

Virtual Public Plans Display

Westmoreland County Local Bridge Preservations

- **Craigs Mill Bridge, T-654/T-290 (Oasis Road)** over Loyalhanna Creek.
 - Unity and Derry townships, Westmoreland County
- **Sanderson Bridge, T-662 (McFarland Road)** over Loyalhanna Creek.
 - Derry Township, Westmoreland County
- **New Steele Bridge, North Ligonier Street/T-662 (McFarland Road)** over Loyalhanna Creek.
 - City of Latrobe and Derry Township, Westmoreland County
- **Darlington Bridge, T-647 (Darlington Road)** over Loyalhanna Creek.
 - Ligonier Township, Westmoreland County

April 2024

MPMS No. 106406



Project Team

Project Owner

Vaughn Neill, PE

Westmoreland County Engineer

724-830-3966 | vneill@co.Westmoreland.pa.us

Design Team

Cristin Covert, PE – Project Manager

PennDOT - Engineering District 12-0

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Matthew Burns, PE, CBSI – Project Manager

Gibson-Thomas Engineering Co., Inc.

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▶ Project Purpose and Description

- **Project Purpose:**

To provide preservative maintenance for four structures throughout the county to correct structural deficiencies to primary bridge elements. These repairs provide the most cost-effective solution to extend the useful lives of the structures and maintain vital connections for use by residents, businesses, municipal services, and emergency access. If not addressed, additional deterioration will progress at an exponential rate resulting in increased repair and maintenance costs that will become uneconomical to the point where replacements may become necessary. This project will reduce these costs for the county, allowing it to reallocate valuable economic resources to other needs throughout the community.

- **Anticipated Schedule:**

The project is currently in Preliminary Engineering. Final Design is expected to begin in September 2024. Construction letting is anticipated in the fall of 2025 with construction beginning in early 2026 and completion by the end of 2026. Roadway work will be minimal with connection to the existing roads on each end at the same elevations.

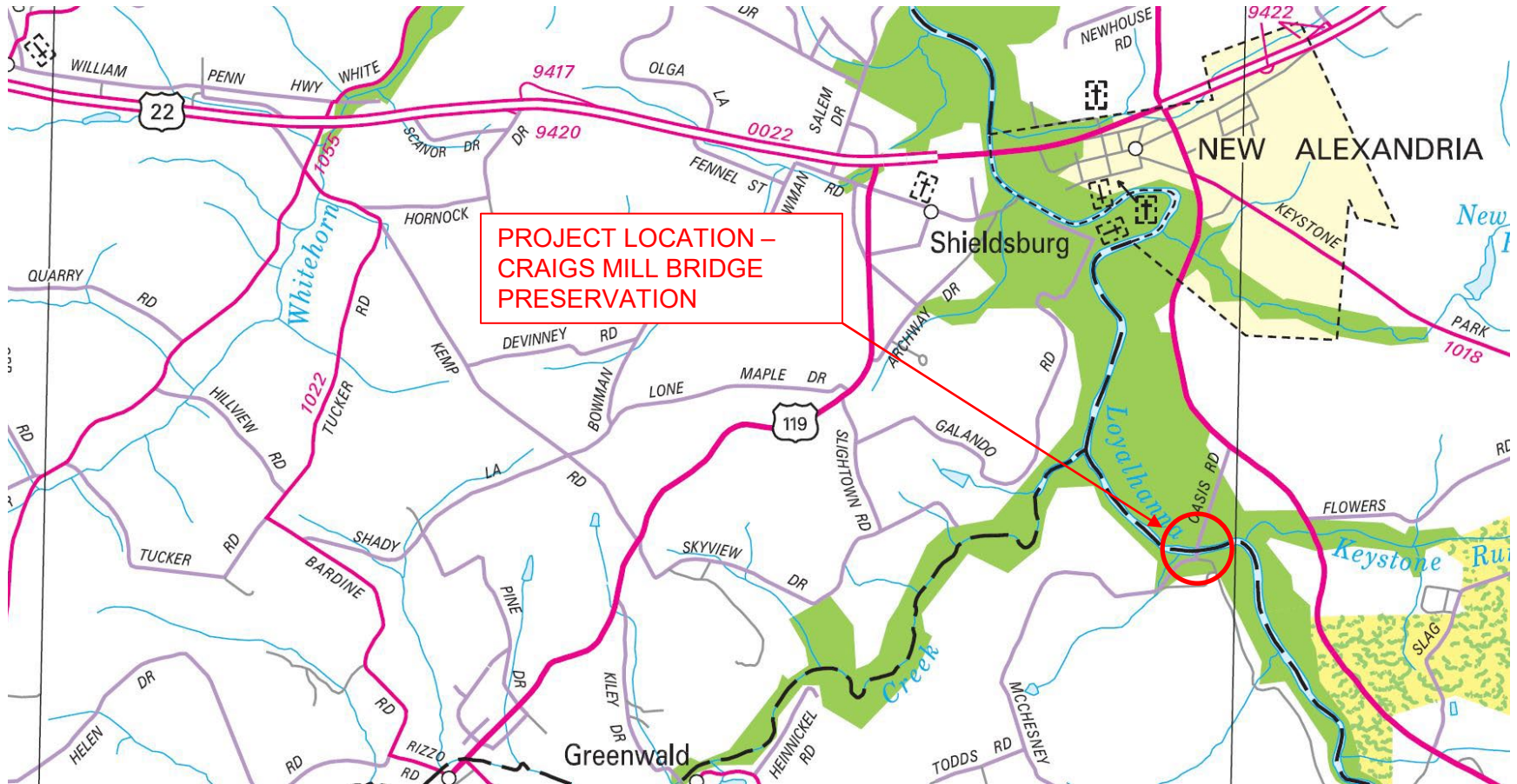


Section 4(f) Resources

- Potential 4(f) impacts for Loyalhanna Creek Water Trail at all four bridges.
- Coordination undertaken with Loyalhanna Watershed Association and PA Fish & Boat Commission.
- Mitigation measures include advance warning signs for boaters and no bridge work during annual Sojourn.



Craigs Mill – Location Map



► Craigs Mill – Existing Photographs

Existing Structure



► Craigs Mill – Existing Photographs

Existing Approach Slab Settlement



Existing Expansion Joint



► Craigs Mill – Existing Photographs

Existing Abutment



Existing Debris Build-up



Craigs Mill - Proposed Project Improvements

Bridge Preservation Project

Existing Structure: Two-span steel three-girder bridge with a composite cast-in-place reinforced concrete deck.

Scope of work includes:

- Replace expansion joints at both abutments.
- Construct new approach slabs.
- Apply protective coating to deck and curbs.
- Remove and reconstruct abutment backwalls and portions of wingwalls.
- Apply protective coating to deck and curbs.
- Clean and flush scuppers.
- Perform concrete substructure repairs as required.
- Repoint stone masonry abutments as required.
- Apply protective coating to substructure units.
- Install guide rail and appropriate end treatments.
- Mill and resurface approach roadways.
- Replace missing nut and reset displaced nut at the far right bearing seat.
- Perform deck repairs.
- Remove debris from the upstream nose of the pier and install rock protection.
- Install rock on the near side of the structure to mitigate erosions in front on wingwalls.
- Clean and paint the superstructure for 10'-0" at each end of the girders at joint locations.



Gibson-Thomas
ENGINEERING

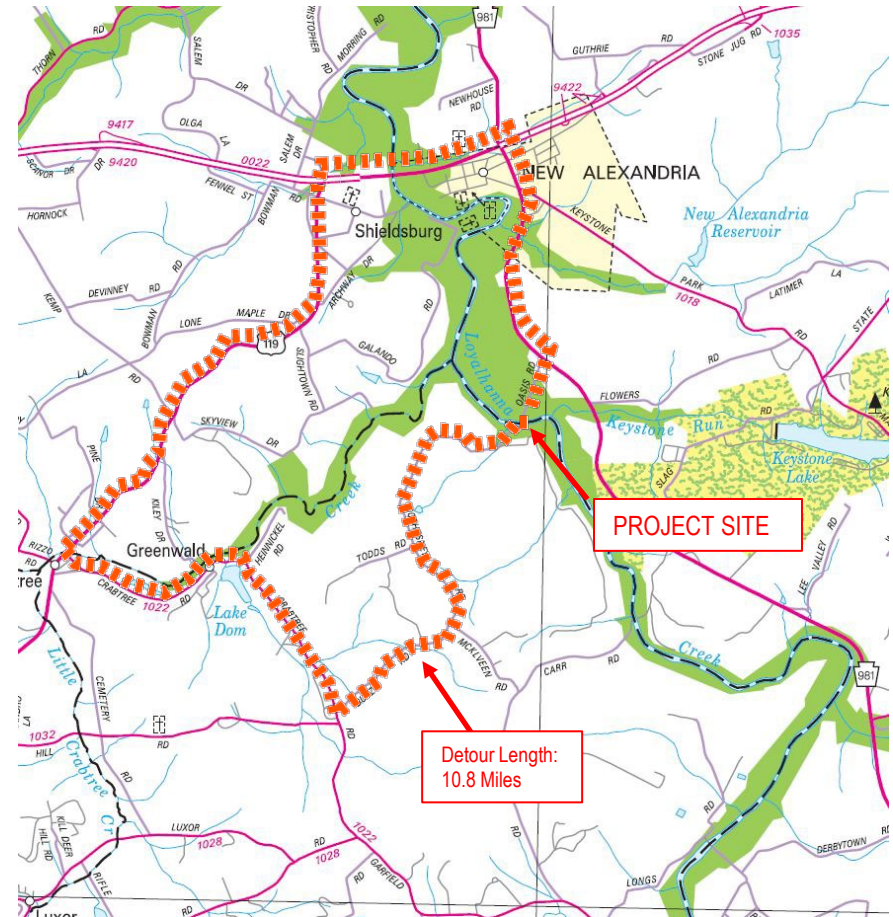


pennsylvania
DEPARTMENT OF TRANSPORTATION

Craigs Mill - Proposed Traffic Control

DETOUR

- T-654 (Oasis Road).
- Route 981.
- Route 22.
- Route 119.
- Route 1022 (Latrobe Crabtree Road).
- T-291 (Butz Road).
- T-290 (McChesney Road).

