas A Prestash</i>	11/26/2018

←
OLD

STANDARDIZED APPEARANCE

Handwritten signature w/ auto embedded date & time stamp

		Signature	Date/Time Stamp
Funding Confirmed	Planning & Programming Manager	<i>Ralph J DeStefano</i>	Ralph J. DeStefano 2018.12.15 15:22:53-05'00'
Concurrence	Portfolio Manager	<i>Keith Fulton</i>	Keith Fulton 2018.12.15 15:25:10 -05'00'
	Assistant District Executive – Design	<i>Chuck Saylor</i>	Chuck Saylor 2018.12.15 15:25:31 -05'00'
	District Executive	<i>Chuck Saylor</i>	Chuck Saylor 2018.12.15 15:25:52 -05'00'
Updated in MPMS	Planning & Programming Manager	<i>Keith Fulton</i>	Keith Fulton 2018.12.15 15:26:12 -05'00'

→
NEW

Digital Signatures at District 9

STEP 1 - CREATE ADOBE DIGITAL ID

- Can be created using Acrobat Pro DC or Reader
- Private digital “KEY”
- Valid for 5 years
- Must be password protected
 - 6 characters minimum
 - No rules on characters
 - Never needs changed – good for 5 year life of digital ID
- Private “KEY” file created in Acrobat can be imported and used in Bluebeam Revu
- Different from Windows Digital Certificate (which most people are currently using)

Digital Signatures at District 9

STEP 2 - EXPORT DIGITAL ID CERTIFICATE

- Public digital “KEY” for distribution
- Used by others to validate/authenticate your digital signature
- Certificate file e-mailed to ‘econstruct@pa.gov’ for upload to SharePoint ‘eSignature (eConstruct)’ site

Digital Signatures at District 9

STEP 3 - SET UP SIGNATURE 'APPEARANCES'

- Everyone to set up the same general appearance
- Most people will need only two appearances
 - Hand signature facsimile only
 - Hand signature facsimile with name and date/timestamp
- Scan of handwritten signature and post-processing to remove background
 - Receive PNG graphic file and PDF of hand signature scan
 - IT Unit staff will provide assistance
 - Have necessary photo editing software needed to remove background

Digital Signatures at District 9

STEP 4 - “TRUST” DIGITAL IDs of OTHERS

- Optional step – not necessary to use digital IDs
- When a digital ID is “trusted”, the PDF software reports confirmation of signer’s validity, otherwise ‘?’ appears and validity is classified as “UNKNOWN”

Digital Signatures at District 9

The screenshot shows the PennDOT Enterprise SharePoint Portal interface. The top navigation bar includes 'PennDOT Enterprise SharePoint Portal', 'Sites', and the user name 'DeStefano, Ralph J'. Below the navigation bar, there are links for 'SHARE', 'FOLLOW', and a search box labeled 'Search this site'. The main content area is titled 'Forms' and displays a list of documents under the heading 'District 9 Forms'. The list includes various PDF forms such as 'Approval to Hire Selected Candidate_2018-12-27 (form)', 'Building Maintenance Repair Work Order Request_2018-12-22 (form)', and 'Change of Let Date Request_2018-12-27 (form)'. A red circle highlights the entire list of forms, and a red arrow points from the text 'Converted Forms to Date' below to the list. On the right side of the page, there are buttons for 'District 9 Suggestions' and 'District 9 Portal Feedback', and a list of quick links including 'District 9 Quick Links', 'County Organizational Charts', and 'District 9 GIS Maps'.

PennDOT Enterprise SharePoint Portal Sites DeStefano, Ralph J

SHARE FOLLOW

PennDOT District Intranet Districts PennDOT Public Website CADD Support Intranet Site Garage Diagnostics ESS eCCC Search this site

Forms

District 9 Home Page
District 9 Quick Links
IT Request for Service
District 9 Pages
Community
HR-Fiscal
Administration
Construction
Design
Maintenance
Information Technology
Conference Room Information
Cambria County Skype Transition Info
Forms

District 9 Forms

New Upload Share

- Approval to Hire Selected Candidate_2018-12-27 (form)
- Building Maintenance Repair Work Order Request_2018-12-22 (form)
- Change of Let Date Request_2018-12-27 (form)
- Design Field View Approval_2019-01-13 (form)
- Detour Approval_Review Committee Signature Page_2018-12-27 (form)
- District Office Determination of Recommended Discipline_2019-01-04 (form)
- Grievance Resolution Approval_2019-01-04 (form)
- Highway Weight Restriction Modification-Removal_2018-12-27 (form)
- Inspector's Field Office_CS-101 (Form)_2019-01-22
- Line Grade Typ Sec Approval_2019-01-03 (form)
- Overnight Travel Approval Form_2018-12-27 (form)
- Overtime Approval_10k_2018-12-18 (form)
- Reduced Bridge Width_2019-01-29 (form)
- Request for Approval to Discipline Form_2018-12-27 (form)
- Request to Post a Position_2019-01-29 (form)
- TE-152_2018-12-21 (form)
- Tree Checklist_2018-12-27 (form)

District 9 Suggestions
District 9 Portal Feedback

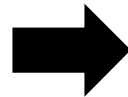
District 9 Quick Links
County Organizational Charts
District 9 GIS Maps
District 9 Links
District 9 Pool Car System
District Office Organizational Charts
OLD - District 9 Customer Care Center
Storeroom Ordering System
All Links

Converted Forms to Date

Drag files here to upload

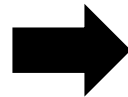
Digital Signatures at District 9

Instructions for creating & exporting 'digital ID certificates'



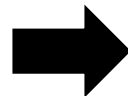
Digital ID Certificates - Create & Export (D9).pdf

Instructions for creating digital signature appearances



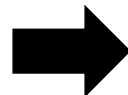
Digital Signature Appearances - Create (D9).pdf

Sample Redesigned Approval Form



Line Grade Typ Sec Approval_2019-01-03 (form).pdf

Sample Completed Line, Grade & Typical Section Approval Form






Line Grade Typ Sec Approval_07SR4029-03B.pdf

Digital Signatures at District 9

Examples of Redesigned Form Signature Blocks

Digital Signatures at District 9

DETOUR APPROVAL FORM

Permit Manager - Nichole McCombie Electronic Approval - Click Below to Sign ↓ 	Concur : YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Comments:
Traffic Engineer - John P. Ambrosini, P.E. Electronic Approval - Click Below to Sign ↓ 	Concur : YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Comments:
ADE Design - Vincent S. Greenland, P.E. Electronic Approval - Click Below to Sign ↓ 	Concur : YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Comments:

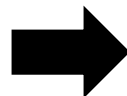
VARYING APPEARANCES

← **OLD**

STANDARDIZED APPEARANCE

Handwritten signature w/ auto embedded date & time stamp

NEW



Detour Review Committee Signatures		
MPMS: 106489	County: Bedford	SR-Sec: 1020-01B
Project: SR 1020 Pipers Run Bridge		
Bridge Engineer Electronic Approval - Click Below to Sign ↓  Ralph J. DeStefano 2018.12.12 11:30:07 -05'00'	Concur : YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Comments: None
Community Relations Coordinator Electronic Approval - Click Below to Sign ↓  Chuck Saylor 2018.12.12 11:30:30 -05'00'	Concur : YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Comments: None
Permit Manager Electronic Approval - Click Below to Sign ↓  Keith Fulton 2018.12.12 11:30:50 -05'00'	Concur : YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Comments: None

Digital Signatures at District 9

HR -- APPROVAL TO HIRE SELECTED CANDIDATE

Approvals

Based on the above information and our knowledge of the applicants, we recommend _____ for this position.

Lead Interview Panel Member: _____ Date: _____

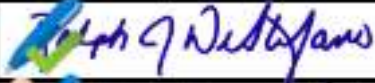
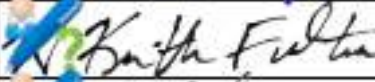
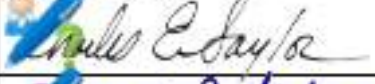
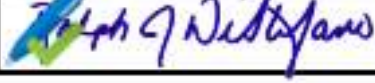
Division/County Manager: _____ Date: _____

ADE: _____ Date: _____

DE: _____ Date: _____



NEW

APPROVALS	Signature	Date/Time Stamp
Lead Interview Panel Member		Ralph J. DeStefano 2018.12.15 00:08:06 -05'00'
Division / County Manager		Keith Fulton 2018.12.15 00:08:25 -05'00'
Assistant District Executive		Chuck Saylor 2018.12.15 00:08:43 -05'00'
District Executive		Ralph J. DeStefano 2018.12.15 00:09:05 -05'00'

Digital Signatures at District 9

BRIDGE LOAD POSTING RECOMMENDATION FORM

This bridge posting recommendation has been developed and accepted by the District and is accurate to the best of my knowledge.

Signed: _____

Name: _____

Title: District Bridge Engineer

Date: _____

Required if "Bridge Limited To One Truck" posting is proposed

Signed: _____

Name: _____

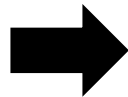
Title: District Traffic Engineer

Date: _____



**OLD SIGNATURE
BLOCK**

**NEW SIGNATURE
BLOCK**



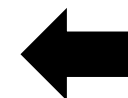
The bridge posting recommendation has been developed and accepted by the District and is accurate to the best of my knowledge.

APPROVALS		Signature	Date/Time Stamp
District Bridge Engineer			
District Traffic Engineer <i>(Only if posted "Bridge Limited to One Truck")</i>			

Digital Signatures at District 9

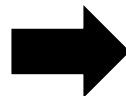
MODIFICATION / REMOVAL OF HIGHWAY WEIGHT RESTRICTION

Recommended By: Maintenance Services Engineer	_____	Date
Accepted By: District Pavement Manager	_____	Date
Acknowledged By: District Bridge Engineer	_____	Date
Authorized By: District Executive (or Designee)	_____	Date



**OLD SIGNATURE
BLOCK**




**NEW
SIGNATURE
BLOCK**



APPROVALS		Signature	Date/Time Stamp
Recommended By: Maintenance Services Engineer		Chuck Saylor	2018.12.19 09:47:17 -05'00'
Accepted By: District Pavement Engineer		Keith Fulton	2018.12.19 09:47:38 -05'00'
Acknowledged By: District Bridge Engineer		Ralph J. DeStefano	2018.12.19 09:48:02 -05'00'
Authorized By: District Executive (or Designee)		Chuck Saylor	2018.12.19 09:48:33 -05'00'

Digital Signatures at District 9

OVERNIGHT TRAVEL APPROVAL

Supervisor Signature:		Date:	<input type="text"/>
Training Verified By:		Date:	<input type="text"/>
Approved By:	 (Training Coordinator)	Date:	<input type="text"/>
	(District Executive/ADE/HRO/County Manager)		



OLD

PROPOSED

APPROVALS	Signature	Date/Time Stamp
Supervisor		Ralph J. DeStefano 2018.12.19 21:40:32 -05'00'
Training Coordinator		Chuck Saylor 2018.12.19 21:42:28 -05'00'
District Executive / ADE / HRO / County Mngr		Keith Fulton 2018.12.19 21:48:05 -05'00'

Upcoming Projects

Presented to:



Vince Greenland, P.E.
ADE - Design

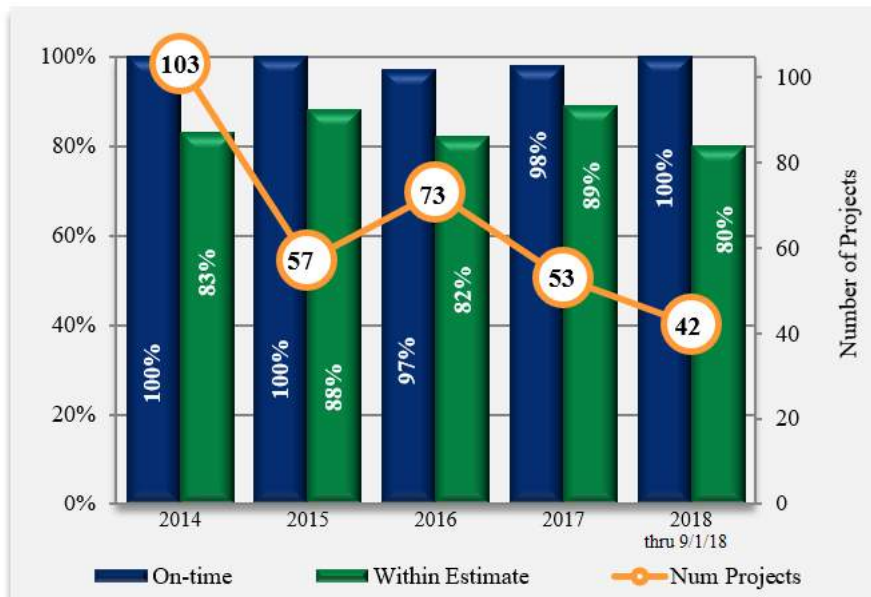
April 16, 2019





Accomplishments

Decade Of Investment / Project Delivery



GOAL: Deliver 100% of committed projects

DISCUSSION / ACCOMPLISHMENTS

- Statewide leader in Dashboard/Scorecard metrics
- Since 2012, have delivered 99% of projects on time (457 out of 460)
 - All three missed lets due to NPDES issues

CHALLENGES

Permitting Is Impacting Project Delivery

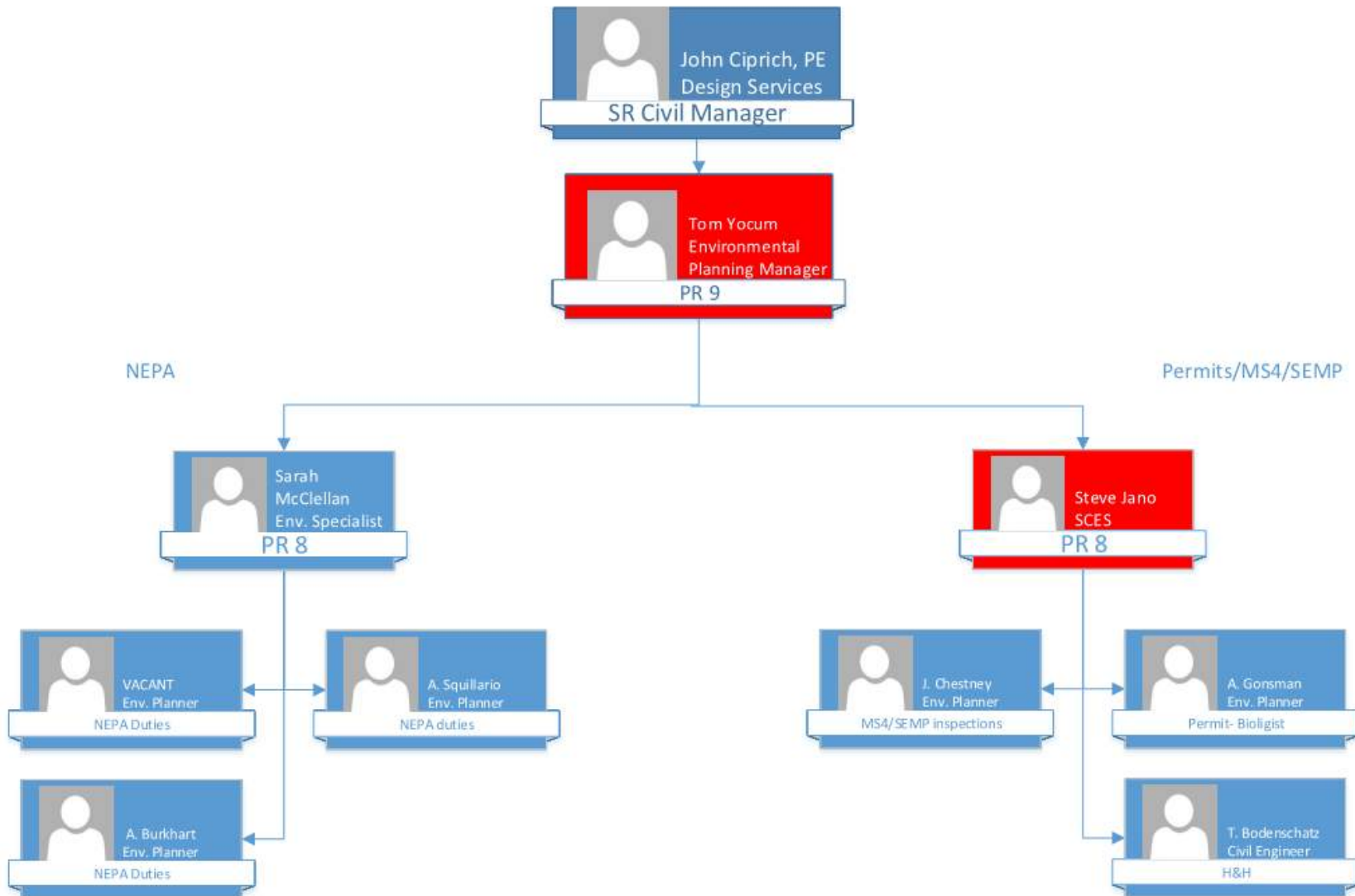
- Cycle times have increased over last year
- NPDES Permitting is required on more projects
 - Roadway Maintenance Activity (RMA) vs. Construction interpretations
 - 1450 streams reclassified as Wild Trout
 - 285 SCM's in District 9 since 2010, but 196 on four recent Individual NPDES Permits
 - Includes 83 on new US 219 Four-Lane

ACTION ITEMS

- Work with CO to clarify RMA criteria and elevate concerns regarding stream reclassifications
- Work with CO to establish CO Project Delivery task force to reduce waterway permit cycle times

Permit Type	Average Review Timeframe Over the Last Year	
	Beginning	Current
EXX-9999	45 days	over 100 days
GP-11	90 days	130 days
Std JPA	180 days	250 days

Environmental Unit Reorganization



Reminders...

- Make Project Managers Job Easier!
 - Be one step ahead of District Project Manager
- Be Prepared for Meetings & Provide Solutions
 - Evaluate District suggestions and provide the best engineered solution, may or may not be something District suggested
 - Safety Review – Bring recommendations with backup for non typical guiderail situations, don't ask committee "What do you want to do?"
- ASTA Schedule Updates 1st of Month
 - If schedule has negative float, provide a recovery plan to your PM

District Advertisement Summary

2019 & Early 2020 (State Projects)

- 1 Engineering/Environmental Open End – E04451
 - 4 Roadway Agreements
 - 3 Structure Agreements
 - 1 Structure Agreement (2 Bridges)
 - 1 Structure Agreement (3 Bridges)
- 10 Total Agreements

Districtwide Open End Agreements

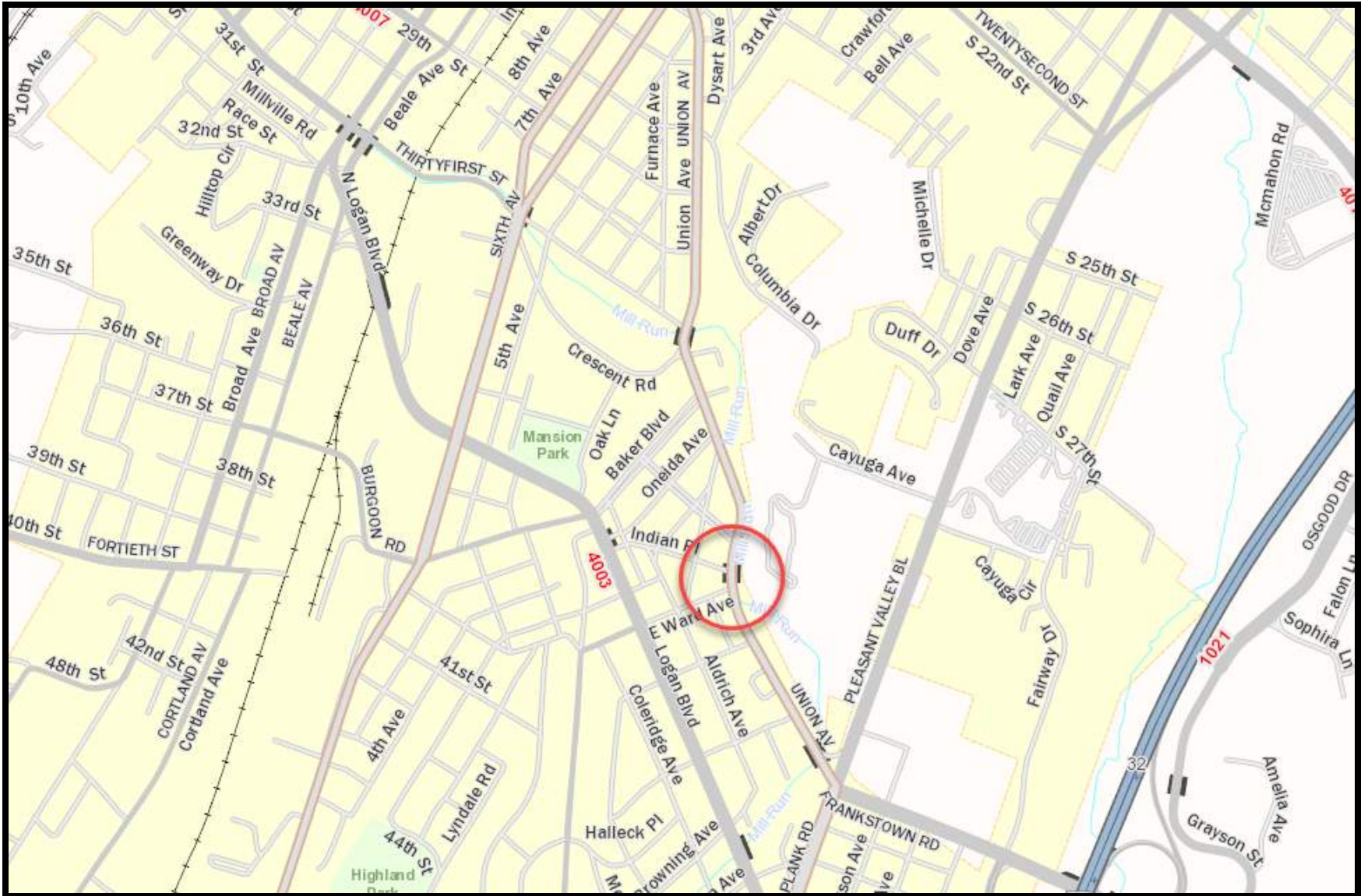
1 - Engineering/Environmental Open End – E04451

- Engineering Emphasis
- \$2 million
- Advertisement: October 2019
- Execution Anticipated: January 2020



Blair County

PA 36 Mill Run Bridge



PA 36 Mill Run Bridge



- Replacement
- PA 36 over Mill Run near the intersection of 31st Street in the City of Altoona
- Seg/Off: 0400/0000
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: \$1.0 Million - \$3.0 Million

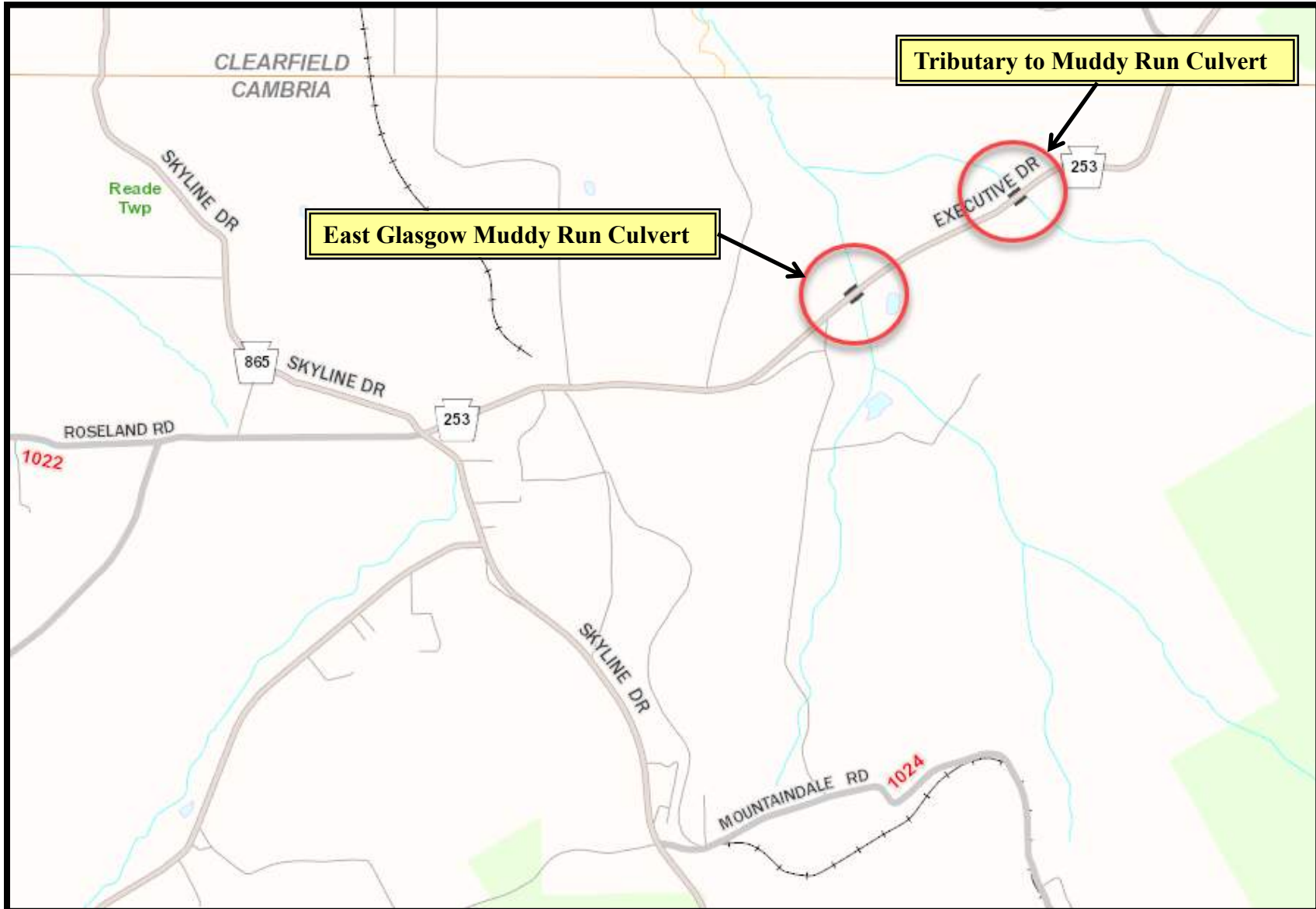


Cambria County



2 Bridges – 1 Agreement

PA 253 Structures



Tributary to Muddy Run Culvert



- Replacement
- PA 253 over Muddy Run approximately 0.75 miles northwest of the intersection of Cambria Mills Road (T-566) in Reade Township
- Seg/Off: 0140/0000
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: Less than \$1.0 Million

East Glasgow Muddy Run Culvert

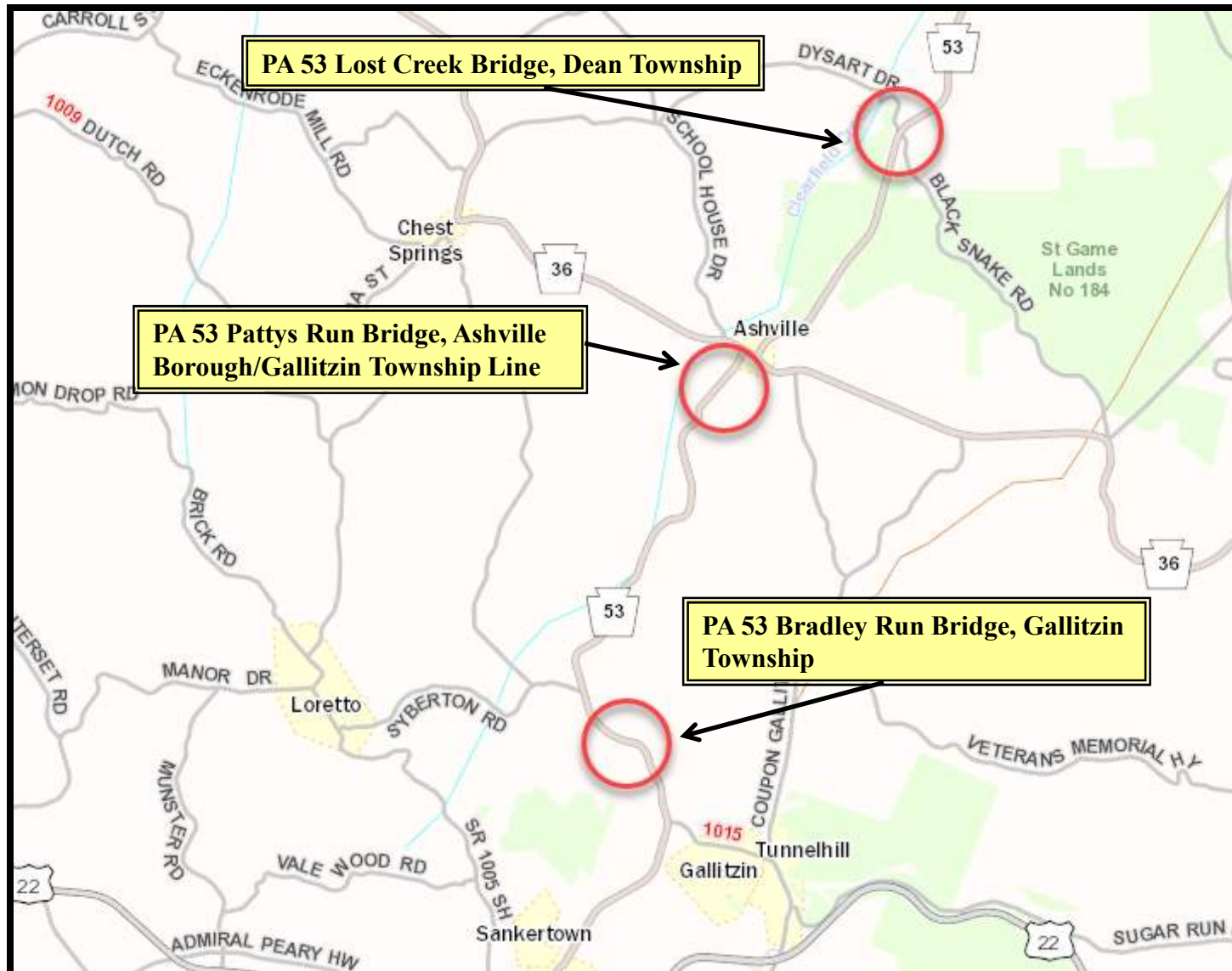


- Replacement
- PA 253 over Muddy Run near the intersection of Cambria Mills Road in Reade Township
- Seg/Off: 0130/0000
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: Less than \$1.0 Million



