Level 2 Categorical Exclusion Reevaluation

SR0081 Section 511

I-81 Susquehanna Bridges Project

New Milford Borough and Great Bend Township, Susquehanna County

October 2022

Prepared by:
District 4-0
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pennsylvania
DEPARTMENT OF TRANSPORTATION

U.S. Department of Transportation
Federal Highway Administration

LEVEL 2 CATEGORICAL EXCLUSION REEVALUATION
for the
SR 0081 SECTION 511 SUSQUEHANNA COUNTY
INTERSTATE 81 SUSQUEHANNA BRIDGES PROJECT

MPMS #75917

Prepared by:
US Department of Transportation
Federal Highway Administration
and
Pennsylvania Department of Transportation
Engineering District 4-0

Pursuant to 42 U.S.C. 4332(2)(c)and, as applicable:
Executive Order 11990, Protection of Wetlands; Executive Order 11988, Floodplain Management; Executive Order 12898, Environmental Justice; and 49 U.S.C. Section 303(c), Section 4(f)

Level 2 CE Reevaluation Approval

As supported by the attached Categorical Exclusion Reevaluation, this project qualifies for a Level 2 Categorical Exclusion in accordance with 23 CFR 771.117(d), Item Number 13. Furthermore, the project will not result in any of the four circumstances cited in 23 CFR 771.117(b).

County: Susquehanna **SR/Sec:** 0081/511 **MPMS:** 75917 **Project:** I-81 Susquehanna Bridges

Prepared By: Diane Nulton, HDR

Title: Senior Environmental Project Manager **Date:** 10/14/2022

Approved By: JONATHAN P CRUM Digitally signed by JONATHAN P CRUM Date: 2022.10.19 10:53:00 -04'00' **Date:**

Title:

The following individuals concurred with the statement above.

Environmental Manager: Drew Ames **Date:** 10/14/22

Bureau Director: Christine Norris **Date:** 10/14/22

HDTS: Eastern Region: Brian Shunk Digitally signed by Brian Shunk Date: 2022.10.17 14:08:39 -04'00' Date: 10/17/22

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ACRONYMS AND ABBREVIATIONS

AOC	Areas of Concern
ALPP	Agricultural Land Preservation Policy
APE	Area of Potential Effect
ATON	Aids to Navigation
BMPs	Best Management Practices
CE	Categorical Exclusion
CFR	Code of Federal Regulations
CRPs	Cultural Resource Professionals
CWF	Cold Water Fishes
DCNR	Department of Conservation & Natural Resources
DEP	Department of Environmental Protection
E&S	Erosion & Sedimentation
EA	Environmental Assessment
EB	Eastbound
ECMTS	Environmental Commitments & Mitigation Tracking System
EDD	Environmental Due Diligence
ESA	Environmental Site Assessment
ESF	Environmental Stewardship Fund Act
EV	Exceptional Value
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FPPA	Farmland Protection Policy Act
GG2	Growing Greener Bond Fund
H&H	Hydrology and Hydraulics
HOV	High Occupancy Vehicle
HQ	High Quality
HQ-CWF	High Quality-Cold Water Fishes
I-80	Interstate 80
JPA	Joint Permit Application
Key 93	Keystone Recreation, Park and Conservation Fund
LOD	Limits of Disturbance

LWCF	Land and Water Conservation Fund
MF	Migratory Fishes
MIT	Massachusetts Institute of Technology
MPO	Metropolitan Planning Organization
MSATs	Mobile Source Air Toxics
NAC	Noise Abatement Criteria
NAAQS	National Ambient Air Quality Standards
NB	Northbound
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NGSIM	Next Generation Simulation
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	The National Register of Historic Places
NSAs	Noise Sensitive Areas
OSHA	Occupational Safety and Health Administration
P3	Public Private Partnership
PA	Pennsylvania
PADEP	Pennsylvania Department of Environmental Protection
PAGWIS	Pennsylvania Groundwater Information System
PASPGP	Pennsylvania State Programmatic General Permit
PCSM	Post Construction Stormwater Management
PEL	Alternative Funding Planning and Environmental Linkages Study
PEM	Palustrine Emergent
PennDOT	Pennsylvania Department of Transportation
PFBC	Pennsylvania Fish and Boat Commission
PFO	Palustrine Forested
PGC	Pennsylvania Game Commission
PNDI	Pennsylvania Natural Diversity Inventory
PSA	Project Study Area

PSS	Palustrine Scrub Shrub
RECs	Recognized Environmental Conditions
RFFAs	Reasonably Foreseeable Future Actions
RIRA	Recreational Improvement and Rehabilitation Act
ROW	Right-of-Way
RPW	Relatively Permanent Waters
SB	Southbound
SHPO	State Historic Preservation Officer
SR	State Route
TCE	Temporary Construction Easement
TIP	Transportation Improvement Program
TNM	Traffic Noise Model
TNW	Traditional Navigable Waters
TSF	Trout Stocked Fishes
TYP	Twelve Year Program
US 11	U.S. Route 11
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
UNT	Unnamed Tributary
VMT	Vehicle Miles Traveled
WB	Westbound
WUS	Waters of the United States
WWF	Warm Water Fishes

1.0 INTRODUCTION

Supporting documentation for Chapter 1 includes:

- *Alternative Funding: Planning and Environmental Linkages Study* (September 2021)
- *I-81 Susquehanna Bridges CE2 Evaluation* (Approved March 2018)
- *I-81 Susquehanna Bridges CE2 Reevaluation* (Approved November 2021)

PennDOT is no longer going to toll the Interstate 81 (I-81) Susquehanna River Bridges. This Level 2 Categorical Exclusion (CE) Reevaluation has been prepared to compare the effects of the Build Alternative without tolling to the No Build (or do nothing) Alternative.

Project History

The I-81 Susquehanna Bridges project is a 9-mile corridor reconstruction project along I-81 and involves replacement of five dual (northbound (NB) and southbound (SB) pairs) of mainline bridges, an overpass structure, and upgrades to cross streets. This section of I-81, originally constructed in the early 1960's, has experienced wear, and the pavement and bridges are approaching the end of their serviceable lifespan. As a result, the Pennsylvania Department of Transportation (PennDOT) in coordination with the Federal Highway Administration (FHWA) prepared a CE in accordance with the National Environmental Policy Act (NEPA). The CE was approved in March 2018, and the project moved into the final design phase. A subsequent CE Reevaluation, approved in November 2021, evaluated additional design features and impacted areas that were not included in the original CE.

In fall of 2020, PennDOT began a statewide Planning and Environmental Linkages (PEL) study to identify potential funding options to fill an $8.1 billion (and growing) funding gap for maintaining and improving the State's highways and bridges. The *Alternative Funding PEL Study* identified near-term and long-term potential funding solutions that could be implemented. Tolling major bridges and using the toll money to cover the costs of rehabilitating or replacing and maintaining the bridge over a period of time was identified as a near-term solution that could be implemented relatively quickly. In February 2021, PennDOT identified nine candidate bridges for tolling, one of which was the I-81 Susquehanna Bridges project.

Upon identification as a candidate bridge, the effects of tolling the I-81 Susquehanna River Bridges were evaluated, including: effects on low-income persons using the bridges, effects associated with constructing toll equipment, and effects associated with people choosing to divert onto local roadways to avoid paying the toll. A low-income program was adopted to off-set effects on low-income persons and improvements along diversion routes were incorporated into the project to off-set the effects on local roadways. Diversion route improvements included:

- Installation of new pedestrian signalization, ADA ramps and crossings, replacement of pavement markings and signs in the SR 171 / US 11 intersection along with SR 171 intersections with I-81 ramps.
- Installation of a pedestrian crosswalk near the Post Office / Washington St area crossing US 11 (Main St).
- Installation of a flashing emergency signal indication and required pre-emption equipment necessary for emergency pre-emption by fire department vehicles at the intersection of Franklin Ave and US 11.
- Installation of a signalized intersection and widening to accommodate turn lanes at the US 11 (Main St) / SR 492 (Jackson St) Intersection.
- Clearing of vegetation and relocating of signs east of the I-81 northbound off-ramp / SR 492 intersection to improve sight distance.

On May 18, 2022, as a result of a lawsuit, the court issued an injunction and all work related to the Major Bridge Public Private Partnership (MBP3) initiative ceased. Other litigation resulted in a ruling on the viability of the MBP3 as a Public-Private Transportation Project (P3). Subsequently, Act 84 of 2022 amended the P3 law and revoked PennDOT's ability to implement mandatory tolls such as the proposed bridge tolling under the MBP3, but preserved the contract resulting from the MBP3.

As a result of the lawsuits and the subsequent enactment of Act 84 of 2022, **PennDOT is moving the I-81 Susquehanna Bridges project forward, but without tolling**. **Since tolling will not be initiated, diversion of traffic onto local roads to avoid the tolls will not occur; therefore, the proposed improvements along the diversion routes will no longer be included in the project.**

The PennDOT MBP3 was established to accelerate the replacement or rehabilitation of major bridges. Under MBP3, PennDOT entered into an agreement with a Development Entity to design, build, finance, and maintain (DBFM) a "package" (or group) of PennDOT bridges – including the I-81 Susquehanna Bridges. PennDOT will repay the amounts financed by the Development Entity through recurring availability payments over 30 years. Act 84 of 2022 authorizes the bridges identified in the MBP3 to be carried out via DBFM by the Development Entity, without mandatory tolling.

Funding to make the availability payments will consist of a blend of federal and state funds that could have been used on other projects. PennDOT will take advantage of additional funding opportunities arising out of the federal Infrastructure Investment Jobs Act ("IIJA"), also known as the Bipartisan Infrastructure Law ("BIL") and potentially supplemented by funds that are currently included in the outer years of the Twelve Year Program (TYP) or by the deferral or elimination of some other (TYP) projects. NOTE: IIJA (BIL) funding was not available at the start of MBP3, but those additional funding sources will provide additional opportunities for PennDOT to pursue the Build Alternative without tolling with less effect to other projects.

This CE Reevaluation documents and compares the effects associated with the No Build Alternative and the Build Alternative without tolling. Effects associated with constructing tolling equipment, improving diversion routes, and paying tolls have been removed from the document.

2.0 I-81 SUSQUEHANNA BRIDGES PROJECT OVERVIEW

2.1 Project Bridges

The I-81 bridges over the Susquehanna River are dual structures (one NB and one SB) that were built in 1961 and rehabilitated in 1979, 1993 and 2006. They cross the river between the boroughs of Hallstead and Great Bend and their replacement is at the heart of this corridor project. I-81 is a divided four-lane, interstate roadway within a rural setting. The terrain is classified as rolling. The majority of the project length has a bifurcated median with a width varying from 60 feet to 120 feet. The posted speed limit is 65 mph. Combined, the bridges carry about 27,000 vehicles per day, approximately 41 percent of which is truck traffic. The combined daily traffic is expected to more than double by 2045 to around 55,000. **Figure 1 – Project Location Map** shows the location of the I-81 Susquehanna Bridges and the Project Study Area (PSA).

2.2 Project Purpose and Needs

Purpose: The purpose of the project is to address the pavement, structural, drainage, and ramp length deficiencies, providing a safer and more efficient corridor.

Needs:

- The underlying pavement in the corridor is nearly sixty years old and the Susquehanna River bridges and the pavement in the project area are approaching the end of their serviceable lifespan.
- All structures exceed the allowable limits for Chloride Ion content in reinforced concrete, which accelerates corrosion of the reinforcing steel and deterioration of the concrete.
- The interchange ramps exhibit short acceleration and deceleration lengths and do not meet current design standards.
- The age of the storm system has exceeded its useful life.

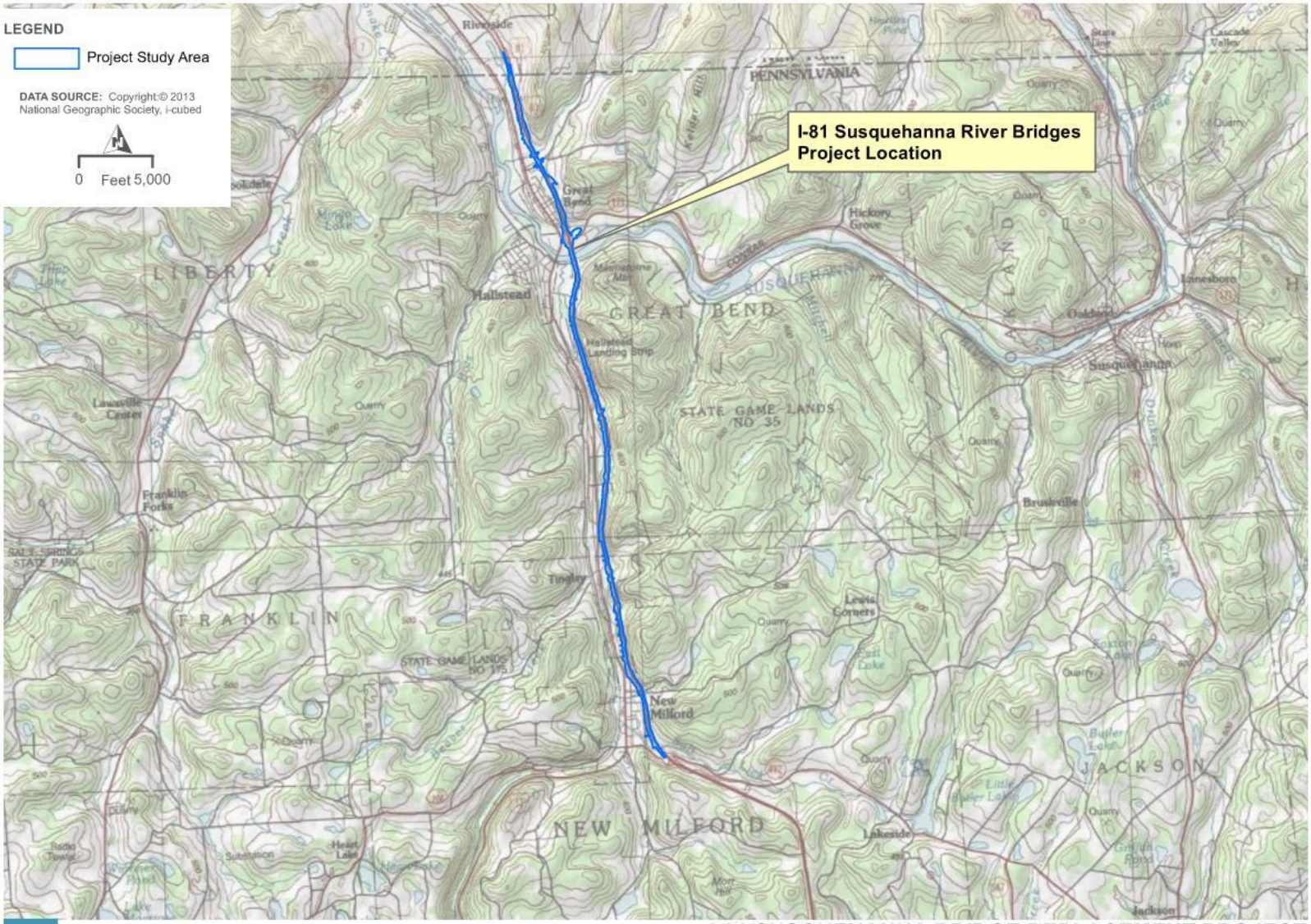
2.3 Project Setting and Distinct Project Features

The project is located in New Milford Township/Borough and Great Bend Township/Borough, Susquehanna County, Pennsylvania. This I-81 corridor is the primary route for north-south traffic serving a mix of both commuter and through traffic. This section of I-81 was originally constructed in 1961. The structures carrying I-81 over the Susquehanna River are located in a rural area with rolling terrain.

Describe the involvement with utilities with this project:
Utility involvement at Susquehanna Street Bridge includes aerial communication lines and sanitary sewer. A water line will be relocated at Susquehanna Street. There will be utility involvement at I-81 Bridge over SR 171 including aerial electric and communication lines, sanitary sewer, and a U/G fiber optic line along SR 171, as well as two locations crossing over I-81 including aerial electric and communications lines.

Describe the involvement with any railroad (active or inactive) including all rail lines, crossings, bridges, or signals:
I-81 mainline bridges are over Central New York Railroad, who leases from Norfolk Southern. Proposed work includes full replacement of both structures. Coordination with the railroad and the railroad flaggers will be needed for both removal of existing and installation of the new structures. Right-of-Way (ROW) needed for this construction has been acquired from Norfolk Southern.

Describe changes to access control:
No change to the limited access for I-81.



I-81 SUSQUEHANNA BRIDGE REPLACEMENT PROJECT

PROJECT LOCATION MAP

PATH: G:\JOBS\PENNDOT\81_SUSQRIVER_TOLLGANTRY\MAP_DOCS\DRAFT\NEWMAPS\PENNDOT_I-81SUSQUEHANNA_FIG1PROJLOCMAP_REV07282022.MXD - USER: LSMITHHA - DATE: 8/4/2022

FIGURE 1

3.0 ALTERNATIVES

3.1 No-Build Alternative

Under the no-build alternative, regular maintenance would be assumed to occur. This alternative would fail to address other project needs such as addressing the identified bridge and roadway deficiencies. The I-81 Susquehanna bridges are nearing the end of their useful life. Without replacement, these bridge structures will need more frequent maintenance and repairs. However, such maintenance can only extend the service life of these bridges for so long before they are at risk of failure.

I-81 forms a major north-south corridor through the Commonwealth of Pennsylvania. Within Pennsylvania, I-81 extends approximately 233 miles from the Maryland state line to the New York state line. From the state capital of Harrisburg, I-81 forms the northern section of the Pennsylvania's Capital Beltway and then travels northeast toward the Wyoming Valley, where it serves the cities of Wilkes-Barre and Scranton. The interstate continues north, crossing into New York southeast of Binghamton, New York.

As a critical link in the regional and national highway network, allowing the deterioration of these bridges to reach a level of failure is not reasonable; therefore, due to the project needs, the no-build alternative would not be a reasonable alternative.

The no-build alternative is presented in this CE Reevaluation as a baseline for comparison purposes only.

3.2 Proposed Action

The I-81 Susquehanna Bridges Project is a 9-mile corridor reconstruction project along I-81 from the New Milford Interchange with SR 492 (Exit 223) through the Great Bend Interchange with SR 171 (Exit 230) to the New York border. The project involves the replacement of five dual I-81 mainline bridges and one overpass structure; construction along cross streets (Susquehanna Street, SR 171 and SR 1029); and varying degrees of rehabilitation work for three box culverts. Proposed roadway work includes full depth pavement reconstruction for the NB and SB lanes, lengthening substandard interchange ramp acceleration/deceleration lanes, improving substandard vertical alignments, guide rail and signing replacement, shoulder widening, and drainage improvements.

Two lanes of traffic in both directions will be maintained on I-81 during construction using temporary lane shifts and temporary cross overs. Short-term closures and detours on Susquehanna Street, SR 1029 (Randolph Road) and Exit 230 interchange ramps will be necessary. Maps of the detour routes are included in Appendix A – Engineering Information.

Additional information is provided in **Table 1 – Construction Station and Length**, Appendix A – Engineering Information and Appendix B – Design Plans.

Table 1
Construction Station and Length

Limits of Work (Segment/Offset)		**Construction Stations**	
Start:	**End:**	**Start:**	**End:**
2234/0396(NB)	TBD/TBD(NB)@NY	1969+00.00 (NB)	2463+00.00 (NB)
2235/0393(SB)	TBD/TBD(SB)@NY	1969+00.00 (SB)	2471+00.00 (SB)
Total Length:			
99,214 ft			

The bridge replacement and roadway work will impact 57 parcels; 1 total acquisition for rock slope installation along SR 1029 (Randolph Road), 46 sliver takes (with the majority located adjacent to I-81), and 10 parcels with temporary construction easements (TCEs) for construction access.

3.3 Impact Summary Table

Table 2
Impact Summary Table

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
Aquatic Resources			
Streams, Rivers, & Watercourses	No Impact	6,808 linear feet permanent impact 1,929 linear feet temporary impact	In-stream structures and riparian buffer plantings will be constructed in and along Trowbridge Creek. Existing culvert along Channel 77N will be removed and riparian buffer will be planted, providing compensation credits. No work will be permitted in Salt Lick Creek and its tributaries from February 15 to June 1 (stocked trout streams). No heavy equipment will be allowed to traverse Salt Lick Creek.
Wild & Scenic Rivers and Streams	Not Present	Not Present	None
Navigable Waterways	No Impact	PA Fish and Boat Commission (PFBC) North Branch Susquehanna River Water Trail, also NPS National Recreation Trail Recreational Boating Waterway No permanent impacts to stream navigability. Temporary impacts during construction.	The Susquehanna River will remain open for boaters. An Aids to Navigation (ATON) Plan will be implemented during construction. The P3 Development Entity will be responsible for updating the ATON plan to include additional warning signs and a floating boat barrier/debris catch prior to construction and implementing the ATON plan during construction.

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
			The P3 Development Entity will be required to meet with the Endless Mountains Heritage Region (EMHR) Executive Director and staff at the beginning of each year to review the causeway plans and timing for that year. As a measure to offset navigating past the various causeway configurations at the I-81 bridges during construction of the replacement of the bridges, the Hallstead boat access parking area will be re-paved and lines painted prior to causeways being constructed.
Groundwater	No impact	Wells, Springs, and Seeps in project area, no Impact	None
Wetlands	No Impact	Wetlands: 0.41 acre permanent impact 0.36 acre temporary impact	For permanent impacts, 0.51 acre credits have been debited from Hop Bottom Creek Mitigation Bank Site. Protective fencing will be installed at the extents of the project LOD prior to construction to keep the contractor from impacting additional wetland resources.
Floodplains	No impact	No significant floodplain encroachment would occur	None
Soil Erosion and Sedimentation	No Impact	Erosion and Sediment (E&S) Control Plan and Post Construction Stormwater Management (PCSM) Plan have been prepared.	Best Management Practices (BMPs), including Antidegradation Best Available Combination of Technologies (ABACT), will be defined and implemented as a component of the Erosion and

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
		NPDES permit application has been submitted and will need to be approved prior to construction	Sedimentation (E&S) Control Plan and waterway encroachment permit. The E&S Control Plan will be reviewed by the Pennsylvania Department of Environmental Protection (PADEP) and Susquehanna County Conservation District, and coordination will be conducted to ensure the selected BMPs are adequate for the project. The approved E&S Control Plan will be implemented prior to any earth disturbance, during construction. Installed BMPs will be inspected and maintained throughout the duration of construction. All areas of earth disturbance will be stabilized immediately following completion of earthwork. PCSM controls will be implemented, as appropriate.
Land Use			
Agricultural Resources	Not Present	Not Present	None
Vegetation	No Impact	Landscaped, forest land, and roadside vegetation impacted	Care will be taken not to transplant roots or seeds of noted invasive, non-native plants during earth moving operations. All disturbed areas will be restored and revegetated with non-invasive vegetation as part of construction with PennDOT seed formulas which contain native plant species.

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
Geologic Resources	Not Present	Not Present	None
Parks and Recreation Facilities	No impact	PFBC Hallstead Boat Launch downstream of I-81 bridges, No Impact	The contractor will be restricted from staging or storing equipment or using boat launch facility for any reason other than launching a boat to install or maintain the approved ATON Plan.
State Forest and Gamelands	No Impact	State Game Lands (SGL) 35 1.54 acre permanent impact • 0.83 acres of Required Right-of-Way • 0.71 acres of Slope Easement	Hoffman State Game Land Bank to be debited 1.54 acres Install temporary protective fence to identify limits of project limits prior to start of any construction activity. Do not disturb SGL 35 outside of approved limits of work. Remove all construction materials and stabilize all disturbed areas at completion of work. All disturbed areas outside of immediate construction footprint will be stabilized with native seed mix acceptable to PGC. Prior to completion of work conduct a pre-final inspection with the PGC Staff regarding work completed and create punch list comments, questions, or concerns. Conduct final inspection with PGC to verify that all comments were satisfactorily addressed. All construction equipment/machinery are to be fitted with properly working appropriate noise muffling devices to minimize local disturbances.
Wilderness, Natural, & Wild Areas	Not Present	Not Present	None

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
Hazardous or Residual Waste Sites	No Impact	No further investigation recommended at this time.	Prior to demolition, structures on total take parcels will be tested to determine if Asbestos Containing Materials are present and if abatement is required.
Wildlife			
Wildlife Refuges & Critical Habitat	Not Present	Not Present	None
Threatened & Endangered Species	No Impact	Potential Impacts to Freshwater Mussels Species Potential Impacts to tri-colored bat	PFBC recommends construction techniques that avoid and/or minimize instream work, sedimentation, and changes in water quality. Contact PFBC a minimum of 6 weeks prior to start of construction, or as soon as Construction Start date is set, to perform on-site surveys and mussel translocations in the area of disturbance during suitable conditions. The mussel survey season begins May 15 and concludes October 1. USFWS coordination for tri-colored bat: During final design, the project team will initiate conferencing with USFWS regarding the project's potential effects to the tri-colored bat and measures to avoid and minimize harm.
Cultural Resources			
Archaeological Resources	No Historic Properties Affected	No Historic Properties Affected	The DuBois Homestead Site will be avoided and protected:

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
			- New Right-of-Way Fencing will be installed 2 feet inside the Legal Right-of-Way Line for Limited Access adjacent to the archaeological site. - Orange Temporary Construction Fencing will be placed 2 feet inside Legal Slope Easement Line for the entire portion of project bordering the archaeological site to prevent Contractor or equipment access or disturbance. -Limit of Disturbance and NPDES Boundaries will be contained inside the existing Legal Right-of-Way and Slope Easement adjacent to the archaeological site.
Historic Resources	No Historic Properties Affected	No Historic Properties Affected	None
Section 4(f) Resources	No Impact	SGL 35 – *De Minimis* Use; 1.54 acres of Section 4(f) use. North Branch Susquehanna River Water Trail/National Recreation Trail – Temporary Occupancy exception as per 23 CFR 774.13(d) (not a Section 4(f) use).	Mitigation measures for SGL 35 will include: - Replacement acreage at 1:1 ratio to comply with the PA Game and Wildlife Code. - Replacement land debited from Hoffman State Game Land Bank. - P3 Development Entity will follow mitigation measures as outlined in Section 4(f) *De Minimis* Use Form and indicated above under State Game Lands. To address temporary impacts to the North Branch Susquehanna River Water Trail and National Recreation Trail, the P3 Development Entity will be required to:

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
			- Implement the PFBC approved ATON Plan prior to and during construction to ensure boater safety through the project area. - Update/amend the ATON plan to include the additional warning markers and floating boat barrier/debris catch as requested by the PFBC during construction stages 5 and 8 when 60" pipes are included in the causeway design. - Coordinate with the North Branch Susquehanna River Water Trail manager (manager is EMHR) at the start of each year to inform them of upcoming plans for causeways, allowing EMHR to plan their events accordingly and post information to their Facebook and web pages for the boating community.
Air Quality and Noise			
Air Quality	No Impact	Exempt; No Impact	None
Noise	No Impact	Type III Project; Noise analysis is not required	None
Socioeconomic Areas			
Regional & Community Growth	No Impact	No Impact	None
Public Facilities & Services	No Impact	Positive Impacts: Access for public facilities and services will be improved due to design	None

Environmental Resource Category	No-Build Alternative[1]	Proposed Action	Mitigation for Proposed Action
		improvements resulting from the project.	
Community Cohesion	No impact	No Impact	None
Right-of-Way Acquisitions	No Impact	57 impacted parcels- 1 total acquisition, 46 sliver takes, 10 temporary construction easements	Property acquisitions conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended; Title VI of the Civil Rights Act of 1964; and the Pennsylvania Eminent Domain Code of 1964 • Any individual or family displaced by the project would be offered the full extent of benefits and payments. • Provisions would be made to ensure that any person with a disability who is displaced is offered replacement housing that meets any special needs.
Displacements	No Impact	One residential relocation	
Aesthetics	No impact	No Impact	None
Environmental Justice	No Impact	No disproportionately high and adverse effects on low-income or minority populations have been identified.	None

Footnote:

[1] While the No-Build Alternative would not directly affect resources, should the bridge deteriorate to the point where it would have to be weight-posted, closed, or should it experience a partial collapse, there would be impacts to the resources below the bridge. A full or partial closure would have a profound effect on commerce reliant on I-81 and would detour vehicles onto local roads.

4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.1 Aquatic Resources

	PRESENCE	IMPACTS
STREAMS, RIVERS & WATERCOURSES	○ Not Present ◉ Present	
Intermittent (streams only)	○ Not Present ◉ Present	○ No ◉ Yes
Perennial	○ Not Present ◉ Present	○ No ◉ Yes
Wild trout streams	◉ Not Present ○ Present	◉ No ○ Yes
Stocked trout streams	○ Not Present ◉ Present	○ No ◉ Yes

Identify all streams and their classifications per Chapter 93 of 25 PA Code (e.g. CWF, WWF, HQ, EV)

Per the SR81-511 Wetland Delineation report prepared by Borton-Lawson in July 2021, 143 watercourses were identified and delineated within the project area. 72 of the 143 watercourses were determined to function primarily as stormwater conveyance or as ephemeral streams. The remaining 71 watercourses and their Chapter 93 classifications are listed below. All are PFBC approved trout streams unless otherwise noted. There are no wild trout or Class A wild trout streams in the project area.

- C1 – UNT (INT) – HQ-CWF-MF
- C2 –Salt Lick Creek (PER) - HQ-CWF-MF
- C3 – Smith Creek (PER) - HQ-CWF-MF, not approved trout
- C4 – UNT 32032 to Salt Lick Creek (PER) - HQ-CWF-MF
- C8 – Unnamed (INT) - HQ-CWF-MF
- C11 – UNT 32031 to Salt Lick Creek (PER) - HQ-CWF-MF
- C14 – UNT 32015 to Salt Lick Creek (PER) - HQ-CWF-MF
- C16 – Unnamed (INT) - HQ-CWF-MF
- C20 – Unnamed (INT) - HQ-CWF-MF
- C21 – Salt Lick Creek (PER) - HQ-CWF-MF
- C22 – Unnamed (INT) - HQ-CWF-MF
- C24 – Unnamed (INT) - HQ-CWF-MF
- C25 – Unnamed (INT) - HQ-CWF-MF
- C27 – Unnamed (INT) - HQ-CWF-MF
- C30 – Unnamed (INT) - HQ-CWF-MF
- C34– Unnamed (INT) - HQ-CWF-MF
- C35 – UNT 32006 to Salt Lick Creek (PER) – HQ-CWF-MF
- C36 – Unnamed (INT) - HQ-CWF-MF
- C37 – Unnamed (INT) - HQ-CWF-MF
- C38– Unnamed (INT) - HQ-CWF-MF
- C39 – UNT 32007 to Salt Lick Creek (PER) – HQ-CWF-MF
- C41 – Unnamed (INT) - HQ-CWF-MF
- C43 – Unnamed (INT) - HQ-CWF-MF

Supporting documentation for Chapter 4.1 includes:

- *I-81 Susquehanna Bridges Final Wetland ID and Delineation Report* (November 2014, revised January 2021).
- *I-81 Sec 511 Susquehanna River H&H Report* (November 2021)
- *I-81 Sec 511 Trowbridge Creek H&H Report* (February 2022)
- *I-81 Sec 511 Culvert 224.5 Rehab Smith Creek H&H Report* (November 2021)
- *I-81 Large Circular Culvert H&H Report* (November *2021)*

- C44– Unnamed (INT) - HQ-CWF-MF
- C45 - Unnamed (PER) - HQ-CWF-MF
- C46 – Susquehanna River (PER) - WWF-MF, not approved trout
- C49 – UNT 31972 to Susquehanna River (PER) – WWF-MF, not approved trout
- C51 - Trowbridge Creek (PER) - CWF-MF, not approved trout
- C54 - Unnamed (INT) - WWF-MF, not approved trout
- C55– Unnamed (INT) - WWF-MF, not approved trout
- C56 – UNT 31956 to Susquehanna River (PER) - WWF-MF, not approved trout
- C57 - Unnamed (INT) - WWF-MF, not approved trout
- C58– Unnamed (INT) – WWF-MF, not approved trout
- C60 – Unnamed (INT) – HQ-CWF-MF
- C1N - Unnamed (INT) – HQ-CWF-MF
- C4N - Unnamed (INT) – HQ-CWF-MF
- C5N – Smith Creek (PER) – HQ-CWF-MF, not approved trout
- C16N– Unnamed (INT) – HQ-CWF-MF
- C17N - Unnamed (PER) – HQ-CWF-MF
- C20N - Unnamed (PER) – HQ-CWF-MF
- C21N - Unnamed (INT) – HQ-CWF-MF
- C23N – UNT 32015 to Salt Lick Creek (PER) – HQ-CWF-MF
- C24N – Unnamed (INT) – HQ-CWF-MF
- C25N - Unnamed (INT) – HQ-CWF-MF
- C26N – Unnamed (INT) – HQ-CWF-MF
- C27N – Unnamed (INT) – HQ-CWF-MF
- C33N – Unnamed (INT) – HQ-CWF-MF
- C34N - Unnamed (INT) – HQ-CWF-MF
- C35N – Unnamed (INT) – HQ-CWF-MF
- C37N – Unnamed (INT) – HQ-CWF-MF
- C39N - Unnamed (INT) – HQ-CWF-MF
- C45N – UNT 32009 to Salt Lick Creek (INT) – HQ-CWF-MF
- C46N – Unnamed (PER) – HQ-CWF-MF
- C47N – Unnamed (INT) – HQ-CWF-MF
- C50N - Unnamed (INT) – HQ-CWF-MF
- C55N – UNT 32006 to Salt Lick Creek (INT) – HQ-CWF-MF
- C56N – Unnamed (INT) – HQ-CWF-MF, not approved trout
- C57N – Unnamed (INT) – HQ-CWF-MF, not approved trout
- C60N - Unnamed (INT) – HQ-CWF-MF, not approved trout
- C66N – UNT 32007 to Salt Lick Creek (PER) – HQ-CWF-MF, not approved trout
- C68N – Unnamed (INT) – HQ-CWF-MF, not approved trout
- C69N – Unnamed (INT) – HQ-CWF-MF, not approved trout
- C70N - Unnamed (INT) – HQ-CWF-MF, not approved trout
- C73N – Unnamed (INT) – WWF-MF, not approved trout
- C74N - Unnamed (INT) – WWF-MF, not approved trout

- C75N – UNT 31972 to Susquehanna River (PER) – WWF-MF, not approved trout
- C77N - Unnamed (INT) – CWF-MF, not approved trout
- C78N – Unnamed (INT) – WWF-MF, not approved trout
- C80N - Unnamed (INT) – WWF-MF, not approved trout
- C82N - Unnamed (INT) – HQ-CWF-MF, not approved trout
- C83N – Unnamed (INT) – WWF-MF, not approved trout

Linear feet of Streams permanently impacted: 6,808 lf

Describe Any Permanent Impacts

The proposed project results in 6,808 linear feet of permanent stream impacts. As part of the project, four bridges, three box culverts, and 15 pipe culverts conveying streams will be replaced or rehabilitated. The project also includes one stream relocation and placement of 25 stormwater outfalls in streams and floodplains. The permanent stream impacts are a result of the structure replacements/rehabilitations, stream relocation, and stormwater outfalls, including placement of rock aprons, scour protection, energy dissipation structures, headwalls/endwalls, channel regrading, and realignment of drainage pipes. Approximately 3,948 linear feet of impacts are associated with box culvert and pipe replacements, and 2,338 linear feet of impacts are deemed as self-mitigating activities and will not result in new stream loss. Additionally, there will be an overall reduction in enclosure length of approximately 390 linear feet. The project designer will continue to avoid and minimize potential permanent stream impacts through Final Design.

Describe Any Temporary Impacts

The proposed project results in 1,929 linear feet of temporary stream impacts. The temporary stream impacts are a result of dewatering for the structure replacements/rehabilitations, E&S controls, temporary access roads, and temporary workspaces. The project designer will continue to avoid and minimize potential temporary stream impacts through Final Design.

Is mitigation incorporated? ○ No ◉ Yes

Proposed Project Specific Restoration/Enhancement: 509.4 linear feet (448 feet for Trowbridge Creek improvements and 61.4 feet for the pipe removal on UNT to Trowbridge Creek)

Mitigation Remarks

To mitigate the proposed stream loss, in-stream structures will be constructed within Trowbridge Creek, along with planting of the riparian buffer. Through coordination with PFBC, it was determined that log vanes, rock cross vanes, and soil lifts be strategically placed within and along the channel to provide a functional lift to channel geomorphology, water quality, and in-stream habitat. The work in Trowbridge Creek will also include stream regrading to create a stable channel geometry with in-stream measures to direct flow toward center of channel and to reduce sediment deposits and future maintenance needs. Additionally, the removal of the culvert along Channel 77N provides compensation credits by reconnecting the stream to the groundwater table and the planting of the riparian buffer.

In-stream work will not be permitted for Salt Lick Creek and its tributaries, which are stocked trout streams, from February 15 to June 1 of any calendar year, based on the Pennsylvania Fish and Boat Commission (PFBC) Time-

of-Year Restrictions issued in January 2022. Additionally, no heavy equipment will be allowed to traverse Salt Lick Creek.

	PRESENCE	IMPACTS
FEDERAL WILD & SCENIC RIVERS & STREAMS	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

There are no federal Wild and Scenic Rivers in the project area according to the National Wild and Scenic River System.

	PRESENCE	IMPACTS
STATE SCENIC RIVERS & STREAMS	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

There are no state Wild and Scenic Rivers in the project area according to the Department of Conservation & Natural Resources (DCNR) Scenic Rivers Program.

	PRESENCE	IMPACTS
NAVIGABLE WATERWAYS	○ Not Present ◉ Present	
Coast Guard Navigable	○ Not Present ◉ Present	◉ No ○ Yes
PFBC Water Trail	○ Not Present ◉ Present	○ No ◉ Yes
Recreational Boating Waterway	○ Not Present ◉ Present	○ No ◉ Yes

Documentation

☒ PFBC ATON Plan

☒ Coast Guard Coordination

Describe Any Permanent and Temporary Impacts

The stretch of the Susquehanna River in the project area is the PFBC designated Susquehanna River Water Trail – North Branch, and recreational boating takes place along this portion of the river. This stretch is also a National Recreation Trail under the jurisdiction of the National Park Service (NPS). In an email dated August 31, 2022, however, the NPS delegated their oversight to the Endless Mountains Heritage Region (EMHR) as the manager of the water trail (see Appendix C for email).

Temporary impacts are anticipated to the PFBC water trail/National Recreation Trail and recreational boating due to the installation of temporary causeways and cofferdams to provide construction access. Bridge construction will be performed in multiple stages, involving strategic placement of a series of causeways to minimize impacts to the river while providing sufficient hydraulics. Causeways for north and south access will not be in place at the same time; therefore, a boating channel is maintained throughout bridge construction. Cofferdams will be needed around all proposed piers for dewatering of the pier foundations. The locations of the causeways and cofferdams for each stage are indicated on the E&S plans for the project and are shown on the Aids to Navigation (ATON) plan prepared for the project.

Permanent Impacts to the Susquehanna River are anticipated for pier placement for the reconstructed bridges. Essentially the new piers would replace the piers for the existing bridges; however only four piers will fall within

the Susquehanna River as opposed to six under existing conditions. The new piers would support the new bridge structures which cover an area 122 feet in length by 403 feet in width over the Susquehanna River. No permanent impacts to the PFBC Susquehanna River Water Trail/National Recreation Trail or recreational boating are anticipated.

Regarding the United States Coast Guard (USCG) Navigable Waterways designation, a USCG FHWA 144c checklist was completed and submitted to the USCG. In a letter signed September 29, 2022 and included in Appendix C, the USCG replied that a USCG Bridge Permit would not be required for the I-81 NB and SB bridges across the Susquehanna River. In addition, navigational lighting at the bridges is not required.

Is mitigation incorporated? ○ No ◉ Yes

Describe Mitigation

A preliminary ATON Plan was prepared and submitted to PFBC for review. PFBC approved the ATON Plan on December 30, 2021. The ATON Plan and approval letter are in Appendix C. The ATON Plan shows the proposed causeways and staging, and sign locations in the vicinity of the bridges. During coordination with the PFBC in August and September 2022, a request was made to amend the ATON plan to include additional warning signs and a floating boat barrier/debris catch during stages 5 and 8 when 60-inch pipes are part of the causeway design. The P3 Development Entity will be responsible for updating the ATON plan prior to construction and implementing the ATON plan during construction.

Additionally, the P3 Development Entity will be required to meet with the EMHR Executive Director and staff at the beginning of each year to review the causeway plans and timing for that year. EMHR manages the Susquehanna River Water Trail for both the PFBC and NPS. Documentation of coordination with PFBC and EMHR is provided in Appendix C.

As a measure to offset navigating past the various causeway configurations at the I-81 bridges during construction of the replacement of the bridges, the Hallstead boat access parking area will be re-paved and lines painted prior to causeways being constructed.

	PRESENCE	IMPACTS
OTHER SURFACE WATERS	◉ Not Present ○ Present	

Remarks

Review of aerial imagery, eMapPA, topographic data, and National Wetland Inventory mapping, as well as an on-site investigation, did not identify any other surface waters within the project area.

	PRESENCE	IMPACTS
GROUNDWATER RESOURCES	○ Not Present ◉ Present	
State, County, Municipal, or Local Public Supply Wells	○ Not Present ◉ Present	◉ No ○ Yes
Residential Well	○ Not Present ◉ Present	◉ No ○ Yes
Well Head Protection Area	◉ Not Present ○ Present	◉ No ○ Yes
Springs, Seeps	○ Not Present ◉ Present	◉ No ○ Yes
Potable Water Source	◉ Not Present ○ Present	◉ No ○ Yes
Sole Source and/or Exceptional Value Aquifers	◉ Not Present ○ Present	◉ No ○ Yes

Describe Any Permanent and Temporary Impacts

There will be no impacts to any groundwater resources as a result of the project.

Is mitigation incorporated? ◉ No ○ Yes

Remarks

Mitigation for groundwater impacts not anticipated.

	PRESENCE	IMPACTS
WETLANDS	○ Not Present ◉ Present	
Open Water	○ Not Present ◉ Present	○ No ◉ Yes
Vegetated		
Emergent	○ Not Present ◉ Present	○ No ◉ Yes
Scrub Shrub	○ Not Present ◉ Present	○ No ◉ Yes
Forested	○ Not Present ◉ Present	◉ No ○ Yes
Exceptional Value	◉ Not Present ○ Present	◉ No ○ Yes

Documentation

☐ Data Forms
☒ Wetland Identification and Delineation Report
☐Conceptual Mitigation Plan
☐404 (b)(1) Alternative Analysis
☒ Jurisdictional Determination Functional
☐Assessment Analysis

Methodology

Methodology listed in the Final Wetland ID and Delineation Report (dated Nov. 2014, revised July 30, 2021) is included in the project technical files.

Number of Wetlands permanently impacted: 32

Acreage of Wetlands permanently impacted: 0.41 acre

Describe Any Permanent Impacts

0.41 acre of permanent wetland impacts resulted from the construction of the following: Rock aprons, rock chutes, headwalls, swale re-grading, single face concrete barrier, fill slopes and Township Road relocation. The project designer will continue to avoid and minimize potential permanent wetland impacts through Final Design.

Describe Any Temporary Impacts

The project will result in 0.36 acre of temporary wetland impacts due to the installation of temporary E&S BMPs and temporary access roads to facilitate project construction. All temporary wetland impacts will be restored as part of project completion by removing temporary fill material and seeding with wetland restoration seed mixture. The project designer will continue to avoid and minimize potential temporary wetland impacts through Final Design.

Is mitigation incorporated? ○ No ◉ Yes

Project Specific Replacement/Construction: 0.51 acres

Bank to be Debited: Hop Bottom Creek Mitigation Bank

Mitigation Remarks

After coordinating with US Army Corps of Engineers (USACE) and PADEP, PennDOT purchased wetland mitigation credits from Hop Bottom Creek Mitigation Bank, owned and operated by Evergreen Environmental, to achieve regulatory compliance for permanent wetland impacts resulting from the project. The Hop Bottom Creek Mitigation Bank purchase mitigates for 0.41 acres of wetland impacts associated with the I-81 Susquehanna Bridges project at 1:1 ratio for PEM impacts (0.217 acres) and 1.5:1 ratio for PSS (0.197 acres); the total credits for the I-81 Susquehanna Bridges project are 0.51 acre.

Protective fencing will be installed at the extents of the project LOD prior to construction to keep the contractor from impacting additional wetland resources.

Executive Order 11990 Compliance

Compliance requires the determination that there is no practicable alternative to the proposed construction in wetlands and the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

Options/design modifications were investigated to avoid impacts to wetlands: ◉ Yes ○ No ○ N/A

There are no practicable alternatives to construction within the wetlands: ◉ Yes ○ No ○ N/A

Alternative chosen (proposed project) includes all practicable measures to minimize harm to wetlands: ◉ Yes ○ No ○ N/A

Remarks

All practicable measures to avoid and minimize impact to wetlands were taken as part of project design activities.

	PRESENCE	IMPACTS
COASTAL ZONE	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

Coastal Zones are not present.

	PRESENCE	IMPACTS
FLOODPLAINS	○ Not Present ◉ Present	◉ No ○ Yes

☑ No significant floodplain encroachment would occur.

Describe Any Permanent and Temporary Impacts

The I-81 Section 511 Susquehanna River bridges are located in a FEMA Zone AE floodplain with a floodway. The existing structures encroach on the 100-year floodplain and floodway; therefore, per federal regulations the allowable increase in the 100-year flood profile is 0.00 feet. According to the H&H analysis, the proposed replacement of the bridges will not increase the risk of flooding or water surface elevations within the limits of this study for the FEMA 100-year event.

The I-81 Section 511 bridge over Trowbridge Creek is located in a FEMA Zone AE detailed floodplain with a floodway. The existing and proposed structures encroach on the 100-year floodplain and floodway. Per federal regulations, the allowable increase in the 100-year event water surface profile is 0.00 feet since the proposed structure encroaches on the floodway. The proposed project will not increase the risk of flooding upstream or downstream of the proposed bridges for the FEMA 100-year event.

The I-81 Section 511 culvert rehabilitation on Smith Creek is in a FEMA Zone A approximate floodplain. The existing and proposed rehabilitated structures encroach on the 100-year floodplain. The proposed project will not increase the risk of flooding upstream or downstream of the proposed rehabilitated culvert for the 100-year event. The existing and proposed hydraulic openings are the same, and there are no increases to the 100-year flood elevation.

The culvert replacement at Station 2226+03 (MP 228.40) is in the backwater Zone AE floodplain of Salt Lick Creek. The culvert encroaches on the floodplain and will not increase the risk of flooding.

All other I-81 Sec 511 crossings are not in FEMA study areas.

Based on the Hydrology and Hydraulics (H&H) analysis conducted for the project, the project will have no significant floodplain encroachment, as defined in 23 CFR Part 650, Subpart A, Section 650.105(q), since the project will not: 1. Have a significant potential for interruption or termination of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route, 2. Have a significant risk, 3. Have a significant adverse impact on natural and beneficial flood plain values.

Is mitigation incorporated? ◉ No ○ Yes

SOIL EROSION & SEDIMENTATION

Are there activities that could cause erosion or sedimentation and would require E&S Controls?

◉ Yes ○ No ○ N/A

Documentation

☒Coordination w/County Conservation
☒District E&S Control Plan
☒NPDES Stormwater Construction Permit

Is mitigation incorporated? ○ No ◉ Yes

Remarks

The following mitigation will be incorporated into the project:

- BMPs, including ABACT, will be defined and implemented as a component of the E&S Control Plan and waterway encroachment permit.
- The E&S Control Plan will be reviewed by the PADEP and the Susquehanna County Conservation District, and coordination will be conducted to ensure the selected BMPs are adequate for the project.
- The approved E&S Control Plan will be implemented prior to any earth disturbance, during construction.
- Installed BMPs will be inspected and maintained throughout the duration of construction.
- All areas of earth disturbance will be stabilized immediately following completion of earthwork.
- PCSM controls will be implemented, as appropriate.

4.2 Land

	PRESENCE
AGRICULTURAL RESOURCES	◉ Not Present ○ Present

Remarks

Map analysis and review of the proposed improvements confirmed there will be no permanent or temporary impacts to productive agricultural land. There are no permanent or temporary impacts anticipated to agricultural conservation easements, Agricultural Security Areas, properties enrolled in Clean and Green or agricultural zoning. There will be no taking of Agricultural Land Preservation Policy (ALPP) Prime Agricultural Land. This project is in conformance with 4 PA Code Chapter 7 & 7.301 et seq. Additionally, this project is an upgrade of an existing transportation facility and is exempt from Act 43 and 100.

This interstate improvement project is exempt from the Farmland Preservation Policy Act (FPPA) as per Farmland Protection Policy Manual, 523.11, C. Activities Not Subject to Provisions of FPPA, (10) Restoration, maintenance, renovation, or replacement of existing structures prior to the time of Federal Assistance.

	PRESENCE	IMPACTS
VEGETATION	○ Not Present ◉ Present	
Landscaped	○ Not Present ◉ Present	○ No ◉ Yes
Agricultural	◉ Not Present ○ Present	◉ No ○ Yes
Forest Land	○ Not Present ◉ Present	○ No ◉ Yes
Rangeland	◉ Not Present ○ Present	◉ No ○ Yes
Other (describe in remarks)	○ Not Present ◉ Present	○ No ◉ Yes

Describe Any Permanent and Temporary Impacts

Vegetation within the project corridor primarily consists of landscaped, forested land, and roadside vegetation. Permanent and temporary impacts associated with minor vegetation clearing activities to forest lands and roadside vegetation will occur along the project corridor as a result of the proposed project. Areas temporarily affected by construction activities will be stabilized as part of appropriate construction operation or project phase.

☒ Invasive Non-Native Plants are Present

Mitigation:

Are measures being taken to minimize movement of invasive plant parts (roots, tubers, seeds)? ◉ Yes ○ No

Will native plants be used in project landscaping or mitigation? ◉ Yes ○ No

Other? ○ Yes ◉ No

Remarks

In accordance with PennDOT's invasive species guidance (Publication 756, 2014), care will be taken not to transplant roots or seeds of noted invasive, non-native plants during earth moving operations. Re-vegetation of impacted areas will be implemented through the E&S plan. Prior to completion of construction, all remaining areas of earth disturbance will be restored by re-seeding with standard PennDOT seed formulas. These seed

formulas may contain native plant species; but per Executive Order 13112, will avoid those plant species that are listed on the Noxious Weed Control List.

	PRESENCE	IMPACTS
GEOLOGIC RESOURCES	◉ Not Present ○ Present	

Remarks

A review of the Pennsylvania Geological Survey's Outstanding Scenic Geological Features of Pennsylvania - Parts 1 and 2 and DCNR's Heritage Geology Site indicate that there are no unique geologic resources with in the project study area.

	PRESENCE	IMPACTS
PARKS & RECREATION FACILITIES	○ Not Present ◉ Present	
National	◉ Not Present ○ Present	◉ No ○ Yes
State	○ Not Present ◉ Present	◉ No ○ Yes
Local	◉ Not Present ○ Present	◉ No ○ Yes
Other (describe in remarks)	◉ Not Present ○ Present	◉ No ○ Yes

Describe Any Permanent and Temporary Impacts

The Hallstead Boat Launch, operated and maintained by the PA Fish and Boat Commission, is located on SR 1010 (Harmony Road). The boat launch facility is located approximately 1,000 feet downstream from the I-81 bridges that cross the Susquehanna River. The boat launch facility will remain open and accessible during project construction. Completion of the project is not anticipated to result in any permanent impacts. Short term single lane traffic restrictions or workers conducting traffic flagging on SR 1010 - Harmony Road will occur for delivery of various materials such as new bridge beams for the I-81 bridge replacements.

Is mitigation incorporated? ◉ No ○ Yes

Remarks

The contractor will be restricted from staging or storing equipment or using the Hallstead boat launch facility for any reason other than launching a boat to install or maintain the approved ATON Plan.

	PRESENCE	IMPACTS
FOREST & GAMELANDS	○ Not Present ◉ Present	
National Forests	◉ Not Present ○ Present	◉ No ○ Yes
State Forests	◉ Not Present ○ Present	◉ No ○ Yes
State Gamelands	○ Not Present ◉ Present	○ No ◉ Yes

Acreage of National/State Forests permanently impacted:	0
Number of State Gamelands permanently impacted:	1 (SGL 35)
Acreage of State Gamelands permanently impacted:	1.54 acres

Describe Any Permanent and Temporary Impacts

State Game Land (SGL) 35, which encompasses a total of 7,772 acres, is present in the study area adjacent to existing I-81 and extends on both sides of I-81. The area adjacent to I-81 is lightly wooded and does not contain any Game Land facilities such as parking areas, access roads or trails. The project will have the following impacts on the SGL:

- Temporary Impact = 0 acres
- Permanent Impact = 1.54 acres
  - 0.83 acre to construct new stormwater facility
  - Slope Easement = 0.71 acres is required for to construct/repair 4 storm water drainage pipe outlets and channels. These improvements include:
    - 0.04 acre to construct new pipe at existing pipe location
    - 0.03 acre to remove existing pipe and construct new pipe protection
    - 0.04 acre to construct new pipe/rock chute at existing protection
    - 0.60 acre to construct drainage swale and install a new protection

A Section 4(f) *De Minimis* Use Form was completed for the project and is attached in Appendix E.

The Game Commission was interviewed regarding use of Conservation Funds for SGL 35. They were not aware of any Conservation Funding being applied to SGL 35.

Is mitigation incorporated? ○ No ◉ Yes

State Gameland Banking: 1.54 acres
State Gameland Bank to be Debited: Hoffman State Game Land Bank located in PennDOT District 3-0.

Mitigation:

Impacts to SGL 35 will be mitigated by providing replacement land at Hoffman State Game Land Bank located in District 3-0 to comply with the PA Game and Wildlife Code. The P3 Development Entity will adhere to the following mitigation measures during construction, as stated in the Section 4(f) *De Minimis* Use Form:

- Install temporary protective fence to identify limits of project limits prior to start of any construction activity. Do not disturb SGL 35 outside of approved limits of work.
- SGL 35 is owned and managed by the PA Game Commission (PGC). Do not interfere with operation of SGL 35. The contractor is restricted from using SGL 35 land outside of the projects limit of work.
- Use of SGL outside of the approved limits of work for office, equipment, storage, or staging materials is not allowed.
- Remove all construction materials and stabilize all disturbed areas at completion of work. All disturbed areas outside of immediate construction footprint will be stabilized with native seed mix acceptable to PGC.
- Prior to completion of work conduct a pre-final inspection with the PGC Staff regarding work completed and create punch list comments, questions, or concerns. Conduct final inspection with PGC to verify that all comments were satisfactorily addressed.
- All construction equipment/machinery are to be fitted with properly working appropriate noise muffling devices to minimize local disturbances.

PRESENCE

WILDERNESS, NATURAL & WILD AREAS ◉ Not Present ○ Present

Remarks

Review of USGS mapping eMapPA and site investigation confirmed there are no federal and/or state wilderness, natural, or wild area within the project area.

	PRESENCE	IMPACTS
NATIONAL NATURAL LANDMARKS	◉ Not Present ○ Present	◉ No ○ Yes

Remarks

No National Natural Landmarks are present within project limits.

	PRESENCE	IMPACTS
HAZARDOUS OR RESIDUAL WASTE SITES	○ Not Present ◉ Present	○ No ◉ Yes

Documentation

☒Phase I
☐Phase II
☐Phase III
☐Other
☐No Documentation Required

Supporting documentation for Chapter 4.2 includes:

- *I-81 Susquehanna Bridges Phase I ESA report* (December 2021)

Describe Any Permanent and Temporary Impacts

A Phase I ESA was completed for the project. This Phase I ESA included record reviews, site reconnaissance, compilation of data, data evaluation, and recommendations in accordance with the scope and limitations of the PennDOT Publication 281. A regulatory records file review at the PADEP was not conducted in person due to the COVID-19 pandemic; but instead HDR requested files from the PADEP to perform a file review. PADEP was only able to supply electronic files. The Phase I includes a summary of the site reconnaissance completed on June 29-30, 2021 and October 7, 2021, a review of environmental databases and a review of historical data sources. Along I-81 mainline, the Phase I ESA did not identify any waste sites that have Areas of Concern (AOCs) that would require further investigation beyond this Phase I ESA, based on the proposed engineering available at the time of the Phase I ESA. Two AOCs were identified in New Milford by the proposed US 11/SR 492 intersection; however, these sites are no longer concerns for the project since toll diversion route improvements have been removed from the project. Should the boundaries or nature of the actions change from the therein-assumed proposed project, it is recommended that this Phase I ESA be revised or amended by the P3 Development Entity.

Is remediation/mitigation incorporated? ○ No ◉ Yes ○ Unknown at this time

Describe Remediation/Mitigation

Prior to demolition, structures on total take parcels will be tested to determine if Asbestos Containing Materials are present and if abatement is required.

4.3 Wildlife

	PRESENCE
WILDLIFE & HABITAT	◉ Not Present ○ Present

Remarks

Desktop analysis and field reconnisance did not reveal any wildlife sanctuary/refuges or critical/unquie habitat within the project study area.

	PRESENCE	IMPACTS
THREATENED & ENDANGERED PLANTS & ANIMALS	○ Not Present ◉ Present ○ No Coordination Needed	☐ No Potential Impacts ☐ Potential Impacts with Avoidance Measures ☐ Potential Impacts with Conservation Measures ☒ Potential Impacts

Documentation

☒PNDI ER Receipt

Agency Documentation

☒PFBC Correspondence
☒PGC Correspondence
☒DCNR Correspondence
☒USFWS Correspondence

A search of the Pennsylvania Natural Heritage Program's Pennsylvania Natural Diversity Inventory (PNDI) database indicated that there would be potential impacts to Elktoe mussels (*Alasmidonta marginata*), a special species of concern under the jurisdiction of PFBC located within the Susquehanna River.

The PNDI was updated several times since the project inception. The most recent PNDI was run in November 2021 with the entire Project Study Area, which triggered the LARGE PROJECT (>10 miles) review and required coordination with all four jurisdictional agencies to determine potential impacts to T&E Species and/or special concern species and resources within the project area. A summary of the coordination efforts is below.

- PGC – No impact Anticipated.
- PADCNR – No Impact Anticipated.
- PFBC – Potential Conflict; rare or protected freshwater mussel species are known from the vicinity of the project area. Due to proposed instream disturbances, 6 weeks of notice prior to construction are required to plan a mussel survey/salvage.
- U.S. Fish and Wildlife Service (USFWS) – Not Likely to Adversely Affect; The federally listed Northern Long Ear Bat and the Indiana Bat occurs or may occur in or near the project area. However, due to the scope of work no adverse effects to this species are likely to occur. *Although not addressed in USFWS coordination, a decision is expected in 2023 to list the tri-colored bat as Endangered. A mitigation commitment is added to Chapter 7.0: During final design, the project team will initiate conferencing with USFWS regarding the project's potential effects to the tri-colored bat and measures to avoid and minimize harm.*

The PNDI receipts and agency coordination letters are valid two years and are included in Appendix D.

Describe Avoidance Measures to be Implemented

PFBC recommends construction techniques that avoid and/or minimize instream work, sedimentation, and changes in water quality.

Describe Planned Conservation Measures to be Implemented

Protected Freshwater Mussel Species are Known in Vicinity of the dual Susquehanna River bridge crossings. PFBC requested to be contacted a minimum of 6 weeks prior to start of construction, or as soon as Construction Start date is set. PFBC will perform on-site surveys and mussel translocations in the area of disturbance during suitable conditions. The Mussel Survey Season begins May 15 and concludes October 1.

4.4 Cultural Resources

Were Cultural Resource Professionals (CRPs) needed for project scoping? ◉ Yes ○ No

CRP Scoping Field View Date: 04/01/08

CRP Architectural Historian in Attendance: Kris Thompson

CRP Archaeologist in Attendance: Kevin Mock

Was a Project Early Notification / Scoping Results Form completed? ◉ Yes ○ No

Is the project exempted from review by the District Designee or CRP as per Appendix C of the Statewide Section 106 Programmatic Agreement? ○ Yes ◉ No

Is the project exempted from review by the District Designee or CRP as per Stipulation III of the Emergency Relief Projects Programmatic Agreement (2005)? ○ Yes ◉ No

	PRESENCE				LEVEL OF EFFECTS		
	Not Present	Potentially Eligible Resource Present	Eligible Resource Present	Listed Resource Present	No Historic Properties Affected	No Adverse Effect	Adverse Effect
CULTURAL RESOURCES	☐	☐	☑	☐	☑	☐	☐
Archaeology							
Pre-Contact:	☐	☐	☑	☐	☑	☐	☐
Contact Native American:	☑	☐	☐	☐	☑	☐	☐
Historic:	☑	☐	☐	☐	☑	☐	☐
Above-Ground Historic Properties							
Structure/Building:	☑	☐	☐	☐	☑	☐	☐
District:	☐	☐	☑	☐	☑	☐	☐

Documentation

For projects *not having a known adverse effect*, one from *each* column:

Above-Ground Historic Properties

☐Above-Ground Historic Properties Field Assessment and Finding
☒Above-Ground Historic Properties Finding Letter
☐Section 106 (Above-Ground Historic Properties) Effect Concurrence Letter
☐TE Project Field Assessment and Finding Checklist

Archaeology

☐Archaeology Field Assessment and Finding
☒Archaeology Finding Letter
☒Section 106 (Archaeology) Effect Concurrence Letter
☐TE Project Field Assessment and Finding Checklist
☐Deferred Archaeological Testing Form
☐Project Specific Programmatic Agreement

Supplemental documentation should be completed as warranted:

☒Historic Structures Survey / Determination of Eligibility Report
☐Phase Ia Archaeological Sensitivity Report
☒Geomorphological Survey Report
☐Archaeological Disturbance Report
☒Archaeology Identification (Phase I) Report
☐Archaeology Negative Survey Form
☒Archaeology Evaluation (Phase II) Report
☐Combined Archaeology Identification/Evaluation Report
☐Determination of Effects Report
☐ (Bridge) Feasibility Report
☐Other

Describe Any Permanent and Temporary Impacts

No permanent or temporary impacts to cultural resources are anticipated. One pre-contact archaeological site, the DuBois Homestead Site, was identified within the project area and determined to be eligible for the National Register of Historic Places (NRHP). The project design will avoid and protect this site.

Are mitigation and/or standard treatments required? ○ No ◉ Yes

Describe Mitigation/Standard Treatments

The DuBois Homestead Site is located adjacent to I-81 and outside of Commonwealth-owned existing legal right-of-way. No right-of-way or easements will be acquired from the property. The following mitigation measures will be implemented to avoid impacting this archaeological site:

- New Right-of-Way Fencing will be installed 2 feet inside the Legal Right-of-Way Line for Limited Access adjacent to the archaeological site.
- Orange Temporary Construction Fencing will be placed 2 feet inside Legal Slope Easement Line for the entire portion of project bordering the archaeological site to prevent Contractor or equipment access or disturbance.
- Limit of Disturbance and NPDES Boundaries will be contained inside the existing Legal Right-of-Way and Slope Easement adjacent to the archaeological site.

Remarks, Footnotes, Supplemental Data

Archaeological investigations and above ground historic structures surveys were conducted for the project. All cultural resources documentation is located in PATH at https://path.penndot.gov/ProjectDetails.aspx?ProjectID=3825.

Early notification/scoping and notifications to Native American Tribes completed in 2015. Archaeological investigations and above ground historic resources surveys were conducted, and a combined Effect Finding form was posted to Project Path on October 10, 2017. No NRHP listed or eligible above ground historic resources were determined to be present in the project Area of Potential Effect (APE). One pre-contact archaeological site, the DuBois Homestead Site, was identified within the APE. The finding stated that impacts to this archaeological site would be avoided with the use of geotextile and fill standard treatment plus high visibility protective fencing, resulting in No Adverse Effect to the resource. The State Historic Preservation Officer (SHPO) concurred

with this finding in December 2017. Later, the project design was revised to avoid right-of-way takes from the property containing this archaeological site, and the mitigation measures noted above were developed to ensure that no construction work, staging, and/or disturbance would occur on the property.

In early 2021, revisions to the project design including addition of the tolling facility and stormwater control features prompted additional archaeological testing of five areas that were not within the original project APE. A Phase I Archaeological Identification addendum report was posted to Project Path April 28, 2021. No additional archaeological sites were identified. Updated Effect Findings were posted to Project Path in 2021 for addition of a utility corridor associated with the temporary tolling facility and the proposed US 11 (Main Street)/SR 492 (Jackson Street) intersection improvement in New Milford. An updated Effect Finding was posted May 11, 2022 to address the project's effect to the New York & Erie Railroad, which was deemed eligible for the NRHP by the SHPO as a historic district after the earlier Effects determinations. The posted memo states that there are no extant New York & Erie Railroad resources within the project APE that contribute to the historic district, and no permanent impacts to the existing railroad bed will be included in the scope of work for the project. A subsequent posting was made May 10, 2022 to remove the tolling facility, utility line, and toll diversion route traffic improvements, with the resulting finding for the project of No Historic Properties Affected.

4.5 Section 4(f) Resources

	PRESENCE	USE
SECTION 4(f) RESOURCES	○ Not Present ◉ Present	○ No ◉ Yes

Documentation

☐Individual Section 4(f) Evaluation

☐Programmatic Section 4(f) Evaluation

☐Section 2002 Evaluation

☒De Minimis Use/No Adverse Use Checklist

☐Non-Applicability/No Use Checklist

☒Temporary Use Checklist

☐FHWA Coordination Documents

Will temporary easements during construction be necessary from Section 4(f) resources? ◉ No ○ Yes

Describe Any Permanent and Temporary Impacts

State Game Lands 35 (SGL 35)– *De Minimis* Use. Approximately 1.54 acre of SGL 35 will be acquired for construction of the project. The SGL 35 property encompasses a total of 7,772 acres and is immediately adjacent to existing I-81 ROW. The area is lightly wooded and does not contain any facilities such as parking areas, access roads or trails.

- Temporary Impacts to SGL 35 – None
- Permanent Impacts to SGL 35 – 1.54 acres
    - Required Right-of-Way = 0.83 acre for New Storm Water Basin.
    - Required Slope Easement = 0.71 acre to Repair existing Storm Water outfalls, outside of existing Slope Easements.

    - 0.04 acre to construct new pipe at existing pipe location
    - 0.03 acre to remove existing pipe and construct new pipe protection
    - 0.04 acre to construct new pipe/rock chute at existing protection
    - 0.60 acre to construct drainage swale and install a new protection
- Note: The conversion of existing slope easement to required right-of way does not require replacement right-of-way since the slope easement currently exists and is in Transportation Use. This conversion of existing slope easement to required right-of-way was not considered Section 4(f) use.

The Section 4(f) *De Minimis* Use Checklist for SGL 35 is included in Appendix E.

North Branch Susquehanna River Water Trail/National Recreation Trail – Temporary Occupancy exception as per 23 CFR 774.13(d) (not a Section 4(f) use). The Susquehanna River is designated as a PFBC Water Trail and recognized as a National Recreation Trail where it passes under the I-81 Bridges in the project area. Recreational boaters, mainly kayakers and canoeists, use the river within the project area. Two formal PFBC boater access points, Great Bend Access (RM348) approximately 5 miles upstream of the I-81 bridges and Hallstead Access (RM342) approximately 1,000 feet downstream of the I-81 bridges, will remain open throughout construction. The PFBC is the official with jurisdiction for the Susquehanna River Water Trail. The National Park Service (NPS) recognizes the river as a National Recreation Trail; however, in an email dated August 31, 2022, the NPS delegated their oversight to the Endless Mountains Heritage Region (EMHR) as the manager of the water trail. Coordination was undertaken with both the PFBC and EMHR regarding the effects of bridge construction on the water trail.

In order to replace the dual I-81 bridge structures over the river, a series of temporary causeways are proposed during various stages of construction. The locations of the causeways and cofferdams for each stage are shown on the Aids to Navigation (ATON) plan prepared for the project and attached to the Section 4(f) Temporary Occupancy Form (Appendix E). As shown in the ATON plan, river passage will be maintained through at least one of the three existing or of the two proposed navigable spans during all stages of construction. The existing bridges include a total of 6 piers within the waterway, whereas the new bridges will have 4 piers in the waterway.

While bridge construction is anticipated to take a total of 6 years, causeways would be in the river for approximately two thirds of that timeframe. No right-of-way will be acquired from the Section 4(f) property. With implementation of the ATON plan, boater passage under the I-81 bridges will remain open throughout construction maintaining the recreational function of the water trail. Following completion of construction, the full channel will again be available for area boaters. Meetings were held with the PFBC and EMHR to discuss the potential effects on the water trail during construction. Commitments were made to add additional warning markers and a floating boat barrier/debris catch during stages 5 and 8 of the ATON Plan, and to coordinate with EMHR at the on-set of each year to discuss causeway plans and configurations for that season. With these additional commitments, the PFBC and EMHR concurred in writing that the project meets the exception criteria in 23 CFR 774.13(d) for temporary occupancy. Their letters are included in Appendix C and attached to the Section 4(f) Temporary Occupancy Form in Appendix E.

New York and Erie Railroad – No Use. The New York and Erie Railroad was recently determined to be a historic district eligible for listing on the NRHP by the SHPO. The existing bridges spanning the railroad will be replaced on existing alignment and continue to span over the railroad. Aerial easements will be in place for these aerial crossings of the railroad. Temporary construction easements would be in place on non-contributing land within the

Section 4(f) boundary during construction.

Is mitigation incorporated? ○ No ◉ Yes

Describe Mitigation

To address the anticipated impacts to **State Game Lands 35** the following mitigation concepts were developed in coordination with the PGC.

- Loss of Game Lands (0.83 acre ROW + 0.71 acre new slope easement = 1.54 acres) will be mitigated by providing replacement acreage at 1:1 ratio to comply with the PA Game and Wildlife Code. The Replacement Land is being provided by debiting 1.54 acres from Hoffman State Game Lands Bank located in PennDOT District 3-0.
- Mitigation measures to be followed during construction:
    - Install temporary protective fence to identify limits of project limits prior to start of any construction activity. Do not disturb SGL 35 outside of approved limits of work.
    - SGL 35 is owned and managed by the PGC. Do not interfere with operation of SGL 35. The contractor is restricted from using SGL 35 land outside of the projects limit of work.
    - Use of SGL outside of the approved limits of work for office, equipment, storage, or staging materials is not allowed. All disturbed areas outside of immediate construction footprint will be stabilized with native seed mix acceptable to PGC.
    - Remove all construction materials and stabilize all disturbed areas at completion of work.
    - Prior to completion of work conduct a pre-final inspection with the PGC Staff regarding work completed and create punch list comments, questions, or concerns. Conduct final inspection with PGC Staff to verify that all comments were satisfactorily addressed.
    - All construction equipment/machinery are to be fitted with properly working appropriate noise muffling devices to minimize local disturbances.

To address temporary impacts to the **North Branch Susquehanna River Water Trail and National Recreation Trail**, the P3 Development Entity will be required to:

- Implement the PFBC approved ATON Plan prior to and during construction to ensure boater safety through the project area.
- Update/amend the ATON plan to include the additional warning markers and floating boat barrier/debris catch as requested by the PFBC during construction stages 5 and 8 when 60” pipes are included in the causeway design.
- Coordinate with the North Branch Susquehanna River Water Trail manager (manager is EMHR) at the start of each year to inform them of upcoming plans for causeways, allowing EMHR to plan their events accordingly and post information to their Facebook and web pages for the boating community.

4.6 Air Quality and Noise

AIR QUALITY

Is the project exempt from regional ozone conformity analysis and a CO, PM10 & PM2.5 Hot- Spot analysis? ◉ Yes ○ No

Is the project exempt from an analysis for MSATs based on Pub #321? ◉ Yes ○ No

Remarks

A review of PennDOT Publication 321, Project-Level Air Quality Handbook (October 2017), indicates that the proposed project is exempt from Project-level analysis and Regional Conformity Analysis. The project will not add travel lanes and will not result in changes in traffic volumes, vehicle mix, location of existing facility, or other factor that would cause an increase in emissions relative to existing conditions.

NOISE

Is the project a:

A. **Type I Project?** ○ Yes ◉ No

B. **Type II Project?** ○ Yes ◉ No

C. **Type III Project?** ◉ Yes ○ No

The project meets the criteria for a Type III project established in 23 CFR 772. Therefore, the project requires no analysis for highway traffic noise impacts. Type III projects do not involve added capacity, construction of new through lanes or auxiliary lanes, changes in the horizontal or vertical alignment of the roadway or exposure of noise sensitive land uses to a new or existing highway noise source. PennDOT acknowledges that a noise analysis is required if changes to the proposed project result in reclassification to a Type I project.