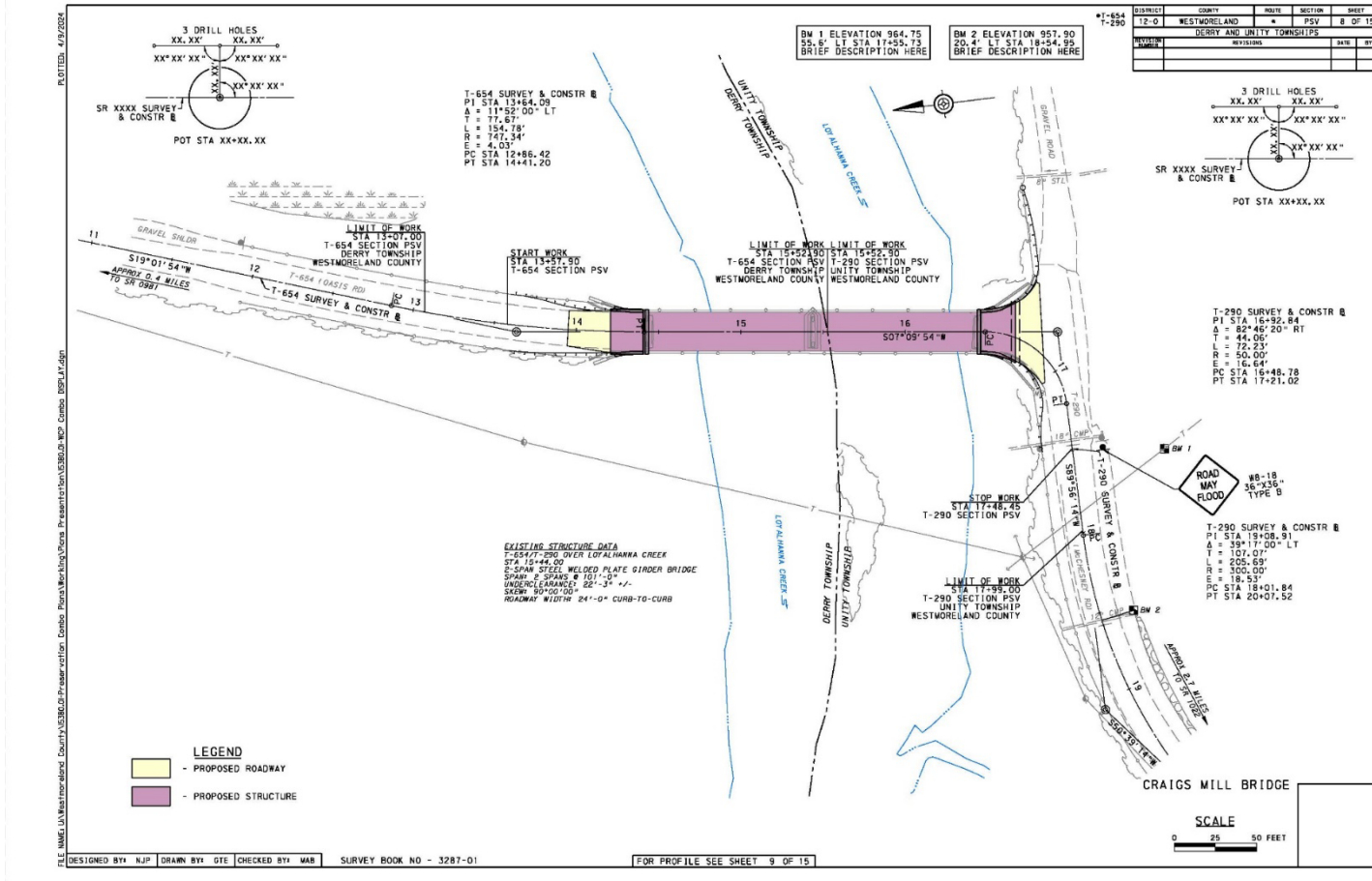


Gibson-Thomas
ENGINEERING

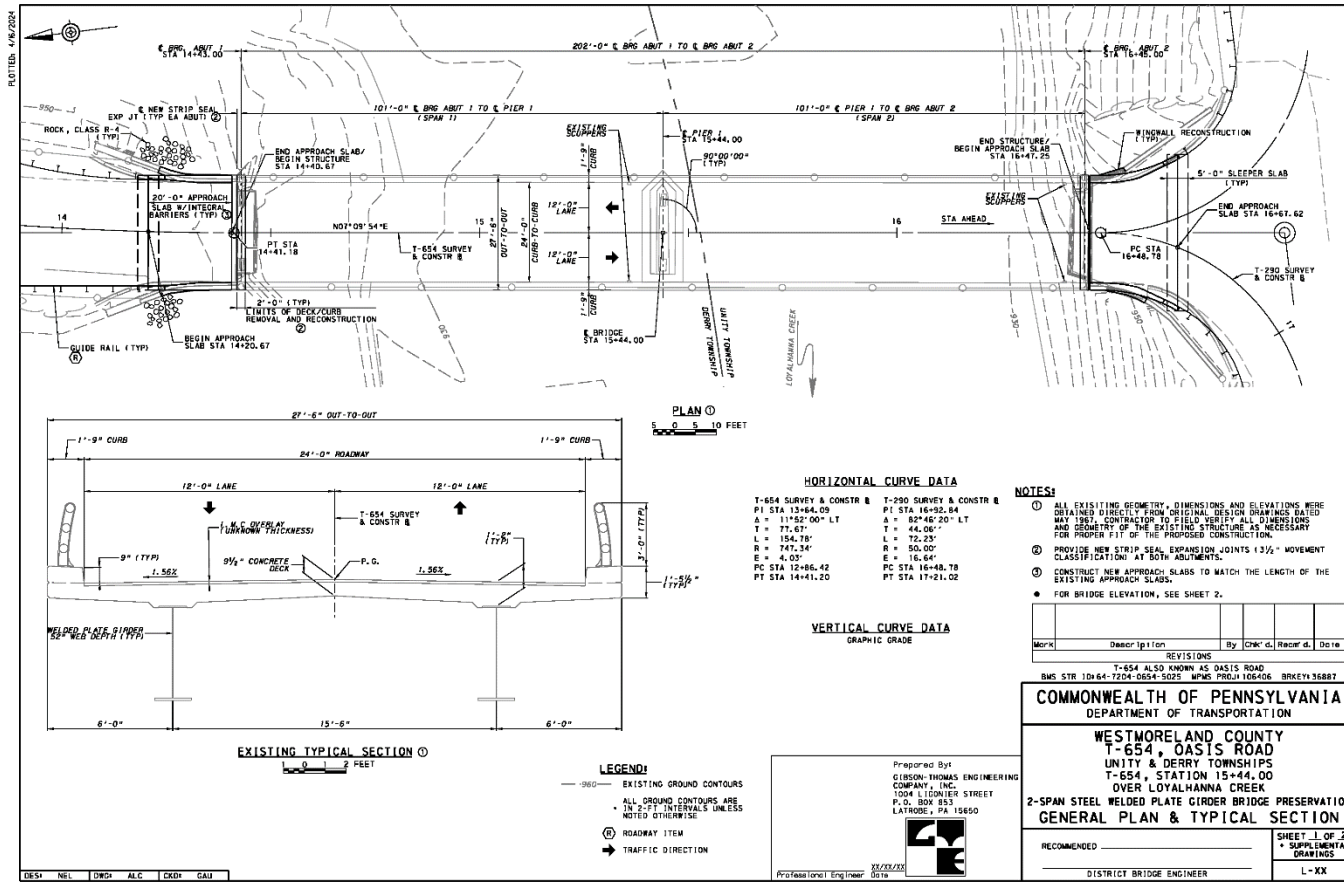


pennsylvania
DEPARTMENT OF TRANSPORTATION

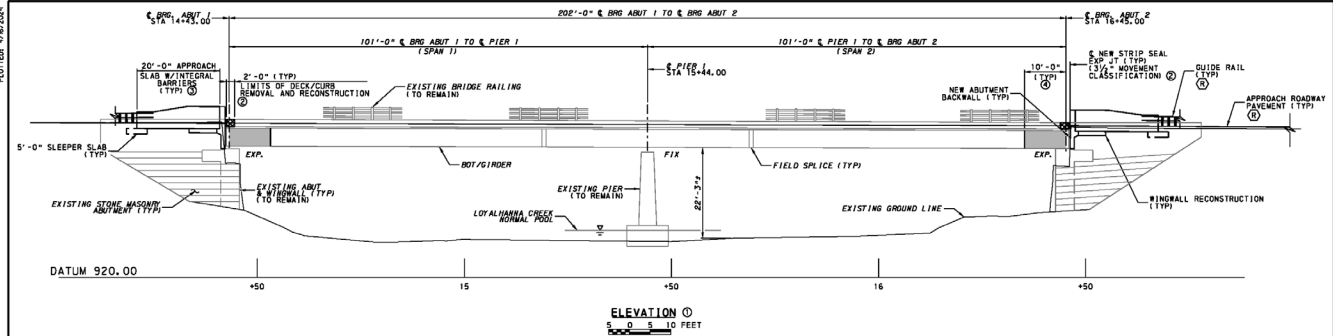
Craigs Mill - Roadway Plan



Craigs Mill - Structure Plans



Craigs Mill - Structure Plans



GENERAL NOTES

PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS PUBLICATION 438/2020, AASHTO/MS/D1.5M/D1.5I-2008 BRIDGE WELDING CODE AND THE CONTRACT "SPECIAL PROVISIONS" USE AASHTO/MS/D1.1/D1.1M-2002 FOR WELDING NOT COVERED IN AASHTO/MS/D1.5M/D1.5I-2008.

DESIGN SPECIFICATIONS:

- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS EIGHTH EDITION, 2011 AND AS SUPPLEMENTED BY DESIGN MANUAL, PART 4, DECEMBER, 2019 EDITION.
- USE CLASS AA/CP CEMENT CONCRETE IN THE NEW PORTIONS OF THE DECK SLAB WHEN INSTALLING THE NEW STRIP SEAL EXPANSION JOINTS.
- USE CLASS AA CEMENT CONCRETE, EXCEPT USE NO. 8 COARSE AGGREGATE IN BARRIERS.
- USE CLASS AA CEMENT CONCRETE IN APPROACH SLABS, SLEEPER SLABS AND BACKWALLS.
- A HIGHER CLASS CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST TO THE COUNTY.
- PROVIDE GRADE 60 REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF ASTM A615/A615M, A885/A885M OR A706/A706M. DO NOT WELD GRADE 60 REINFORCING STEEL BARS UNLESS SPECIFIED. GRADE 40 REINFORCING STEEL BARS MAY BE SUBSTITUTED WITH A PROPORTIONAL INCREASE IN CROSS-SECTIONAL AREA, IF APPROVED BY THE BRIDGE ENGINEER. DO NOT USE RAIL STEEL A36/A36M REINFORCEMENT BARS WHERE BENDING OR WELDING OF THE REINFORCEMENT BARS IS INDICATED.
- EPOXY-COAT ALL REINFORCING BARS.

LEGEND OF ABBREVIATIONS:

ABUT	ABUTMENT	E.B.	EASTBOUND	P/T	POST-TENSION
ADD'L	ADDITIONAL	E.F.F.	EACH FACE	P.C.P.	PREPARED CELLULAR POLYSTYRENE
ALT	ALTERNATE	EFF	EFFECTIVE	P.G.	PROFILE GRADE
APPR	APPROACH	EMB	EMBANKMENT	POP	POINT OF BEGINNING
A.S.T.	ARCHITECTURAL SURFACE TREATMENT	ELEV	ELEVATION	PROP	PROPOSED
B.C.E.	BOTTOM OF CURB ELEVATION	EXP	EXPANSION BEARING	P.T.E.	POINT TO ELEVATION
B.O.T.	BOTTOM OF PILE CAP ELEVATION	F.C.M.	FRONT FACE	P.V.C.	POLYVINYL CHLORIDE
BRC	BEARING	F.F.	FIELD SPLICE	REIN	REINFORCEMENT
B.R.N.	BEARING STIFFENER	F.F.S.	FIELD SPACING	RDWAY	ROADWAY
B.T.M.	BOTTOM	H.E.S.	HIGH EARLY STRENGTH	R.F.	REAR FACE
C.C.N.S.	CENTER-TO-CENTER	HOR	HORIZONTAL	R.T.	RIGHT
C.C.S.	CLOSED CELL NEOPRENE SPONGE	I.F.	INSIDE FACE	S.B.	SOUTHBOUND
C.I.P.	CAST-IN-PLACE	JT	JOINT	SHDLR	SHOULDER
CLJ	CONSTRUCTION JOINT	JT	JOINT	SPA	SPACES OR SPACING
C.M.U.	CONCRETE MASONRY UNIT	MAX	MAXIMUM	STD	STANDARD
CONC	CONCRETE	MID	MIDDLE	T.B.S.	TOP OF BOTTOM SLAB
CONSTR	CONSTRUCTION	MIN	MINIMUM	T.P.E.	TOP OF FOOTING ELEVATION
CONTR	CONTRACTION	NS	NORTHBOUND	L.L.P.	TOP OF LEVELING PAD
CONTR	CONTRACTION	NEG	NEGATIVE	L.O.R.	TOP OF ROCK
CTL	CONTROL	NO	NUMBER	TRP	TYPICAL
C.V.N.	CHARPY Y-NOTCH	N.S.	NOT-TO-SCALE	UNL	UNLESS NOTED
D	DIAMETER	D.F.	OUTSIDE FACE	VERT	VERTICAL
E	EPOXY COATED REINFORCEMENT	P/P	PRECAST	W.B.	WESTBOUND
EACH	EACH	P/P	PRECAST	W.P.	WORK POINT
		P/P	PRESTRESSED	W.P.E.	WORK POINT ELEVATION