3 Bridges – 1 Agreement

PA 53 Structures



PA 53 Lost Creek Bridge



- Replacement
- PA 53 over Lost Creek near intersection of Black Snake Road (SR 1014) in Dean Township
- Seg/Off: 0550/2032
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: \$1.0 Million - \$3.0 Million

PA 53 Pattys Run Bridge



- Replacement
- PA 53 over Pattys Run near the intersection of South Spruce Street in Ashville Borough and Gallitzin Township
- Seg/Off: 0500/0000
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: Less than \$1.0 Million

PA 53 Bradley Run Bridge



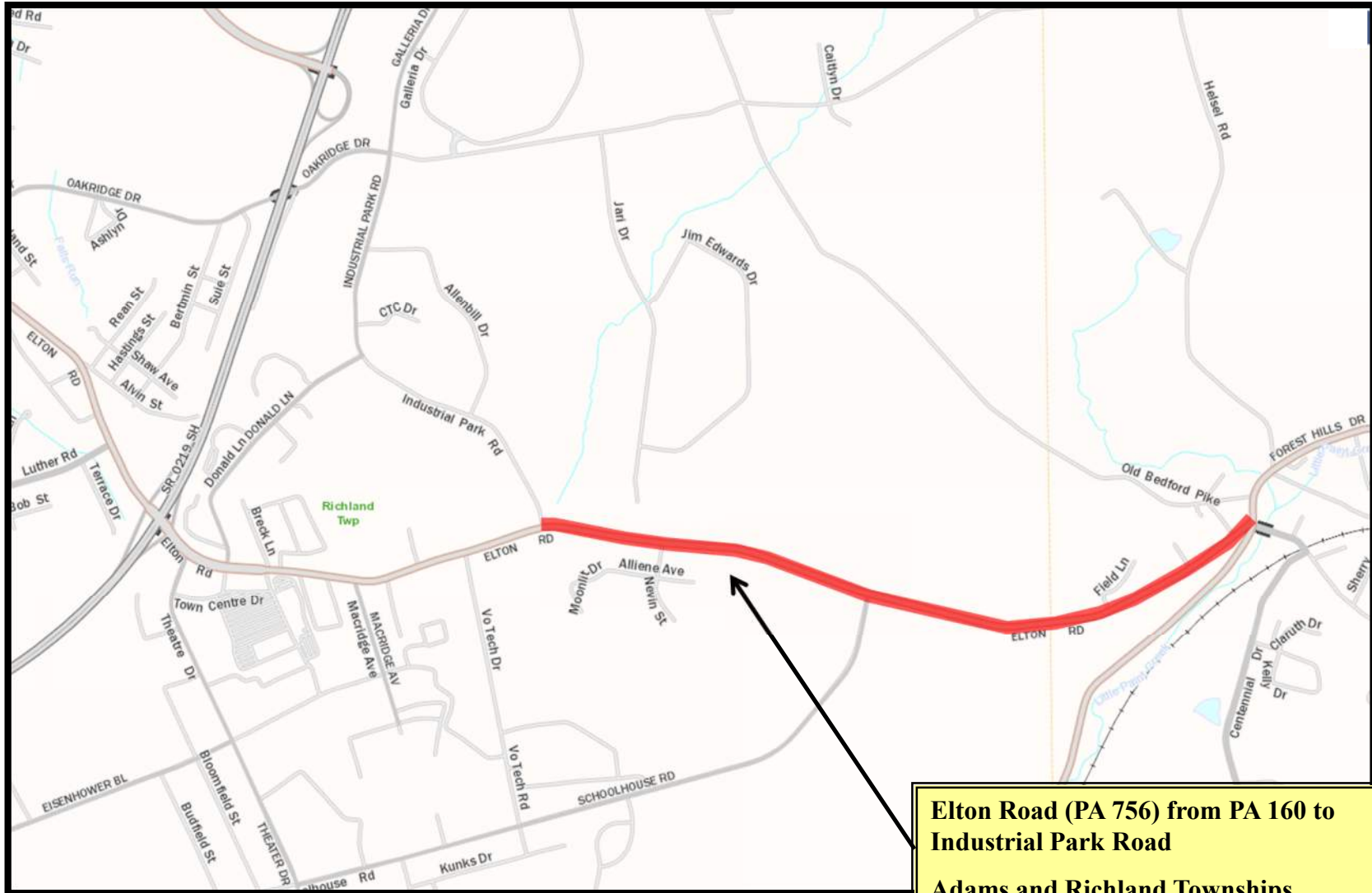
- Replacement
- PA 53 over Bradley Run near the intersection of Stevens Road (T-457) in Gallitzin Township
- Seg/Off: 0390/1332
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: Less than \$1.0 Million

PA 756 – PA 160 to Industrial Park Road



- Resurface
- Elton Road (PA 756) from PA 160 to Industrial Park Road in Adams and Richland Townships
- Seg/Off: 0150/0264 To 0170/2727
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: \$1.0 Million - \$5.0 Million

PA 756 – PA 160 to Industrial Park Road



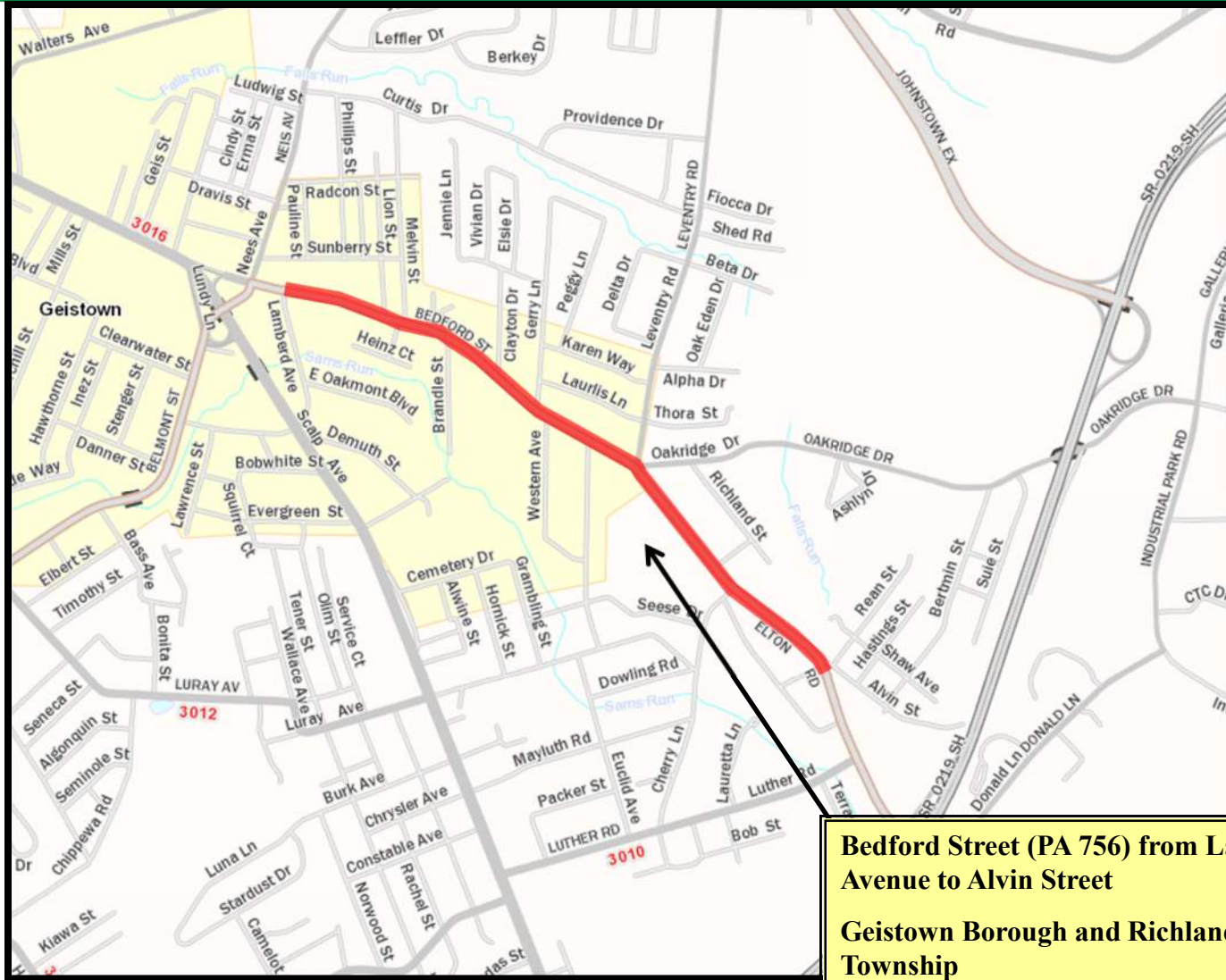
Elton Road (PA 756) from PA 160 to Industrial Park Road
Adams and Richland Townships

PA 756 – Lamberd Ave to Alvin Street



- Resurface, intersection and corridor improvements
- Bedford Street (PA 756) from Lamberd Avenue to Alvin Street in Geistown Borough and Richland Township
- Seg/Off: 0080/0331 To 0100/3343
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: \$1.0 Million - \$5.0 Million

PA 756 – Lamberd Ave to Alvin Street

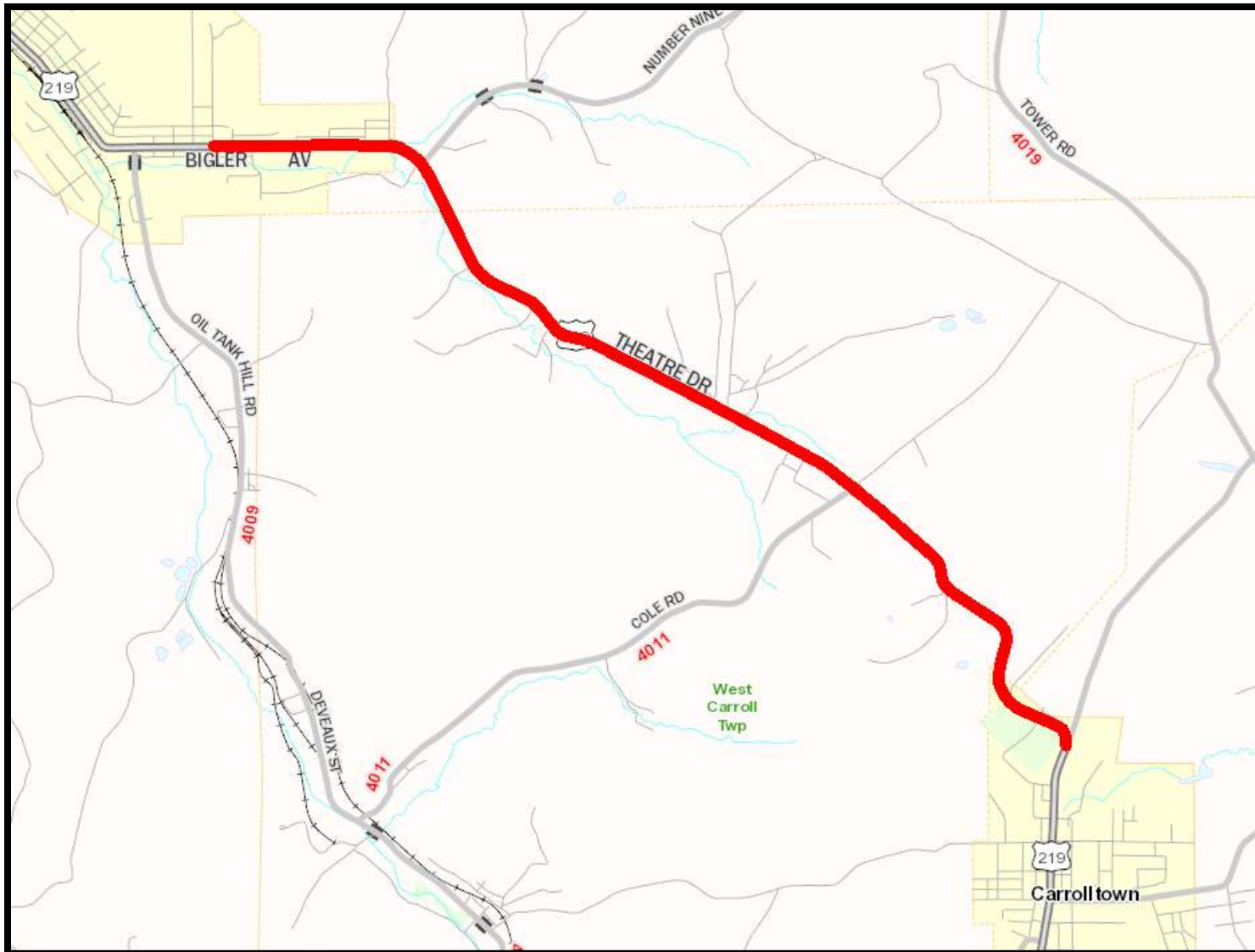


US 219 – Sunset Road to 10th Street



- Resurface, base repairs, guiderail and drainage upgrades, and geometric curve improvements
- US 219 from Sunset Road (SR 4013) to 10th Street in West Carroll and Susquehanna Townships and Northern Cambria Borough
- Seg/Off: 0670/0000 to 0730/2070
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: \$3.0 Million - \$5.0 Million

US 219 - Sunset Road to 10th Street





Somerset County

Black Hills Road Beaver Dam Creek

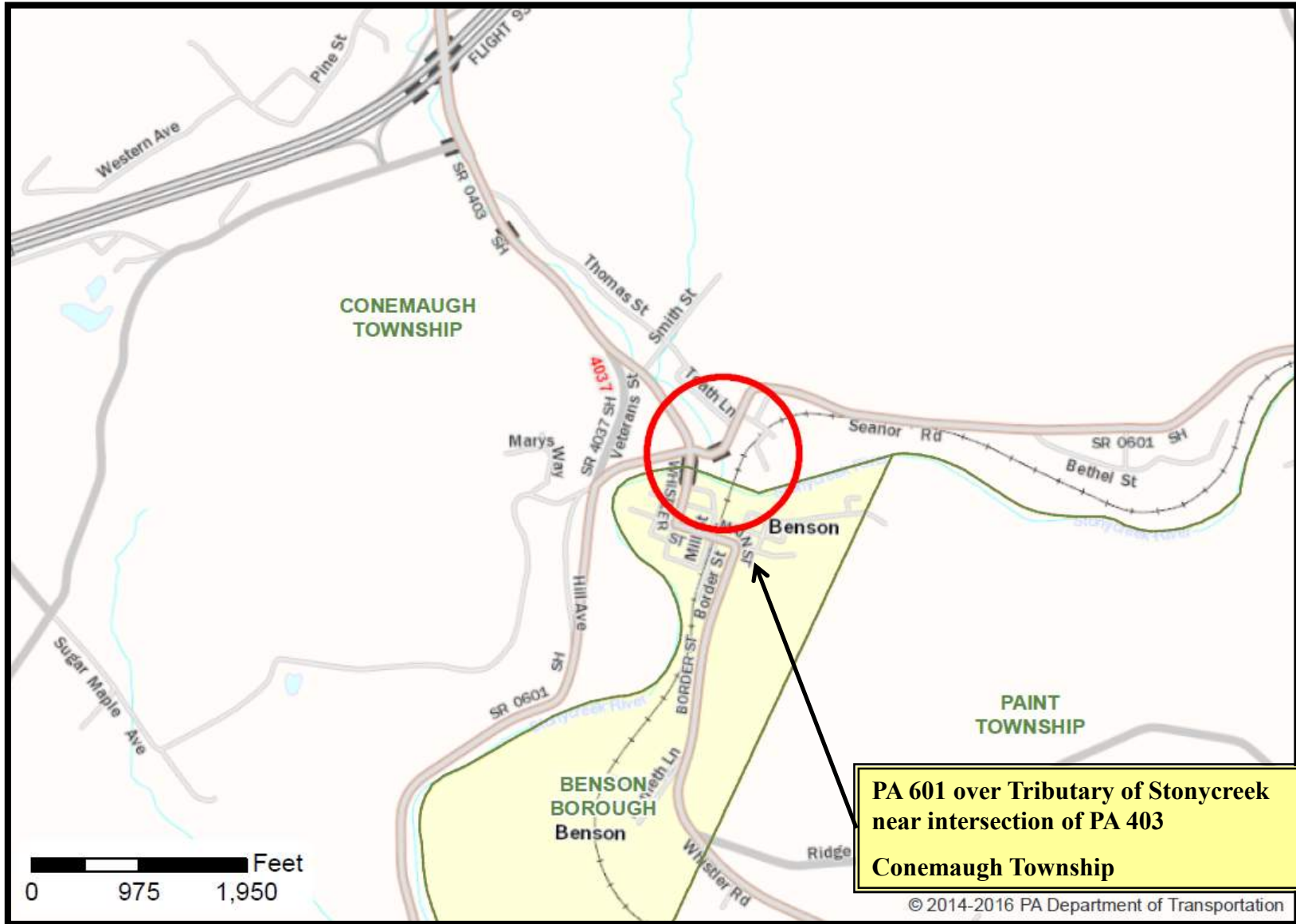


Black Hills Road Beaver Dam Creek



- Replacement
- Black Hills Road (SR 4023) over Beaver Dam Creek near the intersection of Mountain Road in Jennerstown Borough
- Seg/Off: 0080/0000
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: \$1.0 Million - \$3.0 Million

Holsopple Bridge



Holsopple Bridge



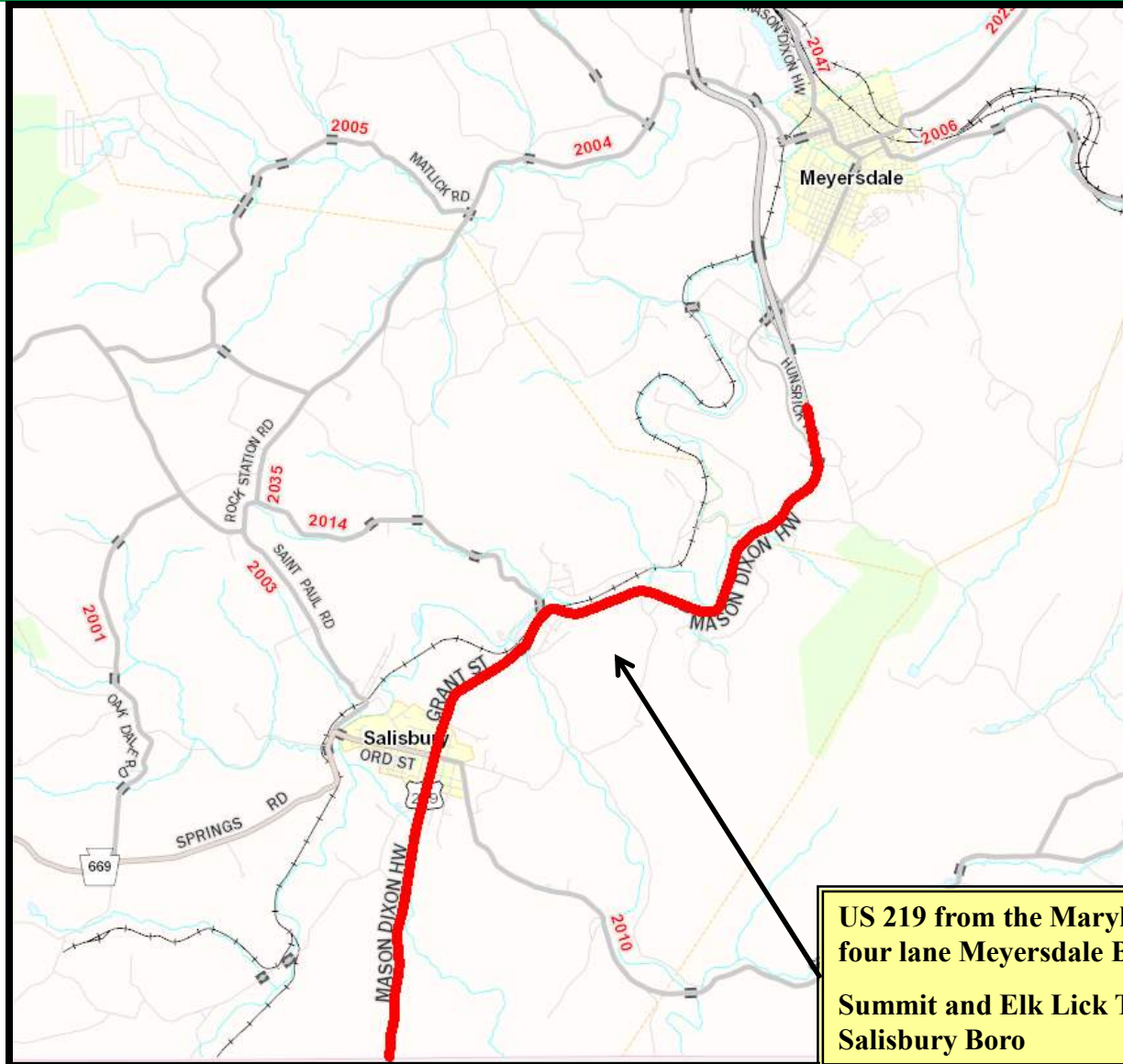
- Bridge Improvement
- PA 601 over Tributary of Stonycreek near intersection of PA 403 in Conemaugh Township
- Seg/Off: 0470/0267
- Anticipated NTP: 1st Quarter 2020
- Construction Estimate: Less than \$1.0 Million

US 219 – MD line to Meyersdale Bypass



- Resurface
- US 219 from the Maryland Line to end of four lane Meyersdale Bypass in Summit and Elk Lick Townships and Salisbury Borough
- Seg/Off: 0010/0000 To 0110/0922
- Anticipated NTP: 2nd Quarter 2020
- Construction Estimate: \$1.0 Million - \$5.0 Million

US 219 – MD line to Meyersdale Bypass



US 219 from the Maryland Line to end of four lane Meyersdale Bypass
Summit and Elk Lick Twps and Salisbury Boro



Thank You

Questions?



MS4 & Post-Construction Stormwater Management

ASHE Altoona / PennDOT 9-0 Workshop
April 16, 2019

Topics

- MS4 Permit Status
- Pollutant Reduction Plans
- Publication 888 Update
- Stormwater Control Measure Inspections
- E&S Compliance Management Program
- KEeS / Chapter 102 Permits
- ESPC and PCSM Plan Standards
- PCSM Policy Update

MS4 Permit Status

- Current permit was to expire 7/2016
- Covers discharges into storm conveyance systems (pipes, swales, etc.) in urbanized areas
- Highways, rest areas, stockpiles, garages, etc.
- Administratively extended by DEP



INDIVIDUAL STATEWIDE PERMIT FOR DISCHARGES OF STORMWATER
FROM PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT) ROADWAY SYSTEM
IN URBANIZED AREAS

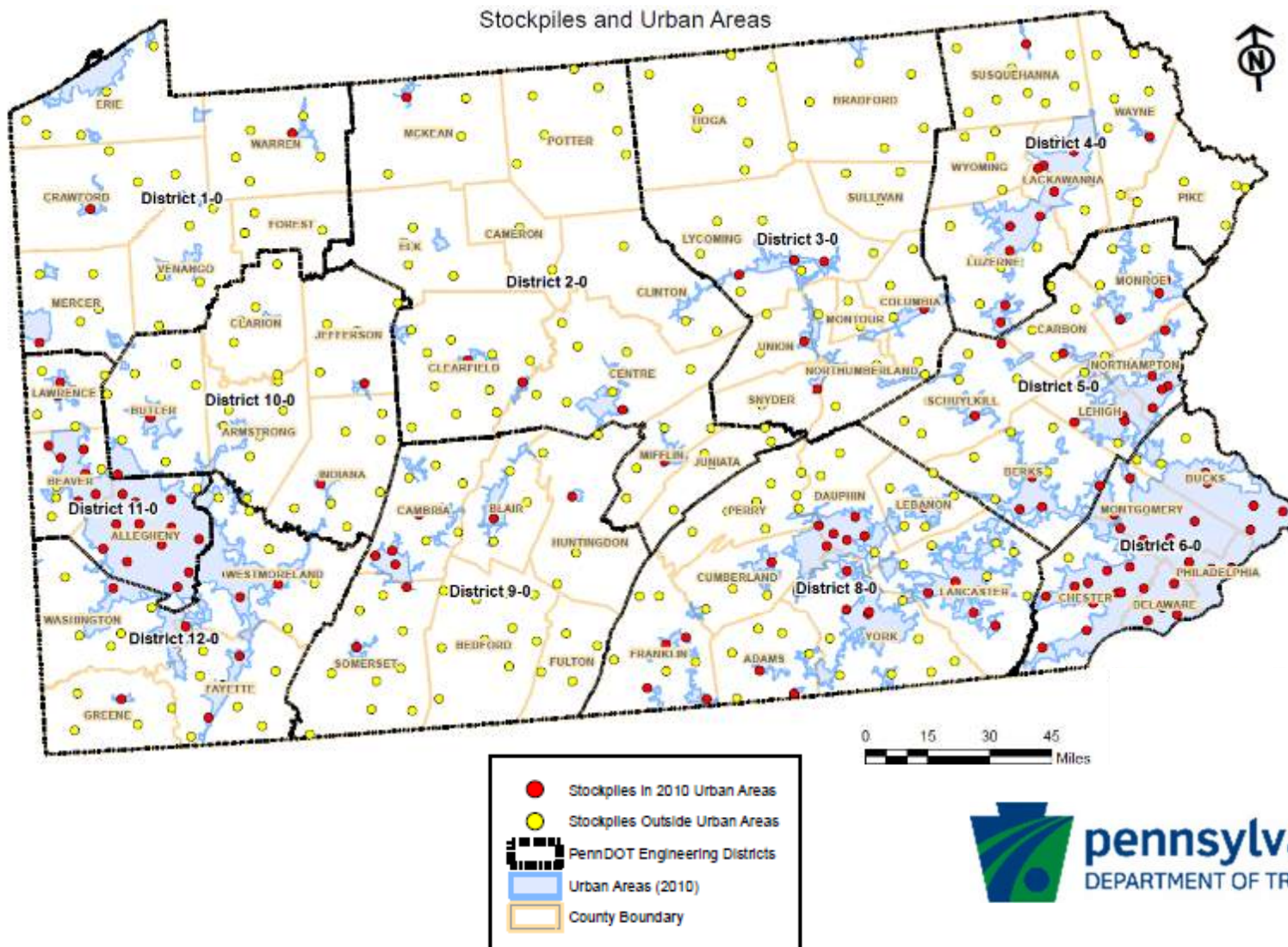
Issued to: Pennsylvania Department of Transportation
Keystone Building
400 North Street
Harrisburg, PA 17105



MS4 Permit Status

- 17,000 state road miles are in 2010 US Census urbanized areas
- 10,000+ outfalls
- 40,000 acres of roadway surface area (63 sq miles)
- District 9-0 has 555 acres
 - Altoona
 - Johnstown
- 2,300+ stormwater control measures (SCMs)

MS4 Permit Status



MS4 Permit Status

- Includes 6 minimum control measures (MCMs)
 1. Public education and outreach on stormwater impacts
 2. Public involvement/participation
 3. Illicit discharge detection and elimination
 - 4. Construction site stormwater runoff control**
 - 5. Post-construction stormwater management**
 6. Pollution prevention/good housekeeping
(at maintenance facilities)
- Includes TMDL and Pollutant Reduction Plans

MS4 Permit Renewal

- MCM#4: Construction Site SW Runoff Control
 - **Goal:** Update E&S policies as necessary based on 25 PA Code Ch 102 and provide periodic training.
 - **Translation:** Do a better job at performing and documenting inspections during construction.



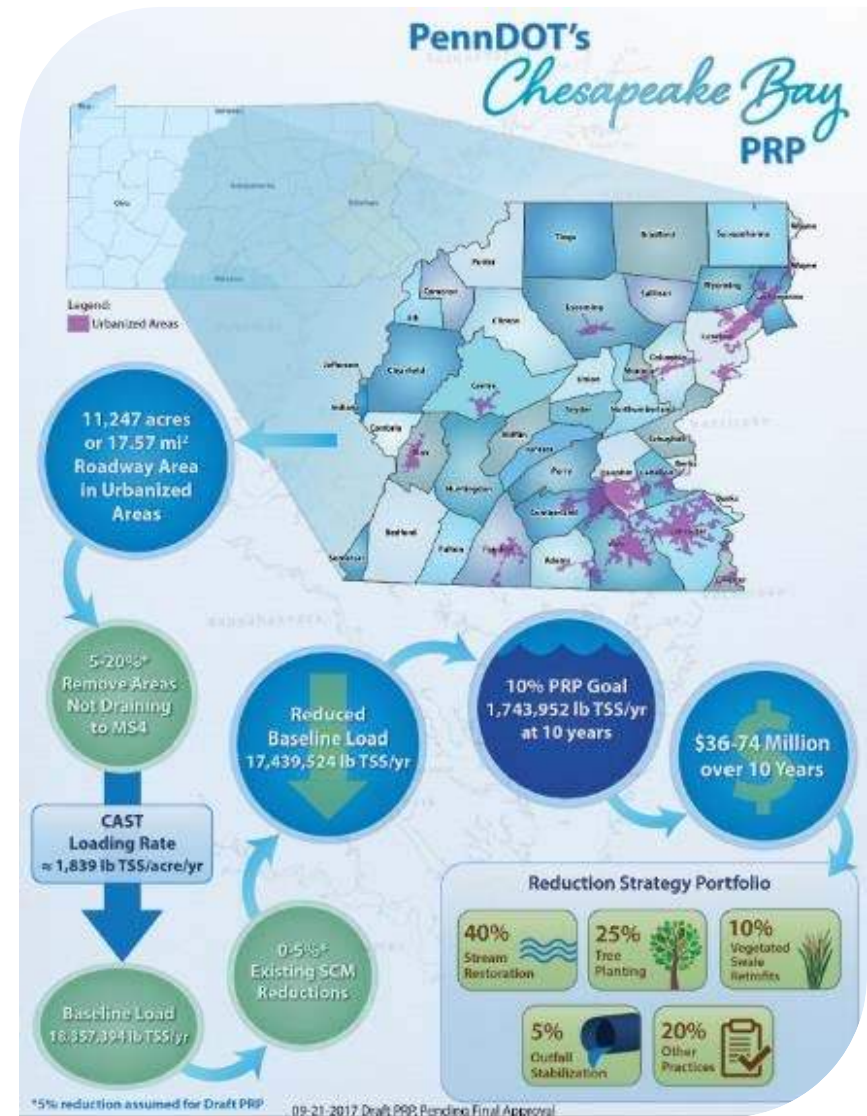
MS4 Permit Renewal

- MCM#5: PCSM in New/Re-Development Activities
 - **Goal:** Update inventory in urbanized areas...and ensure that SCMs are implemented, operated, and maintained...
 - **Translation:** Implement a program to map, inspect, and maintain SCMs.