4.7 Socioeconomic Areas

REGIONAL & COMMUNITY GROWTH

Will the project induce impacts (positive and negative) on planned growth, land use, or development patterns for the area? ○ Yes ◉ No

Is the project consistent with planned growth? ◉ Yes ○ No

Basis of this determination:

The project is programmed on the 2023-2026 Interstate Transportation Improvement Program (TIP). The project replaces existing infrastructure and is not anticipated to induce growth.

Will the project induce secondary growth? ○ Yes ◉ No

PUBLIC FACILITIES & SERVICES

Will the project induce negative impacts on health and educational facilities; public utilities; fire, police, and emergency services; civil defense; religious institutions; or public transportation? ○ Yes ◉ No

Does the project incorporate bicycle or pedestrian facilities into the overall design or operations (including construction)? ○ Yes ◉ No

The project involves improvements to a limited access highway; bicyclists and pedestrians are prohibited.

Will the project have a positive impact to the public facilities and services listed above? ◉ Yes ○ No

Maintains a safe transportation system. Replacement of bridges and modernization of the interstate corridor will have a positive impact to public facilities and services.

COMMUNITY COHESION

Will the project induce impacts to community cohesion? ○ Yes ◉ No

Will the project induce impacts to the local tax base or property values? ○ Yes ◉ No

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ENVIRONMENTAL JUSTICE (*see Chapter 6.0 of this CE Reevaluation)*

RIGHT-OF-WAY ACQUISITIONS OR DISPLACEMENTS OF PEOPLE, BUSINESSES OR FARMS

How many parcels require right-of-way acquisition, either partial or total? 57

Describe the extent and locations of acquisitions. Indicate for each acquisition whether it is temporary or permanent.

The bridge replacement and roadway work will impact 57 parcels; 1 total acquisition for rock slope installation along SR 1029 (Randolph Road), 46 sliver takes (with the majority located adjacent to I-81), and 10 parcels with temporary construction easements (TCEs) for construction access.

Will the project require the relocation of people, businesses, or farms? ◉ Yes ○ No

If Yes, indicate number: 1 Residential 0 Commercial 0 Farms

If there are displacements, a conceptual stage survey report is required that analyzes the availability of replacement facilities.

☑ Conceptual Stage Survey Report

A Conceptual Stage Survey Report was included in the CE Reevaluation approved November 2021 and is part of the project record. The displaced homeowners have since been relocated in accordance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended; Title VI of the Civil Rights Act of 1964; and the Pennsylvania Eminent Domain Code of 1964.

Mitigation

Property acquisitions will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended; Title VI of the Civil Rights Act of 1964; and the Pennsylvania Eminent Domain Code of 1964

- Any individual or family displaced by the project would be offered the full extent of benefits and payments.
- Provisions would be made to ensure that any person with a disability who is displaced is offered replacement housing that meets any special needs.

Will the project induce impacts to economic activity, including employment gains and losses? ○ Yes ◉ No

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MAINTENANCE AND OPERATING COSTS OF THE PROJECT AND RELATED FACILITIES

Will the project induce increases of operating or maintenance costs?	○ Yes ◉ No

AESTHETIC AND OTHER VALUES

Will the project be visually intrusive to the surrounding environment?	○ Yes ◉ No
Will the project include "multiple use" opportunities?	○ Yes ◉ No
Wll the project involve "joint development" activities?	○ Yes ◉ No

4.8 Permits Checklist

☐ **No Permits Required**

☒ **United States Army Corps of Engineers Section 404 and/or Section 10 Permit**

☒ Individual ☐ Nationwide ☐PASPGP

☒ **DEP Waterway Encroachment (105) Permit**

☒ Standard ☐ Small Project ☐ General ☐ Other

☒ **DEP 401 Water Quality Certification**

☐ **Coast Guard Permit**

☒ **NPDES Permit**

☐ General ☒ Individual ☐ Exempt

☐**Other Permits**

Remarks

The Chapter 105/Section 404 Joint Permit Application (JPA) was submitted to PADEP/USACE in May 2022. The NPDES permit application was submitted to PADEP in May 2022. Both permits are under review. When authorized, permit conditions will be added to Environmental Commitments & Mitigation Tracking System (ECMTS) as mitigation commitments. ECMTS is a computer application for tracking mitigation commitments from inception during preliminary design through construction, to be used by construction inspectors to ensure mitigation measures are completed as intended for protection of environmental resources.

5.0 PUBLIC INVOLVEMENT

	#	Comments
☒ Plans Display	3	See Remarks
☒ Public Officials Meetings	3	See Remarks
☒ Public Meetings	3	See Remarks
☐ Public Hearing		
☒ Special Purpose Meetings	2	Diversion Route Workshop 7/27/2021 and follow-up briefing 11/8/2021. See Remarks
☒ Section 106 Public Involvement / Consulting Parties		Coordination with Pennsylvania Archaeology Council regarding the Guy family property (Parcel 55).
☒ Section 106 Tribal Consultation		Coordination and notification via Project PATH and mail was conducted for Tribal notification. The Delaware Tribe responded and requested to be a consulting party. The Delaware Nation responded to our notification and declined to be a consulting party. Additional notified Tribes included Absentee Shawnee Tribe of Oklahoma, Eastern Shawnee Tribe of Oklahoma, Onondaga Nation, Seneca-Cayuga Tribe of Oklahoma, Shawnee Tribe and Tuscarora Nation. No response was received from these notifications.
☒ Environmental Justice Community Involvement		Knowledgeable Parties emails and flyers. See Remarks
☐ Other information dissemination activities		
☒ Commitment for Further Public Involvement		The contractor will continue to coordinate with local municipalities and the public

Remarks

A public meeting was held on July 20, 2017, at Great Bend Township Hose Company No. 1 from 4pm to 6pm to display preliminary design plans and solicit feedback/comments from the community. The open house format meeting included displays for Project Location, Project Summary, Preliminary Impact Table, Aerial Plan View, Bridge Typical Sections, Detour Routes and Management and Protection of Traffic Plans, and Preliminary Roadway Plans. The project team gave an overview of the project followed by a question and answer session. Questionnaires were provided to solicit comments.

Public outreach activities were conducted beginning in November 2020 for the PennDOT Pathways program under an Alternative Funding PEL Study. After the original CE for the project was approved, the I-81 Susquehanna Bridges Project was identified as a candidate for bridge tolling through PennDOT Pathways Program: The Major Bridge P3 Initiative in February 2021. Additional public outreach effort was conducted for the I-81 Susquehanna Bridges Project.

Supporting documentation for Chapter 5 includes:

- *SR 0081-511 Public Meeting Minutes* (July 20, 2017)
- *SR 0081-511 Public Meeting Overview* (July 1 to July 15, 2021)
- *I-81 Susquehanna Bridges Replacement Project Virtual Public Meeting* (November 8 to December 8, 2021)
- *I-81 Susquehanna Bridges Replacement Project Public Meeting Summary* (January 2022)

- Project information was posted on a project-specific website in February 2021 at https://www.penndot.pa.gov/RegionalOffices/district-4/ConstructionsProjectsAndRoadwork/Pages/I-81-Northern-Tier.aspx
- A plans display was held virtually on PennDOT's web page with the public comment period open from July 1 to July 15, 2021. The intent of this plans display was to introduce the changes to the project since the project's Categorical Exclusion (CE) Evaluation approval was obtained March 21, 2018. Impacts to State Game Lands (SGL) No. 35, including an overview of the Section 4(f) Evaluation prepared for the SGL, were presented. Additional impact areas for a proposed wetland mitigation site and stormwater management improvements were also summarized in the virtual plans display. An online and printable survey form was used to solicit comments.A diversion route workshop was conducted on July 27, 2021 to gather additional information on potential issues along the diversion route (mainly SR 492/US 11/SR 171) and its secondary diversion routes.
- The diversion route workshop attendees were invited to attend a follow-up briefing on November 8, 2021, to review the proposed diversion route improvements included in the public meeting materials.
- A project-specific virtual public meeting was held from November 8 through December 8, 2021. The online meeting was comprised of text, graphics and videos that provided a project overview and explained the project purpose and need, project design, proposed funding, traffic studies and associated diversion route improvements, environmental studies, comment process and next steps. The online meeting website provided a comment form that allowed individuals to submit their comments directly within the virtual public meeting. The website also noted other ways in which comments could be submitted, including the comment form on the general project website, project phone number, project email and a physical mailing address.
- An in-person public open house was held on Monday, November 15, 2021 at the Blue Ridge High School in New Milford, PA. At the in-person public open house display boards were provided for project purpose and need, project design, proposed funding, traffic studies and associated diversion

route improvements, environmental studies, and schedule. Comment forms were provided for individuals to submit their comment while in attendance or at their convenience. While the comment period for the public meeting has closed, the online meeting materials are available for reference via the project website. In-person meeting materials were printed versions of the online content. Public involvement documentation is located in the project's technical file.

Prior to and during the public comment period for the third public meeting, the project team executed several outreach strategies to maximize public participation at the public meeting or online consultation of the Virtual Public Meeting on project website. The outreach activities are listed in **Table 3.**

Table 3

Public Outreach Activities for Public Meeting

Outreach Type	Number of Recipients	Type of Recipients	Date Sent
Virtual Public Meeting Website	N/A	-General Public via https://www.penndot.pa.gov/RegionalOffices/district-4/ConstructionsProjectsAndRoadwork/Pages/I-81-Susquehanna-VPM.aspx	Launched 11/8/2021
Postcard	10,032	- General Public - Mailed via Every Door Direct Mail Service - Sent to all postal routes within the direct project area and along the diversion route, including in New York.	Mailed week of 11/1/2021
Legal Ad	Circulation approximately 47,500	- General Public Placed in the *Times Tribune*	Ran 11/8/2021
Stakeholder & Public Mailing List Email	184	- Key stakeholders, legislators and those who requested to be put on the project's mailing list. - Email with information about the virtual public meeting and in-person open house.	11/8/2021
Knowledgeable Parties Email & Flyer	9	- Knowledgeable parties identified in environmental justice analysis - Email with information about virtual and in-person meetings, along with a flyer to be distributed in the community and copies of social media art for sharing	11/8/2021
News Release	N/A	- Sent to area media to distribute via news stories and calendars of events for the general public.	11/8/2021, 11/15/2021
Public Officials Briefing	N/A	- Invited public officials to a pre-launch briefing to get a first look at the materials to launch in the virtual public meeting	11/8/2021 at 9:30 a.m.
Social Media Posts	27,667 people reached	- Social media posts on PennDOT social media regarding how to participate in the public meeting and comment period - 407 engagements across three posts	11/8/21, 11/15/21, 12/6/21

On May 18, 2022, as a result of a lawsuit, the court issued an injunction and all work related to the MBP3 initiative ceased. Subsequently, Act 84 of 2022 amended the P3 law and revoked PennDOT's ability to implement mandatory tolls such as the proposed bridge tolling under the MBP3 initiative. As a result of the

lawsuits and the subsequent enactment of Act 84 of 2022, PennDOT is moving the I-81 Susquehanna Bridges project forward, but without tolling.

As the project is reverting back to a bridge replacement with associated approach roadway work, this CE Reevaluation was prepared to document the current effects of the Build Alternative without tolling. The project team completed outreach in September 2022 to educate and inform the public about the CE Reevaluation with the removal of tolling. Outreach activities are summarized in **Table 4**.

Table 4
Public Outreach Activities for the CE

Outreach	Audience & Subject
News Releases	Two news releases to media: 1. Statewide release regarding removal of tolling from MBP3 program. 2. I-81 Susquehanna Bridges Project specific release with information on the CE Reevaluation.
Email Blasts	Two email blasts to mailing list sign-ups: 1. Statewide email blast regarding removal of tolling from MBP3 program. 2. I-81 Susquehanna Bridges Project specific email blast with information on the CE Reevaluation.
Social Posts	Two social posts on Facebook and Twitter. 1. Statewide social post regarding removal of tolling from MBP3 program. 2. I-81 Susquehanna Bridges Project specific social post with information on the CE Reevaluation.
Bridge Website Update & Online Educational Resource	The bridge project website was updated to include information on the project's current status, description and history. An online educational resource about the CE Reevaluation and Potential Impacts was also developed to provide information to the public on what is presented in the CE Reevaluation. A comment form was available on the website for those who wished to provide feedback on the project. Comments were considered as the CE Reevaluation was finalized.

Public involvement documentation covering the NEPA process for the project is located in the project technical files.

6.0 ENVIRONMENTAL JUSTICE

Supporting documentation for Chapter 6 includes:

- *I-81 Susquehanna Environmental Justice Analysis* (February 2022)

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations* (February 11, 1994), directs federal agencies to identify and address, as appropriate, disproportionately high, and adverse human health or environmental effects of programs, policies, and activities on minority and low-income populations. To achieve effective and equitable decision-making, the USDOT identifies three fundamental principles of environmental justice to consider in all USDOT programs, policies, and activities:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on environmental justice communities of concern.
- To ensure the opportunity for full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or substantial delay in the receipt of benefits by any environmental justice community of concern.

The *I-81 Susquehanna Environmental Justice Analysis*, February 2022, was prepared to address the effects of bridge tolling and associated traffic diversion to avoid tolls on low-income and minority populations; a copy is included in the project technical files. While bridge tolling is no longer under consideration, the report contains relevant background information describing low-income and minority populations in the vicinity of the proposed project.

The Environmental Justice analysis for the project was performed by completing the following process:

- **Step 1: Define the Study Area.** Consistent with NEPA practices, identify the reasonable and logical boundaries by considering the potential for direct and indirect impacts related to the project.

  The I-81 Susquehanna Bridges Project is a 9-mile corridor reconstruction project along I-81 from the New Milford Interchange with SR 492 (Exit 223) through the Great Bend Interchange with SR 171 (Exit 230) to the New York border. The project involves the replacement of five dual I-81 mainline bridges and one overpass structure; construction along cross streets (Susquehanna Street, SR 171 and SR 1029); and rehabilitation of three box culverts. Proposed roadway work includes full depth pavement reconstruction for the NB and SB lanes, lengthening substandard interchange ramp acceleration/deceleration lanes, improving substandard vertical alignments, guide rail and signing replacement, shoulder widening, and drainage improvements.

- **Step 2: Identify Low-income and Minority Populations.** Collect recent data on race, color, national origin, income, tribal governments, and seasonal and migrant workers in the study area, and apply FHWA and PennDOT methodology to identify low-income and minority populations.

  Low-income and minority populations are identified in the *I-81 Susquehanna Environmental Justice Analysis*, February 2022.

- **Step 3: Solicit Input from Low-income and Minority Populations.** Using PennDOT's *Public Involvement Handbook* and other environmental justice outreach guidance, identify appropriate outreach techniques. Through targeted outreach to potentially affected low-income and minority populations, identify transportation needs and concerns about the project to inform Steps 4, 5, and 6.

Public outreach was conducted throughout the development of the project including plans display/public meetings and additional stakeholder outreach targeted to parties knowledgeable about environmental justice issues (see Chapter 5.0 of this CE Reevaluation).

- **Step 4: Evaluate Adverse and Beneficial Effects.** Analyze whether the project would create impacts to communities or populations in the near, medium, or long term. Then, with input from the community, assess whether the impacts are adverse, beneficial, or both.

  Since the project involves on-location reconstruction of existing roadway and replacement of existing bridges in a rural setting, the effects on the local community are minimal. During construction, some diversion through the community may occur as some travelers may opt to avoid the construction zone even with two lanes largely being retained in each direction; however, once the project is completed the reconstructed roadway and replaced bridges would provide improved service along the I-81 corridor.

- **Step 5: Identify Disproportionately High and Adverse Effects.** Determine whether adverse effects are predominately borne by low-income persons and minorities, and if these effects are more or greater than those effects borne by the general population.

  As a result of this analysis and associated outreach effort, no disproportionately high and adverse effects on low-income or minority populations have been identified for the I-81 Susquehanna Bridges project since adverse effects to these populations are not anticipated as a result of the project.

- **Step 6. Evaluate Mitigation Measures.** If adverse effects would be predominately borne by low-income and minority populations and are more or greater in magnitude than the adverse effect that would be suffered by the general population, consult with the community to identify measures to avoid, minimize, or mitigate the impacts. Determine whether the mitigation measures are practical. Practical mitigation measures are those that are: effective and do not create other adverse effects that are more severe; feasible in terms of implementation and operation; and cost effective, while maintaining the financial viability of the project.

  As no disproportionately high and adverse effects on low-income or minority populations are anticipated to occur, evaluation of mitigation measures was not necessary.

- **Step 7: Re-evaluate Disproportionately High and Adverse Effects and Document Decision.** If practical mitigation measures have been identified, re-evaluate whether adverse effects borne by low-income and minority populations are appreciably more severe or greater than those effects borne by non-environmental justice populations.

  Re-evaluation of effects on low-income and minority populations was not necessary.

7.0 ENVIRONMENTAL COMMITMENTS AND MITIGATION

The mitigation measures summarized in this section shall be incorporated into the project's design documents. In order to track and transfer mitigation commitments through the project development process, Environmental Commitments & Mitigation Tracking System (ECMTS) documentation shall be prepared and submitted through appropriate channels, as the project moves through Final Design and Construction.

Impacts and mitigation commitments are based on Preliminary Design and may change as the project moves through Final Design and Construction. Final design information and final mitigation commitments will be included in the ECMTS documentation.

STREAMS

Permanent Stream Impacts: 6,808 *linear feet*

Mitigation Remarks:

To mitigate the proposed stream loss, in-stream structures will be constructed within Trowbridge Creek, along with planting of the riparian buffer. Through coordination with PFBC, it was determined that log vanes, rock cross vanes, and soil lifts be strategically placed within and along the channel to provide a functional lift to channel geomorphology, water quality, and in-stream habitat. The work in Trowbridge Creek will also include stream regrading to create a stable channel geometry with in-stream measures to direct flow toward center of channel and to reduce sediment deposits and future maintenance needs. Additionally, the removal of the culvert along Channel 77N provides compensation credits by reconnecting the stream to the groundwater table and the planting of the riparian buffer.

In-stream work will not be permitted for Salt Lick Creek and its tributaries, which are stocked trout streams, from February 15 to June 1 of any calendar year, based on the PFBC Time-of-Year Restrictions issued in January 2022. No work can be performed in these streams during these timeframes. Additionally, no heavy equipment will be allowed to traverse Salt Lick Creek.

WETLANDS

Permanent Wetland Impacts: 0.41 *acres*

Bank to be Debited: 0.51 acre credits debited from Hop Bottom Creek Mitigation Bank

Mitigation Remarks:

After coordinating with US Army Corps of Engineers (USACE) and PADEP, PennDOT purchased wetland mitigation credits from Hop Bottom Creek Mitigation Bank, owned and operated by Evergreen Environmental, to achieve regulatory compliance for permanent wetland impacts resulting from the project. The Hop Bottom Creek Mitigation Bank purchase mitigates for 0.41 acres of wetland impacts associated with the I-81 Susquehanna River Bridges project at 1:1 ratio for PEM impacts (0.217 acres) and 1.5:1 ratio for PSS (0.197 acres); the total credits for the I-81 Susquehanna River Bridges project are 0.51 acre.

Protective fencing will be installed at the extents of the project LOD prior to construction to keep the contractor from impacting additional wetland resources.

NAVIGABLE WATERS

A preliminary ATON Plan was prepared and submitted to PFBC for review. PFBC approved the ATON Plan on December 30, 2021. The ATON Plan and approval letter are in Appendix C. The ATON Plan shows the proposed causeways and staging, and sign locations in the vicinity of the bridges. During coordination with the PFBC in August and September 2022, request was made to amend the ATON plan to include additional warning signs and a floating boat barrier/debris catch during stages 5 and 8 when 60-inch pipes are part of the causeway design. The P3 Development Entity will be responsible for updating the ATON plan prior to construction and implementing the ATON plan during construction.

Additionally, the P3 Development Entity will be required to meet with the Endless Mountains Heritage Region (EMHR) Executive Director and staff at the beginning of each year to review the causeway plans and timing for that year. EMHR manages the Susquehanna River Water Trail for both the PFBC and NPS.

As a measure to offset navigating past the various causeway configurations at the I-81 bridges during construction of the replacement of the bridges, the Hallstead boat access parking area will be re-paved and lines painted prior to causeways being constructed.

SOIL EROSION & SEDIMENTATION

The following mitigation will be incorporated into the project:

- BMPs, including ABACT, will be defined and implemented as a component of the E&S Control Plan and waterway encroachment permit.
- The E&S Control Plan will be reviewed by the PADEP Susquehanna County Conservation District, and coordination will be conducted to ensure the selected BMPs are adequate for the project.
- The approved E&S Control Plan will be implemented prior to any earth disturbance, during construction.
- Installed BMPs will be inspected and maintained throughout the duration of construction.
- All areas of earth disturbance will be stabilized immediately following completion of earthwork.
- PCSM controls will be implemented, as appropriate.

VEGETATION

In accordance with PennDOT's invasive species guidance (Publication 756, 2014), care will be taken not to transplant roots or seeds of noted invasive, non-native plants during earth moving operations. Re-vegetation of impacted areas will be implemented through the E&S plan. Prior to completion of construction, all remaining areas of earth disturbance will be restored by re-seeding with standard PennDOT seed formulas. These seed formulas may contain native plant species; but per Executive Order 13112, will avoid those plant species that are listed on the Noxious Weed Control List.

PARKS & RECREATION FACILITIES

The contractor will be restricted from staging or storing equipment or using boat launch facility for any reason other than launching a boat to install or maintain the approved ATON Plan.

STATE GAMELANDS

Banking: 1.54 *acres*

Bank to be Debited: Hoffman State Game Land Bank located in PennDOT District 3-0.

Mitigation Remarks:

Impacts to SGL 35 will be mitigated by providing replacement land at Hoffman State Game Land Bank located in District 3-0 to comply with the PA Game and Wildlife Code. The P3 Development Entity will adhere to the following mitigation measures during construction, as stated in the Section 4(f) *De Minimis* Use Form:

- Install temporary protective fence to identify limits of project limits prior to start of any construction activity. Do not disturb SGL 35 outside of approved limits of work.
- SGL 35 is owned and managed by the PGC. Do not interfere with operation of SGL 35. The contractor is restricted from using SGL 35 land outside of the projects limit of work.
- Use of SGL outside of the approved limits of work for office, equipment, storage, or staging materials is not allowed.
- Remove all construction materials and stabilize all disturbed areas at completion of work. All disturbed areas outside of immediate construction footprint will be stabilized with native seed mix acceptable to PGC.
- Prior to completion of work conduct a pre-final inspection with the PGC Staff regarding work completed and create punch list comments, questions, or concerns. Conduct final inspection with PGC to verify that all comments were satisfactorily addressed.
- All construction equipment/machinery are to be fitted with properly working appropriate noise muffling devices to minimize local disturbances.

HAZARDOUS OR RESIDUAL WASTE SITES

For any total take properties, all structures and improvements located on these parcels will be removed for construction. Prior to demolition, structures will be tested to determine if Asbestos Containing Materials are present and if abatement is required.

THREATENED & ENDANGERED PLANTS & ANIMALS – PLANNED CONSERVATION MEASURES

PFBC coordination for Freshwater Mussel Species:

PFBC recommends construction techniques that avoid and/or minimize instream work, sedimentation, and changes in water quality.

Protected Freshwater Mussel Species are Known in Vicinity of the dual Susquehanna River Bridge crossings. PFBC requested to be contacted a minimum of 6 weeks prior to start of construction, or as soon as Construction Start date is set. PFBC will perform on-site surveys and mussel translocations in area of disturbance during suitable conditions. The Mussel Survey Season begins May 15 and concludes October 1.

USFWS coordination for tri-colored bat:

During final design, the project team will initiate conferencing with USFWS regarding the project's potential effects to the tri-colored bat and measures to avoid and minimize harm.

CULTURAL RESOURCES

The DuBois Homestead Site is located adjacent to I-81 and outside of Commonwealth-owned existing legal right-of-way. No right-of-way or easements will be acquired from the property. The following mitigation measures will be implemented to avoid impacting this archaeological site:

- New Right-of-Way Fencing will be installed 2 feet inside the Legal Right-of-Way Line for Limited Access adjacent to the archaeological site.

- Orange Temporary Construction Fencing will be placed 2 feet inside Legal Slope Easement Line for the entire portion of project bordering the archaeological site to prevent Contractor or equipment access or disturbance.
- Limit of Disturbance and NPDES Boundaries will be contained inside the existing Legal Right-of-Way and Slope Easement adjacent to the archaeological site.

SECTION 4(F) RESOURCES

To address the anticipated impacts to **State Game Lands 35** the following mitigation concepts were developed in coordination with the PGC.

- Loss of Game Lands (0.83 acre ROW + 0.71 acre new slope easement = 1.54 acres) will be mitigated by providing replacement acreage at 1:1 ratio to comply with the PA Game and Wildlife Code. The Replacement Land is being provided by debiting 1.54 acres from Hoffman State Game Lands Bank located in PennDOT District 3-0.
- Mitigation measures to be followed during construction:
  - Install temporary protective fence to identify limits of project limits prior to start of any construction activity. Do not disturb SGL 35 outside of approved limits of work.
  - SGL 35 is owned and managed by the PGC. Do not interfere with operation of SGL 35. The contractor is restricted from using SGL 35 land outside of the projects limit of work.
  - Use of SGL outside of the approved limits of work for office, equipment, storage, or staging materials is not allowed. All disturbed areas outside of immediate construction footprint will be stabilized with native seed mix acceptable to PGC.
  - Remove all construction materials and stabilize all disturbed areas at completion of work.
  - Prior to completion of work conduct a pre-final inspection with the PGC Staff regarding work completed and create punch list comments, questions, or concerns. Conduct final inspection with PGC Staff to verify that all comments were satisfactorily addressed.
  - All construction equipment/machinery are to be fitted with properly working appropriate noise muffling devices to minimize local disturbances.

To address temporary impacts to the North Branch **Susquehanna River Water Trail and National Recreation Trail**, the Development Entity will be required to:

- Implement the PFBC approved ATON Plan prior to and during construction to ensure boater safety through the project area.
- Update/amend the ATON plan to include the additional warning markers and floating boat barrier/debris catch as requested by the PFBC during construction stages 5 and 8 when 60” pipes are included in the causeway design.
- Coordinate with the North Branch Susquehanna River Water Trail manager (manager is EMHR) at the start of each year to inform them of upcoming plans for causeways, allowing EMHR to plan their events accordingly and post information to their Facebook and web pages for the boating community.

COMMITMENTS FOR FURTHER PUBLIC INVOLVEMENT

The contractor will continue to coordinate with local municipalities and the public.

NON-RESOURCE SPECIFIC MITIGATION COMMITMENTS

- The NPDES and waterway permit conditions will be added to ECMTS as mitigation commitments.

- If the P3 Development Entity requires area outside of the PSA delineated in this CE Reevaluation, the P3 Development Entity is required to coordinate with PennDOT to determine necessary NEPA Reevaluation studies and documentation.
  This NEPA Reevaluation may include but not be limited to:
    - Delineation of aquatic resources in accordance with USACE protocol;
    - Phase I ESA or Environmental Due Diligence (EDD) statement;
    - PNDI review and coordination with resource protection agencies;
    - Section 106 Consultation; and
    - Public outreach.

- Property acquisitions will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, as amended; Title VI of the Civil Rights Act of 1964; and the Pennsylvania Eminent Domain Code of 1964. Any individual or family displaced by the project would be offered the full extent of benefits and payments. Provisions would be made to ensure that any person with a disability who is displaced is offered replacement housing that meets any special needs.

Appendix A
Engineering Information

Project Identification

Originating Office: District 04 **Date:** 02/13/08

Federal Project Number: X045-248-L01E

Township/Municipality: New Milford Township, New Milford Borough, Great Bend Township, Great Bend Borough

Local Name: I-81 Susquehanna Bridge

Limits of Work (Segment/Offset)		**Construction Stations**	
Start:	**End:**	**Start:**	**End:**
2210/0471(N)	2320/3954(N)@NY	1974+68.00 (N)	2454+00.00 (N)
2235/0743(S)	2321/3979(S)@NY	1973+38.00 (S)	2458+57.00 (S)

Total Length: 98,325.6 (NB+SB) ft

Date of First Federal Authorization for Preliminary Engineering: 06/01/2009

Design Criteria

Roadway Description: SR 81: Segment 2234 and Offset 0896 to Segment 2320 and Offset 3954

Functional Classification: Freeways/Interstates ☐ Urban ☑ Rural

Current ADT: 27,168 (2017)

Design Year No-Build ADT: 54,987 (2045) **Current LOS:** N/A

Design Year Build ADT: 54,897 (2045) **Design Year Build LOS:** N/A

DHV: 0 **Truck %:** 34 **D (Directional Distribution) %:** 55

Design Speed: 70 mi/h **Posted Speed:** 65 mi/h

Required Minimum Widths

Lane Width: 24 feet ft **Shoulder Width:** 12-14' Outside; 8' Inside ft **Bridge Curb-to-Curb:** 44 to 56 feet ft

Design Exception Required? ○ Yes ◉ No

Typology: Limited Access Freeway – Rural Interstate

Topography: ○ Level ◉ Rolling ○ Mountainous

Proposed Design Criteria: New and Reconstruction

Traffic Control Measures

The following traffic control measures will be implemented:

- [x] Temporary Bridge(s)
- [x] Temporary Roadway
- [x] Detour
- [x] Ramp Closure
- [x] Other (specify)
- [ ] None

Other Description: Phased construction on I-81 will utilize temporary roadway with temporary lane shifts and temporary crossovers. Temporary Signals for SR1029 (Randolph Rd) and SR 0171.

Provisions for access by local traffic will be made and so posted.	(•) True ( ) False
Through-traffic dependent business will not be adversely affected.	(•) True ( ) False
There will be no interference with any local special event or festival.	(•) True ( ) False
There will be no substantial environmental consequences associated with the traffic control measure(s).	(•) True ( ) False
There is no substantial controversy associated with the traffic control measure(s).	(•) True ( ) False
There are no substantial impacts to bicycle or pedestrian routes.	(•) True ( ) False

---

Approximate length of planned detour: Various - See below ☑ Detour Map

Make the selection that best describes the planned detour:

- ( ) Detour will use local roads with no improvements.
- ( ) Detour will involve improvements to local roads with no resulting impacts on safety or the environment.
- ( ) Detour will involve improvements to local roads and will impact safety and/or the environment.
- (•) Detour will use only state owned roads.

Describe impacts

Susquehanna Street Detour - 6.5 MILES
Randolph Street Detour - 0.9 MILES
Exit 230 Northbound On-Ramp - 6.5 MILES
Exit 230 Southbound On-Ramp - 7.6 MILES
Exit 230 Southbound Off-Ramp - 14.4 MILES

Estimated Costs

Engineering: $ 15,794,000 **Right-of-Way:** $ 2,575,000 **Construction:** $ 217,115,000 **Utilities:** $ 515,000

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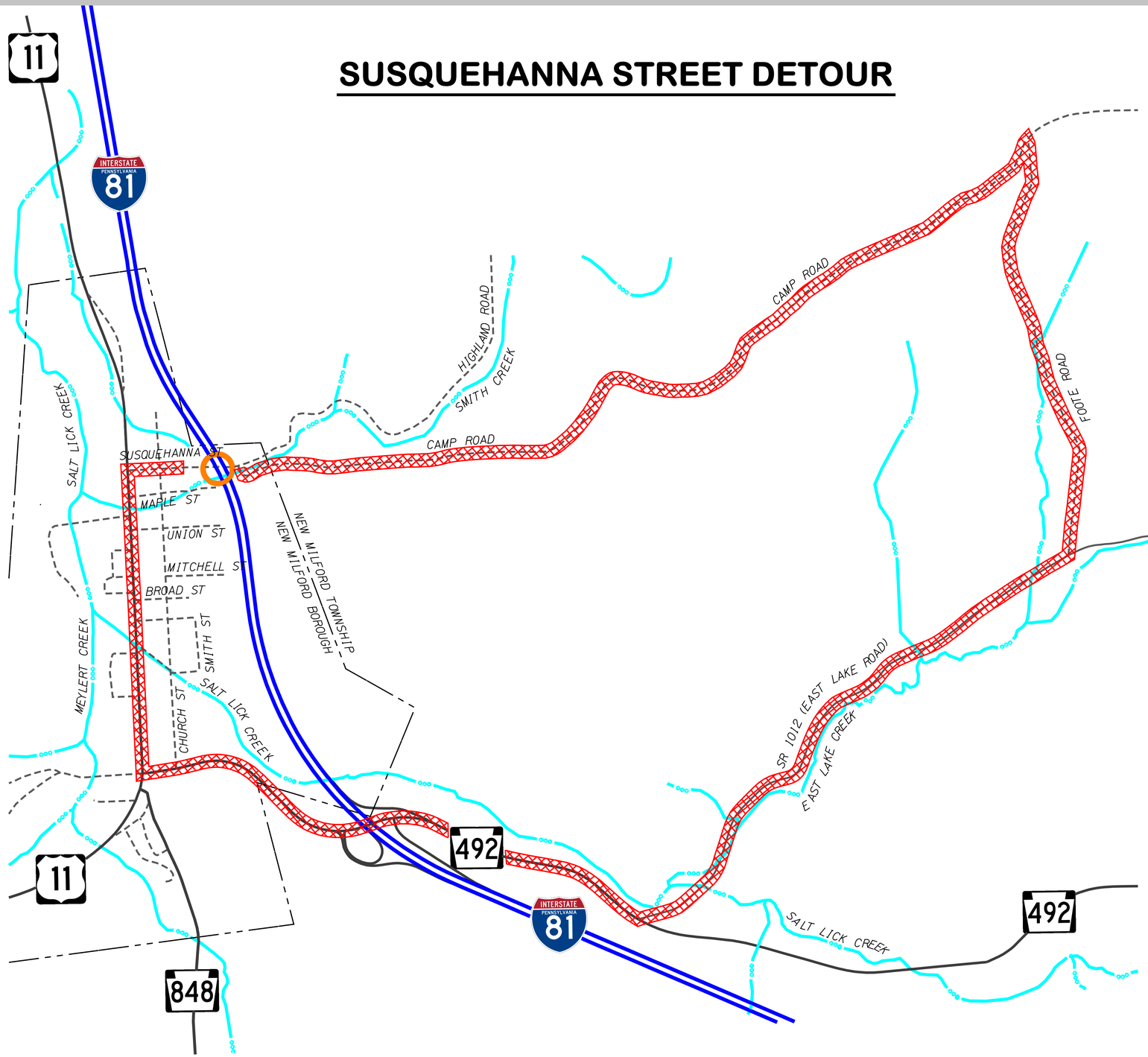
pennsylvania
DEPARTMENT OF TRANSPORTATION

INTERSTATE 81 RECONSTRUCTION PLAN

Borton Lawson
ENGINEERING | ARCHITECTURE

SUSQUEHANNA STREET DETOUR



LEGEND

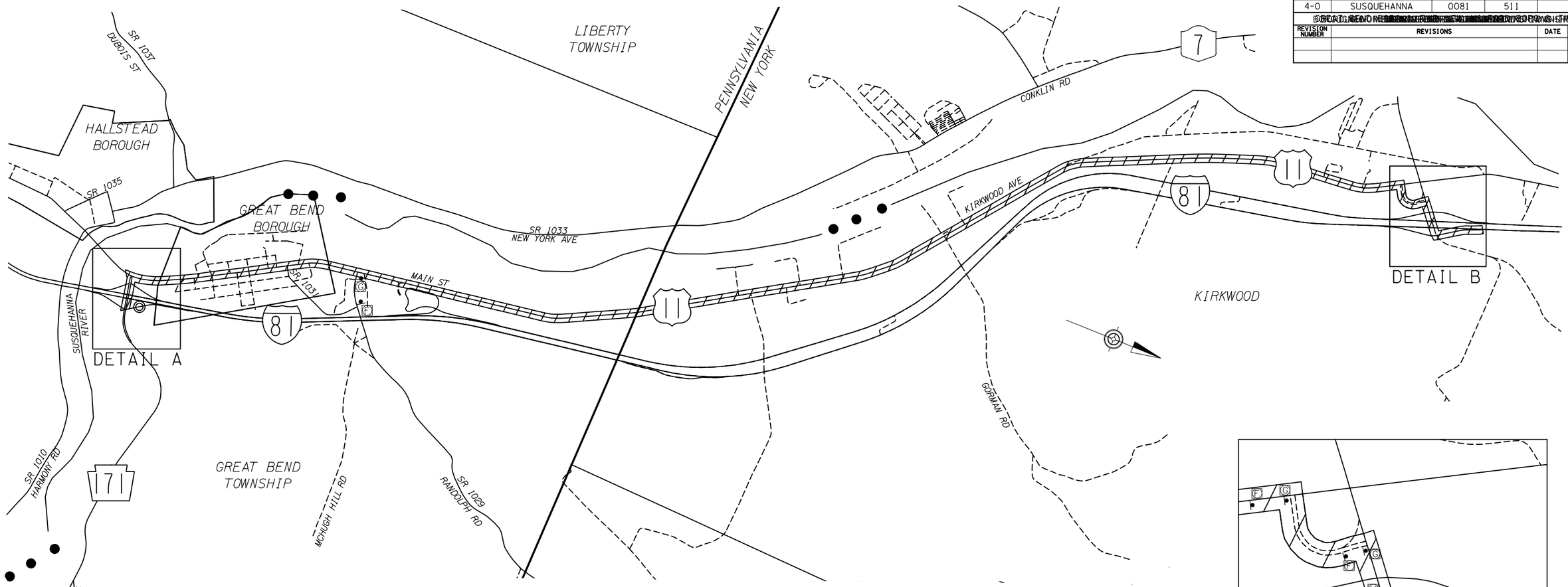
- BRIDGE LOCATION
- STREAM
- STATE HIGHWAY
- TOWNSHIP ROADS
- DETOUR ROUTE

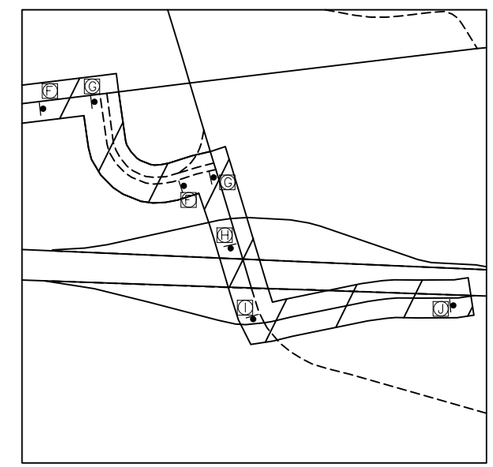
** DETOUR LENGTH 6.5 MILES

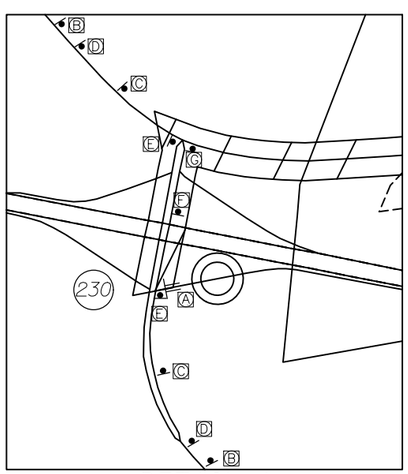
SCALE
0 700 1400 FEET

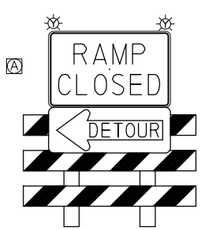
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	

REVISION NUMBER	REVISIONS	DATE	BY





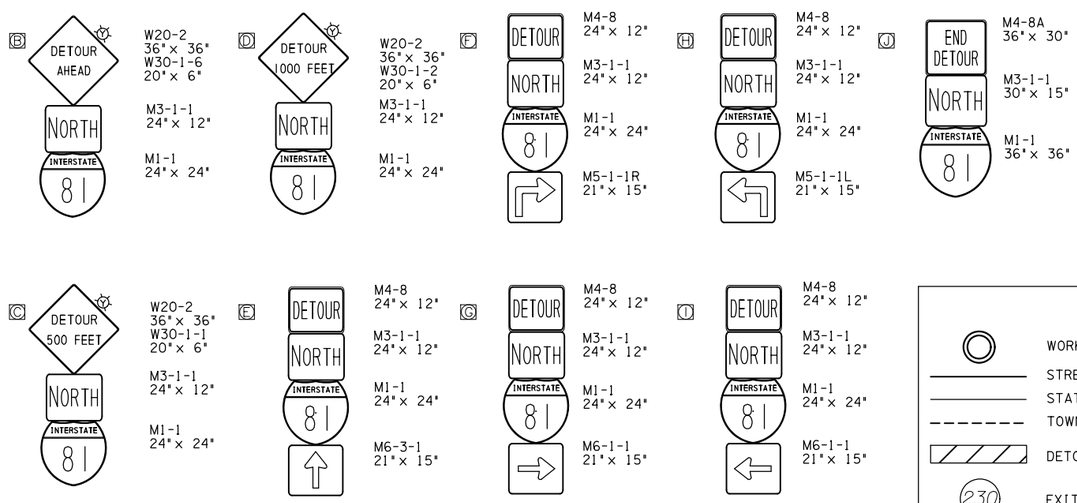




R11-2A
48"X30"

M4-10L
48"X18"

TYPE III BARRICADE



LEGEND

	WORK ZONE		TYPE III BARRICADE
	STREAM		TEMPORARY SIGN POST
	STATE HIGHWAY		TYPE "B" FLASHER - YELLOW
	TOWNSHIP ROADS		SIGN
	DETOUR ROUTE		
230	EXIT NUMBER		DETOUR LENGTH: 6.5 MILES

SCALE

0 1200 2400 FEET

EXIT 230 NB ON-RAMP DETOUR PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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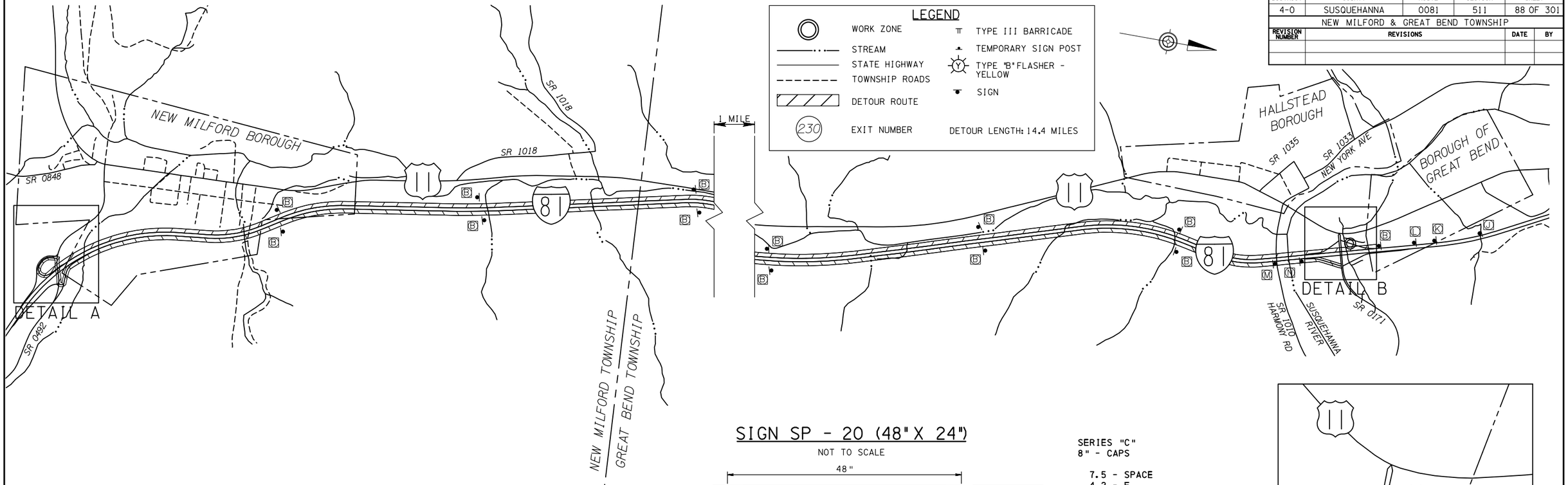
NEW MILFORD & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



SIGN SP - 20 (48" X 24")

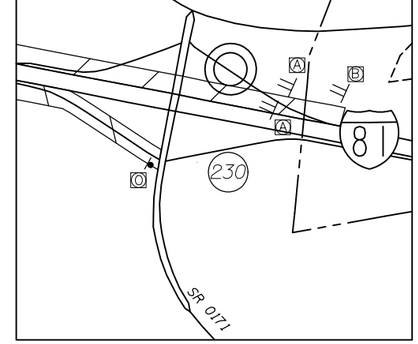
NOT TO SCALE



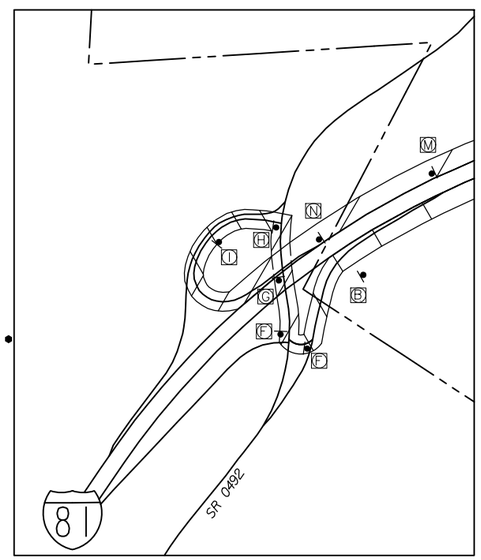
3/4" BORDER WITH 2.5" RADIUS
LEGEND AND BORDER - NON-REFLECTIVE BLACK
BACKGROUND - CLASS III REFLECTIVE ORANGE

SERIES "C"
8" - CAPS

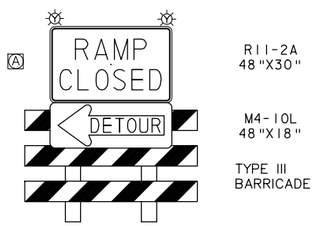
7.5	SPACE
4.2	E
4.9	X
2.2	I
3.0	T
5.9	SPACE
4.6	2
4.6	3
3.6	0
7.5	SPACE
48.0"	



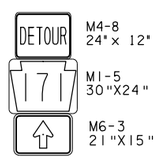
DETAIL B



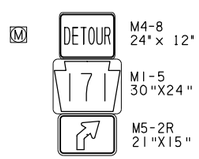
DETAIL A



A — R11-2A 48"X30"; M4-10L 48"X18"; TYPE III BARRICADE



B — M4-8 24"x 12"; M1-5 30"X24"; M6-3 21"X15"



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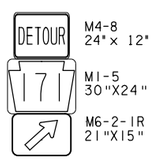
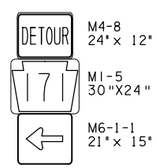


N — M4-8 24"x 12"; M1-5 30"X24"; M6-2-1R 21"X15"



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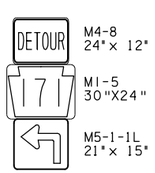

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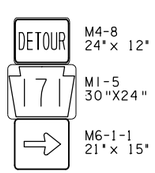

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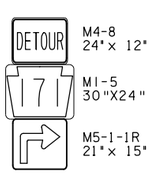
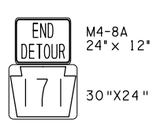


I — M4-8 24"x 12"; M1-5 30"X24"; M5-1-1R 21"x 15"



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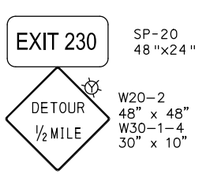

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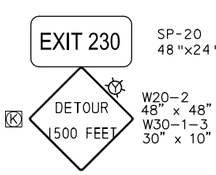

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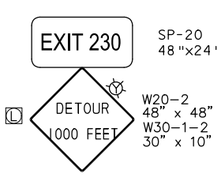

L — SP-20 48"x24"; W20-2 48" x 48"; W30-1-2 30" x 10"

SCALE

0 1200 2400 FEET

STAGES 1-PHASE B & 7
EXIT 230 SB OFF-RAMP (RAMP B) DETOUR

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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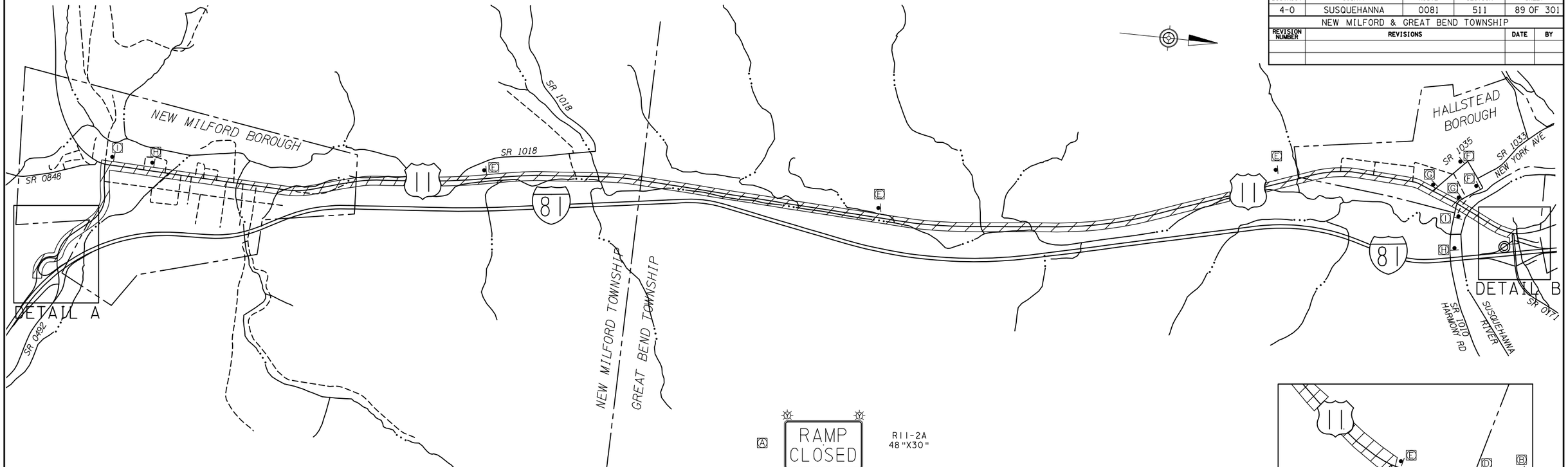
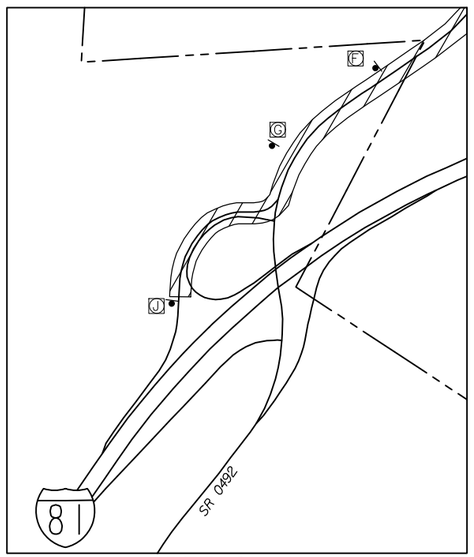
NEW MILFORD & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY





DETAIL A

DETAIL B

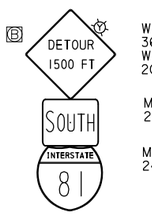
A

R11-2A
48"X30"

M4-10R
48"X18"

TYPE III
BARRICADE

B

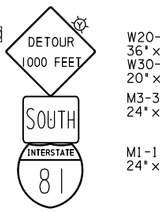


W20-2
36"x 36"
W30-1-3
20"x 6"

M3-3-1
24"x 12"

M1-1
24"x 24"

D

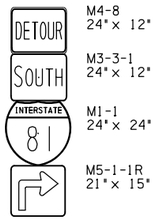


W20-2
36"x 36"
W30-1-2
20"x 6"

M3-3-1
24"x 12"

M1-1
24"x 24"

F



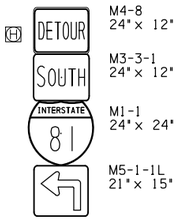
M4-8
24"x 12"

M3-3-1
24"x 12"

M1-1
24"x 24"

M5-1-1R
21"x 15"

H



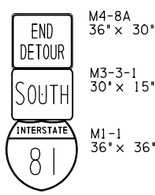
M4-8
24"x 12"

M3-3-1
24"x 12"

M1-1
24"x 24"

M5-1-1L
21"x 15"

J

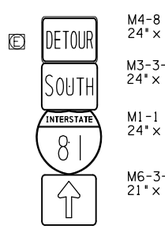


M4-8A
36"x 30"

M3-3-1
30"x 15"

M1-1
36"x 36"

E



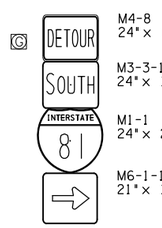
M4-8
24"x 12"

M3-3-1
24"x 12"

M1-1
24"x 24"

M6-3-1
21"x 15"

G



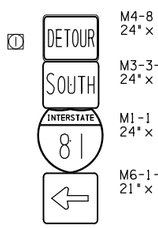
M4-8
24"x 12"

M3-3-1
24"x 12"

M1-1
24"x 24"

M6-1-1
21"x 15"

I



M4-8
24"x 12"

M3-3-1
24"x 12"

M1-1
24"x 24"

M6-1-1
21"x 15"

LEGEND

- WORK ZONE
- STREAM
- STATE HIGHWAY
- TOWNSHIP ROADS
- DETOUR ROUTE
- EXIT NUMBER (230)
- TYPE III BARRICADE
- TEMPORARY SIGN POST
- TYPE "B" FLASHER - YELLOW (Y)
- SIGN

DETOUR LENGTH: 7.6 MILES

SCALE

0 1200 2400 FEET

STAGES 1-PHASE B, 7 & 8-PHASE B
EXIT 230 SB ON-RAMP (RAMP C) DETOUR

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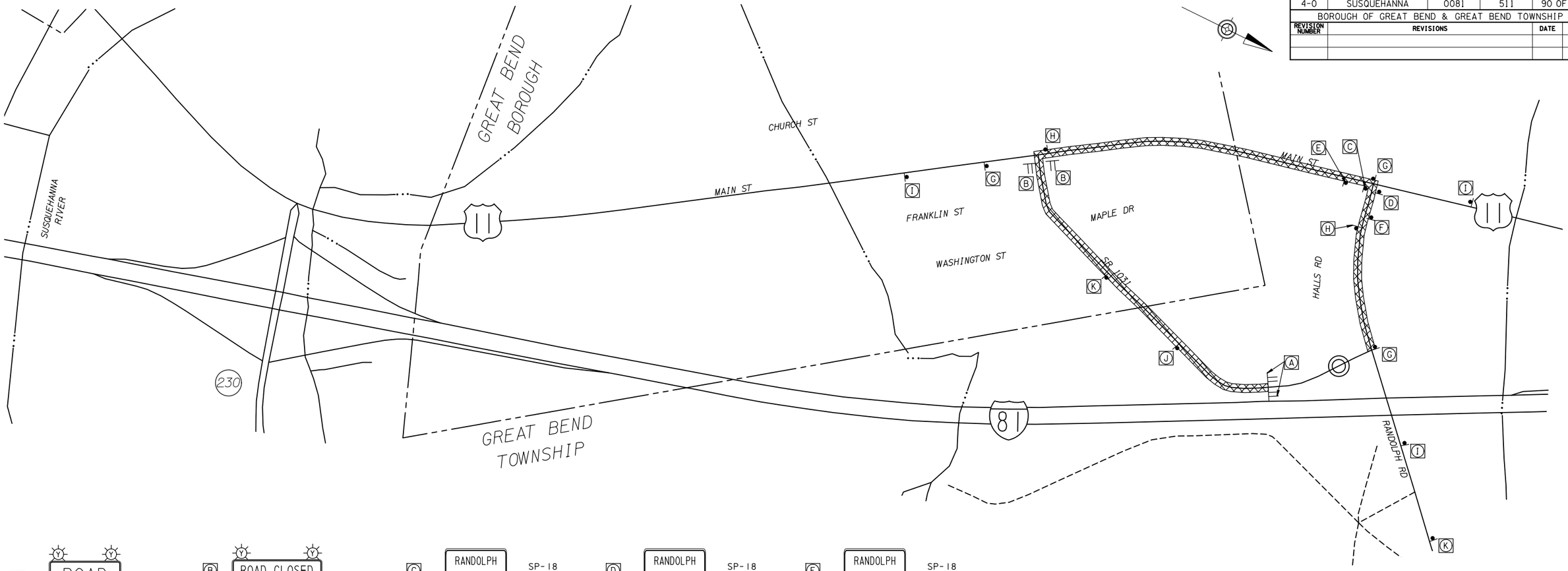
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	90 OF 301
BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



A — ROAD CLOSED — R11-2 48"X 30" — TYPE III BARRICADE

B — ROAD CLOSED 0.3 MILES AHEAD LOCAL TRAFFIC ONLY — R11-3A 60"X 30" — DETOUR — M4-10L 48"X 18" — TYPE III BARRICADE

C — RANDOLPH STREET / DETOUR ⇨ — SP-18 28"X18" — M4-9R 30"X24"

D — RANDOLPH STREET / DETOUR ⇦ — SP-18 28"X18" — M4-9L 30"X24"

E — RANDOLPH STREET / DETOUR ⇨ — SP-18 28"X18" — M4-9SR 30"X24"

F — RANDOLPH STREET / DETOUR ⇦ — SP-18 28"X18" — M4-9SL 30"X24"

G — RANDOLPH STREET / DETOUR ⇧ — SP-18 28"X18" — M4-9S 30"X24"

H — RANDOLPH STREET / END DETOUR — SP-18 28"X18" — M4-8A 24"X18"

I — DETOUR AHEAD — W20-2 36"X36" W30-1-6 20"X6"

J — ROAD CLOSED 500 FT — W20-3 36"X36" W30-1-1 20"X6"

K — ROAD CLOSED 1000 FT — W20-3 36"X36" W30-1-2 20"X6"

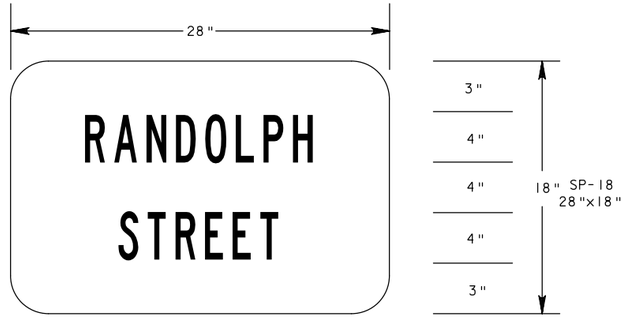
LEGEND

- WORK ZONE
- STREAM
- STATE HIGHWAY
- TOWNSHIP ROADS
- DETOUR ROUTE
- 230 — EXIT NUMBER
- TYPE III BARRICADE
- TEMPORARY SIGN POST
- TYPE 'B' FLASHER - YELLOW
- SIGN

DETOUR LENGTH: 0.9 MILES

SCALE

0 250 500 FEET



SERIES - C CAPITALS
4" UPPER CASE LETTERING

2.5 -	6.1 -
2.9 - R	2.9 - S
3.2 - A	2.7 - T
3.0 - N	3.0 - R
2.9 - D	2.7 - E
3.2 - O	2.5 - E
2.7 - L	2.0 - T
3.0 - P	6.1 -
2.2 - H	28.0"
2.4 -	
28.0"	

NON-REFLECTIVE BLACK LEGEND AND BORDER ON FLUORESCENT ORANGE BACKGROUND. BACKGROUND WILL BE TYPE III REFLECTING MATERIAL WITH ¾" BORDER AND 2½" RADIUS ON CENTER.

SR 1029 - STAGES 1 & 2
SR 1031 (RANDOLPH STREET) DETOUR

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Roadway

Roadway Description
Full Reconstruction Project SR 0081, Section 511 Northbound - Segment 2234, Offset 0896 to Segment 2320, Offset 3954

	Existing	Proposed
Number of Lanes:	2	2
Lane Width:	24 ft	24 ft
Shoulder Width:	8-10 ft Outsd; 8 ft insd ft	12-14 ft Outsd; 8 ft Insd ft
Median Width:	Varies ft	Varies ft
Sidewalk Width:	(N/A) ft	(N/A) ft
Bicycle Lane Width:	NA ft	NA ft
Clear Zone Width:	Varies ft	30 ft

Structure

BMS Number: 57-0081-2300-1054 **BRKEY:** 32209

Description: Northbound: SR 81 over SR 1010 & SUSQUEHANNA RIVER Full Replacement - 4-Span

	Existing	Proposed
Structure Type:	Riveted Steel I-Beam Stringer	P/S Concrete Bulb-Tee Beams on Stub Abut
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	34 ft	56 ft
Lane Width:	12 ft	12 ft
Shoulder Width:	5 ft	8 Lt; 12 Rt ft
Sidewalk Width:	N/A ft	N/A ft
Total Bridge Width*:	37.5 ft	59.33 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	15-4" ft	17.75 ft
Lateral Clearance:	N/A ft	N/A ft
Sufficiency Rating:	80.8	
Structure Length:	669.5 ft	710 ft

BMS Number: 57-0081-2304-0000 **BRKEY:** 32211

Description: Northbound: SR 81 over SR 0171 - at EXIT 230 Interchange Full Replacement - Single Span

	Existing	Proposed
Structure Type:	3-Span P/S Concrete Spread & Adj Box Beams	P/S Concrete Bulb Tee Beams on Full Heigh Abut
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	41 ft	44 ft
Lane Width:	12 ft	12 ft
Shoulder Width:	6-6" Lt; 10-6" Rt ft	8 Lt; 12 Rt ft
Sidewalk Width:	N/A ft	N/A ft
Total Bridge Width*:	45.5 ft	47.33 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	14-9" ft	17.5 ft
Lateral Clearance:	6.2 ft	14.5 ft
Sufficiency Rating:	81.8	
Structure Length:	135-1" ft	87 ft

Structure

BMS Number: 57-0081-2314-0961 **BRKEY:** 32215

Description: Northbound: SR 81 over Trowbridge Creek Full Replacement - Single Span

	Existing	Proposed
Structure Type:	P/S Concrete Adj Box Beam	P/S Conc Bulb Tee Beams on Integral Abut
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	42-6" ft	44 ft
Lane Width:	12 ft	12 ft
Shoulder Width:	6-3" Lt; 10-3" Rt ft	8 Lt; 12 Rt ft
Sidewalk Width:	N/A ft	N/A ft
Total Bridge Width*:	46 ft	47.33 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	7.3 ft	7.6 ft
Lateral Clearance:	N/A ft	N/A ft
Sufficiency Rating:	86.1	
Structure Length:	79.5 ft	109 ft

BMS Number: 57-0081-2305-0000 **BRKEY:** 32213

Description: Southbound: SR 81 over SR 0171 at EXIT 230 Interchange Full Replacement - Single Span

	Existing	Proposed
Structure Type:	P/S Concrete Spread Box Beam	P/S Concrete Bulb Tee Beams on Full Height Abut
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	41 ft	44 ft
Lane Width:	12 ft	12 ft
Shoulder Width:	6-6" Lt; 10-6" Rt ft	8 Lt; 12 Rt ft
Sidewalk Width:	N/A ft	N/A ft
Total Bridge Width*:	45-6" ft	47.33 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	14-9" ft	17.5 ft
Lateral Clearance:	6.25 ft	14.5 ft
Sufficiency Rating:	84.1	
Structure Length:	135-1" ft	82 ft

Structure

BMS Number: 57-0081-2301-1035 **BRKEY:** 32210

Description: Southbound: SR 81 over SR 1010 & SUSQUEHANNA RIVER Full Replacement - 4-Span

	Existing	Proposed
Structure Type:	Riveted Steel I-Beam	P/S concrete Bulb Tee Beams on Stub Abut
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	34 ft	56 ft
Lane Width:	12 ft	12 ft
Shoulder Width:	5 ft	8 Lt; 12 Rt ft
Sidewalk Width:	N/A ft	N/A ft
Total Bridge Width*:	37-6" ft	59.33 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	15.33 ft	17.75 ft
Lateral Clearance:	N/A ft	NA ft
Sufficiency Rating:	80.9	
Structure Length:	669-6" ft	710 ft

BMS Number: 57-0081-2315-0890 **BRKEY:** 32216

Description: Southbound: SR 81 over Trowbridge Creek Full Replacement - Single Span

	Existing	Proposed
Structure Type:	P/S Concrete Spread Box Beam	P/S Conc Bulb Tee Beams on Integral Abut
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	42-6" ft	Varies 56 to 56.33 ft
Lane Width:	12 ft	12 ft
Shoulder Width:	9-9" Rt; 8-8" Lt ft	8 Lt; 12 Rt ft
Sidewalk Width:	N/A ft	N/A ft
Total Bridge Width*:	46 ft	Varies 56.33 to 59.75 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	7.8 to 9 ft	8.8 ft
Lateral Clearance:	N/A ft	N/A ft
Sufficiency Rating:	97.2	
Structure Length:	81 ft	104 ft

Structure

BMS Number: 57-1029-0010-1051 **BRKEY:** 32453

Description: SR 1029 (Randolph Road) over SR 81 Full Replacement - 2-Span

	Existing	Proposed
Structure Type:	Steel I-Beam	P/S Conc Bulb Tee Beams on Full Height Abut
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	28 ft	35.0 ft
Lane Width:	10.0 ft	10.0 ft
Shoulder Width:	4.0 ft	7'-6" ft
Sidewalk Width:	5.0 ft	N/A ft
Total Bridge Width*:	37.0 ft	38.33 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	16.33 ft	16.56 ft
Lateral Clearance:	N/A ft	N/A ft
Sufficiency Rating:	86.8	
Structure Length:	194 ft	152'-7" ft

BMS Number: 57-0081-2240-2600 **BRKEY:** 32205

Description: Northbound: SR 81 over SUSQUEHANNA STREET Full Replacement - Single Span

	Existing	Proposed
Structure Type:	Concrete T-Beam	Precast Concrete Arch on CIP RC Ftg & Ped Walls
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	42'-7" ft	N/A (Arch) ft
Lane Width:	12 ft	12 ft
Shoulder Width:	11 Rt; 7 Lt ft	8 ft LT; 12 ft RT ft
Sidewalk Width:	N/A ft	N/A ft
Total Bridge Width*:	46 ft	32 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	16 ft	16-6" ft
Lateral Clearance:	N/A ft	N/A ft
Sufficiency Rating:	95.0	
Structure Length:	36-9" ft	180 ft

Structure

BMS Number: 57-0081-2245-0000 **BRKEY:** 32206

Description: Southbound: SR 81 over SUSQUEHANNA STREET Full Replacement - Single Span

	Existing	Proposed
Structure Type:	Concrete T-Beam	Precast Concrete Arch on CIP RF Ftg with Ped Walls
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	42-7" ft	N/A (Arch) ft
Lane Width:	12 ft	12 ft
Shoulder Width:	11Rt; 7 Lt ft	8 ft LT; 12 ft Rt ft
Sidewalk Width:	N/A ft	N/A ft
Total Bridge Width*:	46 ft	32 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	16 ft	16.5 ft
Lateral Clearance:	N/A ft	N/A ft
Sufficiency Rating:	95.0	
Structure Length:	36-9" ft	180 ft

BMS Number: 57-0081-2304-0904 **BRKEY:** 32212

Description: Northbound: SR 81 over Central New York Railroad Full Replacement - Single Span

	Existing	Proposed
Structure Type:	P/S Concrete Adj Box Beams	Precast Concrete Arch on CIP RF Ftg with Ped Walls
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	48 ft	N/A (Arch) ft
Lane Width:	12 ft	12 ft
Shoulder Width:	5 Lt; 7 Rt ft	8 Lt; 12 Rt ft
Sidewalk Width:	N/A ft	N/A ft
Total Bridge Width*:	51-6" ft	48 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	23-11" ft	23'-2" ft
Lateral Clearance:	18.3 ft	16.0 ft
Sufficiency Rating:	95.2	
Structure Length:	136 ft	150 ft

Structure

BMS Number: 57-0081-2305-0920 **BRKEY:** 32214

Description: Southbound: SR 81 over Central New York Railroad Full Replacement - Single Span

	Existing	Proposed
Structure Type:	Steel I-Beam	Precast Concrete Arch on CIP RF Ftg withPed Walls
Weight Restrictions:	None ton	None ton
Height Restrictions:	None ft	None ft
Curb to Curb Width:	42 ft	N/A (Arch) ft
Lane Width:	12 ft	12 ft
Shoulder Width:	7 Lt; 11 Rt ft	8 Lt; 12 Rt ft
Sidewalk Width:	N/A ft	N/A ft
Total Bridge Width*:	45-6" ft	48 ft

***Total Bridge Width is measured from outside of barrier to outside of barrier, which should include sidewalks, when present.**

Under Clearance:	23'-8" ft	23'-2" ft
Lateral Clearance:	18 ft	16.33 ft
Sufficiency Rating:	97.2	
Structure Length:	136-1" ft	150 ft

Appendix B
Design Plans

DISTRICT	STATE	COUNTY	TOWNSHIP	BOROUGH	ROUTE	SECTION	TOTAL SHEETS
4-0	PENNSYLVANIA	SUSQUEHANNA	GREAT BEND	GREAT BEND	0081	511	247
			NEW MILFORD	NEW MILFORD			
	NEW YORK	BROOME	KIRKWOOD		0081	511	

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF TRANSPORTATION

DRAWINGS
FOR
CONSTRUCTION
OF

STATE ROUTE 0081 SECTION 511

IN SUSQUEHANNA COUNTY, PENNSYLVANIA

NORTHBOUND FROM STA. 1969+00.00 TO STA. 2453+03.00 LENGTH 48,346.00 FT. 9.156 MI.
FROM SEG. 2234 OFFSET 0396 TO SEG. TBD OFFSET TBD

SOUTHBOUND FROM STA. 1969+00.00 TO STA. 2453+51.00 LENGTH 48,353.00 FT. 9.158 MI.
FROM SEG. 2235 OFFSET 0393 TO SEG. TBD OFFSET TBD

AND

STATE ROUTE 0081 SECTION 511

IN BROOME COUNTY, NEW YORK

NORTHBOUND FROM STA. 2453+03.00 TO STA. 2463+00.00 LENGTH 853.00 FT. 0.162 MI.

SOUTHBOUND FROM STA. 2453+51.00 TO STA. 2471+00.00 LENGTH 1,662.00 FT. 0.315 MI.

TOTAL LENGTH 99,214.00 FT. 18.791 MI.

ALSO
STATE ROUTE 8011 (INTERCHANGE)

ALSO
STATE ROUTE 9203 (INTERCHANGE)

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

DESIGN DESIGNATION

HIGHWAY CLASSIFICATION	- RURAL INTERSTATE
ROADWAY TYPOLOGY	- LIMITED ACCESS FREEWAY
DESIGN SPEED	- 70 MPH
PAVEMENT WIDTH	- 4 12' LANES
SHOULDER WIDTH	- 8' LT, 12' RT
MEDIAN WIDTH	- VARIES

TRAFFIC DATA

CURRENT A.D.T.	- 28,728 (2026)
DESIGN YEAR A.D.T.	- 41,474 (2046)
D.H.V.	- 2,897
D	- 55%
T	- 33%

ECMS NO. 75917
PUC DOCKET NUMBER A-2020-3019357
SR 0081 PREVIOUSLY KNOWN AS ROUTE 1001

ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 1974+00.00 TO STATION 1452+21.63 NORTHBOUND AND FROM STATION 1972+50.00 TO STATION 1452+87.62 SOUTHBOUND. APPROVED BY THE GOVERNOR, FEBRUARY 18, 1958.

RE-ESTABLISHED AS A LIMITED ACCESS HIGHWAY FROM STATION 1016+50.00 TO STATION 1397+15.00, STATE ROUTE 0081, SECTION 511 R/W RECORDED ON JUNE 17, 2021 AND RE-RECORDED ON XX.