NOTES:

- ALL EXISTING GEOMETRY, DIMENSIONS AND ELEVATIONS WERE OBTAINED DIRECTLY FROM ORIGINAL DESIGN DRAWINGS DATED MAY 1987. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING STRUCTURE AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.
 - PROVIDE NEW STRIP SEAL EXPANSION JOINTS (3/4" MOVEMENT CLASSIFICATION) AT BOTH ABUTMENTS. REMOVE AND RESET EXISTING BRIDGE RAILING AS NECESSARY FOR CONSTRUCTION OF EXPANSION JOINTS.
 - CONSTRUCT BARRIERS ON APPROACH SLABS TO MATCH THE HEIGHT OF THE EXISTING BRIDGE RAILING. INSIDE FACE OF VERTICAL WALL BARRIER TO LINE UP WITH INSIDE FACE OF BRIDGE RAILING POSTS.
 - CLEAN AND PAINT SUPERSTRUCTURE FOR 10'-0" AT EACH END OF THE GIRDERS AT JOINT LOCATIONS.
- FOR GENERAL PLAN & TYPICAL SECTION, SEE SHEET 1.

Work	Description	By	CHK'd	Revised	Date
REVISIONS					

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

WESTMORELAND COUNTY
T-654, OASIS ROAD
LUNITY & DERRY TOWNSHIPS
T-654, STATION 15+44.00
OVER LOYALHANNA CREEK

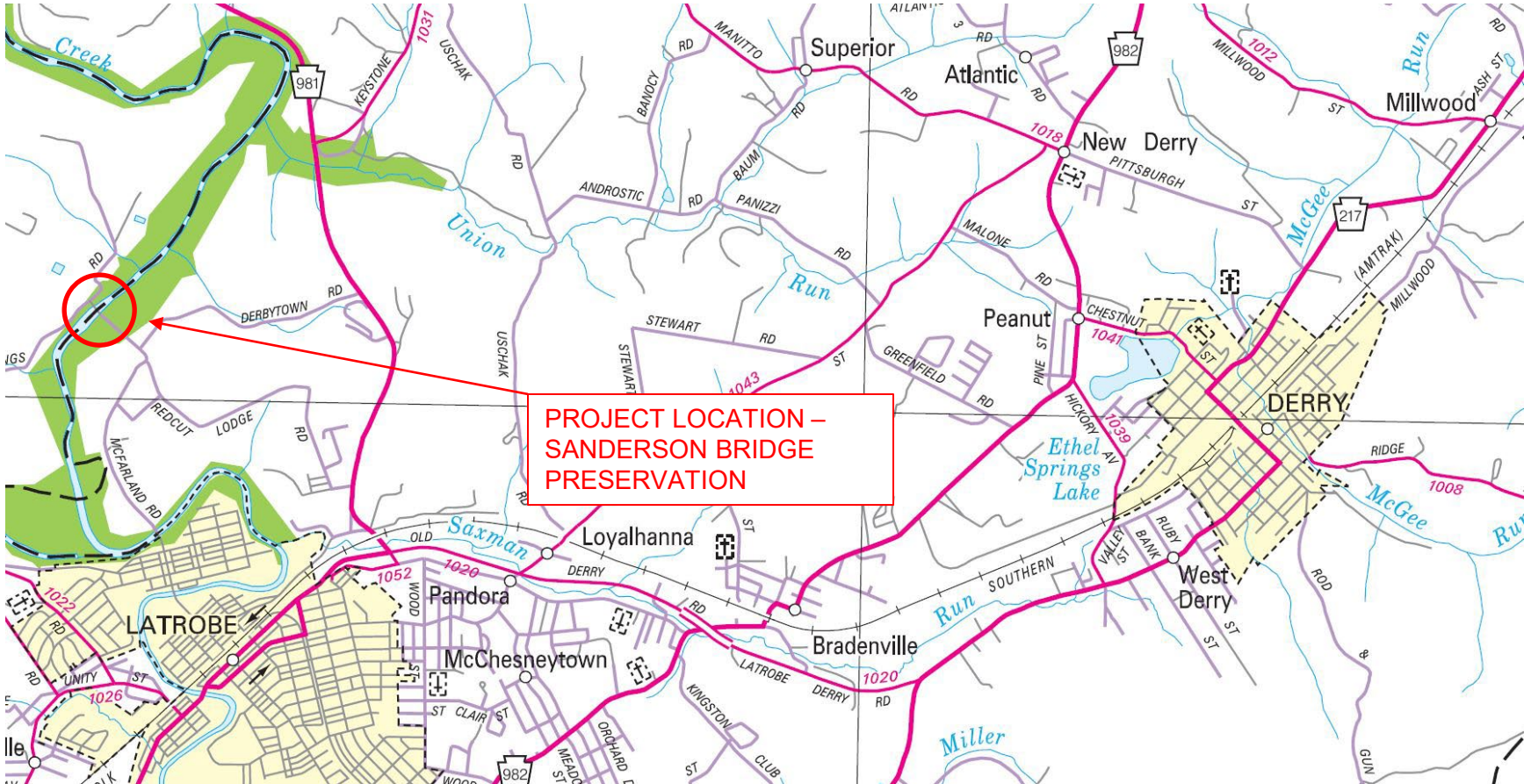
**2-SPAN STEEL WELDED PLATE GIRDER PRESERVATION
ELEVATION & GENERAL NOTES**

RECOMMENDED _____ SHEET 2 OF 2
L-XX

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Sanderson – Location Map



▶ Sanderson – Existing Photographs

Existing Structure



► Sanderson – Existing Photographs

Existing Approach Slab Settlement



Existing Expansion Joint



► Sanderson – Existing Photographs

Existing Abutment



Existing Debris Build-up



Sanderson - Proposed Project Improvements

Bridge Preservation Project

Existing Structure: Two-span steel three-girder bridge with a composite cast-in-place reinforced concrete deck.

Scope of work includes:

- Replace expansion joints at both abutments.
- Construct new approach slabs.
- Remove and reconstruct abutment backwalls.
- Perform deck and barrier repairs and apply protective coating.
- Clean and flush scuppers.
- Clean and paint the superstructure for 10'-0" at each end of the girders at joint locations.
- Repair damaged or missing aluminum railing members.
- Perform concrete substructure repairs as indicated.
- Apply protective coating to substructure units.
- Install guide rail and appropriate end treatments.
- Mill and resurface bridge approaches.
- Remove debris from the upstream nose of the pier.
- Install rock on the near side of the structure to mitigate erosion in front of the wingwalls.