➤ Pollutant Reduction Plans

- Reduce annual sediment load contribution by "X"% in "Y" years
- Chesapeake Bay, Delaware River, Ohio River, Lake Erie
- Negotiating terms with DEP
- Will be a Department-wide coordinated effort



▶ Pollutant Reduction Plans

Table 1. Proposed PRP TSS Reduction Goals

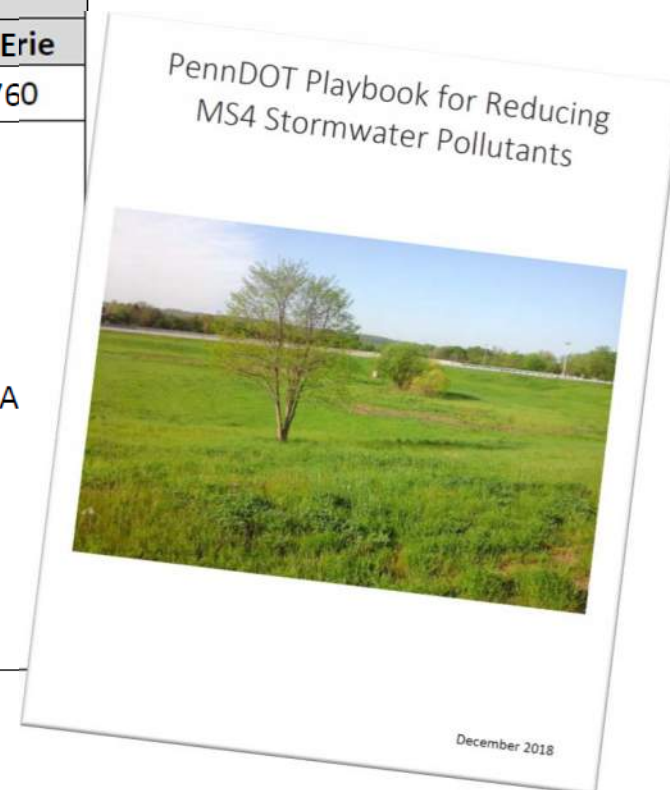
PRP	Reduction Goal	10% TSS Reduction (lb/yr)*	Anticipated Cost (\$ Million)	Scale
Chesapeake Bay	10% TSS by 2025	1,690,000	28-46	Watershed
Locally Impaired Waters	10% TSS at 10 years	1,830,000	30-50	Delaware River
		875,000	15-24	Ohio River
		97,000	2-3	Lake Erie
Total Statewide		4,492,000	75-123	

*Rounded to the nearest 1,000 lb.

Pollutant Reduction Plans

Table 2. PRP TSS Reduction Goals by District

District	PRP Sediment Reduction Requirements (lb TSS/yr)				
	Chesapeake Bay	Delaware River	Ohio River	Lake Erie	
1	N/A	N/A	438	96,760	
2	42,130		N/A	N/A	
3	144,374				
4	317,705				
5	6,068	402,926			
6	20,106	1,414,631	N/A	N/A	
8	1,070,909	12,077			
9	88,486	N/A			4,726
10	N/A				62,136
11			461,734		
12			346,125		



▶ Pollutant Reduction Plans

Table 5. Common Reduction Practices and Anticipated Costs

Reduction Practice	Expected Life Span ²	Sediment Reduction Effectiveness	Estimated Cost ³
			\$/ lb TSS/ yr
Bioretention	25	80%	36-82
Infiltration Practice	50	95%	35-77
Wet Pond/Constructed Wetland	50	60%	50-112
Vegetated Swale (A/B Soil)	20	70%	21-37
Vegetated Swale (C/D Soil)	20	50%	30-52
Tree Planting (Pervious to Woods)	75	20%	4-108
Stream Restoration	20	44.88 lb/LF/yr	17-19
Outfall Stabilization	20	56.1 lb/LF/yr ¹	26-30
P3 Projects	20+ ⁴	Varies	11-30
Forest Buffer	75	50%	31-58
Purchasing Credits	TBD ⁴	N/A	32-66

Pollutant Reduction Plans

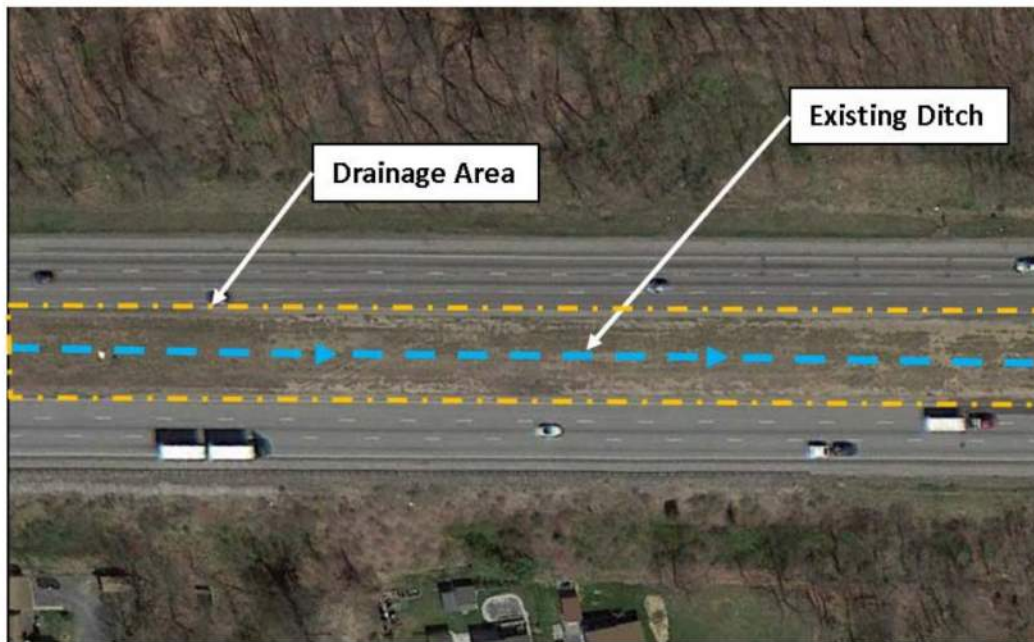


Figure 8. Aerial View of Typical Resurfacing Project Section with Existing Grass Lined

POLLUTANT REDUCTION PLAN PROJECT SUBMISSION FORM

District: County: Municipality:
 State Road (if applicable): Latitude: Longitude:
 Applicable Pollutant Reduction Plan: Chesapeake Bay Delaware River Ohio River Lake Erie
 Project Name:
 Project Contact:
Name Email Phone
 Is Project within Existing PennDOT Right-of-Way? Yes No Funding Secured: Yes No N/A
 Municipal Partner: Yes No Municipality: Agreement in Place: Yes No
 Anticipated Completion Date: Estimated Sediment Reduction Credit: lbs. TSS / yr

Project Description

NPDES Permit Retrofit MS4 Partnering Waterway Permit Purchasing Credit Other
 No compensatory stream mitigation is required. However, slope laybacks and livestock plantings of existing streambanks along Slotznick Run will be done for stabilization and to improve hydraulics.

Sediment Reduction Calculation

Strategy Type: Stream Restoration Stream Bank Stabilization Stream Bank Revegetation Stream Bank Erosion Control Stream Bank Armoring Stream Bank Channelization Stream Bank Channelization
 Strategy Size: Square Feet Linear Feet Acres
 CAST County Loading Rates (lbs. TSS/acre/yr) Impervious: Pervious: N/A
 Contributing Drainage Area (acres) Total: Impervious: Pervious: N/A
 Calculated Existing Baseline Load: lbs. TSS / yr N/A
 Sediment Reduction Effectiveness: % or lbs. TSS / yr
 Sediment Reduction Credit: lbs. TSS / yr

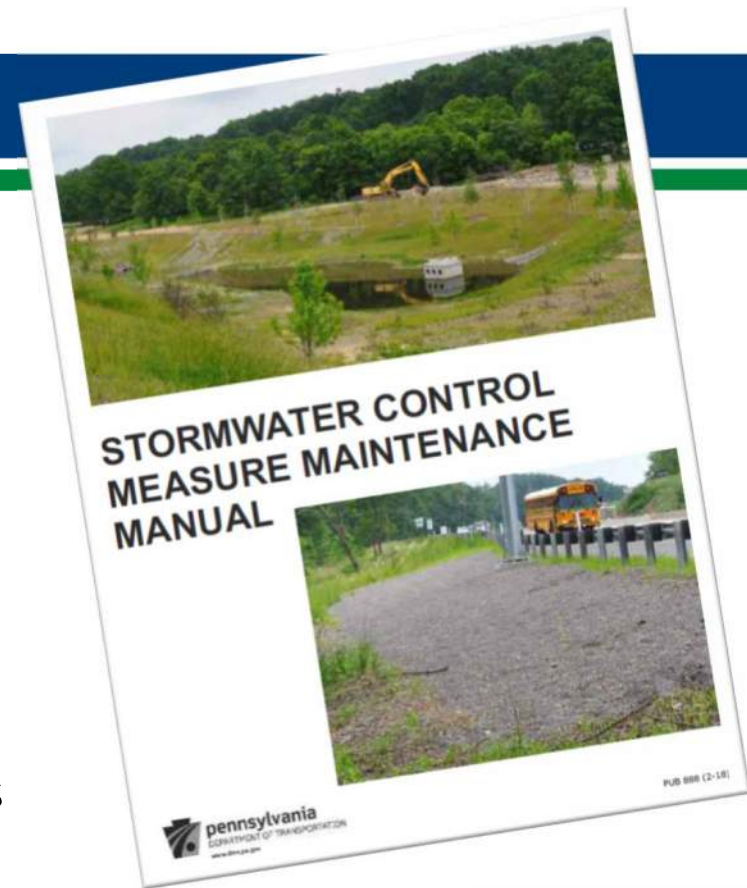
Cost Estimate

Total Cost: \$ Unit Cost: \$ lbs. TSS / yr
 Cost Estimate Developed Using: PRP Playbook Unit Costs CAST Other, Describe Below
 Comments:
 The PRP playbook was utilized to develop an estimated cost range. The cost estimate used was determined using the mean of this range.

▶ Publication 888

SCM Maintenance Manual

- Inventory procedures
 - IDs, adding/modifying data
- Inspections
 - Types and frequencies
 - Forms, report templates
 - Submitting and viewing results
- Maintenance
 - SCM specific procedures
 - Common SCM components
- Charging, recording, reporting
 - Assemblies and charge codes
 - Creating work notifications



**Final Publishing
This Month!**

► Publication 888

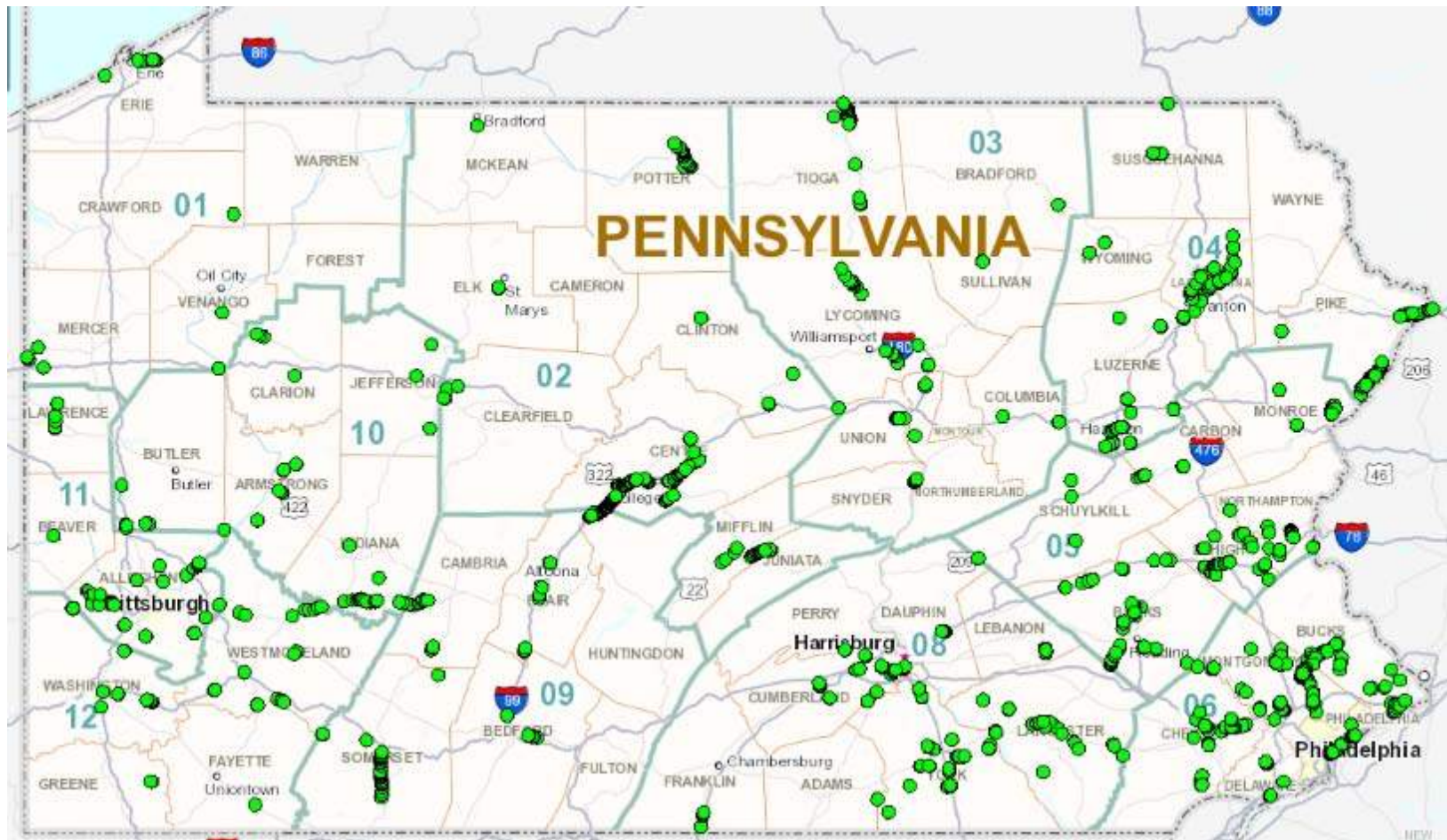
SCM Name	Type Code	SCM Name	Type Code
Basin, Dry Detention	BDD	Non-Basin SCM, Other	NBO
Basin, Dry Extended Detention	BED	Pervious Pavement, Asphalt	PPA
Basin, Dry Ultra-Extended Detention	BUD	Pervious Pavement, Concrete	PPC
Basin, Infiltration Detention	BID	Pervious Pavement, Pavers	PPP
Basin, Other	BOT	<i>Reforestation/Tree Plantings*</i>	<i>RTP</i>
Basin, Naturalized Detention	BND	Regenerative Step Pool	RSP
Basin, Wet Detention	BWD	<i>Riparian Buffer Enhancement*</i>	<i>RBE</i>
Bioretention	BRE	<i>Riparian Buffer Offset*</i>	<i>RBO</i>
Bioretention w/Underdrain	BRU	<i>Soil Amendment Restoration*</i>	<i>SAR</i>
Constructed Stormwater Filter	CSF	Stormwater Wetland	SWE
Flow Dispersion, Forest/Buffer	FDF	<i>Stream Restoration*</i>	<i>SRE</i>
Flow Dispersion, Veg. Filter Strip	FDV	<i>Stream Stabilization*</i>	<i>SST</i>
<i>Forest Preservation*</i>	<i>FPR</i>	Subsurface Detention Storage	SDS
Infiltration Berm	IBE	Subsurface Infiltration Trench	SIT
<i>Landscape Restoration Meadow*</i>	<i>LRM</i>	Vegetated Filter Strip	VFS
Level Spreader Outfall	LSO	Vegetated Filter Strip, Steep Slope	VSS
Manufactured Treatment Devices	MTD	Vegetated Swale	VSW
Media Filter Drain	MFD	Vegetated Swale w/ Check Dams	VSC

► Publication 888

Type	#
Dry Detention Basins	502
Infiltration Basins	205
Wet Basins	113
Bioretention	213
Infiltration Trenches	227
Infiltration Berms	96
Vegetated Swales	770
Vegetated Filter Strips	52
Manufactured Treatment Devices	106
Media Filter Drains	13
Stormwater Wetlands	18
Total	2,315

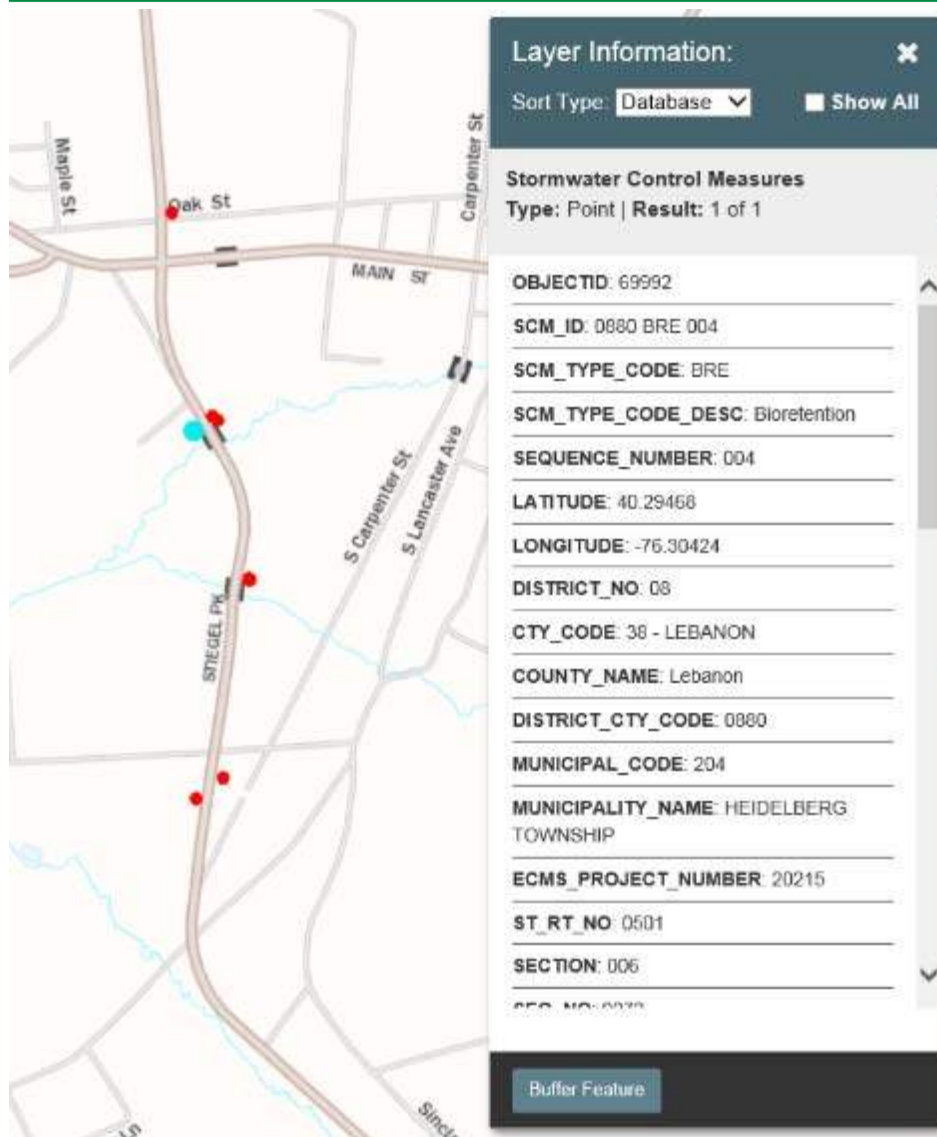
SCMs currently in the inventory
(as of 4/2019)

▶ Publication 888



● - SCM LOCATION

▶ Publication 888



Maintenance-IQ

- Custom GIS application for PennDOT
- Helpful for planning inspections
- Can view inventory and inspection data
- **Soon will be able to edit data!**



http://pdprgisiis01/maintenance_iq/xyz

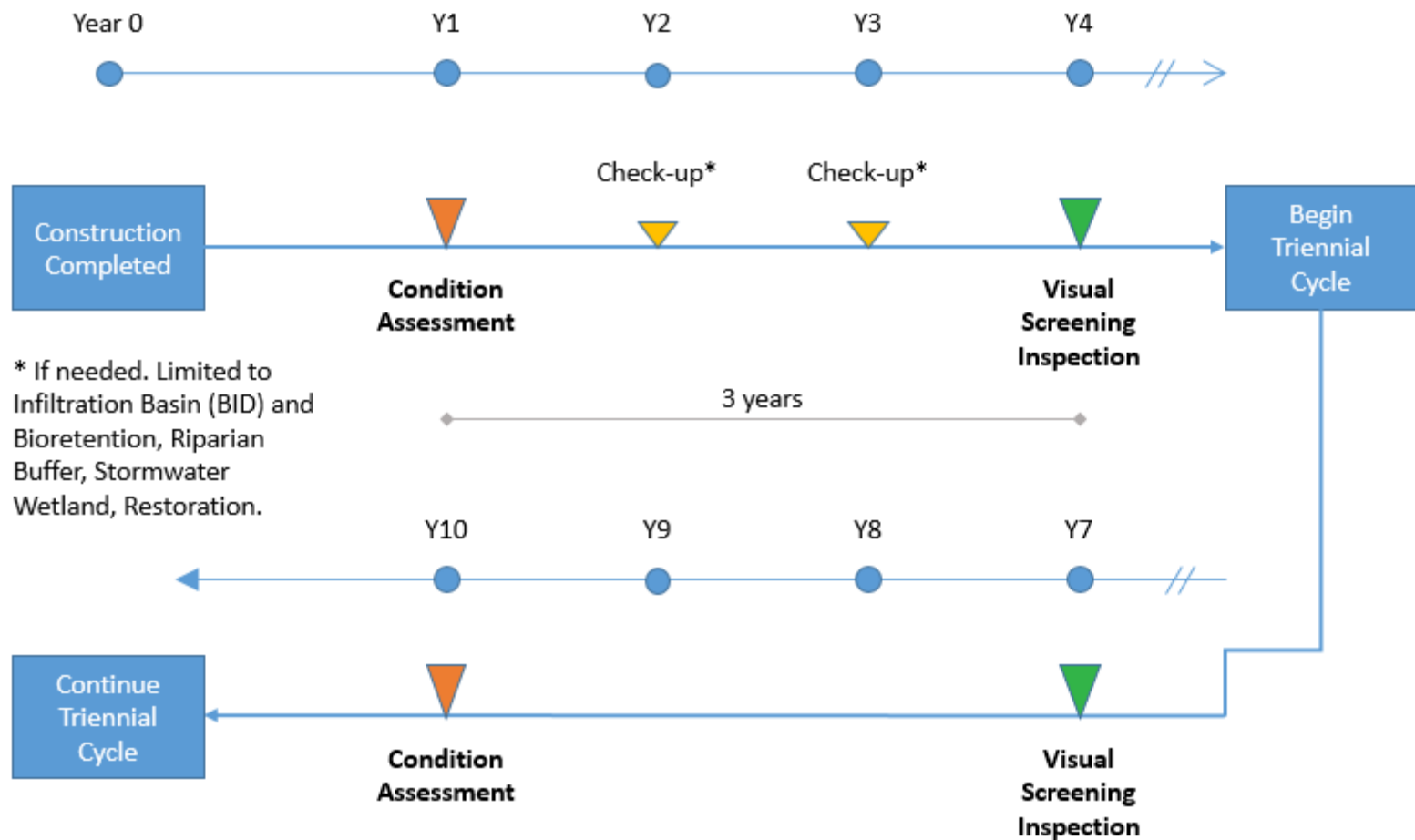
SCM Inspections

Two types of inspections:

- Visual Screening
 - Approximately 3 year cycle
 - 1-page checklist w/photo log
 - 1½ day training
- Condition Assessment
 - Within 1 year of construction, then every 10 years
 - Multi-page checklist w/photo log and report
 - 1½ day training (additional)
 - Engineering/environmental professional or apprenticeship required



SCM Inspections



SCM Inspections

Training at:

2017

- Grantville
- Indiana

2018

- Allentown
- King of Prussia

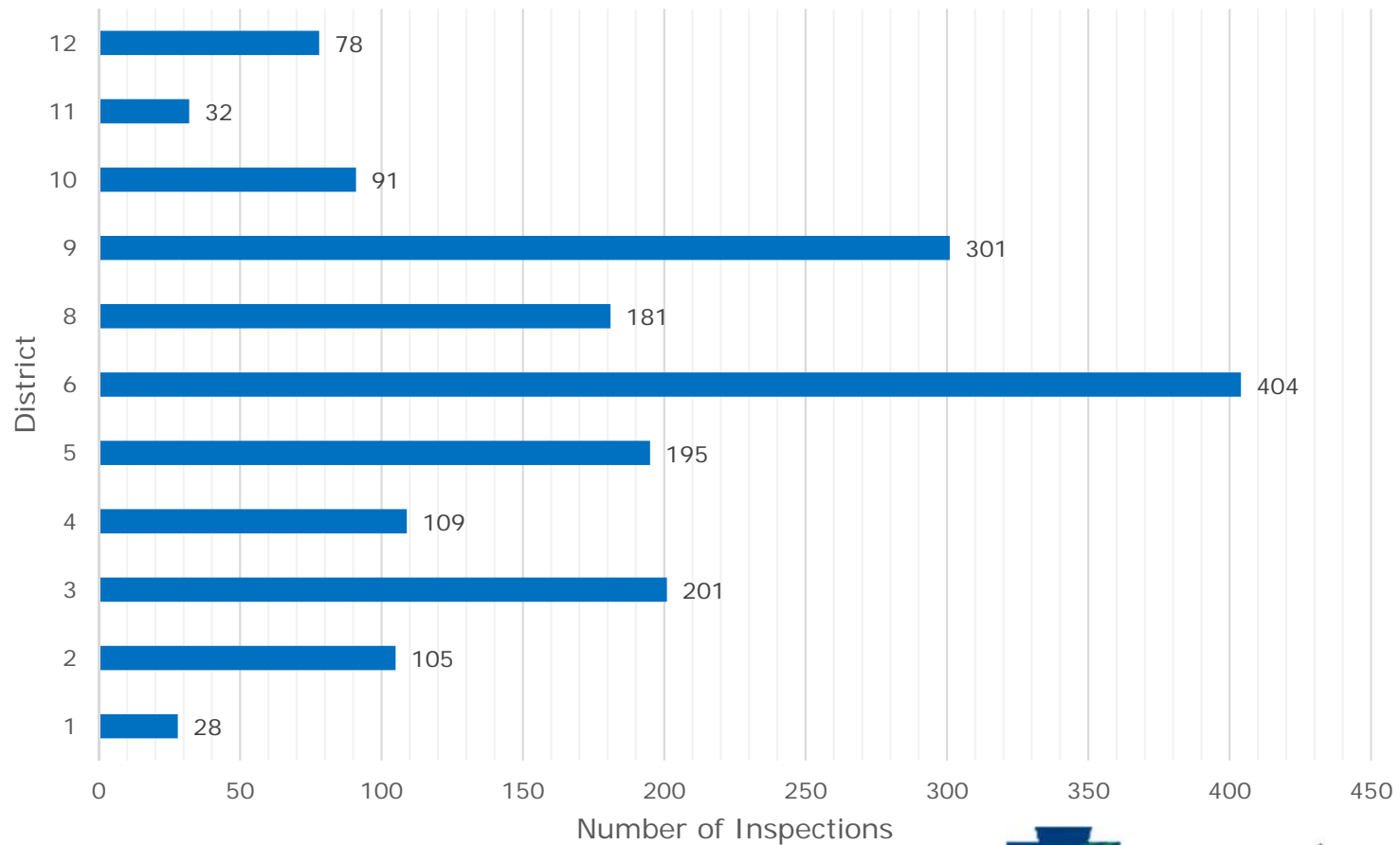
2019

- Uniontown
(Apr.)
- Montoursville
(May)



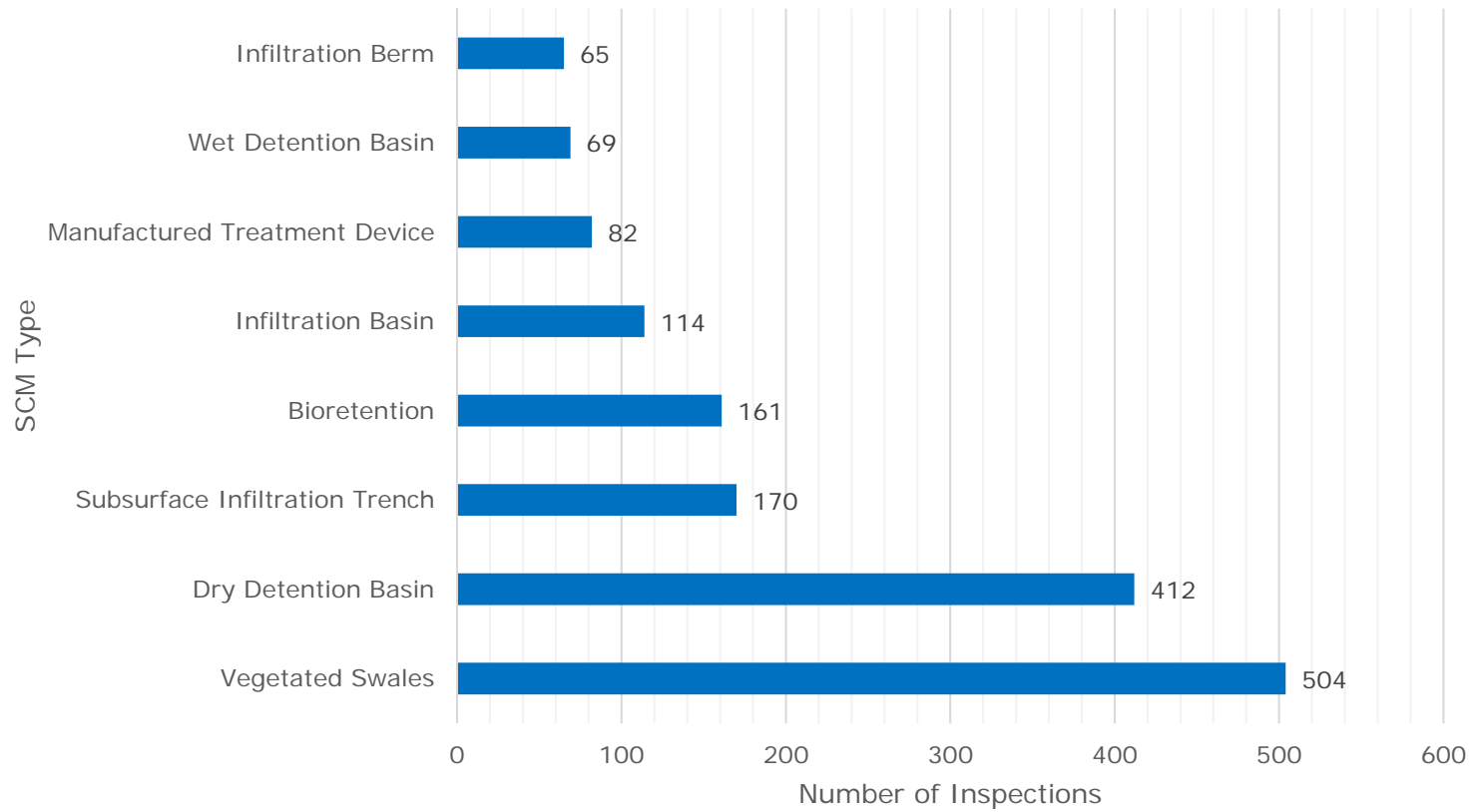
SCM Inspections

Visual Screening Inspections by District



SCM Inspections

Visual Screening Inspections
Most Inspected SCM Types



SCM Inspections

Problem Category	Any Problem	Corrective Maintenance	Engineering Evaluation
	Action Code 0-5*	Action Code 2-4*	Action Code 5*
Debris/Trash	1,135	309	8
Erosion	484	312	33
Ponding	488	52	232
Vegetation	1,624	509	204
Miscellaneous	831	368	178
Total	4,562	1,550	655

*Action Code: 0 = No Action, 1 = Routine Maintenance, 2-4 = Corrective Maintenance, 5 = Engineering Evaluation

Compliance Management Program

- 2018 Consent Agreement with US EPA

“PennDOT shall develop and implement a Compliance Management Program (CMP)... The purpose of the CMP shall be to ensure that PennDOT construction activities meet the requirements of their National Pollutant Discharge Elimination System (NPDES) permits for the discharge of stormwater.”