ALSO INCLUDED:

TRAFFIC CONTROL PLAN	301 SHEETS
SIGNING AND PAVEMENT MARKING PLAN	106 SHEETS
EROSION AND SEDIMENT POLLUTION CONTROL PLAN	283 SHEETS
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN	58 SHEETS
TEMPORARY TRAFFIC SIGNAL PLAN	7 SHEETS
STREAM MITIGATION	X SHEETS
STRUCTURE PLANS	
S-40117	4 SHEETS
S-37509	34 SHEETS
S-40116	5 SHEETS
S-40118	13 SHEETS
S-37616	105 SHEETS
S-37507	71 SHEETS
S-37522	42 SHEETS
S-37568	55 SHEETS
S-37596	87 SHEETS
S-40110	4 SHEETS
CROSS SECTIONS	662 SHEETS
EXISTING STRUCTURE PLANS	
S-3199	6 SHEETS
S-3201	8 SHEETS
S-3202-A	6 SHEETS
S-3203	8 SHEETS
S-3204	6 SHEETS
S-3205	3 SHEETS
OPEN ROAD CASHLESS TOLLING PLANS	X SHEETS

PREPARED BY:

BORTON-LAWSON
613 BALTIMORE DRIVE, SUITE 300
WILKES-BARRE, PA 18702-7903

REGISTERED PROFESSIONAL ENGINEER

DATE NOVEMBER 15, 2021

RECOMMENDED DATE: _____

DISTRICT EXECUTIVE

RECOMMENDED DATE: _____

DEPUTY SECRETARY

APPROVED DATE: _____

SECRETARY OF TRANSPORTATION
(ON BEHALF OF THE GOVERNOR AS WELL AS THE SECRETARY)

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	2 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

SHEET INDEX BLOCK

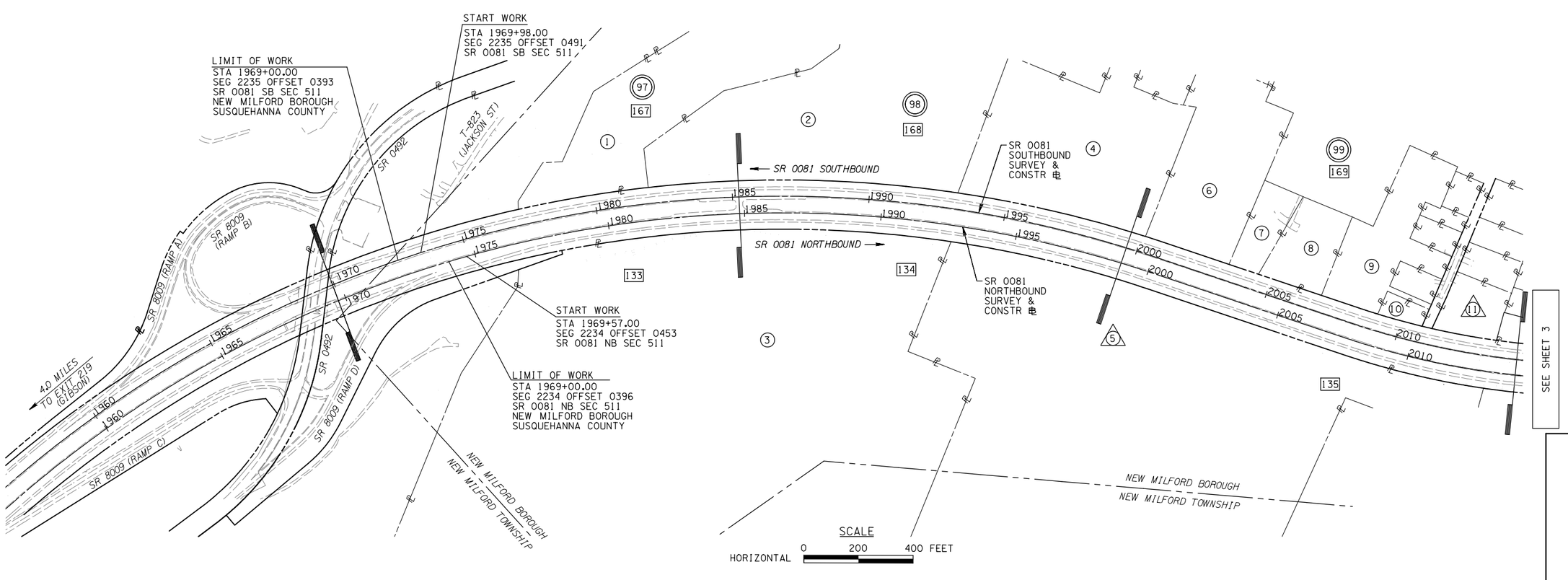
DESCRIPTION	SHEET
TITLE SHEET	1
INDEX MAP	2 TO 7
EXISTING ROADWAY PAVEMENT	8 TO 9
GENERAL NOTES	10
LOCATION MAP	11
UTILITIES/EARTHWORK SUMMARY	11
PROJECT COORDINATES	12
REFERENCE CIRCLES	13
TYPICAL SECTIONS	14 TO 32
DETAILS	33 TO 71
SUMMARY SHEETS	72 TO 76
TABULATION SHEETS	77 TO 96
PLAN SHEETS	97 TO 132
PROFILE SHEETS	133 TO 213
CONTOUR GRADING AND DRAINAGE PLAN SHEETS	214 TO 247

LIST OF PROPERTY OWNERS

PARCEL	OWNER	PARCEL ID NO.
1	*THE BOROUGH OF NEW MILFORD*	109.06-2,22.00
2	*LAWRENCE FAMILY THE HILL LLC*	109.06-2,016.03
3	*RONALD E.YOUNG,JR.*	109.00-1,020.00
4	*JOHN J.ABBOTT & SUSAN J.ABBOTT*	109.06-2,007.00
5	*MITCHELL FAMILY TRUST*	090.00-1,061.00
6	*ERICK M.STONE & KELLY L.STONE*	109.06-2,012.00 109.06-2,004.00
7	*KAREN MCINTYRE AND BRENDA PRUITT*	090.18-2,026.00
8	*JASON R.BIRTCH*	090.18-2,025.00
9	*JOSEPH M.TAYLOR,JR.& SR.*	090.18-2,021.00
10	*MICHAEL ERICSON*	090.18-2,015.00
11	*GERALD E.ZICK & JANE A.ZICK*	090.18-2,014.00

LEGEND

- PLAN
- PROFILE
- PARCEL IDENTIFICATION NUMBER
- PARCEL IDENTIFICATION NUMBER - NO TAKE
- PAGE BREAK



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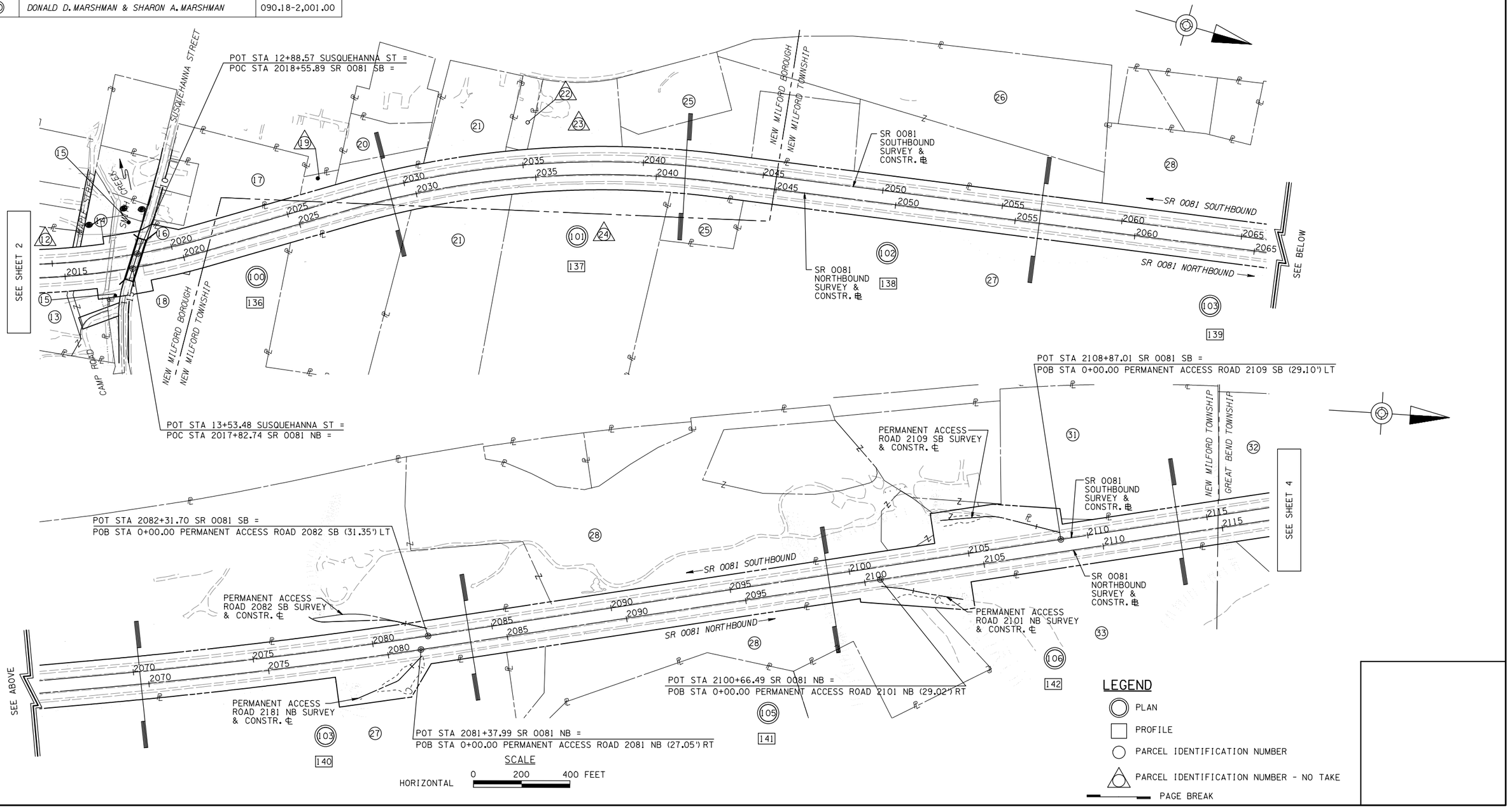
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	3 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

TABULATION OF PROPERTY OWNERS

PARCEL	OWNER	PARCEL ID NO.
12	JAMES C. REYNOLDS	090.18-2,006.00
13	PHILLIP E. JAMES & JEAN LORRAINE JAMES	090.18-2,062.00
14	FREDRICK RONALD SHIPTOSKI	090.18-2,005.00
15	SCOTT T. YOUNG	090.18-2-051.01
16	UNKNOWN OWNER	-
17	REBECCA LYNN KINNEY	090.18-2,002.00
18	JUDITH ANN HUMBERT	090.00-1,068.00
19	GLENN A. BAILEY, MARK C. BAILEY, BRIAN C. BAILEY & GARY R. BAILEY	090.18-2,060.00
20	DONALD D. MARSHMAN & SHARON A. MARSHMAN	090.18-2,001.00
21	JERRY L. DECKER AND DEBORAH DECKER	090.14-1,003.00
22	JAMES B. STOCKHOLM	090.14-1,002.00
23	FREDERICK R. & MELINDA SHIPTOSKI	090.14-1,001.00
24	HARRY E. SQUARES, JR.	090.00-1,033.01
25	B & D BROTHERS, LLC.	090.14-1,005.00
26	NEW MILFORD TWP SUPERVISORS	090.00-1,020.00
27	PETER K. HOGLE AND JANET M. HOGLE, ETAL	090.00-1,003.00,00.-02
		090.00-1,033.00.000
28	B & D BROTHERS, LLC.	090.00-1,025.00
		090.00-1,029.00
		090.00-1,082.00
31	SCOTT ADAMS LLC	071.00-2,001.00
32	SOMMERVILLE LAND DEVELOPMENT, INC.	090.00-1,077.03
33	SIX PENNSE LLC	071.00-1,007.00 071.00-1,008.01



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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	4 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				
REVISION NUMBER	REVISIONS		DATE	BY

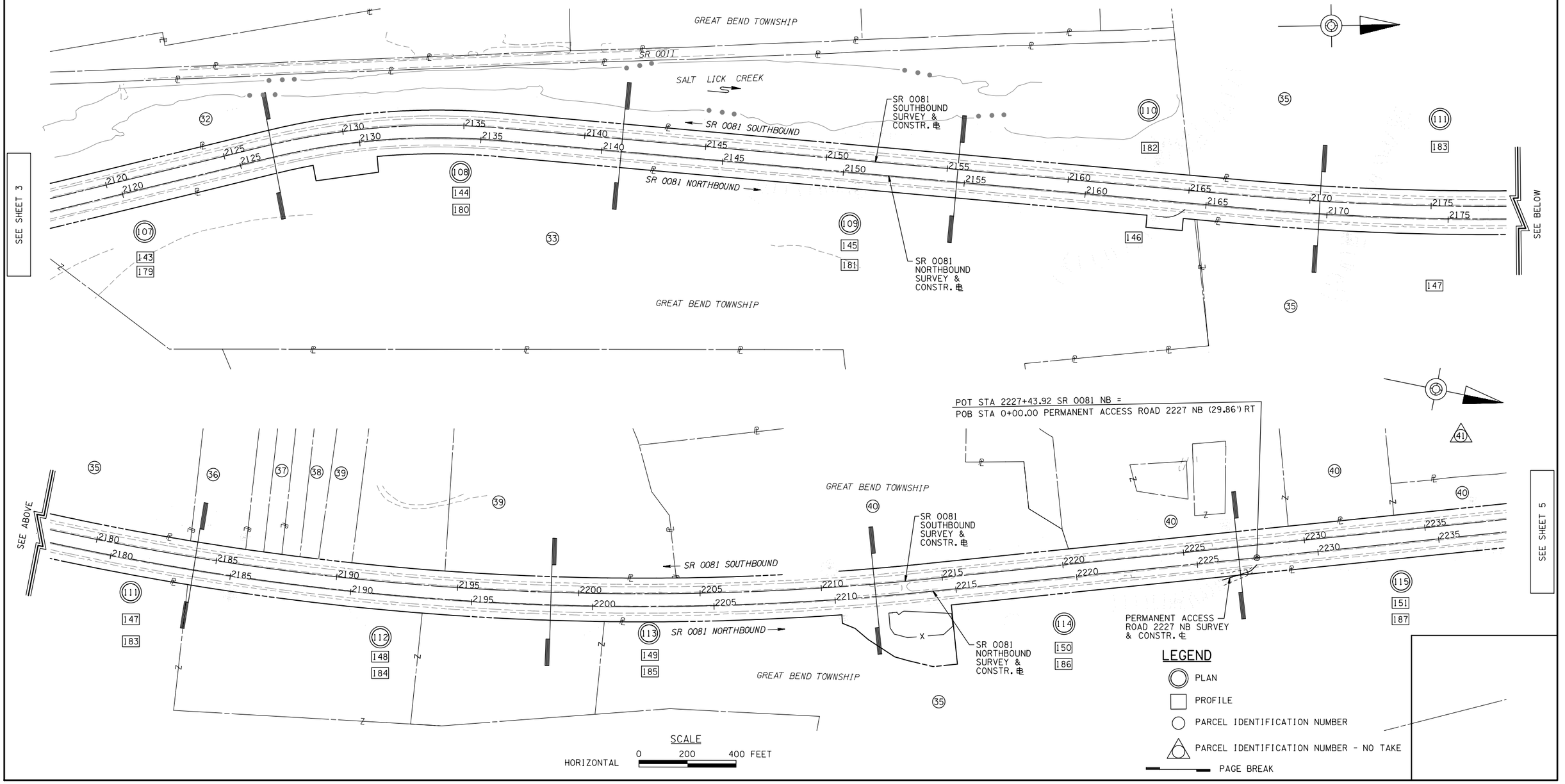
LIST OF PROPERTY OWNERS

PARCEL	OWNER	PARCEL ID NO.
32	SOMMERVILLE LAND DEVELOPMENT, INC.	090.00-1,077.03
33	SIX PENNSE LLC	071.00-1,008.01
		071.00-1,007.00
35	COMMONWEALTH OF PENNSYLVANIA	050.00-3,015.00
		050.00-3,089.00
		050.00-3,011.00

PARCEL	OWNER	PARCEL ID NO.
35	COMMONWEALTH OF PENNSYLVANIA	052.00-1,004.00
		051.00-1,029.00
		071.00-1,005.00
		071.00-1,006.00
		050.00-3,092.00
		050.00-3,091.00
		050.00-3,090.00
36	DAVID EDDLESTON AND SUSAN EDDLESTON	071.00-1,014.00
37	THERESA WALDECK	071.00-1,016.00

PARCEL	OWNER	PARCEL ID NO.
38	DAVID DURKO JR. AND NATALIE SERAFINI	071.00-1,017.00
39	KENNETH A. TINGLEY AND SANDRA J. TINGLEY	071.00-1,020.00
	SANDRA J. TINGLEY	071.00-1,020.01
		071.00-1,019.00

PARCEL	OWNER	PARCEL ID NO.
40	SCOTT L. & JACQUELYNNE GLEZEN	051.00-1,030.00
		051.00-1,034.00
		051.00-3,019.00
		051.00-1,035.00
		051.00-1,036.00
41	JOHN S. ALDRICH, JR.	050.00-3,016.00



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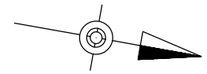
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	5 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

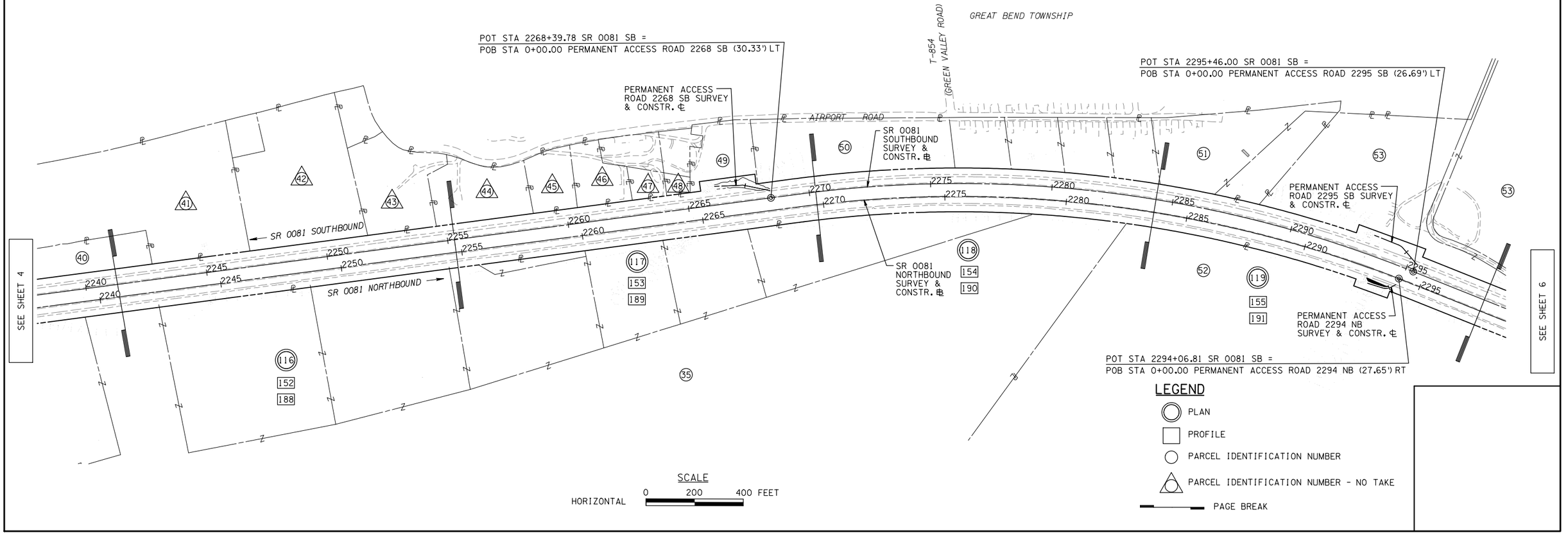
REVISION NUMBER	REVISIONS	DATE	BY

LIST OF PROPERTY OWNERS

PARCEL	OWNER	PARCEL ID NO.
35	COMMONWEALTH OF PENNSYLVANIA	052.00-1,004.00
		051.00-1,029.00
		071.00-1,005.00
		071.00-0,006.00
		050.00-3,092.00
		050.00-3,091.00
		050.00-3,090.00
		050.00-3,015.00
		050.00-3,11.00
		050.00-3,089.00
		050.00-3,011.00

PARCEL	OWNER	PARCEL ID NO.
40	SCOTT L.& JACQUELYNNE GLEZEN	051.00-1,030.00
		051.00-1,034.00
		051.00-3,019.00
41	JOHN S. ALDRICH, JR.	050.00-3,016.00
42	RONALD J.& HELEN C. SHONER	050.00-3,015.01
43	ROBERT E. LEE JR & BEVERLY B. LEE	050.00-3,009.00
44	THOMAS & BETTY SELLITO	050.00-3,010.00
45	GEORGE H. STOVER, JR. AND JUDY Y. STOVER	050.00-3,047.00
46	DONALD R.& LINDA J. ANESI	050.00-3,007.00
47	EUGENE R.& GAIL G. GRAVES	050.00-3,006.00
48	EUGENE R.& GAIL G. GRAVES	050.00-3,008.01
49	GARY WILSON & LIDIA P. PIRES	050.00-3,040.02
50	SIMMONS ROCKWELL REALTY OF PA, LLC	050.00-3,040.01
51	SCHMIDT PROPERTIES, LLC	050.00-3,093.00
52	MARGO E. BENJAMIN AND ERNEST W. BENJAMIN, III	051.00-1,017.00
53	DALE HENRY AND TRUDY HENRY	050.00-3,095.00
		050.00-3,095.00, 000./01





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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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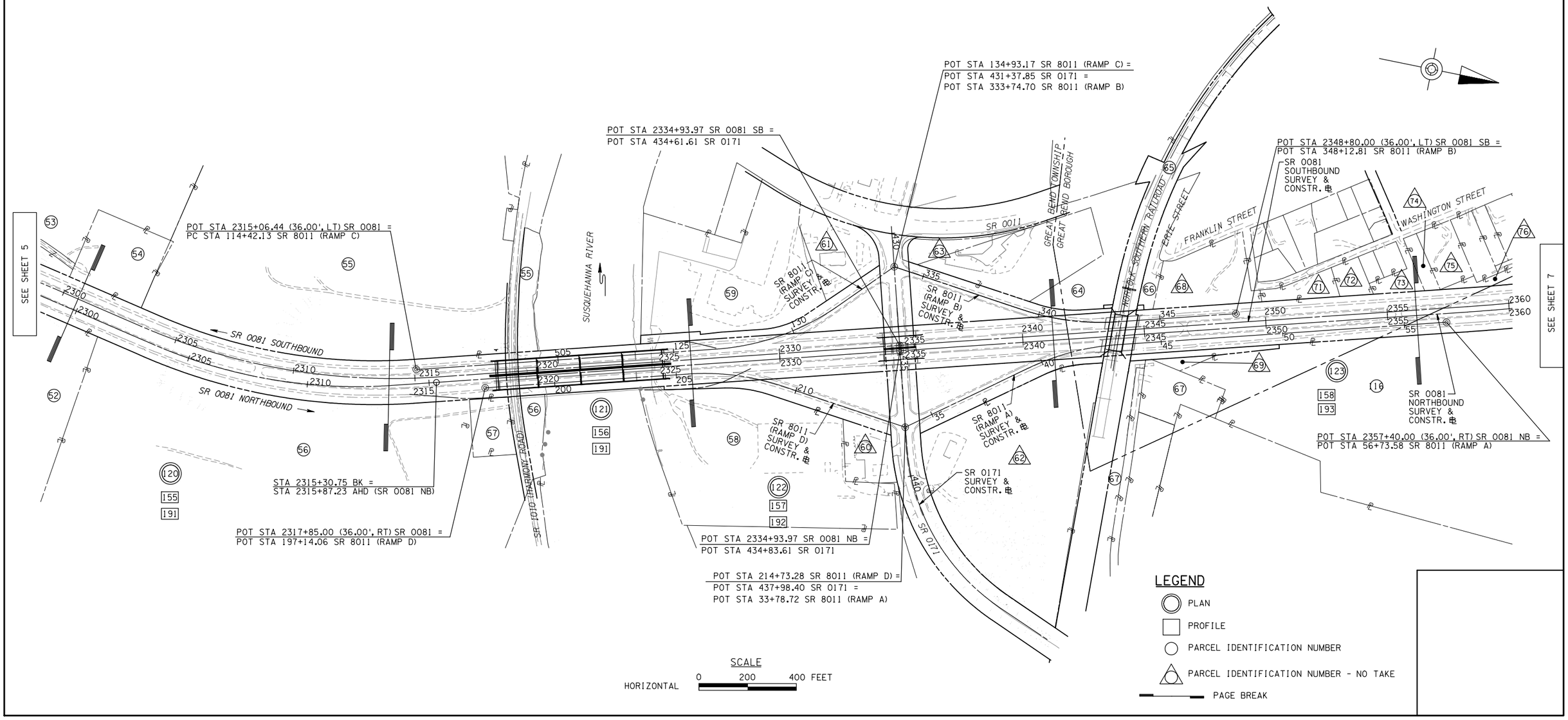
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

TABULATION OF PROPERTY OWNERS

PARCEL	OWNER	PARCEL ID NO.
52	MARGO E. BENJAMIN AND ERNEST W. BENJAMIN, III	051.00-1,017.00
53	DALE HENRY AND TRUDY HENRY	050.00-3,095.00, 000./01
54	EMIL HOLVECK & ANGEL HOLVECK	050.00-3,002.00
55	DEBORAH L. K. GUY	031.00-3,049.00
56	THE JACK MURRAY & MARSHALL METCALF SEYMOUR FAMILY TRUST, ET AL.	051.00-1,001.00
57	PENNSYLVANIA AMERICAN WATER COMPANY	031.00-3,022.00
58	HALLSTEAD ASSOCIATES	031.00-3,046.00
59	MVPGB, LLC.	031.00-3,050.00
60	PUMP N PANTRY, INC.	031.00-3,047.00
61	GREAT BEND HOLDINGS, INC.	031.00-3,056.00
62	GREAT BEND TOWNSHIP LAND CO., LLC.	031.00-3,045.00
63	HALLSTEAD PROPERTIES LLC, 13787	031.00-3,057.00
64	UNKNOWN OWNER	-
65	NORFOLK SOUTHERN RAILWAY COMPANY	031.15-1,096.00
66	JEFFREY JOHN KAMINSKI & REBECCA KAMINSKI	031.16-1,074.00
67	JERYLIN ABBOTT KING & ROBERT W. KING JR.	031.16-1,024.00
		031.00-3,044.00
68	ANTHONY J. DIMICHELE & ALBERTA R. DIMICHELE	031.16-1,025.00
69	JERRY JOYCE	031.16-1,075.00
71	CARLTON M. BURDICK JR. & VALERIE A. BURDICK	031.16-1,019.00
72	BRETT S. GROVER & ELAINE D. GROVER	031.16-1,018.00
73	GREAT BEND TOWNSHIP	-
74	CHAD G. GUZY & JUDY A. GUZY	031.16-1,015.00
75	TERRY M. VINCENT & CHERYL L. VINCENT	031.16-1,014.00
76	ROBERT E. SMALLACOMBE & MINA SMALLACOMBE	031.16-3,058.00



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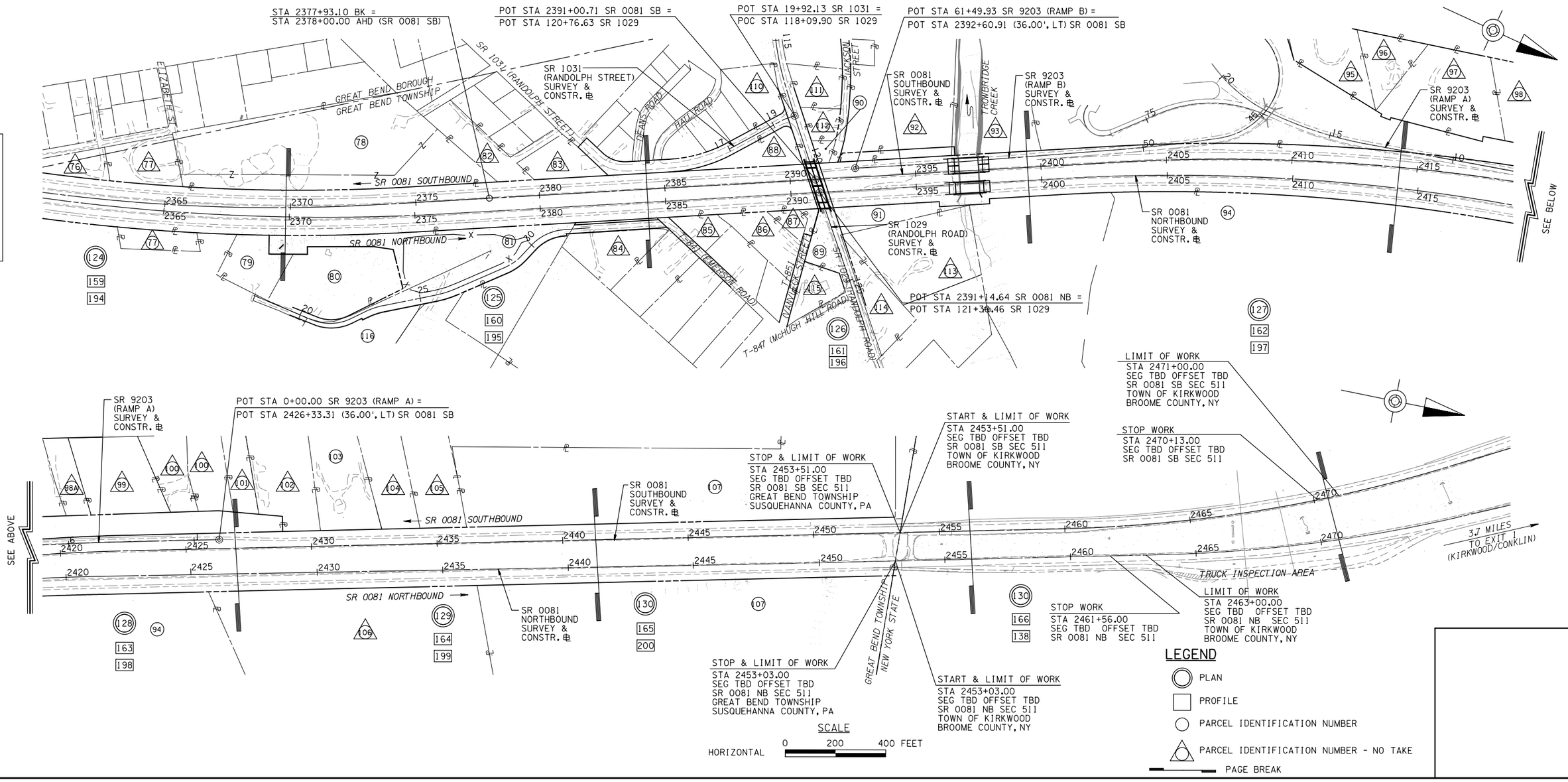
TABULATION OF PROPERTY OWNERS

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	7 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

PARCEL	OWNER	PARCEL ID NO.
76	ROBERT E. SMALLACOMBE & MINA SMALLACOMBE	031.16-3,058.00
77	JOHN T. GORDON, III & WENDI S. GORDON	031.00-3,059.00
78	DONALD J. FRANKS	031.00-3,060.00
79	TERRY LEWIS VANVLECK	031.00-3,061.00
80	ERIC GRIFFIN & ALLISON GRIFFIN	031.00-3,062.00
81	C. ROBERT EMERSON AND BONNIE D. EMERSON	031.00-3,039.00
82	FRED S. VISSER AND LORETTA DEBELLA	031.11-1,028.00
83	DAVID A. HINKLEY AND CARRIE L. HINKLEY	031.11-1,029.00
84	PATRICIA M. ALLEN	031.00-3,091.00
85	THEODORE M. WINNIE, III & DONNA WINNIE	031.00-3,063.00
86	GEORGE H. RICHARDSON, III & BELINDA J. RICHARDSON	031.00-3,065.00
87	BANK OF AMERICA NA	031.00-3,064.00
88	COMMONWEALTH OF PENNSYLVANIA	XXXX
89	MICHAEL J. MCGLYNN	031.00-3,071.00
90	RICHARD S. LESH	031.00-3,072.00
91	NANCY F. DECKER, CYNTHIA WESTON & LINDA E. FARNSWORTH	031.00-3,082.00
92	WILLIAMS FIELD SERVICES COMPANY LLC	031.00-3,023.00
93	COMMONWEALTH OF PENNSYLVANIA	031.00-3,002.00
		031.00-3,084.00
94	GEORGE H. STOVER, JR. AND JUDY Y. STOVER	012.00-1,018.00
95	DAVID L. THOMAS & ALYSON M. THOMAS	031.00-3,085.00
96	PHILIP A. LEWIS	031.00-3,086.00
97	STATELINE EVANGELICAL WESLEYAN	031.00-3,087.00
98	KAK, LLC	012.00-1,028.02
98A	CHRISTOPHER D & SHARON M GORICK	012.00-1,028.00
99	HARRY W. MARVIN, SR.	012.00-1,026.00
100	HARRY W. MARVIN & MARJORIE E. MARVIN	012.00-1,025.00
		012.00-1,024.00
101	JO ANN DOBSON	012.00-1,023.00
102	TIMOTHY L. PALMATIER & JOANN L. PALMATIER	012.00-1,022.00
103	HARRY W. MARVIN, JR.	012.00-1,021.00
104	HARRY W. MARVIN, JR. & ANGELA S. MARVIN	012.00-1,020.01
105	TOWNSHIP OF GREAT BEND	012.00-1,020.00
106	GEORGE H. STOVER, III	012.00-1,019.00
107	LEE C. ALLARD AND DIANE M. ALLARD	012.00-1,004.00
110	CATHERINE L. BLISS & JOHN C. BLISS	031.11-1,017.00
111	STACEY L. GREEN	031.00-3,074.00
112	TIMOTHY MEAD	031.00-3,073.00
113	JOHN R. WOOSTER	031.00-3,004.00
114	RALPH REYNOLDS & MARY ANN REYNOLDS	031.00-3,006.00
115	JESSICA L. WIEGAND	031.00-3,070.00
116	ERIC STEDMAN & AMY STEDMAN	031.00-3,040.01



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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	8 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

RECORD OF EXISTING TYPES OF ROADWAY PAVEMENT

SR 0081 NORTHBOUND

LIMIT OF WORK-SEGMENT 2234 OFFSET 1779 TO SEGMENT 2234 OFFSET 2624

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2240 OFFSET 0000 TO SEGMENT 2240 OFFSET 2600

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2240 OFFSET 2600 TO SEGMENT 2240 OFFSET 2638

1984	42'OF	0.50"	EPOXY COATED REINFORCEMENT, ON 5.25'DEPTH BRG DECK (BMS 57-0081-2240-2600)

SEGMENT 2240 OFFSET 2638 TO SEGMENT 2240 OFFSET 2640

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2244 OFFSET 0000 TO SEGMENT 2244 OFFSET 2637

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1995	24'OF	1.00"	LEVEL BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2250 OFFSET 0000 TO SEGMENT 2250 OFFSET 2637

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1995	24'OF	1.00"	LEVEL BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2254 OFFSET 0000 TO SEGMENT 2254 OFFSET 2626

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1995	24'OF	1.00"	LEVEL BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2260 OFFSET 0000 TO SEGMENT 2260 OFFSET 2640

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1995	24'OF	1.00"	LEVEL BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2264 OFFSET 0000 TO SEGMENT 2264 OFFSET 2633

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1995	24'OF	1.00"	LEVEL BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2270 OFFSET 0000 TO SEGMENT 2270 OFFSET 2640

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1995	24'OF	1.00"	LEVEL BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2274 OFFSET 0000 TO SEGMENT 2274 OFFSET 2642

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1989	24'OF	1.00"	BITUMINOUS WEARING COURSE ID-2 ON
1989	01'		DENSE BASE WITH EDGE DRAINS
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2280 OFFSET 0000 TO SEGMENT 2280 OFFSET 2613

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1989	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2284 OFFSET 0000 TO SEGMENT 2284 OFFSET 1387

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1989	24'OF	1.00"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1984	24'OF	2.00"	ID-2 BINDER COURSE ON
1984	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2284 OFFSET 1387 TO SEGMENT 2284 OFFSET 2580

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1989	24'OF	1.00"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1981	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2290 OFFSET 0000 TO SEGMENT 2290 OFFSET 2622

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1989	24'OF	1.00"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1981	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2294 OFFSET 0000 TO SEGMENT 2294 OFFSET 2641

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1989	24'OF	1.00"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1981	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2300 OFFSET 0000 TO SEGMENT 2300 OFFSET 2640

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2005	24'OF	2.00"	SPAV, HMA WRG, 12.5 MM, E ON
2005	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1989	24'OF	1.00"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1981	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2304 OFFSET 0000 TO SEGMENT 2304 OFFSET 0139

1980	40'OF	1.30"	NONE 7.50'DEPTH BRG DECK (BMS 57-0081-2304-0000)

SEGMENT 2304 OFFSET 0139 TO SEGMENT 2304 OFFSET 0904

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2008	24'OF	2.00"	SPAV, HMA WRG, 76-22, 12.5 MM, E ON
2008	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1989	24'OF	1.00"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1981	01'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2304 OFFSET 0904 TO SEGMENT 2304 OFFSET 1040

1999	48'OF	0.50"	EPOXY COATED REINFORCEMENT, ON 8.80'DEPTH BRG DECK (BMS 57-0081-2304-0904)

SEGMENT 2304 OFFSET 1040 TO SEGMENT 2304 OFFSET 2641

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2008	24'OF	2.00"	SPAV, HMA WRG, 76-22, 12.5 MM, E ON
2008	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1990	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1990	24'OF	3.00"	ID-2 BINDER COURSE ON
1990	01'		DENSE BASE WITH EDGE DRAINS
1990	24'OF	3.50"	MILLING
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2310 OFFSET 0000 TO SEGMENT 2310 OFFSET 0686

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2008	24'OF	2.00"	SPAV, HMA WRG, 76-22, 12.5 MM, E ON
2008	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1990	24'OF	1.50"	HEAVY DUTY BIT. WEARING COURSE ID-2 ON
1990	24'OF	3.00"	HEAVY DUTY ID-2 BINDER COURSE ON
1990	24'OF	3.50"	MILLING
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1981	24'		DENSE BASE WITH EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2310 OFFSET 0686 TO SEGMENT 2310 OFFSET 2640

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2008	24'OF	2.00"	SPAV, HMA WRG, 76-22, 12.5 MM, E ON
2008	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1990	24'OF	1.50"	HEAVY DUTY BIT. WEARING COURSE ID-2 ON
1990	24'OF	3.00"	HEAVY DUTY ID-2 BINDER COURSE ON
1990	24'OF	3.50"	MILLING
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1961	01'		DENSE BASE - NO EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2314 OFFSET 0000 TO SEGMENT 2314 OFFSET 0961

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2008	24'OF	2.00"	SPAV, HMA WRG, 76-22, 12.5 MM, E ON
2008	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1990	24'OF	1.50"	HEAVY DUTY BIT. WEARING COURSE ID-2 ON
1990	24'OF	3.00"	HEAVY DUTY ID-2 BINDER COURSE ON
1990	24'OF	3.50"	MILLING
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1961	01'		DENSE BASE - NO EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2314 OFFSET 0961 TO SEGMENT 2314 OFFSET 1042

1961	42'OF	0.50"	EPOXY COATED REINFORCEMENT, ON 4.00'DEPTH BRG DECK (BMS 57-0081-2314-0961)

SEGMENT 2314 OFFSET 1042 TO SEGMENT 2314 OFFSET 2627

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2008	24'OF	2.00"	SPAV, HMA WRG, 76-22, 12.5 MM, E ON
2008	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1990	24'OF	1.50"	HEAVY DUTY BIT. WEARING COURSE ID-2 ON
1990	24'OF	3.00"	HEAVY DUTY ID-2 BINDER COURSE ON
1990	24'OF	3.50"	MILLING
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1961	01'		DENSE BASE - NO EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

SEGMENT 2320 OFFSET 0000 TO SEGMENT 2320 OFFSET 3954

2012	24'OF	VARIOUS	DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT
2008	24'OF	2.00"	SPAV, HMA WRG, 76-22, 12.5 MM, E ON
2008	24'OF	2.00"	MILLING
1997	24'OF	2.00"	BITUMINOUS WEARING COURSE ID-3 ON
1990	24'OF	1.50"	HEAVY DUTY BIT. WEARING COURSE ID-2 ON
1990	24'OF	3.00"	HEAVY DUTY ID-2 BINDER COURSE ON
1990	24'OF	3.50"	MILLING
1981	24'OF	1.50"	BITUMINOUS WEARING COURSE ID-2 ON
1981	24'OF	2.00"	ID-2 BINDER COURSE ON
1961	01'		DENSE BASE - NO EDGE DRAINS
1961	24'OF	10.00"	REINFORCED CEMENT CONCRETE PVMT

NOTE: THE DEPTHS OF MATERIAL SHOWN ARE FOR DESIGN PURPOSES ONLY. ANY RISK OF UNANTICIPATED COSTS ASSOCIATED WITH DIFFERENCES BETWEEN THE LISTED DEPTHS AND THE ACTUAL DEPTHS SHALL BE ACCEPTED BY THE CONTRACTOR.

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	9 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				
REVISION NUMBER	REVISIONS		DATE	BY

RECORD OF EXISTING TYPES OF ROADWAY PAVEMENT

SR 0081 SOUTHBOUND

LIMIT OF WORK-SEGMENT 2235 OFFSET 1460 TO SEGMENT 2251 OFFSET 0000	2012 24'OF VARIOUS DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT 2008 24'OF 2.00" SPAV, HMA WRG, 76-22, 12.5 MM, E ON 2008 24'OF 2.00" MILLING 2003 24'OF 2.00" SPAV, HMA WRGLVL, 76-22, 12.5 MM, H ON 2003 24'OF 1.00" SPAV, HMA WRGLVL, 64-22. 9.5 MM, E ON 2003 24'OF 2.00" MILLING 1997 24'OF 2.00" BITUMINOUS WEARING COURSE ID-3 ON 1985 24'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1985 24'OF 2.00" ID-2 BINDER COURSE ON 1985 01' DENSE BASE WITH EDGE DRAINS 1961 24'OF 10.00" REINFORCED CEMENT CONCRETE PVMT
SEGMENT 2251 OFFSET 0000 TO SEGMENT 2265 OFFSET 0000	2012 24'OF VARIOUS DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT 2008 24'OF 2.00" SPAV, HMA WRG, 76-22, 12.5 MM, E ON 2008 24'OF 2.00" MILLING 2003 24'OF 2.00" SPAV, HMA WRGLVL, 76-22, 12.5 MM, H ON 2003 24'OF 1.00" SPAV, HMA WRGLVL, 64-22. 9.5 MM, E ON 2003 24'OF 2.00" MILLING 1997 24'OF 2.00" BITUMINOUS WEARING COURSE ID-3 ON 1985 24'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1985 24'OF 2.00" ID-2 BINDER COURSE ON 1985 01' DENSE BASE WITH EDGE DRAINS 1961 24'OF 10.00" REINFORCED CEMENT CONCRETE PVMT
SEGMENT 2265 OFFSET 0000 TO SEGMENT 2265 OFFSET 2684	2012 24'OF VARIOUS DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT 2008 24'OF 2.00" SPAV, HMA WRG, 76-22, 12.5 MM, E ON 2008 24'OF 2.00" MILLING 2003 24'OF 2.00" SPAV, HMA WRGLVL, 76-22, 12.5 MM, H ON 2003 24'OF 1.00" SPAV, HMA WRGLVL, 64-22. 9.5 MM, E ON 2003 24'OF 2.00" MILLING 1997 24'OF 2.00" BITUMINOUS WEARING COURSE ID-3 ON 1985 24'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1985 24'OF 2.00" ID-2 BINDER COURSE ON 1985 01' DENSE BASE WITH EDGE DRAINS 1961 24'OF 10.00" REINFORCED CEMENT CONCRETE PVMT
SEGMENT 2291 OFFSET 0000 TO SEGMENT 2301 OFFSET 0000	2012 24'OF VARIOUS DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT 2008 24'OF 2.00" SPAV, HMA WRG, 76-22, 12.5 MM, E ON 2008 24'OF 2.00" MILLING 2003 24'OF 2.00" SPAV, HMA WRGLVL, 76-22, 12.5 MM, H ON 2003 24'OF 1.00" SPAV, HMA WRGLVL, 64-22. 9.5 MM, E ON 2003 24'OF 2.00" MILLING 1997 24'OF 2.00" BITUMINOUS WEARING COURSE ID-3 ON 1989 24'OF 1.00" BITUMINOUS WEARING COURSE ID-2 ON 1981 24'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1981 24'OF 2.00" ID-2 BINDER COURSE ON 1981 01' DENSE BASE WITH EDGE DRAINS 1961 24'OF 10.00" REINFORCED CEMENT CONCRETE PVMT
SEGMENT 2301 OFFSET 0000 TO SEGMENT 2301 OFFSET 1709	2012 24'OF VARIOUS DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT 2008 24'OF 2.00" SPAV, HMA WRG, 76-22, 12.5 MM, E ON 2008 24'OF 2.00" MILLING 2003 24'OF 2.00" SPAV, HMA WRGLVL, 76-22, 12.5 MM, H ON 2003 24'OF 1.00" SPAV, HMA WRGLVL, 64-22. 9.5 MM, E ON 2003 24'OF 2.00" MILLING 1997 24'OF 2.00" BITUMINOUS WEARING COURSE ID-3 ON 1989 24'OF 1.00" BITUMINOUS WEARING COURSE ID-2 ON 1981 24'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1981 24'OF 2.00" ID-2 BINDER COURSE ON 1981 01' DENSE BASE WITH EDGE DRAINS 1961 24'OF 10.00" REINFORCED CEMENT CONCRETE PVMT
SEGMENT 2301 OFFSET 1709 TO SEGMENT 2301 OFFSET 2236	2012 24'OF VARIOUS DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT 2008 24'OF 2.00" SPAV, HMA WRG, 76-22, 12.5 MM, E ON 2008 24'OF 2.00" MILLING 2003 24'OF 2.00" SPAV, HMA WRGLVL, 76-22, 12.5 MM, H ON 2003 24'OF 1.00" SPAV, HMA WRGLVL, 64-22. 9.5 MM, E ON 2003 24'OF 2.00" MILLING 1997 24'OF 2.00" BITUMINOUS WEARING COURSE ID-3 ON 1989 24'OF 1.00" BITUMINOUS WEARING COURSE ID-2 ON 1981 24'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1981 24'OF 2.00" ID-2 BINDER COURSE ON 1981 01' DENSE BASE WITH EDGE DRAINS 1961 24'OF 10.00" REINFORCED CEMENT CONCRETE PVMT
SEGMENT 2301 OFFSET 2236 TO SEGMENT 2301 OFFSET 2622	2012 24'OF VARIOUS DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT 2008 24'OF 2.00" SPAV, HMA WRG, 76-22, 12.5 MM, E ON 2008 24'OF 2.00" MILLING 1993 24'OF 1.50" HEAVY DUTY BIT. WEARING COURSE ID-2 ON 1993 24'OF 4.50" HEAVY DUTY ID-2 BINDER COURSE ON 1993 24'OF 2.00" MILLING 1981 24'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1981 24'OF 2.00" ID-2 BINDER COURSE ON 1981 01' DENSE BASE WITH EDGE DRAINS 1961 24'OF 10.00" REINFORCED CEMENT CONCRETE PVMT
SEGMENT 2301 OFFSET 2622 TO SEGMENT 2315 OFFSET 2579	2012 24'OF VARIOUS DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT 2008 24'OF 2.00" SPAV, HMA WRG, 76-22, 12.5 MM, E ON 2008 24'OF 2.00" MILLING 1993 24'OF 1.50" HEAVY DUTY BIT. WEARING COURSE ID-2 ON 1993 24'OF 4.50" HEAVY DUTY ID-2 BINDER COURSE ON 1993 24'OF 2.00" MILLING 1981 24'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1981 24'OF 2.00" ID-2 BINDER COURSE ON 1981 01' DENSE BASE WITH EDGE DRAINS 1961 24'OF 10.00" REINFORCED CEMENT CONCRETE PVMT
SEGMENT 2315 OFFSET 2579 TO SEGMENT 2321 OFFSET 3979	2012 24'OF VARIOUS DEPTH POLYMER-MODIFIED EMULSIFIED ASPHALT 2008 24'OF 2.00" SPAV, HMA WRG, 76-22, 12.5 MM, E ON 2008 24'OF 2.00" MILLING 1993 24'OF 1.50" HEAVY DUTY BIT. WEARING COURSE ID-2 ON 1993 24'OF 4.50" HEAVY DUTY ID-2 BINDER COURSE ON 1993 24'OF 2.00" MILLING 1981 24'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1981 24'OF 2.00" ID-2 BINDER COURSE ON 1961 24'OF 10.00" REINFORCED CEMENT CONCRETE PVMT

SR 8011 RAMP A

SEGMENT 0750 OFFSET 0000 TO SEGMENT 0750 OFFSET 0638	1997 14'OF 2.00" BITUMINOUS WEARING COURSE ID-3 ON 1997 14'OF 0.50" SCRATCH BITUMINOUS WEARING COURSE ID-2 ON 1993 14'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1993 14'OF 0.50" SCRATCH BITUMINOUS WEARING COURSE ID-2 ON 1993 14'OF 1.50" MILLING (AVERAGE DEPTH) 1961 14'OF 2.50" BITUMINOUS WEARING COURSE ID-2 ON 1961 14'OF 10.00" CRUSHED AGGREGATE BASE COURSE

SR 8011 RAMP B

SEGMENT 0500 OFFSET 0000 TO SEGMENT 0500 OFFSET 0633	1993 14'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1993 14'OF 0.50" SCRATCH BITUMINOUS WEARING COURSE ID-2 ON 1993 14'OF 1.50" MILLING (AVERAGE DEPTH) 1961 14'OF 2.50" BITUMINOUS WEARING COURSE ID-2 ON 1961 14'OF 10.00" CRUSHED AGGREGATE BASE COURSE

SR 8011 RAMP C

SEGMENT 0250 OFFSET 0000 TO SEGMENT 0250 OFFSET 0483	1993 14'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1993 14'OF 0.50" SCRATCH BITUMINOUS WEARING COURSE ID-2 ON 1993 14'OF 1.50" MILLING (AVERAGE DEPTH) 1961 14'OF 2.50" BITUMINOUS WEARING COURSE ID-2 ON 1961 14'OF 10.00" CRUSHED AGGREGATE BASE COURSE

SR 8011 RAMP D

SEGMENT 0010 OFFSET 0000 TO SEGMENT 0010 OFFSET 0616	1997 14'OF 2.00" BITUMINOUS WEARING COURSE ID-3 ON 1997 14'OF 0.50" SCRATCH BITUMINOUS WEARING COURSE ID-2 ON 1993 14'OF 1.50" BITUMINOUS WEARING COURSE ID-2 ON 1993 14'OF 0.50" SCRATCH BITUMINOUS WEARING COURSE ID-2 ON 1993 14'OF 1.50" MILLING (AVERAGE DEPTH) 1961 14'OF 2.50" BITUMINOUS WEARING COURSE ID-2 ON 1961 14'OF 10.00" CRUSHED AGGREGATE BASE COURSE

SR 1029

SEGMENT 0010 OFFSET 0445 TO SEGMENT 0010 OFFSET 1051	???? 20'OF 1.00" SPAV, HMA WRG, 9.5MM, M ???? 20'OF 0.50" SPAV, HMA BINDING, (LEVELING) 19MM ???? 20'OF 0.25" SURFACE TREATMENT - SEAL COAT ???? 20'OF 0.75" LEVEL BITUMINOUS WEARING COURSE ID-2 ???? 20'OF 2.25" BITUMINOUS WEARING COURSE ID-2 ???? 20'OF 8.00" CRUSHED AGGREGATE BASE COURSE
SEGMENT 0010 OFFSET 1051 TO SEGMENT 0010 OFFSET 1247	???? 28'OF 1.30" LATEX CONCRETE BRIDGE DECK
SEGMENT 0010 OFFSET 0445 TO SEGMENT 0010 OFFSET 1051	???? 20'OF 1.00" SPAV, HMA WRG, 9.5MM, M ???? 20'OF 0.50" SPAV, HMA BINDING, (LEVELING) 19MM ???? 20'OF 0.25" SURFACE TREATMENT - SEAL COAT ???? 20'OF 0.75" LEVEL BITUMINOUS WEARING COURSE ID-2 ???? 20'OF 2.25" BITUMINOUS WEARING COURSE ID-2 ???? 20'OF 8.00" CRUSHED AGGREGATE BASE COURSE

SR 0171

SEGMENT 0710 OFFSET 0000 TO SEGMENT 0710 OFFSET 1627	2003 24'OF 1.50" SPAV, HMA WRG, 9.5MM, E 1997 24'OF 1.00" LEVEL BITUMINOUS WEARING COURSE ID2 1995 24'OF 1.00" LEVEL BITUMINOUS WEARING COURSE ID2 1976 24'OF 1.25" BITUMINOUS WEARING COURSE ID-2 1968 24'OF 1.25" BITUMINOUS WEARING COURSE ID-2 1961 24'OF 2.50" BITUMINOUS WEARING COURSE ID-2 1961 24'OF 10.00" CRUSHED AGGREGATE BASE COURSE
SEGMENT 0711 OFFSET 0000 TO SEGMENT 0711 OFFSET 1695	2003 24'OF 1.50" SPAV, HMA WRG, 9.5MM, E 1976 24'OF 1.25" BITUMINOUS WEARING COURSE ID-2 1968 24'OF 1.25" BITUMINOUS WEARING COURSE ID-2 1961 24'OF 2.50" BITUMINOUS WEARING COURSE ID-2 1961 24'OF 10.00" CRUSHED AGGREGATE BASE COURSE

SR 9203 (RAMP A)

STATION 13+46.89 TO STATION 16+58.24	???? 29'OF 4.00" STONE MATRIX ASPHALT, SMA, SLR-E ???? 29'OF 8.00" BITUMINOUS CONCRETE BASE COURSE ???? 35'OF 12.00" SUBBASE

SR 9203 (RAMP B)

STATION 36+31.00 TO STATION 40+33.00	???? 29'OF 4.00" STONE MATRIX ASPHALT, SMA, SLR-E ???? 29'OF 8.00" BITUMINOUS CONCRETE BASE COURSE ???? 35'OF 12.00" SUBBASE

NOTE: THE DEPTHS OF MATERIAL SHOWN ARE FOR DESIGN PURPOSES ONLY. ANY RISK OF UNANTICIPATED COSTS ASSOCIATED WITH DIFFERENCES BETWEEN THE LISTED DEPTHS AND THE ACTUAL DEPTHS SHALL BE ACCEPTED BY THE CONTRACTOR.

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	10 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

GENERAL NOTES

THE LEGAL RIGHT-OF-WAY ON SR 0081, FORMERLY LR 1001, FROM STA 1969+00.00 TO STA 2016+26.50; STA 2020+06.00 TO STA 2059+25.00; STA 2060+70.00 TO STA 2076+70.00; STA 2082+21.00 TO STA 2099+71.00; STA 2108+46.00 TO STA 2127+93.00; STA 2130+66.00 TO STA 2162+64.00; STA 2164+14.00 TO STA 2207+87.00; STA 2214+74.00 TO STA 2265+06.00; STA 2267+36.00 TO STA 2291+86.00; STA 2294+69.00 TO STA 2324+34.00; STA 2326+81.00 TO STA 2343+41.00; STA 2345+05.00 TO STA 2369+22.00; AND STA 2381+38.00 TO STA 2395+88.00; AND STA 2397+88.00 TO 2453+03.00, IS 90' & VARIES BASED ON RIGHT-OF-WAY PLAN FOR LR 1001, SECTIONS 4A, 4B, AND 4C SIGNED ON JUNE 11, 1958; FEBRUARY 18, 1958; AND DECEMBER 3, 1958 AND RECORDED IN THE SUSQUEHANNA COUNTY RECORDER OF DEEDS, OFFICE MAP 2 AND 4. LEGAL RIGHT-OF-WAY IS ALSO BASED ON THE PLAN RE-ESTABLISHING LIMITED ACCESS HIGHWAY, RECORDED IN THE SUSQUEHANNA COUNTY RECORDER'S OFFICE, MARCH 6, 1998.

THE LEGAL RIGHT-OF-WAY ON SR 0081, FORMERLY LR 1001, SECTION 4A, FROM STA 2016+26.50 TO STA 2020+06.00; STA 2059+25.00 TO STA 2060+70.00; STA 2076+70.00 TO STA 2082+21.00; STA 2099+71.00 TO STA 2108+46.00; STA 2127+93.00 TO STA 2130+66.00; STA 2162+64.00 TO STA 2164+14.00; STA 2207+87.00 TO STA 2214+74.00; STA 2265+06.00 TO STA 2267+36.00; STA 2291+86.00 TO STA 2294+69.00; STA 2324+34.00 TO STA 2326+81.00; STA 2343+41.00 TO STA 2345+05.00; STA 2369+22.00 TO STA 2381+38.00; AND STA 2395+88.00 TO STA 2397+88.00, VARIES BASED ON SR 0081 SECTION 511 R/W RIGHT-OF-WAY PLAN, SIGNED ON ___, __ 2020 AND RECORDED IN THE SUSQUEHANNA COUNTY RECORDER OF DEEDS, OFFICE MAP BOOK _.

THE LEGAL RIGHT-OF-WAY ON SR 1029, FORMERLY LR 157099, FROM STATION 16+00.00 TO STATION 25+00.00 AND IS 60 FEET, BASED ON RIGHT-OF-WAY PLAN FOR LR 1001, SECTION 4C SIGNED ON FEBRUARY 18, 1958 AND RECORDED IN THE SUSQUEHANNA COUNTY RECORDER OF DEEDS, OFFICE MAP 2.

THE LEGAL RIGHT-OF-WAY ON SR 1010, FORMERLY LR 57063, FROM STATION 777+00.00 TO STATION 783+00.00 IS 50 FEET, BASED ON PLAN OF ROUTE NO. LR 57063, SECTION NO. 1 IN SUSQUEHANNA COUNTY, SIGNED BY THE GOVERNOR DATED OCTOBER 16, 1946.

THE LEGAL RIGHT-OF-WAY ON SR 0171, FORMERLY LR 10, FROM STATION 430+95.00 TO STATION 440+00.00 IS 120 FEET, BASED ON DRAWINGS FOR CONSTRUCTION AND CONDEMNATION OF RIGHT-OF-WAY FOR ROUTE 1001, SECTION 4C, SIGNED BY GOVERNOR GEORGE M. LEADER ON DECEMBER 3, 1958.

THE LEGAL RIGHT-OF-WAY ON SUSQUEHANNA STREET, FORMERLY LR 57123, FROM STATION 10+00.00 TO STATION 15+00.00 IS 40 FEET, BASED ON DRAWINGS FOR CONSTRUCTION AND CONDEMNATION OF RIGHT-OF-WAY FOR ROUTE 1001, SECTION 4C, SIGNED BY GOVERNOR GEORGE M. LEADER ON DECEMBER 3, 1958.

THE DEPARTMENT RESERVES THE RIGHT TO ELIMINATE ANY OR ALL OF THIS WORK. DO NOT PERFORM WORK EXCEPT THAT WHICH IS WITHIN THE HIGHWAY RIGHT-OF-WAY UNTIL SO ORDERED IN WRITING BY THE ENGINEER.

DEMOLISH AND REMOVE BUILDINGS AND STRUCTURES MARKED [D] AS LUMP SUM ITEMS AT THE LOCATIONS INDICATED.

ALL CURVE DATA IS BASED ON THE ARC DEFINITION UNLESS OTHERWISE INDICATED.

SR 0081 IS AN NHS ROUTE FROM STATION 979+80.00 TO STATION 1451+38.00.

HORIZONTAL CONTROL FOR THIS PROJECT IS BASED ON THE PA STATE PLANE COORDINATE SYSTEM NORTH ZONE NORTH AMERICAN DATUM 1983 (NAD 83).

BENCHMARK ELEVATIONS ARE BASED ON THE NATIONAL AMERICAN VERTICAL DATUM (NAVD) OF 1988.

DO NOT INTERFERE WITH THE OPERATION OF ANY FIRE HYDRANT, FIRE CALL BOX OR POLICE CALL BOX.

THREE WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR MUST CONTACT THE PA ONE CALL SYSTEM, INC., PHONE 1-800-242-1776, SERIAL NO. SERIAL NUMBER:

20092820846, 20092820888, 20092820889, 20092820890, 20092820913, 20092820783, 20092820807, 20092820808, 20092820827, 20092820828, 20092820914 AND 20092820936.

DETAILS, OTHER THAN THOSE INDICATED, ARE ON THE FOLLOWING STANDARD DRAWINGS:

RC-10M	JUNE 1, 2010	RC-53M	DEC. 17, 2019	BC-732M	JAN. 31, 2019
RC-11M	JUNE 1, 2010	RC-57M	JUNE 1, 2010	BC-735M	SEPT 30, 2016
RC-12M	FEB. 8, 2019	RC-58M	AUG. 4, 2017	BC-736M	JAN. 31, 2019
RC-13M	JUNE 1, 2010	RC-59M	JUNE 1, 2010	BC-739M	JAN. 31, 2019
RC-22M	FEB. 8, 2019	RC-60M	JUNE 1, 2010	BC-752M	SEPT 30, 2016
RC-23M	FEB. 8, 2019	RC-61M	JUNE 1, 2010	BC-755M	JAN. 31, 2019
RC-25M	FEB. 8, 2019	RC-64M	JUNE 1, 2010	BC-767M	JAN. 31, 2019
RC-28M	FEB. 8, 2019	RC-65M	DEC. 17, 2019		
RC-30M	DEC. 17, 2019	RC-67M	FEB. 19, 2021		
RC-31M	JUNE 1, 2010	RC-70M	FEB. 8, 2019		
RC-32M	JUNE 1, 2010	RC-71M	AUG. 4, 2017		
RC-33M	JUNE 1, 2010	RC-72M	FEB. 8, 2019		
RC-35M	JUNE 1, 2010	RC-73M	FEB. 8, 2019		
RC-39M	SEPT. 15, 2016	RC-74M	FEB. 8, 2019		
RC-40M	FEB. 8, 2019	RC-77M	DEC. 17, 2019		
RC-43M	FEB. 8, 2019	RC-78M	FEB. 8, 2019		
RC-45M	SEPT 15, 2016	RC-80M	JUNE 1, 2010		
RC-46M	SEPT 15, 2016	RC-83M	FEB. 8, 2019		
RC-50M	FEB. 8, 2019	RC-84M	JUNE 1, 2010		
RC-51M	DEC. 17, 2019	RC-92M	JUNE 1, 2010		

THE HALF CIRCLED NUMBER INDICATES A SCALED DIMENSION. +85 / 50'

INDICATES MONUMENTED DIMENSIONS. +85.00 / 50.00'

THIS IS A FEDERAL-AID PROJECT AND AS SUCH IS SUBJECT TO INSPECTION BY REPRESENTATIVES OF THE FEDERAL HIGHWAY ADMINISTRATION AND THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION.

TEMPORARY CONSTRUCTION EASEMENT. AN EASEMENT TO USE THE LAND AS NECESSARY DURING CONSTRUCTION OF THE PROJECT. THE EASEMENT IS REQUIRED ONLY UNTIL THE CONSTRUCTION OR WORK INDICATED BY THE PLAN IS COMPLETED, UNLESS SOONER RELINQUISHED IN WRITING BY THE DEPARTMENT.

CHANNEL EASEMENT. AN EASEMENT FOR THE CONSTRUCTION, INSPECTION, MAINTENANCE, REPAIR, RECONSTRUCTION AND ALTERATION OF THE COURSE OF THE CHANNEL. THE EASEMENT SHALL NOT PREVENT THE PROPERTY OWNER FROM MAKING ANY LEGAL USE OF THE AREA WHICH IS NOT DETRIMENTAL TO THE NECESSARY FLOW OF WATER.

SLOPE EASEMENT. AN EASEMENT FOR THE SUPPORT AND PROTECTION OF THE HIGHWAY, INCLUDING THE RIGHT TO CONSTRUCT, INSPECT, MAINTAIN, REPAIR, RECONSTRUCT AND ALTER DRAINAGE FACILITIES AND THE CONTOUR OF THE LAND. THE EASEMENT SHALL NOT PREVENT THE PROPERTY OWNER FROM MAKING ANY LEGAL USE OF THE AREA WHICH IS NOT DETRIMENTAL TO THE NECESSARY SUPPORT AND PROTECTION OF THE HIGHWAY RIGHT-OF-WAY AND THE SAFETY OF THE TRAVELING PUBLIC.

AVERAGE COMBINED SCALE FACTOR IS: 0.999999670

ALL CURVE DATA IS BASED ON THE ARC DEFINITION UNLESS OTHERWISE INDICATED.

ALL SLOPES 3:1 OR STEEPER SHALL BE SEEDED WITH FORMULA C SEED MIXTURE.

ALL SLOPES FLATTER THAT 3:1 SHALL BE SEEDED WITH FORMULA D SEED MIXTURE.

SUSQUEHANNA RIVER IS A NAVIGABLE WATERWAY.

SALT LICK CREEK IS A NON-NAVIGABLE WATERWAY.

SMITH CREEK IS A NON-NAVIGABLE WATERWAY.

TROWBRIDGE CREEK IS A NON-NAVIGABLE WATERWAY.

SR 0081, PREVIOUSLY KNOWN AS LR 1001.

SR 1029, PREVIOUSLY KNOWN AS LR 157099.

TABULATION OF SEGMENT EQUALITIES

SR 0081 NORTHBOUND

SEGMENT	2230	OFFSET	0000	=	STATION 1938+64.00
SEGMENT	2234	OFFSET	0000	=	STATION 1965+04.00
SEGMENT	2240	OFFSET	0000	=	STATION 1991+28.00
SEGMENT	2244	OFFSET	0000	=	STATION 2017+18.20
SEGMENT	2250	OFFSET	0000	=	STATION 2044+04.87
SEGMENT	2254	OFFSET	0000	=	STATION 2070+41.87
SEGMENT	2260	OFFSET	0000	=	STATION 2096+67.87
SEGMENT	2264	OFFSET	0000	=	STATION 2123+07.87
SEGMENT	2270	OFFSET	0000	=	STATION 2149+40.87
SEGMENT	2274	OFFSET	0000	=	STATION 2175+80.87
SEGMENT	2280	OFFSET	0000	=	STATION 2202+22.87
SEGMENT	2284	OFFSET	0000	=	STATION 2228+35.87
SEGMENT	2290	OFFSET	0000	=	STATION 2254+15.87
SEGMENT	2294	OFFSET	0000	=	STATION 2280+37.87
SEGMENT	2300	OFFSET	0000	=	STATION 2306+87.87
SEGMENT	2304	OFFSET	0000	=	STATION 2333+18.87
SEGMENT	2310	OFFSET	0000	=	STATION 2359+59.87
SEGMENT	2314	OFFSET	0000	=	STATION 2385+99.87
SEGMENT	2320	OFFSET	0000	=	STATION 2412+44.61

SR 0081 SOUTHBOUND

SEGMENT	2231	OFFSET	0000	=	STATION 1938+40.00
SEGMENT	2235	OFFSET	0000	=	STATION 1965+07.00
SEGMENT	2241	OFFSET	0000	=	STATION 1992+19.00
SEGMENT	2245	OFFSET	0000	=	STATION 2018+60.00
SEGMENT	2251	OFFSET	0000	=	STATION 2045+11.86
SEGMENT	2255	OFFSET	0000	=	STATION 2071+73.86
SEGMENT	2261	OFFSET	0000	=	STATION 2097+92.86
SEGMENT	2265	OFFSET	0000	=	STATION 2124+32.86
SEGMENT	2271	OFFSET	0000	=	STATION 2151+41.71
SEGMENT	2275	OFFSET	0000	=	STATION 2177+81.71
SEGMENT	2281	OFFSET	0000	=	STATION 2203+25.71
SEGMENT	2285	OFFSET	0000	=	STATION 2229+90.86
SEGMENT	2291	OFFSET	0000	=	STATION 2255+26.86
SEGMENT	2295	OFFSET	0000	=	STATION 2281+76.86
SEGMENT	2301	OFFSET	0000	=	STATION 2308+07.86
SEGMENT	2305	OFFSET	0000	=	STATION 2334+29.86
SEGMENT	2311	OFFSET	0000	=	STATION 2361+21.86
SEGMENT	2315	OFFSET	0000	=	STATION 2387+73.86
SEGMENT	2321	OFFSET	0000	=	STATION 2413+52.86

SR 8011

SEGMENT	0010	OFFSET	0000	=	STATION 426+35.00
SEGMENT	0250	OFFSET	0000	=	STATION 519+38.00
SEGMENT	0500	OFFSET	0000	=	STATION 740+34.00
SEGMENT	0750	OFFSET	0000	=	STATION 434+05.00

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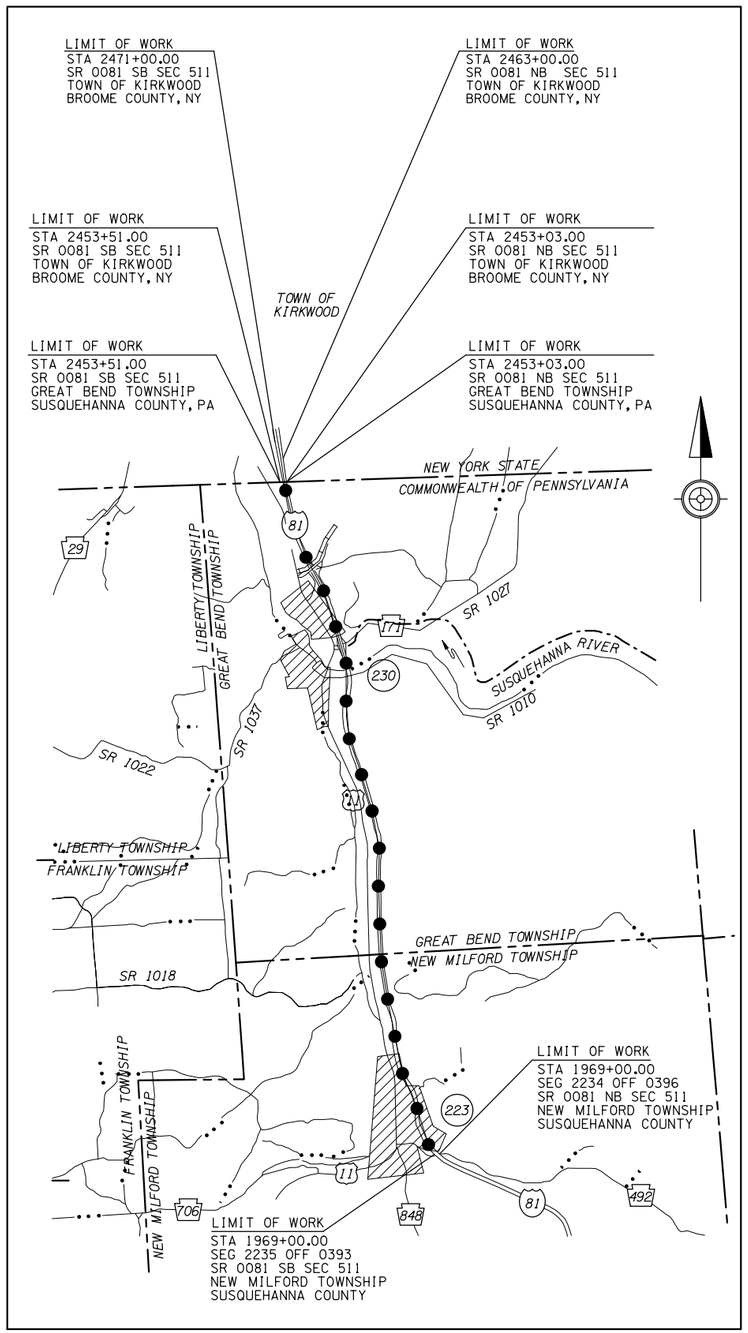
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	11 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- PROJECT
- STATE HIGHWAY
- TOWNSHIP LINE
- BOROUGH

LOCATION MAP

SCALE IN MILES

0 1 2 3

LIST OF EQUALITIES

SR 0081

POC STA 2018+55.89 SR 0081 SB = POT STA 12+88.57 SUSQUEHANNA ST
POC STA 2017+82.74 SR 0081 NB = POT STA 13+53.48 SUSQUEHANNA ST

POT STA 2334+93.97 SR 0081 NB = STA 434+83.61 SR 0171
POT STA 2334+93.97 SR 0081 SB = STA 434+61.61 SR 0171

POT STA 2391+14.64 SR 0081 NB = POT STA 121+30.46 SR 1029
POT STA 2391+00.71 SR 0081 SB = POT STA 120+76.63 SR 1029

STA 2315+30.75 BK = STA 2315+87.23 AHD (SR 0081 NB)
STA 2377+93.10 BK = STA 2378+00.00 AHD (SR 0081 SB)

POT STA 2081+37.99 SR 0081 NB = POB STA 0+00.00 PERMANENT ACCESS 2081 NB (27.05') RT
POT STA 2082+31.70 SR 0081 SB = POB STA 0+00.00 PERMANENT ACCESS 2082 SB (31.35') LT
POT STA 2100+66.49 SR 0081 NB = POB STA 0+00.00 PERMANENT ACCESS 2101 NB (29.02') RT
POT STA 2108+87.01 SR 0081 SB = POB STA 0+00.00 PERMANENT ACCESS 2109 SB (29.10') LT
POT STA 2227+43.92 SR 0081 NB = POB STA 0+00.00 PERMANENT ACCESS 2227 NB (29.86') RT
POT STA 2268+39.78 SR 0081 SB = POB STA 0+00.00 PERMANENT ACCESS 2268 SB (30.33') LT
POT STA 2294+06.81 SR 0081 SB = POB STA 0+00.00 PERMANENT ACCESS 2294 NB (27.65') RT
POT STA 2295+46.00 SR 0081 SB = POB STA 0+00.00 PERMANENT ACCESS 2295 SB (26.69') LT

SR 8011

POT STA 2317+85.00 (36.00', RT) SR 0081 = POT STA 197+14.06 SR 8011 (RAMP D)
POT STA 2315+06.44 (36.00', LT) SR 0081 = PC STA 114+42.13 SR 8011 (RAMP C)
POT STA 214+73.28 SR 8011 (RAMP D) = POT STA 437+98.40 SR 0171 =
POT STA 33+78.72 SR 8011 (RAMP A)
POT STA 134+93.17 SR 8011 (RAMP C) = POT STA 431+37.85 SR 0171 =
POT STA 333+74.70 SR 8011 (RAMP B)
POT STA 2357+40.00 (36.00', RT) SR 0081 NB = POT STA 56+73.58 SR 8011 (RAMP A)
POT STA 2348+80.00 (36.00', LT) SR 0081 SB = POT STA 348+12.81 SR 8011 (RAMP B)

SR 9203

POT STA 61+49.93 SR 9203 (RAMP B) = POT STA 2392+60.91 (36.00', LT) SR 0081 SB
POT STA 0+00.00 SR 9203 (RAMP A) = POT STA 2426+33.31 (36.00', LT) SR 0081 SB

SR 1031

POT STA 19+92.13 SR 1031 = POC STA 118+09.90 SR 1029

TABULATION OF OVERALL LENGTH

PENNSYLVANIA
NORTHBOUND - STATION 1969+00.00 TO STATION 2453+03.00
48,403.00 LF = 9.167 MILES
SOUTHBOUND - STATION 1969+00.00 TO STATION 2453+51.00
48,451.00 LF = 9.176 MILES

NEW YORK
NORTHBOUND - STATION 2453+03.00 TO STATION 2463+00.00
997.00 LF = 0.189 MILES
SOUTHBOUND - STATION 2453+51.00 TO STATION 2471+00.00
1749.00 LF = 0.331 MILES

TABULATION OF CONSTRUCTION LENGTH

PENNSYLVANIA
NORTHBOUND - STATION 1969+57.00 TO STATION 2453+03.00
48,346.00 LF = 9.156 MILES
SOUTHBOUND - STATION 1969+98.00 TO STATION 2453+5100
48,353.00 LF = 9.158 MILES

NEW YORK
NORTHBOUND - STATION 2453+03.00 TO STATION 2461+56.00
853.00 LF = 0.162 MILES
SOUTHBOUND - STATION 2453+51.00 TO STATION 2470+13.00
1662.00 LF = 0.315 MILES

PUBLIC UTILITIES

SYMBOL	OWNER	ADDRESS	TELEPHONE
——S——	HALLSTEAD/GREAT BEND JONT SEWER AUTHORITY ATTN: MR. STEVEN LORD	SPRING STREET P.O. BOX 747 GREAT BEND, PA 18821-0747	570-879-2994
——E——	CLAVERACK RURAL ELECTRIC COOPERATIVE, INC. ATTN: MR. CHARLES GOODWIN	RR 2, BOX 17 WYSOX, PA 18854	800-326-9799
——G——	WILLIAMS ATTN: KEN FOSTER	NORTHEAST GATHERING & PROCESSING, SUSQUEHANNA SUPPLY HUB 310 STATE ROUTE 29 NORTH TUNKHANNOCK, PA 18657	570-205-0761
——S——	NEW MILFORD MUNICIPAL AUTHORITY ATTN: MS. AMY HINE	948 MAIN STREET, SUITE 2 NEW MILFORD, PA 18834-1111	570-465-7089
——W——	PA AMERICAN WATER CO. ATTN: JEREMY NELSON	88 WILLOW AVE P.O. BOX 242 SUSQUEHANNA, PA 18847	570-351-0138
——T——	NORTHEASTERN PA TELEPHONE CO. ATTN: MARK DeARMOND	720 MAIN STREET P.O. BOX D FOREST CITY, PA 18421	570-785-2230
——E——	PA ELEC. CO. -FIRSTENERGY-PENELEC ATTN: MR. KURT DURLAND	517 STATE ROUTE 29, SOUTH TUNKHANNOCK, PA 18657	800-522-2133 X1283
——T——	SPRINT COMMUNICATIONS CO. LP ATTN: MS. JESSICA REVELLE	6550 SPRINT PARKWAY MS: KSOPHR0312 OVERLAND PARK, KS 66251-6109	800-829-8009
——CTV——	FRONTIER COMMUNICATIONS SOLUTIONS ATTN: MR. JAMES WILCOX	17 MAIN STREET TOWANDA, PA 18848	570-278-0036
——CTV——	ADAMS CABLE TV ATTN: MR. GARY RIXNER	19 NORTH MAIN ST. CARBONDALE, PA 18407	570-267-1881 (FAX)
——T——	AT&T ATTN: KEVIN TALECKI	C/O TRECK GROUP 536 BALTIMORE PIKE SPRINGFIELD, PA 19064	610-328-6465

CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES
3 WORKING DAYS NOTICE FOR
CONSTRUCTION PHASE AND 10 WORKING
DAYS IN DESIGN STAGE – STOP CALL
Pennsylvania One Call System, Inc.
1-800-242-1776

SERIAL NUMBER: 20092820846, 20092820888, 20092820889, 20092820890, 20092820913, 20092820783, 20092820807, 20092820808, 20092820827, 20092820828, 20092820914, 20092820936

EARTHWORK SUMMARY ENTIRE PROJECT

THE INFORMATION ON ESTIMATED AMOUNTS OF EARTHWORK HAS BEEN USED IN THE PRELIMINARY ESTIMATE. DO NOT USE AS A WAIVER OF ANY PROVISIONS OF THE SPECIFICATIONS AND CONTRACTS.