Gibson-Thomas
ENGINEERING

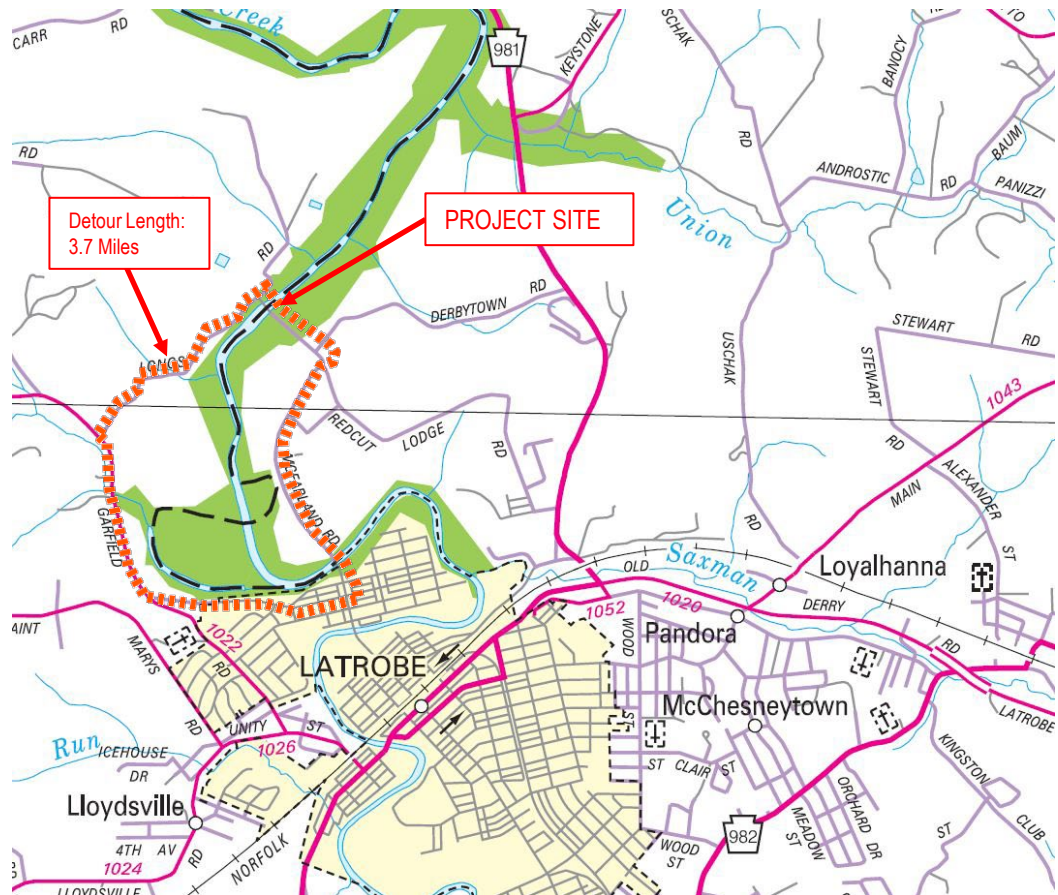


pennsylvania
DEPARTMENT OF TRANSPORTATION

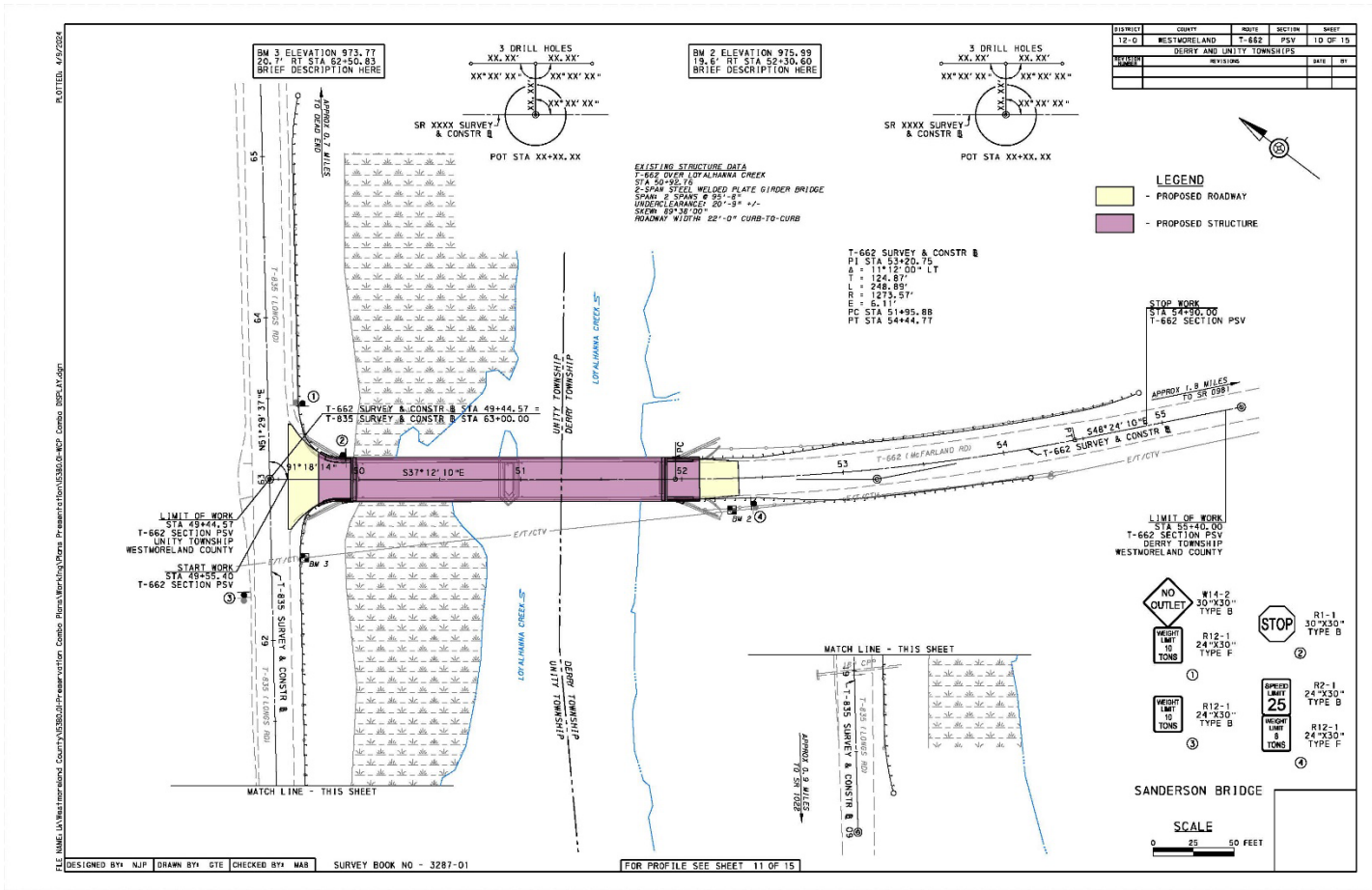
Sanderson - Proposed Traffic Control

DETOUR

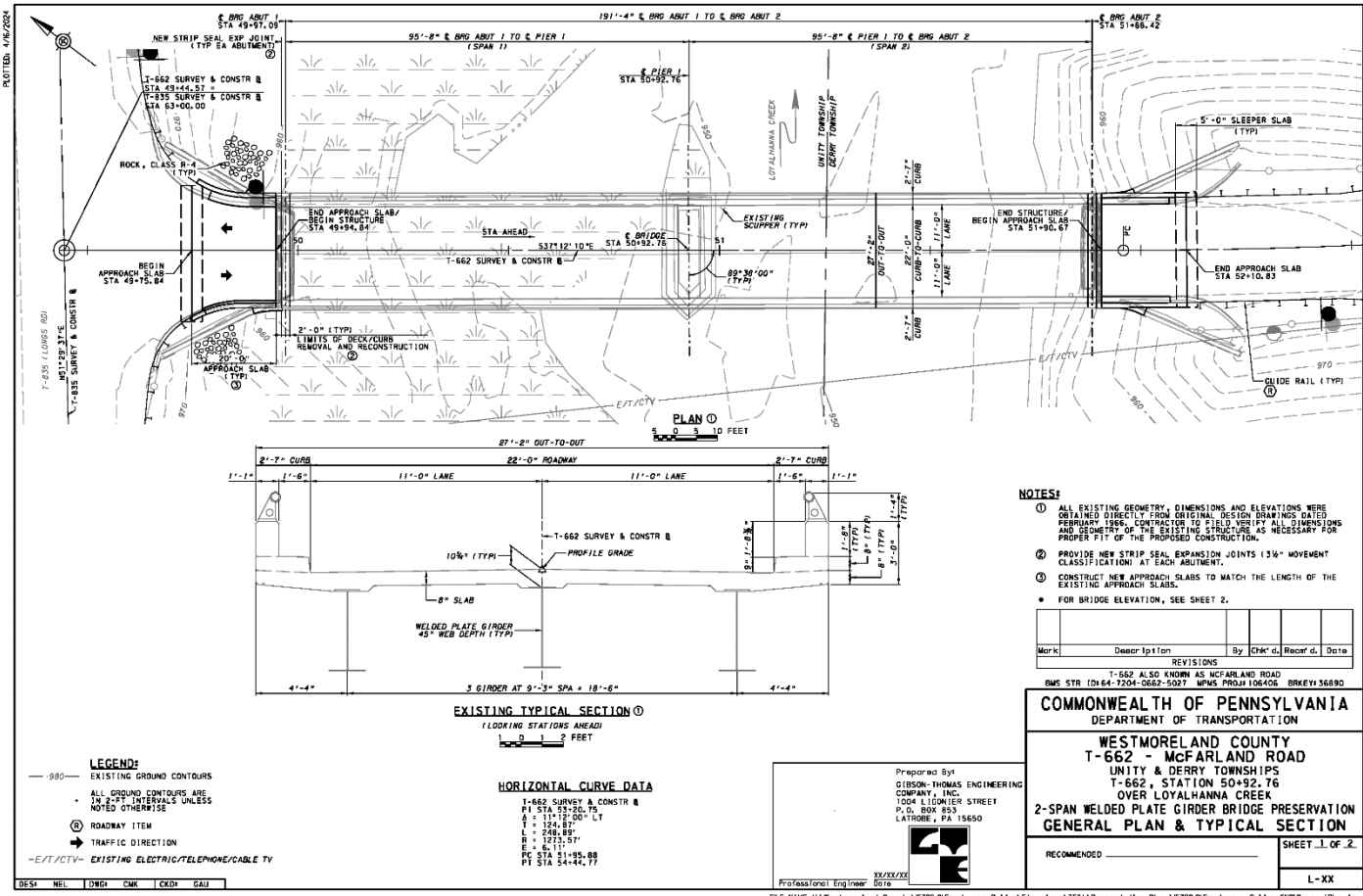
- T-835 (Longs Road).
- Route 1022 (Garfield Road).
- T-831 (Cramer Road).
- West Tacoma Avenue.
- North Ligonier Street.
- T-662 (McFarland Road).



Sanderson - Roadway Plan



Sanderson - Structure Plans



- NOTES:**
- ALL EXISTING GEOMETRY, DIMENSIONS AND ELEVATIONS WERE OBTAINED DIRECTLY FROM ORIGINAL DESIGN DRAWINGS DATED FEBRUARY 1986. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING STRUCTURE AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.
 - PROVIDE NEW STRIP SEAL EXPANSION JOINTS (3/8" MOVEMENT CLASSIFICATION) AT EACH ABUTMENT.
 - CONSTRUCT NEW APPROACH SLABS TO MATCH THE LENGTH OF THE EXISTING APPROACH SLABS.
- FOR BRIDGE ELEVATION, SEE SHEET 2.

Mark	Description	By	Chk'd	Revised	Date
REVISIONS					

1-662 ALSO KNOWN AS MCFARLAND ROAD
 BMS STR 10664-7204-0662-502T MPUS PROJ 106606 BRKEY 36890

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF TRANSPORTATION

WESTMORELAND COUNTY
T-662 - MCFARLAND ROAD
 UNITY & DERRY TOWNSHIPS
 T-662, STATION 50+92.76
 OVER LOYALHANNA CREEK
2-SPAN WELDED PLATE GIRDER BRIDGE PRESERVATION
GENERAL PLAN & TYPICAL SECTION

RECOMMENDED _____ SHEET 1 OF 2
 L-XX

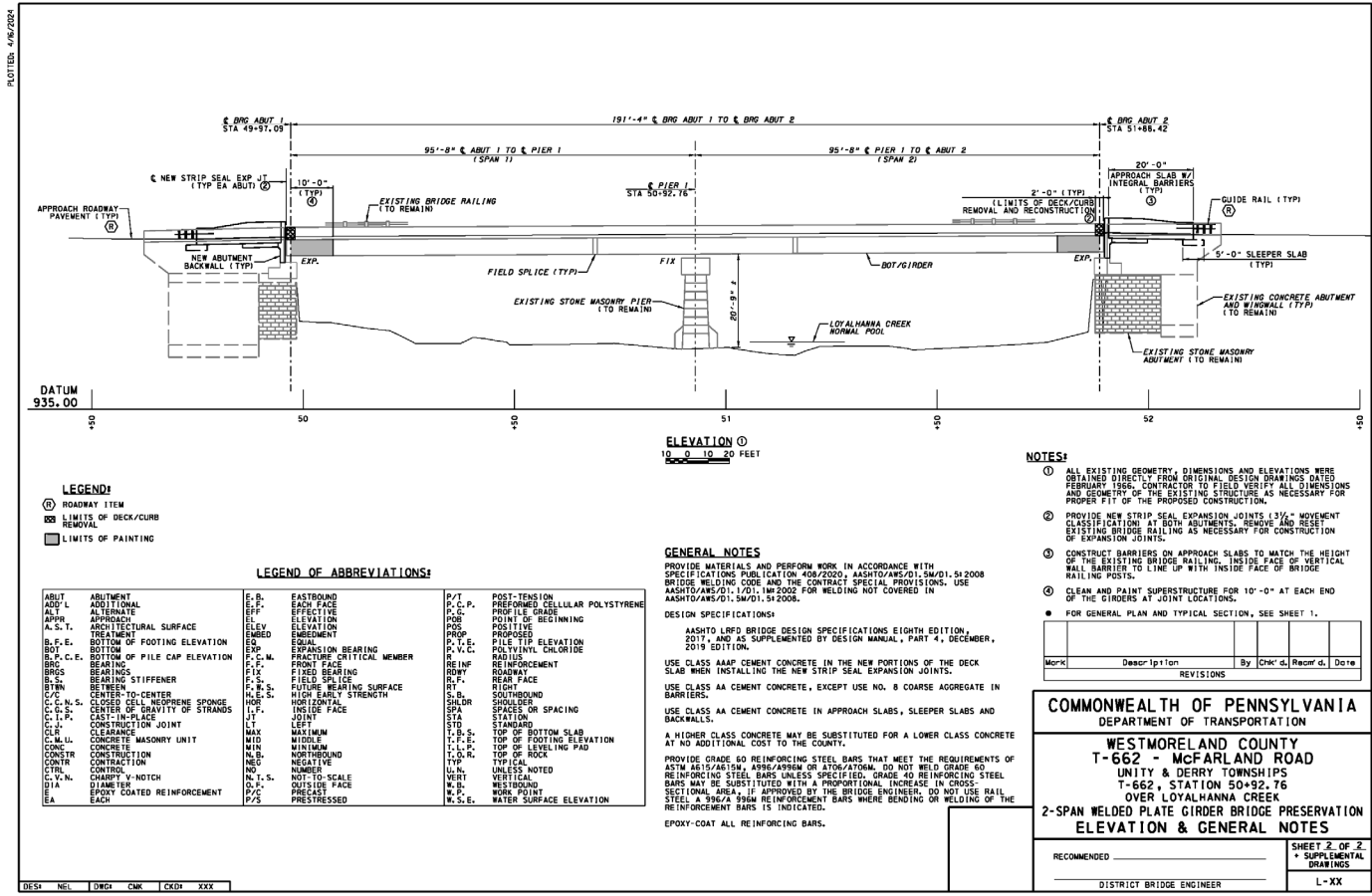
Prepared By
 GIBSON-THOMAS ENGINEERING COMPANY, INC.
 1004 L'ECHEVILLER STREET
 P.O. BOX 853
 LATROBE, PA 15650