Compliance Management Program

The Consent Agreement covers four areas that deal specifically with inspections:

- Stormwater Inspection Training
- Stormwater Self-Audit Program
- Compliance Response Policy
- Stormwater Compliance Data

Compliance Management Program

- Construction inspector training coming soon!



Stormwater Self-Audit Program

The basic structure of the self-audit program:

- Contractor implementation of the ESPC Plan
- Field inspections
- District self-inspections
- Stormwater self-audits
- Documentation, feedback, and quality improvements



Stormwater Self-Audit Program

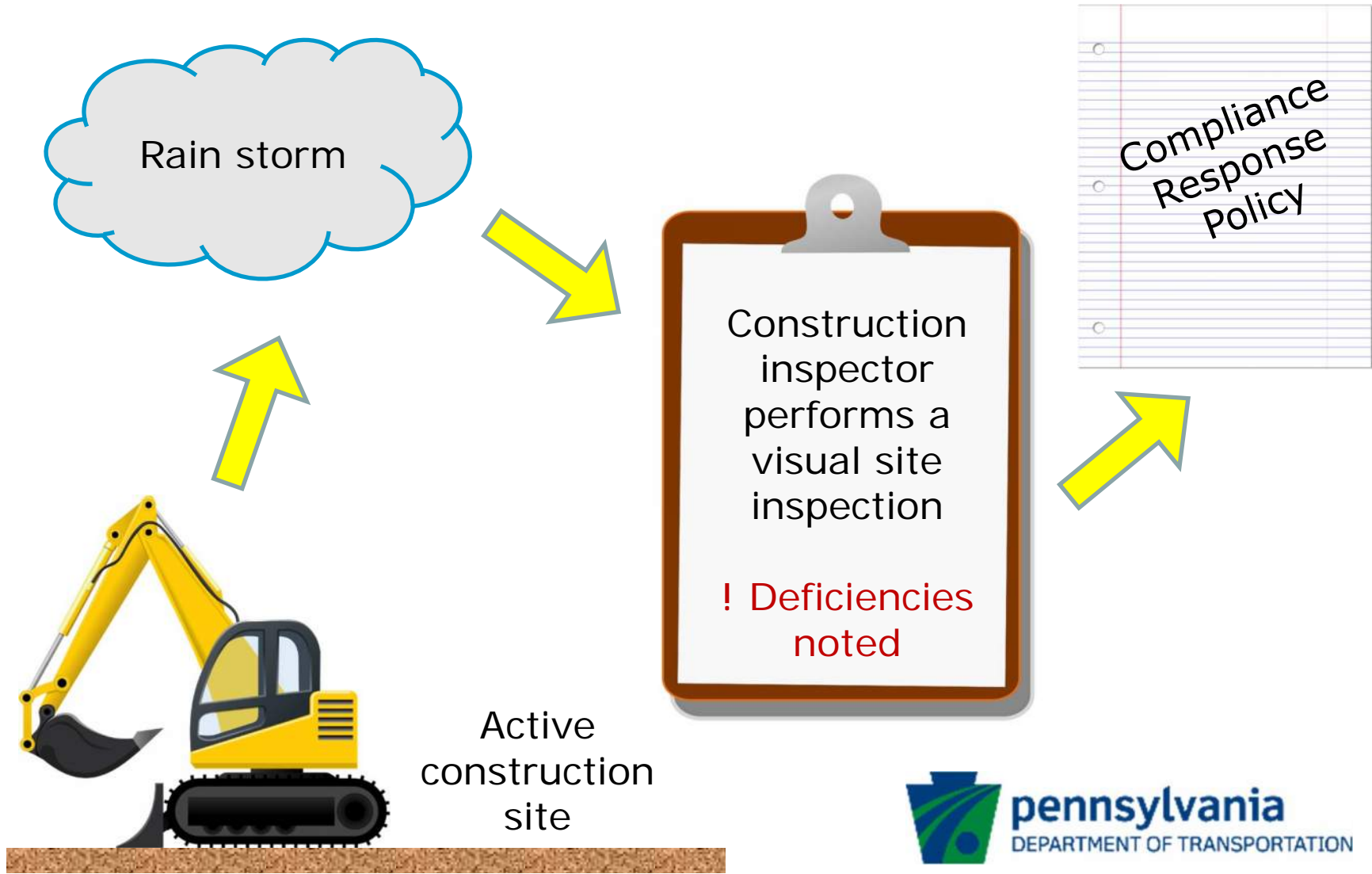
Overview of Stormwater Self-Audit Program

	Frequency	Performed By	Policy Location	System for Data
Field Inspections	Weekly and after stormwater events ¹	Field Inspector or Inspector-in-Charge + Contractor's Representative	Pub. 2 - Project Office Manual	Keystone Environmental ePermitting System (KEeS) and PennDOT VSIR mobile application
District Self-Inspections	1 per construction season ²	District Construction Unit	Pub. 2 - Project Office Manual	KEeS and PennDOT VSIR mobile application
Stormwater Self-Audits	1 per construction season ² , unannounced	Construction Quality Assurance Section Staff	Pub. 2 - Project Office Manual and Construction Operation Review (COR) E&S Checklist	Quality Assurance Reporting System (QARS)
Regulatory Agency Inspections	At the discretion of the agency	Regulatory agency or delegate (PA DEP, EPA, County Conservation District)	Authority via Clean Streams Law and PA Code Title 25 Chapters 102 and 105	KEeS and PA DEP eFACTS

¹ Inspections occur from initial earth disturbance to NPDES Permit Notice of Termination

² Per active construction project with an NPDES Permit

Compliance Response Policy



Compliance Response Policy

1. Deficiencies resulting in significant discharges of pollutants
2. Deficiencies that could result in significant discharges of pollutants
3. Failure to comply with the approved ESPC Plan
4. CCD concerns regarding compliance with the ESPC Plan
5. CCD concerns regarding a design aspect of the ESPC Plan
6. Failure to perform a visual site inspection

Compliance Response Policy

A deficiency is not resolved within the timeframe that is communicated to the Contractor. **Now what?**

- Category 1 or 2 – the District shall issue a partial-area or (complete) project stop work order until the deficiency is addressed.
- Category 3 or 4 – the District shall hold payments of estimates to the Contractor until the corrective work is completed.

► KEES and Chapter 102 Permits

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Help | Contact Us | DEP Library | GIS

PA.GOV

Keystone Environmental ePermitting System

KEES Login

User Name

Password

LOGIN

[Forgot your username?](#) [Forgot your password?](#)

For assistance with KEES access or KEES errors contact the PennDOT IT Service Desk: (717)783-8330 / (855)783-8330 or use [Contact Us](#).

Alerts

KEES Support Resources

03/19/2018

For assistance with KEES functionality, click the [Help](#) link to access online help resources. If you need further assistance, click [Contact Us](#) for DEP, ACOE and PennDOT contact information.
For assistance with KEES access or KEES errors contact the PennDOT IT Service Desk: (717)783-8330 / (855)783-8330.

UPDATE: KEES/Facility Details Integration

08/20/2018

Release 3 was deployed to the KEES production environment on August 20, 2018. This release features:

- Entry of primary and sub facility data directly into KEES as part of the application process; the link to DEP GreenPort is no longer available.
- Implementation of the remaining Chapter 105 General Permit applications.

ESPC and PCSM Plan Standards

- Pub. 14 (DM-3) updates
 - PCSM Plan standards added
 - ESPC Plan standards revised

*Chapter 6 - Contour Grading and Drainage Plans,
Erosion and Sediment Pollution Control Plans,
and Post Construction Stormwater Management Plans*

Publication 14M (DM-3)
2015 Edition- Change #2

CHAPTER 6

CONTOUR GRADING AND DRAINAGE PLANS,
EROSION AND SEDIMENT POLLUTION CONTROL PLANS,
AND
POST CONSTRUCTION STORMWATER MANAGEMENT PLANS

PCSM Policy Update

- Pub. 13 (DM-2) and Pub. 584 (PDM) updates related to PCSM design
- Highlights include:
 - Eliminating PCSM levels
 - Revised water quality calculations
 - Defining points of interest and points of analysis
 - Revised BMP (SCM) Toolbox
 - Applicability of Act 167 SMPs
 - Infiltration testing and soil profile guidelines
- Step 2 CT or final publishing in near future

Questions





MS4 & Post-Construction Stormwater Management

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April 16, 2019

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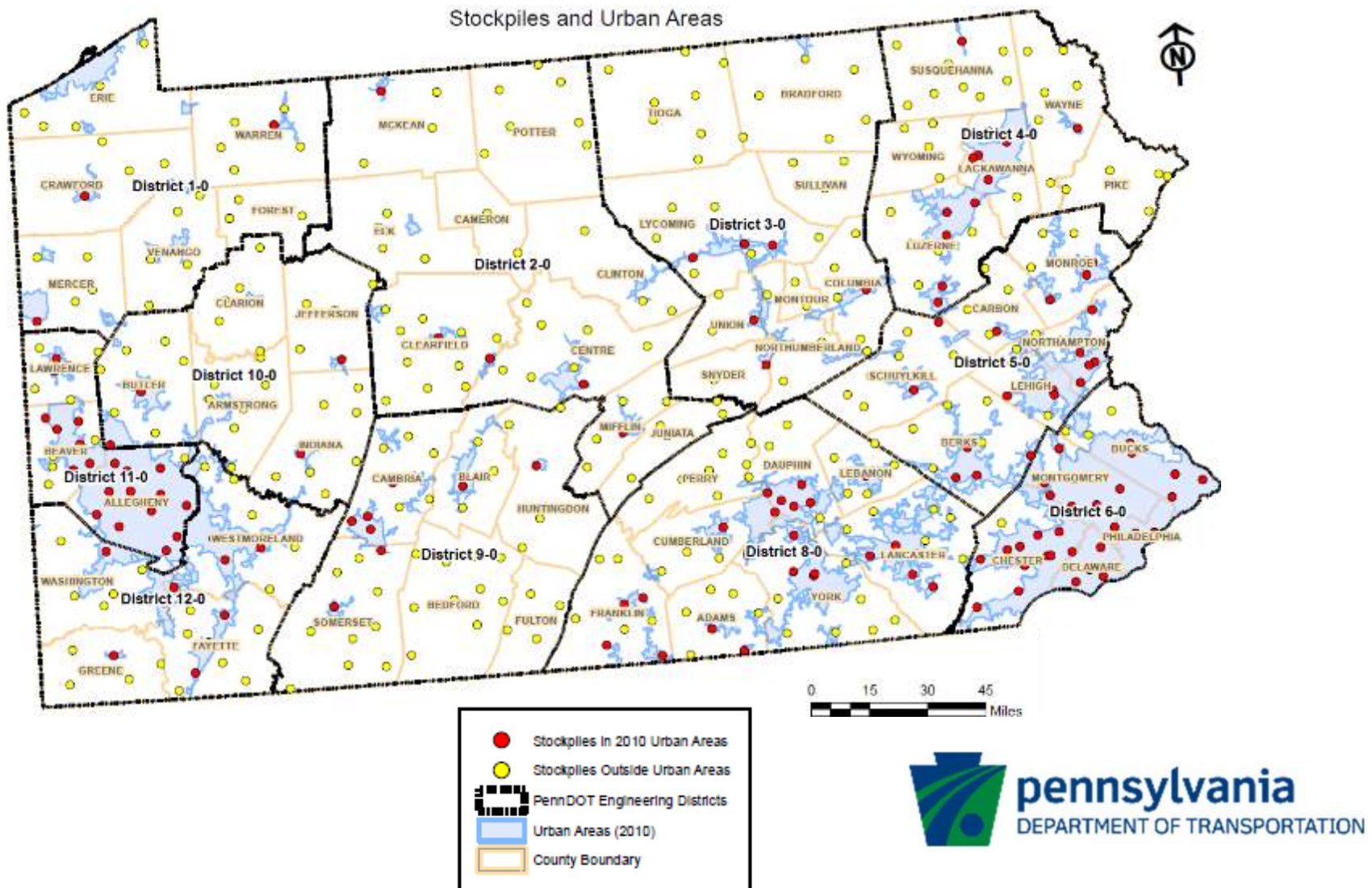
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 - 4. Construction site stormwater runoff control**
 - 5. Post-construction stormwater management**
 6. Pollution prevention/good housekeeping
(at maintenance facilities)
- Includes TMDL and Pollutant Reduction Plans

MS4 Permit Renewal

- MCM#4: Construction Site SW Runoff Control
 - **Goal:** Update E&S policies as necessary based on 25 PA Code Ch 102 and provide periodic training.
 - **Translation:** Do a better job at performing and documenting inspections during construction.



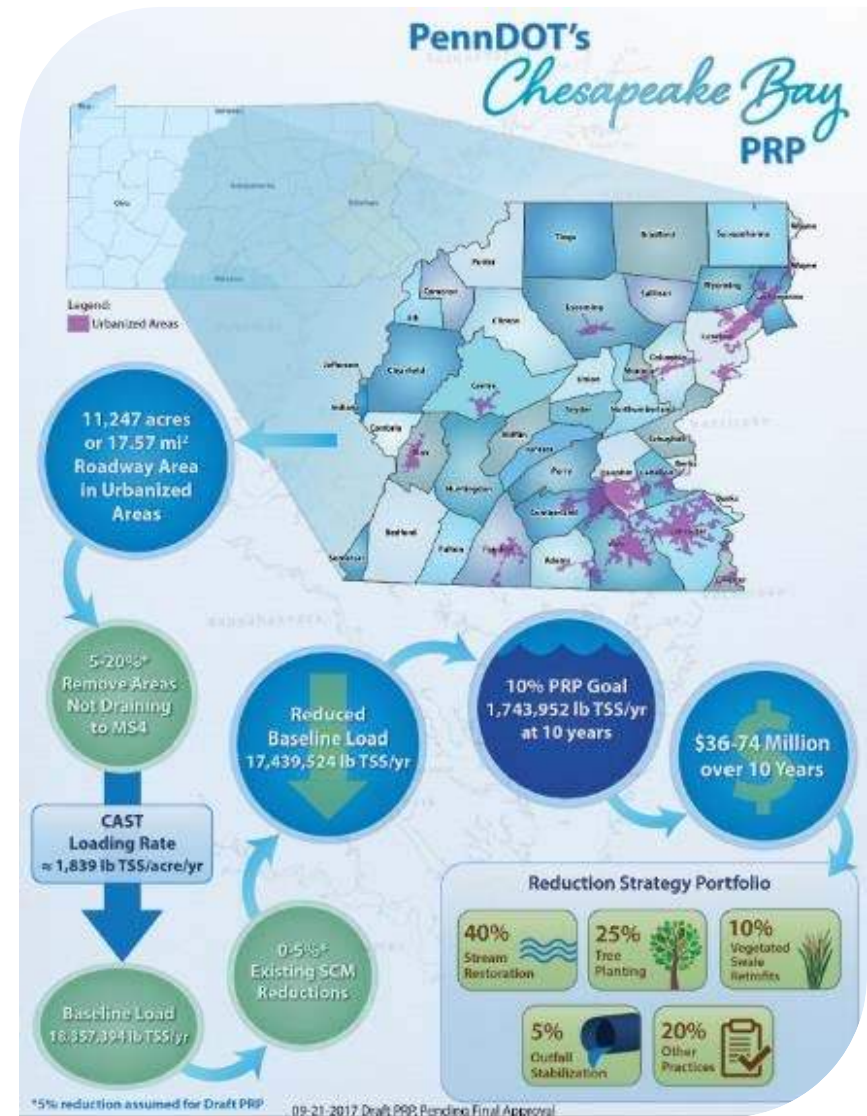
MS4 Permit Renewal

- MCM#5: PCSM in New/Re-Development Activities
 - **Goal:** Update inventory in urbanized areas...and ensure that SCMs are implemented, operated, and maintained...
 - **Translation:** Implement a program to map, inspect, and maintain SCMs.



➤ Pollutant Reduction Plans

- Reduce annual sediment load contribution by "X"% in "Y" years
- Chesapeake Bay, Delaware River, Ohio River, Lake Erie
- Negotiating terms with DEP
- Will be a Department-wide coordinated effort



▶ Pollutant Reduction Plans

Table 1. Proposed PRP TSS Reduction Goals

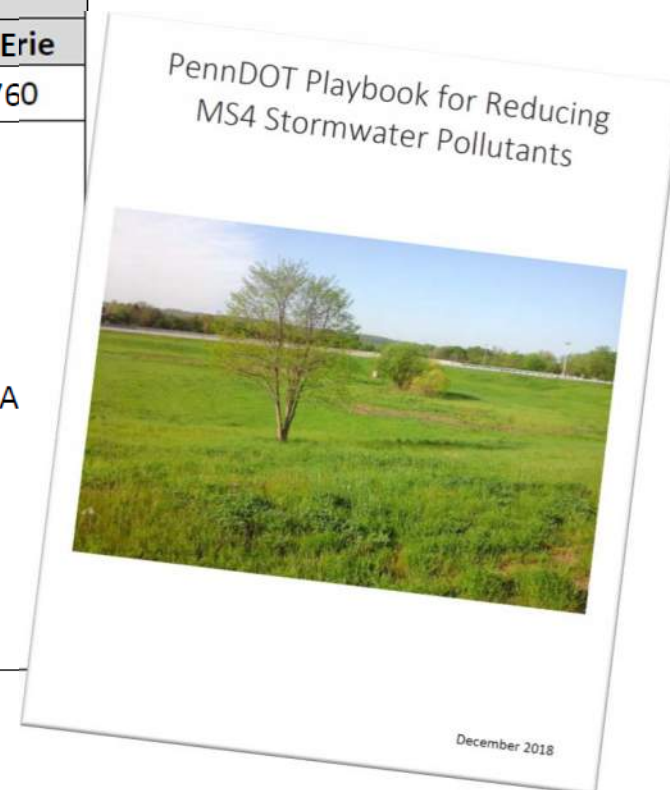
PRP	Reduction Goal	10% TSS Reduction (lb/yr)*	Anticipated Cost (\$ Million)	Scale
Chesapeake Bay	10% TSS by 2025	1,690,000	28-46	Watershed
Locally Impaired Waters	10% TSS at 10 years	1,830,000	30-50	Delaware River
		875,000	15-24	Ohio River
		97,000	2-3	Lake Erie
Total Statewide		4,492,000	75-123	

*Rounded to the nearest 1,000 lb.

Pollutant Reduction Plans

Table 2. PRP TSS Reduction Goals by District

District	PRP Sediment Reduction Requirements (lb TSS/yr)			
	Chesapeake Bay	Delaware River	Ohio River	Lake Erie
1	N/A	N/A	438	96,760
2	42,130		N/A	N/A
3	144,374			
4	317,705			
5	6,068	402,926		
6	20,106	1,414,631		
8	1,070,909	12,077		
9	88,486	N/A	4,726	
10	N/A		62,136	
11			461,734	
12			346,125	



▶ Pollutant Reduction Plans

Table 5. Common Reduction Practices and Anticipated Costs

Reduction Practice	Expected Life Span ²	Sediment Reduction Effectiveness	Estimated Cost ³
			\$/ lb TSS/ yr
Bioretention	25	80%	36-82
Infiltration Practice	50	95%	35-77
Wet Pond/Constructed Wetland	50	60%	50-112
Vegetated Swale (A/B Soil)	20	70%	21-37
Vegetated Swale (C/D Soil)	20	50%	30-52
Tree Planting (Pervious to Woods)	75	20%	4-108
Stream Restoration	20	44.88 lb/LF/yr	17-19
Outfall Stabilization	20	56.1 lb/LF/yr ¹	26-30
P3 Projects	20+ ⁴	Varies	11-30
Forest Buffer	75	50%	31-58
Purchasing Credits	TBD ⁴	N/A	32-66

Pollutant Reduction Plans

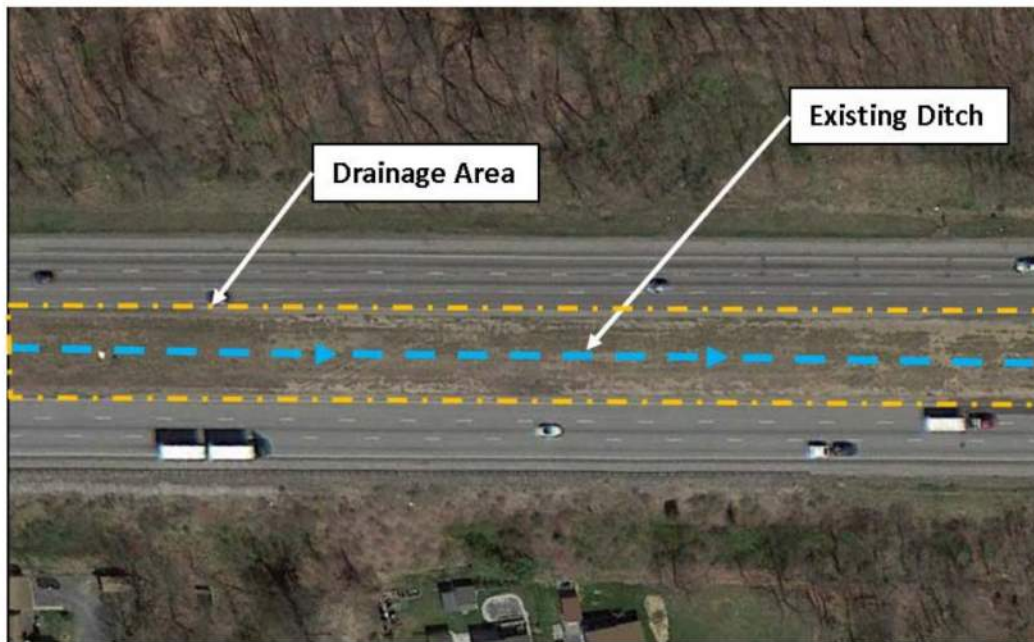


Figure 8. Aerial View of Typical Resurfacing Project Section with Existing Grass Lined

POLLUTANT REDUCTION PLAN PROJECT SUBMISSION FORM

District: County: Municipality:
 State Road (if applicable): Latitude: Longitude:
 Applicable Pollutant Reduction Plan: Chesapeake Bay Delaware River Ohio River Lake Erie
 Project Name:
 Project Contact:
Name Email Phone
 Is Project within Existing PennDOT Right-of-Way? Yes No Funding Secured: Yes No N/A
 Municipal Partner: Yes No Municipality: Agreement in Place: Yes No
 Anticipated Completion Date: Estimated Sediment Reduction Credit: lbs. TSS / yr

Project Description

NPDES Permit Retrofit MS4 Partnering Waterway Permit Purchasing Credit Other
 No compensatory stream mitigation is required. However, slope layoffs and livestock plantings of existing streambanks along Slotznick Run will be done for stabilization and to improve hydraulics.

Sediment Reduction Calculation

Strategy Type: Stream Restoration Stream Bank Stabilization Stream Bank Protection Stream Bank Erosion Control Stream Bank Revegetation Stream Bank Armoring Stream Bank Encasement Stream Bank Encasement with Vegetation Stream Bank Encasement with Vegetation and Armoring Stream Bank Encasement with Vegetation and Armoring and Revegetation
 Strategy Size: Square Feet Linear Feet Acres
 CAST County Loading Rates (lbs. TSS/acre/yr) Impervious: Pervious: N/A
 Contributing Drainage Area (acres) Total: Impervious: Pervious: N/A
 Calculated Existing Baseline Load: lbs. TSS / yr N/A
 Sediment Reduction Effectiveness: % or lbs. TSS / yr
 Sediment Reduction Credit: lbs. TSS / yr

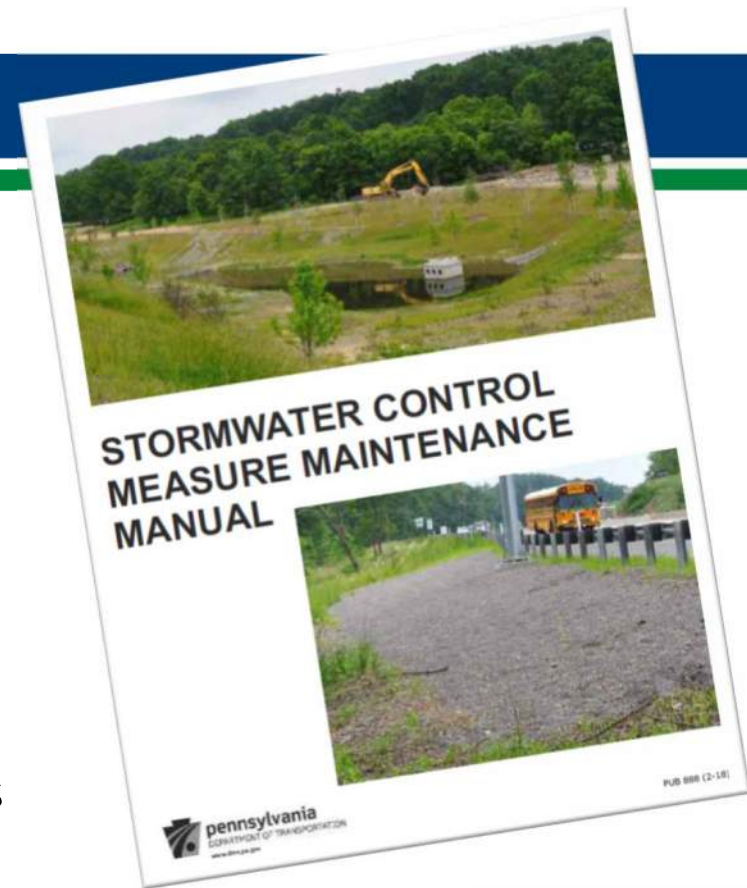
Cost Estimate

Total Cost: \$ Unit Cost: \$ lbs. TSS / yr
 Cost Estimate Developed Using: PRP Playbook Unit Costs CAST Other, Describe Below
 Comments:
 The PRP playbook was utilized to develop an estimated cost range. The cost estimate used was determined using the mean of this range.