CUBIC YARDS OF EXCAVATION						CUBIC YARDS OF COMPLETED EMBANKMENT *	CUBIC YARDS OF BORROW EXCAVATION	CUBIC YARDS OF SELECT BORROW	CUBIC YARDS OF WASTE
CLASS 1	CLASS 1A	CLASS 1B	CLASS 2	CLASS 3 **	CLASS 4				
.	NA	NA	.	.	.	.	.	.	.

* INCLUDES ALL BORROW ITEMS
** _____ CY PART OF LUMP SUM STRUCTURE ITEM

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	12 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

SUMMARY OF PROJECT COORDINATES (1 OF 2)

BASED ON THE PA STATE PLANE NORTH ZONE COORDINATE SYSTEM, NAD 83

NOTE: FOUR DECIMAL PLACE COORDINATES ARE USE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO PLACES.

RTE.	STATION	POINT	COORDINATES NORTH	COORDINATES EAST	BEARING
SR 0081 NORTHBOUND SURVEY & CONSTR ℄	1870+31.95	BEGIN STA	622999.9514	2531069.7778	N 65°57'04" W
	1955+61.61	PC	626475.9240	2523280.5094	
	1980+20.07	PI	627477.7876	2521035.4445	N 06°07'03" W
	2000+23.35	PT	629922.2520	2520773.4515	
	2007+63.37	PC	630658.0545	2520694.5896	
	2014+41.00	PI	631331.8275	2520622.3758	N 32°20'04" W
	2020+94.90	PT	631904.3861	2520259.9374	
	2026+99.84	PC	632415.5233	2519936.3796	
	2034+93.22	PI	633085.8801	2519512.0334	N 08°55'41" W
	2042+64.47	PT	633869.6451	2519388.9058	
	2067+67.91	PC	636342.7495	2519000.3872	
	2074+90.49	PI	637056.5759	2518888.2469	N 12°33'02" W
	2082+12.59	PT	637761.8908	2518731.2293	
	2126+23.73	PC	642067.6329	2517772.6825	
	2131+10.05	PI	642542.3246	2517667.0064	N 06°21'38" E
	2135+87.51	PT	643025.6433	2517720.8824	
	2166+42.29	PC	646061.6146	2518059.3049	
	2190+44.64	PI	648449.1748	2518325.4485	N 17°23'02" W
	2213+78.02	PT	650741.7941	2517607.6930	
	2268+87.83	PC	655999.9375	2515961.5144	
	2282+09.39	PI	657261.1326	2515566.6692	N 11°56'47" E
	2294+72.97	PT	658554.0681	2515840.2265	
	2303+43.99	PC	659406.2179	2516020.5229	
	2308+54.81	PI	659905.9734	2516126.2604	N 15°23'48" W
	2313+46.16	PT	660398.4595	2515990.6379	
	2315+30.75	STA BK	660576.4226	2515941.6299	
	2315+87.23	STA AHD	660576.4226	2515941.6299	
	2358+28.78	PC	664665.7442	2514815.4990	
	2367+28.46	PI	665533.1376	2514576.6333	N 27°44'26" W
	2376+21.18	PT	666329.4142	2514157.8595	
	2400+83.75	PC	668508.9521	2513011.6078	
	2411+14.57	PI	669421.2884	2512531.7965	N 12°32'57" W
	2421+33.29	PT	670427.4758	2512307.8248	
	2443+46.49	PC	672587.8070	2511826.9470	
	2447+24.70	PI	672956.9745	2511744.7723	N 12°50'17" W
	2451+02.90	PT	673325.7229	2511660.7372	
	2463+59.76	PC	674551.1632	2511381.4679	
	2469+66.68	PI	675142.9128	2511246.6123	N 24°38'45" W
	2475+69.30	PT	675694.5455	2510993.5213	
	2479+80.53	END STA	676068.3120	2510822.0360	
SR 8011 (RAMP A) SURVEY & CONSTR ℄	33+78.72	BEGIN STA	662498.3980	2515738.8530	N 37°08'40" W
	39+39.04	PC	662945.0348	2515400.5193	
	41+31.13	PI	663098.1584	2515284.5260	N 15°23'48" W
	43+18.61	PT	663283.3613	2515233.5243	
	56+73.58	END STA	664589.7119	2514873.7771	
SR 8011 (RAMP B) SURVEY & CONSTR ℄	333+74.70	BEGIN STA	662322.8325	2515102.0674	N 07°02'03" E
	339+30.57	PC	662874.5137	2515170.1393	
	341+28.85	PI	663071.3062	2515194.4215	N 15°23'48" W
	343+22.06	PT	663262.4749	2515141.7769	
	348+12.81	END STA	663735.6166	2515011.4816	
SR 8011 (RAMP C) SURVEY & CONSTR ℄	114+40.16	BEGIN STA	660483.8952	2515905.6675	N 13°36'58" W
	114+40.17	PC	660483.8959	2515905.6674	
	114+80.00	PI	660522.6145	2515896.2887	N 15°23'48" W
	115+19.84	PT	660561.0231	2515885.7116	
	126+70.63	PC	661670.5213	2515580.1743	
	129+48.35	PI	661938.2730	2515506.4400	N 46°26'19" W
	132+12.42	PT	662129.6577	2515305.1948	
	134+92.74	END STA	662322.8325	2515102.0674	
SR 8011 (RAMP D) SURVEY & CONSTR ℄	197+14.06	BEGIN STA	660776.6541	2515923.8295	N 15°23'48" W
	205+48.95	PC	661581.5821	2515702.1658	
	207+47.03	PI	661772.5589	2515649.5740	N 07°00'44" E
	209+40.06	PT	661969.1632	2515673.7566	
	214+73.28	END STA	662498.3980	2515738.8530	

RTE.	STATION	POINT	COORDINATES NORTH	COORDINATES EAST	BEARING
SR 0081 SOUTHBOUND SURVEY & CONSTR ℄	1870+31.95	BEGIN STA	622945.1595	2531045.3268	N 65°57'04" W
	1955+69.93	PC	626424.5223	2523248.4614	
	1980+54.60	PI	627437.0652	2520979.4655	N 06°05'04" W
	2000+78.71	PT	629907.7385	2520716.1046	
	2008+25.72	PC	630650.5394	2520636.9259	
	2015+04.24	PI	631325.2337	2520565.0071	N 32°20'04" W
	2021+58.94	PT	631898.5398	2520202.0954	
	2027+45.32	PC	632393.9982	2519888.4625	
	2035+40.77	PI	633066.1053	2519463.0083	N 08°55'41" W
	2043+14.03	PT	633851.9167	2519339.5593	
	2068+27.27	PC	636334.7102	2518949.5186	
	2075+48.27	PI	637046.9746	2518837.6236	N 12°33'02" W
	2082+68.79	PT	637750.7461	2518680.9496	
	2126+71.82	PC	642048.5575	2517724.1684	
	2131+74.78	PI	642539.5057	2517614.8732	N 06°21'38" E
	2136+68.60	PT	643039.3764	2517670.5942	
	2167+10.24	PC	646062.2875	2518007.5609	
	2191+06.82	PI	648444.1202	2518273.0661	N 17°23'02" W
	2214+34.61	PT	650731.2397	2517557.0324	
	2269+59.71	PC	656003.9819	2515906.2833	
	2282+68.19	PI	657252.6899	2515515.3475	N 11°56'47" E
	2295+19.26	PT	658532.8241	2515786.1963	
	2303+46.44	PC	659342.0920	2515957.4199	
	2309+78.89	PI	659960.8370	2516088.3329	N 15°23'48" W
	2315+87.23	PT	660570.5817	2515920.4194	
	2358+28.78	PC	664659.8991	2514794.2897	
	2365+85.75	PI	665389.7073	2514593.3127	N 27°44'26" W
	2373+36.87	PT	666059.6793	2514240.9644	
	2377+93.10	STA BK	666463.4781	2514028.6005	
	2378+00.00	STA AHD	666463.4781	2514028.6005	
	2402+94.90	PC	668671.6243	2512867.3033	
	2412+83.65	PI	669546.7314	2512407.0713	N 12°50'17" W
	2422+61.24	PT	670510.7644	2512187.3750	
	2459+83.84	PC	674140.3069	2511360.2276	
	2467+63.52	PI	674900.4991	2511186.9851	N 28°10'06" W
	2475+33.89	PT	675587.8397	2510818.9251	
	2480+09.02	END STA	676006.6961	2510594.6342	
SR 1029 (RANDOLPH ROAD) SURVEY & CONSTR ℄	110+22.09	BEGIN STA	667085.2514	2512536.3048	N 78°20'00" E
	111+35.17	PC	667108.1182	2512647.0481	
	114+13.27	PI	667164.3545	2512919.3987	N 48°46'15" E
	116+78.97	PT	667347.6396	2513128.5492	
	117+67.47	PC	667405.9704	2513195.1118	
	118+23.66	PI	667443.0053	2513237.3731	N 47°15'34" E
	118+79.85	PT	667481.1421	2513278.6428	
	122+45.01	PC	667728.9685	2513546.8287	
	122+76.06	PI	667750.0411	2513569.6324	N 46°25'27" E
	123+07.11	PT	667771.4439	2513592.1266	
	124+87.69	PC	667895.9210	2513722.9513	
	125+19.56	PI	667917.8906	2513746.0412	N 47°16'54" E
	125+51.43	PT	667939.5123	2513769.4572	
	127+44.91	END STA	668070.7667	2513911.6044	
WELCOME CENTER RAMP A SURVEY & CONSTR ℄	0+00.00	BEGIN STA	670865.5452	2512069.5999	S 12°50'17" E
	3+92.07	PC	670483.2757	2512156.7164	
	4+80.07	PI	670397.4742	2512176.2700	S 13°58'12" E
	5+68.07	PT	670312.0757	2512197.5148	
	13+47.34	PC	669555.8464	2512385.6440	
	15+53.08	PI	669356.1992	2512435.3108	S 35°12'01" W
	17+56.44	PT	669150.5035	2512431.4267	
	17+95.90	POE	668786.5700	2512300.0100	

RTE.	STATION	POINT	COORDINATES NORTH	COORDINATES EAST	BEARING
WELCOME CENTER RAMP B SURVEY & CONSTR ℄	44+30.10	PCC	669141.6213	2512388.3133	S 85°53'14" E
	45+73.02	PI	669128.4674	2512531.7969	
	46+96.04	PT	669008.8754	2512608.2648	S 32°53'20" E
	46+96.05	PC	669008.8648	2512608.2717	
	49+06.09	PI	668832.4865	2512722.3270	
	51+15.95	PT	668832.4865	2512823.7497	S 28°52'22" E
	56+82.61	PC	668152.3468	2513097.3635	
	57+88.34	PI	668059.7600	2513148.4169	
	58+94.06	PT	667966.1825	2513197.6307	S 27°44'26" E
	61+49.93	END STA	667739.7211	2513316.7302	
SR 1031 (RANDOLPH ROAD) SURVEY & CONSTR ℄	17+00.00	BEGIN STA	667251.88	2513454.58	
	19+39.05	PC	667396.50	2513264.24	N 52°46'22" W
	19+50.00	PI	667403.12	2513255.52	
	19+60.90	PT	667411.16	2513248.08	N 42°45'33" W
	19+92.13	END STA	667434.09	2513226.88	
SR 0171 SURVEY & CONSTR ℄	429+71.69	BEGIN STA	662278.6688	2514941.8834	
	438+71.01	PC	662517.6983	2515808.8560	N 74°35'10" E
	443+01.89	PI	662632.2204	2516224.2339	
	446+72.55	PT	663030.3378	2516389.0267	N 22°29'10" E
	449+06.77	END STA	663246.7524	2516478.6073	
SUSQUEHANNA STREET SURVEY & CONSTR ℄	8+36.00	BEGIN STA	631632.4667	2519897.5024	
	8+66.62	PC	631634.5972	2519928.0435	N 86°00'34" E
	8+97.05	PI	631636.7149	2519958.4013	
	9+27.46	PT	631636.9827	2519988.8317	N 89°29'45" E
	10+61.27	PC	631638.1604	2520122.6359	
	11+08.08	PI	631638.5722	2520169.4488	
	11+54.89	PT	631637.5236	2520216.2518	S 88°42'58" E
	14+09.17	PC	631631.8267	2520470.4720	
	14+85.20	PI	631630.1233	2520546.4814	
	15+59.97	PT	631652.0708	2520619.2731	N 73°13'17" E
	17+50.00	END STA	631706.9285	2520801.2163	
T-841 (EMERSON ROAD) SURVEY & CONSTR ℄	18+00.00	BEGIN STA	665770.4420	2514769.3131	
	20+49.73	PC	666020.0551	2514761.5156	N 01°47'21" W
	21+35.80	PI	666106.0753	2514758.8285	
	22+11.35	PT	666160.7870	2514692.3956	N 50°31'35" W
	22+72.47	PC	666199.6392	2514645.2199	
	23+11.26	PI	666224.2979	2514615.2785	
	23+49.62	PT	666255.7609	2514592.5933	N 35°47'31" W
	25+60.57	PC	666426.8757	2514469.2175	
	26+02.87	PI	666461.1819	2514444.4823	
	26+44.85	PT	666489.5567	2514413.1196	N 47°51'48" W
	28+60.46	PC	666634.2121	2514253.2317	
	29+02.19	PI	666662.2086	2514222.2871	
	29+42.74	PT	666675.4948	2514182.7289	N 71°26'05" W
	29+97.20	PC	666692.8347	2514131.1013	
	30+75.43	PI	666717.7418	2514056.9430	
	31+46.34	PT	666786.3543	2514019.3646	N 28°42'33" W
	32+50.00	END STA	666877.2707	2513969.5705	

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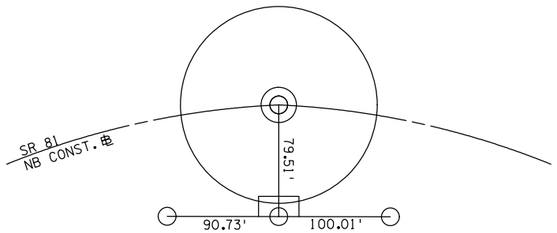
11/18/2021 AT 9:55:00 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	13 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

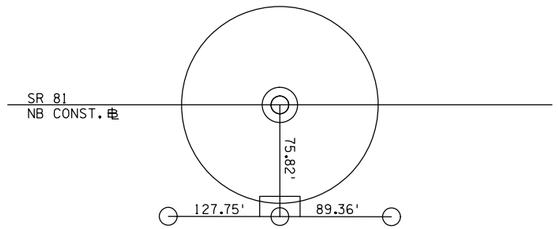
REVISION NUMBER	REVISIONS	DATE	BY

BASELINE REFERENCE CIRCLES

SUSQUEHANNA



CONTROL POINT
POC STA 1091+50



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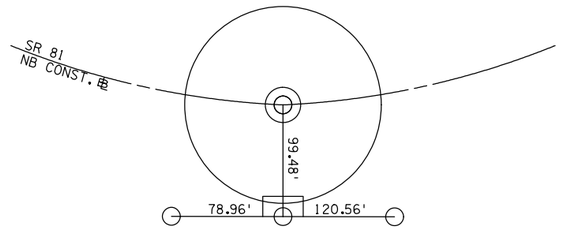

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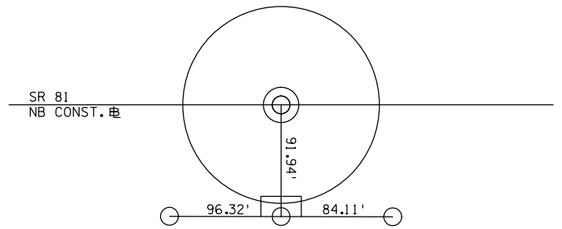

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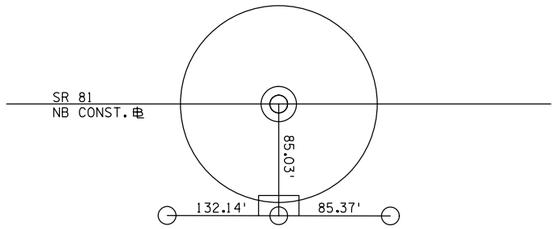
POT STA 2347+00



CONTROL POINT
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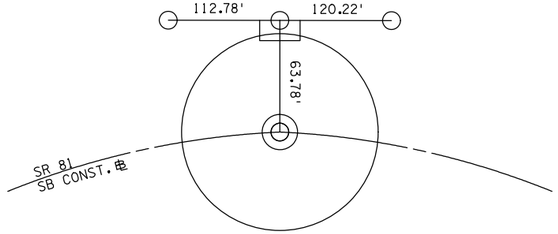

CONTROL POINT
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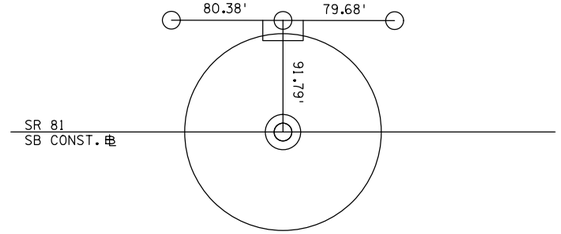

CONTROL POINT
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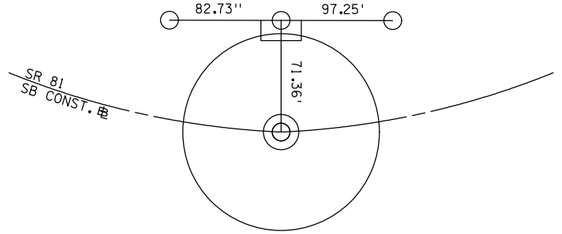

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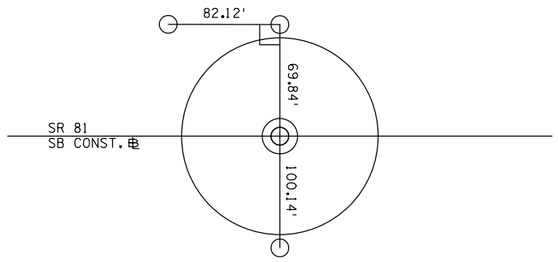
POC STA 2206+00



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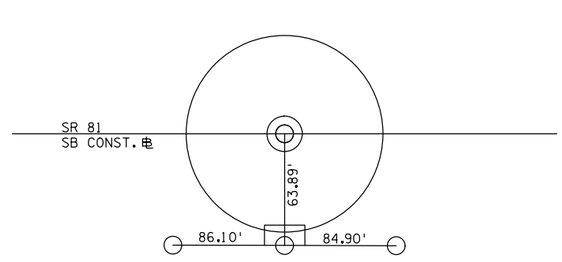

CONTROL POINT
POT STA 2453+50

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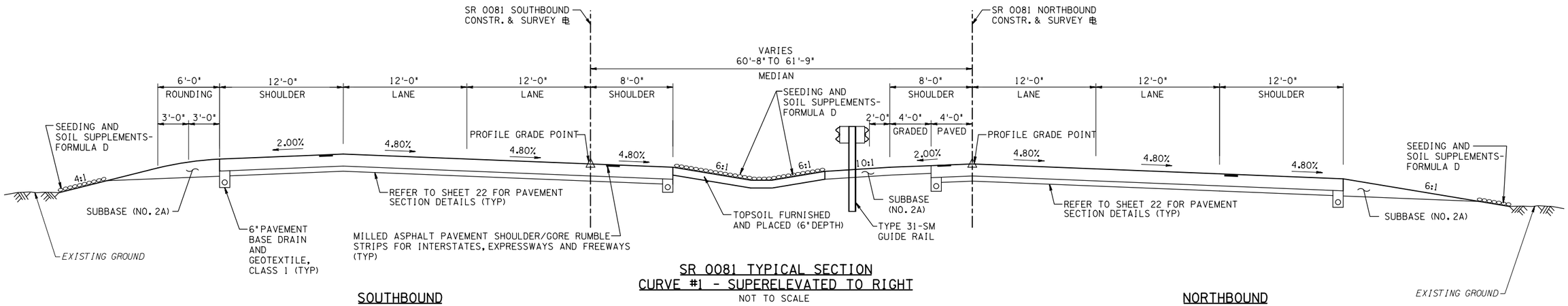
11/18/2021 AT 9:55:00 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	14 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

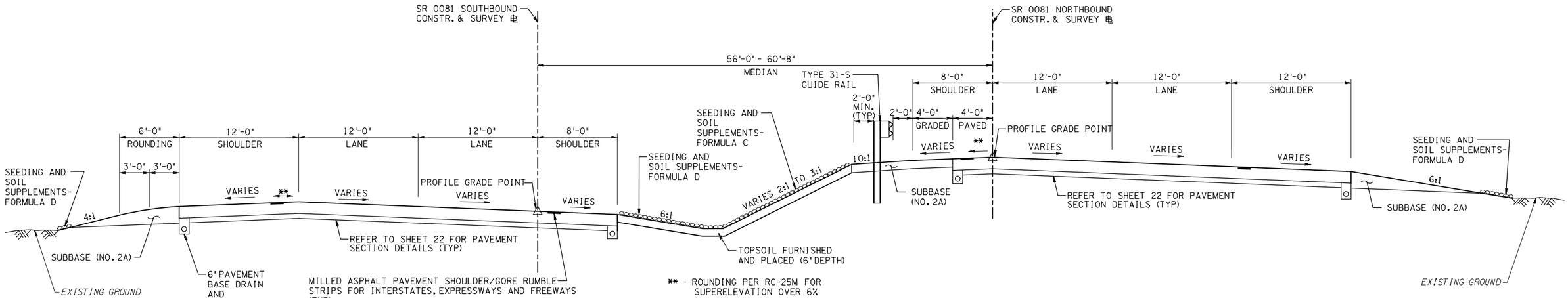


SR 0081 TYPICAL SECTION
CURVE #1 - SUPERELEVATED TO RIGHT

NOT TO SCALE

SOUTHBOUND
STA 1979+66.82 TO STA 1990+49.48

NORTHBOUND
STA 1979+32.75 TO STA 1990+00.00



** - ROUNDING PER RC-25M FOR SUPERELEVATION OVER 6%

SR 0081 TYPICAL SECTION
BI-FURCATED - SUPERELEVATED TO RIGHT

NOT TO SCALE

SOUTHBOUND
STA 1990+49.48 TO STA 2003+06.72
STA 2024+99.32 TO STA 2043+80.03
STA 2125+75.81 TO STA 2137+64.60
STA 2269+23.72 TO STA 2297+35.26

NORTHBOUND
STA 1990+00.00 TO STA 2000+77.35
STA 2026+33.94 TO STA 2045+10.57
STA 2123+41.74 TO STA 2138+69.52
STA 2266+65.83 TO STA 2295+14.98

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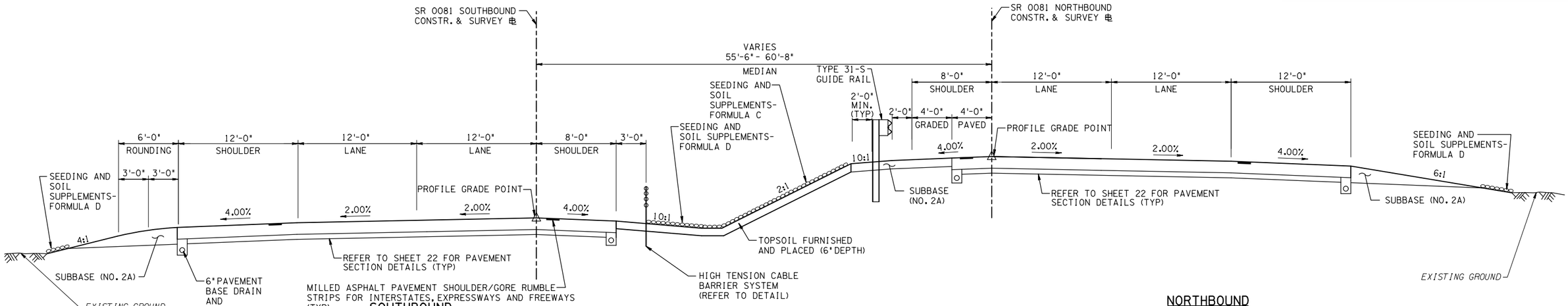
11/18/2021 AT 9:55:01 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	15 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



SOUTHBOUND

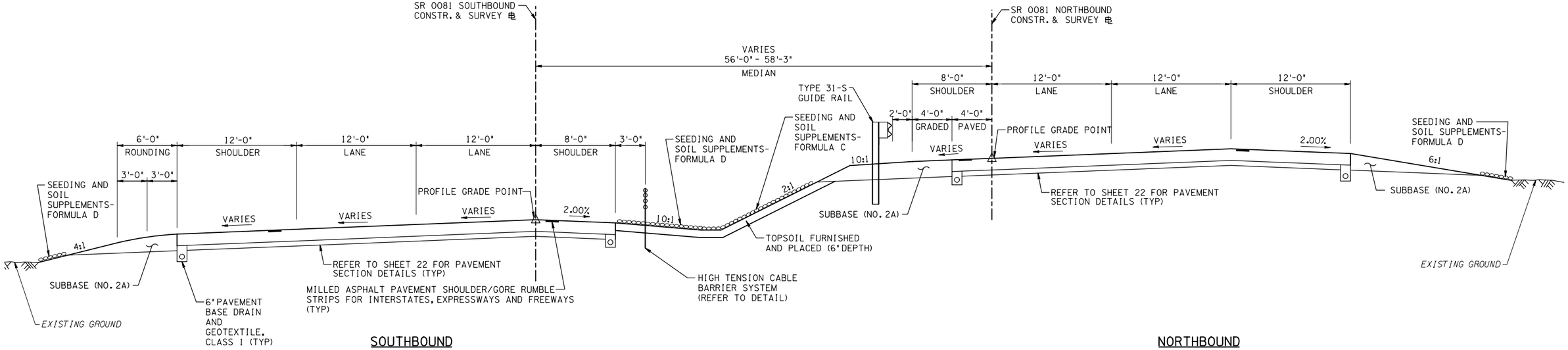
STA 2003+06.72 TO STA 2007+23.72
STA 2022+86.90 TO STA 2024+99.32
STA 2297+35.26 TO STA 2300+46.45

NORTHBOUND

STA 2000+77.35 TO STA 2004+81.37
STA 2023+76.90 TO STA 2026+33.94
STA 2045+10.57 TO STA 2067+67.31
STA 2295+55.26 TO STA 2296+45.26

SR 0081 TYPICAL SECTION
BI-FURCATED - NORMAL CROWN

NOT TO SCALE



SOUTHBOUND

STA 2007+23.72 TO STA 2022+86.90
STA 2066+77.27 TO STA 2084+18.79
STA 2165+60.23 TO STA 2214+04.61

SR 0081 TYPICAL SECTION
BI-FURCATED - SUPERELEVATED TO LEFT

NOT TO SCALE

NORTHBOUND

STA 2004+81.37 TO STA 2023+76.90
STA 2067+67.31 TO STA 2082+11.99
STA 2166+72.29 TO STA 2203+50.00

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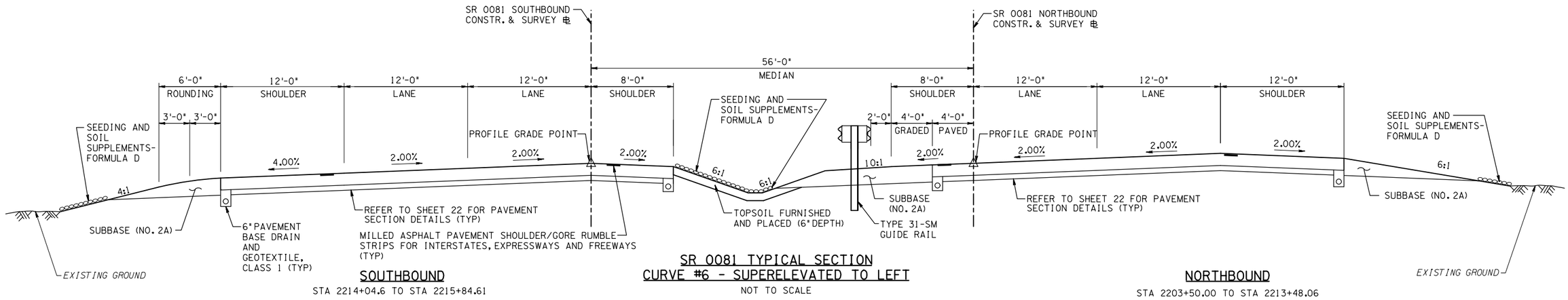
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	16 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				
REVISION NUMBER	REVISIONS		DATE	BY

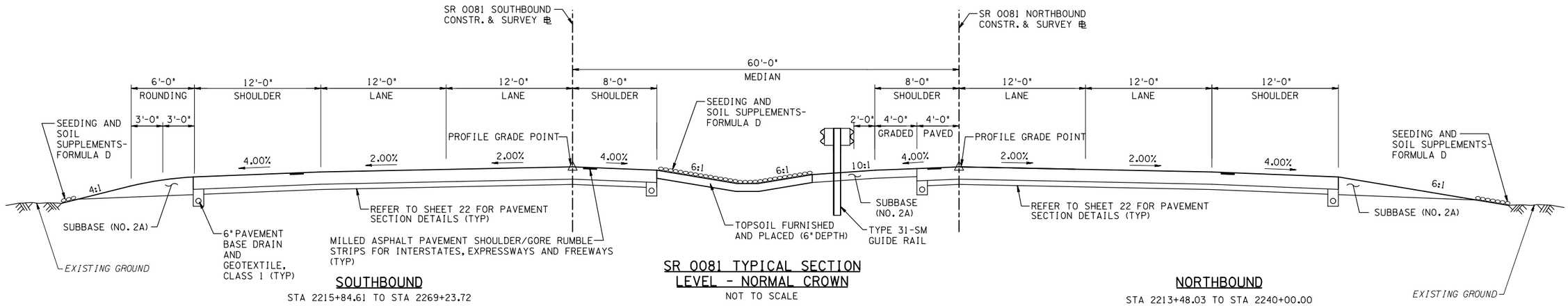


SOUTHBOUND
STA 2214+04.6 TO STA 2215+84.61

SR 0081 TYPICAL SECTION
CURVE #6 - SUPERELEVATED TO LEFT

NOT TO SCALE

NORTHBOUND
STA 2203+50.00 TO STA 2213+48.06



SOUTHBOUND
STA 2215+84.61 TO STA 2269+23.72

SR 0081 TYPICAL SECTION
LEVEL - NORMAL CROWN

NOT TO SCALE

NORTHBOUND
STA 2213+48.03 TO STA 2240+00.00

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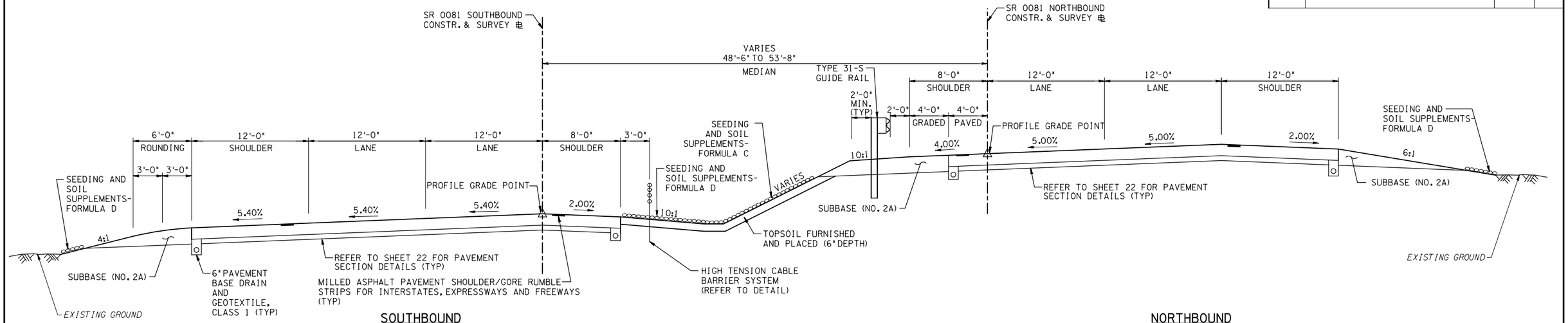
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	17 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



SOUTHBOUND

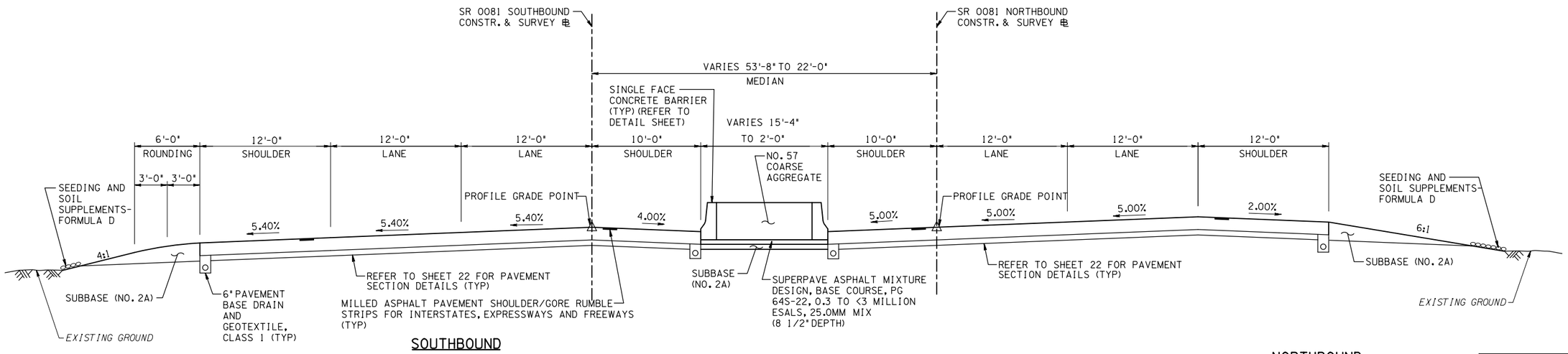
STA 2300+46.45 TO STA 2307+71.56

NORTHBOUND

STA 2296+40.88 TO STA 2307+00.00

SR 0081 TYPICAL SECTION CURVE #8

NOT TO SCALE



SOUTHBOUND

STA 2307+71.56 TO STA 2317+97.24

NORTHBOUND

STA 2307+00.00 TO STA 2317+26.65

SR 0081 TYPICAL SECTION CURVE #8

NOT TO SCALE

NOTE:

1. REFER TO CROSS SECTION FOR LIMITS AND ADDITIONAL INFORMATION PERTAINING RUBBLIZING AND SEAT OF THE CONCRETE PAVEMENT.

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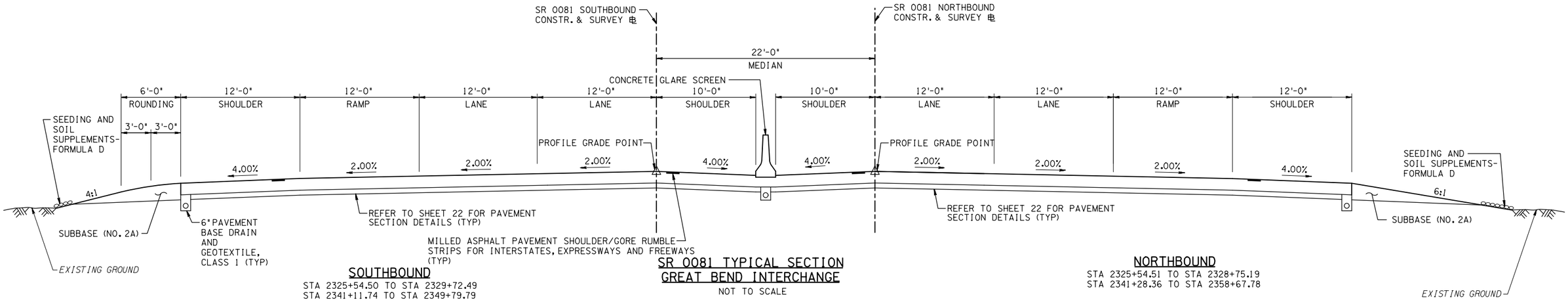
11/18/2021 AT 9:55:03 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	18 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 TYPICAL SECTION GREAT BEND INTERCHANGE

NOT TO SCALE

SOUTHBOUND

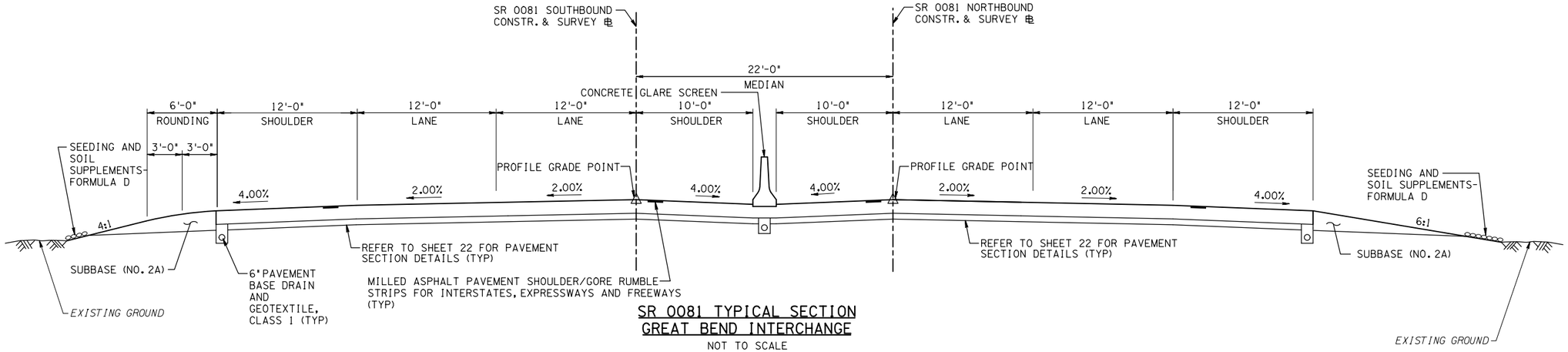
STA 2325+54.50 TO STA 2329+72.49
STA 2341+11.74 TO STA 2349+79.79

NORTHBOUND

STA 2325+54.51 TO STA 2328+75.19
STA 2341+28.36 TO STA 2358+67.78

NOTE:

1. REFER TO CROSS SECTION FOR LIMITS AND ADDITIONAL INFORMATION PERTAINING RUBBLIZING AND SEAT OF THE CONCRETE PAVEMENT.



SR 0081 TYPICAL SECTION GREAT BEND INTERCHANGE

NOT TO SCALE

SOUTHBOUND

STA 2329+72.49 TO STA 2334+14.37
STA 2335+51.37 TO STA 2341+11.74
STA 2349+79.79 TO STA 2357+98.95

NORTHBOUND

STA 2328+75.19 TO STA 2334+14.37
STA 2335+51.37 TO STA 2341+28.36

NOTE:

1. REFER TO CROSS SECTION FOR LIMITS AND ADDITIONAL INFORMATION PERTAINING RUBBLIZING AND SEAT OF THE CONCRETE PAVEMENT.

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11/18/2021 AT 9:55:03 AM

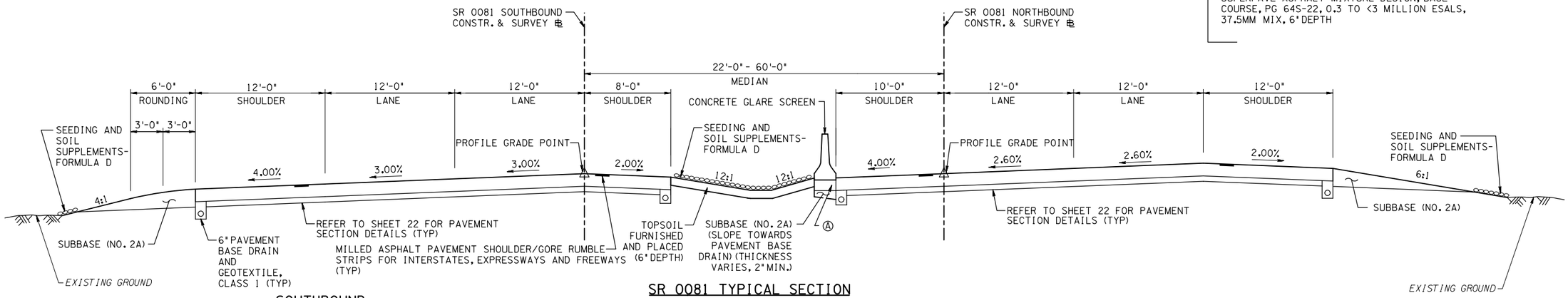
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	19 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

Ⓐ SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, RPS, PG 64E-22, >/=30 MILLION ESALS, 19.0MM MIX, 3 1/2" DEPTH

SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO <3 MILLION ESALS, 25.0MM MIX, 6" DEPTH

SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO <3 MILLION ESALS, 37.5MM MIX, 6" DEPTH

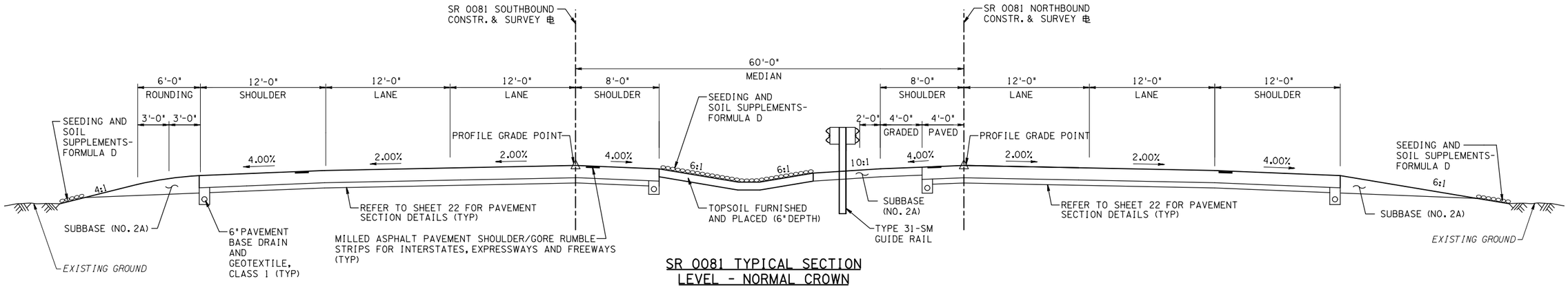


SR 0081 TYPICAL SECTION CURVE #9 - SUPERELEVATED TO LEFT

NOT TO SCALE

SOUTHBOUND
STA 2357+98.95 TO STA 2358+67.78

NORTHBOUND
STA 2358+67.78 TO STA 2378+33.93



SR 0081 TYPICAL SECTION LEVEL - NORMAL CROWN

NOT TO SCALE

SOUTHBOUND
STA 2358+67.78 TO STA 2400+94.90

NORTHBOUND
STA 2378+33.93 TO STA 2424+01.18

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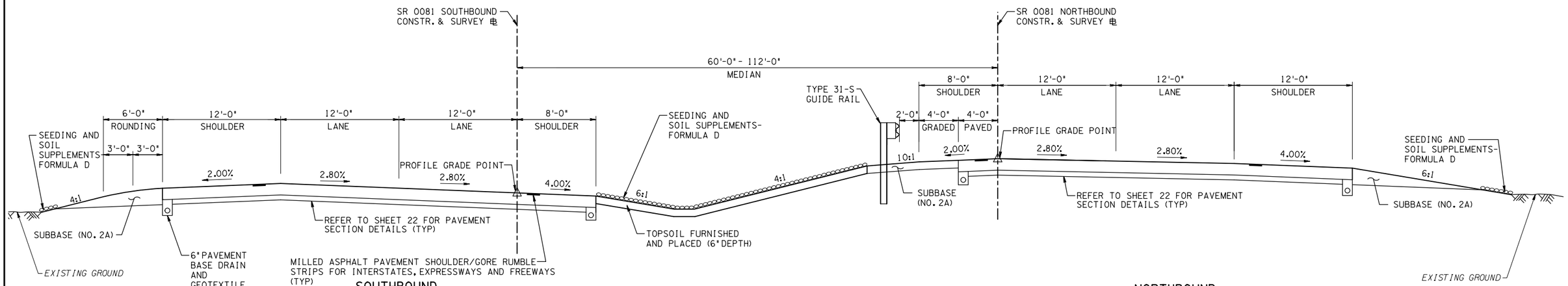
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	20 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



SOUTHBOUND

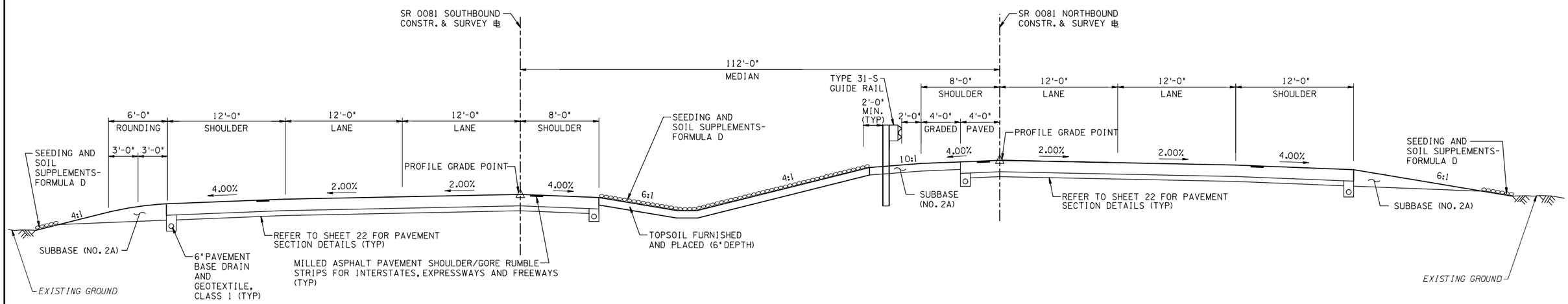
STA 2400+94.90 TO STA 2424+09.24

SR 0081 TYPICAL SECTION
CURVE #10 - SUPERELEVATED TO RIGHT

NOT TO SCALE

NORTHBOUND

STA 2420+41.18 TO STA 2424+01.88



SOUTHBOUND

STA 2424+09.24 TO STA 2453+71.40

SR 0081 TYPICAL SECTION
BI-FURCATED - NORMAL CROWN

NOT TO SCALE

NORTHBOUND

STA 2420+41.18 TO STA 2453+17.82

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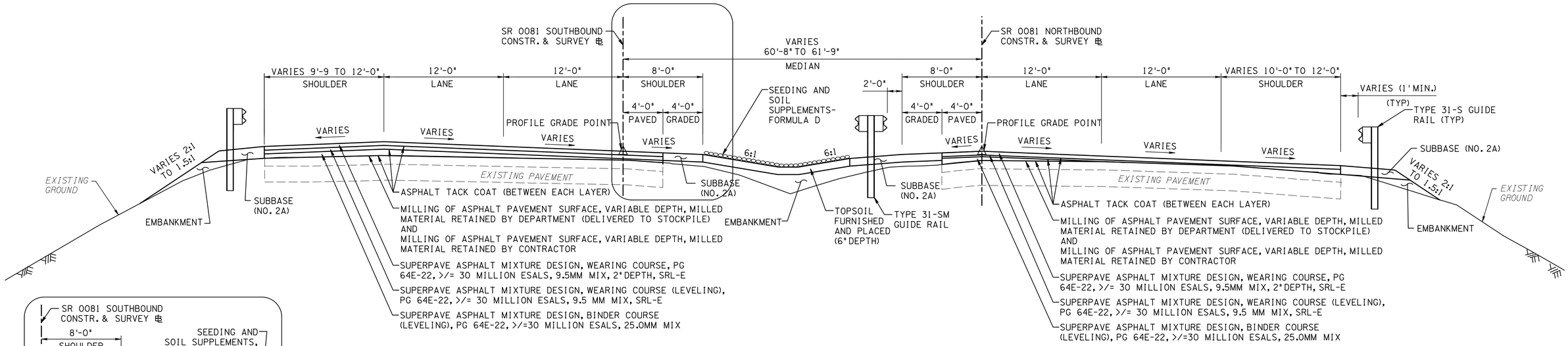
11/18/2021 AT 9:55:04 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	21 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



SOUTHBOUND

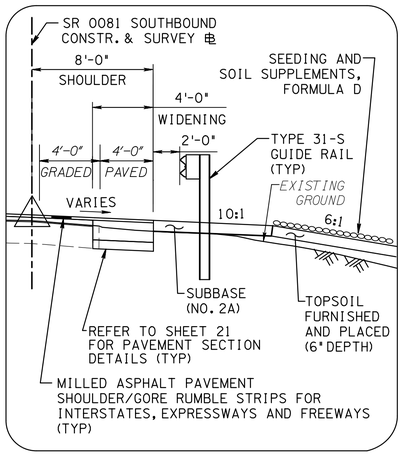
STA 1975+00.00 TO STA 1979+33.00

SR 0081 TYPICAL SECTION MILL AND OVERLAY

NOT TO SCALE

NORTHBOUND

STA 1974+00.00 TO STA 1979+33.00



SR 0081 SOUTHBOUND MEDIAN SHOULDER FULL DEPTH RECONSTRUCTION PARTIAL TYPICAL SECTION

NOT TO SCALE
STA 1973+00.00 TO STA 1979+67.00

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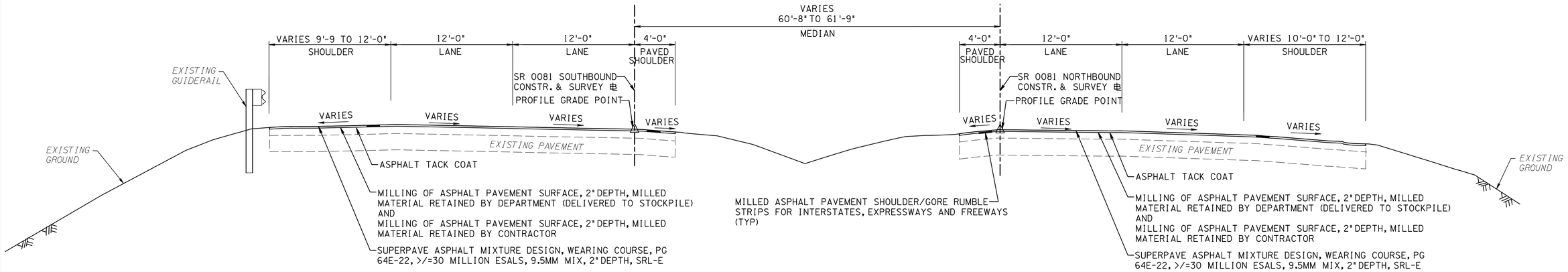
1/13/2022 AT 12:43:07 PM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	22 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 TYPICAL SECTION MILL AND OVERLAY

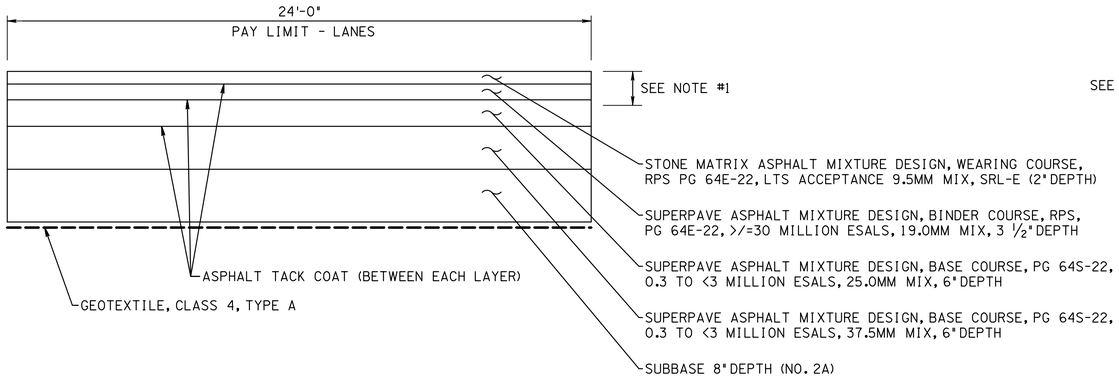
NOT TO SCALE

SOUTHBOUND

STA 1969+98.00 TO STA 1975+00.00
STA 2453+02.00 TO STA 2470+12.69 (IN NY)

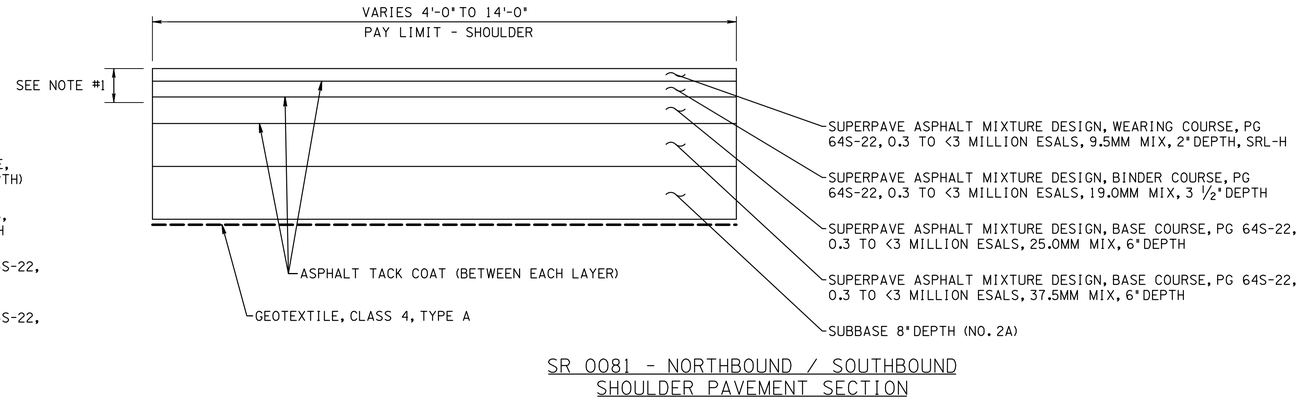
NORTHBOUND

STA 1969+57.00 TO STA 1974+00.00
STA 2453+02.00 TO STA 2460+55.00 (IN NY)



SR 0081 - NORTHBOUND / SOUTHBOUND LANE PAVEMENT SECTION

NOT TO SCALE



SR 0081 - NORTHBOUND / SOUTHBOUND SHOULDER PAVEMENT SECTION

NOT TO SCALE

NOTE:

1. THE FIRST 6" OF PAVEMENT MILLING WILL BE SPLIT BETWEEN THE CONTRACTOR PROPERTY AND RETAINED BY DEPARTMENT (DELIVERY TO STOCKPILE)

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1/13/2022 AT 12:43:49 PM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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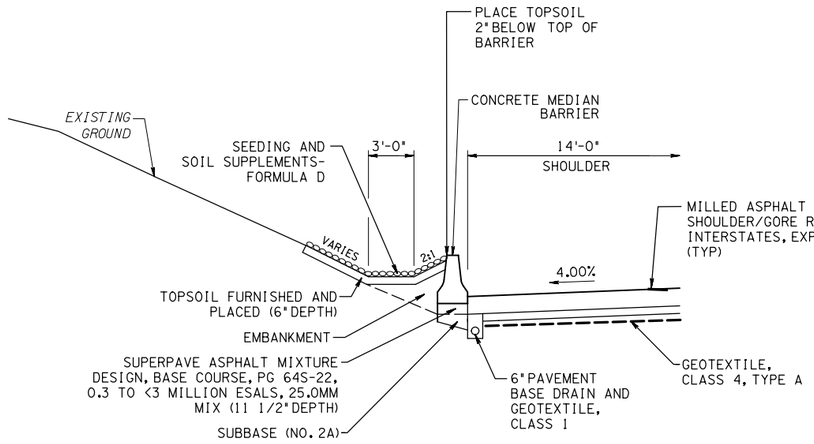
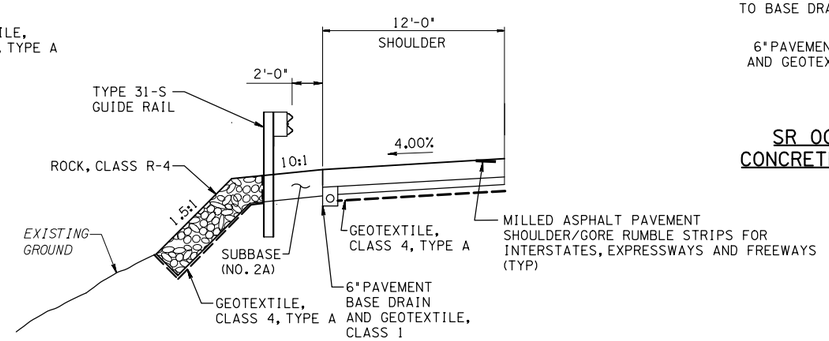
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

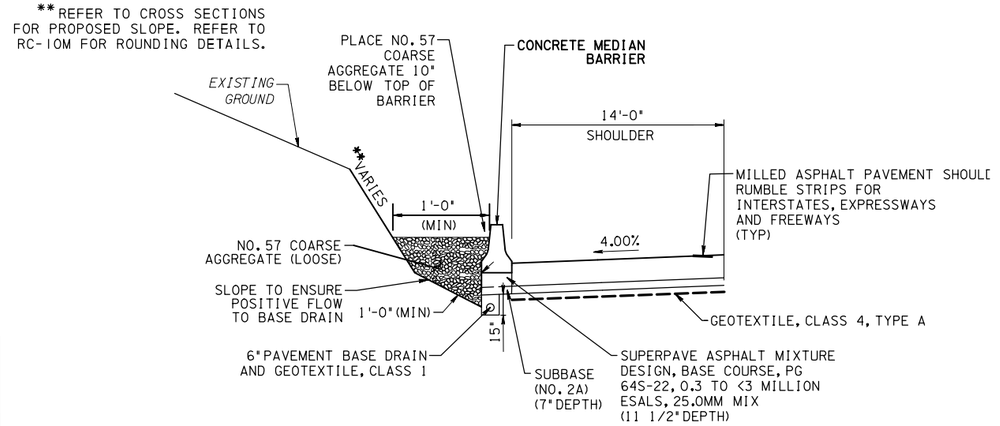
REVISION NUMBER	REVISIONS	DATE	BY



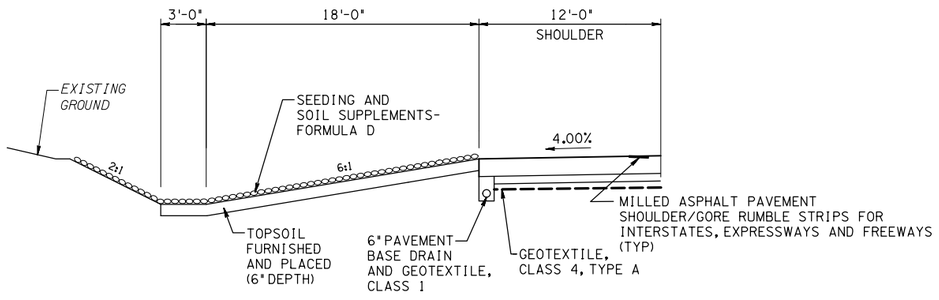
SR 0081 - SOUTHBOUND OUTSIDE
CONCRETE MEDIAN BARRIER (SWALE)
NOT TO SCALE



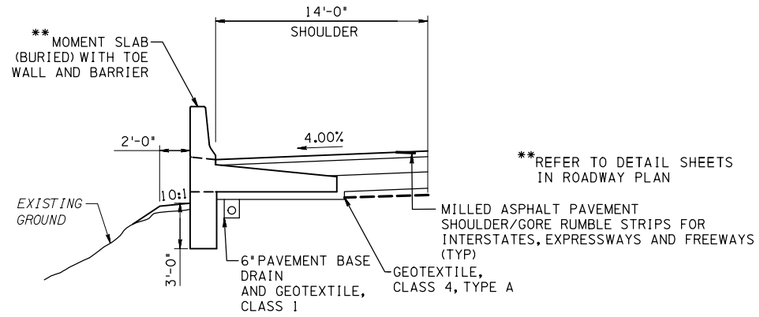
SR 0081 - SOUTHBOUND OUTSIDE
GUIDE RAIL WITH ROCK ARMOR
NOT TO SCALE



SR 0081 - NORTHBOUND OUTSIDE
CONCRETE MEDIAN BARRIER (ROCK CUT)
NOT TO SCALE



SR 0081 - SOUTHBOUND OUTSIDE
ROADSIDE SWALE
NOT TO SCALE



SOUTHBOUND OUTSIDE - MOMENT SLAB
(BURIED) WITH TOE WALL AND BARRIER
NOT TO SCALE
STA 2126+22.76 TO STA 2141+72.60

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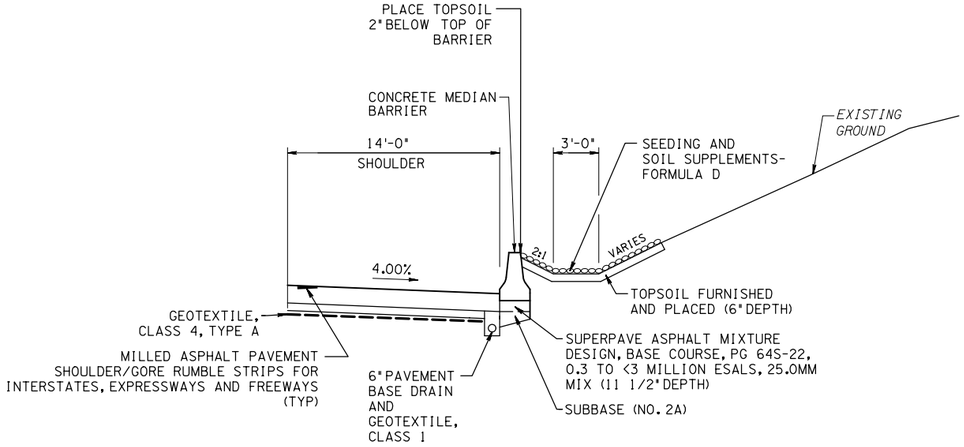
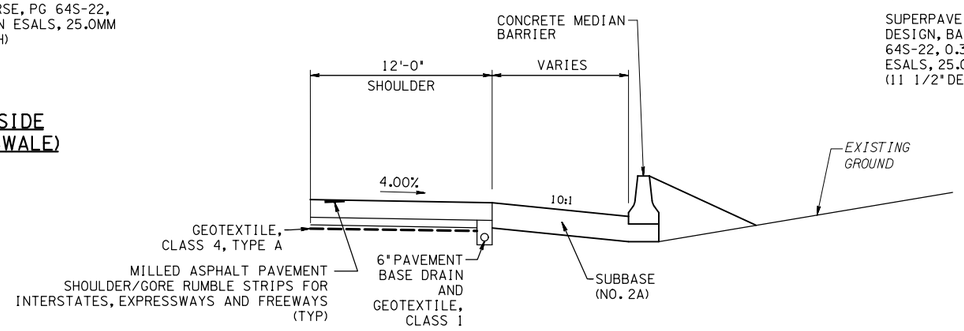
11/18/2021 AT 9:55:06 AM

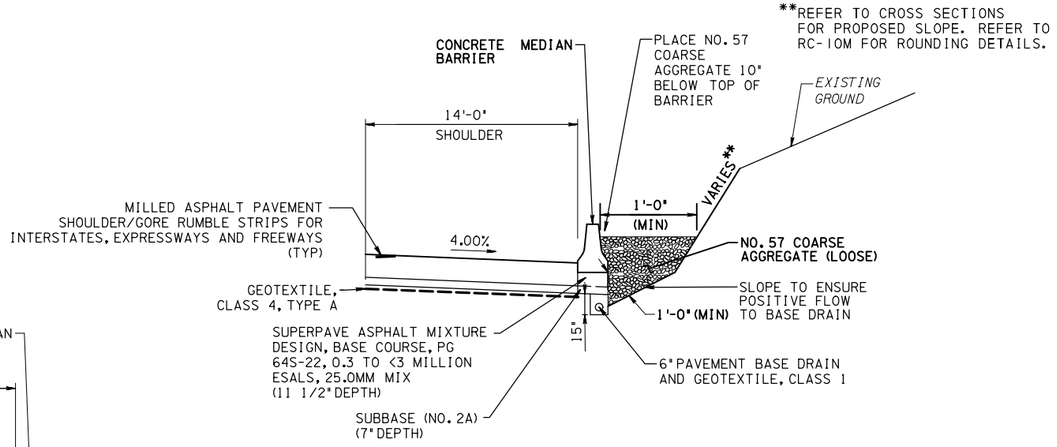
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	24 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				
REVISION NUMBER	REVISIONS		DATE	BY



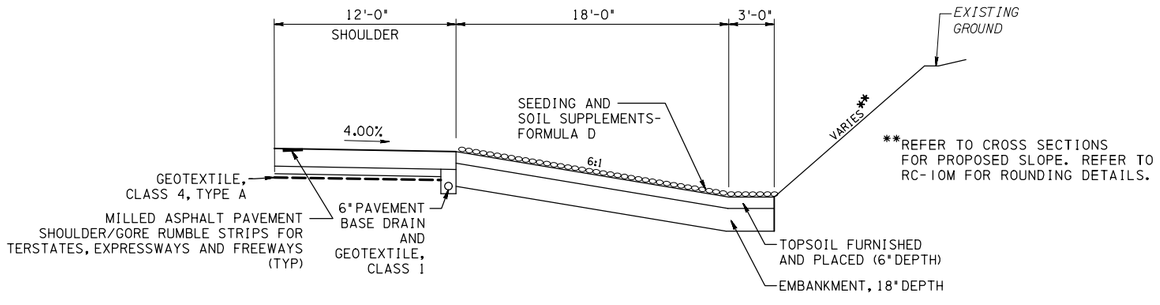
SR 0081 - NORTHBOUND OUTSIDE
CONCRETE MEDIAN BARRIER (SWALE)
NOT TO SCALE



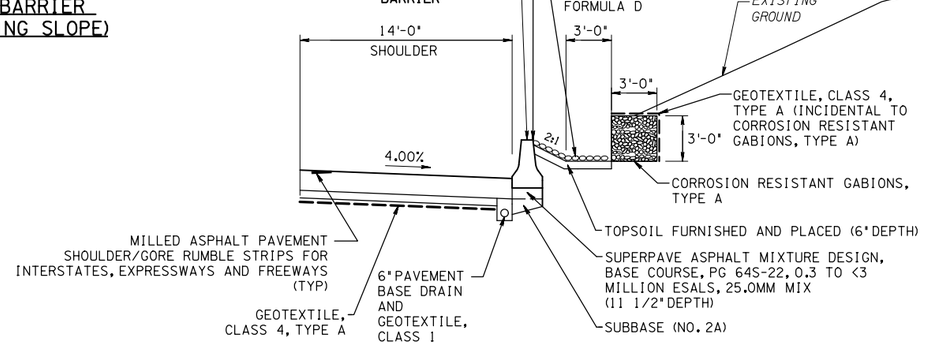
SR 0081 - NORTHBOUND OUTSIDE
CONCRETE MEDIAN BARRIER
(IN FRONT OF EXISTING SLOPE)
NOT TO SCALE