Professional Engineer
 Date



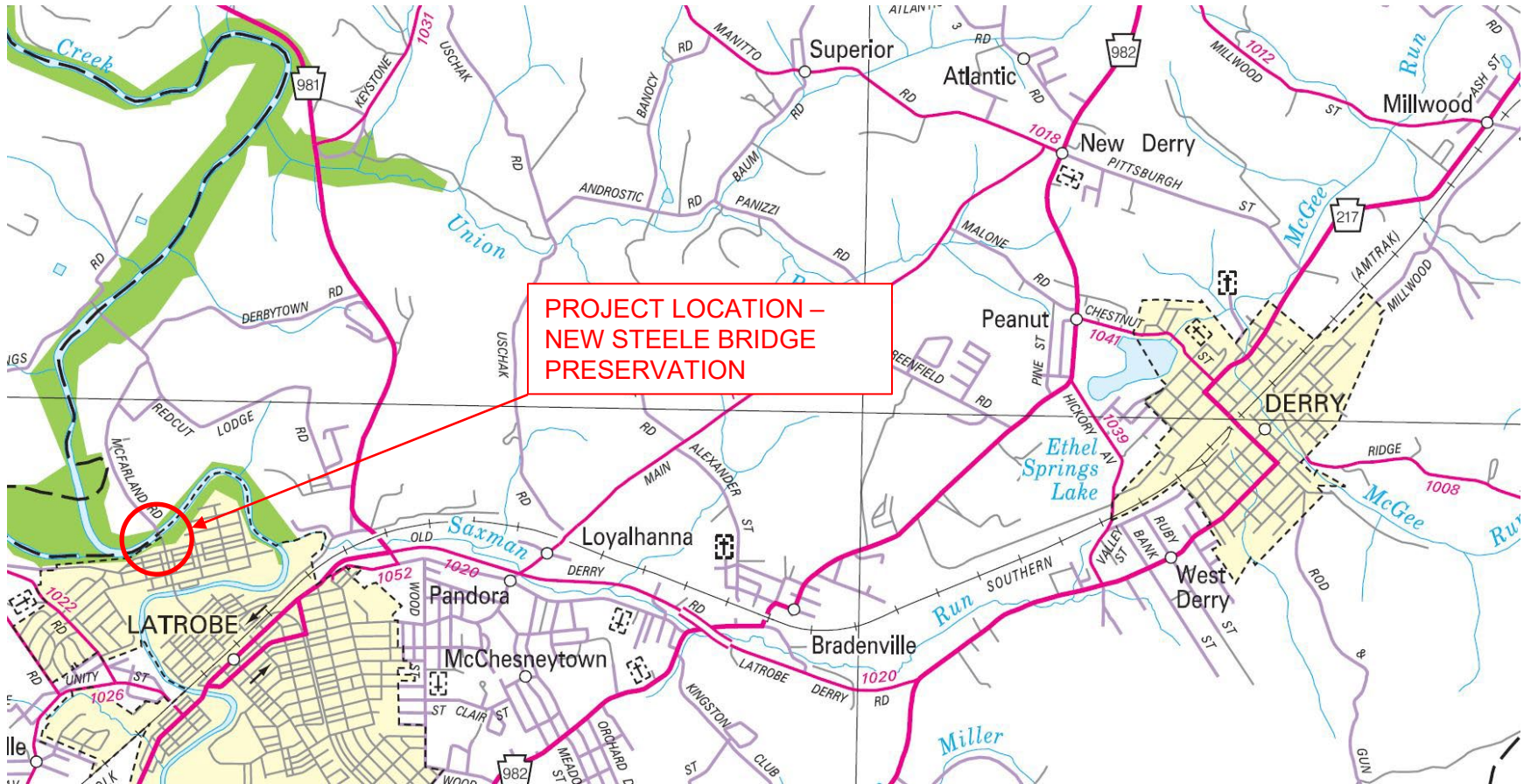
FILE NAME: \\Westmoreland County\5380\0\Sanderson Bridge\Structure\158\LPresentation\Plans\5380.0\Sanderson Bridge SHD General Plan.dwg

Sanderson - Structure Plans



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New Steele – Location Map



▶ New Steele – Existing Photographs

Existing Structure



▶ New Steele – Existing Photographs

Existing Approach Slab Settlement



Existing Expansion Joint



▶ New Steele – Existing Photographs

Existing Pier



Existing Rocker Bearings



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ENGINEERING



pennsylvania
DEPARTMENT OF TRANSPORTATION

▶ New Steele - Proposed Project Improvements

Bridge Preservation Project

Existing Structure: Three-span steel multi-girder bridge with a composite cast-in-place reinforced concrete deck.

Scope of work includes:

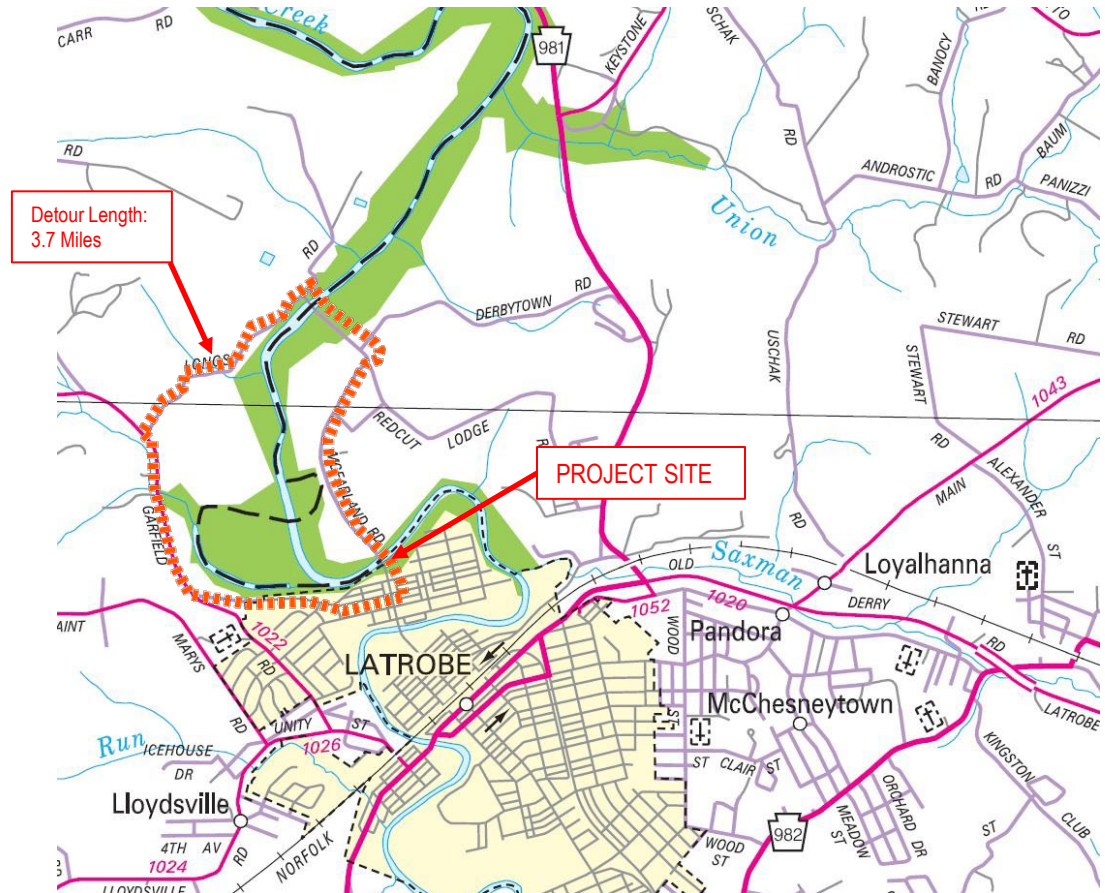
- Replace expansion joints at all substructure units.
- Construct new approach slabs.
- Remove and reconstruct abutment backwalls.
- Perform deck and barrier repairs and apply protective coating to deck and curbs.
- Clean and flush scuppers.
- Repair damaged aluminum railing members.
- Perform concrete substructure repairs as indicated.
- Apply protective coating to substructure units.
- Install guide rail and appropriate end treatments.
- Mill and resurface approach roadways.
- Replace rocker bearings.
- Clean and paint the superstructure for 10'-0" at each end of the girders at joint locations.