Publication 888

SCM Maintenance Manual

- Inventory procedures
 - IDs, adding/modifying data
- Inspections
 - Types and frequencies
 - Forms, report templates
 - Submitting and viewing results
- Maintenance
 - SCM specific procedures
 - Common SCM components
- Charging, recording, reporting
 - Assemblies and charge codes
 - Creating work notifications



**Final Publishing
This Month!**

► Publication 888

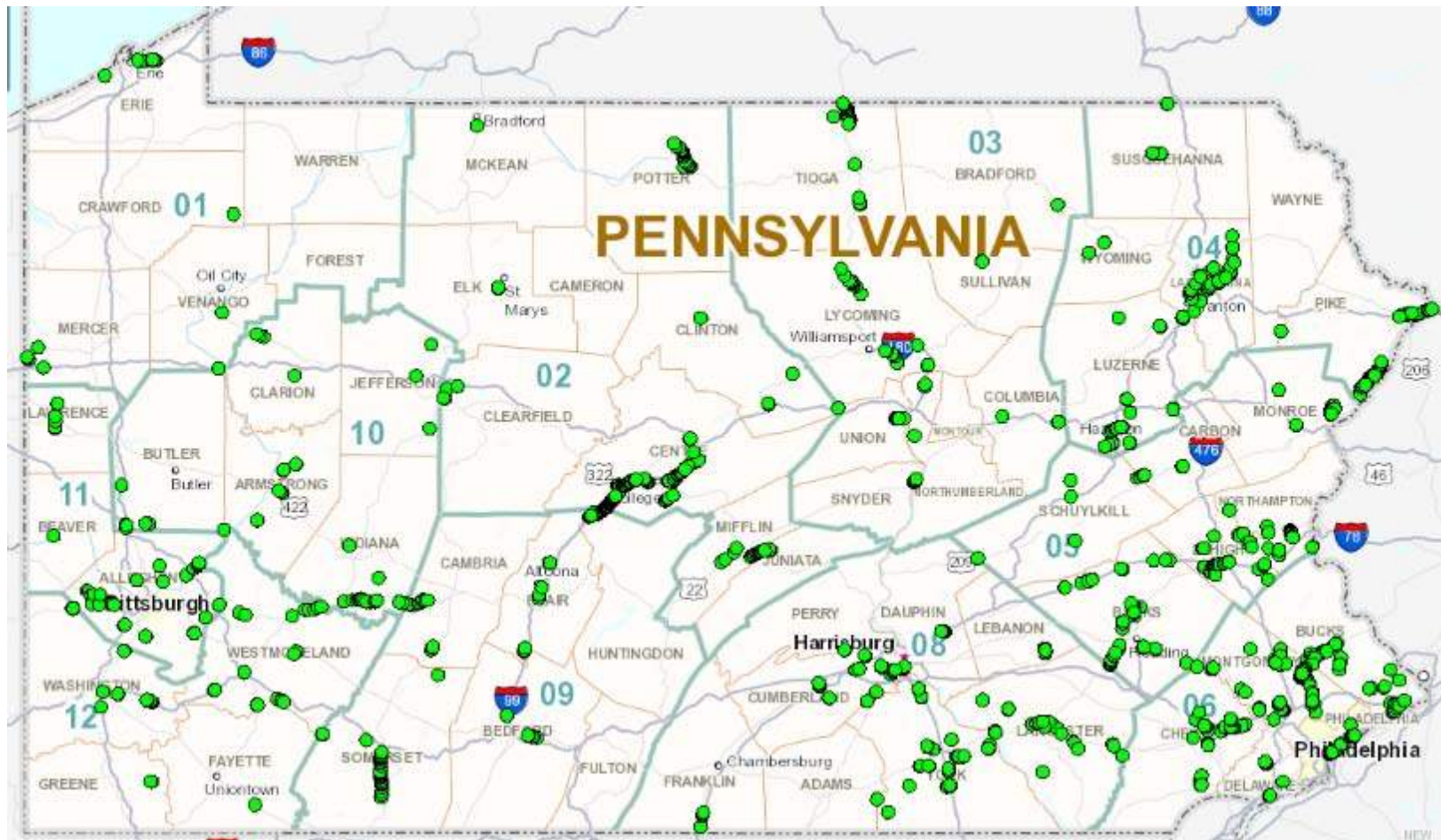
SCM Name	Type Code	SCM Name	Type Code
Basin, Dry Detention	BDD	Non-Basin SCM, Other	NBO
Basin, Dry Extended Detention	BED	Pervious Pavement, Asphalt	PPA
Basin, Dry Ultra-Extended Detention	BUD	Pervious Pavement, Concrete	PPC
Basin, Infiltration Detention	BID	Pervious Pavement, Pavers	PPP
Basin, Other	BOT	<i>Reforestation/Tree Plantings*</i>	<i>RTP</i>
Basin, Naturalized Detention	BND	Regenerative Step Pool	RSP
Basin, Wet Detention	BWD	<i>Riparian Buffer Enhancement*</i>	<i>RBE</i>
Bioretention	BRE	<i>Riparian Buffer Offset*</i>	<i>RBO</i>
Bioretention w/Underdrain	BRU	<i>Soil Amendment Restoration*</i>	<i>SAR</i>
Constructed Stormwater Filter	CSF	Stormwater Wetland	SWE
Flow Dispersion, Forest/Buffer	FDF	<i>Stream Restoration*</i>	<i>SRE</i>
Flow Dispersion, Veg. Filter Strip	FDV	<i>Stream Stabilization*</i>	<i>SST</i>
<i>Forest Preservation*</i>	<i>FPR</i>	Subsurface Detention Storage	SDS
Infiltration Berm	IBE	Subsurface Infiltration Trench	SIT
<i>Landscape Restoration Meadow*</i>	<i>LRM</i>	Vegetated Filter Strip	VFS
Level Spreader Outfall	LSO	Vegetated Filter Strip, Steep Slope	VSS
Manufactured Treatment Devices	MTD	Vegetated Swale	VSW
Media Filter Drain	MFD	Vegetated Swale w/ Check Dams	VSC

► Publication 888

Type	#
Dry Detention Basins	502
Infiltration Basins	205
Wet Basins	113
Bioretention	213
Infiltration Trenches	227
Infiltration Berms	96
Vegetated Swales	770
Vegetated Filter Strips	52
Manufactured Treatment Devices	106
Media Filter Drains	13
Stormwater Wetlands	18
Total	2,315

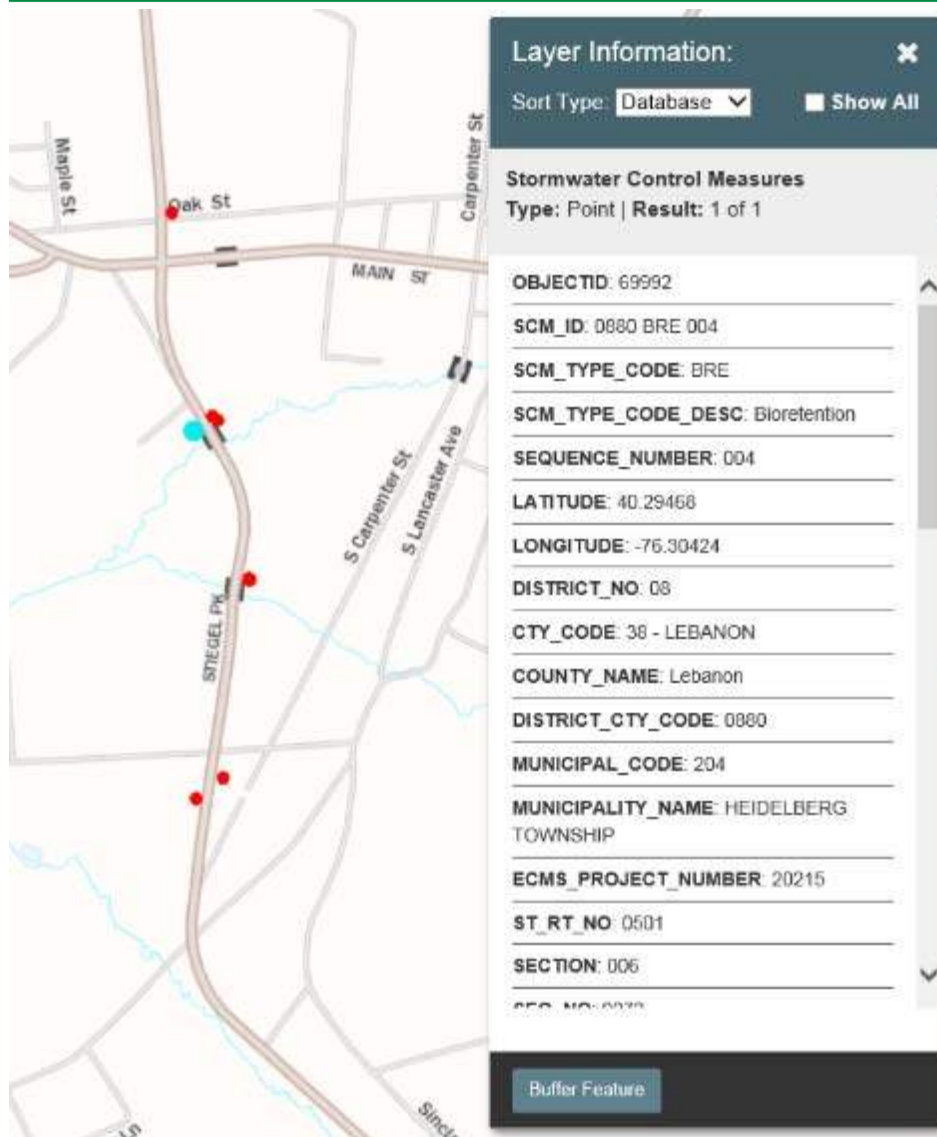
SCMs currently in the inventory
(as of 4/2019)

Publication 888



● - SCM LOCATION

▶ Publication 888



Maintenance-IQ

- Custom GIS application for PennDOT
- Helpful for planning inspections
- Can view inventory and inspection data
- **Soon will be able to edit data!**



http://pdprgisiis01/maintenance_iq/xyz

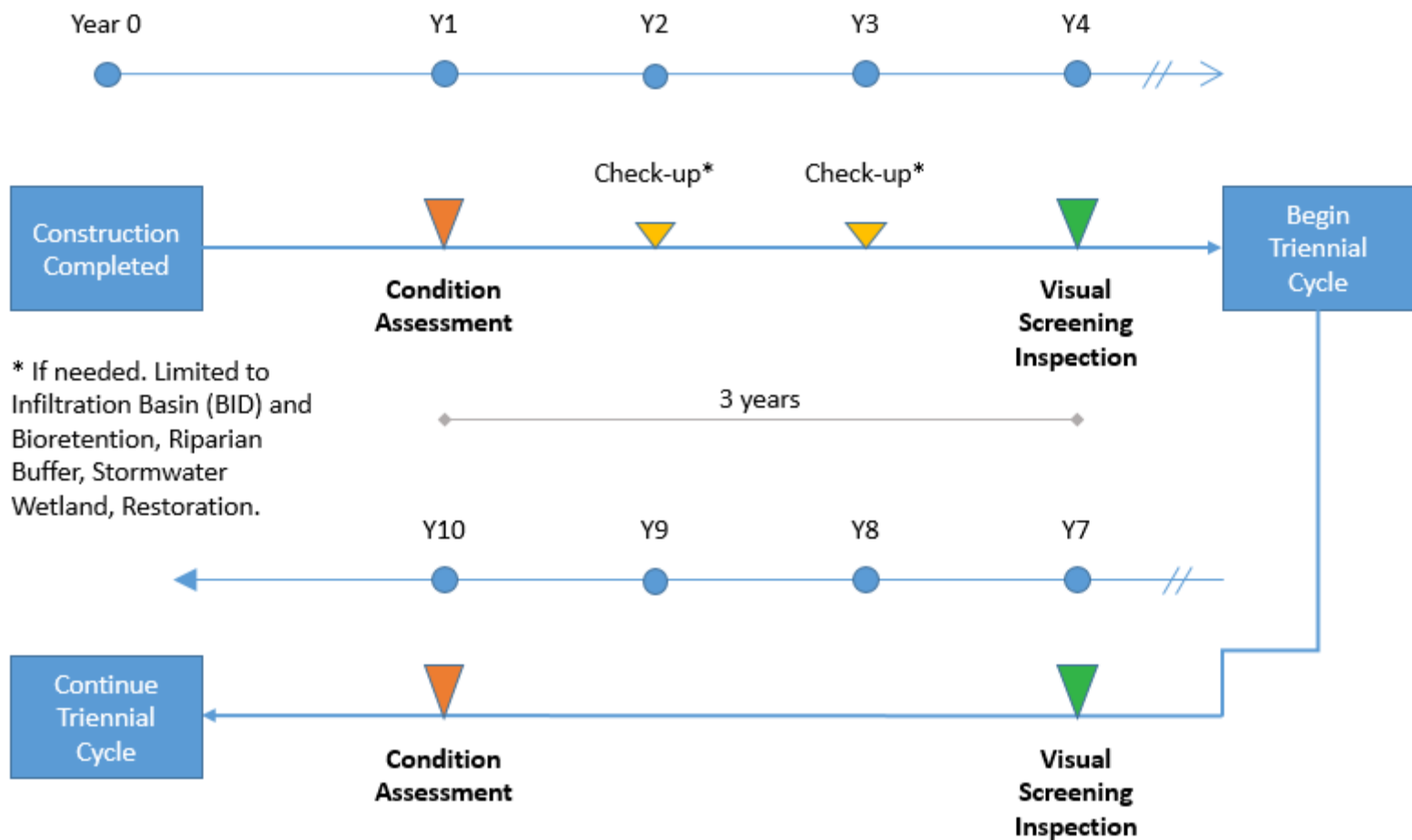
SCM Inspections

Two types of inspections:

- Visual Screening
 - Approximately 3 year cycle
 - 1-page checklist w/photo log
 - 1½ day training
- Condition Assessment
 - Within 1 year of construction, then every 10 years
 - Multi-page checklist w/photo log and report
 - 1½ day training (additional)
 - Engineering/environmental professional or apprenticeship required



SCM Inspections



* If needed. Limited to Infiltration Basin (BID) and Bioretention, Riparian Buffer, Stormwater Wetland, Restoration.

SCM Inspections

Training at:

2017

- Grantville
- Indiana

2018

- Allentown
- King of Prussia

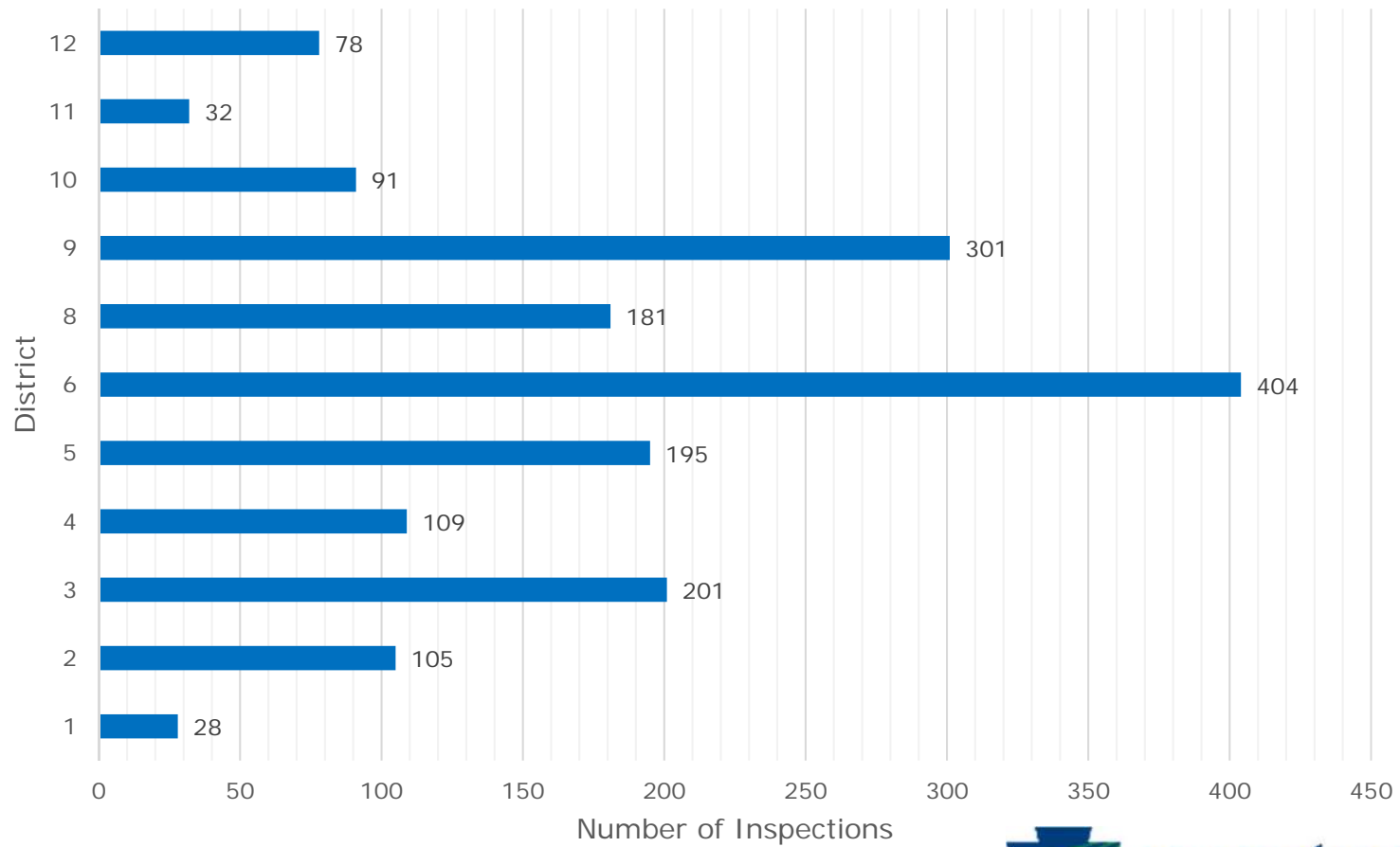
2019

- Uniontown
(Apr.)
- Montoursville
(May)



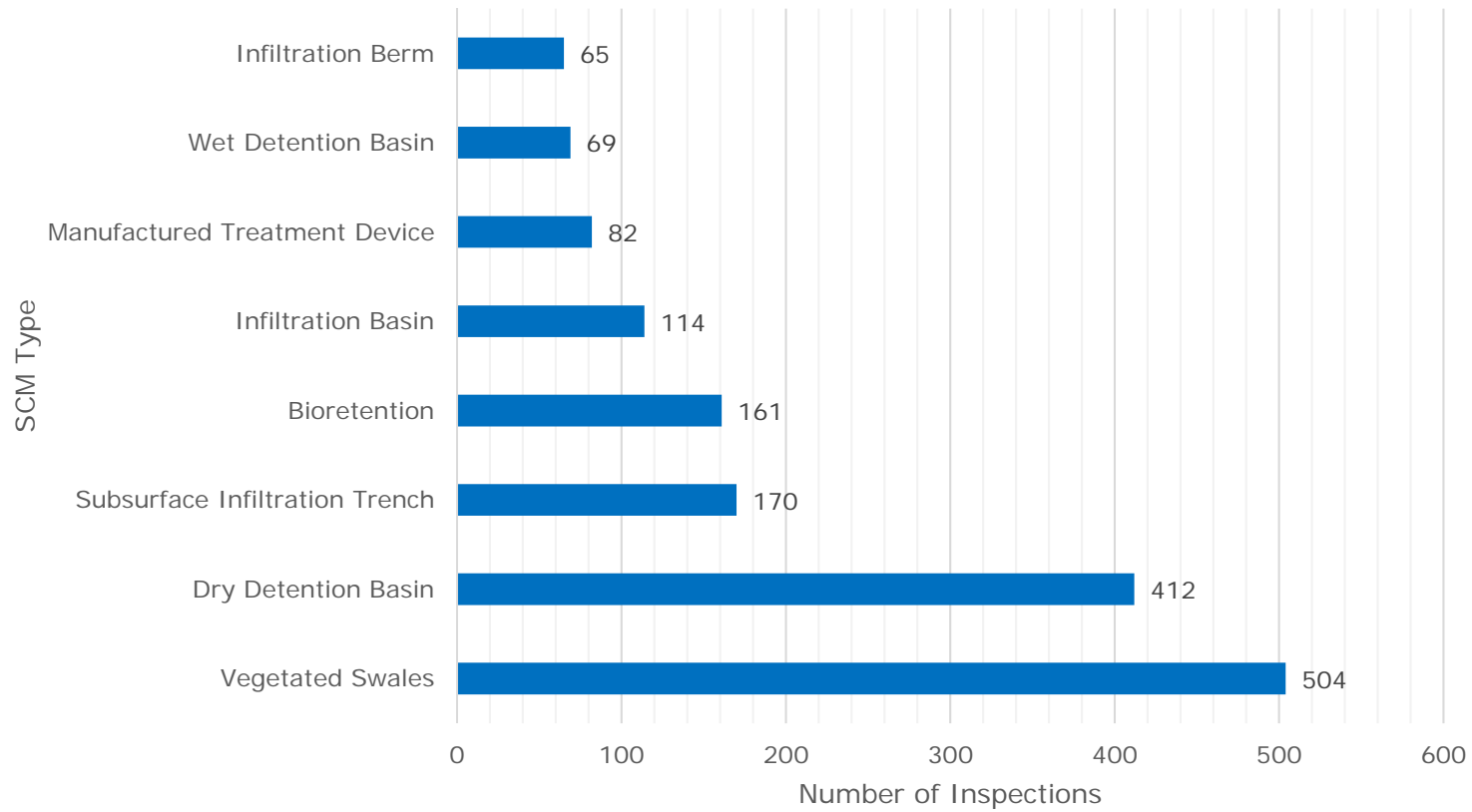
SCM Inspections

Visual Screening Inspections by District



SCM Inspections

Visual Screening Inspections
Most Inspected SCM Types



SCM Inspections

Problem Category	Any Problem	Corrective Maintenance	Engineering Evaluation
	Action Code 0-5*	Action Code 2-4*	Action Code 5*
Debris/Trash	1,135	309	8
Erosion	484	312	33
Ponding	488	52	232
Vegetation	1,624	509	204
Miscellaneous	831	368	178
Total	4,562	1,550	655

*Action Code: 0 = No Action, 1 = Routine Maintenance, 2-4 = Corrective Maintenance, 5 = Engineering Evaluation

Compliance Management Program

- 2018 Consent Agreement with US EPA

“PennDOT shall develop and implement a Compliance Management Program (CMP)... The purpose of the CMP shall be to ensure that PennDOT construction activities meet the requirements of their National Pollutant Discharge Elimination System (NPDES) permits for the discharge of stormwater.”

Compliance Management Program

The Consent Agreement covers four areas that deal specifically with inspections:

- Stormwater Inspection Training
- Stormwater Self-Audit Program
- Compliance Response Policy
- Stormwater Compliance Data

Compliance Management Program

- Construction inspector training coming soon!



Stormwater Self-Audit Program

The basic structure of the self-audit program:

- Contractor implementation of the ESPC Plan
- Field inspections
- District self-inspections
- Stormwater self-audits
- Documentation, feedback, and quality improvements



Stormwater Self-Audit Program

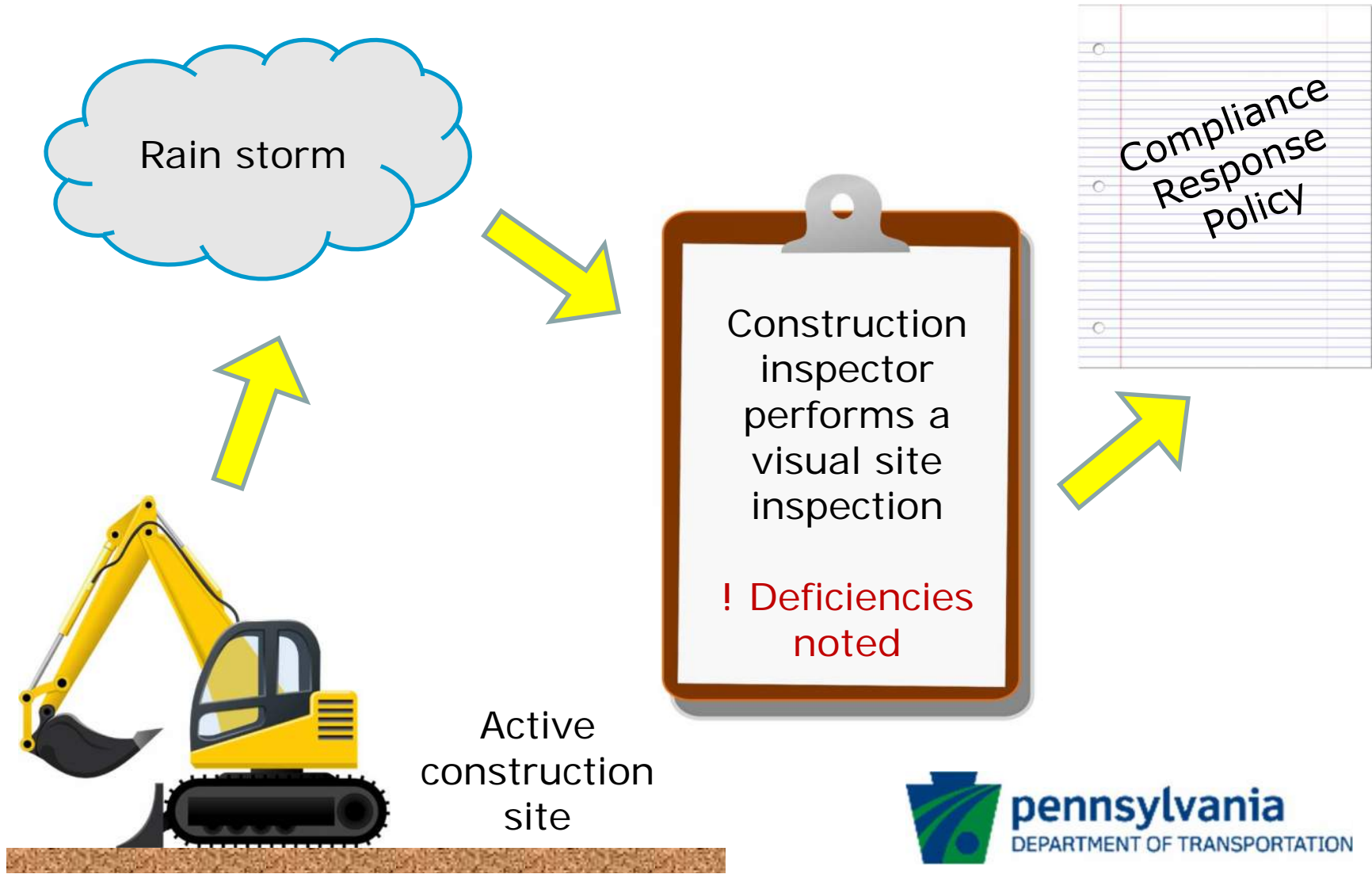
Overview of Stormwater Self-Audit Program

	Frequency	Performed By	Policy Location	System for Data
Field Inspections	Weekly and after stormwater events ¹	Field Inspector or Inspector-in-Charge + Contractor's Representative	Pub. 2 - Project Office Manual	Keystone Environmental ePermitting System (KEeS) and PennDOT VSIR mobile application
District Self-Inspections	1 per construction season ²	District Construction Unit	Pub. 2 - Project Office Manual	KEeS and PennDOT VSIR mobile application
Stormwater Self-Audits	1 per construction season ² , unannounced	Construction Quality Assurance Section Staff	Pub. 2 - Project Office Manual and Construction Operation Review (COR) E&S Checklist	Quality Assurance Reporting System (QARS)
Regulatory Agency Inspections	At the discretion of the agency	Regulatory agency or delegate (PA DEP, EPA, County Conservation District)	Authority via Clean Streams Law and PA Code Title 25 Chapters 102 and 105	KEeS and PA DEP eFACTS

¹ Inspections occur from initial earth disturbance to NPDES Permit Notice of Termination

² Per active construction project with an NPDES Permit

Compliance Response Policy



Compliance Response Policy

1. Deficiencies resulting in significant discharges of pollutants
2. Deficiencies that could result in significant discharges of pollutants
3. Failure to comply with the approved ESPC Plan
4. CCD concerns regarding compliance with the ESPC Plan
5. CCD concerns regarding a design aspect of the ESPC Plan
6. Failure to perform a visual site inspection

Compliance Response Policy

A deficiency is not resolved within the timeframe that is communicated to the Contractor. **Now what?**

- Category 1 or 2 – the District shall issue a partial-area or (complete) project stop work order until the deficiency is addressed.
- Category 3 or 4 – the District shall hold payments of estimates to the Contractor until the corrective work is completed.

► KEES and Chapter 102 Permits

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Help | Contact Us | DEP Library | GIS

PA.GOV

Keystone Environmental ePermitting System

KEES Login

User Name

Password

LOGIN

[Forgot your username?](#) [Forgot your password?](#)

For assistance with KEES access or KEES errors contact the PennDOT IT Service Desk: (717)783-8330 / (855)783-8330 or use [Contact Us](#).

Alerts

KEES Support Resources

03/19/2018

For assistance with KEES functionality, click the [Help](#) link to access online help resources. If you need further assistance, click [Contact Us](#) for DEP, ACOE and PennDOT contact information.
For assistance with KEES access or KEES errors contact the PennDOT IT Service Desk: (717)783-8330 / (855)783-8330.

UPDATE: KEES/Facility Details Integration

08/20/2018

Release 3 was deployed to the KEES production environment on August 20, 2018. This release features:

- Entry of primary and sub facility data directly into KEES as part of the application process; the link to DEP GreenPort is no longer available.
- Implementation of the remaining Chapter 105 General Permit applications.