SR 0081 - NORTHBOUND OUTSIDE
CONCRETE MEDIAN BARRIER (ROCK CUT)
NOT TO SCALE



SR 0081 - NORTHBOUND OUTSIDE
ROADSIDE SWALE (ROCK CUT)
NOT TO SCALE



SR 0081 - NORTHBOUND OUTSIDE
CONCRETE MEDIAN BARRIER (SWALE WITH GABIONS)
NOT TO SCALE

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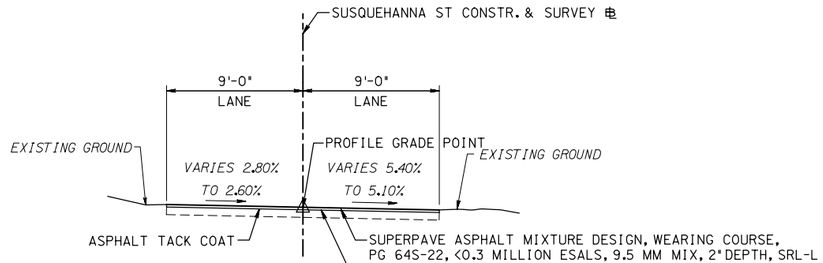
11/18/2021 AT 9:55:06 AM

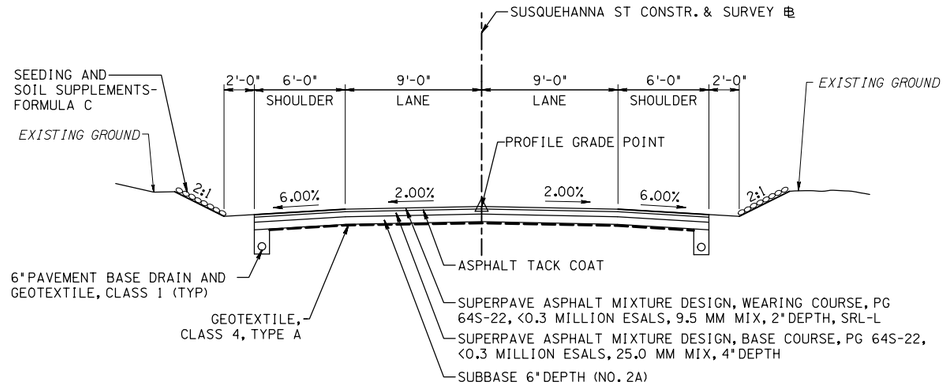
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	25 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



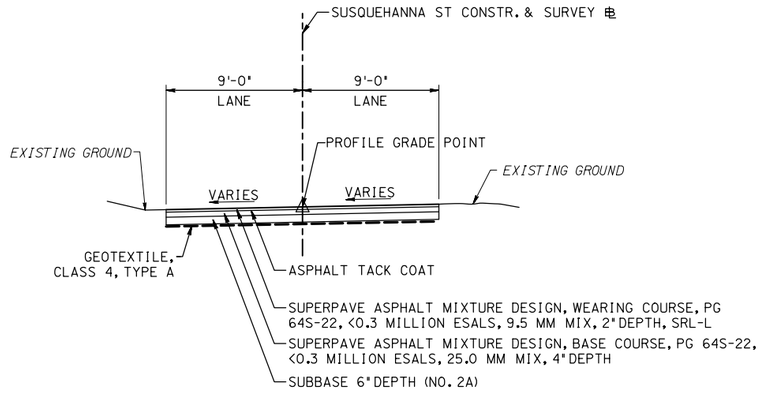
TYPICAL SECTION
SUSQUEHANNA STREET - MILL AND OVERLAY

STA 11+00.00 TO STA 11+50.00
NOT TO SCALE



TYPICAL SECTION
SUSQUEHANNA STREET

STA 11+68.00 TO STA 14+50.00
NOT TO SCALE



TYPICAL SECTION
SUSQUEHANNA STREET - SUPERELEVATED

STA 11+50.00 TO STA 11+68.00
STA 14+50.00 TO STA 15+00.00
NOT TO SCALE

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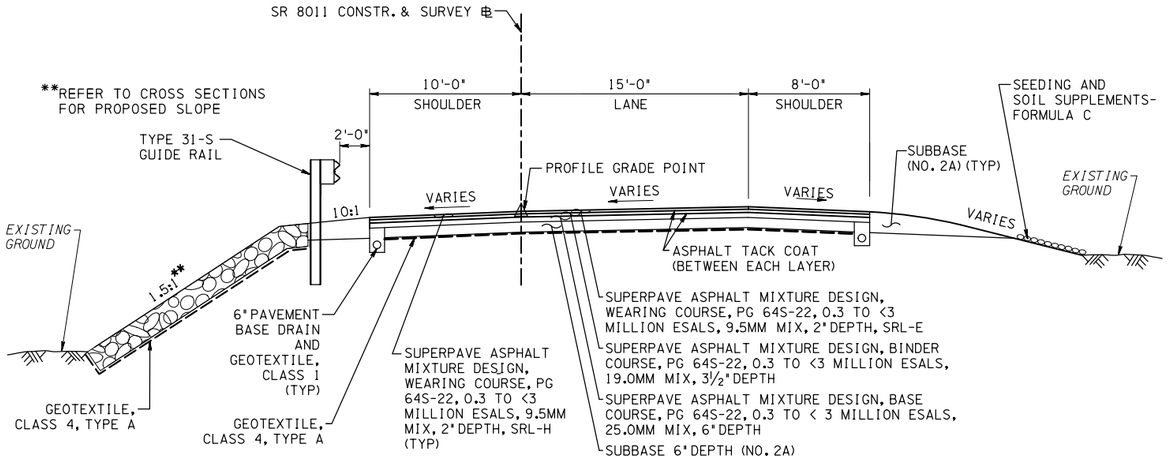
11/18/2021 AT 9:55:07 AM

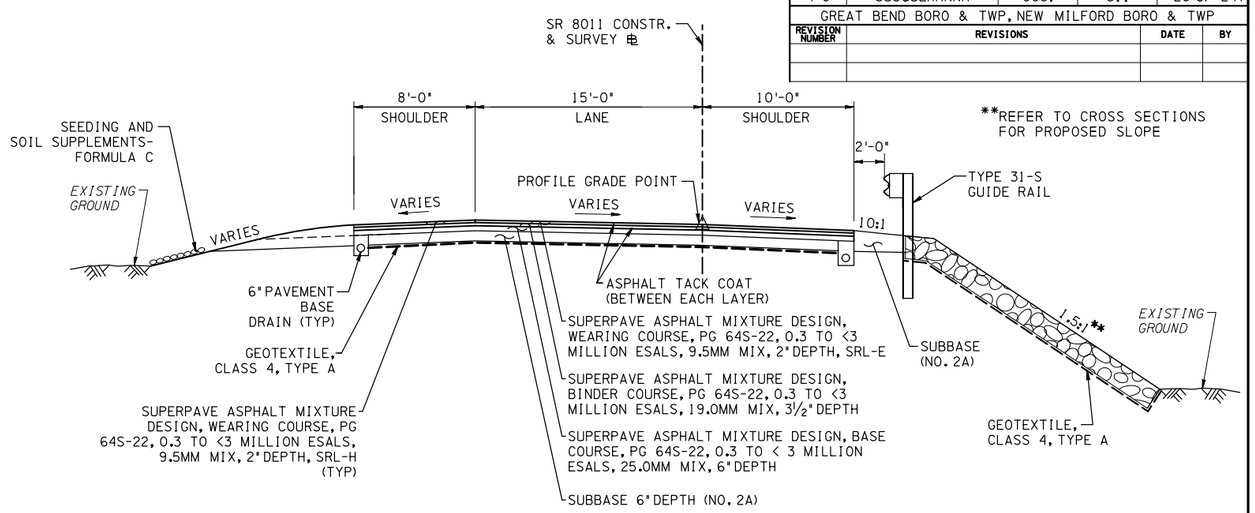
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	26 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



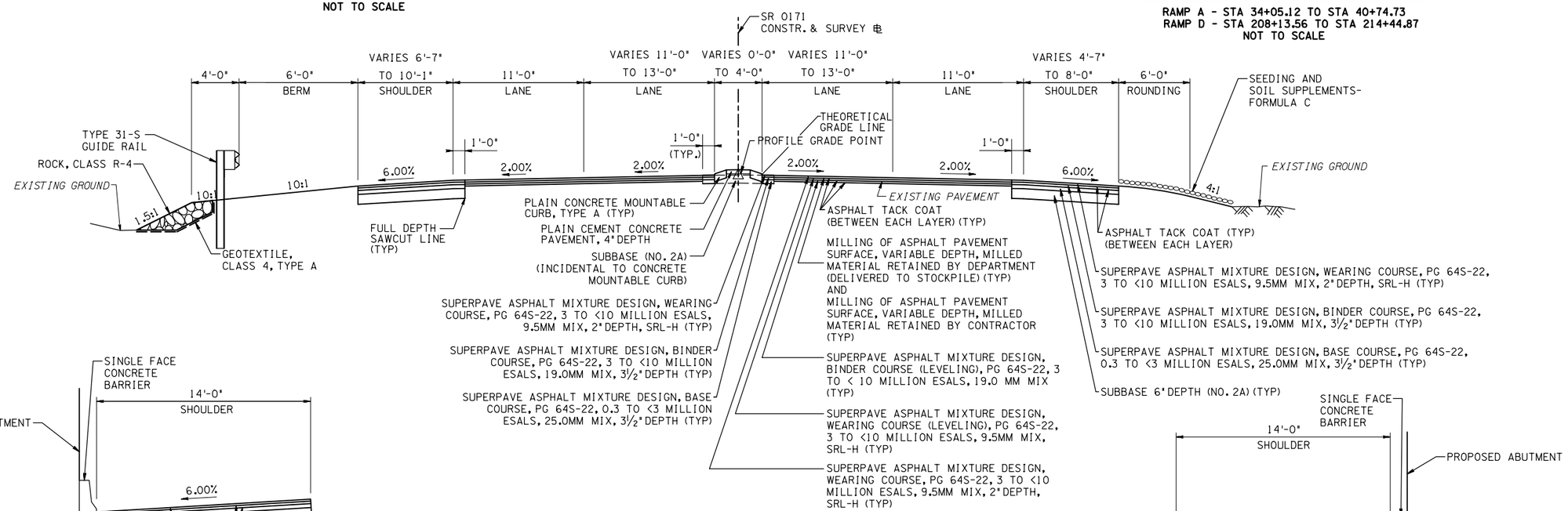
SR 8011 TYPICAL SECTION INTERCHANGE RAMPS (SOUTHBOUND)

RAMP B - STA 334+01.22 TO STA 340+58.84
RAMP C - STA 129+15.88 TO STA 134+63.20
NOT TO SCALE



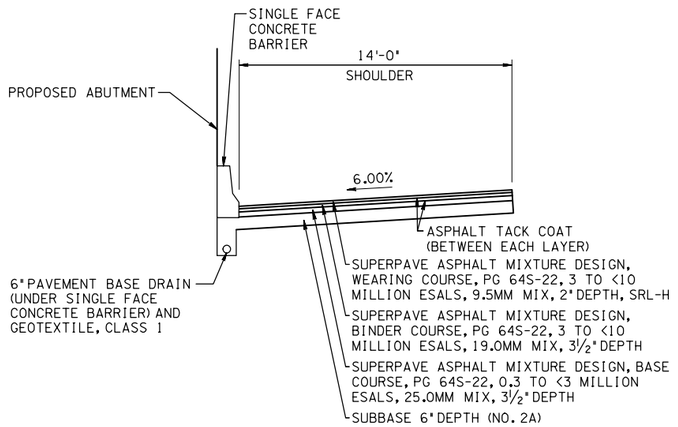
SR 8011 TYPICAL SECTION INTERCHANGE RAMPS (NORTHBOUND)

RAMP A - STA 34+05.12 TO STA 40+74.73
RAMP D - STA 208+13.56 TO STA 214+44.87
NOT TO SCALE



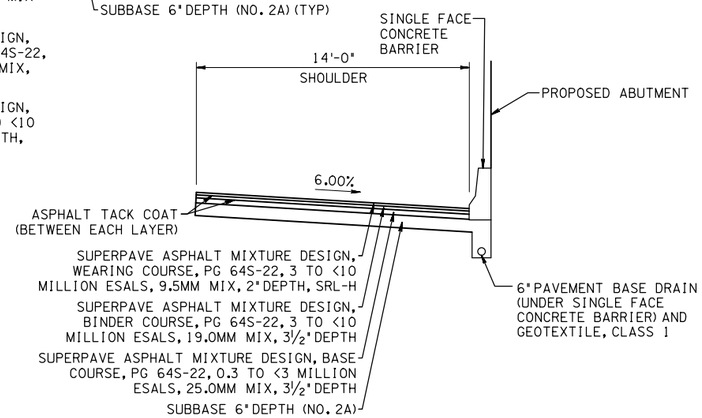
SR 0171 TYPICAL SECTION

STA 430+28.00 TO STA 438+58.00
NOT TO SCALE



SR 0171 - SHOULDER UNDER STRUCTURE

STA 433+75.00 TO STA 435+71.00
NOT TO SCALE



SR 0171 - SHOULDER UNDER STRUCTURE

STA 433+73.00 TO STA 435+72.00
NOT TO SCALE

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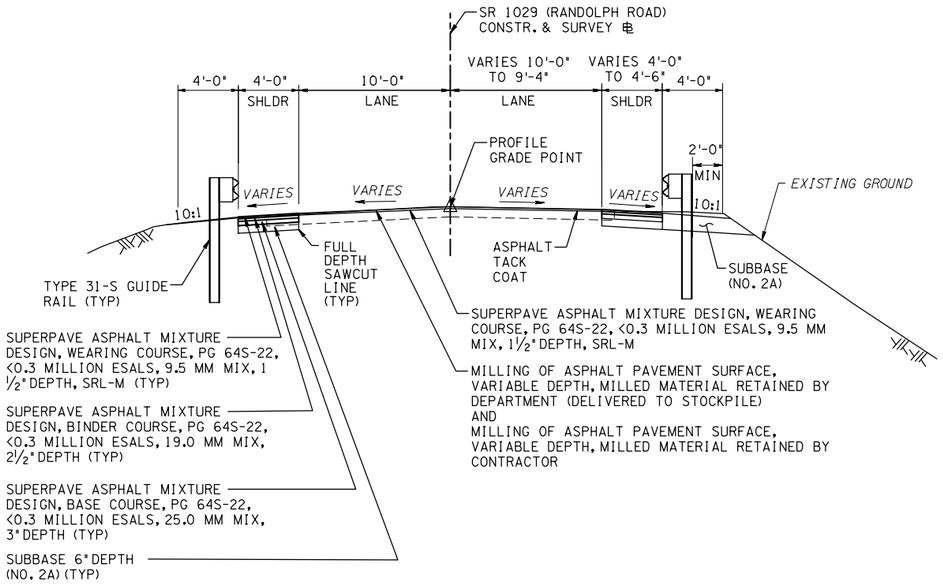
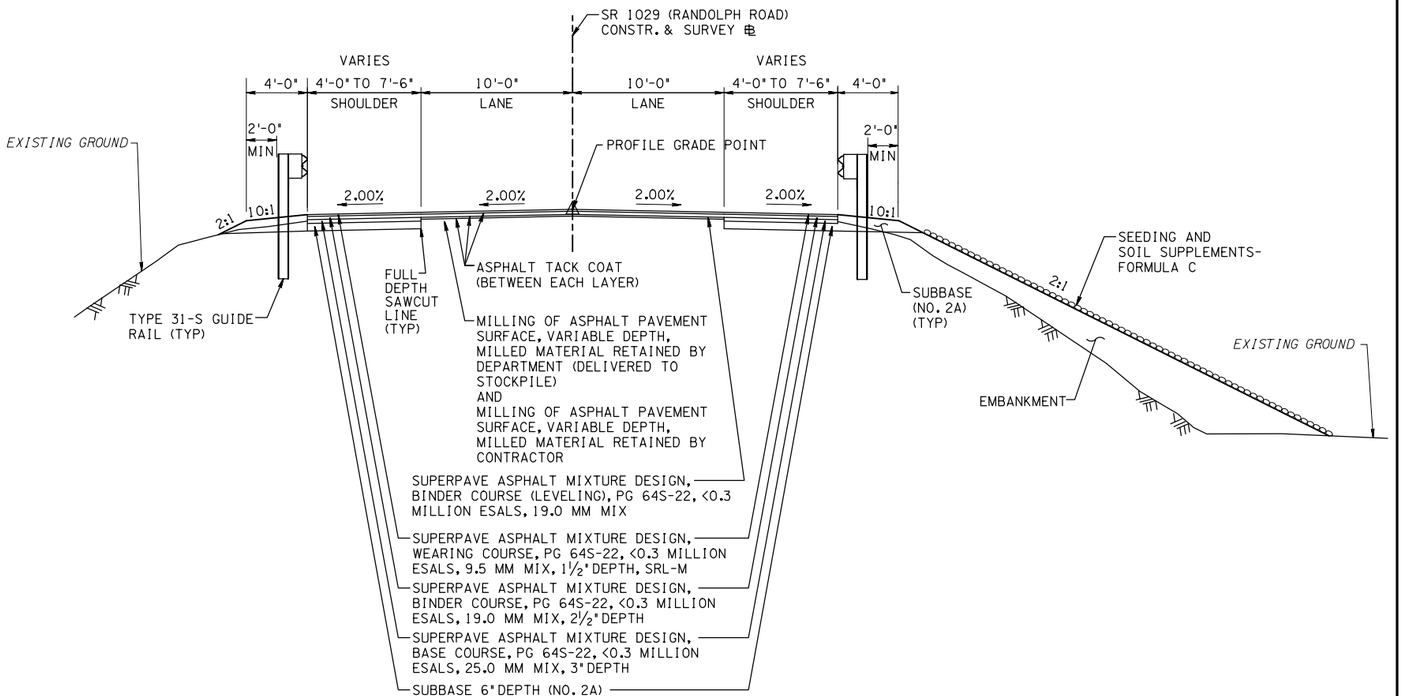
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	27 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



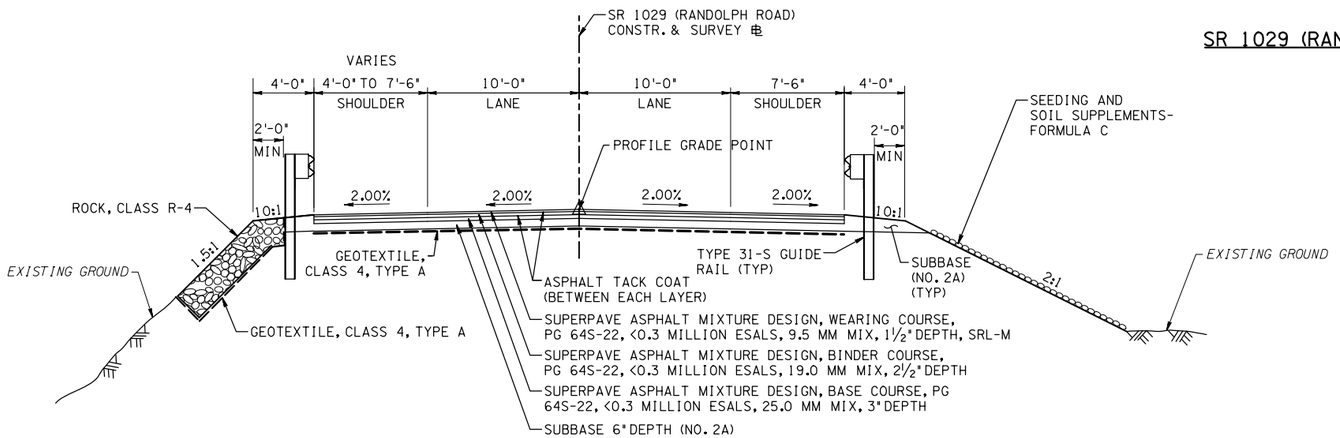
TYPICAL SECTION
SR 1029 (RANDOLPH ROAD) - MILL AND OVERLAY WITH FULL DEPTH SHOULDERS

STA 117+10.00 TO STA 117+50.00
STA 124+50.00 TO STA 124+92.00
NOT TO SCALE



TYPICAL SECTION
SR 1029 (RANDOLPH ROAD) - PAVEMENT TRANSITION

STA 117+50.00 TO STA 118+10.00
STA 123+25.00 TO STA 124+50.00
NOT TO SCALE



TYPICAL SECTION
SR 1029 (RANDOLPH ROAD)

STA 118+10.00 TO STA 120+02.73
STA 121+98.23 TO STA 123+25.00
NOT TO SCALE

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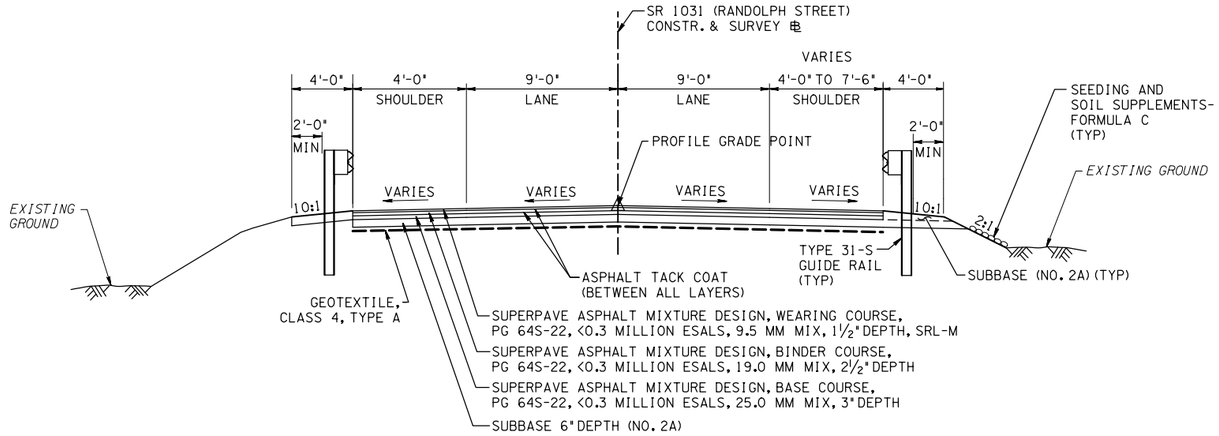
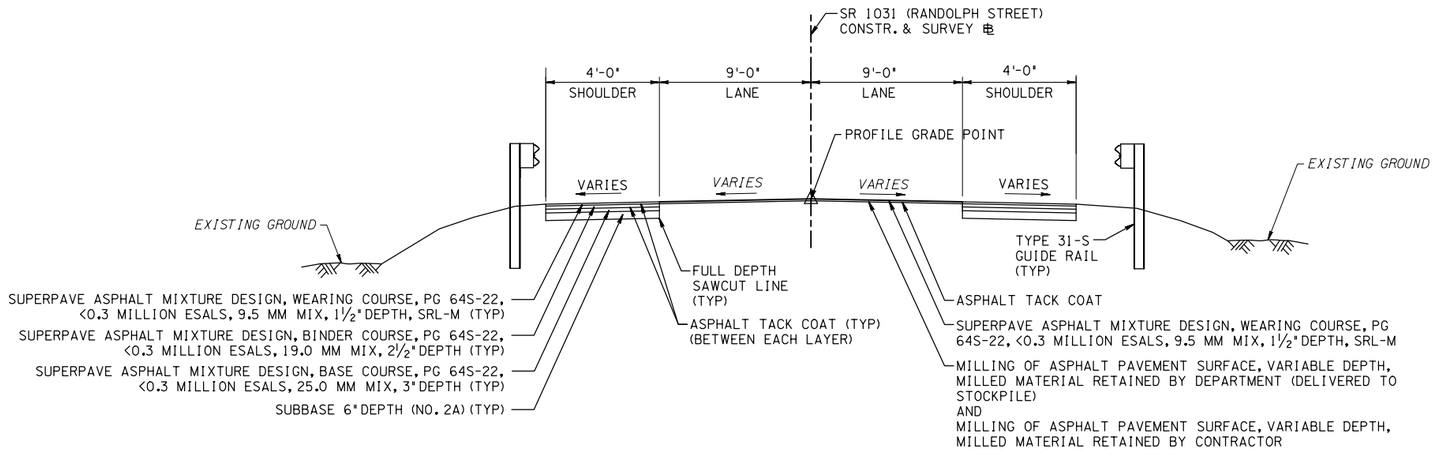
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	28 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



TYPICAL SECTION
SR 1031 (RANDOLPH STREET)

STA 18+50.00 TO STA 19+76.51
NOT TO SCALE



TYPICAL SECTION
SR 1031 (RANDOLPH STREET) - MILL AND OVERLAY

STA 18+25.00 TO STA 18+50.00
NOT TO SCALE

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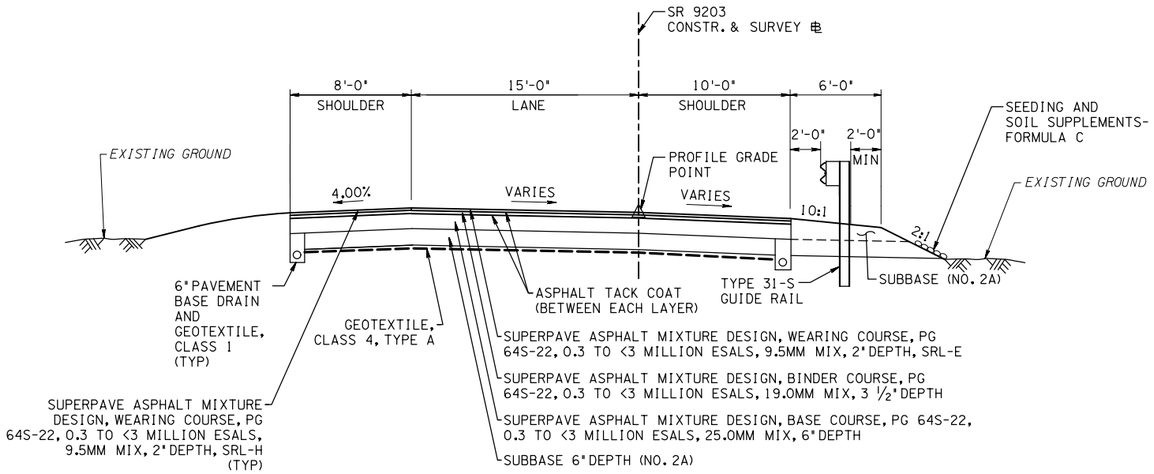
11/18/2021 AT 9:55:09 AM

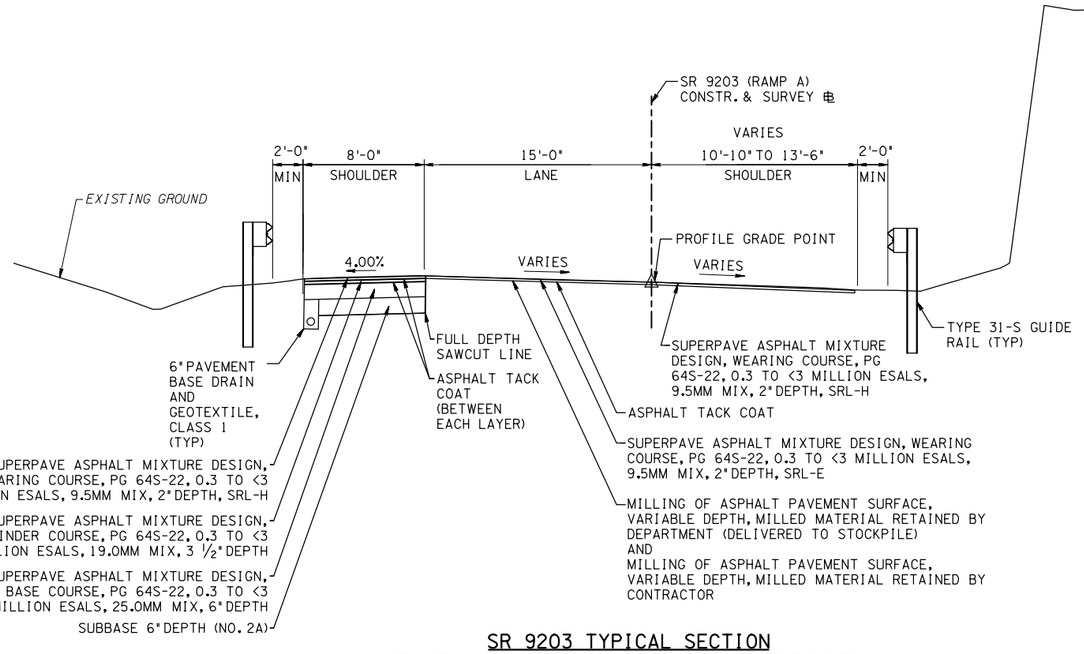
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	29 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



SR 9203 TYPICAL SECTION
INTERCHANGE RAMPS (SOUTHBOUND)

RAMP A - STA 12+38.94 TO STA 17+00.00
RAMP B - STA 45+33.00 TO STA 49+12.24
NOT TO SCALE



SR 9203 TYPICAL SECTION
RAMP A - MILL AND OVERLAY (SOUTHBOUND)

RAMP A - STA 17+00.00 TO STA 17+50.00
NOT TO SCALE

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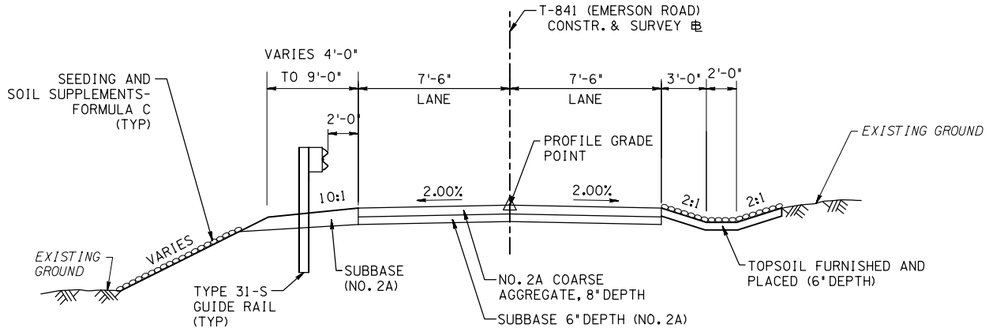
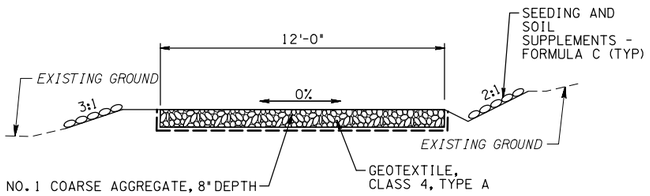
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	30 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



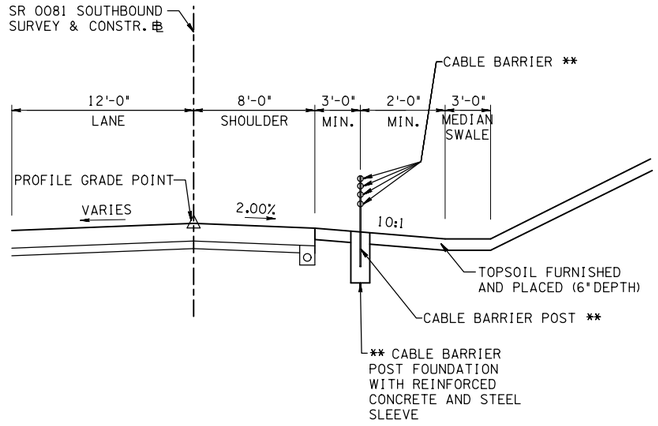
TYPICAL SECTION
T-841 (EMERSON ROAD)

STA 22+70.00 TO STA 31+50.00
NOT TO SCALE



TYPICAL SECTION
BASIN ACCESS ROADS

NOT TO SCALE



TYPICAL HIGH TENSION CABLE BARRIER

NOT TO SCALE
NOTE: ** REFERS TO ITEM NUMBER 9629-0002

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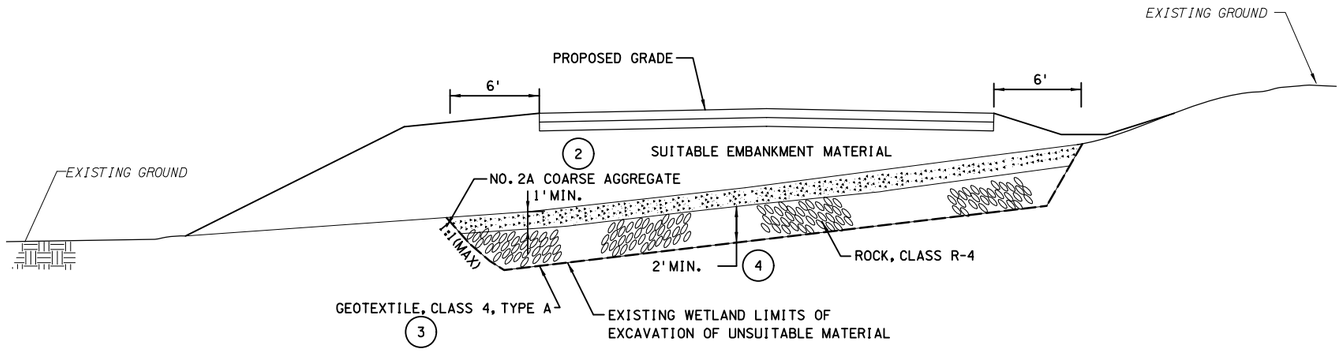
11/18/2021 AT 9:55:09 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	31 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

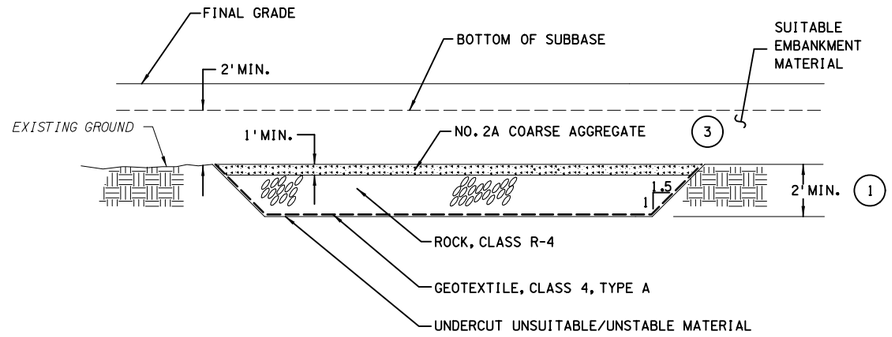


WETLAND TREATMENT DETAIL

NOT TO SCALE
ITEM NO. 0203-0001 - CLASS 1 EXCAVATION
ITEM NO. 0850-0032 - ROCK, CLASS R-4
ITEM NO. 0703-0024 - NO. 2A COARSE AGGREGATE
ITEM NO. 0212-0014 - GEOTEXTILE, CLASS 4, TYPE A

NOTES:

1. DAYLIGHT ROCK EMBANKMENT AT BOTTOM OF SLOPE.
2. USE COMPACTED NO. 2A IN 6 INCH LIFTS TO CHOKE ROCK.
3. PROVIDE A 6-INCH MINIMUM OVERLAP OF THE GEOTEXTILE
4. IF THE 3-FOOT MINIMUM DIMENSION CANNOT BE HELD, REPLACE THE ROCK WITH COMPACTED NO. 2A COARSE AGGREGATE.
5. BEST AVAILABLE ROCK (BAR) MAY BE USED IF GRADATION REQUIREMENTS OF SPECIFIED ROCK SIZES ARE MET.



UNDERCUT EXCAVATION FOR EMBANKMENT AREA DETAIL

NOT TO SCALE
ITEM NO. 0203-0001 - CLASS 1 EXCAVATION
ITEM NO. 0850-0032 - ROCK, CLASS R-4
ITEM NO. 0703-0024 - NO. 2A COARSE AGGREGATE
ITEM NO. 0212-0014 - GEOTEXTILE, CLASS 4, TYPE A

ROUTE	STATION LIMITS	CUT AREA (SQ FT) *	WETLAND ID#
T-841 (EMERSON RD)	27+15.00 TO 28+75.00 LT/RT	4,320	W44N

* - FOR INFORMATION ONLY

NOTES:

1. IF THE 2-FEET MINIMUM DISTANCE CANNOT BE HELD, REPLACE THE ROCK WITH COMPACTED NO. 2A COARSE AGGREGATE.
2. UNDERCUT TO COMPETENT MATERIAL AS PER SECTION 206.
3. USE COMPACTED NO. 2A COARSE AGGREGATE IN 6-INCH LIFTS TO CHOKE TOP OF ROCK.
4. DIVERT SURFACE WATER AWAY FROM UNDERCUT AREA, MAINTAIN EXCAVATION FREE OF WATER.
5. AS DETERMINED BY THE ENGINEER THE EXTENT OF OVEREXCAVATION OR DURATION OF OVEREXCAVATION MAY BE LIMITED FOR STABILITY PURPOSES.
6. PROVIDE A 6-INCH MINIMUM OVERLAP OF THE GEOTEXTILE.

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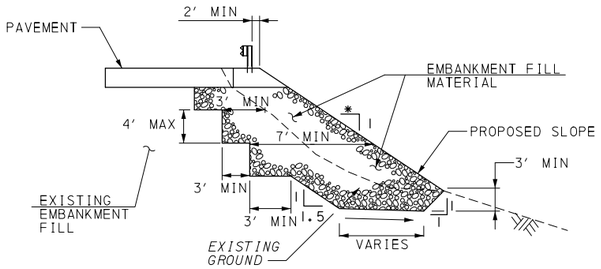
11/18/2021 AT 9:55:10 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	32 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

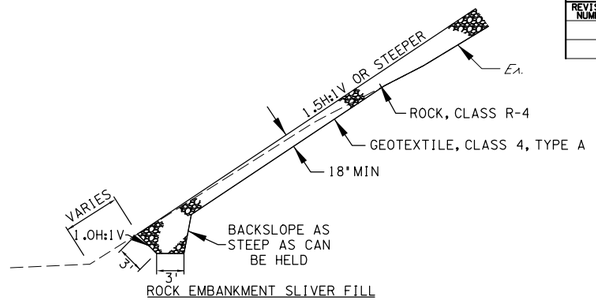
REVISION NUMBER	REVISIONS	DATE	BY



DETAIL A
BENCHING DETAIL

NOT TO SCALE

*NO STEEPER THAN 2.0H : 1V



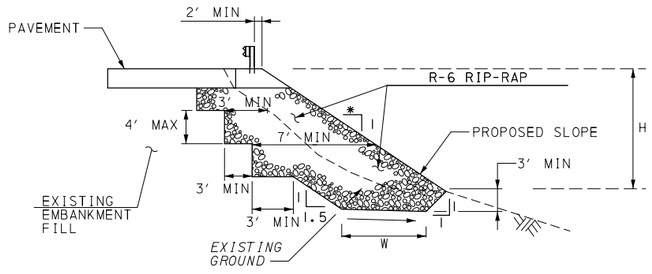
ROCK EMBANKMENT SLIVER FILL DETAIL

NOT TO SCALE

ITEM 0203-0001 CLASS 1 EXCAVATION
ITEM 0212-0003 GEOTEXTILE, CLASS 2, TYPE B
ITEM 0850-0032 ROCK, CLASS R-4

NOTES:

1. FOR USE IN AREA OF FILL WITH LESS THAN FOUR (4) FEET OF NEW FILL THICKNESS
2. PLACE TOE ON COMPETENT MATERIAL.
3. VARY BENCH WIDTH AND HEIGHT IN ACCORDANCE WITH SLOPE CONDITIONS.
4. MODIFY BENCH WIDTHS AS NECESSARY IF ROCK IS ENCOUNTERED.
5. LOCATE TOP BENCH TO ENSURE THAT BACKSLOPE DOES NOT UNDERLIE TRAVEL LANES.

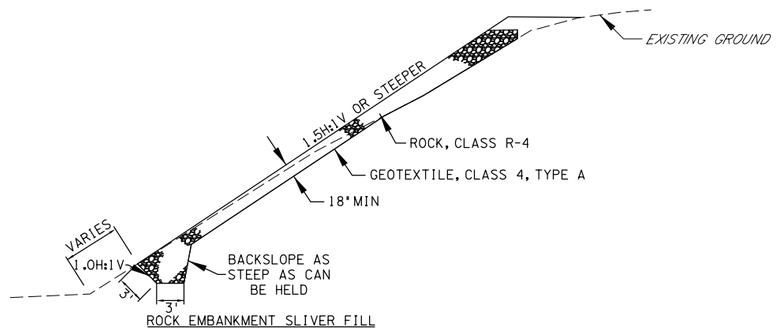


DETAIL B
ROCK EMBANKMENT DETAIL

NOT TO SCALE

*NO STEEPER THAN 1.5H : 1V

MINIMUM HEIGHT (H)	MINIMUM WIDTH (W)
5.0' - 10.0'	4.0'
10.0' - 20.0'	8.0'
20.0' - 25.0'	11.0'
25.0' - 30.0'	19.0'



ROCK EMBANKMENT SLIVER CUT DETAIL

NOT TO SCALE

ITEM 0203-0001 CLASS 1 EXCAVATION
ITEM 0212-0003 GEOTEXTILE, CLASS 2, TYPE B
ITEM 0850-0032 ROCK, CLASS R-4

NOTES:

1. FOR USE IN AREA OF CUT WITH LESS THAN FOUR (4) FEET OF NEW FILL THICKNESS AND HEIGHTS LESS THAN THIRTY (30) FEET
2. PLACE TOE ON COMPETENT MATERIAL.
3. VARY BENCH WIDTH AND HEIGHT IN ACCORDANCE WITH SLOPE CONDITIONS.
4. MODIFY BENCH WIDTHS AS NECESSARY IF ROCK IS ENCOUNTERED.
5. LOCATE TOP BENCH TO ENSURE THAT BACKSLOPE DOES NOT UNDERLIE TRAVEL LANES.

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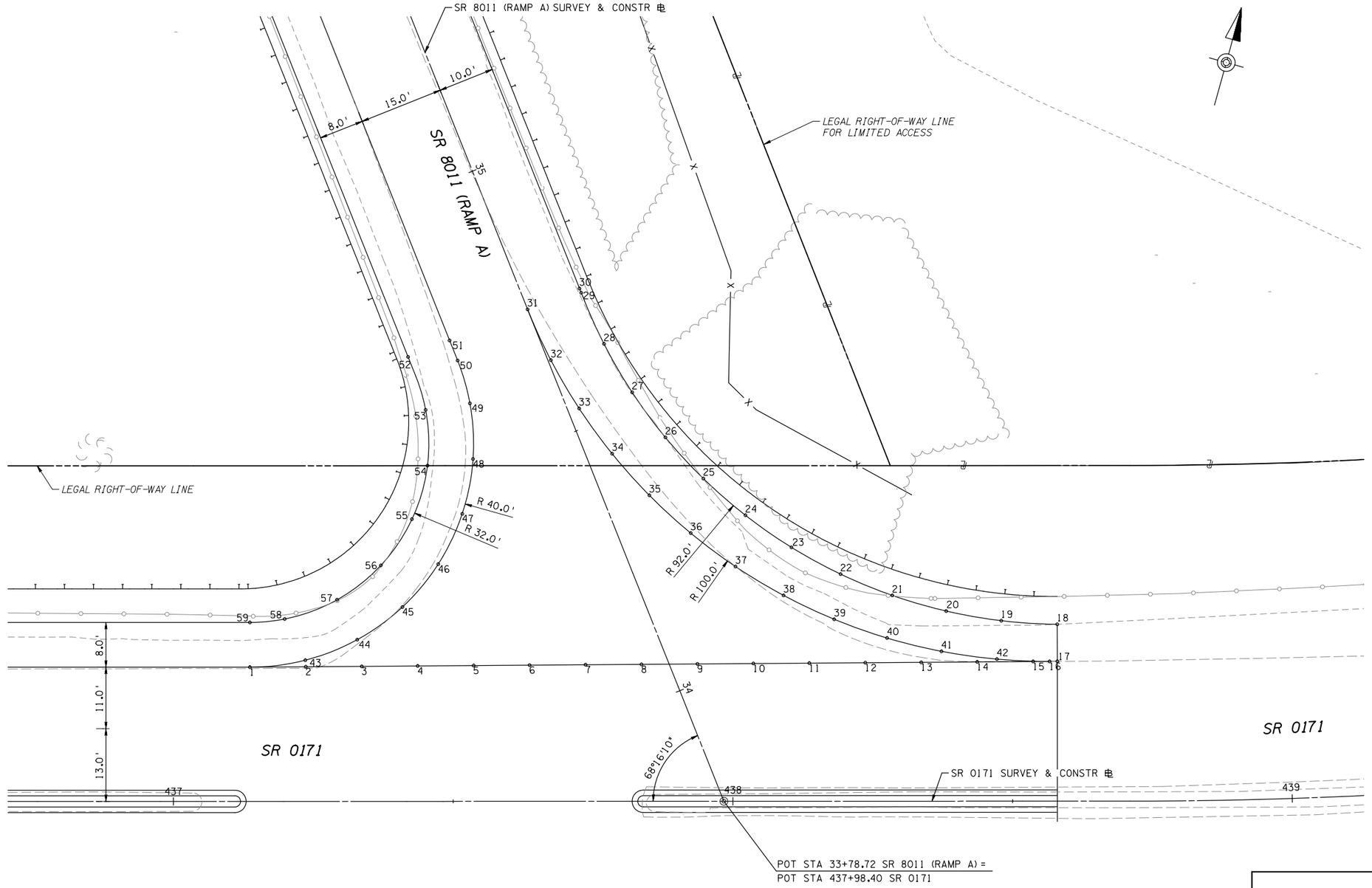
11/18/2021 AT 9:55:10 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	33 OF 247
	GREAT BEND BOROUGH			

REVISION NUMBER	REVISIONS	DATE	BY

SR 8011 (RAMP A) / SR 0171 INTERSECTION

POINT	STATION	OFFSET (FT)	ELEVATION (FT)
1	437+13.68	24.00	878.00
2	437+23.68	24.07	878.21
3	437+33.68	24.14	878.40
4	437+43.68	24.21	878.58
5	437+53.68	24.28	878.76
6	437+63.68	24.35	878.95
7	437+73.68	24.42	879.13
8	437+83.68	24.48	879.31
9	437+93.68	24.55	879.50
10	438+03.68	24.62	879.68
11	438+13.68	24.69	879.86
12	438+23.68	24.76	880.04
13	438+33.68	24.83	880.22
14	438+43.68	24.90	880.40
15	438+53.68	24.97	880.60
16	438+56.63	25.00	880.67
17	438+58.00	25.00	880.70
18	33+86.03	67.08	879.90
19	33+90.33	58.02	879.66
20	33+95.58	49.51	879.42
21	34+01.73	41.61	879.18
22	34+08.71	34.42	878.95
23	34+16.41	28.02	878.72
24	34+24.77	22.54	878.50
25	34+33.67	17.97	878.28
26	34+43.01	14.40	878.11
27	34+52.70	11.87	878.14
28	34+62.60	10.40	878.42
29	34+72.61	10.00	878.95
30	34+73.41	10.00	878.99
31	34+73.41	0.00	878.41
32	34+63.42	0.50	878.96
33	34+53.53	2.00	878.71
34	24+43.84	4.47	878.65
35	34+34.45	7.90	878.78
36	34+25.45	12.26	879.02
37	34+16.92	17.49	879.26
38	34+08.95	23.55	879.50
39	34+01.63	30.38	879.73
40	33+95.03	37.91	879.97
41	33+89.21	46.06	880.21
42	33+84.24	54.75	880.44
43	34+29.87	60.15	878.18
44	34+29.83	50.16	878.22
45	34+32.27	40.48	878.13
46	34+37.01	31.71	878.12
47	34+43.79	24.39	878.24
48	34+52.17	18.97	878.50
49	34+61.62	15.79	878.90
50	34+69.54	15.00	879.32
51	34+73.41	15.00	879.54
52	34+73.41	23.00	879.23
53	34+63.45	23.58	878.58
54	34+54.09	26.97	878.07
55	34+46.22	33.09	877.77
56	34+40.61	41.31	877.70
57	34+37.81	50.87	877.77
58	34+38.07	60.83	877.69
59	34+39.81	66.85	877.52



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0 10 20 FEET

INTERSECTION DETAIL
SHEET 1 OF 5

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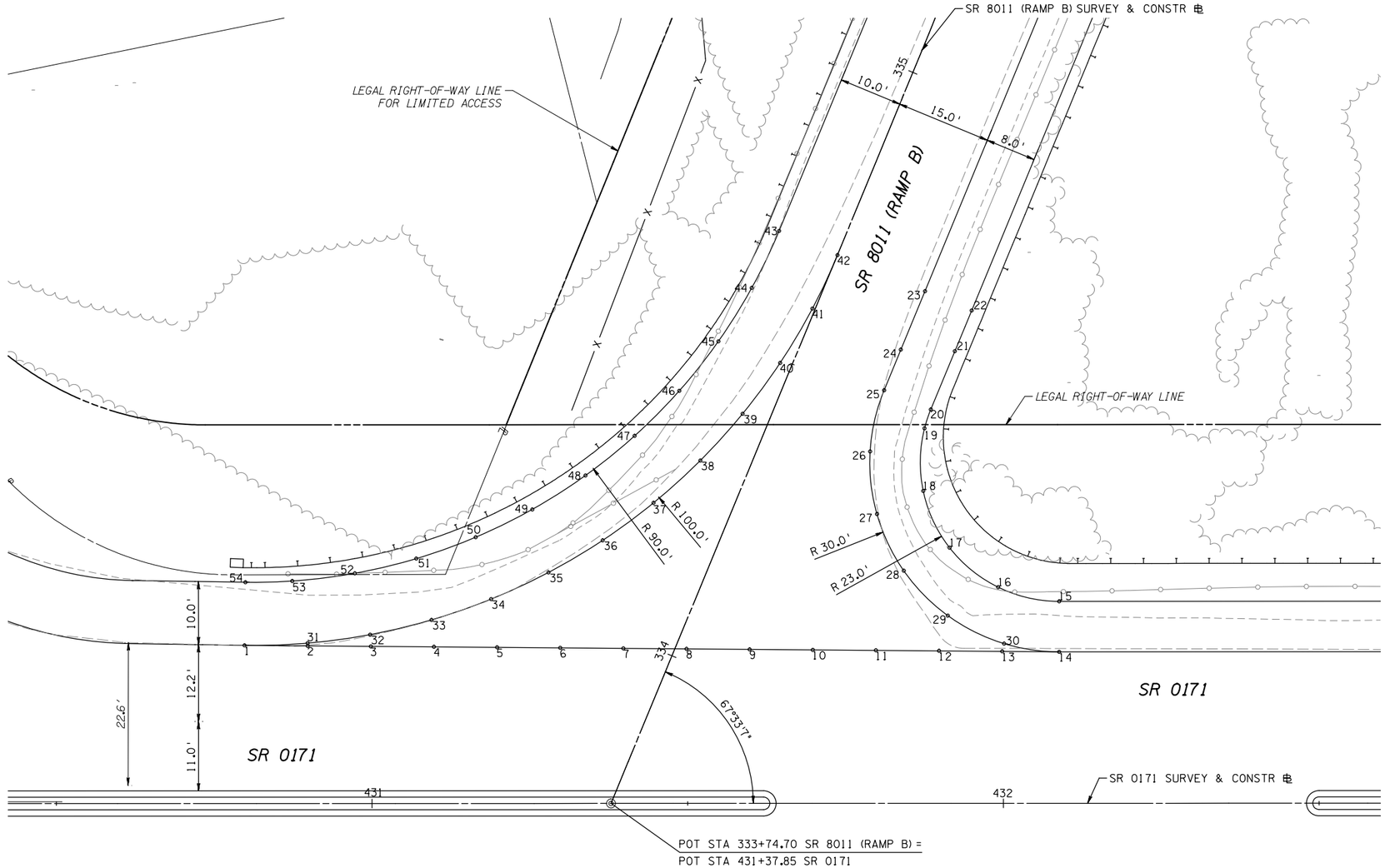
11/18/2021 AT 9:55:20 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	34 OF 247
GREAT BEND BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

SR 8011 (RAMP B) / SR 0171 INTERSECTION



POINT	STATION	OFFSET (FT)	ELEVATION (FT)
1	430+79.81	25.06	876.50
2	430+89.81	24.98	876.55
3	430+99.81	24.90	876.59
4	431+09.81	24.82	876.54
5	431+19.81	24.73	876.50
6	431+29.81	24.65	876.45
7	431+39.81	24.57	876.40
8	431+49.81	24.49	876.35
9	431+59.81	24.40	876.30
10	431+69.81	24.32	876.26
11	431+79.81	24.24	876.21
12	431+89.81	24.16	876.16
13	431+99.81	24.07	876.11
14	432+08.85	24.00	876.08
15	334+31.39	53.40	875.60
16	334+29.76	43.61	875.66
17	334+32.60	34.11	875.73
18	334+39.33	26.82	875.88
19	334+48.57	23.23	876.13
20	334+51.72	23.00	876.24
21	334+61.72	23.00	876.55
22	334+68.69	23.00	876.79
23	334+68.69	15.00	877.11
24	334+58.69	15.00	876.77
25	334+51.72	15.00	876.56
26	334+41.90	16.65	876.33
27	334+33.16	21.43	876.17
28	334+26.47	28.80	876.08
29	334+22.56	37.96	876.05
30	334+21.86	47.90	876.08
31	333+79.84	54.11	876.58
32	333+84.87	45.46	876.59
33	333+90.74	37.36	876.53
34	333+97.38	29.89	876.38
35	334+04.74	23.12	876.19
36	334+12.74	17.12	876.06
37	334+21.29	11.95	876.00
38	334+30.32	7.65	876.02
39	334+39.72	4.29	876.11
40	334+49.44	1.87	876.27
41	334+59.34	0.44	876.51
42	334+68.69	0.00	876.81
43	334+68.69	10.00	876.41
44	334+58.71	1056	876.07
45	334+48.85	12.21	875.82
46	334+39.27	14.95	875.66
47	334+29.95	18.77	875.60
48	334+21.18	23.56	875.63
49	334+13.00	29.30	875.75
50	334+05.50	35.91	875.96
51	333+98.79	43.31	876.12
52	333+92.93	51.41	876.16
53	333+88.00	60.12	876.09
54	333+85.00	66.89	875.97

SCALE

0 10 20 FEET

INTERSECTION DETAIL
SHEET 2 OF 5

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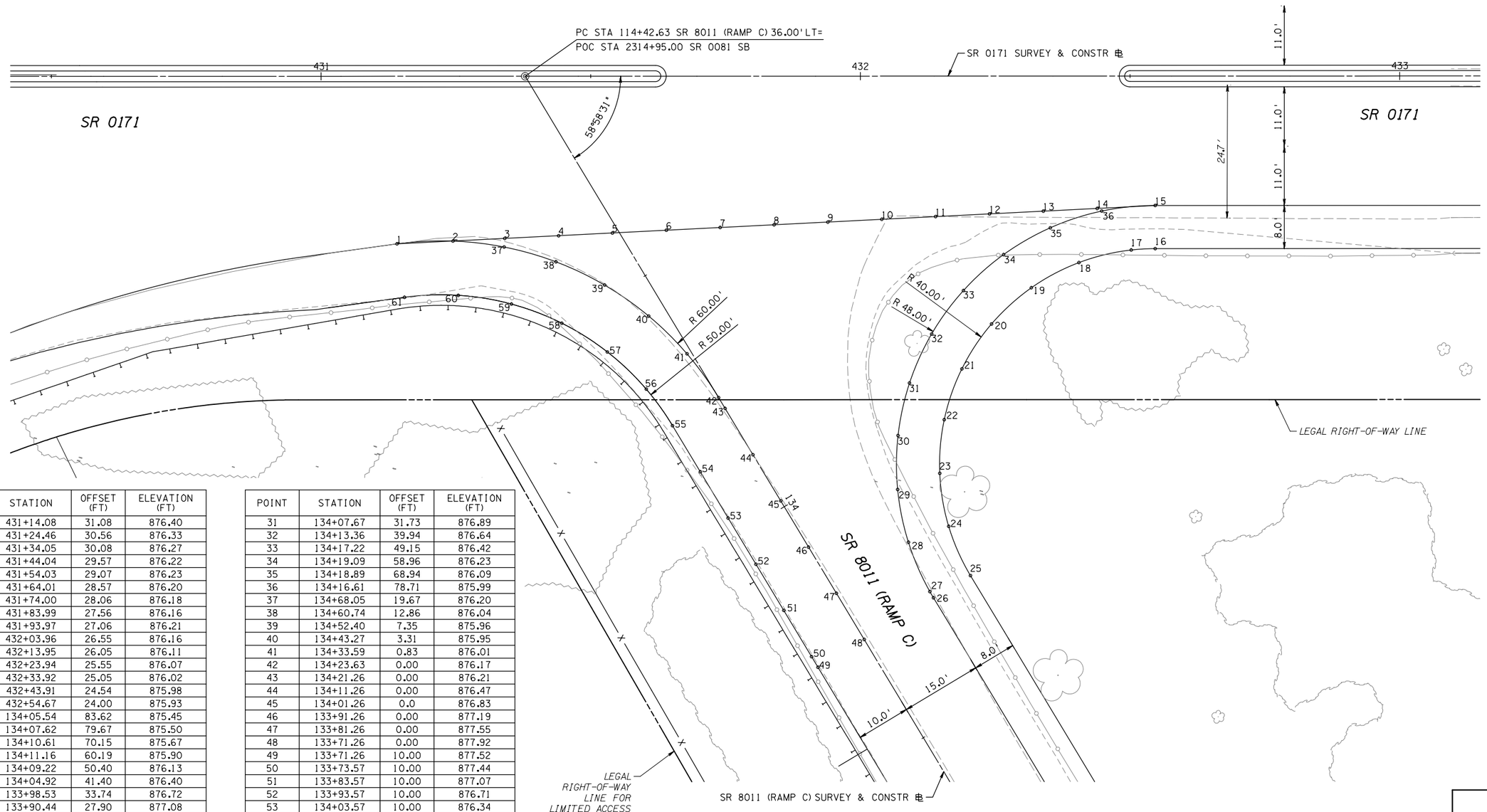
11/18/2021 AT 9:55:21 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	35 OF 247
GREAT BEND BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

SR 8011 (RAMP C) / SR 0171 INTERSECTION



POINT	STATION	OFFSET (FT)	ELEVATION (FT)
1	431+14.08	31.08	876.40
2	431+24.46	30.56	876.33
3	431+34.05	30.08	876.27
4	431+44.04	29.57	876.22
5	431+54.03	29.07	876.23
6	431+64.01	28.57	876.20
7	431+74.00	28.06	876.18
8	431+83.99	27.56	876.16
9	431+93.97	27.06	876.21
10	432+03.96	26.55	876.16
11	432+13.95	26.05	876.11
12	432+23.94	25.55	876.07
13	432+33.92	25.05	876.02
14	432+43.91	24.54	875.98
15	432+54.67	24.00	875.93
16	134+05.54	83.62	875.45
17	134+07.62	79.67	875.50
18	134+10.61	70.15	875.67
19	134+11.16	60.19	875.90
20	134+09.22	50.40	876.13
21	134+04.92	41.40	876.40
22	133+98.53	33.74	876.72
23	133+90.44	27.90	877.08
24	133+81.16	24.24	877.48
25	133+71.26	23.00	877.90
26	133+71.26	15.00	878.22
27	133+72.59	15.02	878.17
28	133+82.49	16.33	877.82
29	133+91.90	19.67	877.48
30	134+00.42	24.87	877.17

POINT	STATION	OFFSET (FT)	ELEVATION (FT)
31	134+07.67	31.73	876.89
32	134+13.36	39.94	876.64
33	134+17.22	49.15	876.42
34	134+19.09	58.96	876.23
35	134+18.89	68.94	876.09
36	134+16.61	78.71	875.99
37	134+68.05	19.67	876.20
38	134+60.74	12.86	876.04
39	134+52.40	7.35	875.96
40	134+43.27	3.31	875.95
41	134+33.59	0.83	876.01
42	134+23.63	0.00	876.17
43	134+21.26	0.00	876.21
44	134+11.26	0.00	876.47
45	134+01.26	0.0	876.83
46	133+91.26	0.00	877.19
47	133+81.26	0.00	877.55
48	133+71.26	0.00	877.92
49	133+71.26	10.00	877.52
50	133+73.57	10.00	877.44
51	133+83.57	10.00	877.07
52	133+93.57	10.00	876.71
53	134+03.57	10.00	876.34
54	134+13.57	10.00	876.00
55	134+23.57	10.00	875.76
56	134+31.88	10.69	875.62
57	134+41.51	13.31	875.54
58	134+50.44	17.79	875.58
59	134+58.30	23.97	875.67
60	134+64.77	31.58	875.78
61	134+69.59	40.32	875.80

SCALE
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INTERSECTION DETAIL
SHEET 3 OF 5

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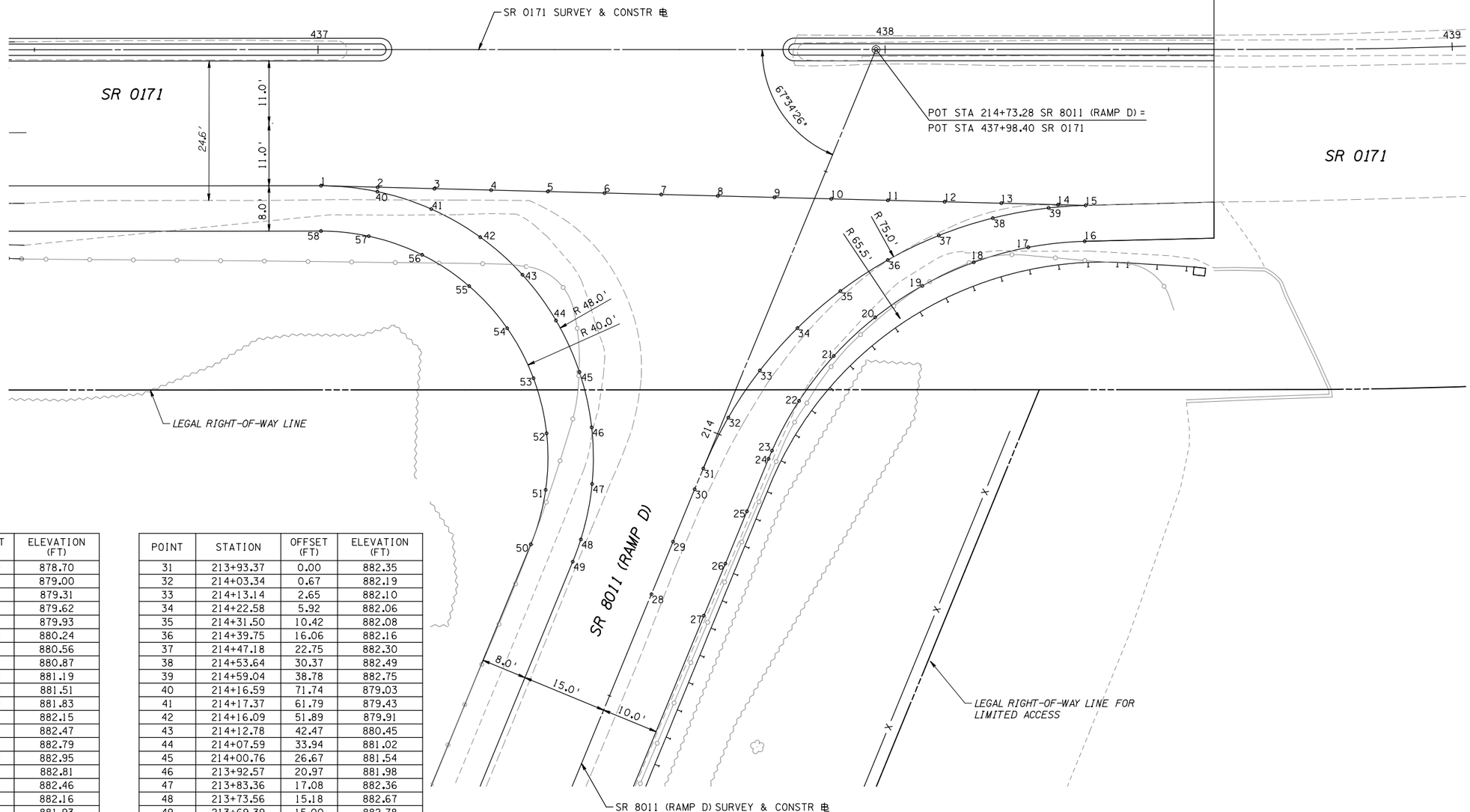
11/18/2021 AT 9:55:22 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	36 OF 247
GREAT BEND BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

SR 8011 (RAMP D) / SR 0171 INTERSECTION



POINT	STATION	OFFSET (FT)	ELEVATION (FT)
1	437+00.53	24.00	878.70
2	437+10.52	24.26	879.00
3	437+20.52	24.52	879.31
4	437+30.52	24.78	879.62
5	437+40.52	25.04	879.93
6	437+50.51	25.30	880.24
7	437+60.51	25.56	880.56
8	437+70.50	25.82	880.87
9	437+80.50	26.08	881.19
10	437+90.50	26.34	881.51
11	438+00.49	26.60	881.83
12	438+10.49	26.86	882.15
13	438+20.49	27.12	882.47
14	438+30.48	27.38	882.79
15	438+35.36	27.50	882.95
16	214+56.03	46.92	882.81
17	214+51.26	38.14	882.46
18	214+45.15	30.24	882.16
19	214+37.85	23.43	881.93
20	214+29.55	17.86	881.80
21	214+20.46	13.71	881.74
22	214+10.83	11.08	881.75
23	214+00.89	10.02	881.83
24	213+99.33	10.00	881.84
25	213+89.33	10.00	882.02
26	213+79.33	10.00	882.20
27	213+69.39	10.00	882.38
28	213+69.39	0.00	882.78
29	213+79.39	0.00	882.60
30	213+89.39	0.00	882.42

POINT	STATION	OFFSET (FT)	ELEVATION (FT)
31	213+93.37	0.00	882.35
32	214+03.34	0.67	882.19
33	214+13.14	2.65	882.10
34	214+22.58	5.92	882.06
35	214+31.50	10.42	882.08
36	214+39.75	16.06	882.16
37	214+47.18	22.75	882.30
38	214+53.64	30.37	882.49
39	214+59.04	38.78	882.75
40	214+16.59	71.74	879.03
41	214+17.37	61.79	879.43
42	214+16.09	51.89	879.91
43	214+12.78	42.47	880.45
44	214+07.59	33.94	881.02
45	214+00.76	26.67	881.54
46	213+92.57	20.97	881.98
47	213+83.36	17.08	882.36
48	213+73.56	15.18	882.67
49	213+69.39	15.00	882.78
50	213+69.39	23.00	882.46
51	213+79.29	24.24	882.11
52	213+88.57	27.90	881.67
53	213+96.66	33.73	881.13
54	214+03.05	41.39	880.49
55	214+07.35	50.39	879.80
56	214+09.29	60.17	879.23
57	214+08.75	70.14	878.80
58	214+06.36	78.26	878.51

SR 8011 (RAMP D)/SR 0171

SCALE

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INTERSECTION DETAIL
SHEET 4 OF 5

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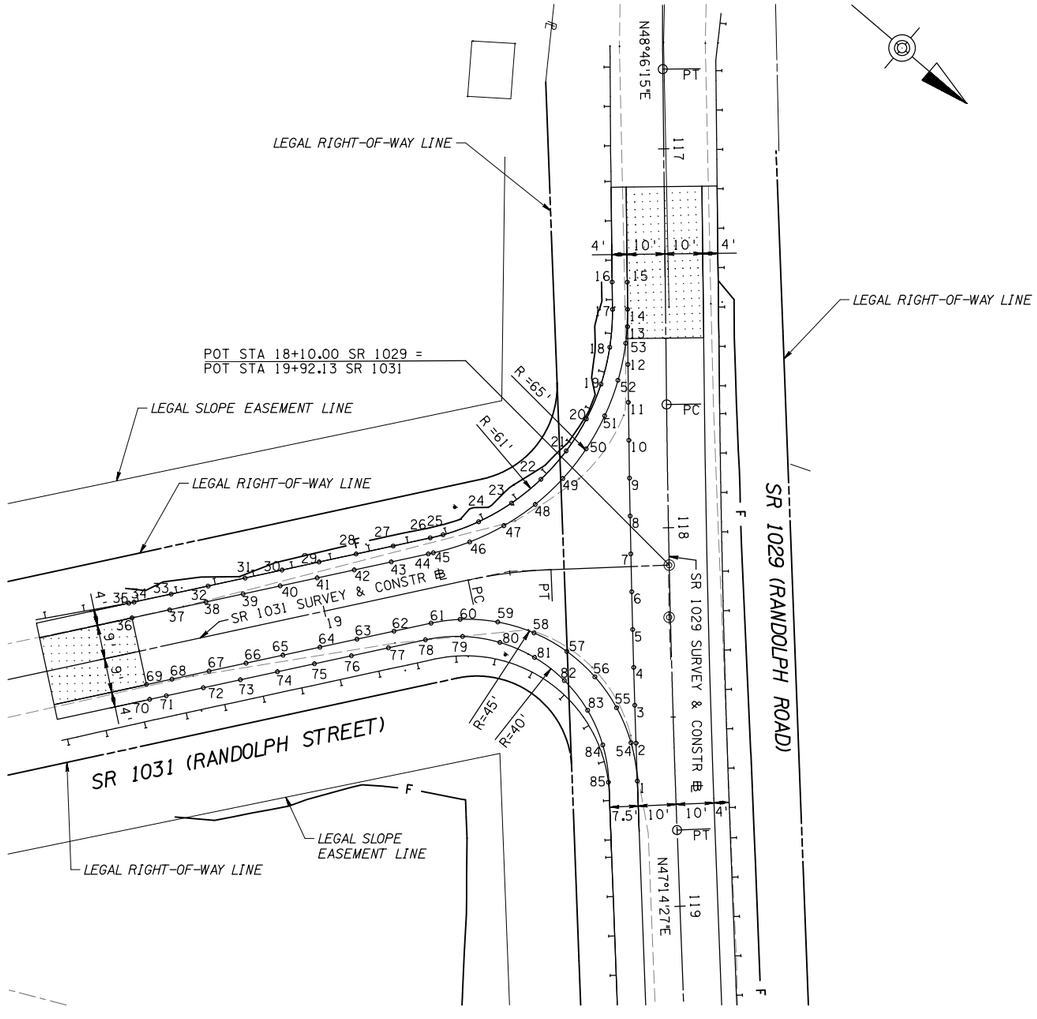
11/18/2021 AT 9:55:23 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	37 OF 247
GREAT BEND TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY

SR 1031 (RANDOLPH ST) / SR 1029 (RANDOLPH RD) INTERSECTION

POINT	STATION	OFFSET (FT)	ELEVATION (FT)
1	118+66.60	10.01	905.87
2	118+56.60	10.02	905.41
3	118+46.72	10.03	904.95
4	118+36.72	10.04	904.49
5	118+26.60	10.04	904.03
6	118+16.60	10.05	903.57
7	118+06.60	10.06	903.11
8	117+96.60	10.07	902.65
9	117+86.60	10.08	902.19
10	117+76.79	10.09	901.73
11	117+66.79	10.09	901.27
12	117+56.79	10.09	900.81
13	117+46.80	10.05	900.42
14	117+42.25	10.00	900.11
15	177+35.00	10.00	900.02
16	19+79.92	75.25	899.67
17	19+79.73	68.01	899.96
18	19+78.64	58.07	900.38
19	19+75.96	48.46	900.75
20	19+71.74	39.41	901.12
21	19+66.07	31.16	901.45
22	19+59.43	23.95	901.67
23	19+52.39	18.29	901.78
24	19+44.16	14.60	901.77
25	19+34.89	13.08	901.65
26	19+31.39	12.98	901.58
27	19+21.39	12.98	901.38
28	19+11.39	12.98	901.17
29	19+01.39	12.98	900.97
30	18+91.39	12.98	900.75
31	18+81.39	12.98	900.52
32	18+71.39	12.98	900.29
33	18+61.39	12.98	900.06
34	18+51.39	12.98	899.77
35	18+50.00	12.98	899.72
36	18+50.00	8.98	900.00
37	18+60.00	8.98	900.27
38	18+70.00	8.98	900.50
39	18+80.00	8.98	900.73
40	18+90.00	8.98	900.96
41	19+00.00	8.98	901.18
42	19+10.00	8.98	901.38
43	19+20.00	8.98	901.59
44	19+30.00	8.98	901.79
45	19+31.39	8.98	901.82

POINT	STATION	OFFSET (FT)	ELEVATION (FT)
46	19+41.17	9.77	901.97
47	19+50.45	12.58	902.03
48	19+57.81	17.40	901.98
49	19+64.93	23.90	901.83
50	19+71.40	31.51	901.58
51	19+76.62	40.03	901.25
52	19+80.47	49.24	900.91
53	19+82.87	59.04	900.57
54	19+80.25	46.46	905.38
55	19+76.81	37.08	904.86
56	19+71.39	28.72	904.30
57	19+64.26	21.74	903.71
58	19+54.55	16.39	903.15
59	19+44.71	12.34	902.67
60	19+34.55	9.68	902.27
61	19+26.87	9.02	902.02
62	19+16.87	9.02	901.72
63	19+06.87	9.02	901.42
64	18+96.87	9.02	901.12
65	18+86.87	9.02	900.89
66	18+76.87	9.02	900.65
67	18+66.87	9.02	900.42
68	18+56.87	9.02	900.19
69	18+50.00	9.02	900.00
70	18+50.00	13.02	899.90
71	18+54.48	13.02	900.00
72	18+64.48	13.02	900.17
73	18+74.48	13.02	900.36
74	18+84.48	13.02	900.59
75	18+94.48	13.02	900.82
76	19+04.48	13.02	901.10
77	19+14.48	13.02	901.41
78	19+24.48	13.02	901.71
79	19+34.23	14.22	902.02
80	19+44.29	17.74	902.44
81	19+54.49	22.84	902.96
82	19+63.32	29.38	903.60
83	19+69.15	37.47	904.24
84	19+72.80	46.75	904.85
85	19+74.06	56.64	905.41



SCALE

0 20 40 FEET

INTERSECTION DETAIL
SHEET 5 OF 5

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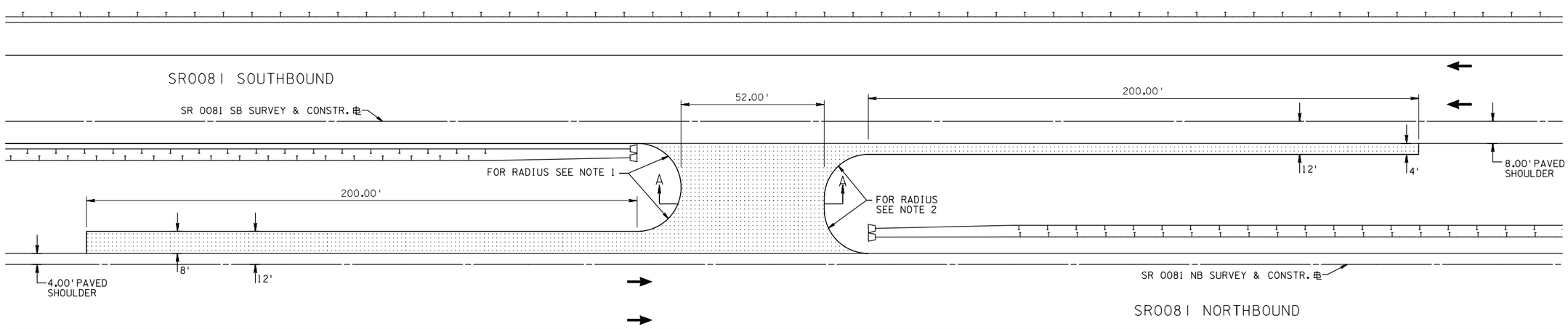
11/18/2021 AT 9:55:24 AM

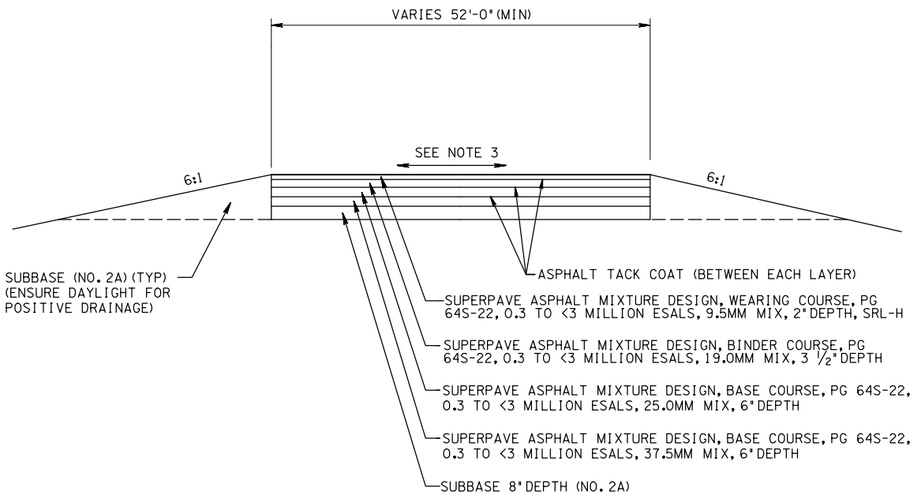
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	38 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



PERMANENT MEDIAN CROSSOVER DETAILS

STA 2077+00.00 NB
STA 2222+00.00 NB
STA 2381+20.00 NB
STA 2451+00.00 NB
STA 2453+80.00 NB
NOT TO SCALE



SECTION A-A

NOT TO SCALE

NOTES:

1. CURVE RADIUS VARIES AS FOLLOWS:
   STA 2077+00 R= 15.75'
   STA 2022+00 R= 15.00'
   STA 2381+20 R= 16.00'
   STA 2451+00 R= 33.00'
   STA 2453+80 R= 40.00'

2. CURVE RADIUS VARIES AS FOLLOWS:
   STA 2077+00 R= 17.00'
   STA 2022+00 R= 15.00'
   STA 2381+20 R= 16.00'
   STA 2451+00 R= 33.00'
   STA 2453+80 R= 40.00'

3. CROSS SLOPE WILL VARY. ENSURE POSITIVE SHEET FLOW AWAY FROM THE TRAVEL LANE AND TOWARDS THE DRAINAGE FACILITIES IN THE MEDIAN.