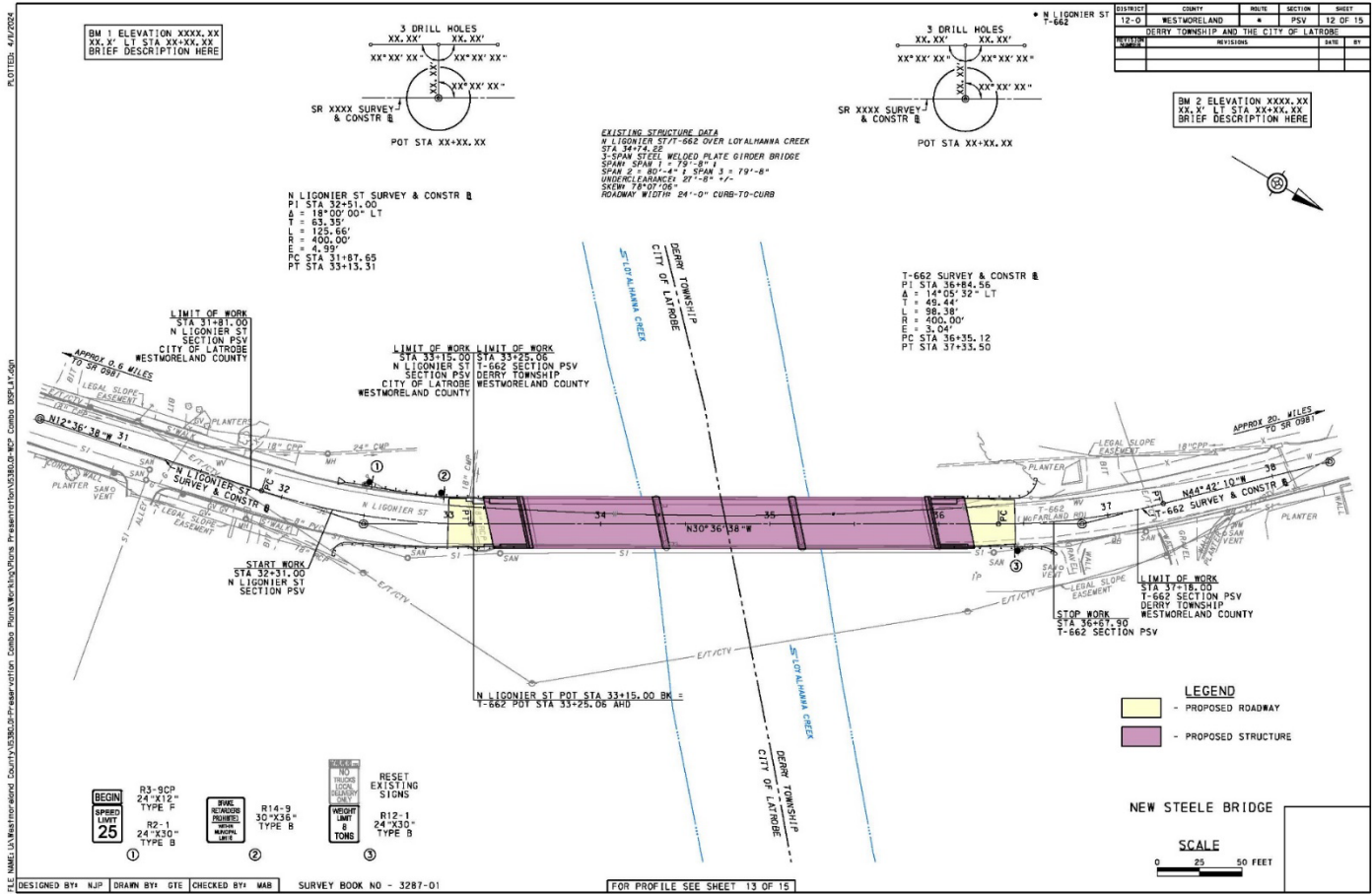
New Steele - Proposed Traffic Control

DETOUR

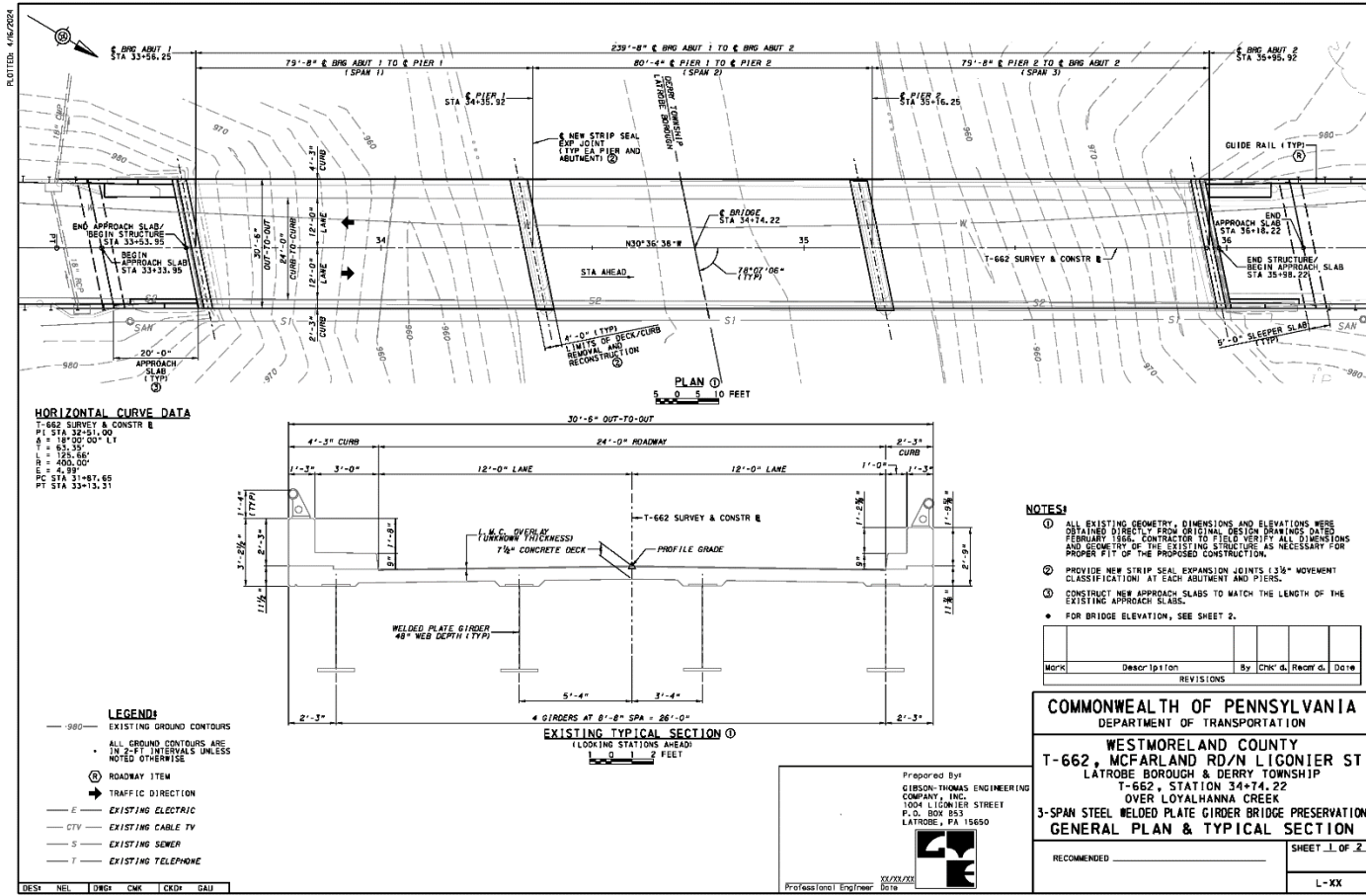
- T-662 (McFarland Road).
- T-835 (Longs Road).
- Route 1022 (Garfield Road).
- T-831 (Cramer Road).
- West Tacoma Avenue.
- North Ligonier Street.