ESPC and PCSM Plan Standards

- Pub. 14 (DM-3) updates
 - PCSM Plan standards added
 - ESPC Plan standards revised

*Chapter 6 - Contour Grading and Drainage Plans,
Erosion and Sediment Pollution Control Plans,
and Post Construction Stormwater Management Plans*

Publication 14M (DM-3)
2015 Edition- Change #2

CHAPTER 6

CONTOUR GRADING AND DRAINAGE PLANS,
EROSION AND SEDIMENT POLLUTION CONTROL PLANS,
AND
POST CONSTRUCTION STORMWATER MANAGEMENT PLANS

PCSM Policy Update

- Pub. 13 (DM-2) and Pub. 584 (PDM) updates related to PCSM design
- Highlights include:
 - Eliminating PCSM levels
 - Revised water quality calculations
 - Defining points of interest and points of analysis
 - Revised BMP (SCM) Toolbox
 - Applicability of Act 167 SMPs
 - Infiltration testing and soil profile guidelines
- Step 2 CT or final publishing in near future

Questions





FOLDED STEEL PLATE GIRDER SYSTEM

Folded Steel Plate Girders for PennDOT's Rapid Bridge Replacement Project

**Presented to:
ASHE Altoona/PennDOT D9-0 Annual Joint Workshop**

**BY: ROBERT T. ELLIOTT, P.E.
CDR MAGUIRE, INC.**

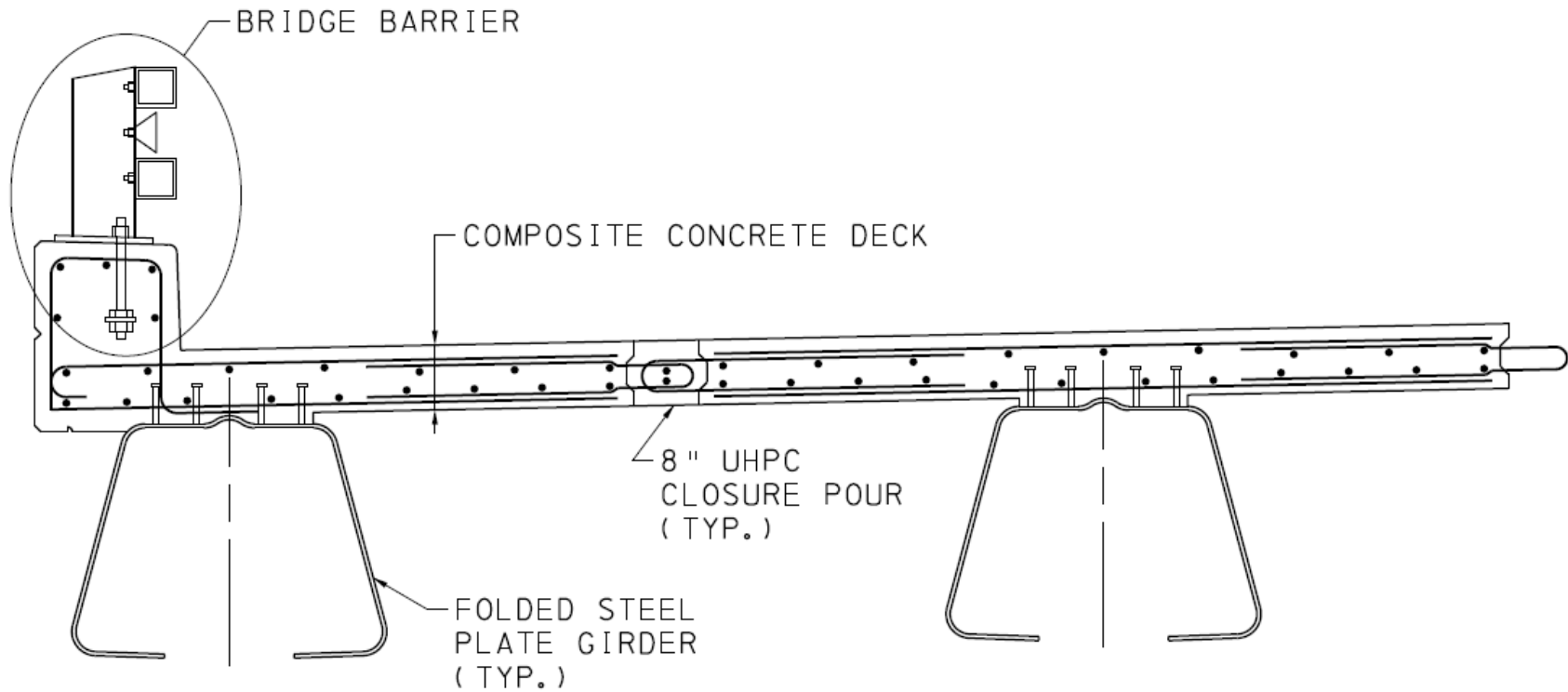
April 16, 2019



- CDR Bridge Systems is a sister company of CDR Maguire, Inc.
- Folded Steel Plate Girder System (FSPG) is approved in PA as an “Alternate”, SOL 483-14-07, Standard Drawing 14-604-BDTD
- www.cdrbridges.com



WHAT IS THE FOLDED STEEL PLATE GIRDER (FSPG) SYSTEM?



Typical Exterior Panel Unit

Typical Interior Panel Unit



FSPG RANGE OF APPLICABILITY:

- Simply supported structures including Integral Abutment structures
- ADTT < 500
- Girder lengths between 20' & 60'
- PennDOT Skews between 90° & 45°
- Max. C/C girder spacing for shipping: 11'-4"
- Max. deck panel width: 10'-8" interior & 11'-4" exterior
- Precast deck, barriers, & end diaphragms
- Various closure pour options
- Any substructure type



FSPG SIZES:

- Eleven standard FSPG sizes are available
- 0.375" or 0.5" plate thickness
- Girder depth between 16.75" and 35"
- Design tables are available for preliminary girder sizing

SAMPLE FSPG DESIGN TABLE:

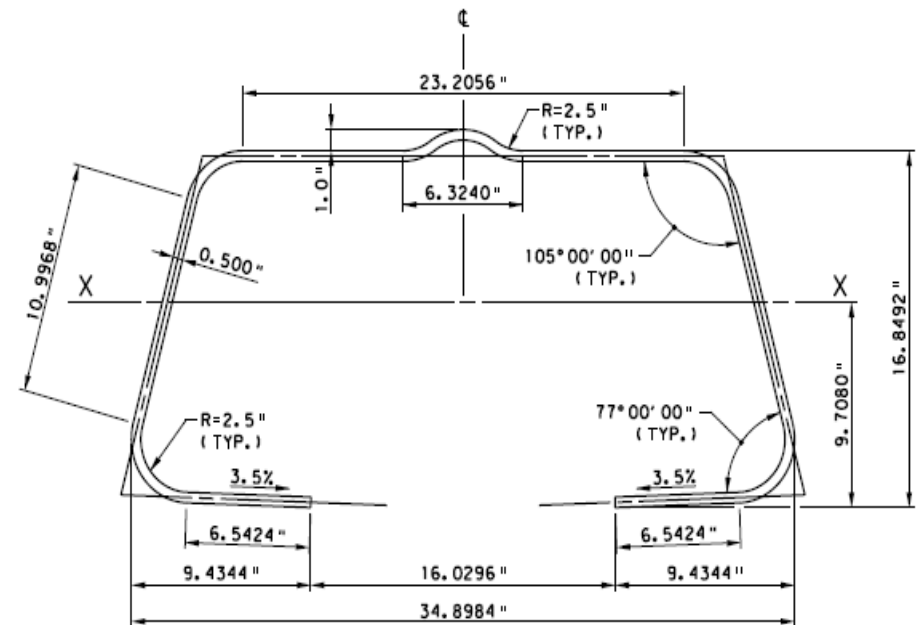
NON-COMPOSITE SECTION PROPERTIES			
I_{xx}	S_x TOP	S_x BOT.	r_x
1672 in^4	236.9 in^3	177.0 in^3	6.66 in

N=8 COMPOSITE SECTION PROPERTIES					
	EFFECTIVE SLAB WIDTH				
	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"
I_{xx}	4806 in^4	5011 in^4	5190 in^4	5348 in^4	5490 in^4
S_x TOP SLAB	628.8 in^3	689.5 in^3	745.8 in^3	798.3 in^3	847.4 in^3
S_x TOP STEEL	33724.5 in^3	-21545.5 in^3	-9579.6 in^3	-6676.8 in^3	-5375.0 in^3
S_x BOT. STEEL	293.8 in^3	299.5 in^3	304.5 in^3	309.1 in^3	313.3 in^3

NOTE: NEGATIVE S_x TOP STEEL INDICATES TOP FLANGE IS BELOW NEUTRAL AXIS

3N=24 COMPOSITE SECTION PROPERTIES					
	EFFECTIVE SLAB WIDTH				
	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"
I_{xx}	3416 in^4	3595 in^4	3756 in^4	3902 in^4	4035 in^4
S_x TOP SLAB	324.1 in^3	354.4 in^3	383.7 in^3	411.9 in^3	439.1 in^3
S_x TOP STEEL	1124.3 in^3	1360.7 in^3	1640.7 in^3	1977.2 in^3	2388.9 in^3
S_x BOT. STEEL	253.7 in^3	259.4 in^3	264.3 in^3	268.6 in^3	272.5 in^3

MOMENT CAPACITY					
	EFFECTIVE SLAB WIDTH				
	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"
PLASTIC, M_p	1691 KIP-FT	1776 KIP-FT	1840 KIP-FT	1890 KIP-FT	1930 KIP-FT
NOMINAL, M_n	1439 KIP-FT	1560 KIP-FT	1660 KIP-FT	1740 KIP-FT	1806 KIP-FT



EQUIVALENT PLATE GIRDER DIMENSIONS

TOP FLANGE: 27.5" x 0.5"
 WEB: 15.5" x 1.035"
 BOTTOM FLANGE: 16.0" x 0.5"

1/2" PLATE INFORMATION

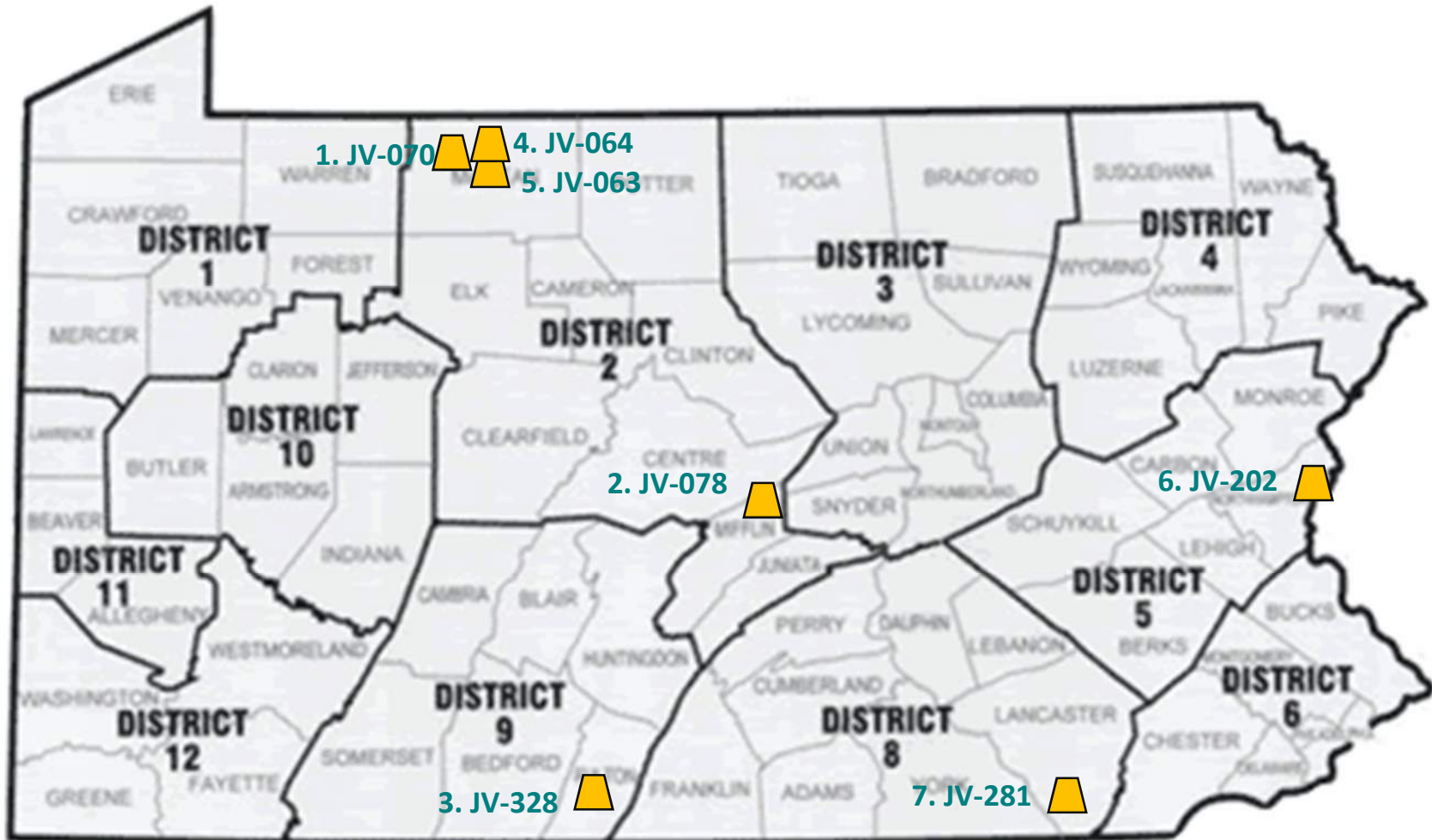
PLATE WIDTH ALONG \bar{C} PLATE: 75.78 in
 AREA: 37.89 in^2
 WEIGHT: 128.92 pif

PennDOT RBR FSPG Bridges:

- CDR Bridge Systems contracted with Walsh/Granite for 7 FSPG Bridges
- Bridges were 35 day detour, maximum. Therefore ABC was required versus Spread Box Beams or other structure types.
- Integral Abutments
- Precast 2'-8" vertical wall barriers with Aesthetic Detail
- Cast-in-place Class AAA Cement Concrete, Accelerated for closure pours and end diaphragms
- $\frac{3}{4}$ " P.P.C. Overlay
- CDR Bridge Systems provided the design for the superstructures while the Walsh/Granite bridge designers (HDR, Markosky, and Infrastructure Consulting & Engineering) developed the construction drawings.
- CDR Bridge Systems developed shop drawings for the steel and precast decks for approval.
- AT&F in Cleveland, OH fabricated the girders, AZZ in Canton, OH galvanized the girders, AC Miller in Blairsville, PA precast the decks
- All FSPG bridges were erected by Walsh/Granite crews



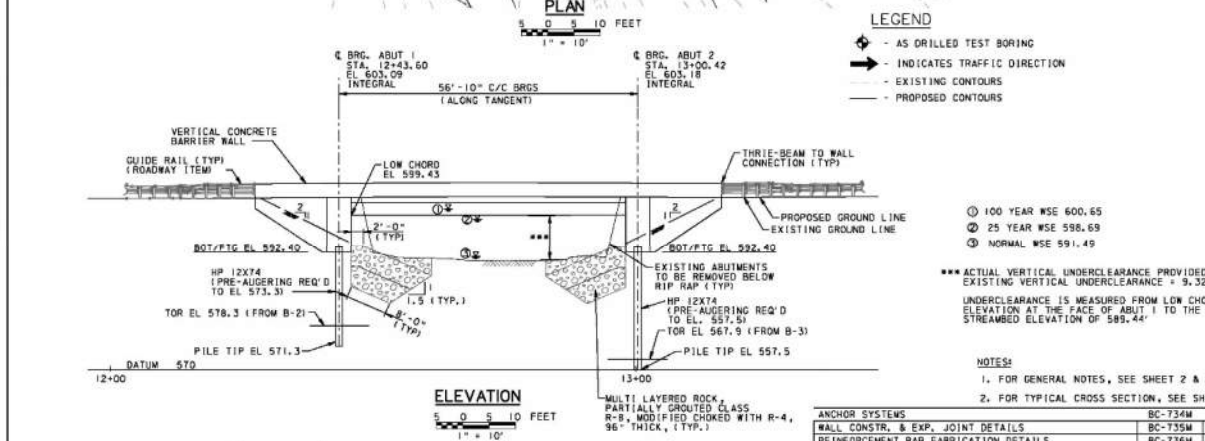
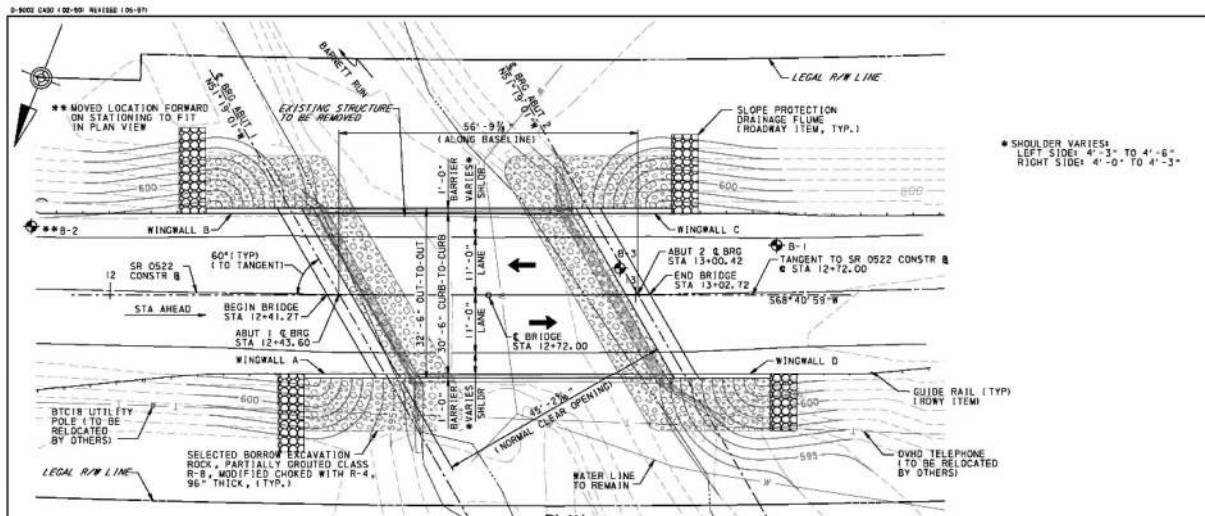
PennDOT RBR FSPG Bridges



PennDOT RBR FSPG Bridges:

	<u>SPAN</u>	<u>WIDTH</u>	<u>SKEW</u>	<u>PANELS</u>	<u>REGION</u>
JV-063:	48'-0"	42'-0"	90°	5	CENTRAL
JV-064:	59'-0"	43'-0"	90°	5	CENTRAL
JV-070:	45'-0"	34'-6"	90°	4	CENTRAL
JV-078:	49'-7"	31'-7"	75°	4	CENTRAL
JV-202:	56'-1"	30'-6 ½"	60°	4	EAST
JV-281:	52'-0"	34'-2"	90°	4	EAST
JV-328:	56'-10"	32'-6"	60°	4	CENTRAL

JV-328 General Plan & Elevation:



TEST BORING LOCATIONS

BORING	STATION	OFFSET
B-1	13+27	9' LT
B-2	11+43	10' LT
B-3	12+97	5' LT

NOTE: STATIONINGS AND OFFSETS WERE DERIVED FROM HAND SKETCH AND ARE APPROXIMATE.

PREPARED BY:

INFRASTRUCTURE CONSULTING & ENGINEERING, PLLC
 3023 BRIARGATE CIRCLE
 COLUMBIA, SC 29210

CDR ENGINEERING, INC.
 11 STANBIX ST., SUITE 800
 PITTSBURGH, PA 15222

SIGNATURE & DATE

SUPPLEMENTAL DRAWINGS

ANCHOR SYSTEMS	BC-734M	10-26-10
WALL CONSTR. & EXP. JOINT DETAILS	BC-735M	10-26-10
REINFORCEMENT BAR FABRICATION DETAILS	BC-736M	05-18-12
BRIDGE DRAINAGE	BC-751M	11-26-13
CONCRETE DECK SLAB DETAILS	BC-752M	11-26-13
BEARINGS	BC-755M	11-26-13
STEEL PILE TIP REINFORCEMENTS & SPLICES	BC-757M	11-26-13
TYPICAL WATERPROOFING AND EXPANSION DETAILS	BC-788M	05-18-12
STD. CDR BRIDGE - FOLDED STEEL PLATE GIRDER SYSTEM	PWKP-022	01-28-16
OPTIONAL PILE INSTALLATION DETAIL	PWKP-032	01-21-16
RBRP CONCRETE VERTICAL WALL BRIDGE BARRIER	PWKP-060	11-30-15
RBRP VERTICAL WALL BRIDGE BARRIER AESTHETIC DETAILS	PWKP-061	08-12-15
DESCRIPTION	DWG. NO.	APP. DATE

Mark	Description	By	Chk'd	App'd	Date
REVISIONS					

JV 328 | BRIDGE KEY 17826 | BMS 29 0522 0140 1573 | MPMs 22798

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION

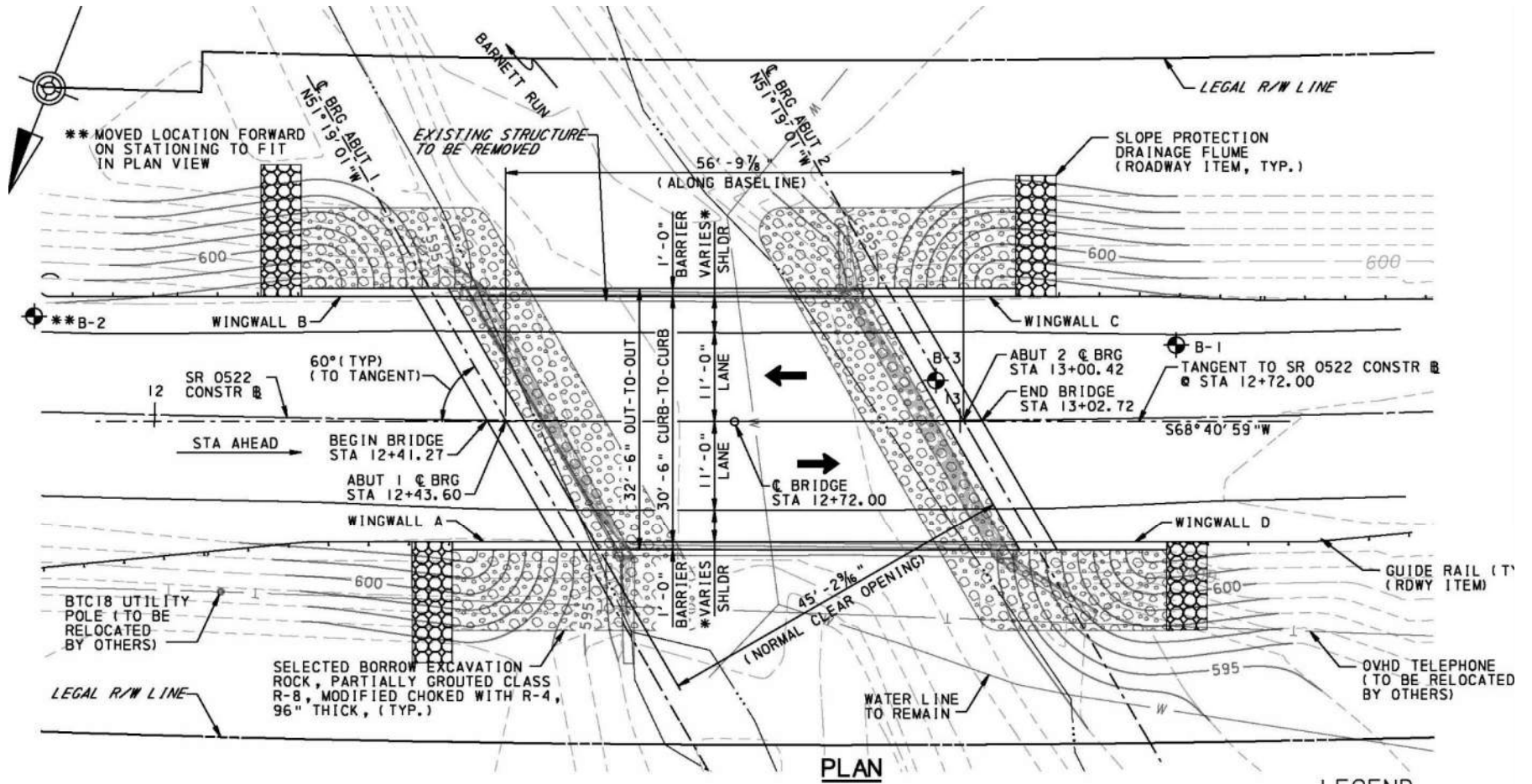
FULTON COUNTY
 S.R. 0522 SECTION 000
 SEG. 0140 OFF. 1573
 S.R. 0522 STA. 12+72.00
 OVER BARNETT RUN
 I-SPAN FOLDED STEEL PLATE GIRDER BRIDGE
 GENERAL PLAN AND ELEVATION

RECOMMENDED: _____ SHEET 1 OF 15

S-35168

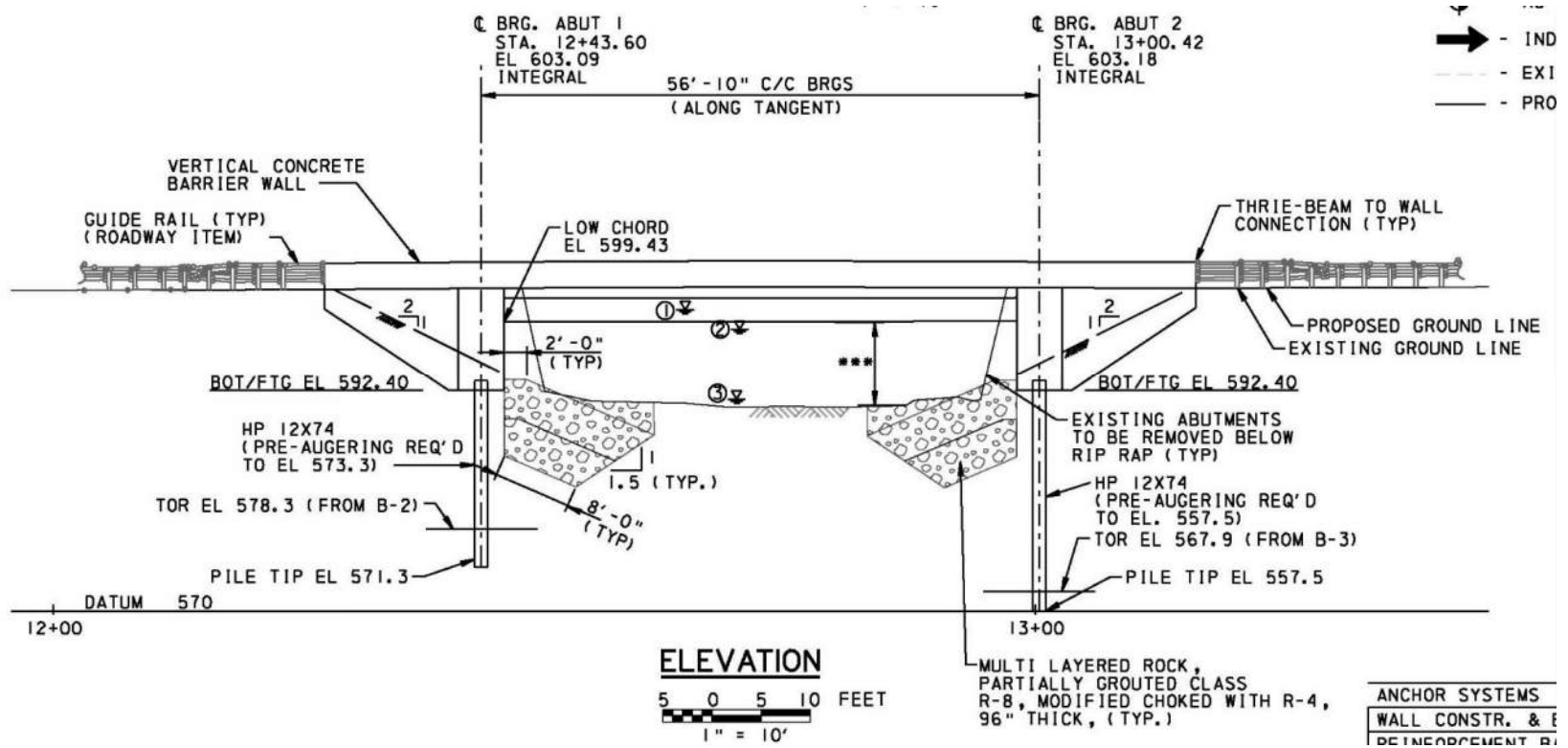


JV-328 General Plan & Elevation:

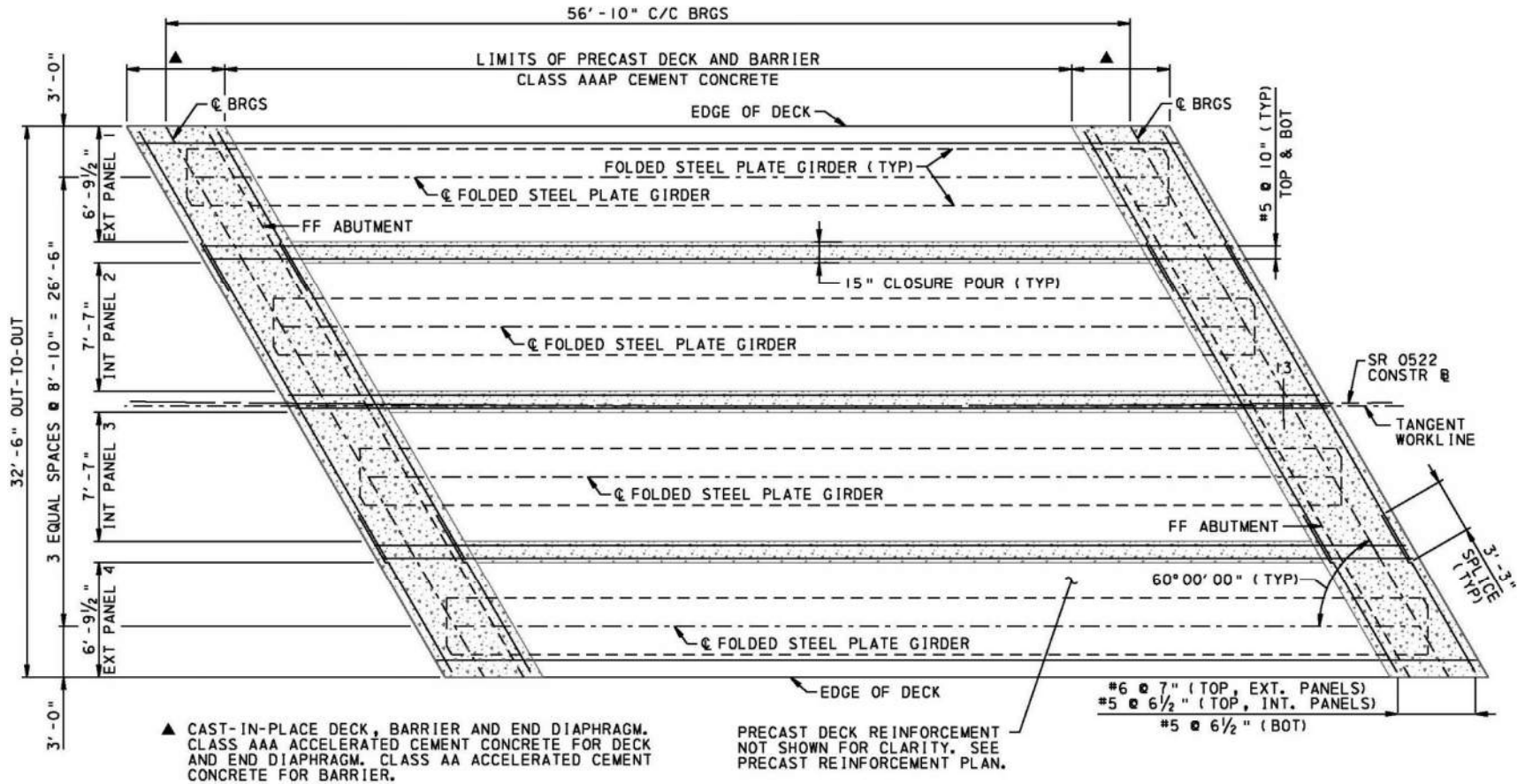




JV-328 General Plan & Elevation:



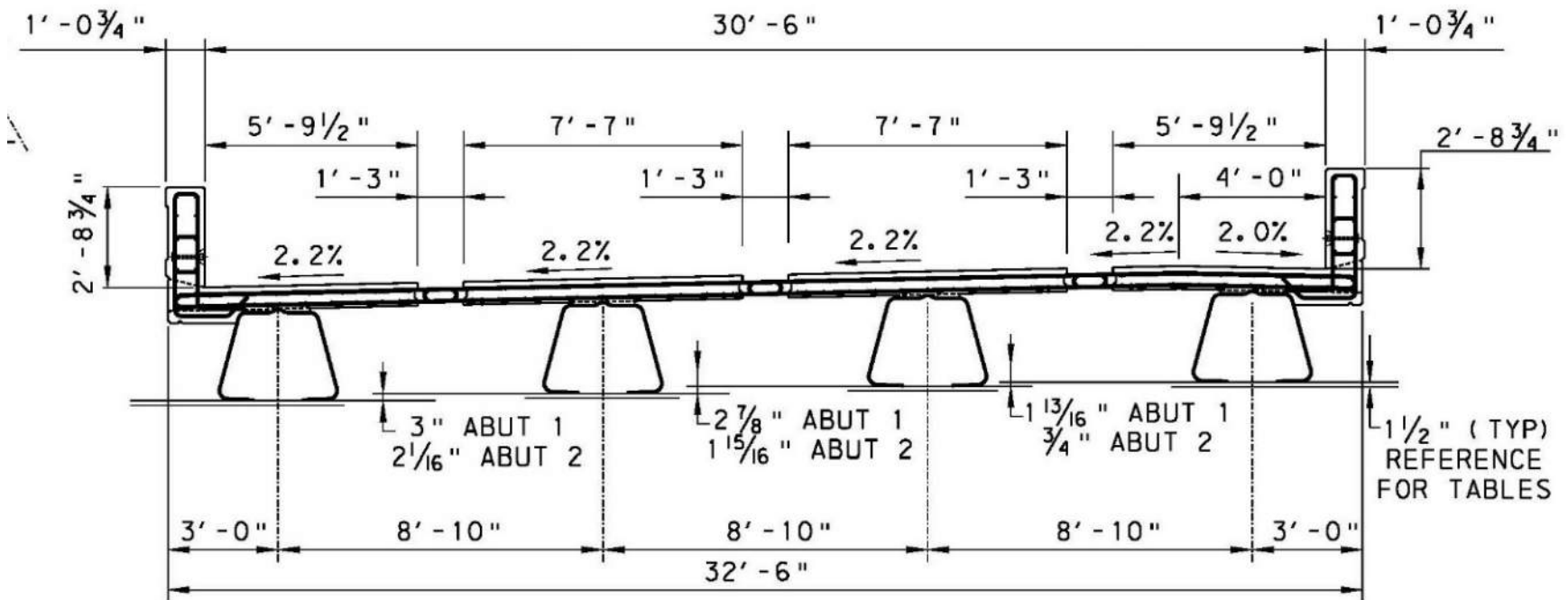
JV-328 Panel Layout:



PANEL LAYOUT AND CAST-IN-PLACE REINFORCEMENT PLAN



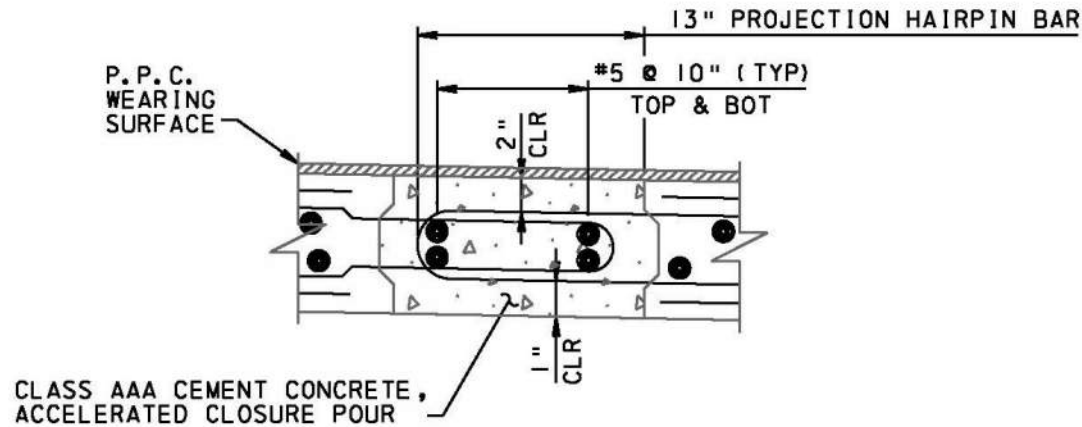
JV-328 Typical Section



SECTION B-B

JV-328 Closure Pour:

- 15" Class AAA Cement Concrete, Accelerated
- $\frac{3}{4}$ " PPC Overlay on $7\frac{1}{2}$ " Deck



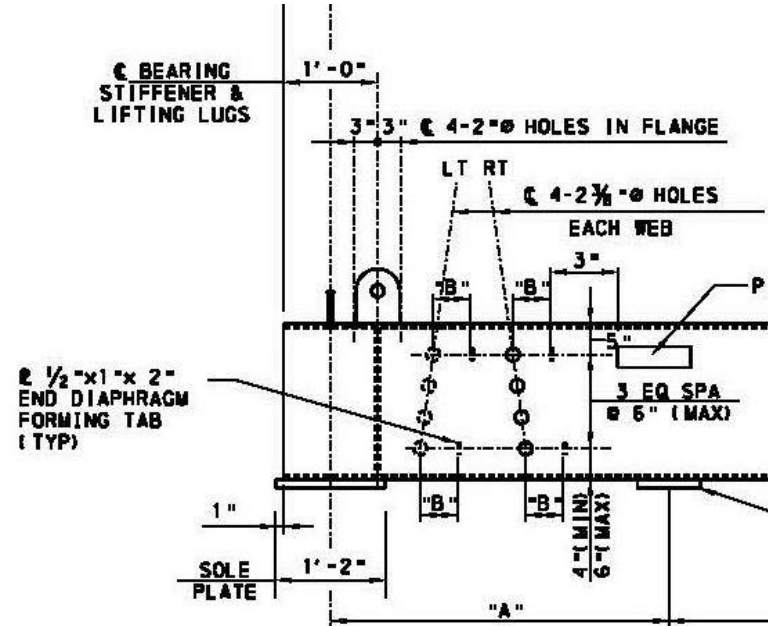
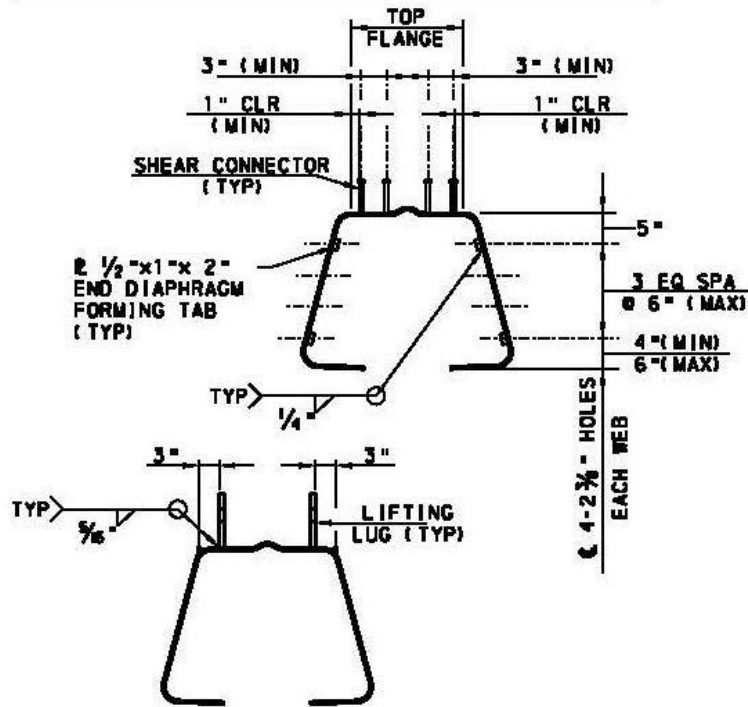
CLOSURE POUR DETAIL

NOT TO SCALE



JV-328 Shop Drawings - Steel:

HOLE 4L (IN)	35.46
HOLE 1R (IN)	16.49
HOLE 2R (IN)	17.41
HOLE 3R (IN)	18.34
HOLE 4R (IN)	19.26





JV-328 Shop Drawings - Steel:

TOLERANCES:

1. ESTABLISH BASELINE BETWEEN BOTTOM TANGENT POINTS (A-B)
2. DETERMINE MIDPOINT ON BASELINE (C)
3. ESTABLISH PERPENDICULAR REFERENCE LINE (C-D)
4. VERTICAL DISTANCE FROM BASELINE TOLERANCE:
E AND H: $\pm 1/8"$
F AND G: $\pm 1/8" \pm D$
J AND K: $\pm 1/8"$
5. MAX HEIGHT DIFFERENCE OF POINTS F AND G SHALL BE $1/8"$
6. OVERALL BOTTOM WIDTH TOLERANCE APPLIES TO BEARING STIFFENER AND FLANGE SEPARATOR LOCATIONS
7. SKEW TOLERANCE IS $\pm 1/8" \pm D$ (MAX. $1/2"$)
8. SOLE PLATE FLATNESS $1/8"$
9. POSITIVE CAMBER $+1/4" \pm D$ (EXCLUSIVE OF SELF WEIGHT DEFLECTION)
10. TWIST $\pm 1/4" \pm D$ (MAX. $1/2"$)
11. COMBINED WIDTH TOLERANCE FOR BOTH BOTTOM FLANGES IS $\pm 1/2" \pm 1/4"$

FOLDED STEEL PLATE GIRDER TOLERANCES

GIRDER SECTION AT C BEARING

GIRDER SECTION AT FLANGE SEPARATOR

SOLE PLATE DETAIL

BEARING STIFFENER PLATE DETAIL

SECTION A-A

FLANGE SEPARATOR DETAILS

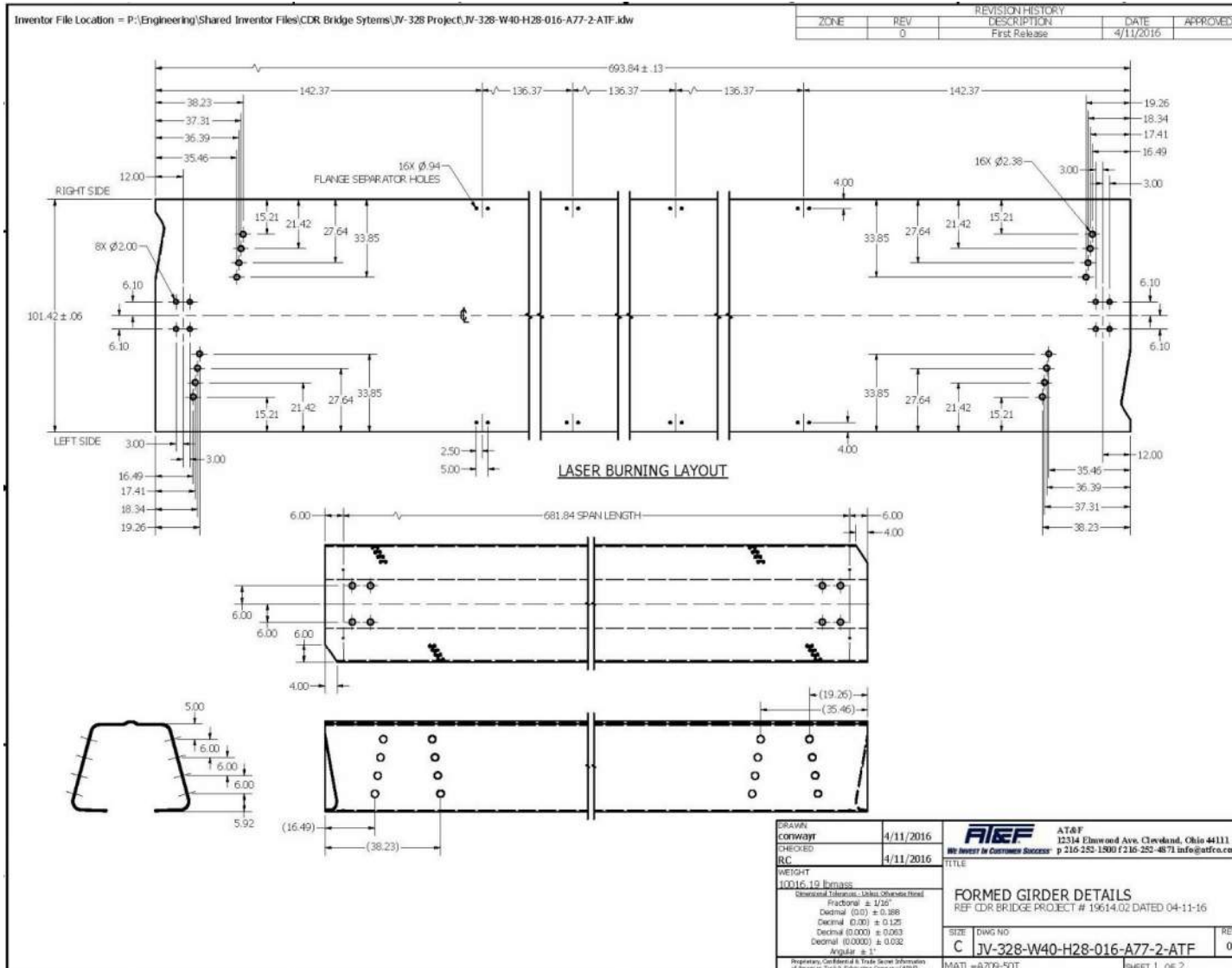
NOTE: LIFTING LUG TO BE REMOVED IN FIELD AFTER ERECTION. GALVANIZING TO BE REPAIRED AFTER REMOVAL.

LIFTING LUG DETAIL
(CAPACITY = 90 KIPS)

Project JV-328 REV. 1 Project No. 19614.02
 Subject FSPG DETAILS Sheet No. 2 of 2
 GIRDERS G1, G2, G3, G4
 By: RTE Date: 04-08-16 Chk: MJM Date: 04-11-16



JV-328 Shop Drawings - Steel:



JV-328 Shop Drawings - Precast:

GIRDER G4

	DIST. (FT)	LEFT EDGE (IN)	LEFT HAUNCH (IN)	RIGHT HAUNCH (IN)	RIGHT GUTTER (IN)	BREAK POINT (IN)
A	0.00	31.46	31.63	31.21	26.69	31.90
B	5.68	32.41	32.59	32.18	27.66	32.87
C	11.36	33.15	33.35	32.93	28.41	33.62
D	17.05	33.68	33.88	33.47	28.95	34.16
E	22.73	34.00	34.20	33.79	29.27	34.48
F	28.41	34.11	34.31	33.89	29.37	34.58
G	34.09	34.01	34.20	33.78	29.26	34.47
H	39.78	33.70	33.87	33.46	28.94	34.14
I	45.46	33.18	33.33	32.92	28.39	33.60
J	51.14	32.44	32.57	32.16	27.64	32.84
K	56.82	31.53	31.63	31.21	26.69	31.90
AA	0.00	38.96	39.13	38.71	38.44	39.40
BB	5.68	39.91	40.09	39.68	39.41	40.37
CC	11.36	40.65	40.85	40.43	40.16	41.12
DD	17.05	41.18	41.38	40.97	40.70	41.66
EE	22.73	41.50	41.70	41.29	41.02	41.98
FF	28.41	41.61	41.81	41.39	41.12	42.08
GG	34.09	41.51	41.70	41.28	41.01	41.97
HH	39.78	41.20	41.37	40.96	40.69	41.64
II	45.46	40.68	40.83	40.42	40.14	41.10
JJ	51.14	39.94	40.07	39.66	39.39	40.34
KK	56.82	39.03	39.13	38.71	38.44	39.40



FABRICATION IS PERFORMED IN FIVE STEPS:

1. Cutting and Bending the steel plates
2. Installation of miscellaneous hardware
3. Installation of shear studs
4. Corrosion protection of the girders
5. Precasting the deck, end diaphragms, and barriers



LASER CUTTING THE STEEL PLATES:





BENDING THE STEEL PLATES:





BENDING THE STEEL PLATES:





BENDING THE STEEL PLATES:





BENDING THE STEEL PLATES:





BENDING THE STEEL PLATES:





BENDING THE STEEL PLATES:





BENDING THE STEEL PLATES:





BENDING THE STEEL PLATES:





BENDING THE STEEL PLATES:





BENDING THE STEEL PLATES:





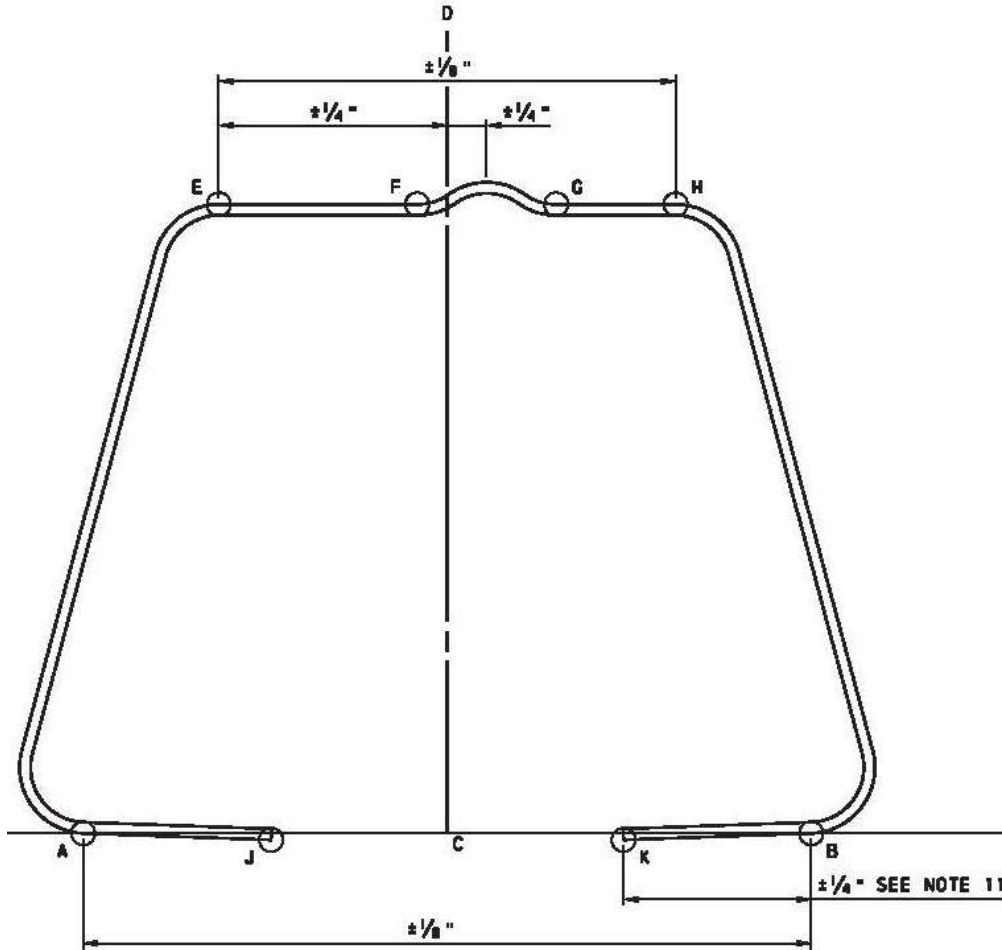
BENDING THE STEEL PLATES:

Girders are cold bent in approximately 2-3 hours





FABRICATION TOLERANCES:



FOLDED STEEL PLATE GIRDER TOLERANCES

TOLERANCES:

1. ESTABLISH BASELINE BETWEEN BOTTOM TANGENT POINTS (A-B)
2. DETERMINE MIDPOINT ON BASELINE (C)
3. ESTABLISH PERPENDICULAR REFERENCE LINE (C-D)
4. VERTICAL DISTANCE FROM BASELINE TOLERANCES:
 E AND H: $\pm \frac{1}{8}''$
 F AND G: $\pm \frac{1}{2}'' / -0$
 J AND K: $\pm \frac{1}{4}''$
5. MAX HEIGHT DIFFERENCE OF POINTS F AND G SHALL BE $\frac{1}{8}''$
6. OVERALL BOTTOM WIDTH TOLERANCE APPLIES TO BEARING STIFFENER AND FLANGE SEPARATOR LOCATIONS
7. SWEEP TOLERANCE IS $\pm \frac{1}{8}'' / 12' - 0''$ (MAX. $\frac{1}{2}''$)
8. SOLE PLATE FLATNESS $\pm \frac{1}{8}''$
9. POSITIVE CAMBER $+\frac{1}{4}'' / -0''$ (EXCLUSIVE OF SELF WEIGHT DEFLECTION)
10. TWIST $\pm \frac{1}{8}'' / 12' - 0''$ (MAX. $\frac{1}{2}''$)
11. COMBINED WIDTH TOLERANCE FOR BOTH BOTTOM FLANGES IS $+\frac{1}{2}'' / -\frac{1}{4}''$



INSTALLATION OF MISCELLANEOUS HARDWARE:

Bearing stiffeners, flange separators, & sole plates installed in approx. 1-2 days





INSTALLATION OF SHEAR STUDS:

Shear studs are attached in approximately 1 day





GALVANIZING:





GIRDER DELIVERY:

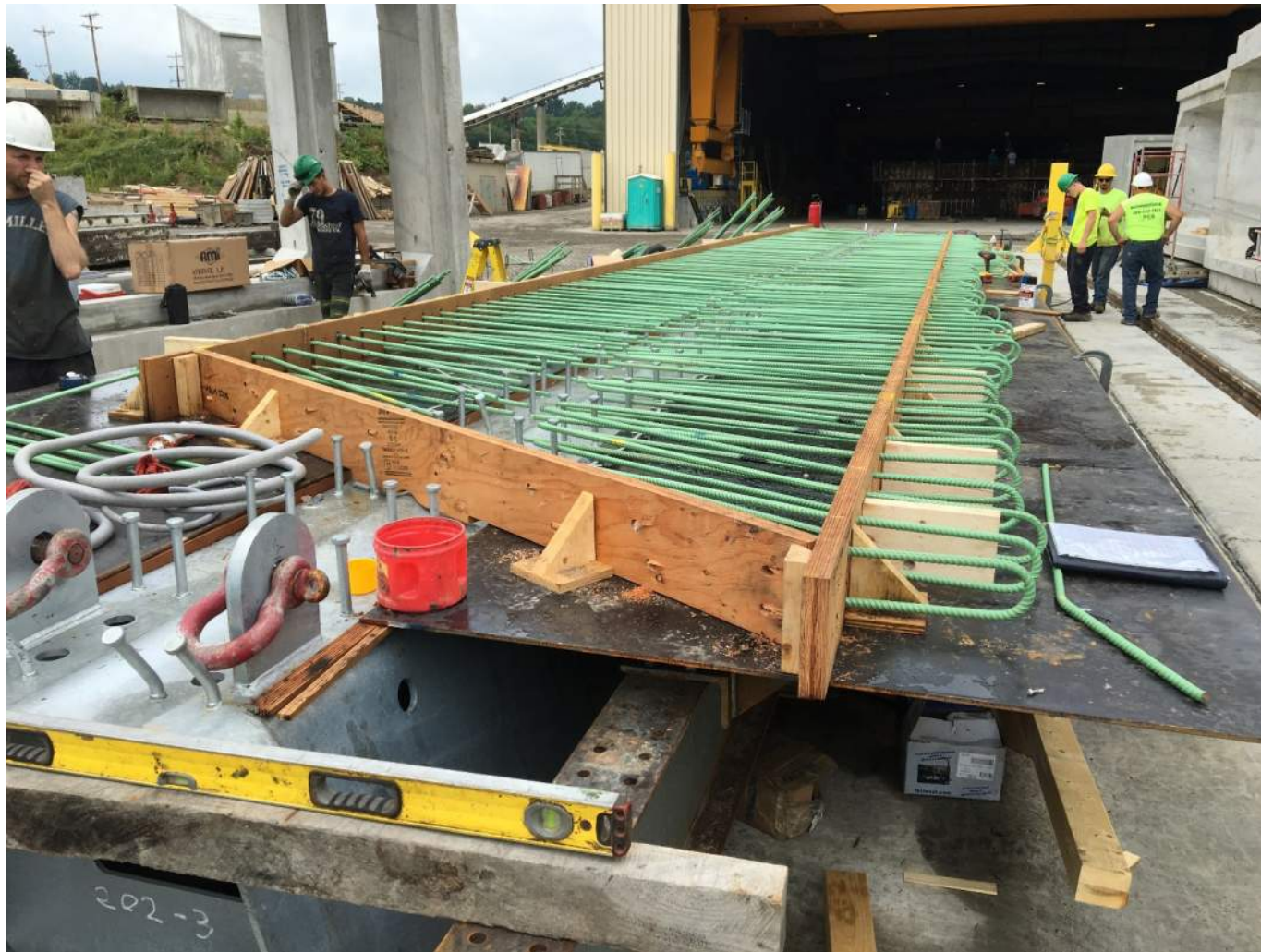
Four non-composite girders can be delivered on one flat bed truck.





PRECASTING THE DECK & BARRIER

Deck formed and reinforcing steel placed.





PRECASTING THE DECK & BARRIER

Precasting is completed in approximately 1 week.





JV-328 GIRDER DELIVERY:

One composite girder can be delivered on each flat bed truck.





JV-328 ERECTION:

Integral abutments ready to receive FSPG modules.





JV-328 ERECTION: Bearing Pads and Girder Alignment Markings.





JV-328 ERECTION:

Rigging and erection of the first composite girder.





JV-328 ERECTION: Super-studs used to brace fascia girders from rolling.





JV-328 ERECTION: Setting the second composite girder.





JV-328 ERECTION: Setting the third composite girder.





JV-328 ERECTION: Setting the fourth composite girder.





JV-328 ERECTION: Closure Pour Reinforcing.





JV-328 ERECTION: Concrete end diaphragm/end blockout.





JV-328 ERECTION: View from below.





JV-328 CONSTRUCTION: Bird Screen.





JV-328 CONSTRUCTION: Finished Structure – Before PPC Overlay.





JV-328 CONSTRUCTION: Finished Structure –PPC Overlay.





JV-328 CONSTRUCTION: Finished structure.





CDR MAGUIRE

THANK YOU!

QUESTIONS?



**17th Annual
ASHE/PennDOT Workshop
April 16, 2019**

Thomas A. Prestash, P.E.
District Executive



Pennsylvania by the Numbers



Accomplishments

2015 - 2018

	Statewide	2019
Transportation Contracts Let		\$443 Million
Improved segment miles	23,409	690
Improved number of bridges	2,209	157
Current number of state-owned bridges	2,860	169

PennDOT Connects: It Works!