PERMANENT EMERGENCY MEDIAN CROSSOVER DETAIL

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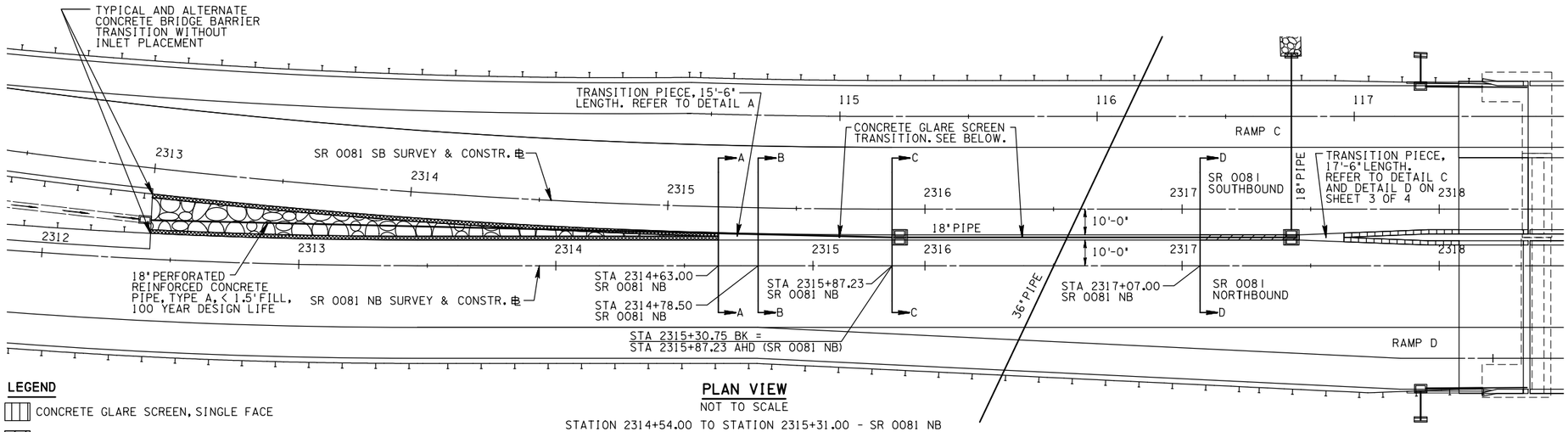
11/18/2021 AT 9:55:24 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	39 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



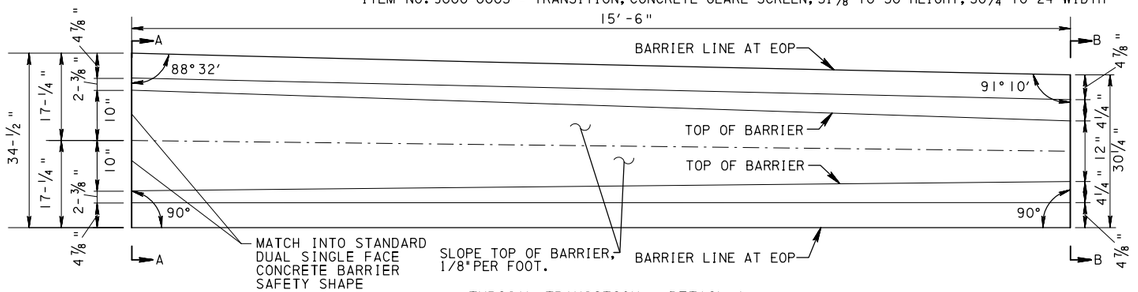
LEGEND

- CONCRETE GLARE SCREEN, SINGLE FACE
- CONCRETE GLARE SCREEN
- SINGLE FACE CONCRETE BARRIER (PROVIDE WEEP HOLES, PER RC-58M)
- NO. 57 COARSE AGGREGATE

PLAN VIEW
NOT TO SCALE

STATION 2314+54.00 TO STATION 2315+31.00 - SR 0081 NB

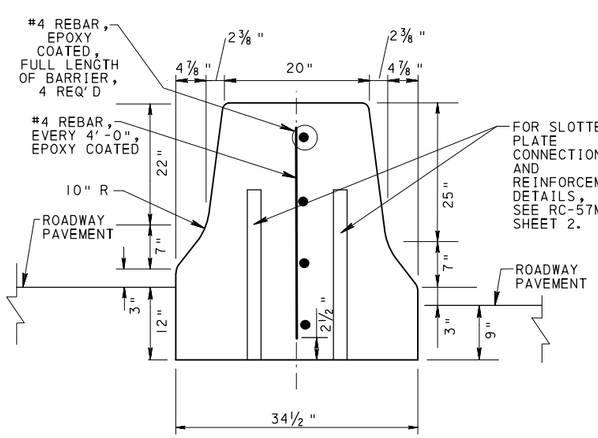
ITEM NO. 0620-0010 - TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT
ITEM NO. 0622-0001 - CONCRETE GLARE SCREEN
ITEM NO. 0623-0052 - SINGLE FACE CONCRETE BARRIER
ITEM NO. 0703-0025 - NO. 57 COARSE AGGREGATE
ITEM NO. 9000-0002 - CONCRETE GLARE SCREEN, SINGLE FACE
ITEM NO. 9000-0003 - TRANSITION, CONCRETE GLARE SCREEN, 50" HEIGHT, 24" TO 42" WIDTH
ITEM NO. 9000-0004 - TRANSITION, CONCRETE GLARE SCREEN, 32" TO 51⅛" HEIGHT, 34½" TO 30¼" WIDTH
ITEM NO. 9000-0005 - TRANSITION, CONCRETE GLARE SCREEN, 51⅛" TO 50" HEIGHT, 30¼" TO 24" WIDTH



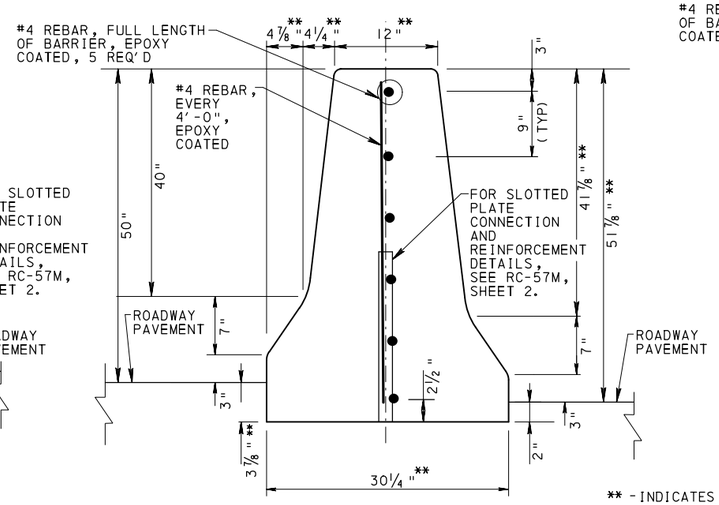
TYPICAL TRANSITION - DETAIL A
NOT TO SCALE

GENERAL NOTES:

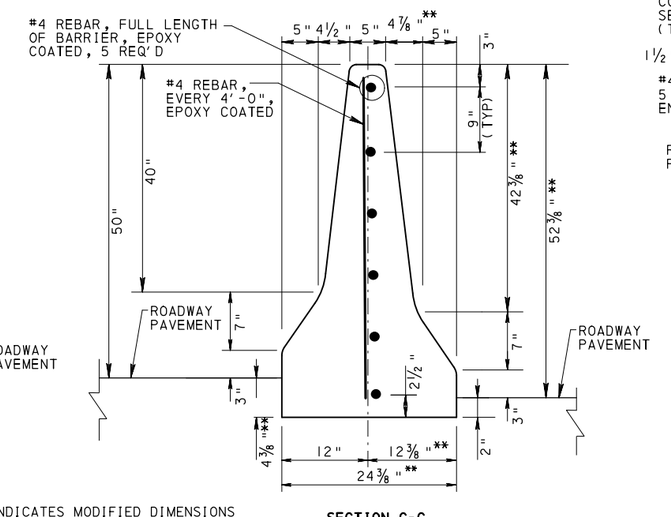
1. PROVIDE SINGLE FACE CONCRETE GLARE SCREEN MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 623.
   A. MINIMUM CONCRETE CLASS: AA, EXCEPT USE CLASS AAA CONCRETE FOR PRECAST BARRIER.
2. PROVIDE SINGLE FACE CONCRETE GLARE SCREEN SUPPLIED BY A MANUFACTURER AS LISTED IN BULLETIN 15. MODIFICATIONS OR DEVIATIONS FROM THESE DETAILS REQUIRE THE SUBMISSION OF SHOP DRAWINGS FOR REVIEW.
3. PROVIDE BARRIER-MOUNT OR REFLECTOR UNIT DELINEATORS, AS INDICATED ON TC-8604.
4. PROVIDE REINFORCEMENT FOR SINGLE FACE CONCRETE GLARE SCREEN AS INDICATED.
5. ROUND OR CHAMFER ALL EDGES WITH A RADIUS OF 1" EXCEPT AS SHOWN.
6. FABRICATE REINFORCEMENT BARS ACCORDING TO PENNDOT BRIDGE CONSTRUCTION STANDARD, BC-736M.
7. PROVIDE SUITABLE LIFTING DEVICES FOR HANDLING, INSTALLING AND REMOVING PRECAST CONCRETE BARRIER. GALVANIZE METAL DEVICES AS SPECIFIED IN PUBLICATION 408, SECTION 1105.02(s).
8. PROVIDE SLOTTED PLATE CONNECTIONS BETWEEN BARRIER SECTIONS AS SHOWN ON RC-58M. REINFORCE SLOT AS SHOWN ON RC-58M.
9. FOR LEVELING PURPOSES, UTILIZE A LAYER 1" THICK OF NON-SHRINK MORTAR IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SECTION 1001.
10. CONTRACTOR TO FIELD VERIFY DIMENSIONS PRIOR TO ORDERING MATERIALS.
11. INSTALL GLARE SCREEN IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SECTION 622, RC-58M AND RC-59M.
12. FOR ALTERNATE WWF REINFORCED GLARE SCREEN/BARRIERS, REFER TO RC-57M, SHEET 2.



SECTION A-A
NOT TO SCALE

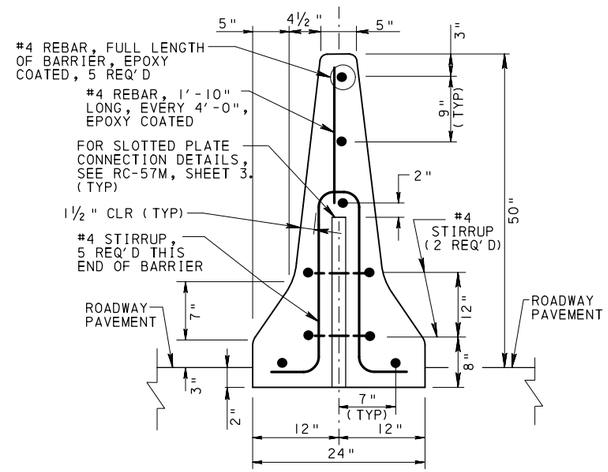


SECTION B-B
NOT TO SCALE



SECTION C-C
NOT TO SCALE

** - INDICATES MODIFIED DIMENSIONS WHEN COMPARED TO STANDARD CONCRETE GLARE SCREEN



SECTION D-D
NOT TO SCALE

GLARE SCREEN TREATMENT DETAIL - 1 OF 4

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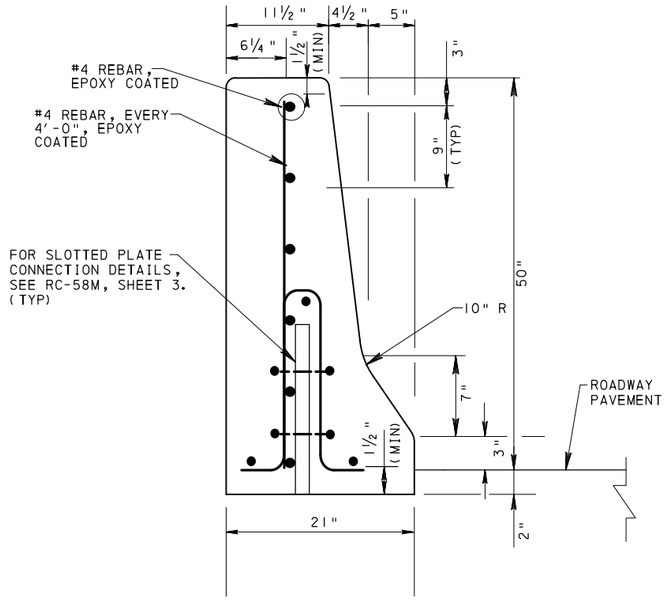
11/18/2021 AT 9:55:25 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	40 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



SECTION C-C
NOT TO SCALE

CONCRETE GLARE SCREEN, SINGLE FACE

NOT TO SCALE

ITEM NO. 9000-0002 - CONCRETE GLARE SCREEN, SINGLE FACE

STATION 2317+63.00 TO STATION 2318+08.00 - SR 0081 NB
STATION 2325+52.00 TO STATION 2325+97.00 - SR 0081 NB
STATION 2333+83.00 TO STATION 2334+28.00 - SR 0081 NB
STATION 2335+60.00 TO STATION 2336+05.00 - SR 0081 NB
STATION 2361+81.00 TO STATION 2366+23.00 - SR 0081 NB

GENERAL NOTES:

1. PROVIDE SINGLE FACE CONCRETE GLARE SCREEN MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 623.
   A. MINIMUM CONCRETE CLASS: AA, EXCEPT USE CLASS AAA CONCRETE FOR PRECAST BARRIER.
2. PROVIDE PRECAST SINGLE FACE CONCRETE GLARE SCREEN SUPPLIED BY A MANUFACTURER AS LISTED IN BULLETIN 15. MODIFICATIONS OR DEVIATIONS FROM THESE DETAILS REQUIRE THE SUBMISSION OF SHOP DRAWINGS FOR REVIEW.
3. PROVIDE BARRIER-MOUNT OR REFLECTOR UNIT DELINEATORS, AS INDICATED ON TC-8604.
4. PROVIDE REINFORCEMENT FOR SINGLE FACE CONCRETE GLARE SCREEN AS INDICATED.
5. ROUND OR CHAMFER ALL EDGES WITH A RADIUS OF 1" EXCEPT AS SHOWN.
6. FABRICATE REINFORCEMENT BARS ACCORDING TO BRIDGE CONSTRUCTION STANDARD, BC-736M.
7. PROVIDE SUITABLE LIFTING DEVICES FOR HANDLING, INSTALLING AND REMOVING PRECAST CONCRETE BARRIER. GALVANIZE METAL DEVICES AS SPECIFIED IN PUBLICATION 408, SECTION 1105.02(s).
8. PROVIDE SLOTTED PLATE CONNECTIONS BETWEEN BARRIER SECTIONS AS SHOWN ON RC-58M. REINFORCE SLOT AS SHOWN ON RC-58M.
9. FOR LEVELING PURPOSES, UTILIZE A LAYER 1" THICK OF NON-SHRINK MORTAR IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SECTION 1001.
10. CONTRACTOR TO FIELD VERIFY DIMENSIONS PRIOR TO ORDERING MATERIALS.
11. FOR ALTERNATE WWF REINFORCED GLARE SCREEN/BARRIERS, REFER TO RC-57M, SHEET 2.

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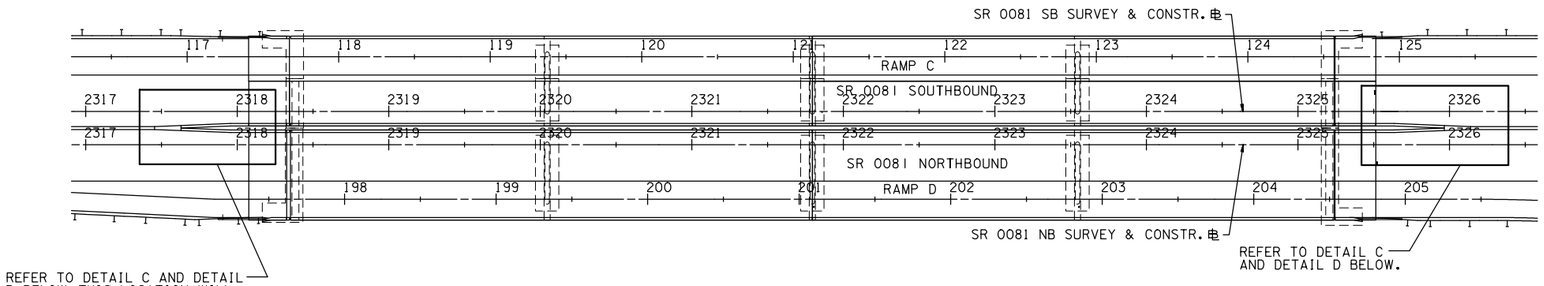
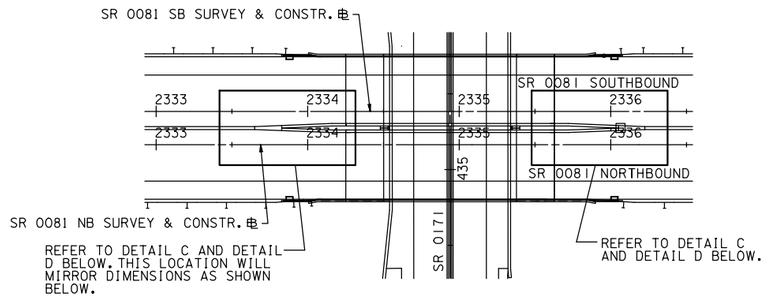
11/18/2021 AT 9:55:26 AM

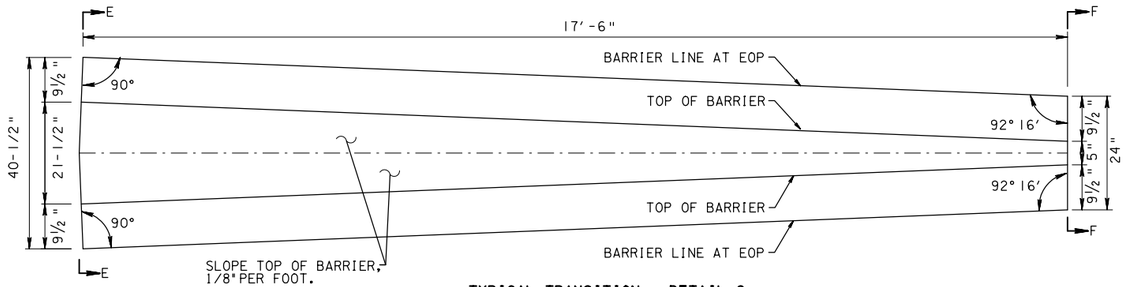
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	41 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY





PLAN VIEW
NOT TO SCALE

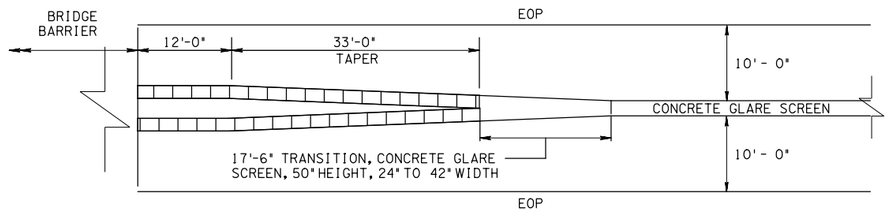


TYPICAL TRANSITION - DETAIL C
NOT TO SCALE

LEGEND

CONCRETE GLARE SCREEN, SINGLE FACE

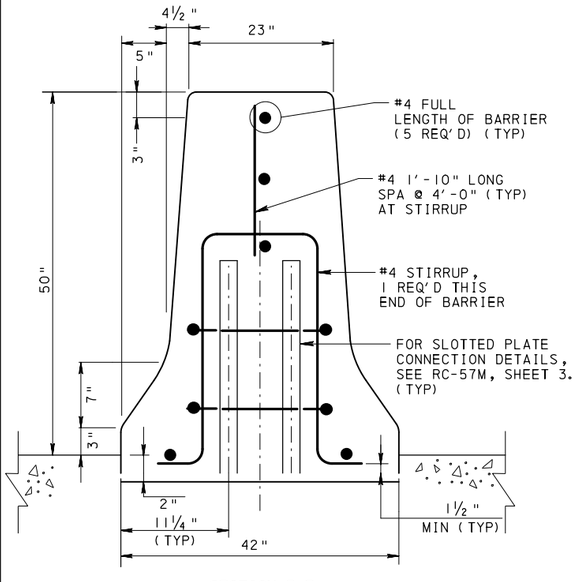
CONCRETE GLARE SCREEN



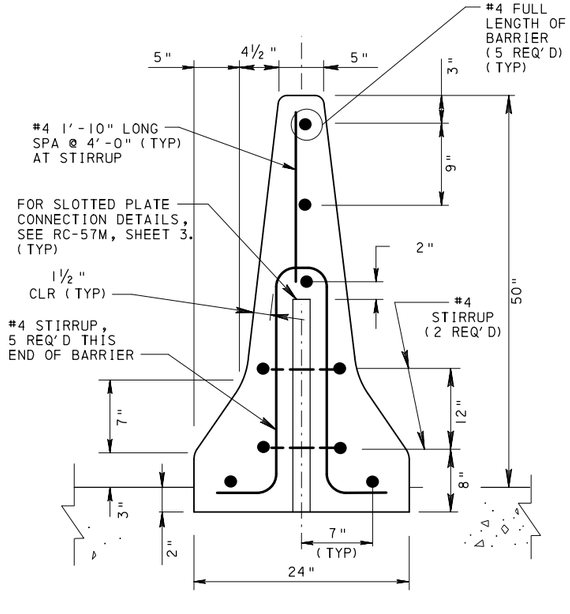
TYPICAL TRANSITION - DETAIL D
NOT TO SCALE

ITEM NO. 0622-0001 - CONCRETE GLARE SCREEN
ITEM NO. 9000-0002 - CONCRETE GLARE SCREEN, SINGLE FACE
ITEM NO. 9000-0003 - TRANSITION, CONCRETE GLARE SCREEN, 50" HEIGHT, 24" TO 42" WIDTH

STATION 2317+45.50 TO STATION 2317+63.00 - SR 0081 NB
STATION 2325+96.50 TO STATION 2326+14.00 - SR 0081 NB
STATION 2333+65.00 TO STATION 2333+82.50 - SR 0081 NB
STATION 2336+05.00 TO STATION 2336+22.50 - SR 0081 NB



SECTION E-E
NOT TO SCALE



SECTION F-F
NOT TO SCALE

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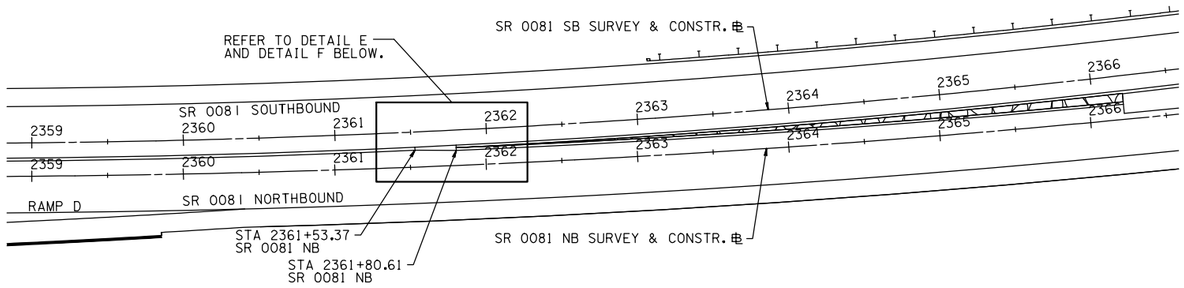
GLARE SCREEN TREATMENT DETAIL - 3 OF 4

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	42 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

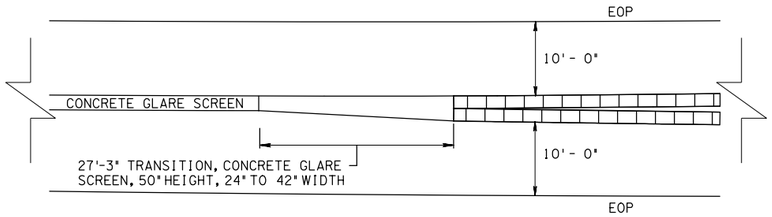


PLAN VIEW
NOT TO SCALE

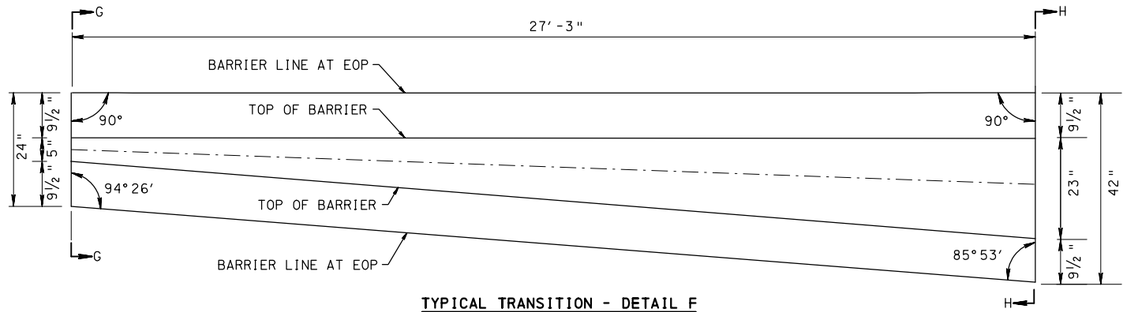
LEGEND

CONCRETE GLARE SCREEN, SINGLE FACE (PROVIDE WEEP HOLES, PER RC-58M)

NO. 57 COARSE AGGREGATE



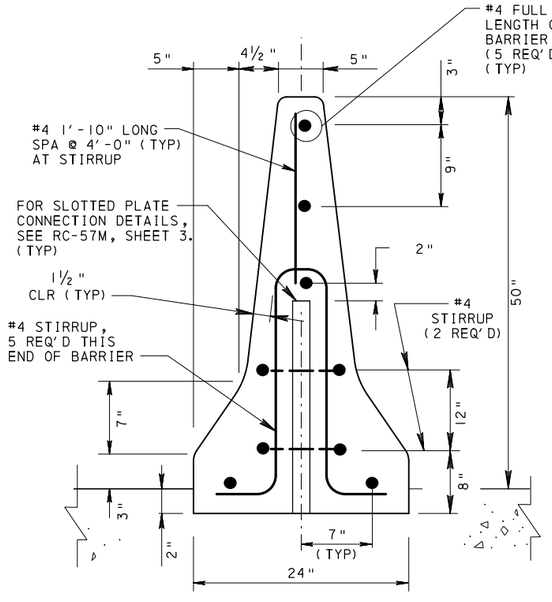
TYPICAL TRANSITION - DETAIL E
NOT TO SCALE



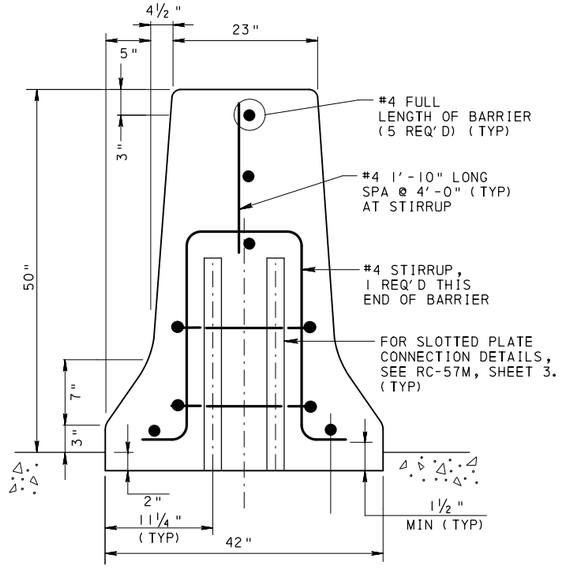
TYPICAL TRANSITION - DETAIL F
NOT TO SCALE

ITEM NO. 0622-0001 - CONCRETE GLARE SCREEN
ITEM NO. 9000-0002 - CONCRETE GLARE SCREEN, SINGLE FACE
ITEM NO. 9000-0003 - TRANSITION, CONCRETE GLARE SCREEN, 50 INCH HEIGHT, 24 INCH TO 42 INCH WIDTH

STATION 2361+53.00 TO STATION 2361+80.50 - SR 0081 NB



SECTION F-F
NOT TO SCALE



SECTION G-G
NOT TO SCALE

GLARE SCREEN TREATMENT DETAIL - 4 OF 4

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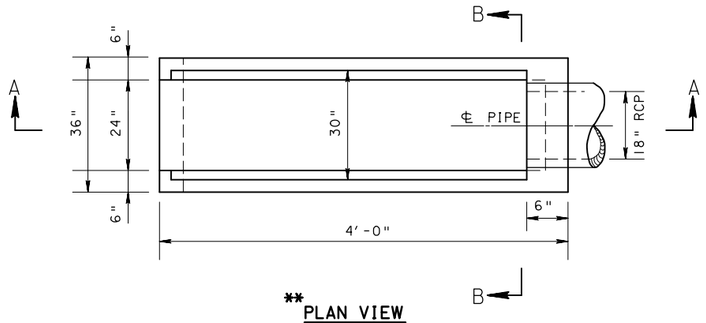
11/18/2021 AT 9:55:30 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	43 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

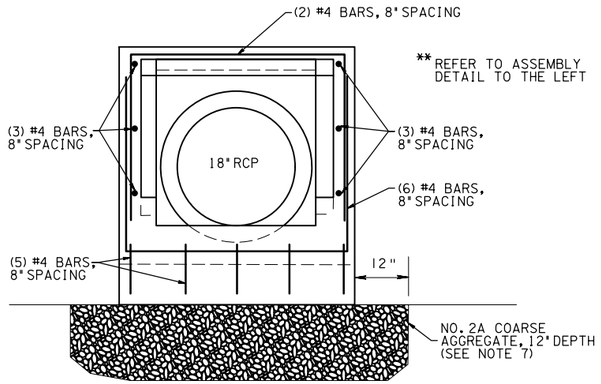
REVISION NUMBER	REVISIONS	DATE	BY

** - SHOWN WITHOUT GRATE



**PLAN VIEW

NOT TO SCALE

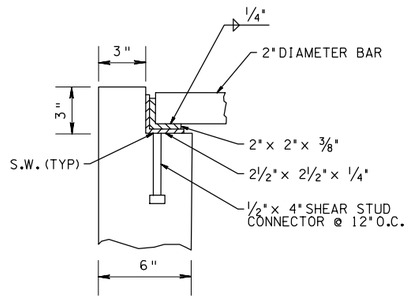


SECTION B-B

NOT TO SCALE

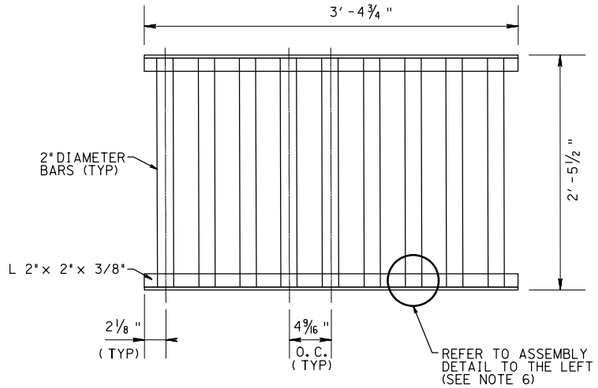
GENERAL NOTES:

1. SUPPLY AND INSTALL END SECTION AND GRATE MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTIONS 605 AND 714 AND RC-45M.
2. PROVIDE SINGLE FACE CONCRETE GLARE SCREEN SUPPLIED BY A MANUFACTURER AS LISTED IN BULLETIN 15. MODIFICATIONS OR DEVIATIONS FROM THESE DETAILS REQUIRE THE SUBMISSION OF SHOP DRAWINGS FOR REVIEW.
3. PROVIDE REINFORCEMENT FOR END SECTION AS INDICATED.
4. FABRICATE REINFORCEMENT BARS IN ACCORDANCE WITH PUBLICATION 408, SECTION 709.
5. PROVIDE SUITABLE LIFTING DEVICES FOR HANDLING, INSTALLING AND REMOVING PRECAST END SECTION.
6. FABRICATE GRATE TO BE COMPLIANT FOR PHL-93 LOADING. SUPPLY AND INSTALLATION OF GRATE IS INCIDENTAL TO PRECAST END SECTION WITH SAFETY GRATE.
7. INSTALL END SECTION ON COMPACTED BED OF NO. 2A COARSE AGGREGATE, 12" DEPTH. SUPPLY AND PLACEMENT OF NO. 2A COARSE AGGREGATE IS INCIDENTAL TO PRECAST END SECTION WITH SAFETY GRATE.
8. BACKFILL END SECTION WITH ACCEPTABLE EMBANKMENT MATERIAL, IN ACCORDANCE WITH PUBLICATION 408, SECTION 206.
9. COAT STRUCTURAL STEEL GRATE AND FRAME WITH ASPHALT PAINT BEFORE INSTALLATION IN THE FIELD. SUPPLY AND PLACEMENT OF ASPHALT PAINT IS INCIDENTAL TO PRECAST END SECTION WITH SAFETY GRATE.
10. USE CLASS A CONCRETE OR BETTER AND CHAMFER EXPOSED EDGES 1".



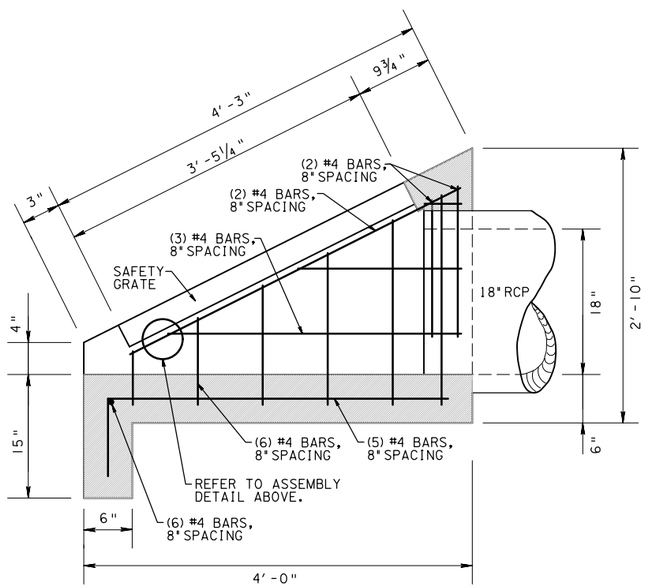
FRAME AND GRATE ASSEMBLY DETAIL

NOT TO SCALE



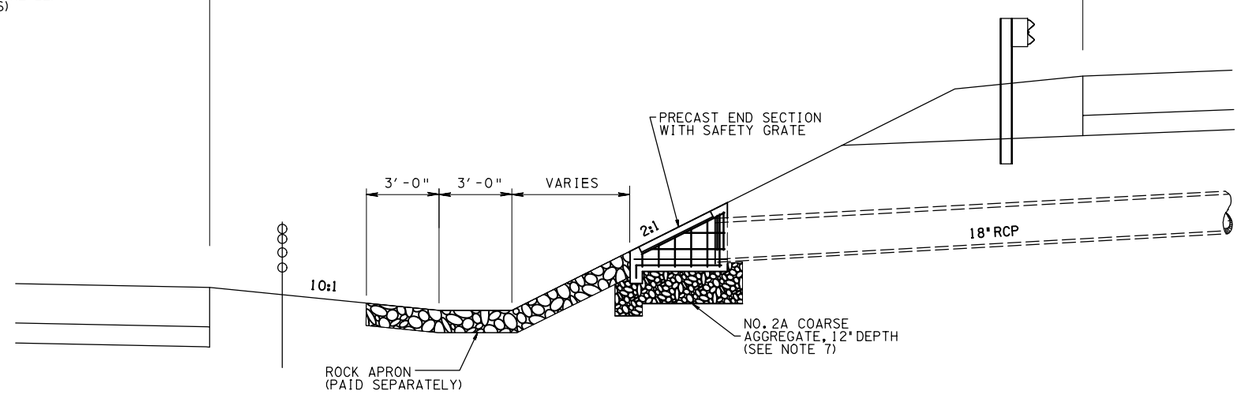
GRATE DETAIL

NOT TO SCALE



SECTION A-A

NOT TO SCALE



TYPICAL SECTION

NOT TO SCALE

PRECAST END SECTION SAFETY GRATE IN MEDIAN

ITEM NO. 9000-XXXX - PRECAST END SECTION WITH SAFETY GRATE

STATION 2187+71.00 - SR 0081 NB	STATION 2274+81.00 - SR 0081 NB
STATION 2203+25.00 - SR 0081 NB	STATION 2278+29.00 - SR 0081 NB
STATION 2247+83.00 - SR 0081 NB	STATION 2281+03.00 - SR 0081 NB
STATION 2269+60.00 - SR 0081 NB	STATION 2287+16.00 - SR 0081 NB
STATION 2271+83.00 - SR 0081 NB	STATION 2290+16.00 - SR 0081 NB

PRECAST END SECTION AND SAFETY GRATE DETAIL

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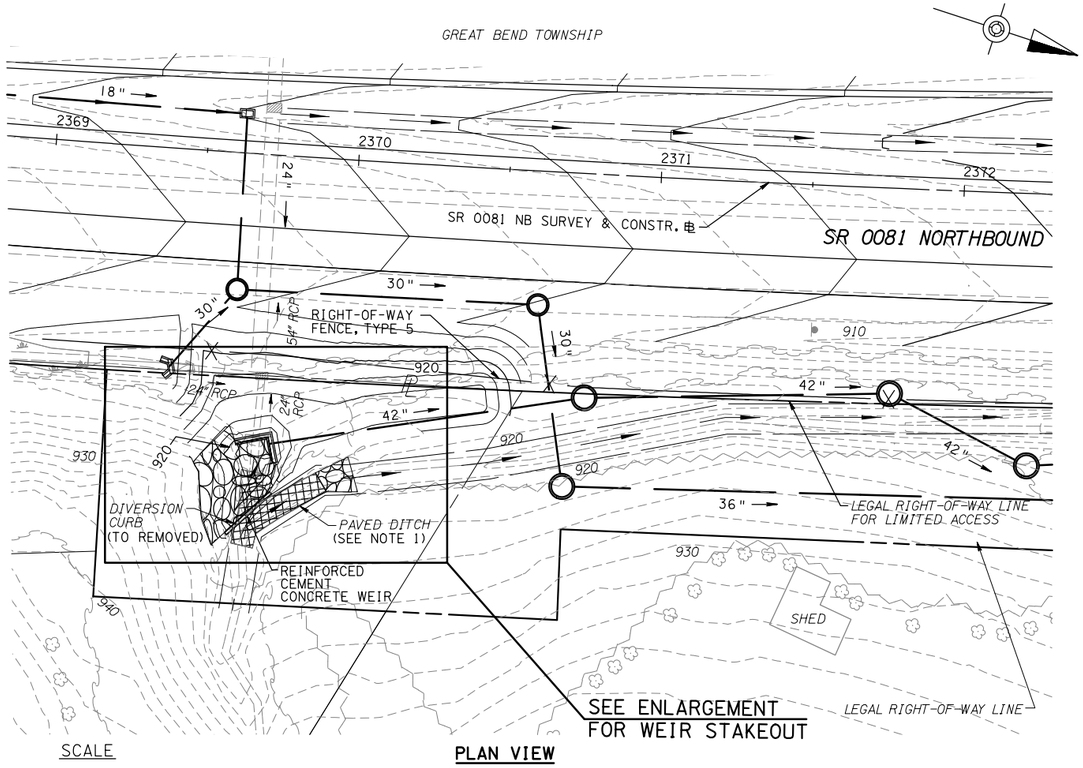
11/18/2021 AT 9:55:31 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	44 OF 247
BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

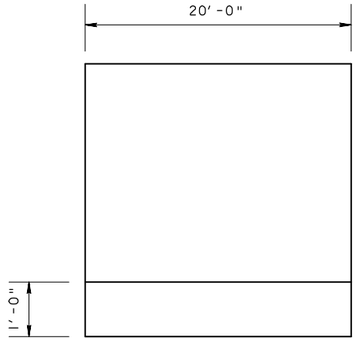


PLAN VIEW

SUMMARY OF COORDINATES FOR WEIR STAKEOUT

POINT*	NORTHING	EASTING	TOP ELEVATION (FT)
1	2514555.9181	665786.1835	923.00
2	2514537.2161	665793.2696	923.00

* - POINT TAKEN ALONG CENTERLINE OF STRUCTURE



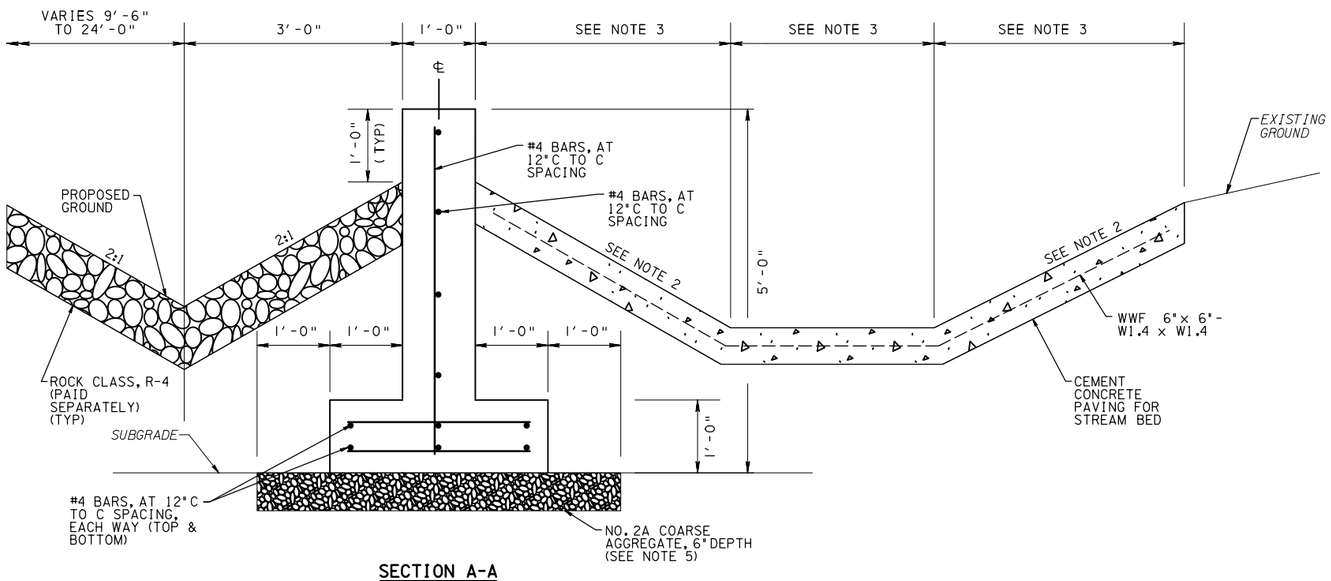
SECTION C-C
NOT TO SCALE

NOTES:

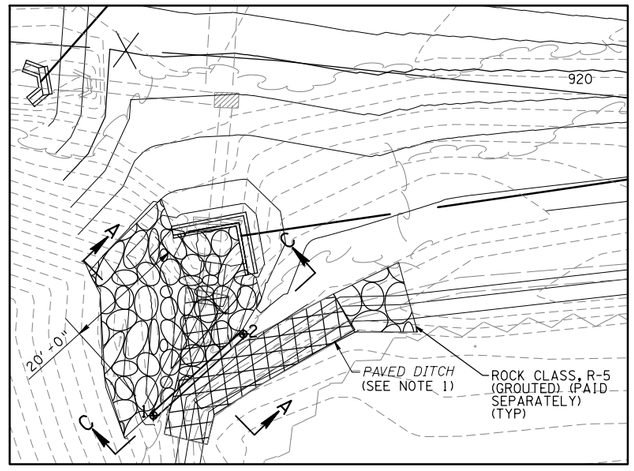
1. REMOVE EXISTING CONCRETE CHANNEL AND REPLACE IN KIND WITH NEW CEMENT CONCRETE PAVING FOR STREAM BED PAY ITEM, IN ACCORDANCE WITH PENNDOT 408, SECTION 667 AND RC-40M.
2. SIDE SLOPES AND LONGITUNDINAL SLOPE TO MATCH EXISTING.
3. VARIES - MATCH EXISTING.

GENERAL NOTES:

1. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTIONS 605 AND 714 AND RC-31M.
2. USE CLASS A CONCRETE OR BETTER AND CHAMFER EXPOSED EDGES AT 1".
3. PROVIDE REINFORCEMENT FOR WEIR AS INDICATED.
4. FABRICATE REINFORCEMENT BARS IN ACCORDANCE WITH PUBLICATION 408, SECTION 709.
5. INSTALL WEIR ON COMPACTED BED OF NO. 2A COARSE AGGREGATE, 6" DEPTH. SUPPLY AND PLACEMENT OF NO. 2A COARSE AGGREGATE IS INCIDENTAL TO REINFORCED CEMENT CONCRETE WEIR.
6. BACKFILL WEIR WITH ACCEPTABLE EMBANKMENT MATERIAL, IN ACCORDANCE WITH PUBLICATION 408, SECTION 206.
7. PROVIDE MORTAR BED OF 1" PLACED ON TOP OF THE NO. 2A COARSE AGGREGATE MATERIAL FOR LEVELING PURPOSES, WHEN REQUIRED.
8. WELDED WIRE FABRIC IS NOT PERMITTED.
9. PROVIDE A KEYED CONSTRUCTION JOINT BETWEEN THE FOOTING AND STEM.
10. PROVIDE KEYED CONSTRUCTION JOINT BETWEEN POURS.
11. WEIR DIMENSIONS: 5' HIGH X 3' WIDE X 20' LONG



SECTION A-A
NOT TO SCALE



WEIR STAKEOUT DETAIL
NOT TO SCALE

REINFORCED CEMENT CONCRETE WEIR

ITEM NO. 9000-0031 - REINFORCED CEMENT CONCRETE WEIR

REINFORCED CEMENT CONCRETE WEIR DETAIL

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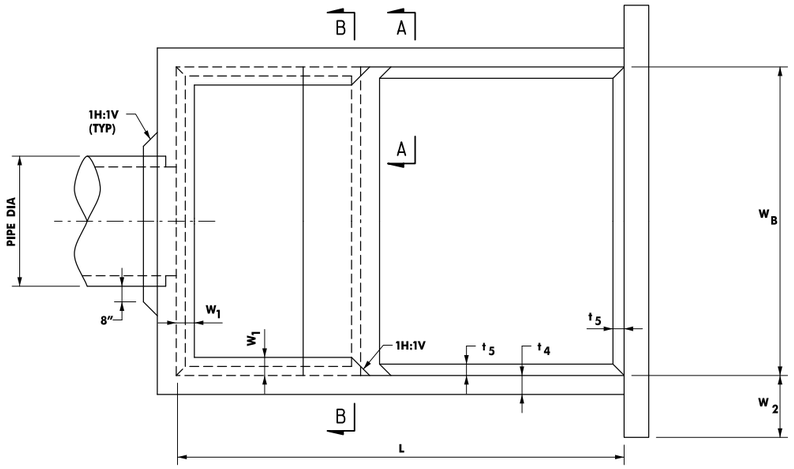
11/18/2021 AT 9:55:45 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	45 OF 247
BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP				

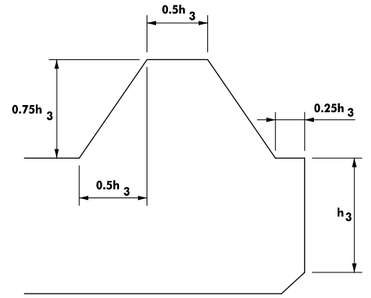
REVISION NUMBER	REVISIONS	DATE	BY

IMPACT BASIN SCHEDULE

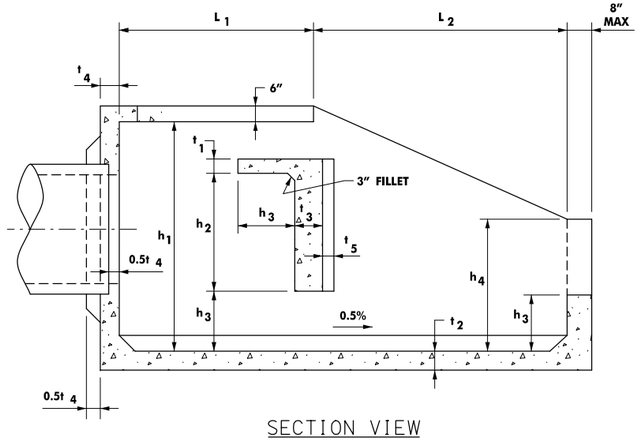
LOCATION			INFLOW PIPE			BASIN DIMENSIONS														
UPSTREAM ID	STATION	OFFSET	PIPE DIAMETER (IN)	SLOPE (%)	MATERIAL	W B (FT)	W 1 (FT)	W 2 (FT)	L (FT)	L 1 (FT)	L 2 (FT)	h 1 (FT)	h 2 (FT)	h 3 (FT)	h 4 (FT)	t 1 (FT)	t 2 (FT)	t 3 (FT)	t 4 (FT)	t 5 (FT)
MP 225.60	2078+15	212.71' , LT	60.0	7.4	RCP	17.00	1.333	3.000	22.500	9.667	13.000	13.000	6.333	2.833	7.083	0.750	1.083	1.000	1.000	0.500
MP 226.35	2115+15	205.00' , LT	30.0	47.1	CPP	7.00	0.500	1.917	9.417	4.000	5.417	5.417	2.583	1.167	2.917	0.500	0.500	0.500	0.500	0.250
MP 227.20	2162+90	149.03' , LT	50.4	15.2	HDPE LINER	12.00	0.917	3.000	16.000	6.833	9.167	9.167	4.500	2.000	5.000	0.667	0.833	0.833	0.750	0.333



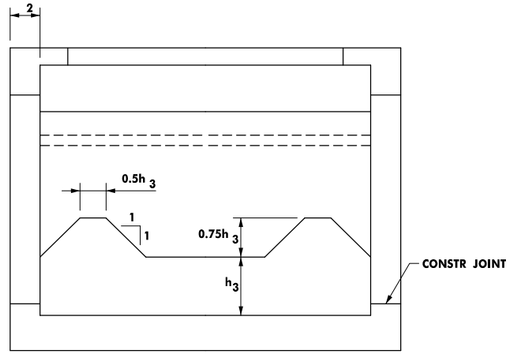
PLAN VIEW



SECTION A-A



SECTION VIEW



SECTION B-B

NOTES

1. CONTRACTOR IS REQUIRED TO PROVIDE SHOP DRAWINGS FOR APPROVAL FOR ALL IMPACT BASINS.
2. ALL PRECAST CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
3. ALL CAST-IN-PLACE CONCRETE TO BE CLASS AA CEMENT CONCRETE.
4. CONCRETE WALL AND SLAB THICKNESS MAY BE INCREASED BY FABRICATOR. DO NOT CHANGE INSIDE DIMENSIONS OF BASIN.
5. REFER TO SPECIAL PROVISIONS FOR THE DESIGN REQUIREMENTS OF THE PRECAST IMPACT BASIN.
6. DO NOT EXCEED A 2FT DIFFERENCE IN FILL ELEVATION TO THE SIDES OF BASIN DURING PLACEMENT OF THE BACKFILL. DO NOT ALLOW THE WHEELS OF ROLLERS TO COME CLOSER THAN 1FT TO THE FACE OF THE STRUCTURE DURING COMPACTION OF THE BACKFILL. PLACE STRUCTURE BACKFILL ALONG ALL WALLS FOR ENTIRE HEIGHT AT A MINIMUM 2'-0" WIDTH.
7. OVEREXCAVATION OF FOUNDATION MY BE ORDERED BY THE ENGINEER TO BE AT ANY ELEVATION OR OF ANY DIMENSIONS NECESSARY TO PROVIDE A PROPER FOUNDATION. BACKFILL OVEREXCAVATION WITH NO. 8 COARSE AGGREGATE.

USBR IV IMPACT BASIN

NOT TO SCALE

ITEM NO 9000-0### USBR IV IMPACT BASIN

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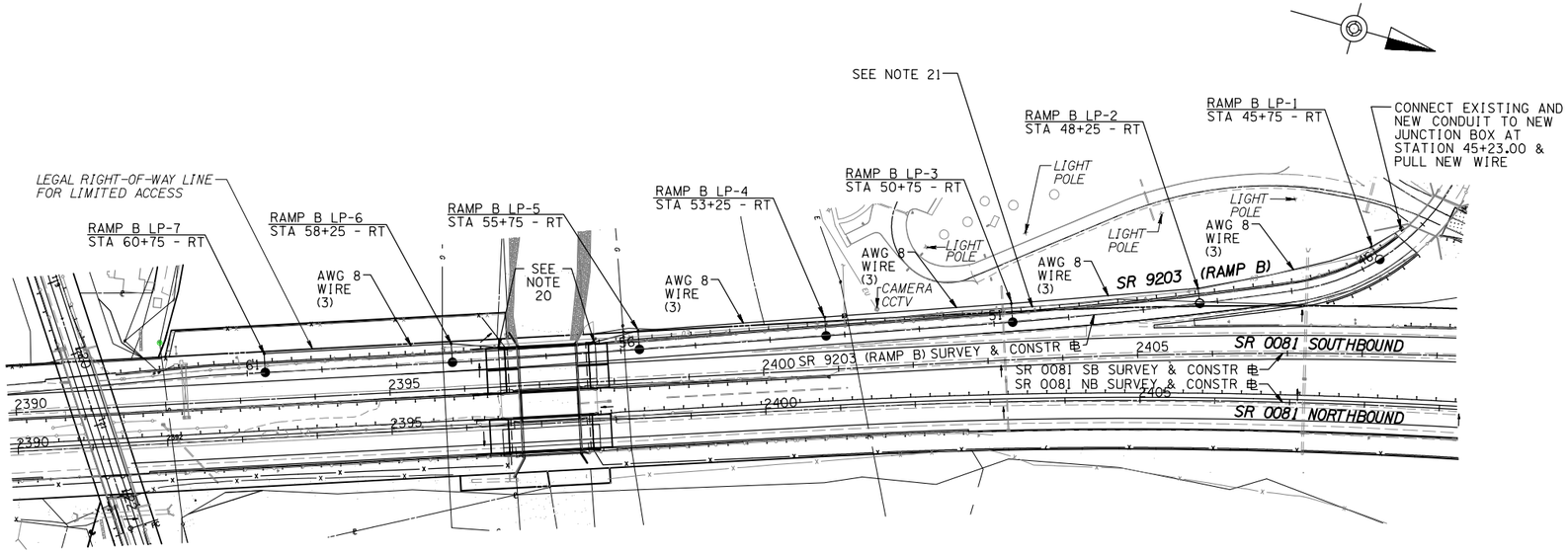
11/18/2021 AT 9:55:46 AM

USBR IV IMPACT BASIN

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	46 OF 222
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY



SR 9203 (RAMP B) PLAN VIEW

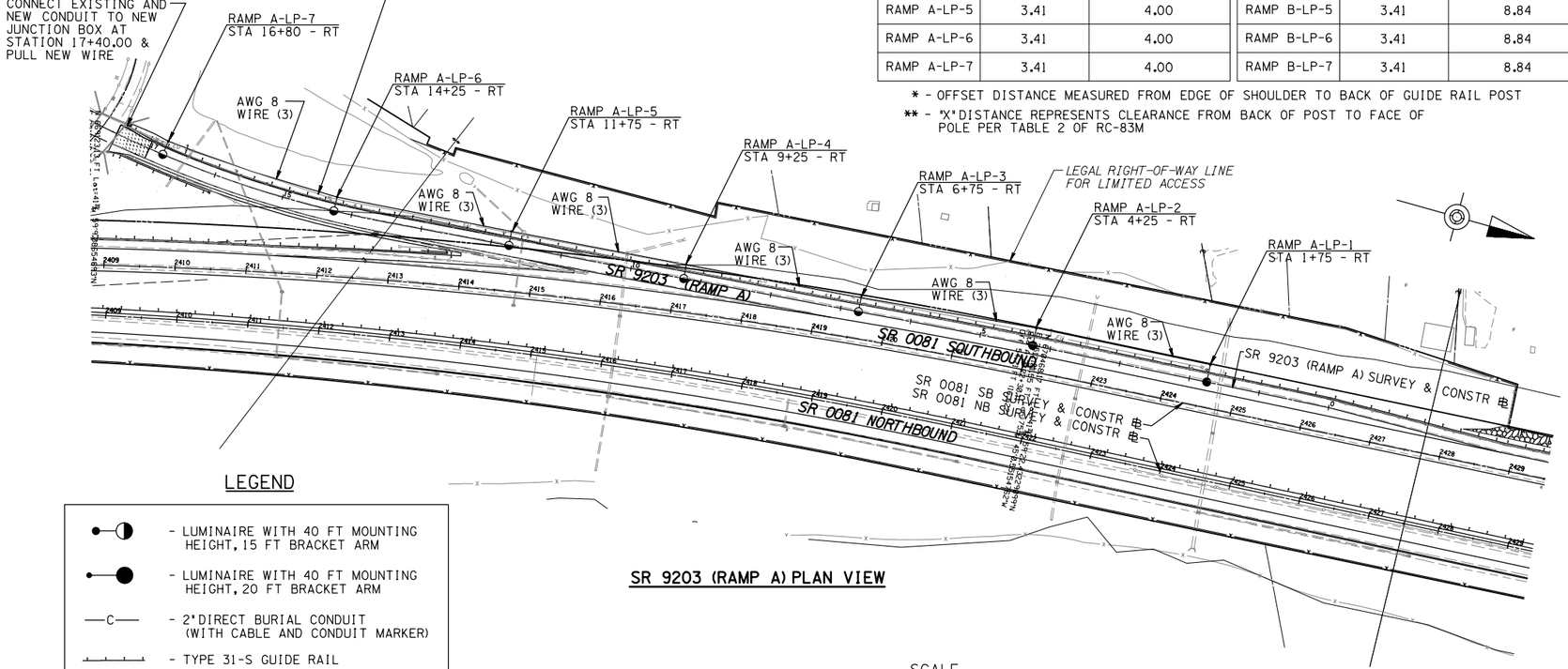
TYPE 31-S GUIDE RAIL DISTANCES

POLE ID	OFFSET (FT)*	"X" DISTANCE (FT)**
RAMP A-LP-1	3.41	4.00
RAMP A-LP-2	3.41	4.00
RAMP A-LP-3	3.41	4.00
RAMP A-LP-4	3.41	4.00
RAMP A-LP-5	3.41	4.00
RAMP A-LP-6	3.41	4.00
RAMP A-LP-7	3.41	4.00

POLE ID	OFFSET (FT)*	"X" DISTANCE (FT)**
RAMP B-LP-1	3.41	5.84
RAMP B-LP-2	3.41	5.23
RAMP B-LP-3	3.41	9.07
RAMP B-LP-4	3.41	8.84
RAMP B-LP-5	3.41	8.84
RAMP B-LP-6	3.41	8.84
RAMP B-LP-7	3.41	8.84

* - OFFSET DISTANCE MEASURED FROM EDGE OF SHOULDER TO BACK OF GUIDE RAIL POST

** - "X" DISTANCE REPRESENTS CLEARANCE FROM BACK OF POST TO FACE OF POLE PER TABLE 2 OF RC-83M



SR 9203 (RAMP A) PLAN VIEW

LEGEND

- LUMINAIRE WITH 40 FT MOUNTING HEIGHT, 15 FT BRACKET ARM
- LUMINAIRE WITH 40 FT MOUNTING HEIGHT, 20 FT BRACKET ARM
- C — 2" DIRECT BURIAL CONDUIT (WITH CABLE AND CONDUIT MARKER)
- TYPE 31-S GUIDE RAIL
- JUNCTION BOX, J.B. 2

SCALE

0 100 200 FEET

GENERAL NOTES

1. THE STANDARD SPECIFICATIONS FOR THIS PROJECT ARE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS PUBLICATION 408/2020 AND ALL OF ITS SUPPLEMENTS AND SPECIAL PROVISIONS.
2. CONSTRUCTION PENNSYLVANIA DEPARTMENT OF TRANSPORTATION'S STANDARD DRAWINGS:
   RC-80M DATED 6-1-10 RC-83M DATED 2-8-19
   RC-81M DATED 6-1-10 RC-84M DATED 6-1-10
   RC-82M DATED 6-1-10 BC-721M DATED 9-30-16
3. DETERMINE THE GPS COORDINATES AND MEASURE THE SECTION AND OFFSET OF EACH NEW AND EXISTING HIGHWAY LIGHTING ASSET WITHIN THE LIMITS OF CONTRACT. DETERMINE THE LIGHTING MANAGEMENT SYSTEM (LMS) KEY FOR EACH HIGHWAY LIGHTING ASSET AND PROVIDE AN UPDATED HIGHWAY LIGHTING ASSET NUMBERING SPREADSHEET IN ELECTRONIC FORMAT TO THE CENTRAL OFFICE HIGHWAY LIGHTING GROUP.
4. PROVIDE LUMINAIRES WITH NEMA TWIST-LOCK PHOTOCELL RECEPTACLE AND SHORTING CAP.
5. PLACE CONDUIT MARKERS AT ALL GUIDERAIL CROSSINGS. LOCATE THE MARKERS DIRECTLY OVER THE TRENCH AND UNDER THE GUIDERAIL.
6. PROVIDE POLE AND POWER SUPPLY ID TAGS WITH 1" HIGH REFLECTIVE ALUMINUM CHARACTERS AND SLIDE IN ALUMINUM HOLDERS, WIDTH AS REQUIRED TO ACCOMMODATE THE CHARACTERS. ATTACH WITH SS RIVETS. MOUNT THE TAGS APPROXIMATELY 6' ABOVE THE FOUNDATION. PROVIDE CHARACTERS WITH BLACK AND WHITE OR GREY.
7. TRENCHING IN THE SHOULDER, AS SHOWN ON RC-84M, IS PERMITTED AT THE CONTRACTOR'S EXPENSE. TRENCHING BEHIND GUIDERAIL IS PREFERRED.
8. WHEN ALUMINUM CONVENTIONAL LIGHTING POLES ARE PROVIDED, PROVIDE WITH TRUSS TYPE BRACKET ARMS. PROVIDE POLES THAT MEET THE GENERAL SILHOUETTE AND ARM RISE/ARM LENGTH REQUIREMENTS OF STANDARD DRAWING RC-83M. DESIGN CALCULATIONS ARE REQUIRED PER PUBLICATION 408, SECTION 1101.
9. 'C' DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO INSTALLATION.
10. REFER TO THE STRUCTURAL DRAWINGS FOR CONDUIT AND JUNCTION BOX DETAILS ON PROPOSED BRIDGE STRUCTURES.
11. THREE WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR MUST CONTACT PA ONE CALL SYSTEM, INC. PHONE: 1-800-242-1776.
12. CONSTRUCT ALL WORK ITEMS IN ACCORDANCE WITH THE REQUIREMENTS LISTED IN THE PROJECT ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM (ECMTS) FORM. SUBMIT ALL REVISIONS FOR APPROVAL TO THE DESIGN ENGINEER AND THE DISTRICT ENVIRONMENTAL MANAGER FOR ECMTS COMPLIANCE.
13. PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR WITH ALL CIRCUITS. CONNECT THE EQUIPMENT GROUNDING CONDUCTOR TO GROUND AT EACH POLE. PROVIDE WITH THE SAME INSULATION AND SIZE AS THE CIRCUIT CONDUCTORS. THE EQUIPMENT GROUNDING CONDUCTOR IS INCLUDED IN THE CABLE ITEM QUANTITIES.
14. PER ACT 187, MAINTAIN A MINIMUM 1'-6" CLEARANCE FROM ALL UNDERGROUND UTILITIES.
15. COORDINATE WORK ACTIVITY WITH ALL OTHER CONSTRUCTION DISCIPLINES & THE GENERAL CONSTRUCTION PLANS.
16. LOCATE ALL U/G UTILITIES PRIOR TO EXCAVATION.
17. PROVIDE INDIVIDUAL FUSING FOR ALL CONVENTIONAL LIGHTING.
18. PROVIDE WATERTIGHT, SUBMERSIBLE, NON-FUSIBLE, PROMOLDED, DISCONNECTABLE CONNECTOR KITS FOR ALL SPLICES.
19. JUNCTION BOXES - PROVIDE CONCRETE JB'S WITH HOT DIPPED GALVANIZED STEEL FRAME AND LID IN ACCORDANCE WITH PUBLICATION 408/2020, SECTION 1105.02(S). PROVIDE THE LID WITH NON CONDUCTIVE LIFTING PIPES AS APPLICABLE. PROVIDE JB'S WITH A GROUNDING MEANS FOR THE FRAME, AND GROUND THE STEEL FRAME TO A 1/2" X 8' MIN. GROUND USE ROD INSTALLED INSIDE OR NEAR THE JB. COST INCIDENTAL TO THE JB. PROVIDE CLASS AA CONCRETE IF PRECAST.
20. CONNECT NEW 2" CONDUIT AND PULL NEW AWG 8 WIRES THRU NEW 2" CONDUIT PLACED IN NEW BRIDGE BARRIER. THIS 2" CONDUIT IS A BRIDGE ITEM.
21. EXISTING LIGHTING EQUIPMENT TO BE REMOVED IN ITS ENTIRETY ALONG RAMP A FROM STATION 1+75 TO STATION 16+40.00 AND ALONG RAMP B FROM STATION 45+23 TO STATION 60+75. CONTRACTOR TO EXERCISE CARE NOT TO DAMAGE POLES AND LUMINAIRES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPLACEMENT OF ANY DAMAGED SUSTAINED DURING REMOVAL OR TRANSPORTING OF THE EQUIPMENT. EXISTING POLES AND LUMINAIRES TO BE RETAINED BY THE DEPARTMENT. COORDINATE REMOVAL, TRANSPORT AND DELIVERY OF EXISTING POLES AND LUMINAIRES WITH PENNDOT (BILL FIVES) AT 570.963.4016. REFER TO ITEM 9000-0008 - REMOVAL OF EXISTING LIGHTING EQUIPMENT.