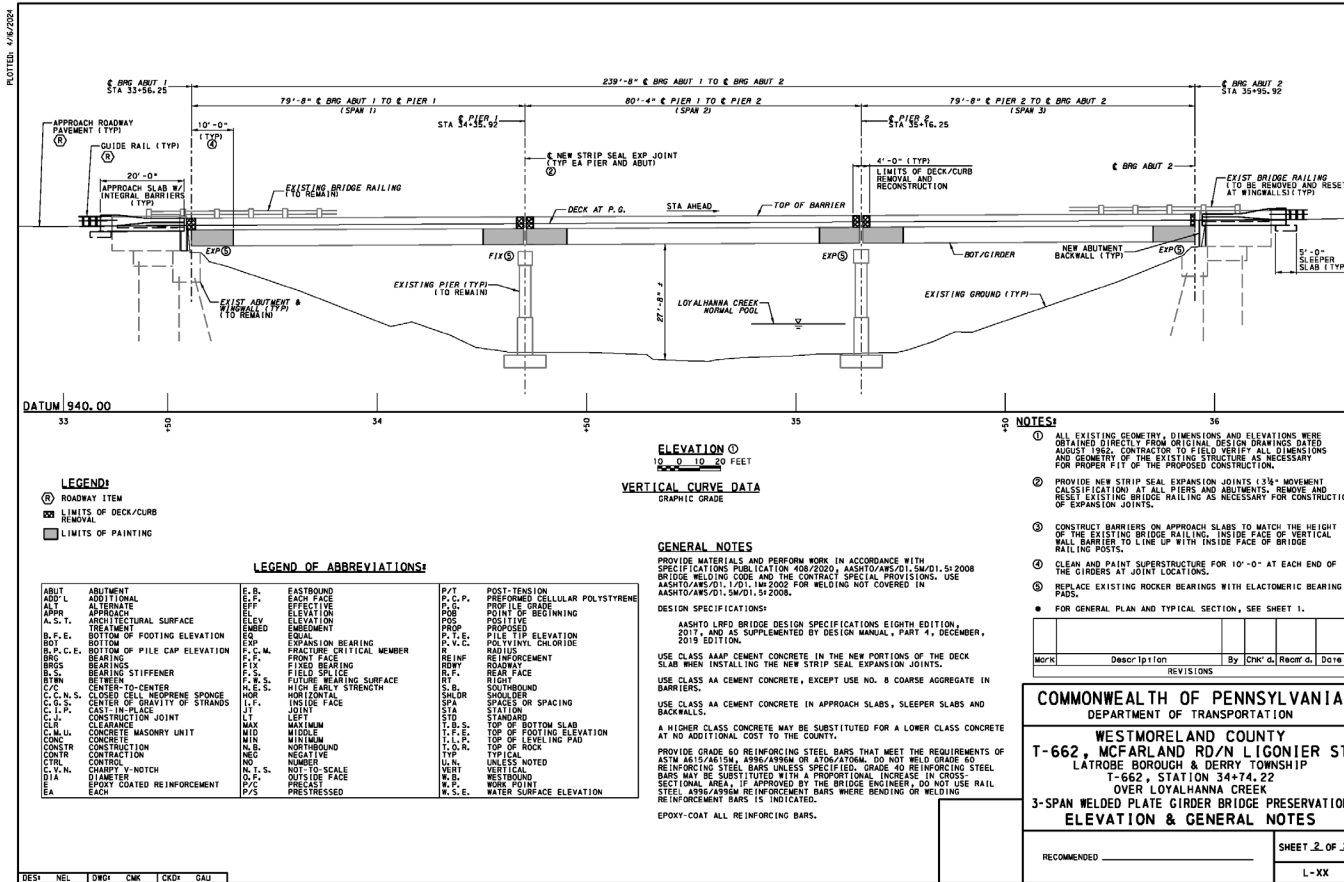
New Steele - Roadway Plans



New Steele - Structure Plans

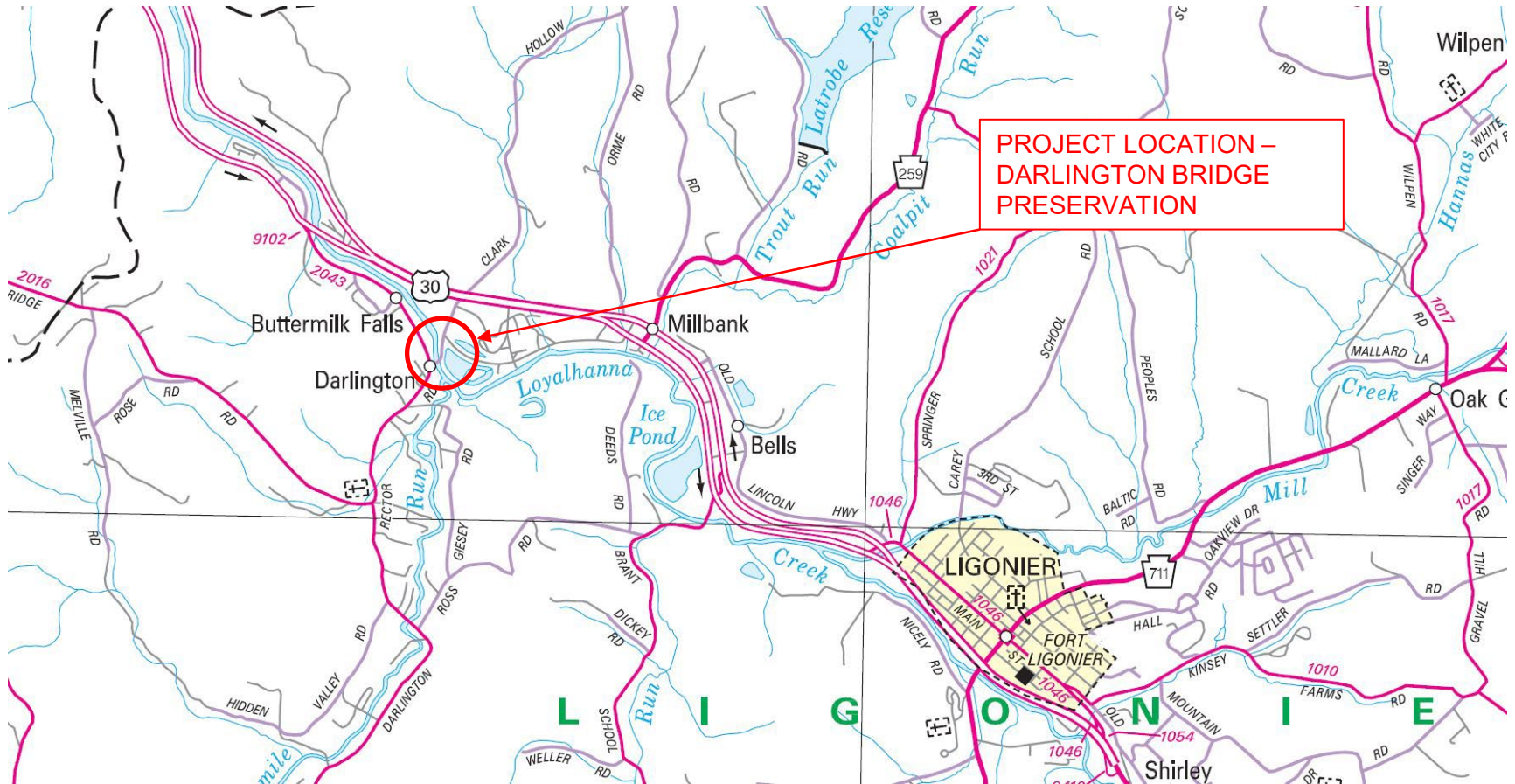


New Steele - Structure Plans



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Darlington – Location Map



Darlington – Existing Photographs

Existing Structure



▶ Darlington – Existing Photographs

Existing Expansion Joint



Existing Top of Deck



Darlington – Existing Photographs

Existing Barrier Curb



Existing Bottom of Deck



Darlington – Existing Photographs

Existing Abutment



Existing Debris Build-up



Darlington - Proposed Project Improvements

Bridge Preservation Project

Existing Structure: Three-span steel beam bridge with a composite cast-in-place reinforced concrete deck.

Scope of work includes:

- Replace expansion joints at abutment 1, pier 1, pier 2 and abutment 2.
- Remove asphalt overlay, deck and barriers from existing bridge and construct new deck and barriers.
- Construct new approach slabs.
- Remove and reconstruct abutment backwalls.
- Clean and paint the superstructure for 10'-0" at each end of the beams at joint locations.
- Perform concrete substructure repairs as indicated.
- Apply protective coating to substructure units.
- Install guide rail and appropriate end treatments.
- Mill and resurface bridge approach roadways.
- Remove debris from the upstream nose of the pier and install rock protection.
- Replace missing and damaged anchor bolts.



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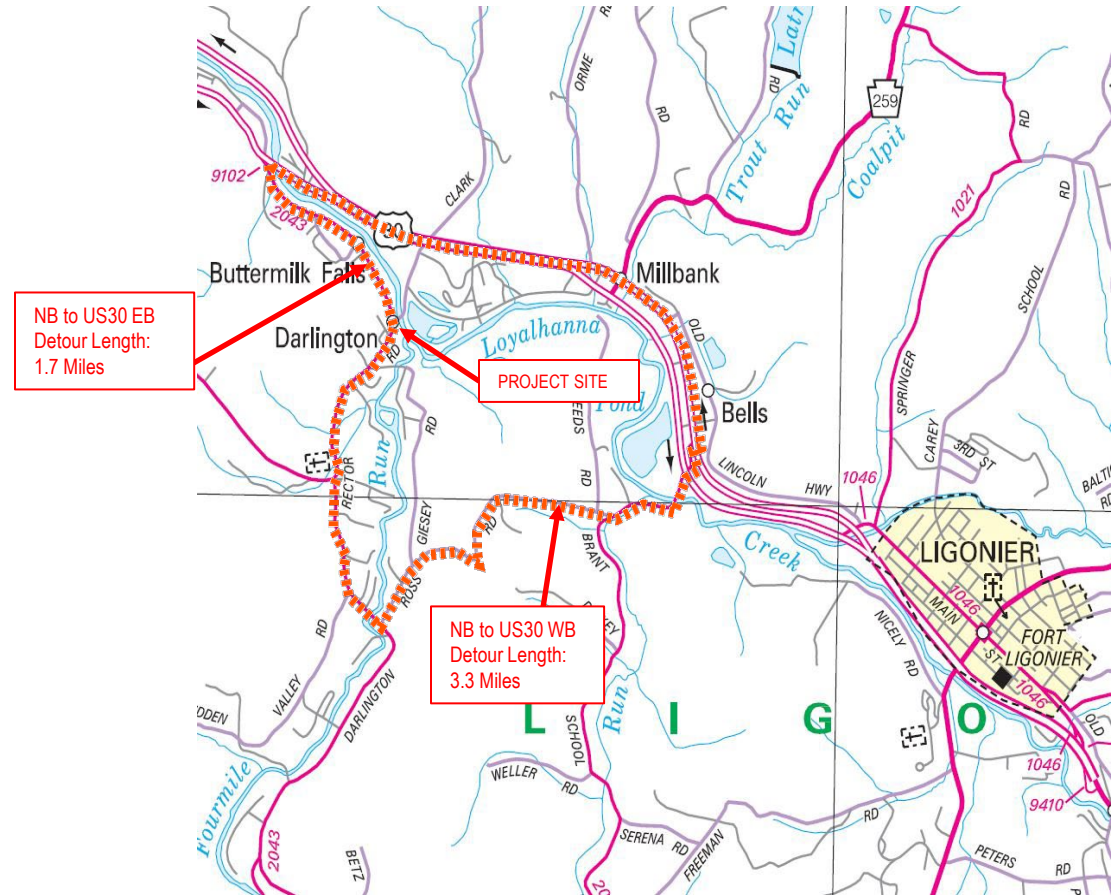