Asset Management

- Federal Legislation
 - MAP 21
 - TAMP first discussed
 - FAST Act
 - TAMP rulemaking
 - Performance Measures
- Transportation Asset Management Program (TAMP)
- Pavement Asset Management System (PAMS)
- Bridge Asset Management System (BAMS)
- Performance Measures
 - PM1 (Safety)
 - PM2 (Asset Condition), and
 - PM3 (Reliability)



2021 Program Financial Guidance

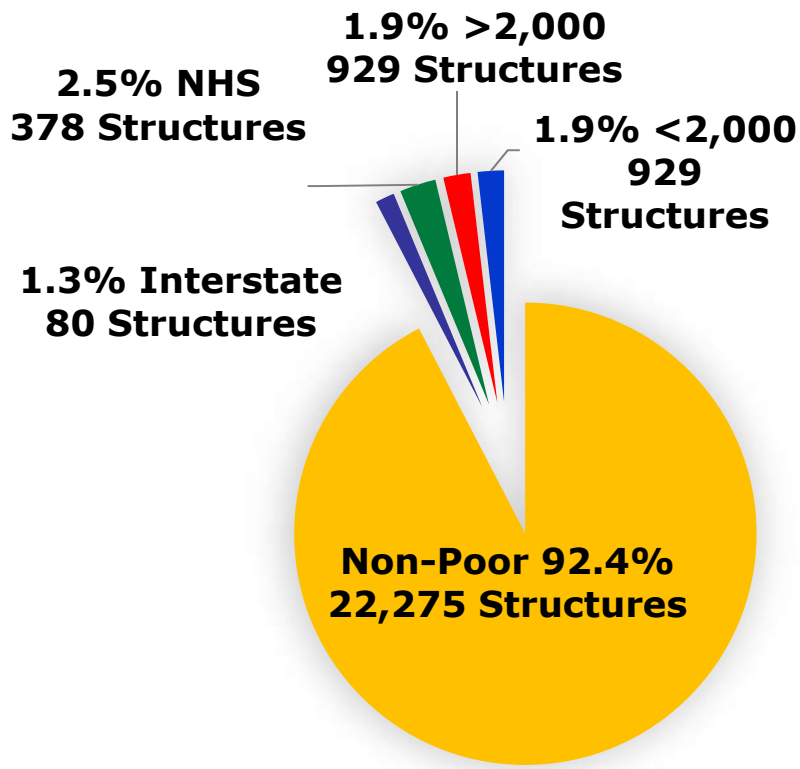
- Shift towards asset management and lowest life cycle costs instead of poor infrastructure
- Lowest Life Cycle Cost (LLCC)
 - Not worst first – right treatment at the right time
 - Risk based – i.e. protect large facilities
 - Risk based preservation priority process
- Formula based on VMT, TVMT, LM, DA
- Phased in by year 3
- Increase funding for Interstate system

Bridge Assets

Statewide

7.6% Poor Deck Area

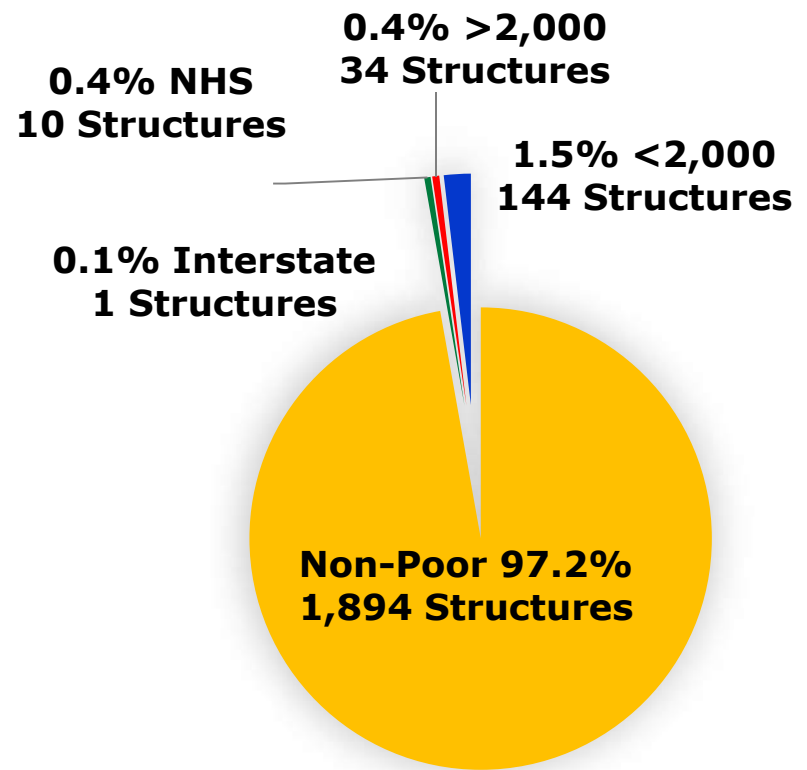
(3,114 structures)



District

2.4% Poor Deck Area

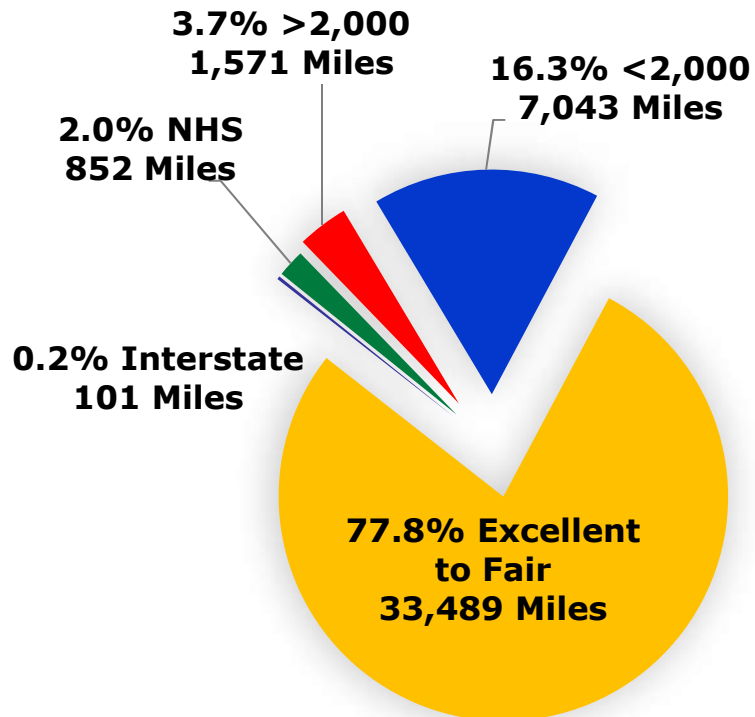
(178 structures)



Roadway Assets

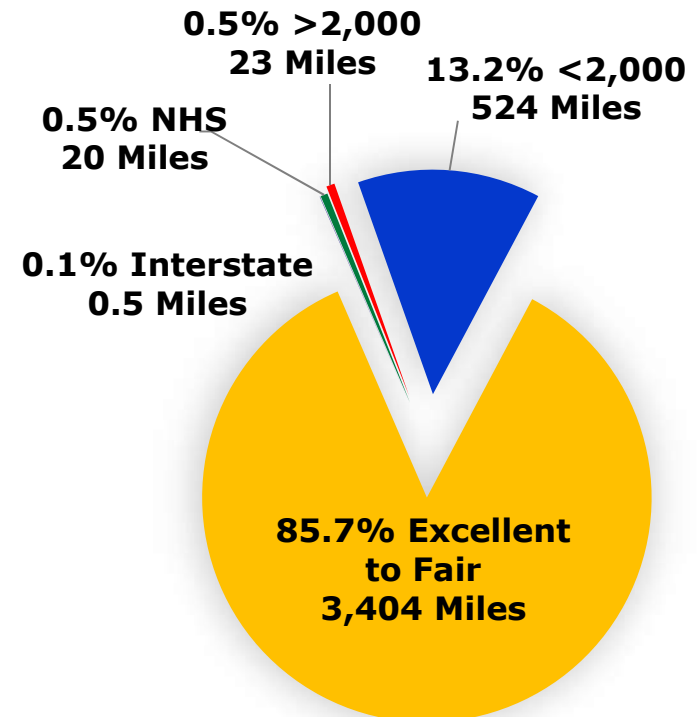
Statewide

22.2% Poor IRI
(9,567 miles)



District

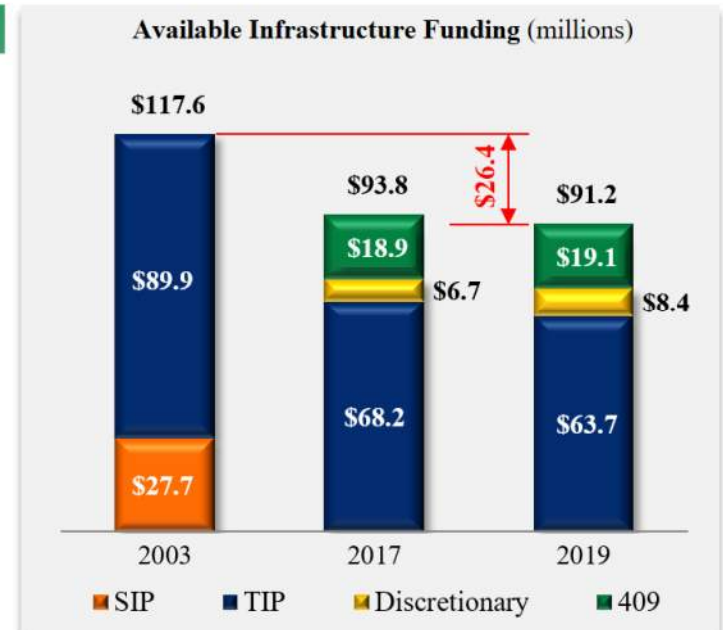
14.3% Poor IRI
(567 miles)



Data from 2017 Annual Performance Measures Reports

FUNDING

- \$17.8M projected maintenance funding shortfall over next three years
- 22% reduction in total funding from 2003 TIP to 2019 TIP
- 6.6% reduction in base funding from 2017 TIP to 2019 TIP
 - Allocation based on “worst first” philosophy
- Legislative constraints
 - MAP-21 NHSe funding distribution mandate
 - 41% of funding to NHSe = 14% of D-9 network
 - Uncertainty of 102” wide truck legislation impacts
- Major potential long-term needs
 - Potential significant funding need for several major corridors by 2026 (US 22 & US 219)
 - Uncertain service life of 70 bridges rehabbed between 2006-10



Challenges

- Financial
- Permitting
- MS4 Compliance
- Bike/Pedestrian Accommodations
- Compressed Schedules
- MASH Compliance





Risks to Transportation Funding in Pennsylvania

Pennsylvania Transportation Advisory Committee

February 21, 2019



Projected transportation funding is not adequate to meet Pennsylvania transportation needs

A few examples of unfunded needs

Interstate Highways and Bridges

Approximately \$2.5 billion in additional annual funding is necessary to adequately address interstate system needs.

National Highway System Highways and Bridges

Approximately \$1.8 billion in additional annual funding is necessary to adequately address safety, highway and bridge improvement, and congestion needs.

Public Transportation

Approximately \$1.2 billion in additional annual funding is necessary for public transportation capital, operations, and maintenance costs.

Funding Pressures

Additional cost pressures further strain existing resources

- Local Roads and Bridges
- Safety and Guiderail Upgrades (\$820M)
- Intelligent Transportation Systems (\$35M)
- Real ID (\$150M through FY 2023-24)
- Driver & Vehicle Services (\$9M/yr through FY 2023-24 to reduce customer wait times)

- MS4 Stormwater Compliance (\$25.5M/yr)
- Emergency Repairs (\$110M over budget to date for FY 2018-19)
 - Flooding
 - Landslides
- ADA Station Upgrades
- Fleet Replacement (\$35M/yr)
- Facility Repairs (PennDOT Buildings) \$5M/yr
- Connected & Automated Vehicles

- County Maintenance
 - Flat/Declining Budgets
 - Aging Fleet/Equipment
 - Aging & Deteriorating Buildings
- Difficulty Attracting Candidates; Winter Staffing (\$10M/yr)
- Reduced Purchasing Power (Inflation)

Risk A: Federal Transportation Funding Reduction

OVERVIEW

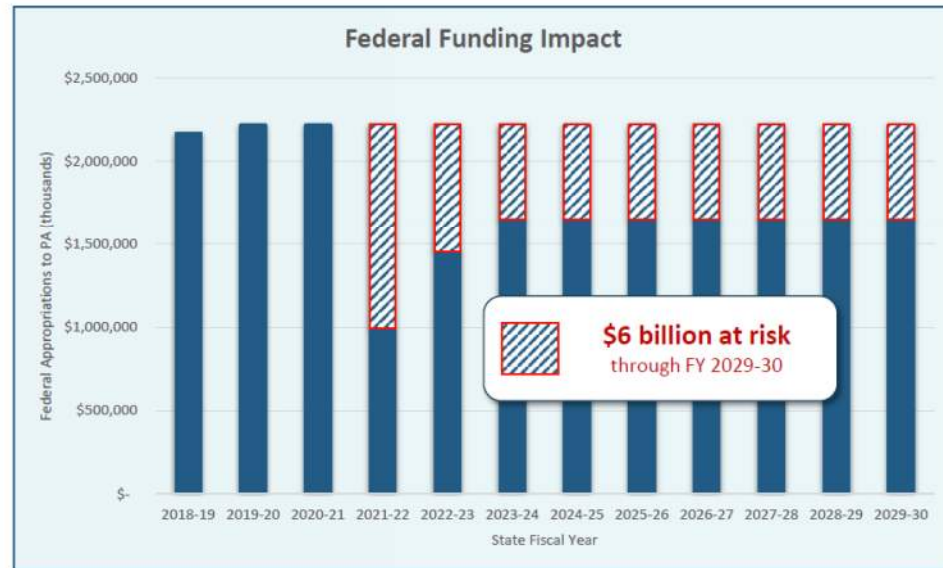
IF...

...federal appropriations are reduced beginning in Federal Fiscal Year 2021 due to the insolvency of the Highway Trust Fund...

...THEN

...Pennsylvania's highway and public transportation funding through FY 2029-30 could be reduced by a cumulative \$6 billion.

More detail next page



Risk B: Vehicle Sales Tax Provision Repeal

OVERVIEW

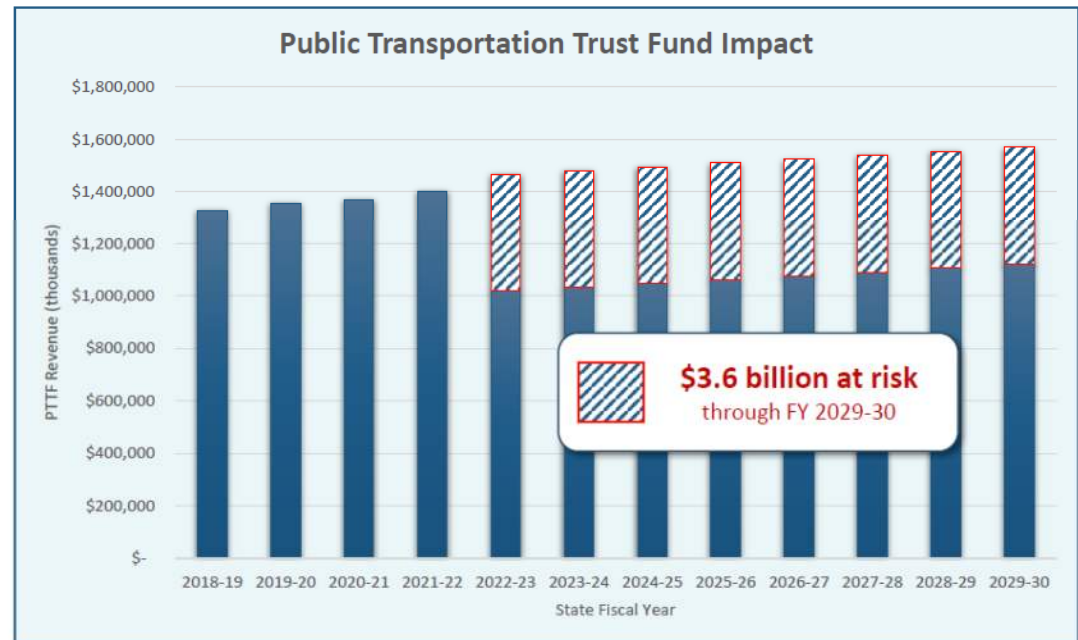
IF...

...Act 89 is amended to repeal the vehicle sales tax transfer that begins in FY 2022-23, when Pennsylvania Turnpike Commission (PTC) payments are reduced...

...THEN

...public transportation funding through FY 2029-30 could be reduced by a cumulative \$3.6 billion.

More detail next page



Risk C: Pennsylvania Turnpike Commission Pending Litigation

OVERVIEW

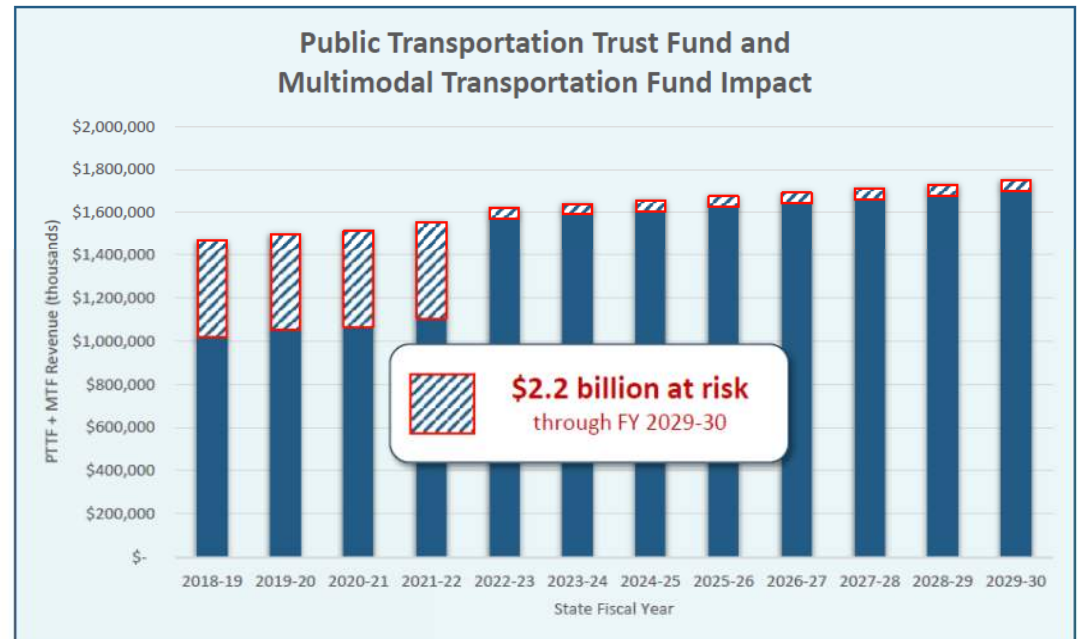
IF...

...litigation by national motor carrier organizations against the PTC continues to prevent payments by the PTC to the PTF and MTF...

...THEN

...transportation funding through FY 2029-30 could be reduced by a cumulative \$2.2 billion.

More detail next page



Risk D: PA State Police Transfer Statutory Revision

OVERVIEW

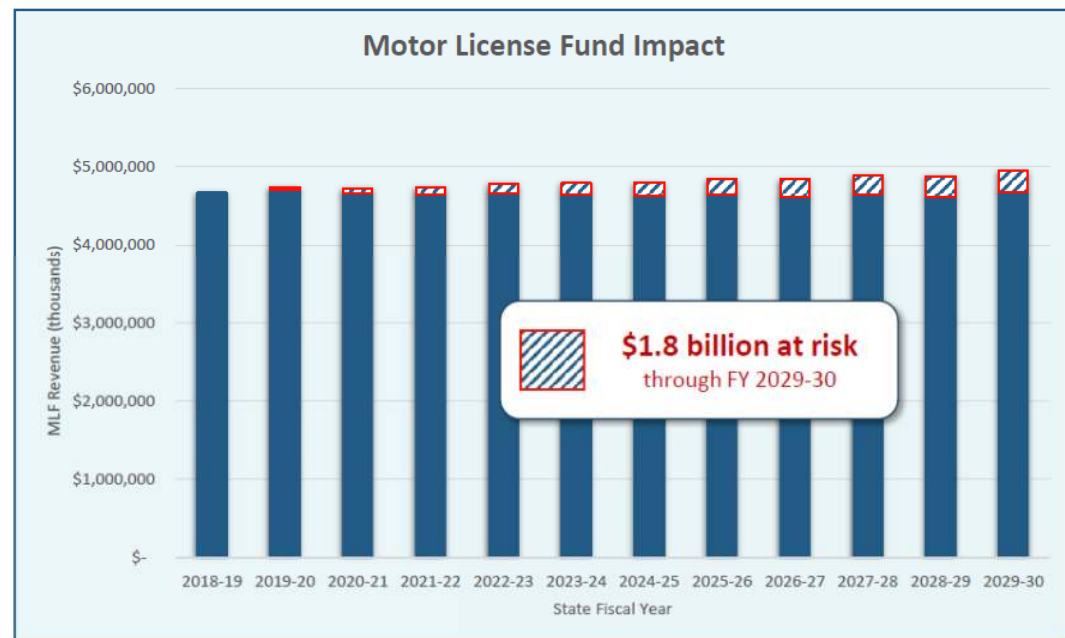
IF...

...the PA Fiscal Code were amended to halt the anticipated stepdown of the Motor License Fund (MLF) transfer to the Pennsylvania State Police (PSP)...

...THEN

...transportation funding through FY 2029-30 could be reduced by a cumulative \$1.8 billion.

More detail next page



Assumptions: This illustrative scenario assumes the MLF transfer amount is held at FY 2018-19 levels (\$770 million). Various scenarios are possible.

Risk E: Reduced Motor License Fund Tax Receipts

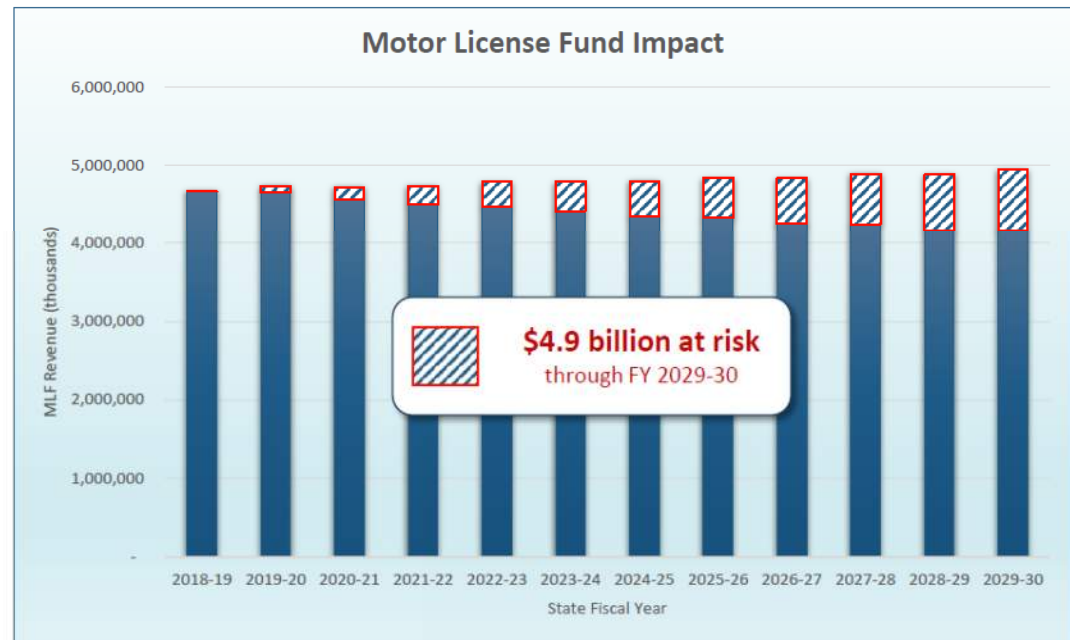
OVERVIEW

IF...

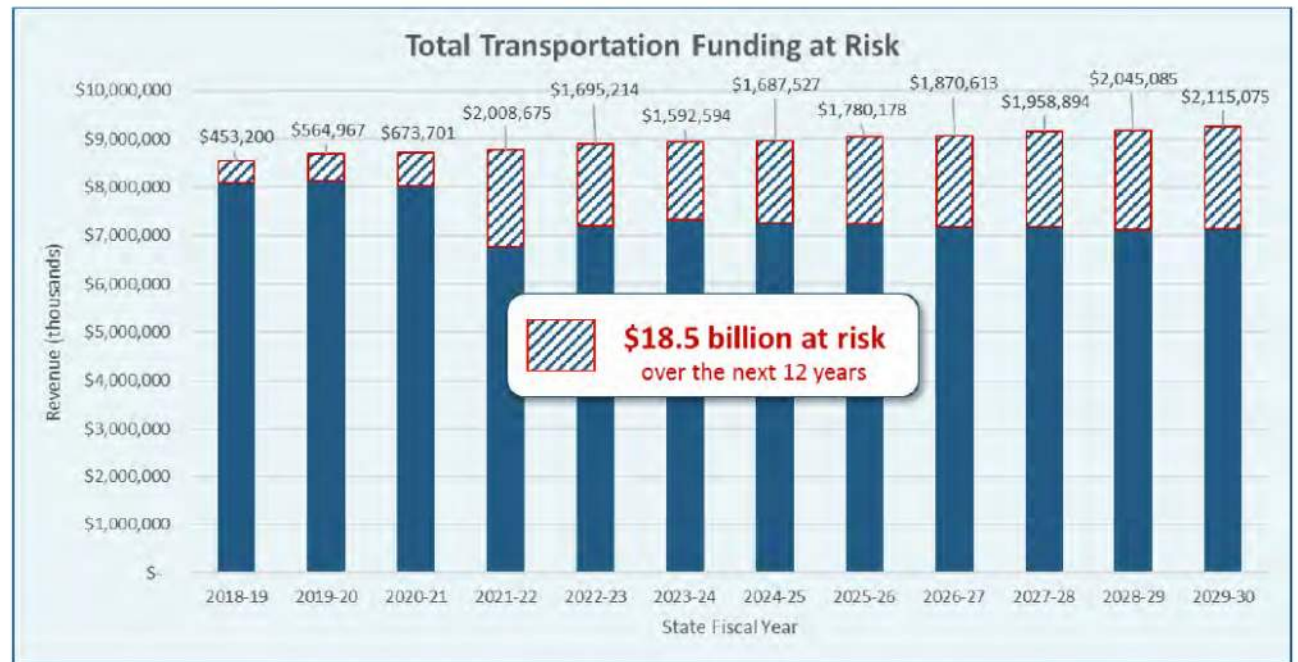
...tax receipts to the Motor License Fund are reduced due to declining motor fuels sales and vehicle licenses and fees...

...THEN

...transportation funding could be lowered. The scenario described on the following page puts this reduction at a cumulative \$4.9 billion through FY 2029-30.



Total cumulative risk impact to Pennsylvania transportation funding: \$18.5 billion in reduced spending



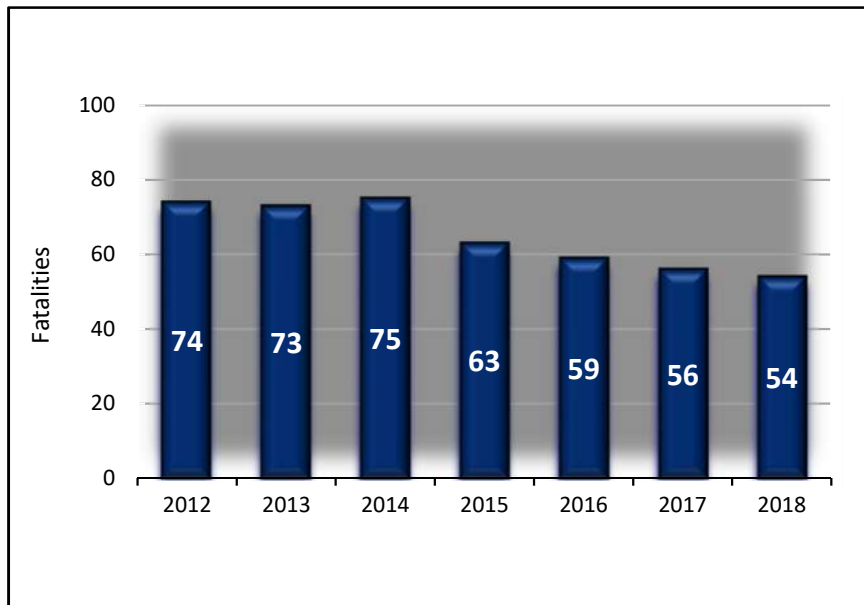
Comparing \$18.5 billion to Pennsylvania's 2017 Twelve-Year Program (TYP) costs, that amount would buy:

- 6 years of highway and bridge projects, or
- 8 years of public transportation projects.

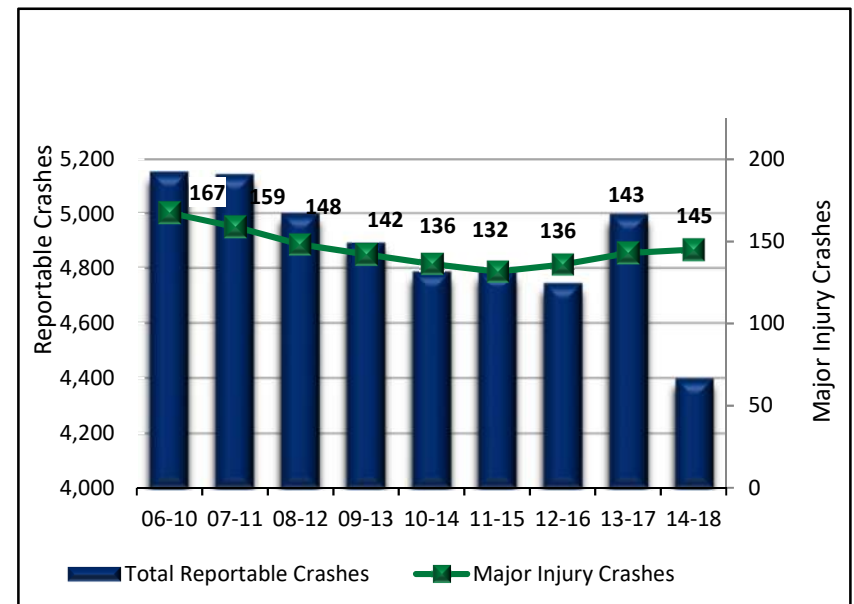
Safety

District 9

Highway Fatalities

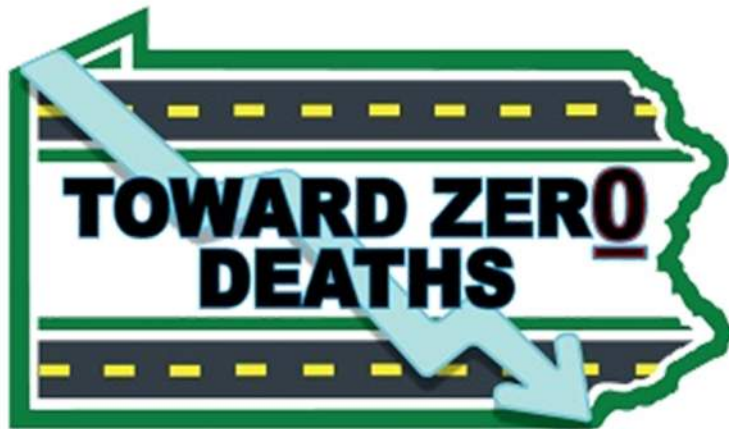


5-yr Avg Total Reportable Crashes & Major Injury Crashes



Work Zone Safety

- PSP Assistance in Work Zones
- Automated Work Zone Speed Enforcement (SB 172)
- Work Zone Intrusion Technology



Thank You