WELCOME CENTER RAMPS LIGHTING RELOCATION PLAN

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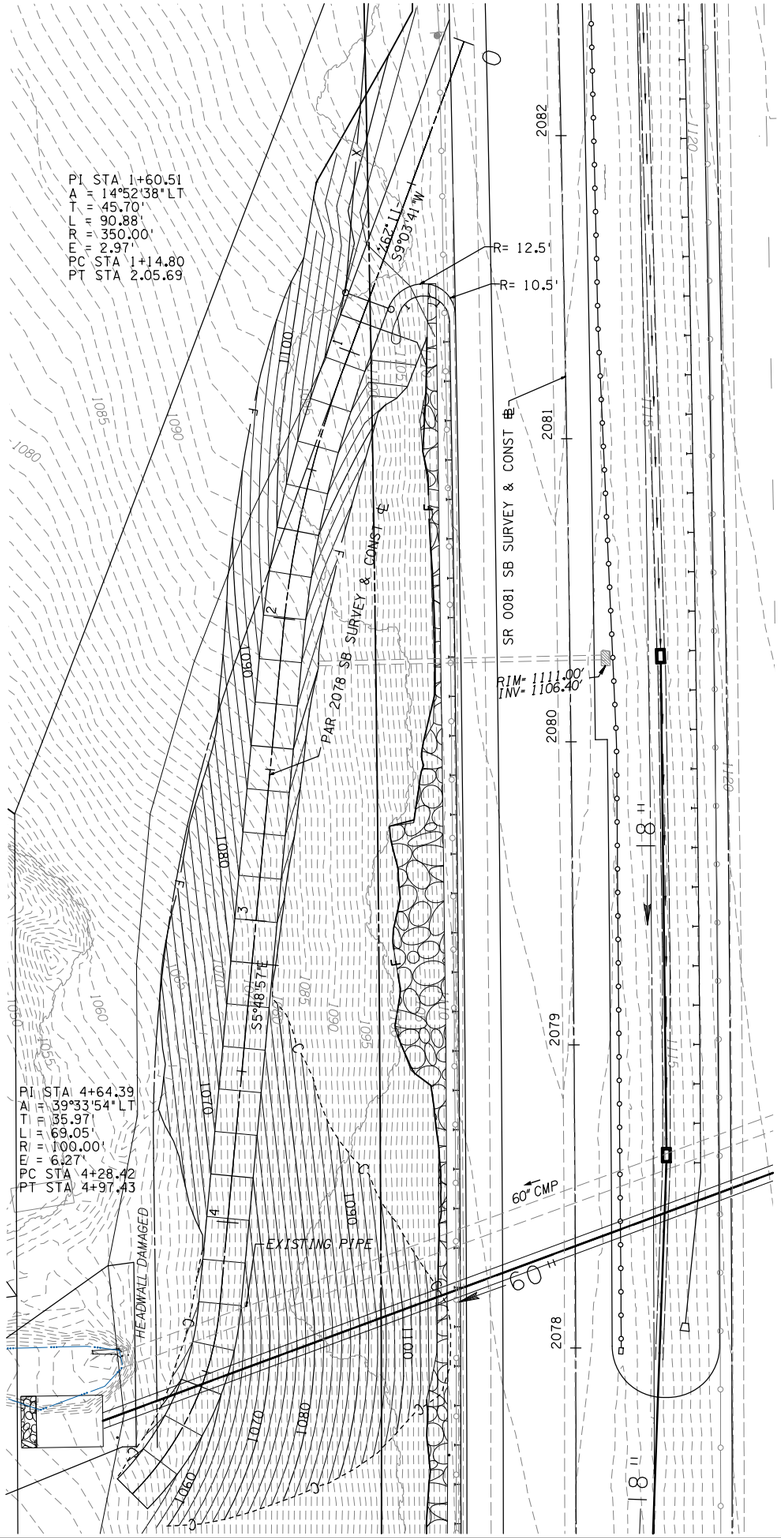
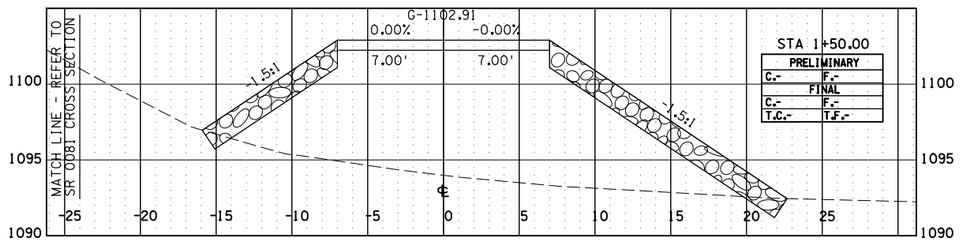
11/18/2021 AT 9:55:51 AM

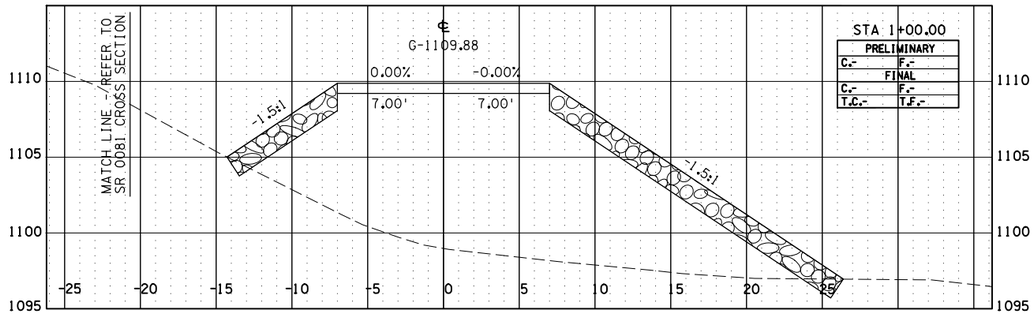
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	47 OF 247
	GREAT BEND TOWNSHIP			

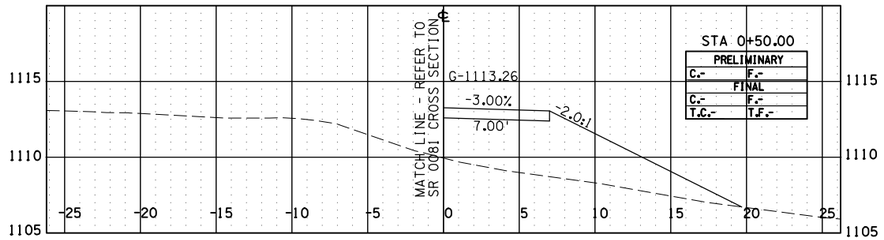
REVISION NUMBER	REVISIONS	DATE	BY

PAR 2082 SB CROSS SECTIONS









SCALE

0 5 10 FEET

SCALE

0 25 50 FEET

RTE.	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
PAR 2082 SB	0+00.00	BEGIN STA	637707.8155	2518658.3589	S 9° 03' 41" W
	1+14.81	PC	637594.4383	2518640.2772	
	1+60.51	PI	637549.3119	2518633.0803	S 5° 48' 79" E
	2+05.69	PT	637503.8503	2518637.7108	
	4+28.42	PC	637282.2657	2518660.2801	
	4+64.39	PI	637246.4832	2518663.9248	S 33° 44' 57" W
	4+97.47	PT	637216.5769	2518643.9426	

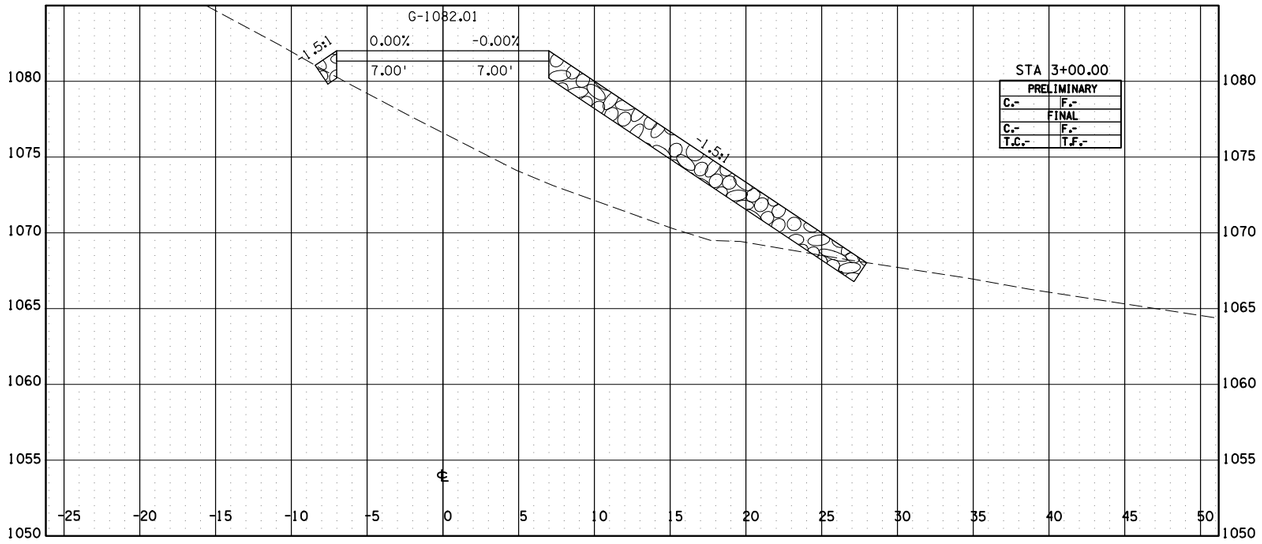
NOTE: FOUR DECIMAL PLACE COORDINATES ARE USE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO PLACES.

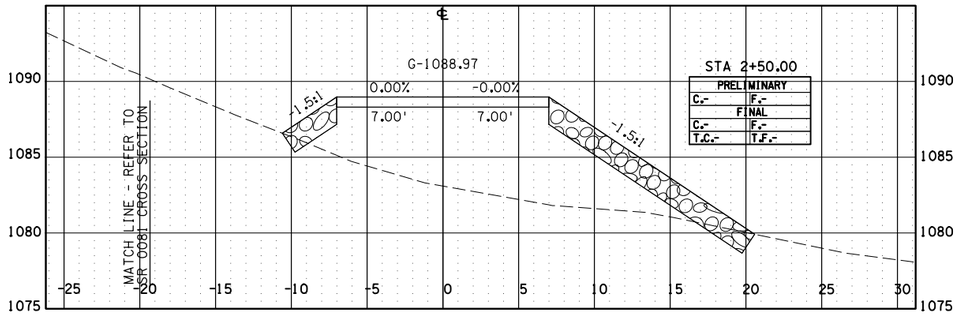
PERMANENT ACCESS ROADS
SHEET 1 OF 14

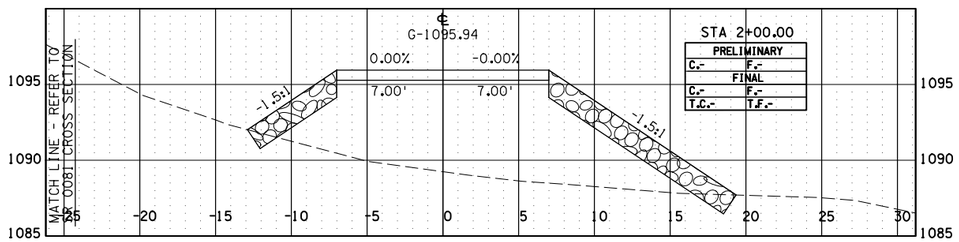
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	48 OF 247
	GREAT BEND TOWNSHIP			

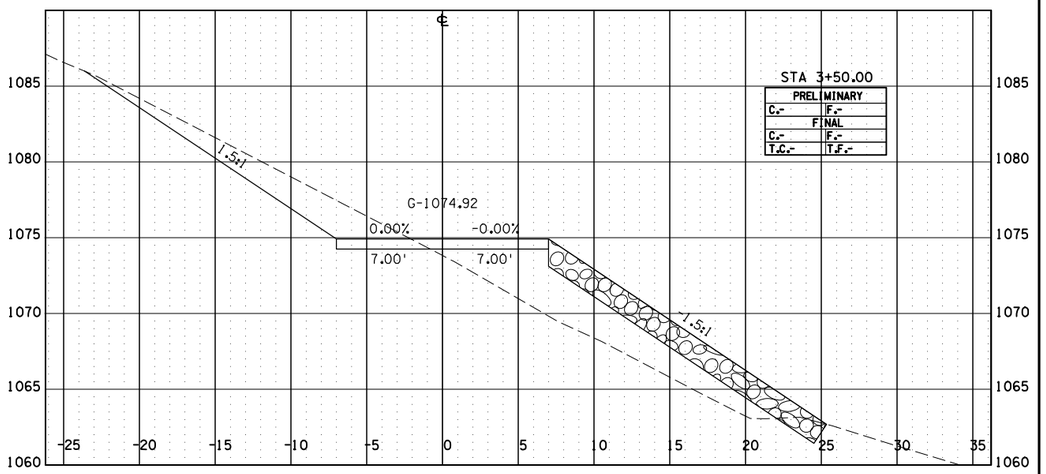
REVISION NUMBER	REVISIONS	DATE	BY

PAR 2082 SB
CROSS SECTIONS CONTINUED









SCALE

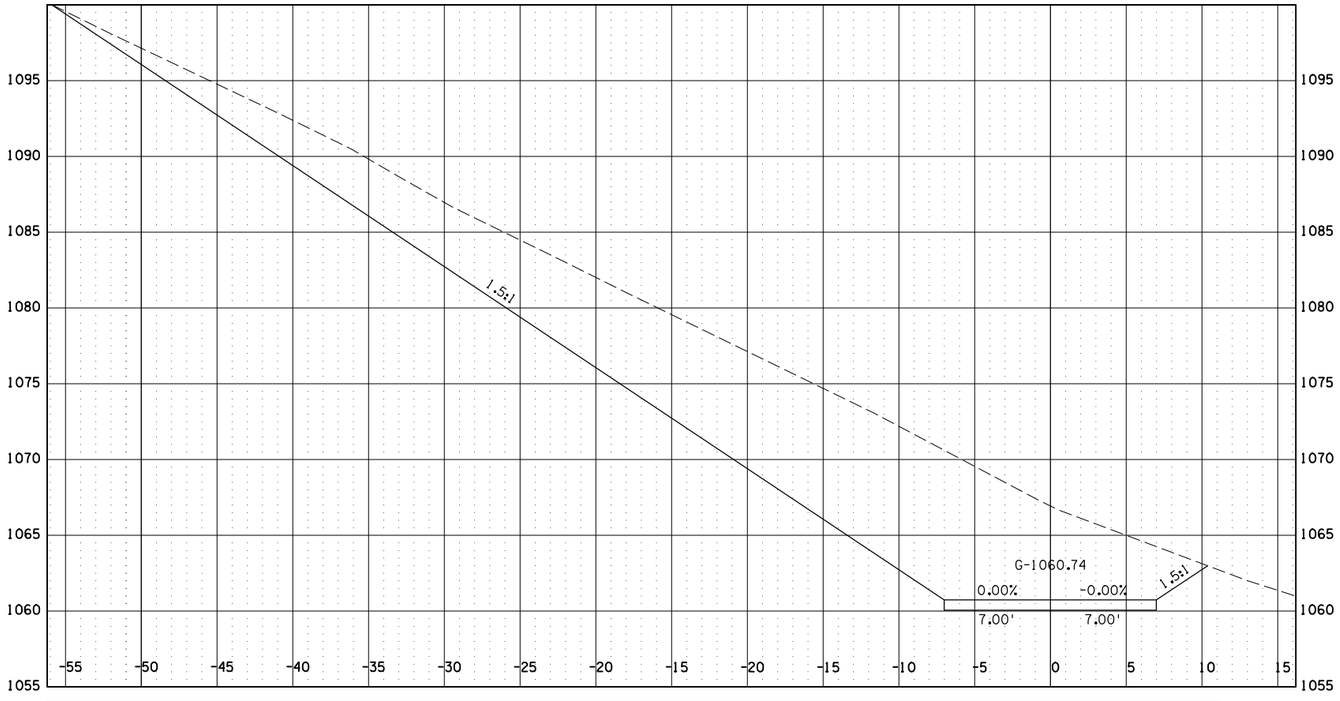
0 5 10 FEET

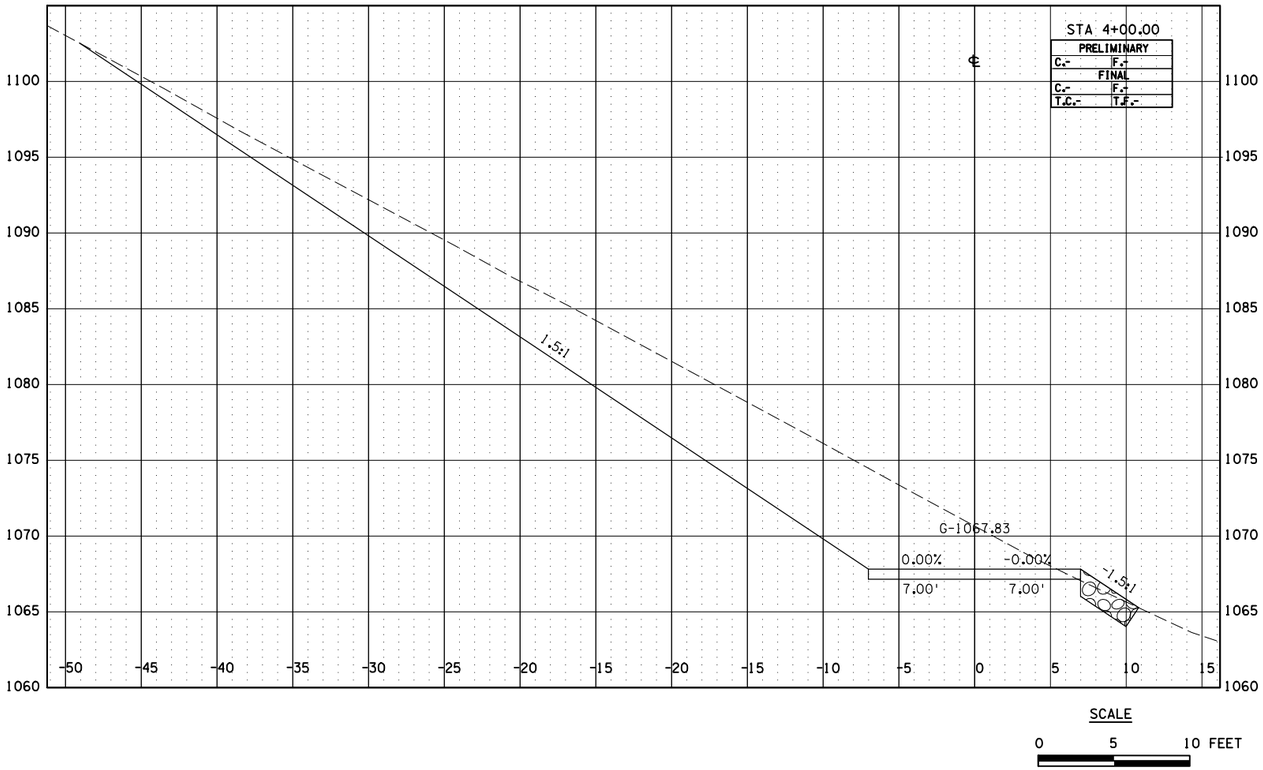
PERMANENT ACCESS ROADS
SHEET 2 OF 14

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	49 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

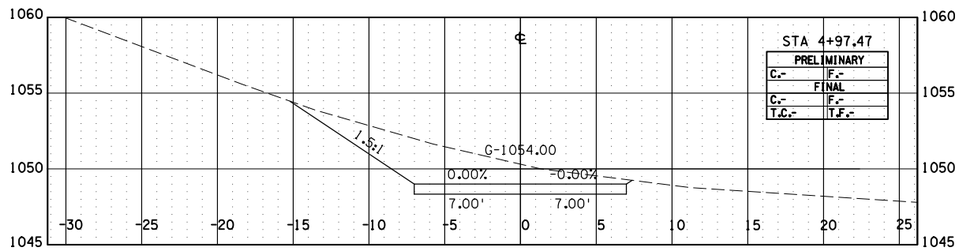
PAR 2082 SB
CROSS SECTIONS CONTINUED





SCALE

0 5 10 FEET

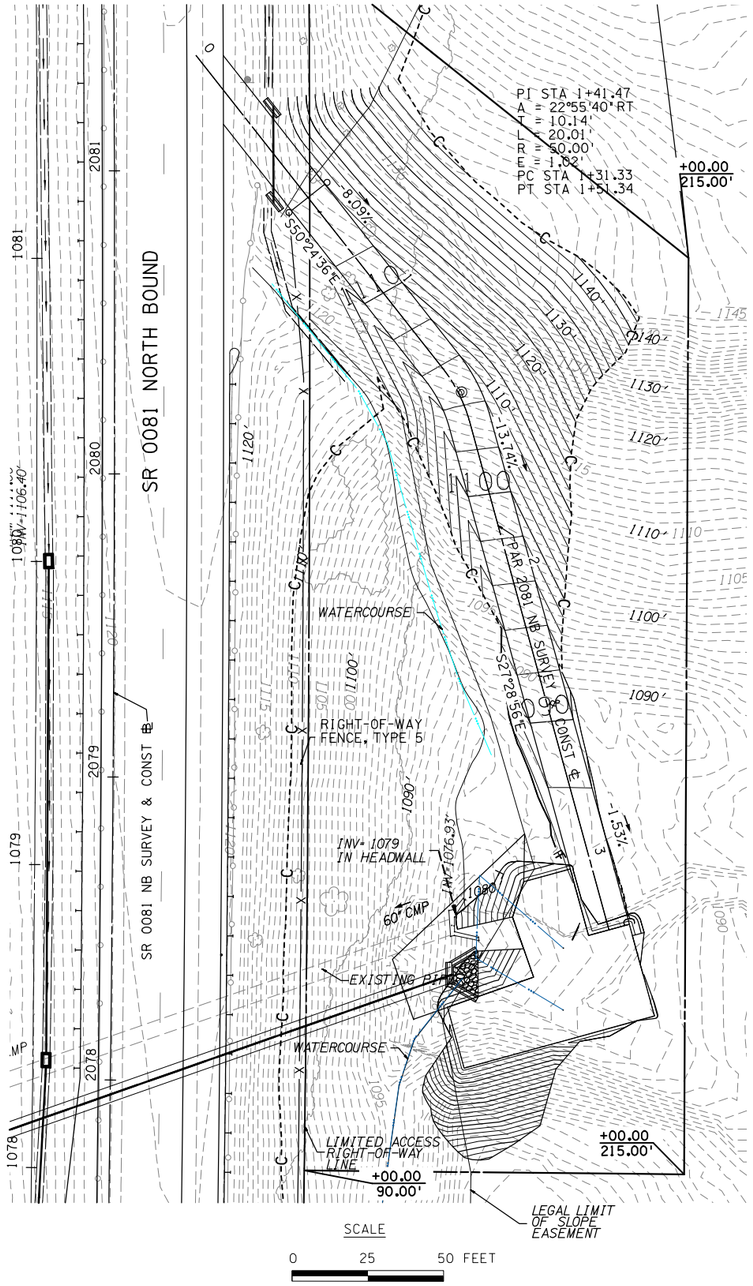


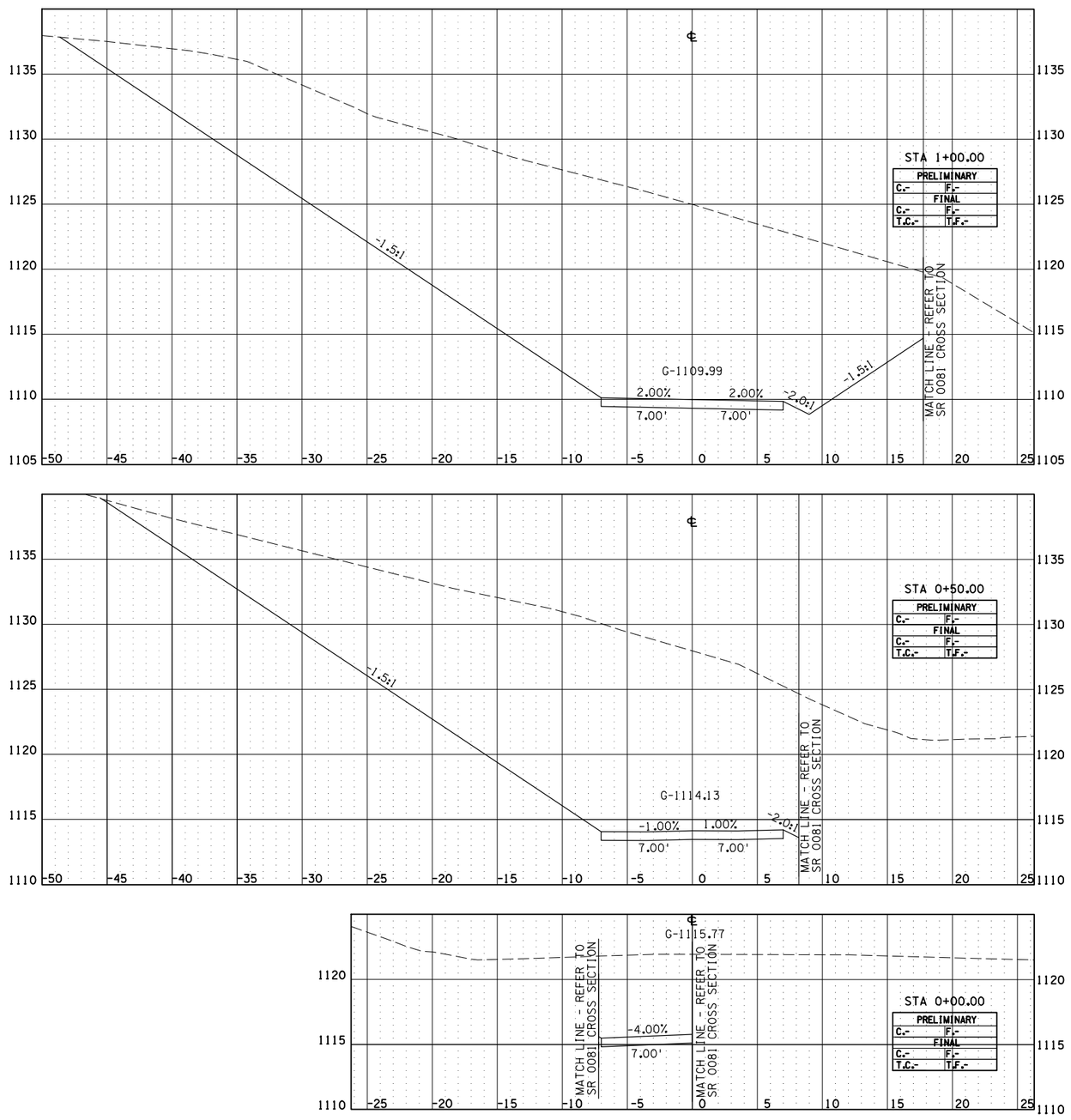
PERMANENT ACCESS ROADS
SHEET 3 OF 14

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	50 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

PAR 2081 NB
CROSS SECTIONS





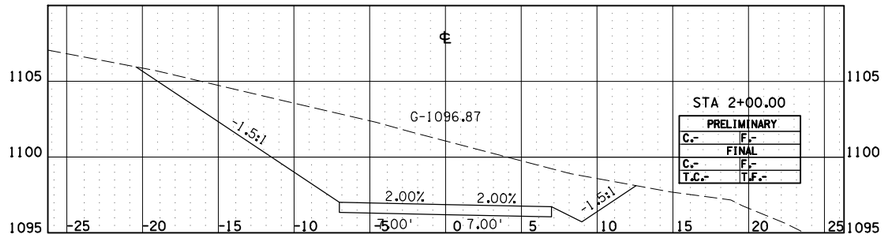
RTE.	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
PAR 2081 NB	0+00.00	BEGIN STA	637694.7964	2518773.7490	S 50°24'36"E
	1+31.33	PC	637611.1019	2518874.9541	
	1+41.47	PI	637604.6399	2518882.7680	S 27°28'56"E
	1+51.34	PT	637595.6443	2518887.4473	
	3+25.20	END STA	637441.4020	2518967.6796	

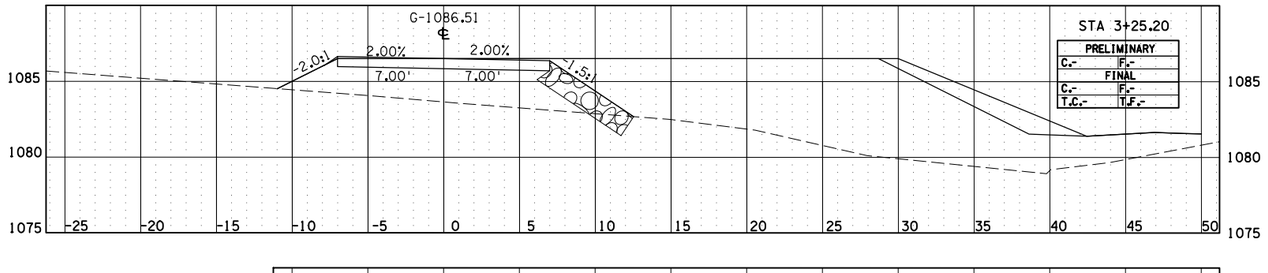
NOTE: FOUR DECIMAL PLACE COORDINATES ARE USE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO PLACES.

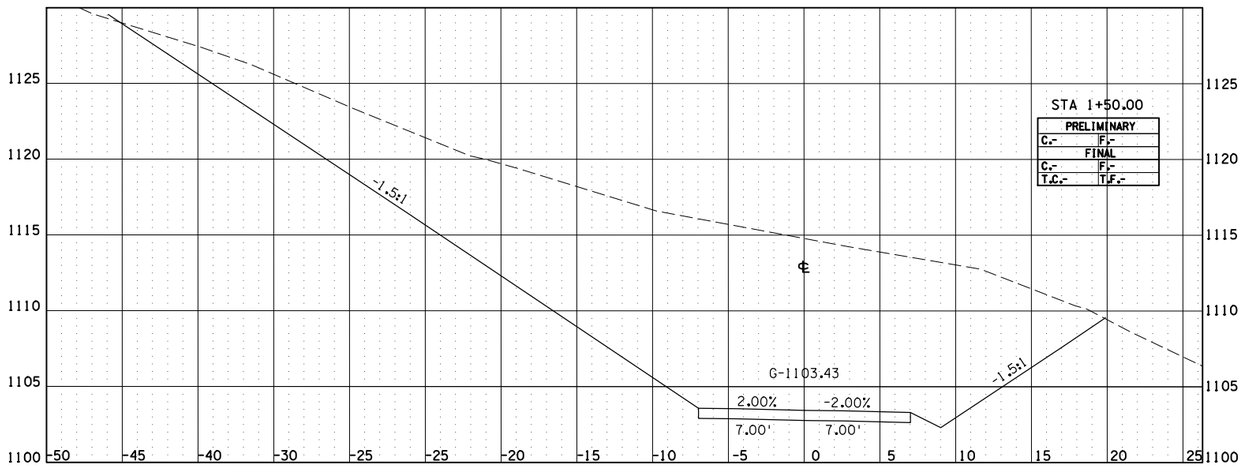
PERMANENT ACCESS ROADS
SHEET 4 OF 14

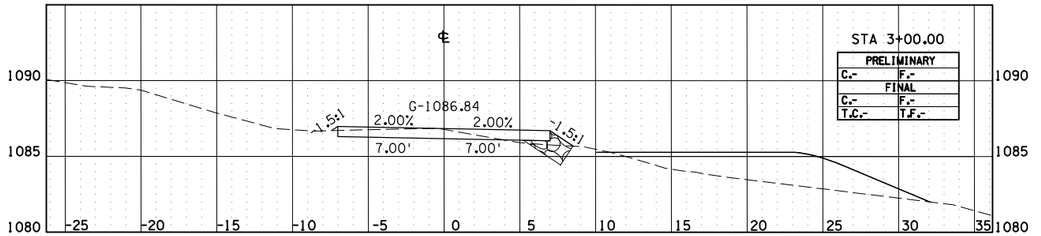
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	51 OF 247
GREAT BEND TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY

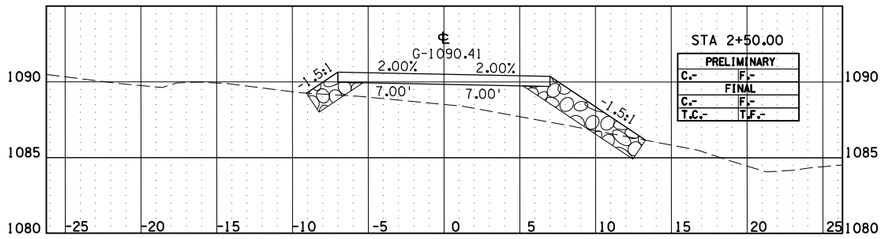
PAR 2081 NB
CROSS SECTIONS CONTINUED











SCALE

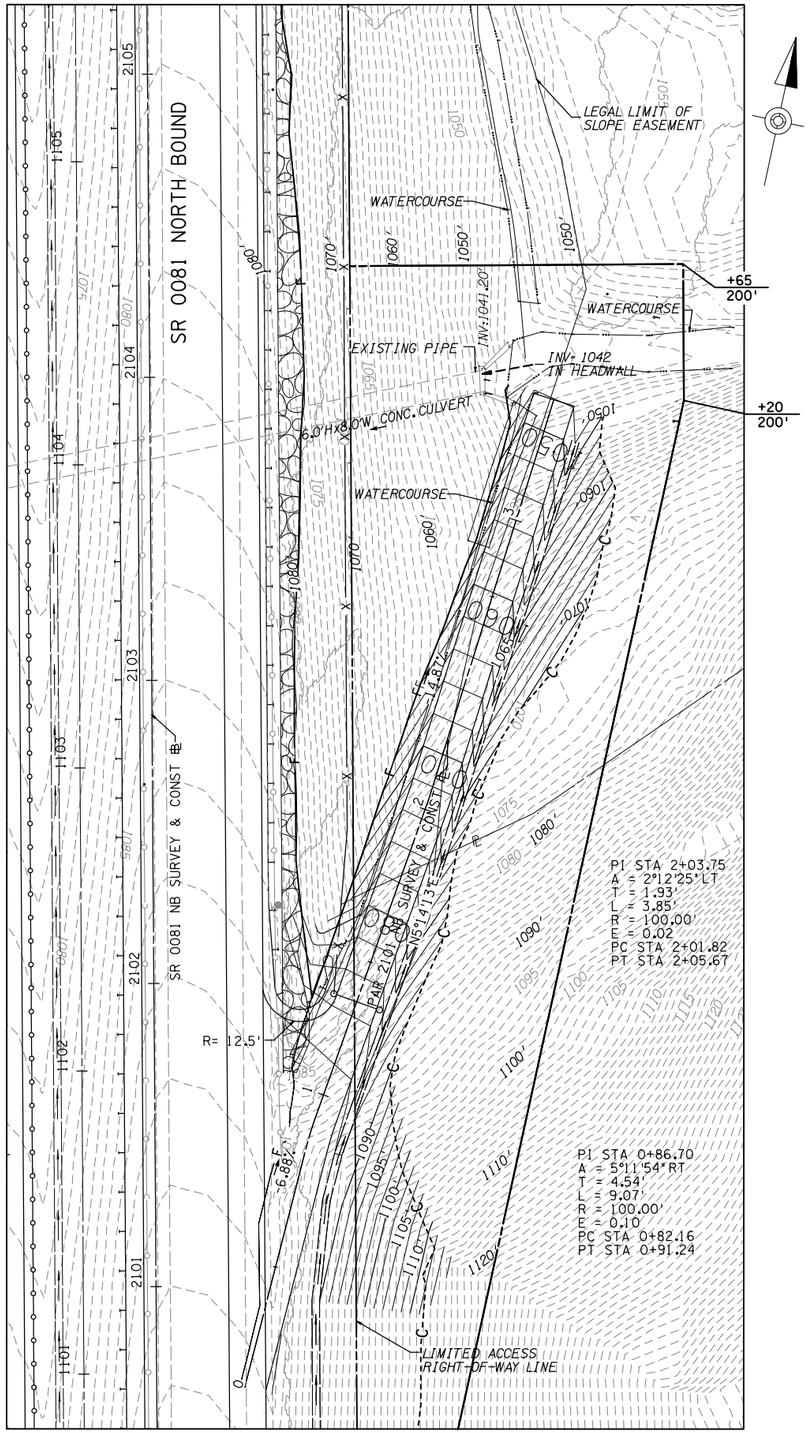
0 5 10 FEET

PERMANENT ACCESS ROADS
SHEET 5 OF 14

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	52 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

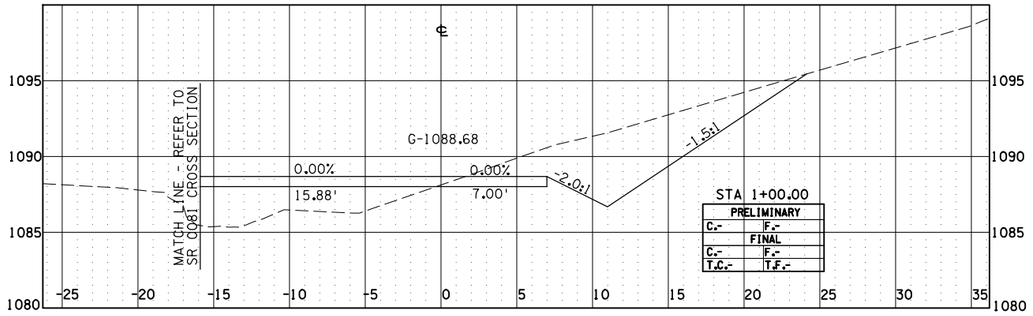
PAR 2101 NB
CROSS SECTIONS

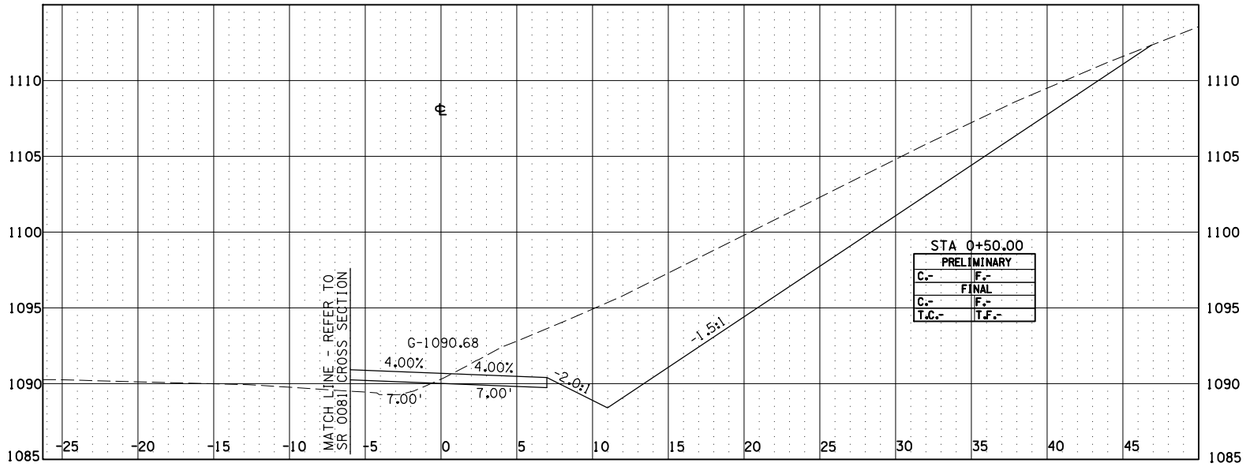


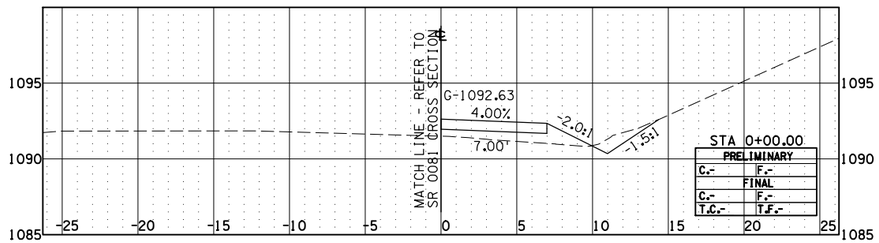
PLAN VIEW

SCALE

0 25 50 FEET







SCALE

0 5 10 FEET

NOTE: FOUR DECIMAL PLACE COORDINATES ARE USE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO PLACES.

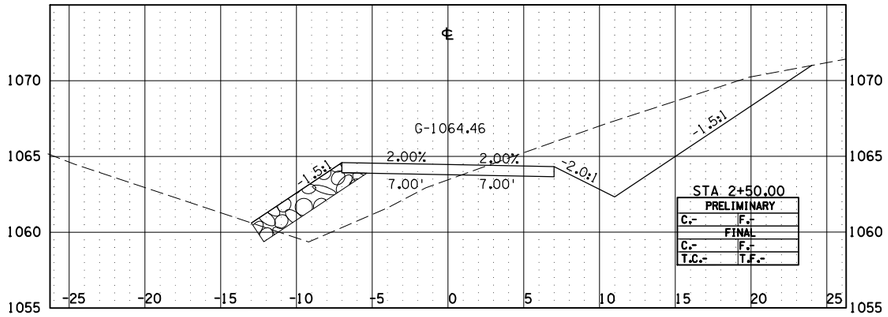
RTE.	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
PAR 2101 NB	0+00.00	BEGIN STA	639577.8034	2518356.7041	N 2°14'39"E
	0+82.16	PC	639659.9039	2518359.9213	
	0+86.70	PI	639664.4399	2518360.0990	N 7°26'32"E
	0+91.24	PT	639668.9411	2518360.6870	
	2+01.82	PC	639778.5959	2518375.0111	
	2+03.75	PI	639780.5059	2518375.2606	
	2+05.67	PT	639782.4241	2518375.4363	N 5°14'07"E
	3+41.69	END STA	639917.8756	2518387.8476	

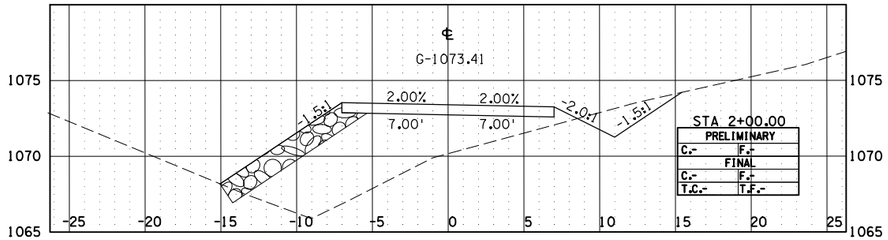
PERMANENT ACCESS ROADS
SHEET 6 OF 14

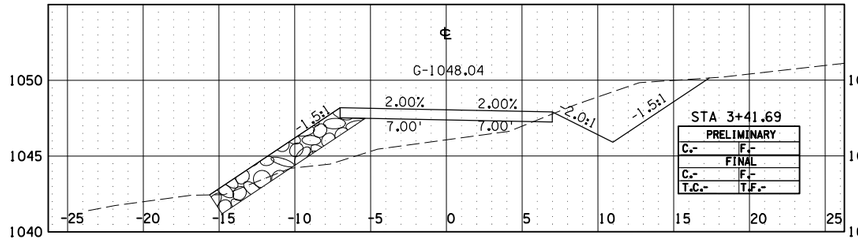
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	53 OF 247
	GREAT BEND TOWNSHIP			

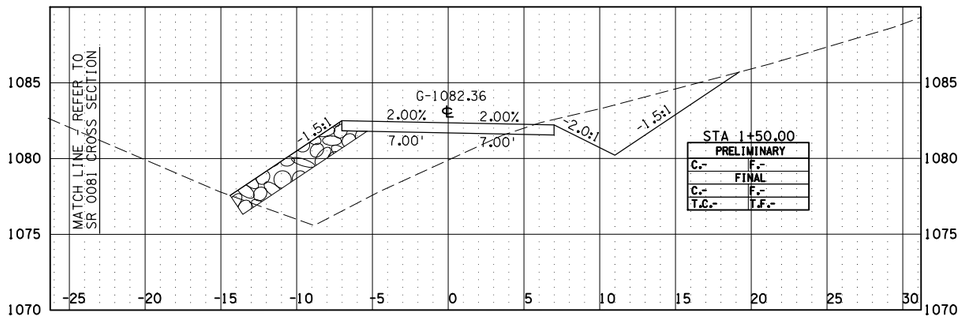
REVISION NUMBER	REVISIONS	DATE	BY

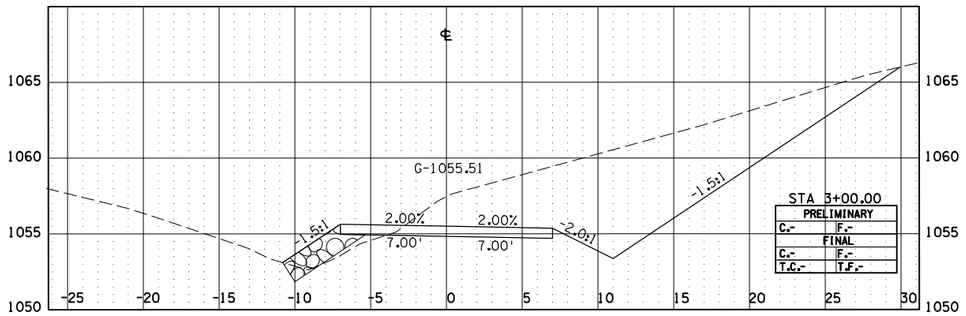
PAR 2101 NB
CROSS SECTIONS CONTINUED











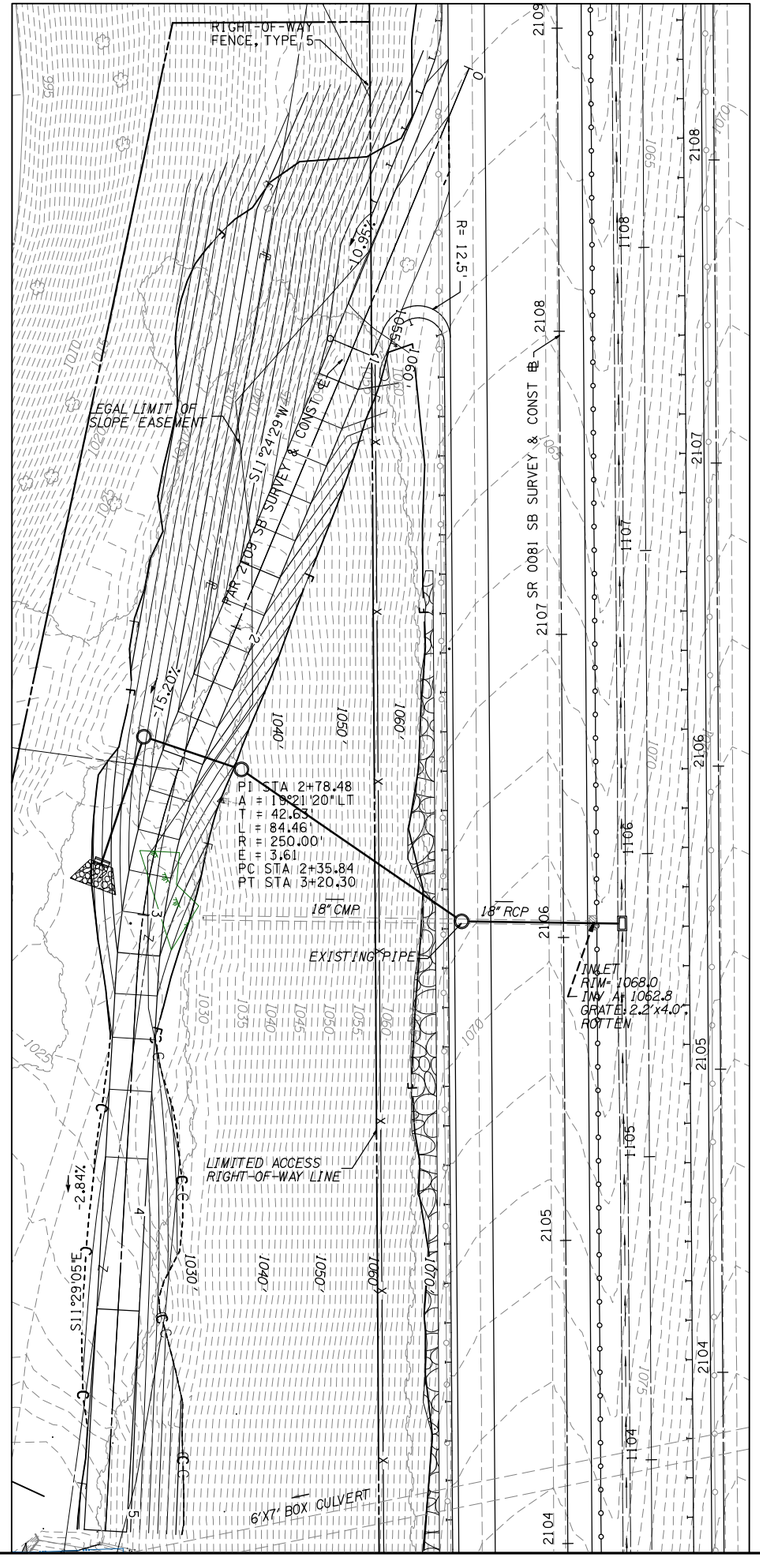
SCALE
0 5 10 FEET

PERMANENT ACCESS ROADS
SHEET 7 OF 14

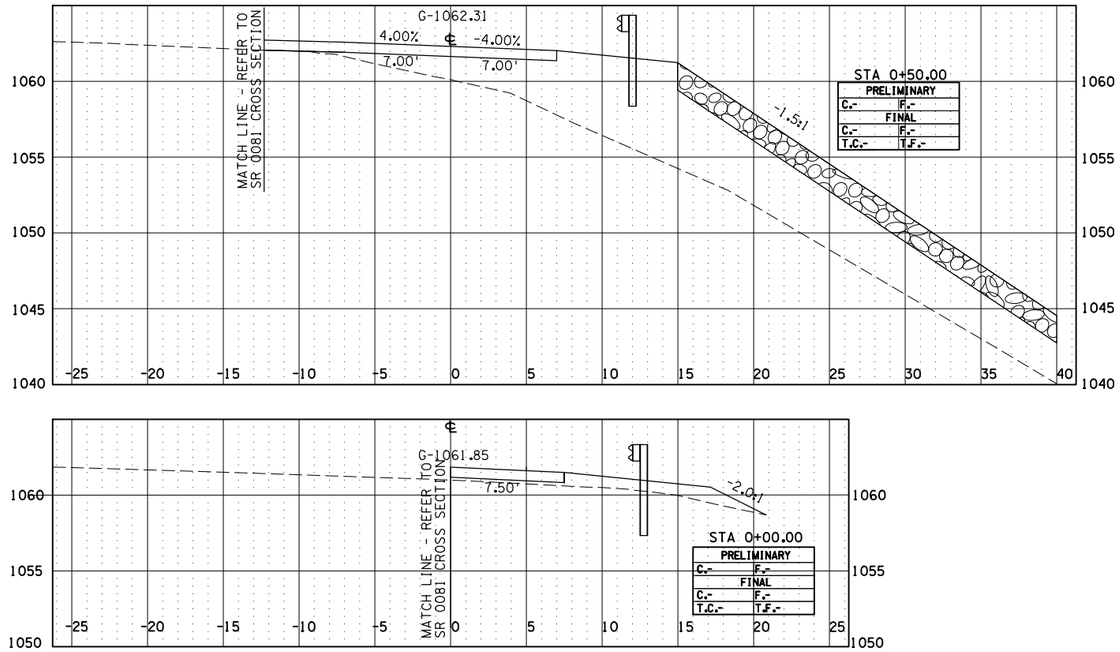
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	54 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

PAR 2109 SB
CROSS SECTIONS



SCALE
0 25 50 FEET



SCALE
0 5 10 FEET

RTE.	STATION	POINT	COORDINATES NORTH	COORDINATES EAST	BEARING
PAR 2109 SB	0+00.00	BEGIN STA	640300.0754	2518083.5992	S 10° 28' 53" W
	2+35.84	PC	640068.1663	2518040.6956	
	2+78.48	PI	640026.2439	2518032.9399	
	3+20.30	PT	639984.1206	2518039.5169	S 8° 52' 28" E
	5+03.56	END STA	639803.0548	2518067.7880	

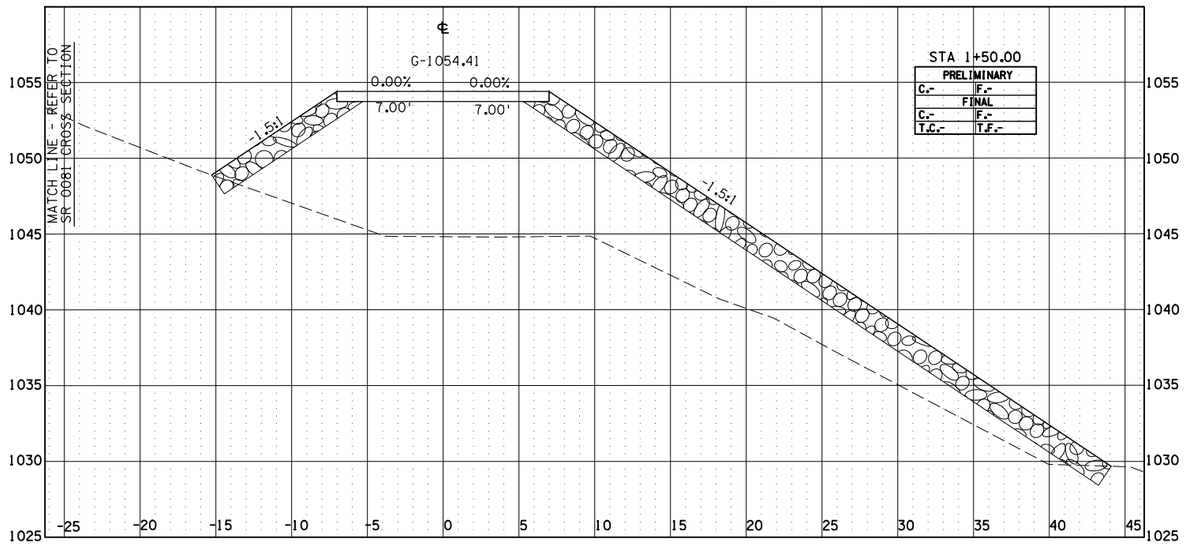
NOTE: FOUR DECIMAL PLACE COORDINATES ARE USE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO PLACES.

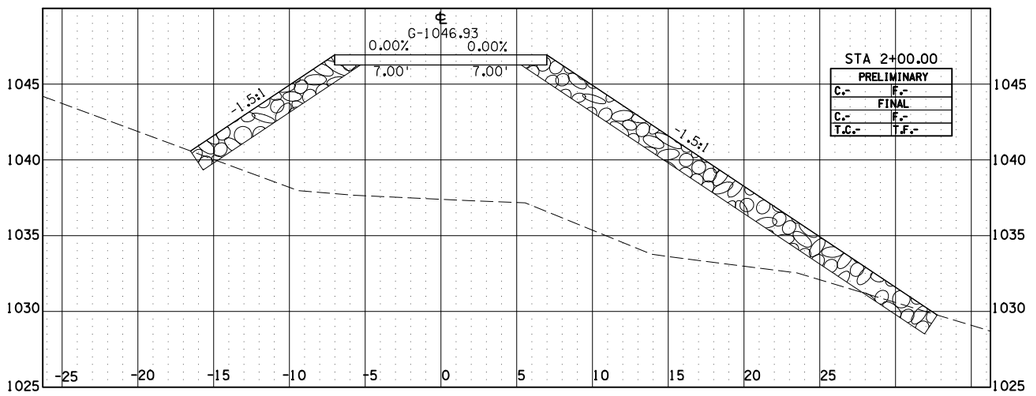
PERMANENT ACCESS ROADS
SHEET 8 OF 14

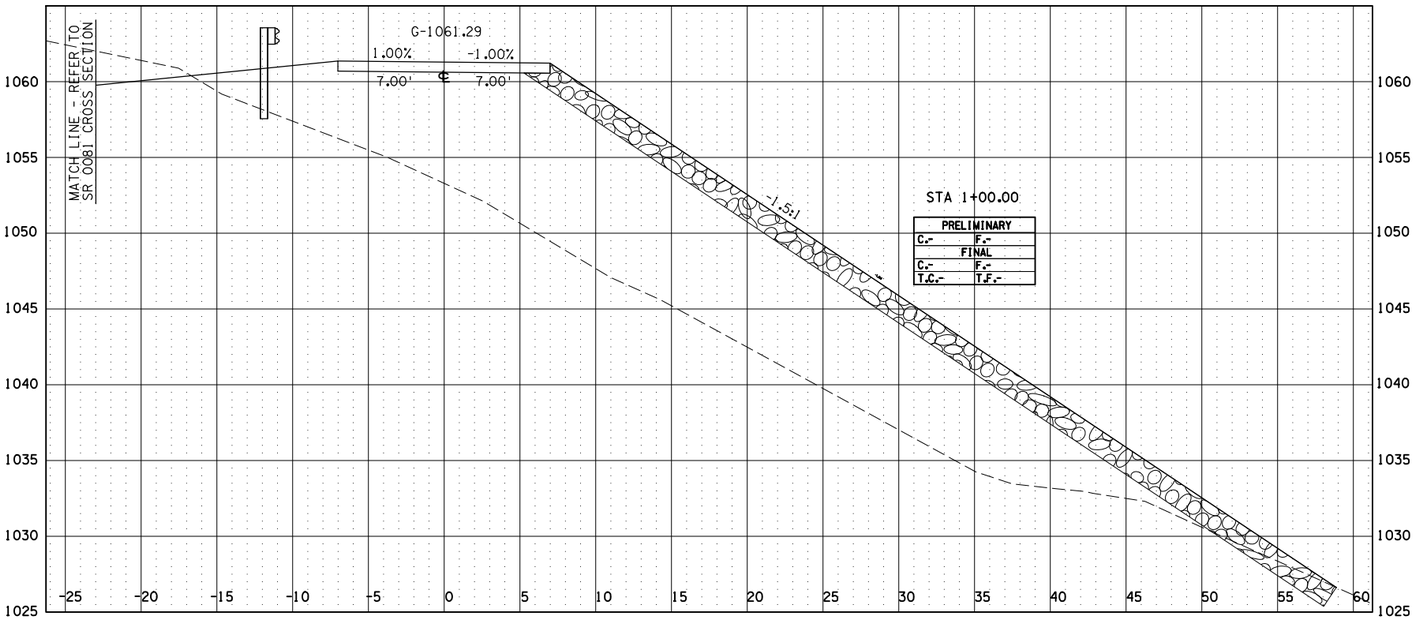
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	55 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

PAR 2109 SB
CROSS SECTIONS CONTINUED





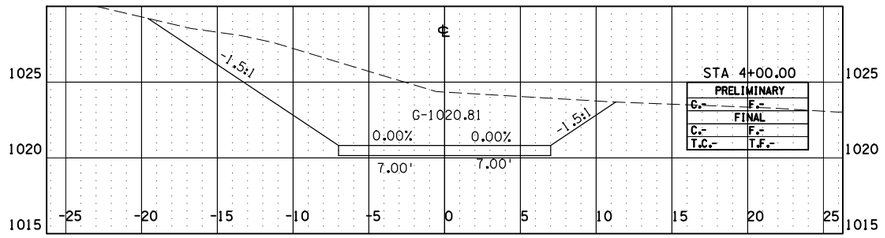


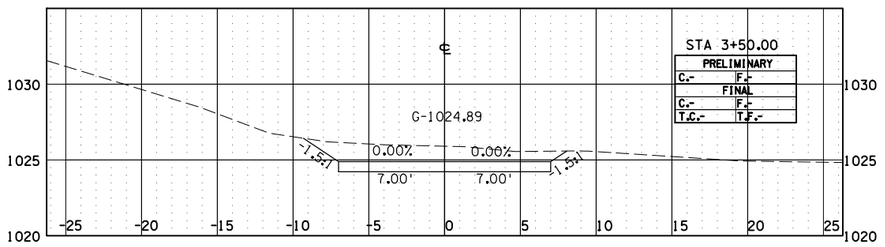
SCALE

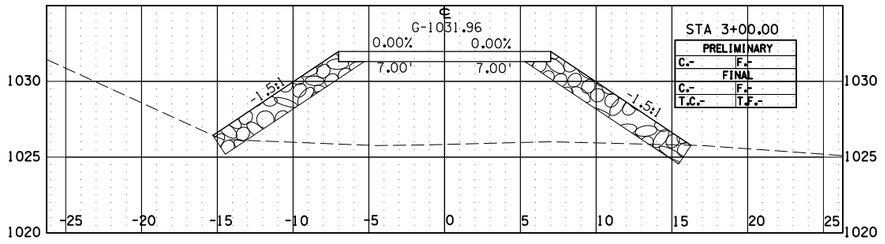
0 5 10 FEET

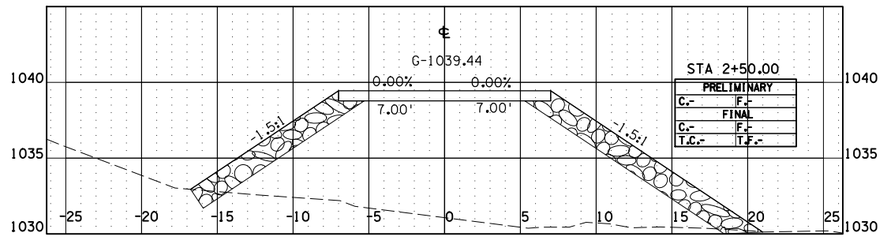
PERMANENT ACCESS ROADS
SHEET 9 OF 14

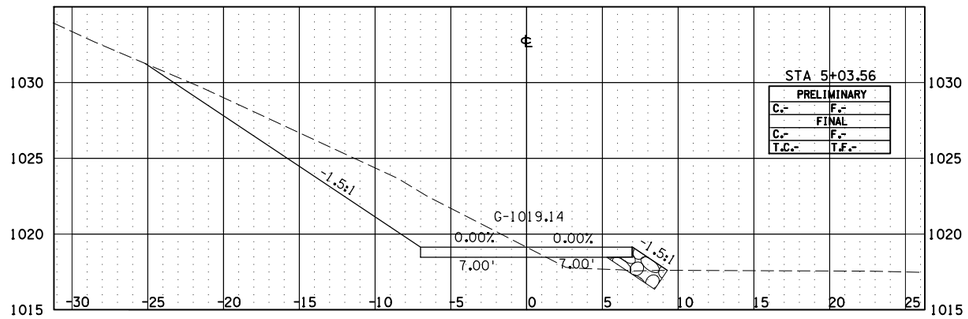
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	56 OF 247
GREAT BEND TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY

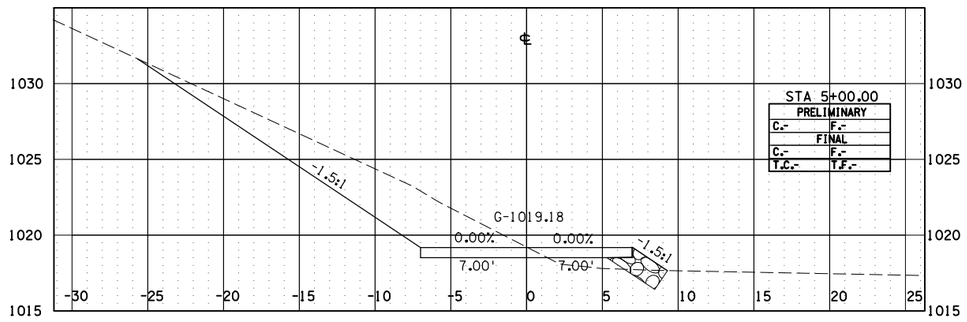


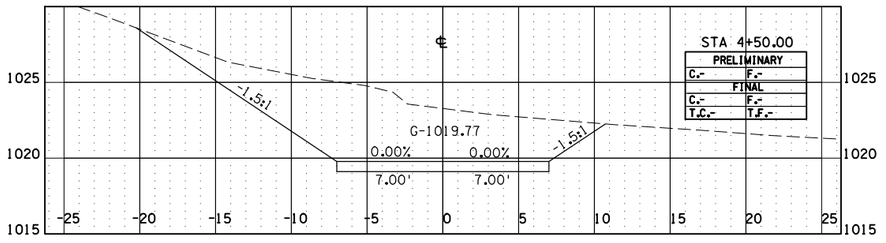












SCALE

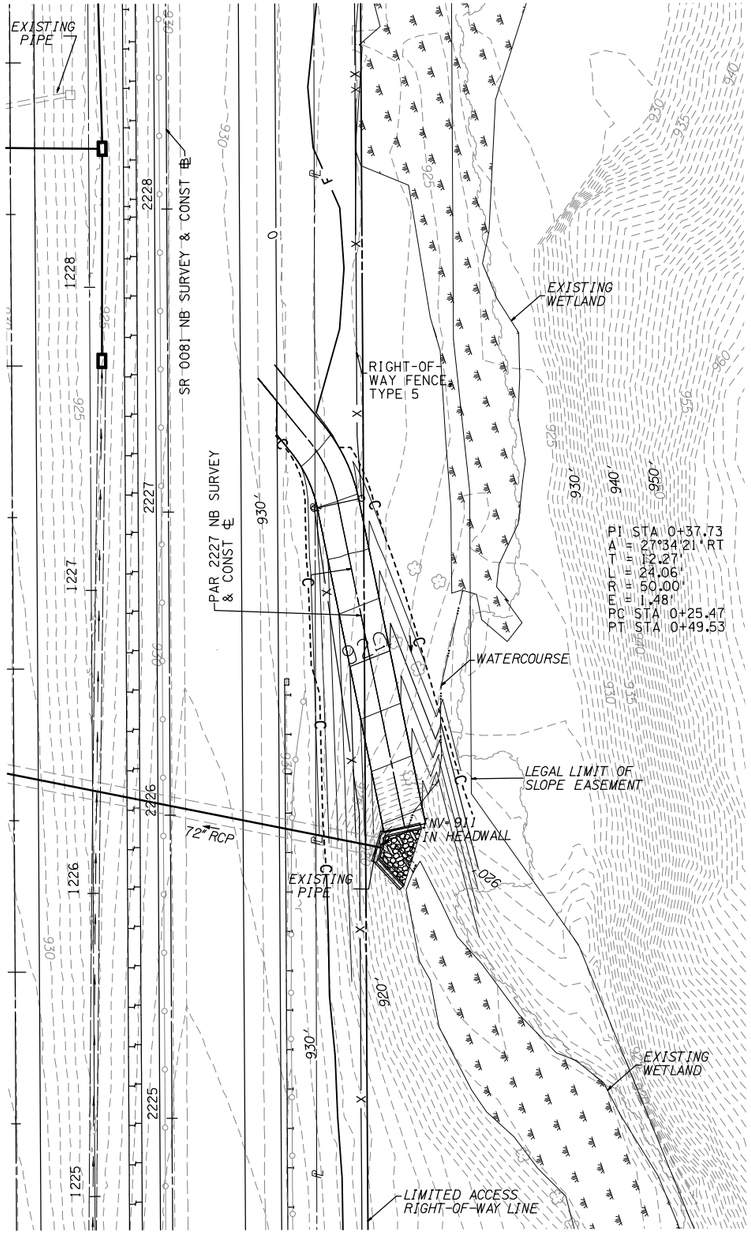
0 5 10 FEET

PERMANENT ACCESS ROADS
SHEET 10 OF 14

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	57 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

PAR 2227 NB CROSS SECTIONS

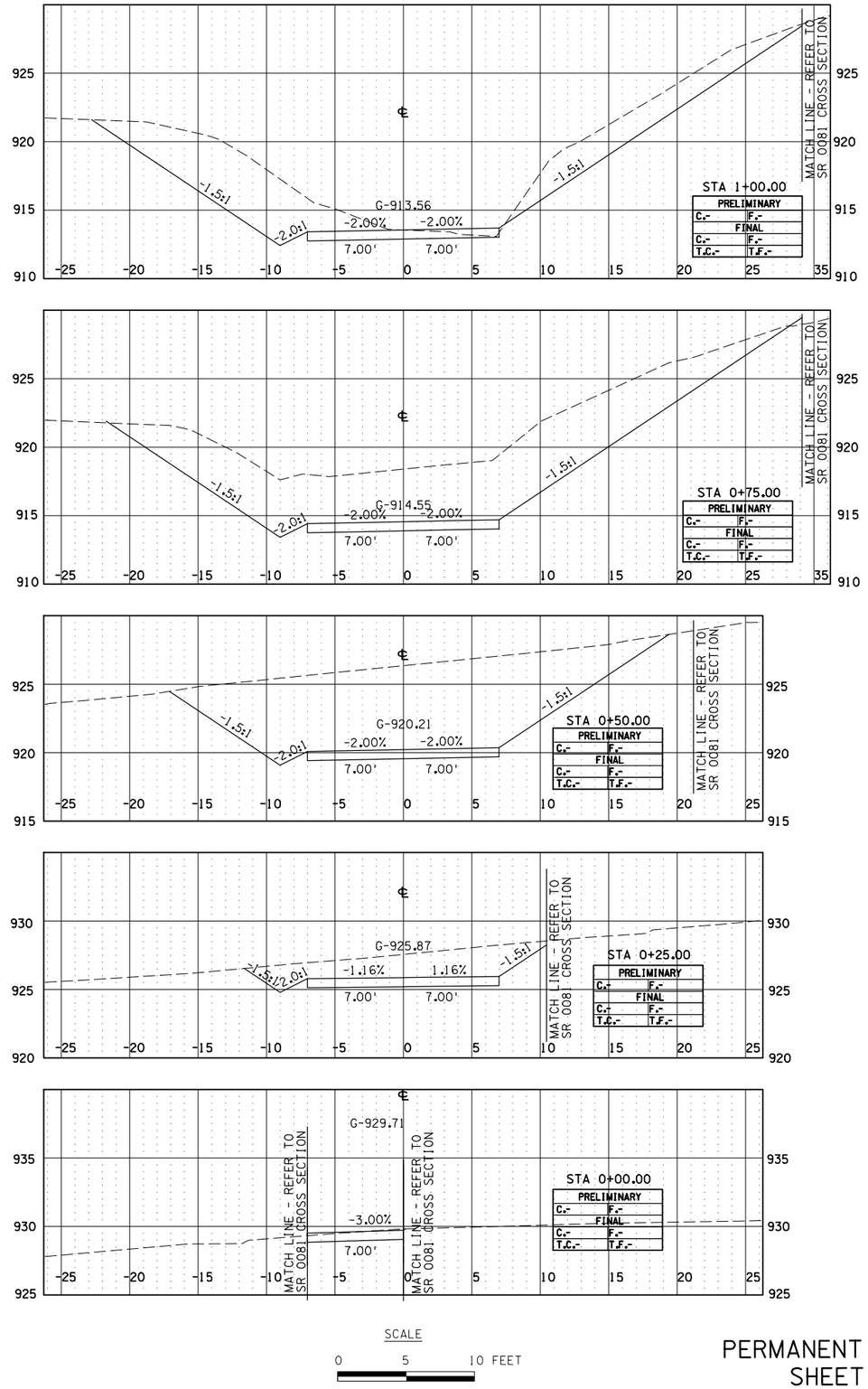


SCALE

0 25 50 FEET

NOTE: FOUR DECIMAL PLACE COORDINATES ARE USE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO PLACES.