pennsylvania
DEPARTMENT OF TRANSPORTATION

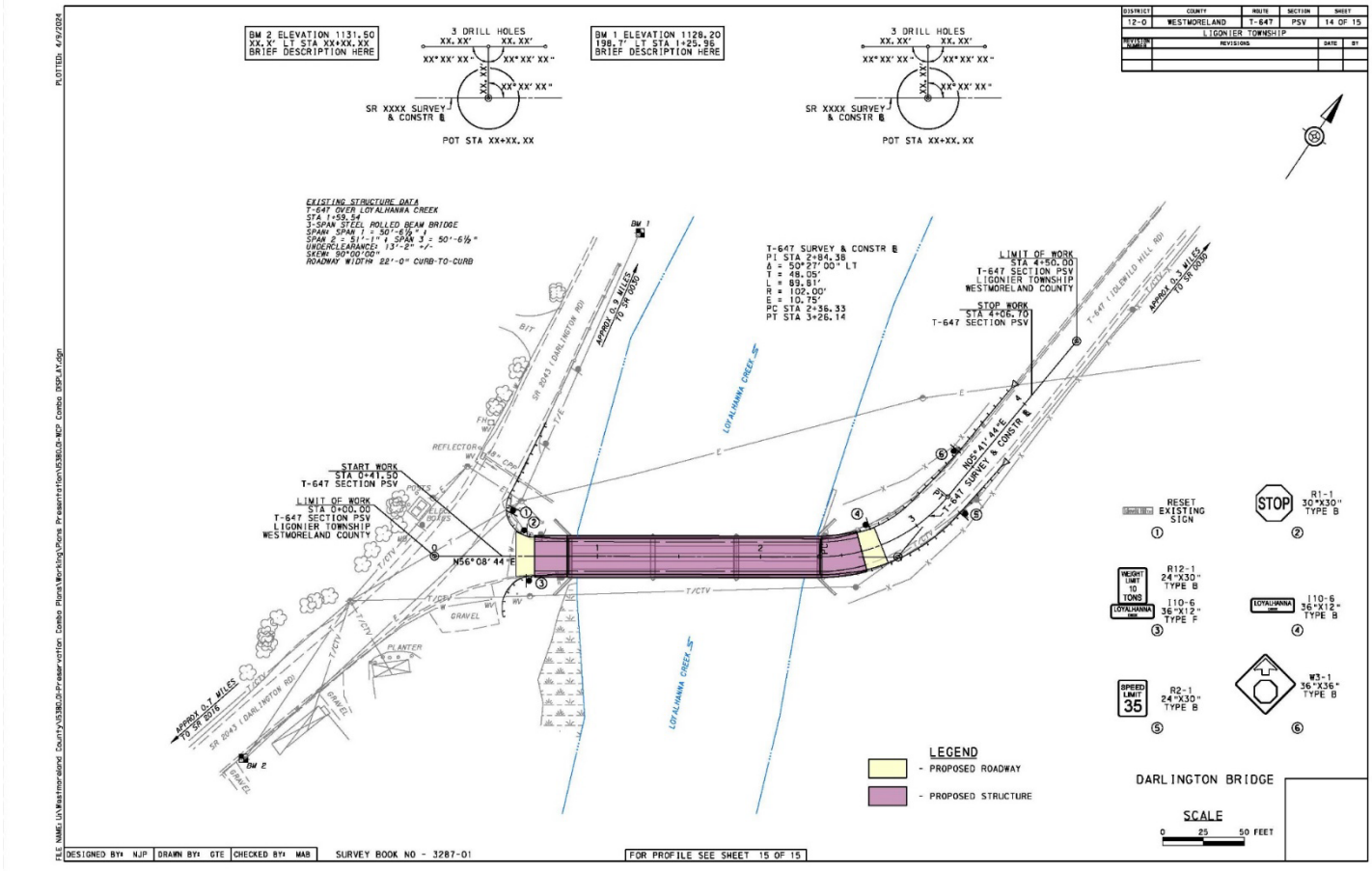
Darlington - Proposed Traffic Control

DETOUR

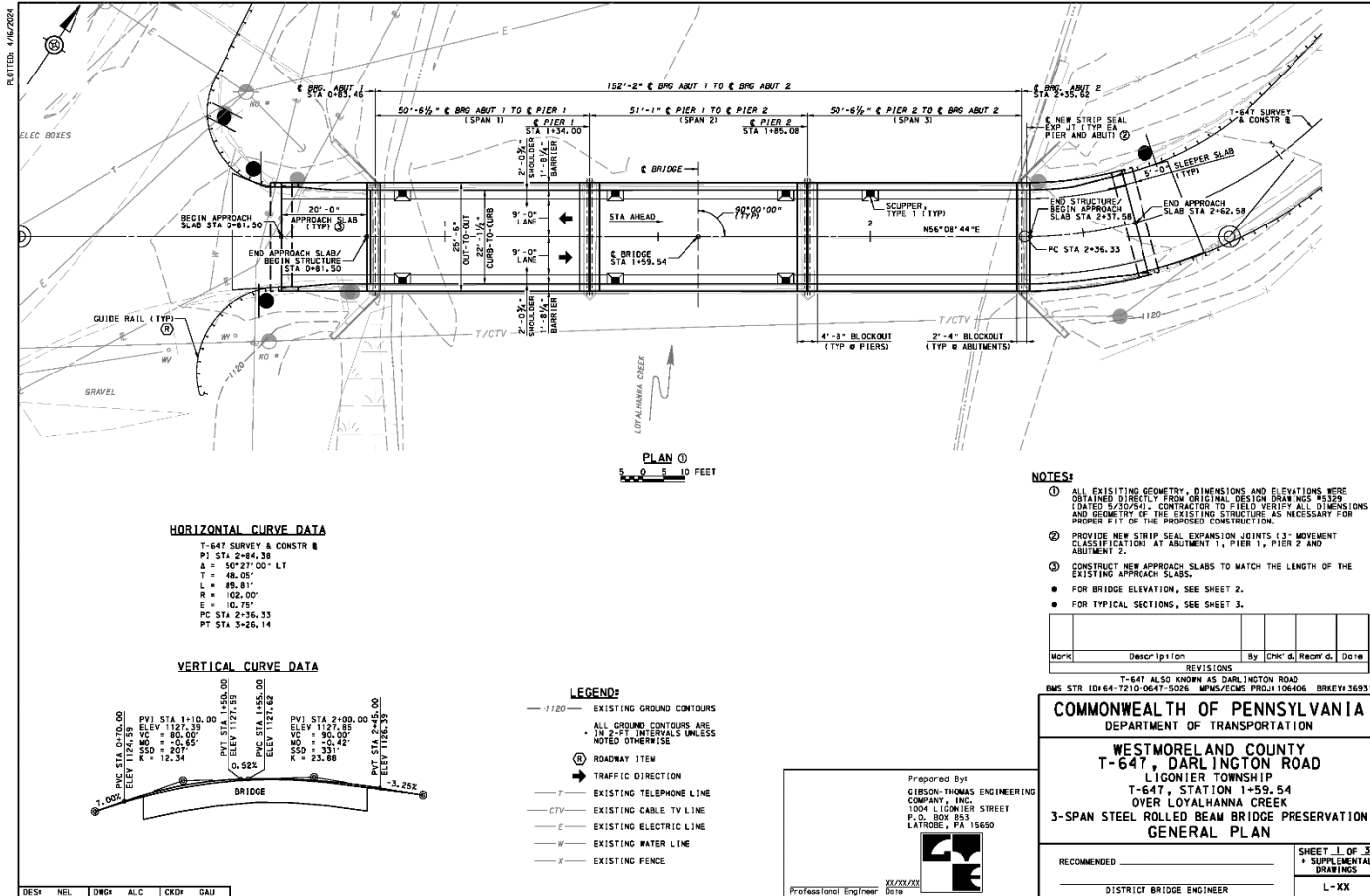
- Route 2043 (Darlington Rector Road).
- T-611 (Ross Road).
- Route 2045 (Brant School Road).
- Route 30.



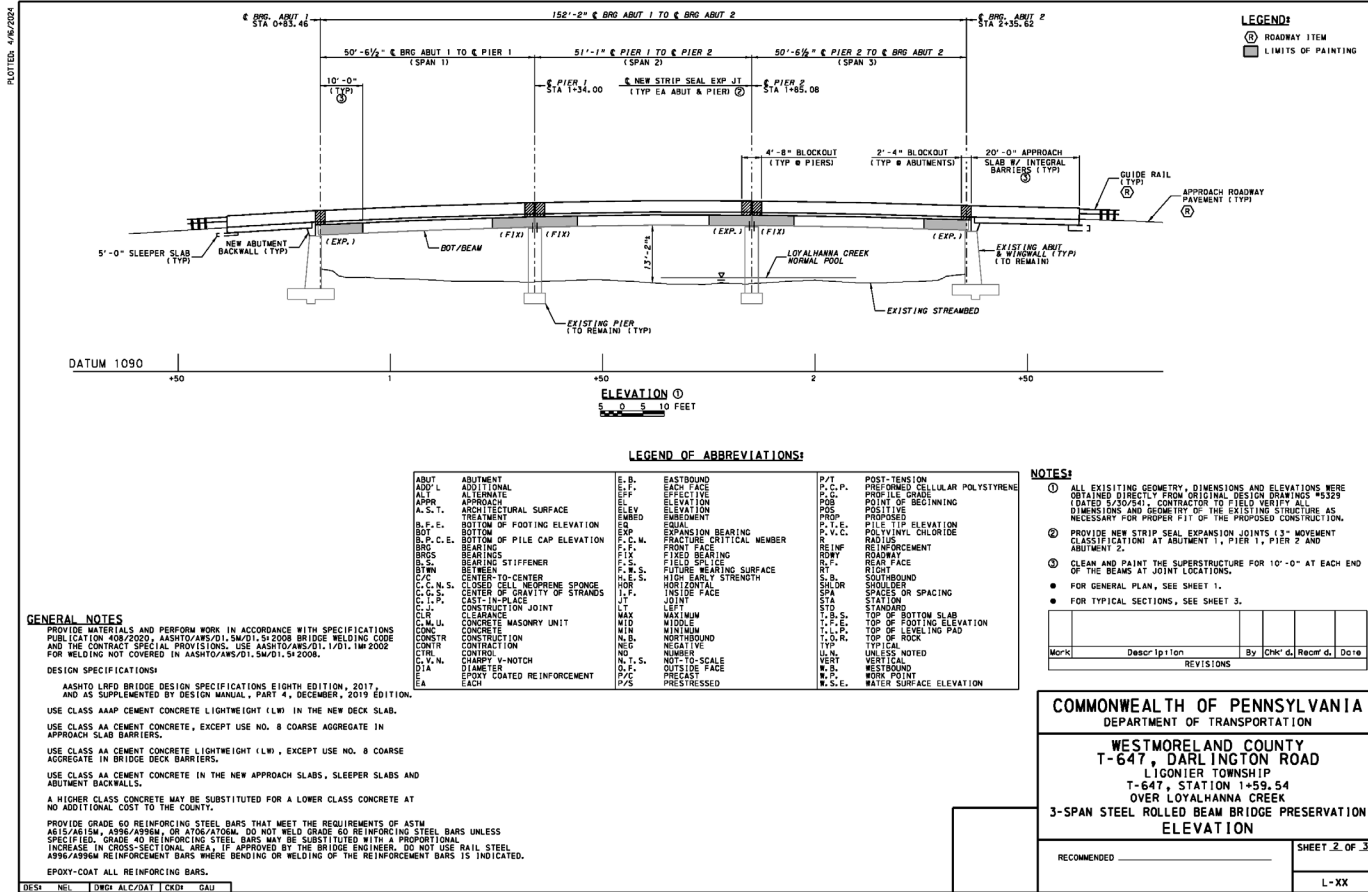
Darlington - Roadway Plan



Darlington - Structure Plans



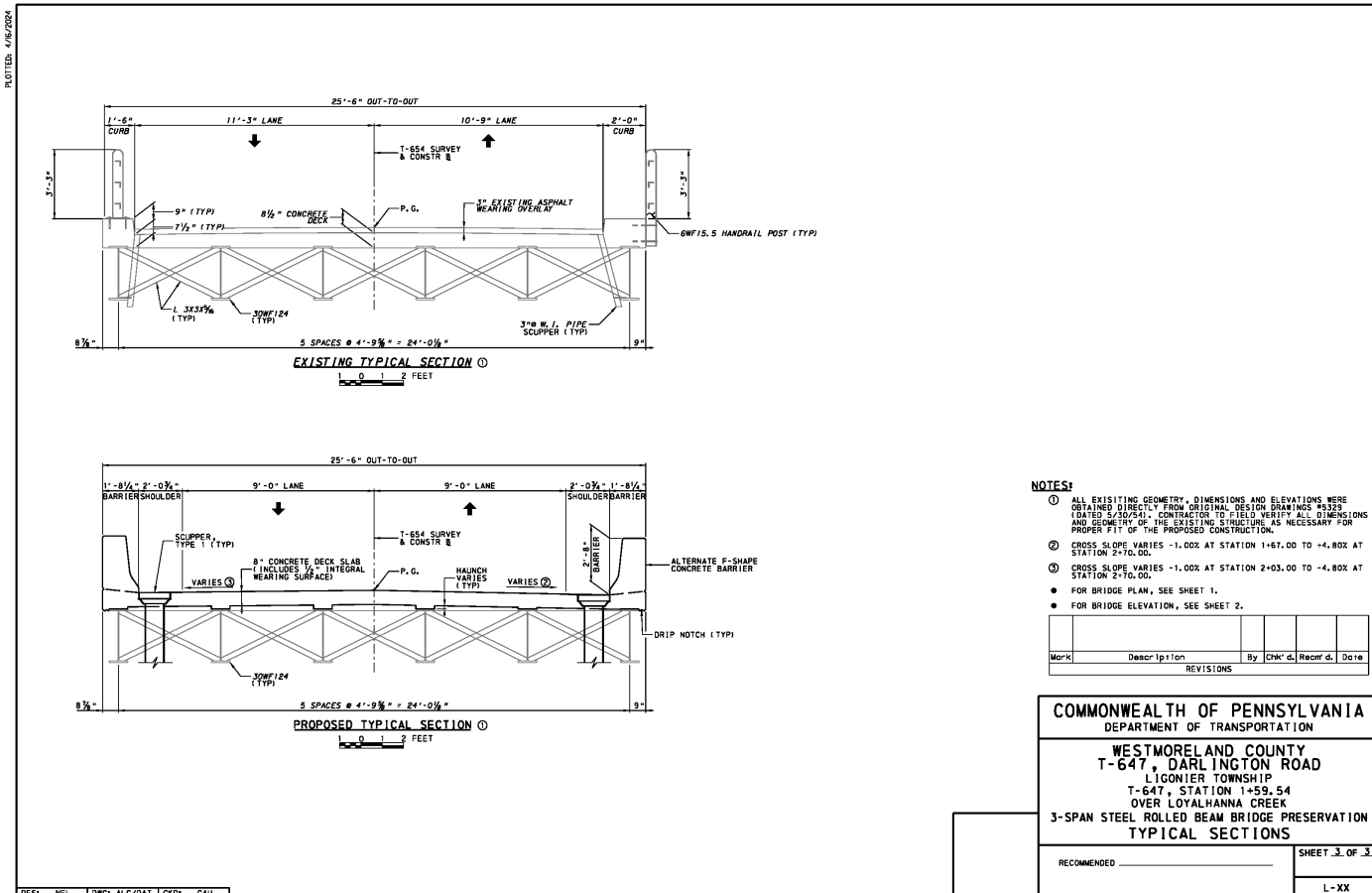
Darlington - Structure Plans



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Darlington - Structure Plans



- NOTES:**
- ① ALL EXISTING GEOMETRY, DIMENSIONS AND ELEVATIONS WERE OBTAINED DIRECTLY FROM ORIGINAL DESIGN DRAWINGS #129 (DATED 5/30/54), CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING STRUCTURE AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.
 - ② CROSS SLOPE VARIES -1.00% AT STATION 1+67.00 TO +4.80% AT STATION 2+70.00.
 - ③ CROSS SLOPE VARIES -1.00% AT STATION 2+03.00 TO -4.80% AT STATION 2+70.00.
 - FOR BRIDGE PLAN, SEE SHEET 1.
 - FOR BRIDGE ELEVATION, SEE SHEET 2.

Mark	Description	By	Chk'd	Rec'd	Date
REVISIONS					

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

WESTMORELAND COUNTY
T-647, DARLINGTON ROAD
LIGONIER TOWNSHIP
T-647, STATION 1+59.54
OVER LOYALHANNA CREEK

**3-SPAN STEEL ROLLED BEAM BRIDGE PRESERVATION
TYPICAL SECTIONS**

RECOMMENDED _____ SHEET 3 OF 3

L-XX

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