RTE.	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
PAR 2227 NB	0+00.00	BEGIN STA	652054.2300	2517228.0966	S 56° 15' 25" E
	0+25.47	PC	652040.0842	2517249.2728	
	0+37.73	PI	652033.2695	2517259.4745	S 28° 41' 04" E
	0+49.53	PT	652022.5067	2517265.3632	
	1+58.79	END STA	651926.6562	2517317.8061	



SCALE

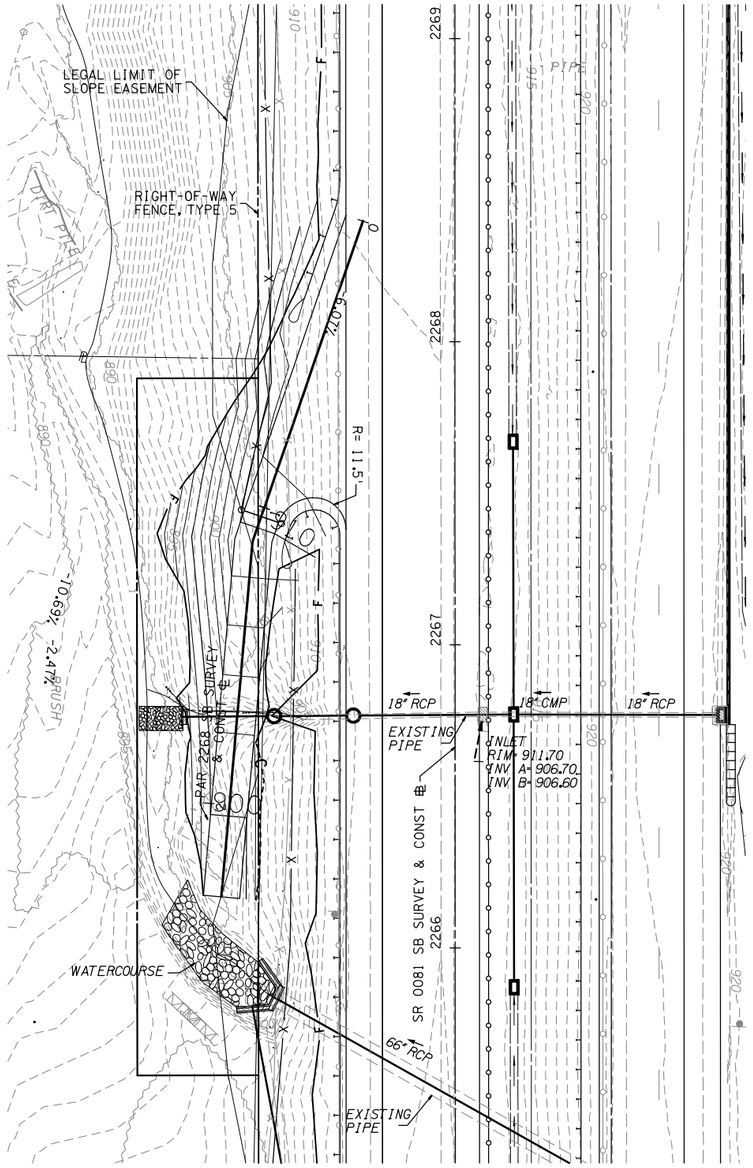
0 5 10 FEET

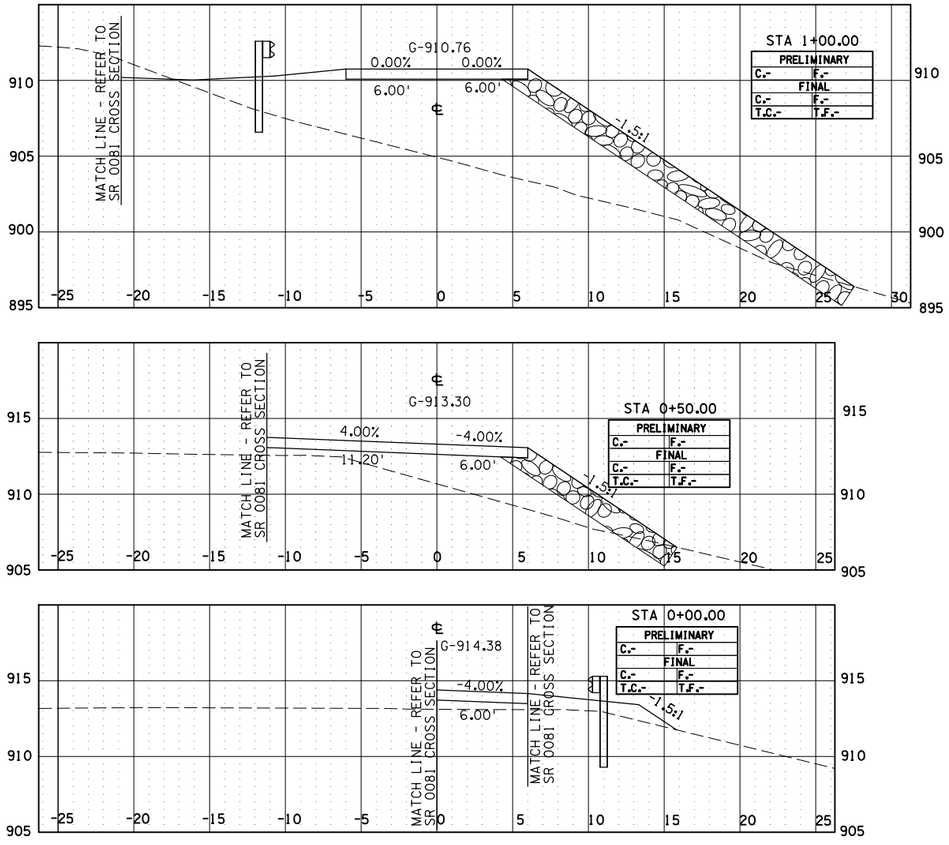
PERMANENT ACCESS ROADS
SHEET 11 OF 14

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	58 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

PAR 2268 SB
CROSS SECTIONS





RTE.	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
PAR 2268 SB	0+00.00	BEGIN STA	655880.4645	2515913.1746	S 1° 37' 16" W
	1+42.61	PI	655737.9109	2515909.1402	
	2+30.46	END STA	655652.2793	2515928.7472	S 12° 53' 48" E

NOTE: FOUR DECIMAL PLACE COORDINATES ARE USE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO PLACES.

SCALE
0 25 50 FEET

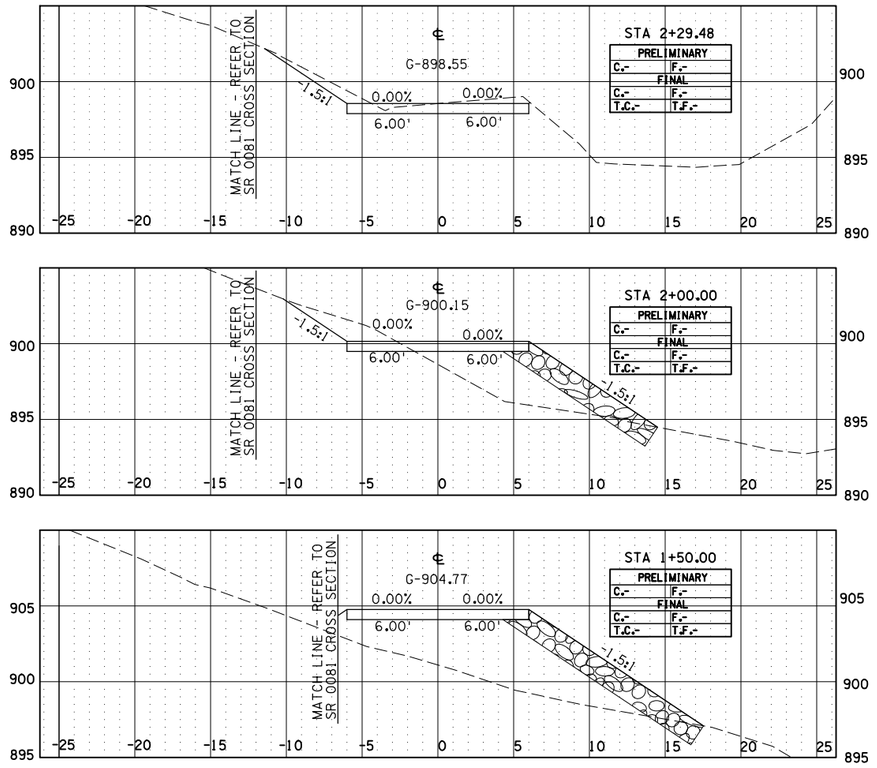
SCALE
0 5 10 FEET

PERMANENT ACCESS ROADS
SHEET 12 OF 14

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	59 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

PAR 2268 SB
CROSS SECTIONS CONTINUED

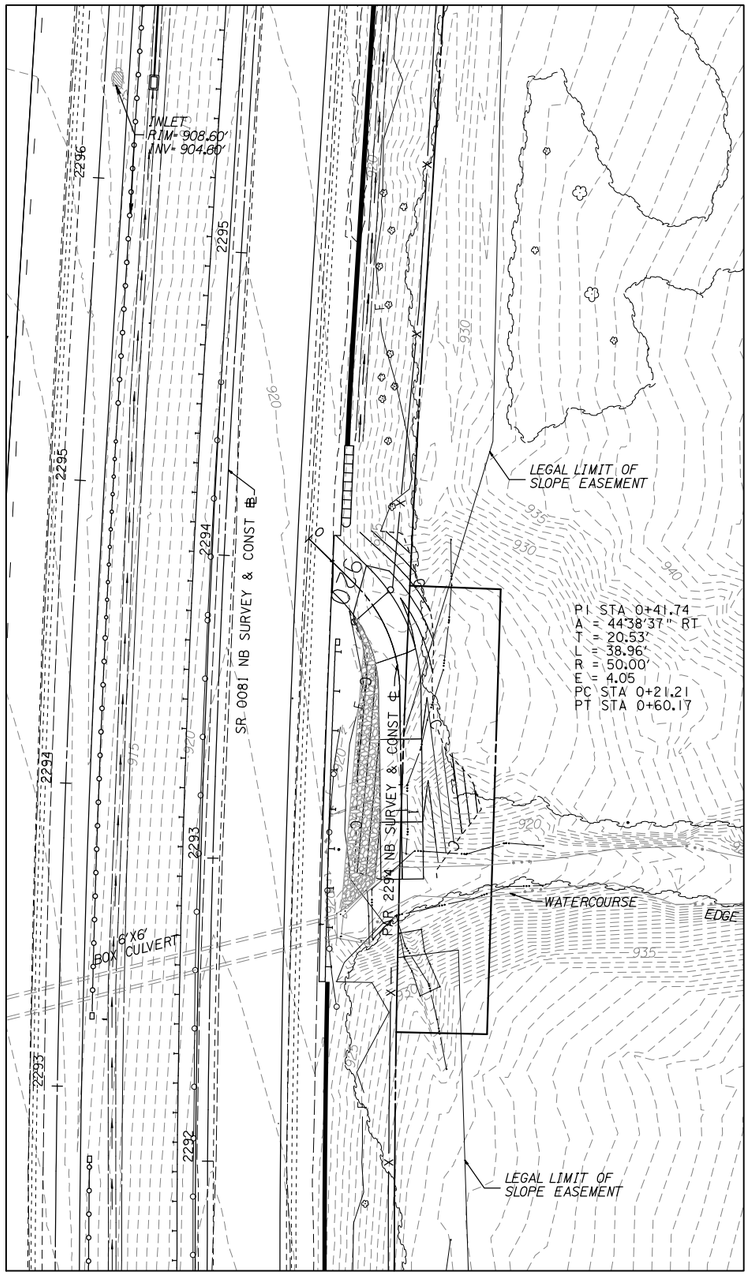


SCALE

0 5 10 FEET

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	60 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY



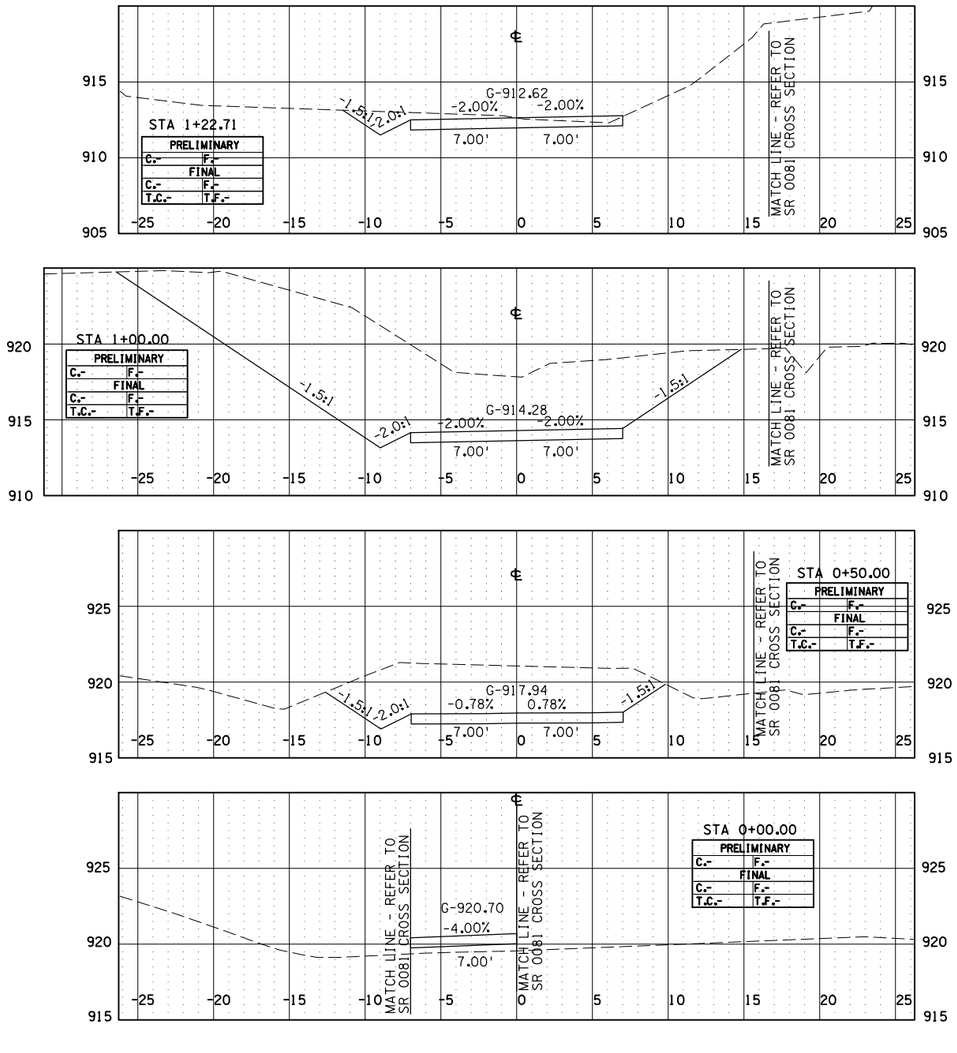
SCALE

0 25 50 FEET

NOTE: FOUR DECIMAL PLACE COORDINATES ARE USE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO PLACES.

RTE.	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
PAR 2294 NB	0+00.00	BEGIN STA	658483.9160	2515854.0890	S 36° 58' 37" E
	0+21.21	PC STA	658466.9686	2515866.8491	
	0+41.74	PI STA	658450.5686	2515879.1971	S 7° 40' 00" W
	0+60.17	PT STA	658430.2233	2515876.4583	
	1+22.71	END STA	658368.2434	2515868.1150	

PAR 2294 NB
CROSS SECTIONS



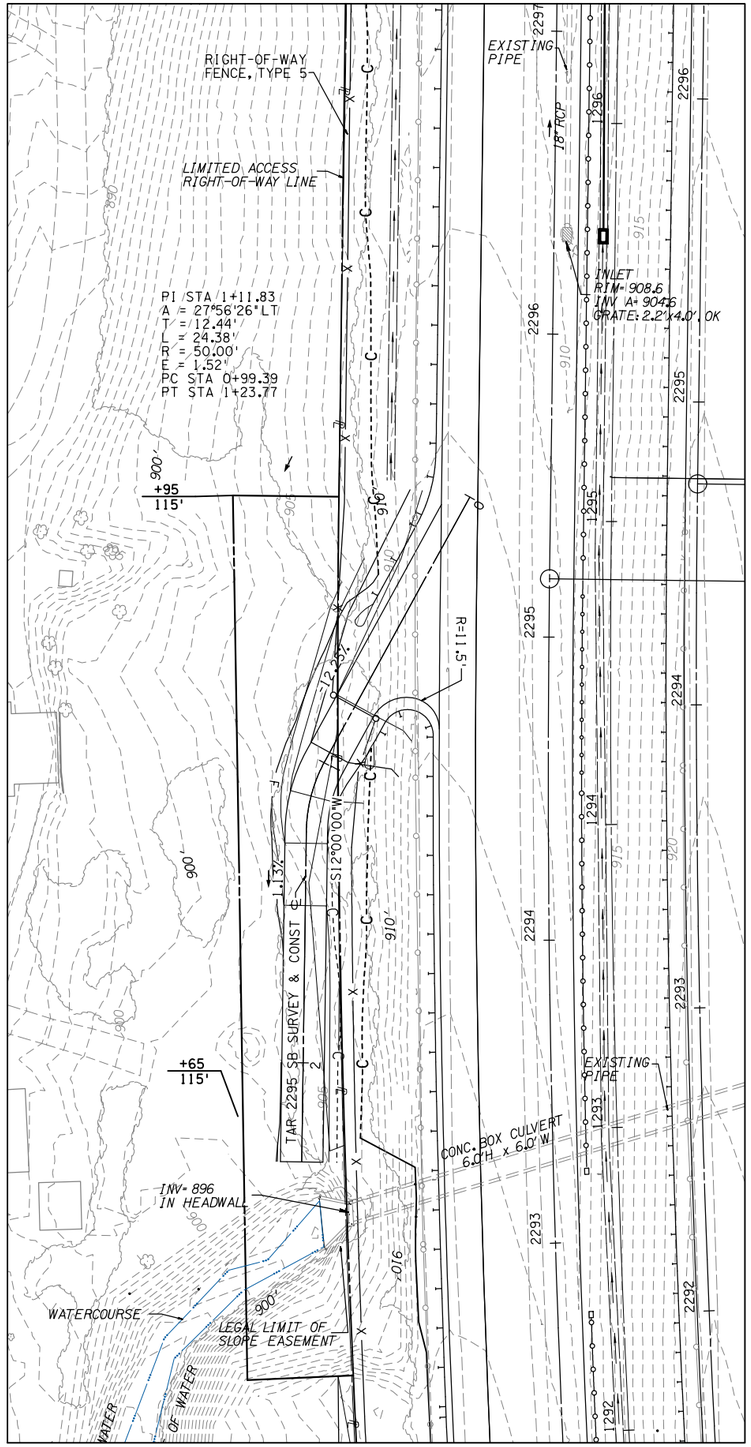
SCALE

0 5 10 FEET

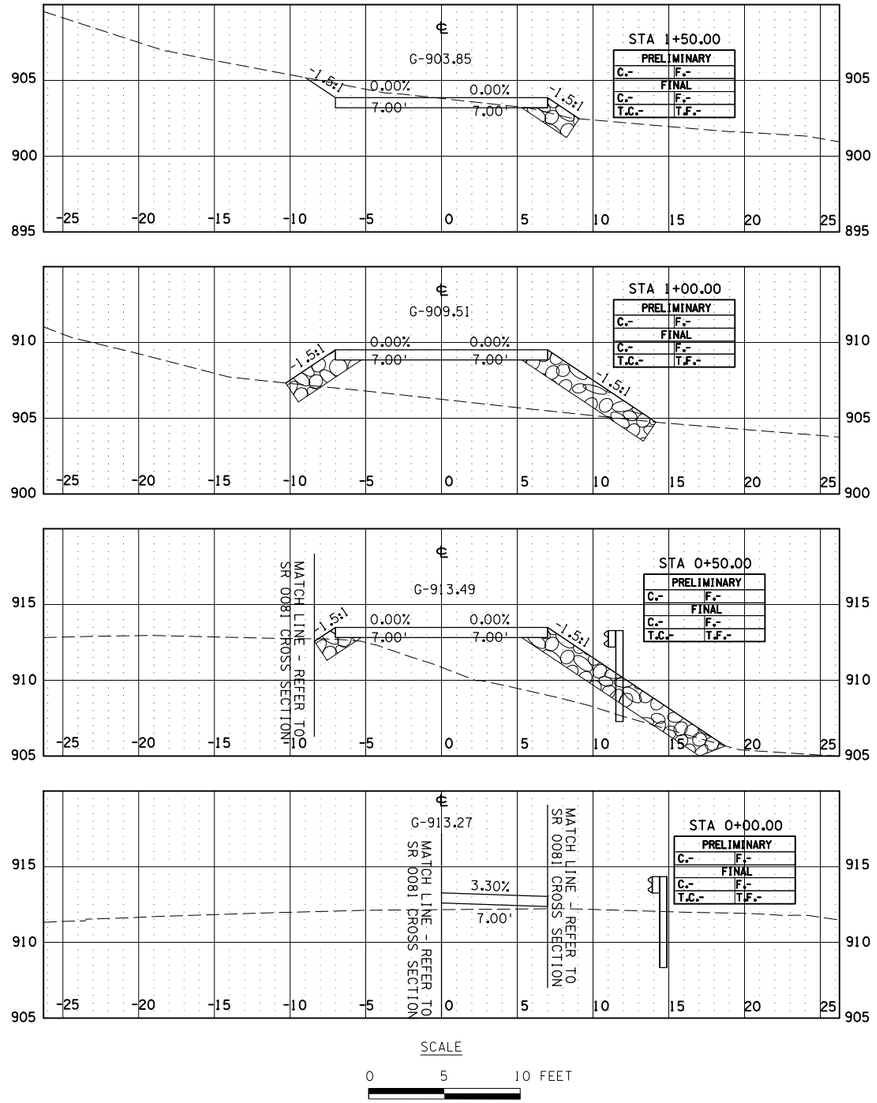
PERMANENT ACCESS ROADS
SHEET 14 OF 14

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	61 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



PAR 2295 SB
CROSS SECTIONS



SCALE
0 5 10 FEET

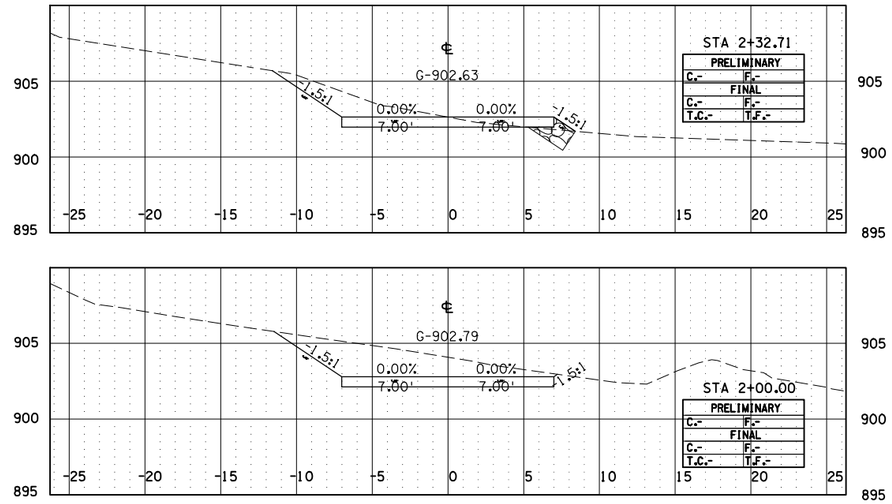
RTE.	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
PAR 2295 SB	0+00.00	BEGIN STA	658564.4122	2515765.5958	S 39° 56' 26" W
	0+99.39	PC	658488.2077	2515701.7874	
	1+11.83	PI	658478.6707	2515693.8018	
	1+23.77	PT	658466.5037	2515691.2156	S 11° 60' 00" W
	2+32+71	END STA	658359.9453	2515668.5659	

NOTE: FOUR DECIMAL PLACE COORDINATES ARE USE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO PLACES.

PERMANENT ACCESS ROADS
SHEET 15 OF 16

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	62 OF 247
GREAT BEND TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY

PAR 2295 SB
CROSS SECTIONS CONTINUED



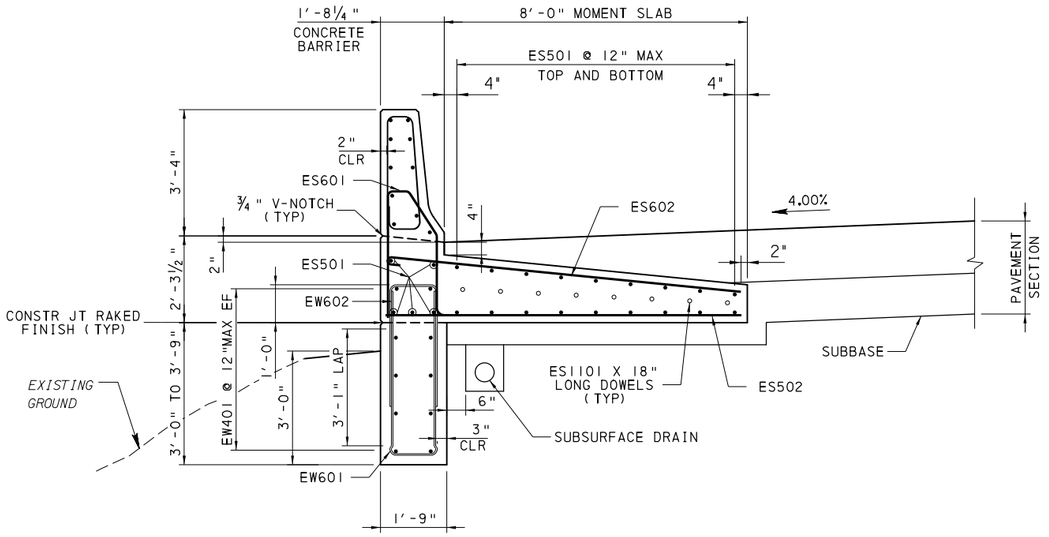
SCALE

0 5 10 FEET

PERMANENT ACCESS ROADS
SHEET 16 OF 16

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	63 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

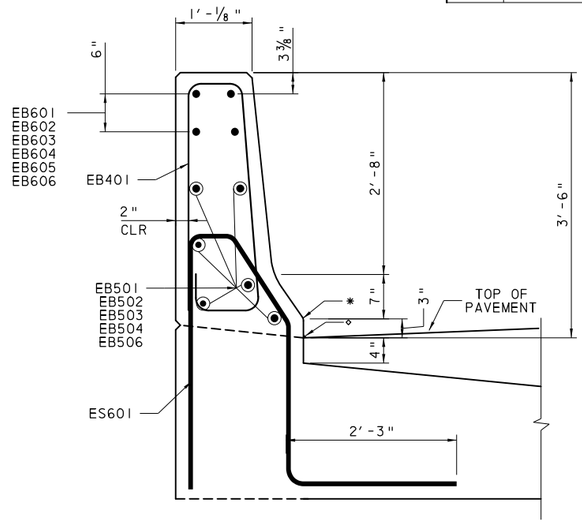
REVISION NUMBER	REVISIONS	DATE	BY



SOUTHBOUND OUTSIDE - MOMENT SLAB (BURIED) WITH TOE WALL AND BARRIER

SCALE

0 2 4 FEET



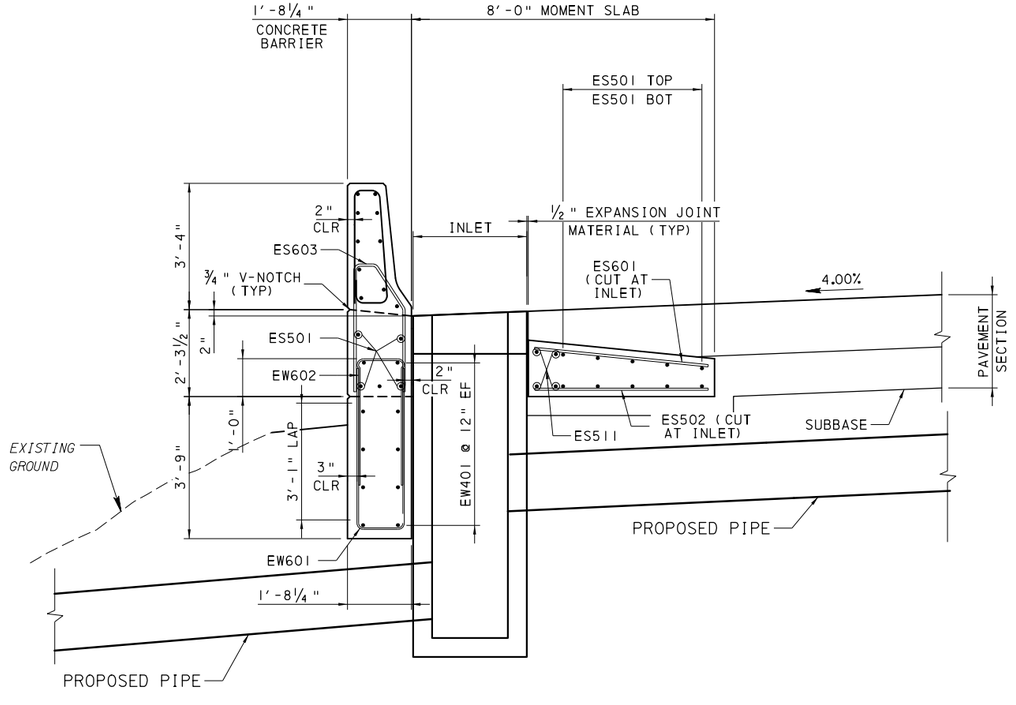
TYPICAL BARRIER

SCALE

0 1 2 FEET

◇ ASPHALT RUBBER SEALING COMPOUND

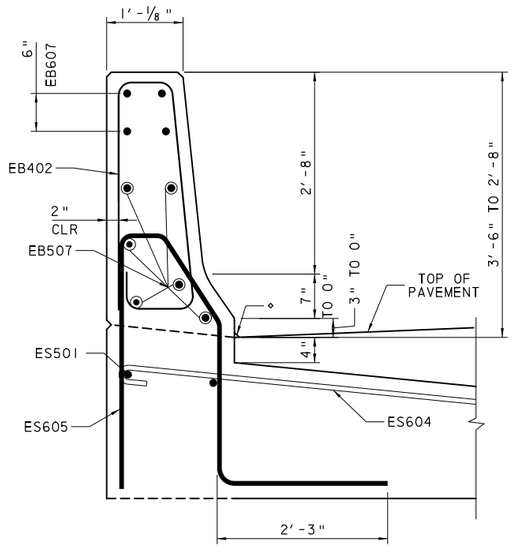
✱ R = 1″



TYPICAL INLET IN MOMENT SLAB

SCALE

0 2 4 FEET



BARRIER TRANSITION

SCALE

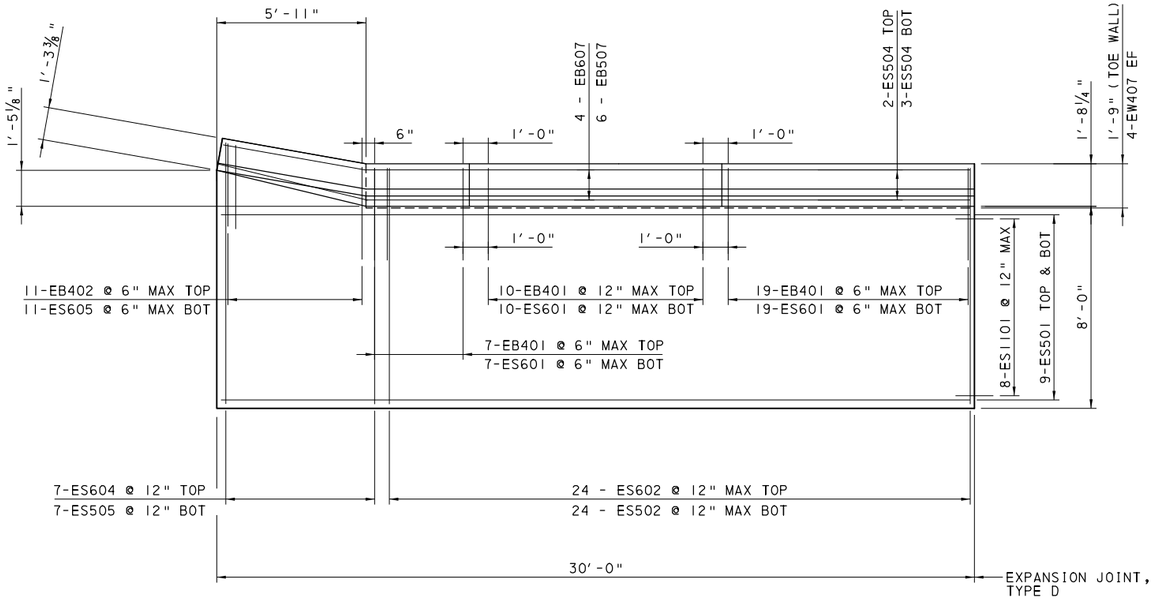
0 1 2 FEET

MOMENT SLAB WITH BARRIER SPECIAL DETAILS - 1 OF 7

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\74030A_255800.dgn
11/18/2021 AT 9:57:01 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	64 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY



TYPICAL BARRIER TRANSITION SLAB PLAN

SB STA 2126+22.76 TO STA 2126+52.76

SCALE

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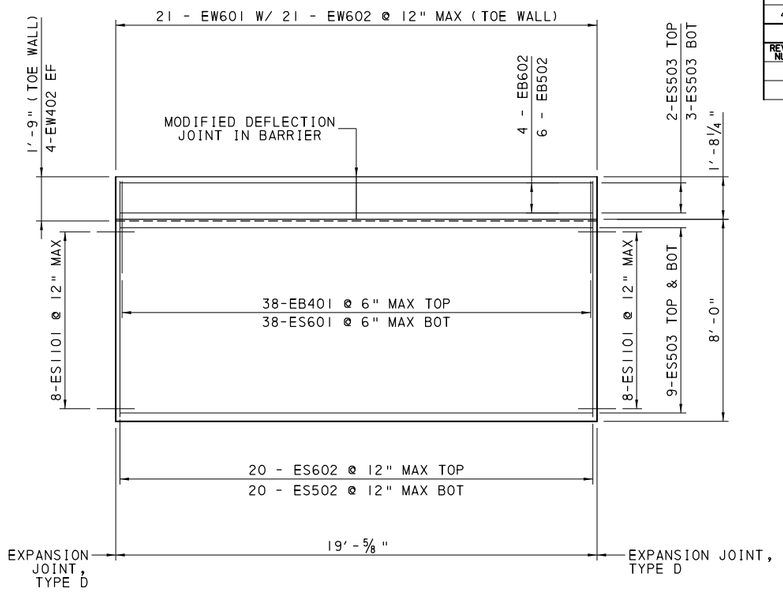
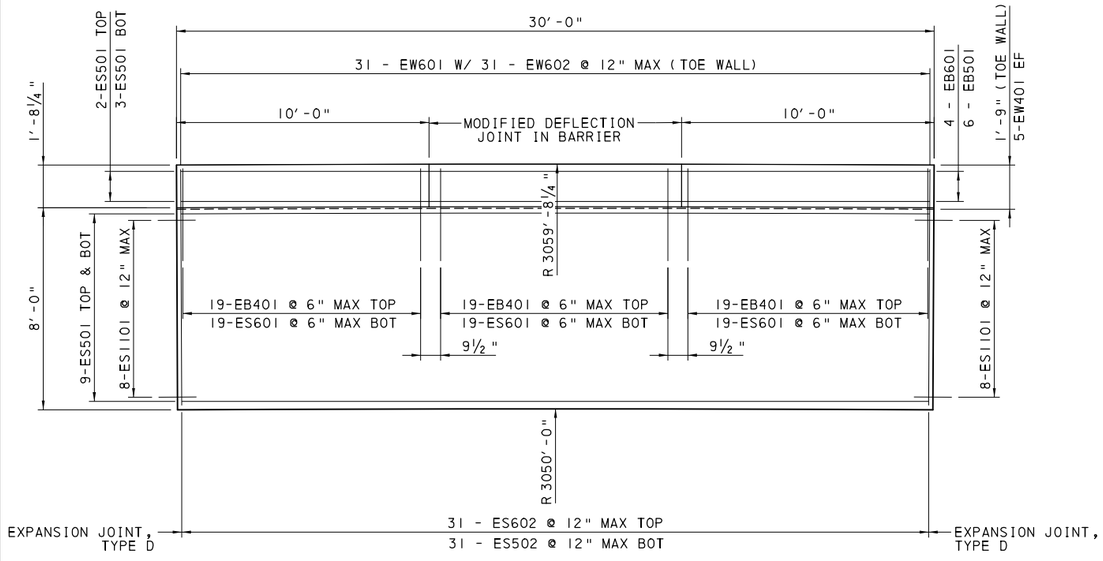


NON-TYPICAL PLAN - 1

SB STA 2126+52.76 TO STA 2126+71.82

SCALE

0 3 6 FEET

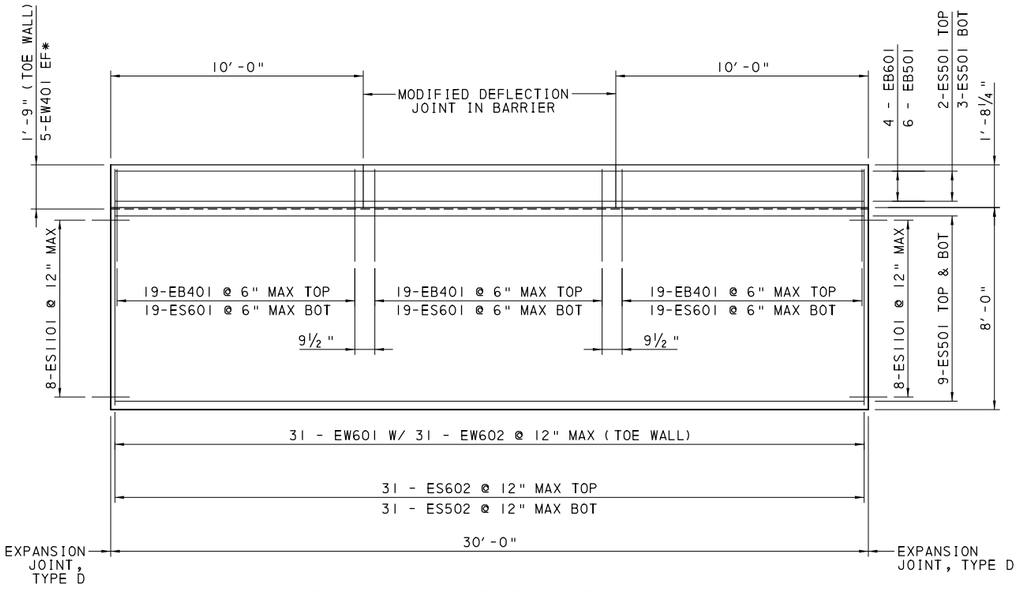


TYPICAL MOMENT SLAB ALONG HORIZONTAL ALIGNMENT PLAN

SB STA 2126+71.82 TO STA 2136+68.60

SCALE

0 3 6 FEET



* 4-EW401 EF (STA 2139+32.70 TO STA 2141+42.60)

TYPICAL MOMENT SLAB PLAN

SB STA 2136+68.60 TO STA 2141+42.60

SCALE

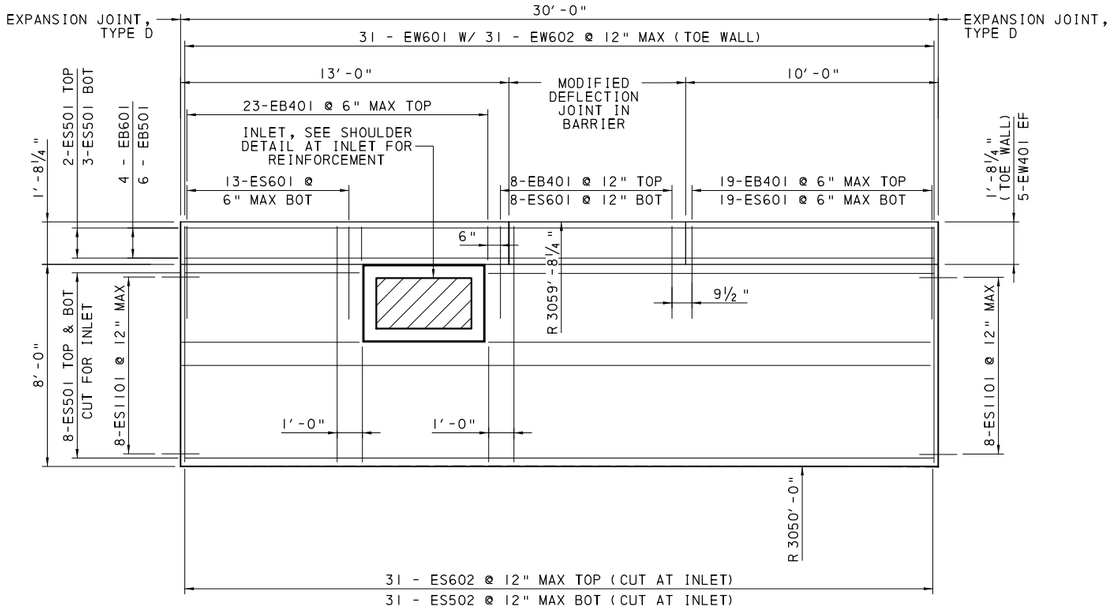
0 3 6 FEET

MOMENT SLAB WITH BARRIER SPECIAL DETAILS - 2 OF 7

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T4031A_255800.dgn
11/18/2021 AT 9:57:04 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	65 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

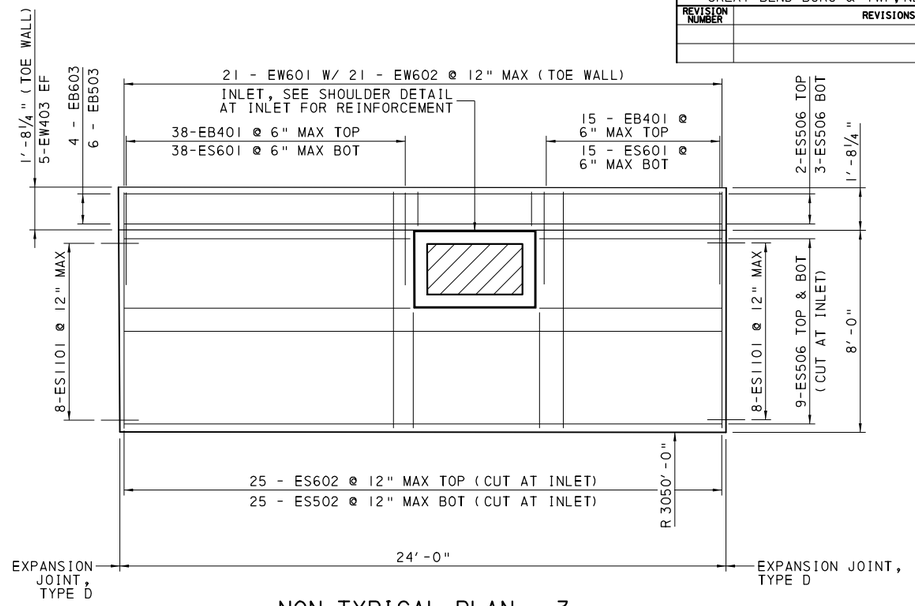


NON-TYPICAL PLAN - 2

SB STA 2134+30.54 TO STA 2134+60.54

SCALE

0 3 6 FEET

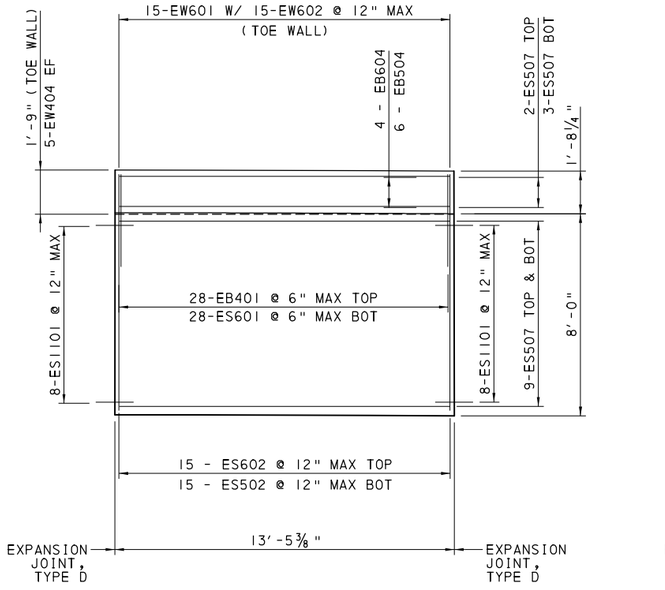


NON-TYPICAL PLAN - 3

SB STA 2137+73.60 TO STA 2137+97.60

SCALE

0 3 6 FEET

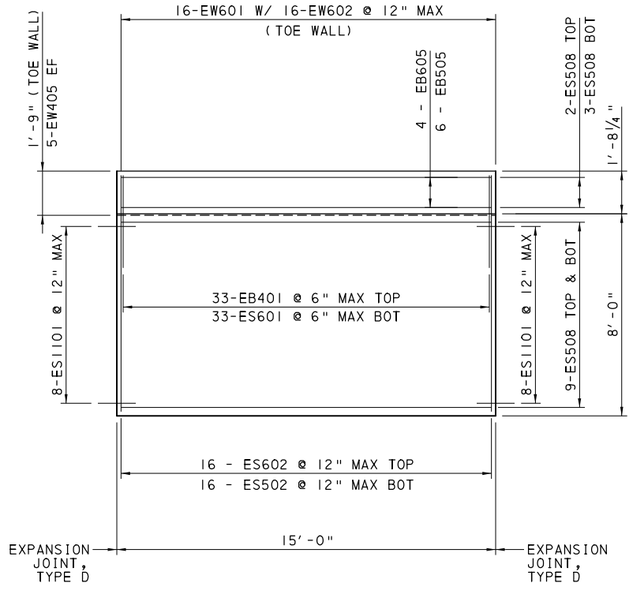


NON-TYPICAL PLAN - 4

SB STA 2130+90.57 TO STA 2131+04.01
SB STA 2137+58.60 TO STA 2137+73.60
SB STA 2137+97.60 TO STA 2138+12.60

SCALE

0 3 6 FEET

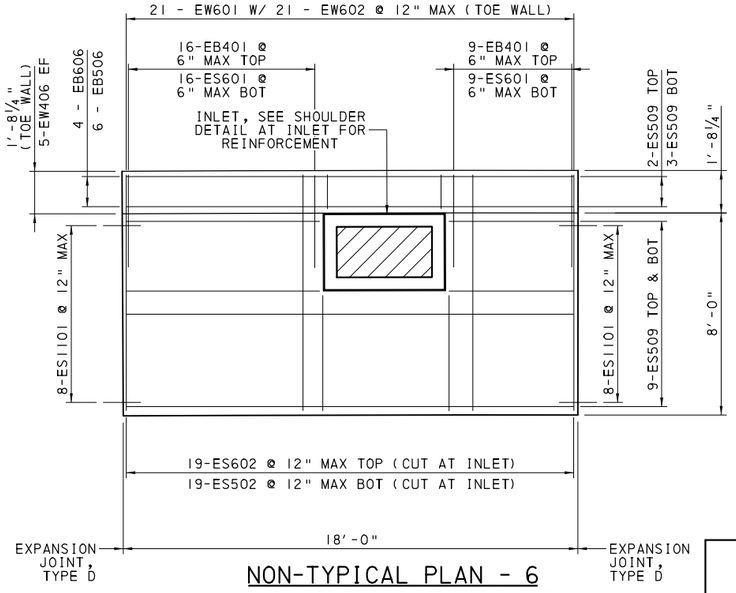


NON-TYPICAL PLAN - 5

SB STA 2130+58.06 TO STA 2130+73.06

SCALE

0 3 6 FEET



NON-TYPICAL PLAN - 6

SB STA 2130+73.06 TO STA 2130+90.57

SCALE

0 3 6 FEET

MOMENT SLAB WITH BARRIER SPECIAL DETAILS - 3 OF 7

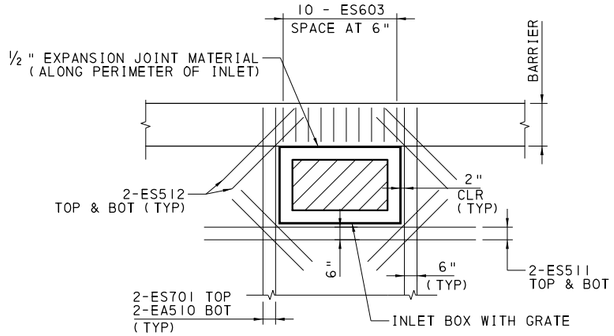
P:\2009\258\00\DWGS\TRANS\PLAN SHEETS\Construction\T4032A_255800.dgn
11/18/2021 AT 9:57:05 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	66 OF 247
GREAT BEND BORO & TWP, NEW MILFORD BORO & TWP				

REVISION NUMBER	REVISIONS	DATE	BY

BARRIER MOMENT SLAB WITH TOE WALL - REINFORCEMENT BAR SCHEDULE

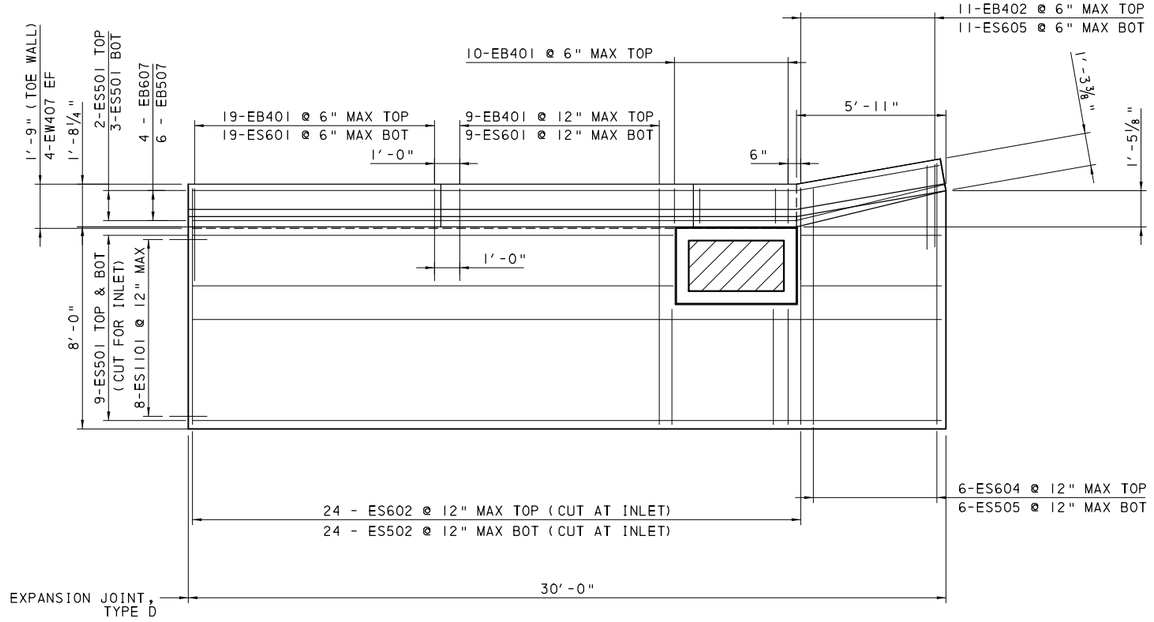
MARK	SIZE	NUMBER	LENGTH	TYPE	A	B	C	D	E	REMARKS
ES501	5	1094	29'-8"	STR						CUT FOR INLET AS NEEDED
ES502	5	1474	9'-4"	STR						CUT FOR INLET AS NEEDED
ES503	5	3	18'-8"	STR						
ES504	5	6	18'-8"	11						
ES505	5	14	9'-4" TO 12'-0"	STR						
ES506	5	23	23'-8"	STR						CUT FOR INLET AS NEEDED
ES507	5	23	13'-1"	STR						
ES508	5	23	14'-8"	STR						
ES509	5	23	17'-8"	STR						
ES510	5	16	9'-4"	STR						
ES511	5	8	10'-9"	STR						
ES512	5	32	4'-0"	STR						
ES601	6	2969	9'-6 3/4"	35	3'-2 1/2"	3"	4"	2"	1'-1 3/8"	F=4 3/8"; G=2'-0 1/4"; H=8 5/8"; K=1'-11"; R=2"
ES602	6	1474	10'-0"	16	8"	9'-4"				CUT FOR INLET AS NEEDED
ES603	6	40	7'-2 1/8"	36	3'-2 1/2"	3"	4"	2"	1'-1 3/8"	F=1'-11"; H=8 5/8"; R=2"
ES604	6	12	10'-0" TO 12'-8"	16	8"	9'-4" TO 12'-0"				2 SETS OF 6; VARIES 5 3/8" EACH
ES605	6	22	9'-4 7/8"	35	3'-2 1/2"	3"	4"	2 5/8"	1'-1 3/8"	F=4 3/8"; G=2'-0 1/4"; H=3 1/4"; K=1'-10 3/4"; R=2"
EB401	4	3009	8'-0 1/8"	28	2'-9 1/2"	4"	3 3/8"	3 5/8"	2'-7 3/4"	F=4 1/8"; G=6 3/4"; H=5"; K=3 3/8"; R=2"
EB402	4	22	6'-1 5/8" TO 8'-0 1/8"	26	2'-0" TO 2'-9 1/2"	4"	3 3/8"	3 5/8"	1'-9" TO 2'-7 3/4"	F=4 1/8"; G=6 3/4"; H=5"; K=3 3/8"; R=2"; 2 SETS OF 11; VARY A & E EACH BY 3/4"
EB501	5	276	29'-8"	STR						
EB502	5	6	18'-8"	STR						
EB503	5	6	23'-8"	STR						
EB504	5	6	13'-1"	STR						
EB505	5	6	14'-8"	STR						
EB506	5	6	17'-8"	STR						
EB507	5	6	29'-7"	11	23'-11"	5'-8"	1'-0"			
EB601	6	184	29'-8"	STR						
EB602	6	4	18'-8"	STR						
EB603	6	4	23'-8"	STR						
EB604	6	4	13'-1"	STR						
EB605	6	4	14'-8"	STR						
EB606	6	4	17'-8"	STR						
EB607	6	8	29'-7"	30	23'-11"	5'-8"	1'-0"	7"		
EW401	4	195	29'-8"	STR						
EW402	4	4	18'-8"	STR						
EW403	4	5	23'-8"	STR						
EW404	4	5	13'-1"	STR						
EW405	4	5	14'-8"	STR						
EW406	4	5	17'-8"	STR						
EW407	4	8	23'-9"	STR						
EW601	6	1474	9'-7"	4	4'-3"	1'-3"	4'-3"			
EW602	6	1474	7'-7"	4	3'-2"	1'-3"	3'-2"			



SHOULDER DETAIL AT INLET

SCALE

0 3 6 FEET

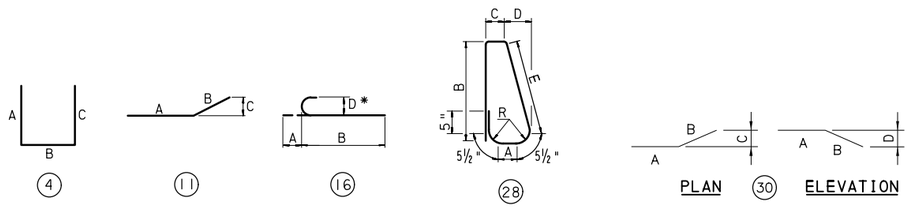


NON-TYPICAL MOMENT SLAB - 7

SB STA 2141+42.60 TO STA 2141+72.60

SCALE

0 3 6 FEET



MOMENT SLAB WITH BARRIER SPECIAL DETAILS - 4 OF 7

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T4033A_255800.dgn
11/18/2021 AT 9:57:05 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511 R/W	67 OF 247
NEW MILFORD TOWNSHIP & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

DESIGN SPECIFICATIONS:

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SEVENTH EDITION, 2014, AND AS SUPPLEMENTED BY DESIGN MANUAL, PART 4, APRIL 2015 (INCLUDING LATEST REVISION).

GENERAL NOTES:

PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS, PUBLICATION 408/2020, AASHTO/AWS D1.5M/D1.5 2008 BRIDGE WELDING CODE, USE AASHTO/AWS D1.1/D1.1M:2008 FOR WELDING NOT COVERED IN AASHTO/AWS D1.5M/D1.5: 2008 AND CONTRACT SPECIAL PROVISIONS.

ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.

DIMENSIONS SHOWN FOR NORMAL TEMPERATURE OF 68°F.

STATIONS AND ELEVATIONS ARE GIVEN IN FEET UNLESS OTHERWISE NOTED.

CONSTRUCTION DETAILS OTHER THAN THOSE SHOWN SHALL CONFORM TO THE STANDARD DRAWINGS.

CONCRETE:

A HIGHER CLASS CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST TO THE DEPARTMENT, IF APPROVED BY THE DISTRICT BRIDGE ENGINEER.

USE CLASS AA CEMENT CONCRETE IN MOMENT SLAB, BARRIER AND TOE WALLS.

RAKE-FINISH ALL HORIZONTAL CONSTRUCTION JOINTS, EXCEPT AS NOTED.

CHAMFER EXPOSED CONCRETE EDGES 1 INCH BY 1 INCH, EXCEPT AS NOTED.

PROVIDE 2" CONCRETE COVER ON REINFORCEMENT BARS, EXCEPT AS NOTED.

REINFORCEMENT

PROVIDE GRADE 60 REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF ASTM A615/A 615M, A 996/A 996M, OR A 706/A 706M. 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 CHIEF BRIDGE ENGINEER. DO NOT USE RAIL STEEL A 996/A 996M REINFORCEMENT BARS IN BARRIERS OR WHERE BENDING OR WELDING OF THE REINFORCEMENT BARS IS INDICATED.

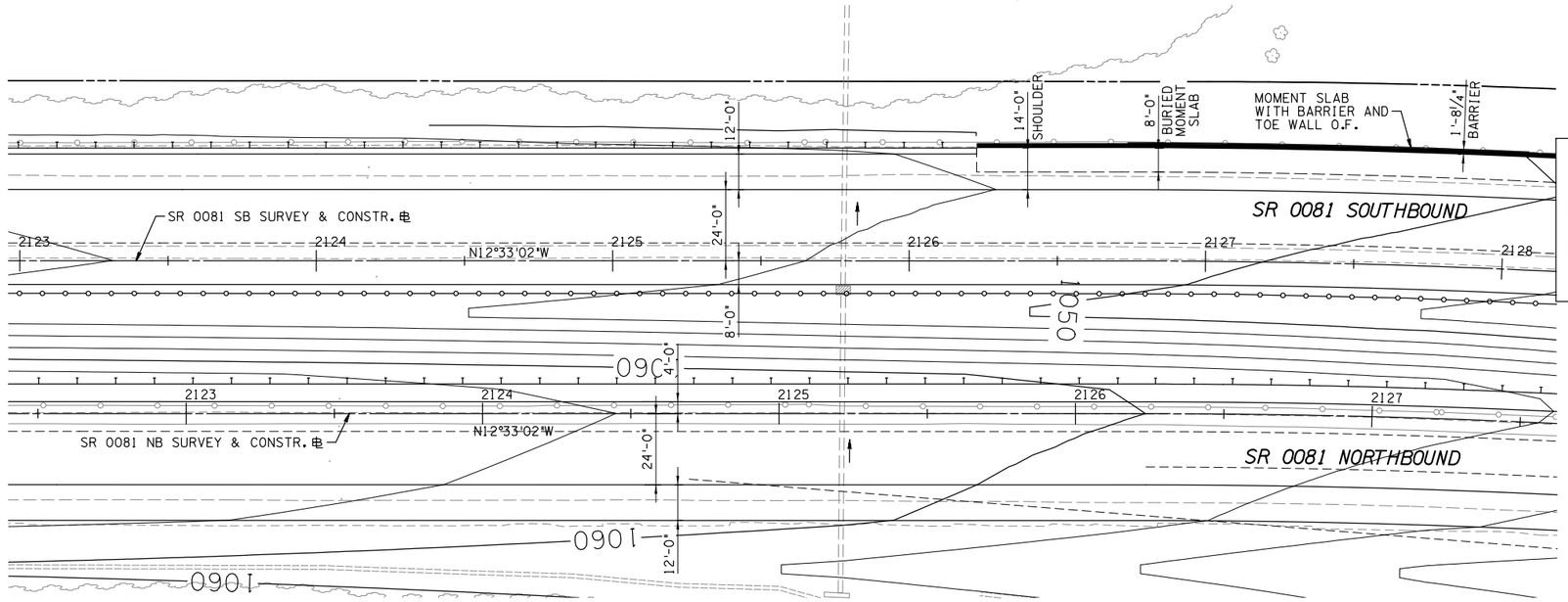
EPOXY COAT ALL REINFORCEMENT BARS.

WELDING OF REINFORCEMENT BARS DURING FABRICATION OR CONSTRUCTION IS NOT PERMITTED UNLESS SPECIFIED.

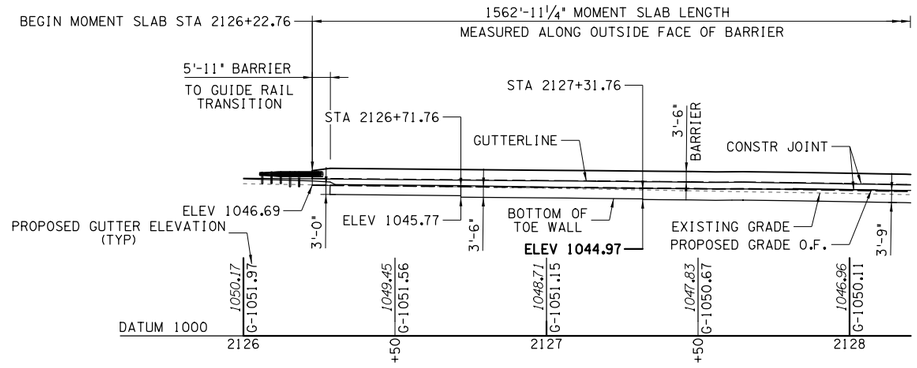
PROVIDE MINIMUM EMBEDMENT AND SPLICE LENGTHS IN ACCORDANCE WITH STANDARD DRAWING BC-736M, UNLESS OTHERWISE INDICATED.

LEGEND

- *EXISTING CONTOURS*
- FINISHED CONTOURS
- MOMENT SLAB
- ROADWAY BARRIER
- COMPACTED NO 2A COARSE AGGREGATE
- O.F. OUTSIDE FACE OF BARRIER MOMENT SLAB



PLAN VIEW

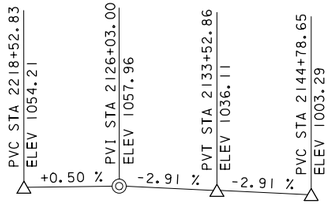


ELEVATION VIEW

HORIZONTAL CURVE DATA
S.R. 0081 SB

PI STA 2131+74.78
Δ = 18°54'40"RT
T = 502.97'
L = 996.78'
R = 3020.00'
E = 41.60'
PC STA 2126+71.82
PT STA 2136+68.60
SUPERELEVATE 6.2%

VERTICAL CURVE DATA
S.R. 0081 SB



SCALE
0 25 50 FEET

MOMENT SLAB WITH BARRIER SPECIAL DETAILS - 5 OF 7

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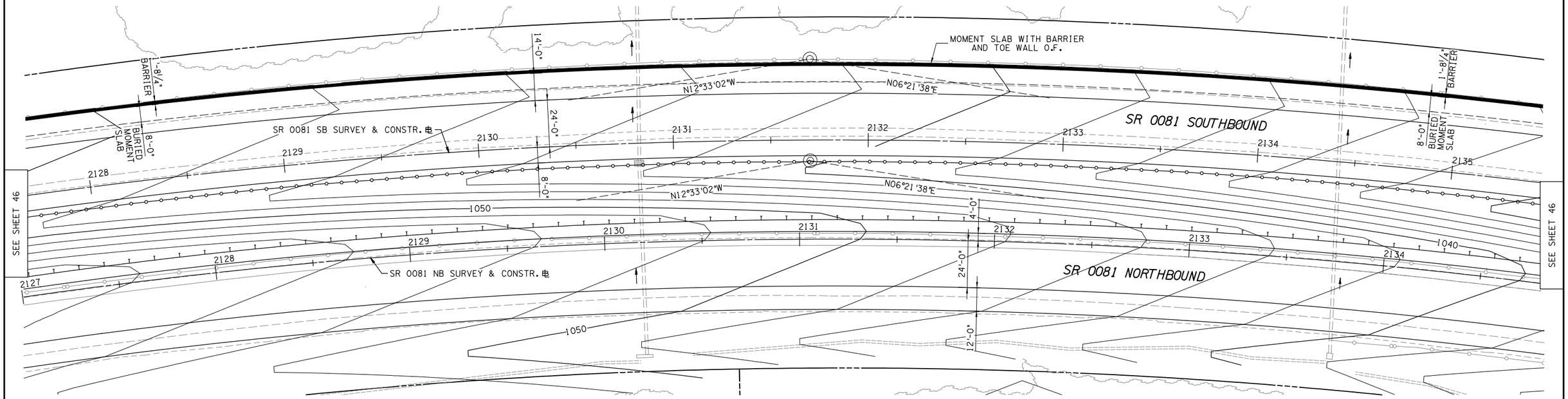
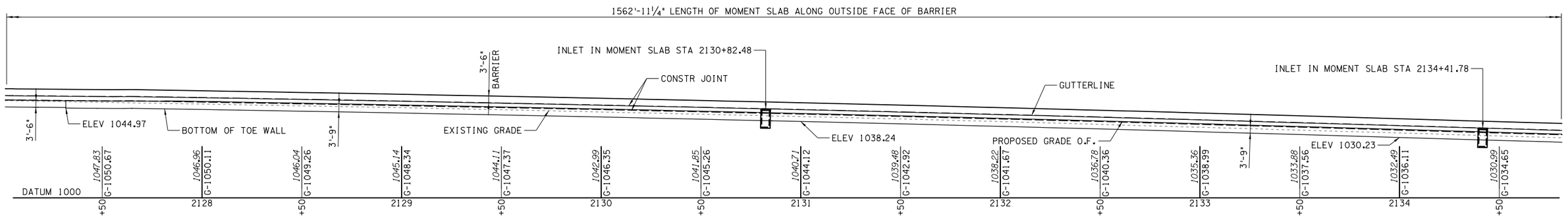
11/18/2021 AT 9:57:14 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511 R/W	68 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



PLAN VIEW



ELEVATION VIEW

SCALE

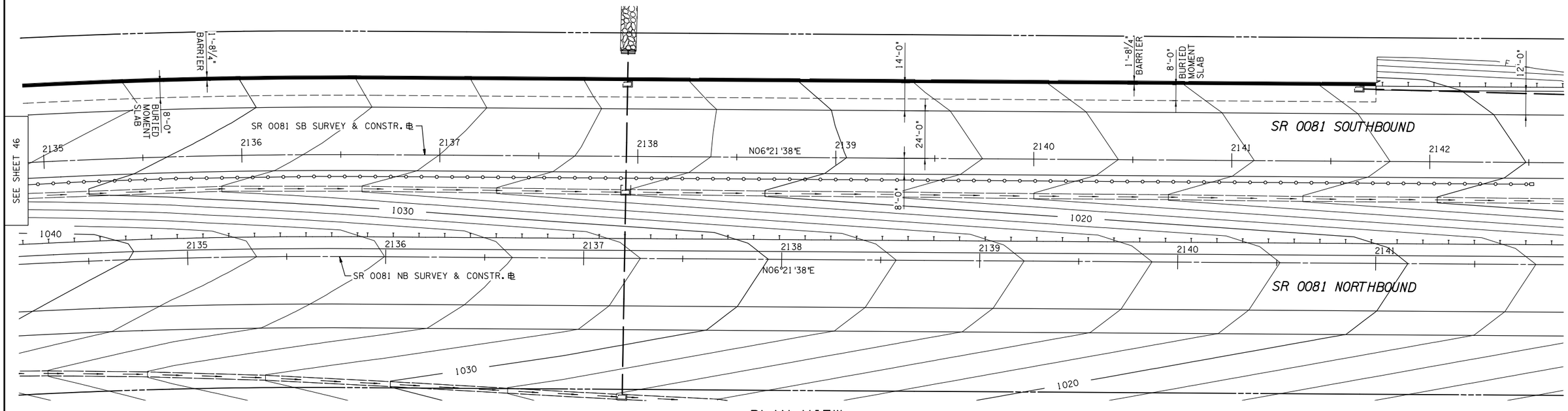
0 25 50 FEET

MOMENT SLAB WITH BARRIER
SPECIAL DETAILS - 6 OF 7

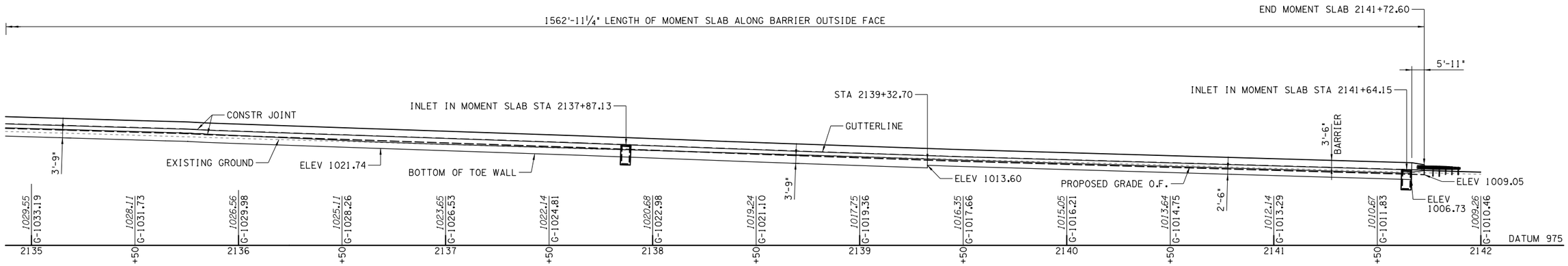
P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Y4035A_255800.dgn
11/18/2021 AT 9:57:15 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511 R/W	69 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY



PLAN VIEW



ELEVATION VIEW

SCALE

0 25 50 FEET

MOMENT SLAB WITH BARRIER SPECIAL DETAILS - 7 OF 7

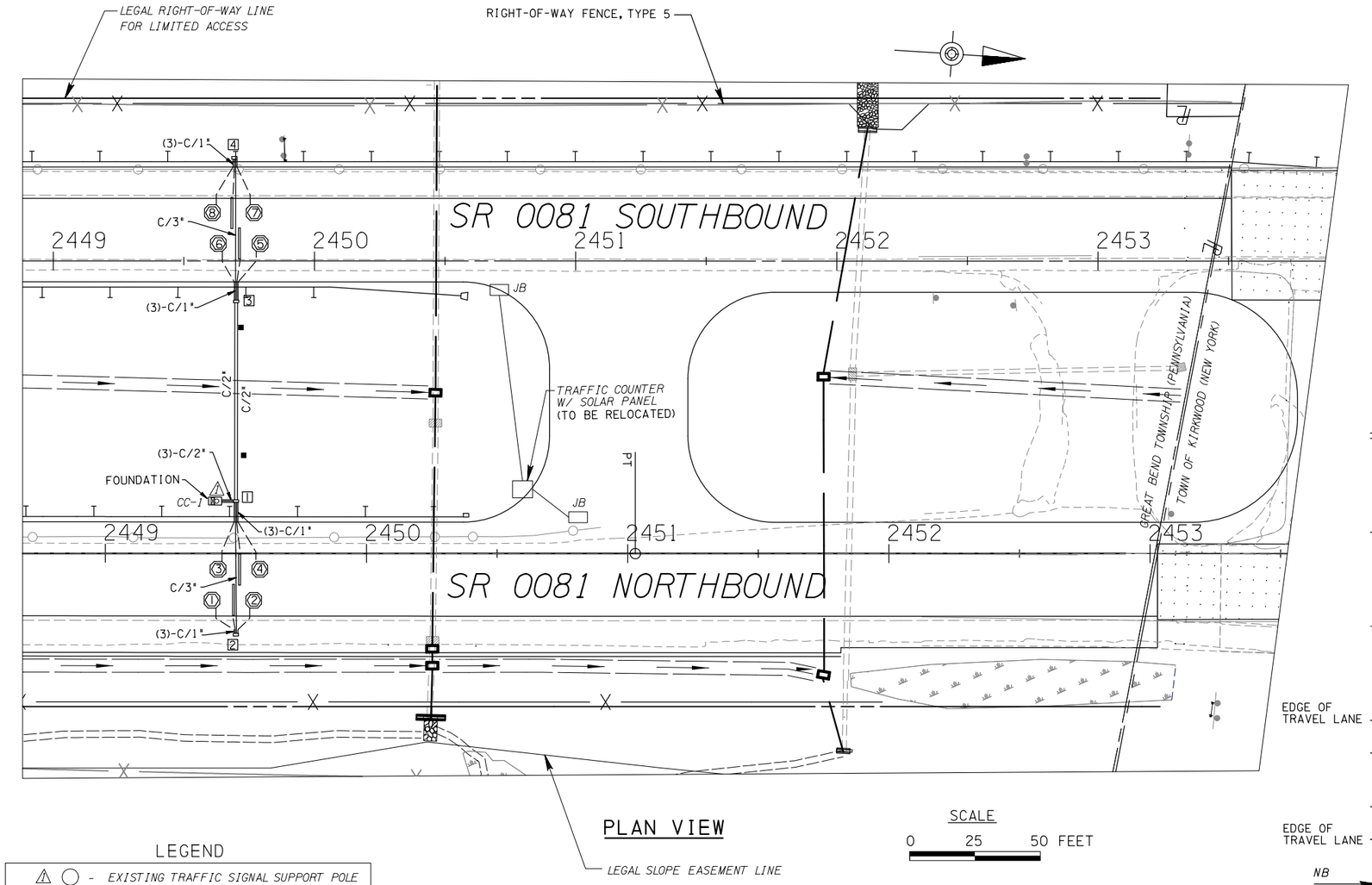
P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T4036A_255800.dgn
11/18/2021 AT 9:57:15 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	70 OF 247
GREAT BEND TOWNSHIP (PA) & TOWN OF KIRKWOOD (NY)				

REVISION NUMBER	REVISIONS	DATE	BY

NOTES:

1. PIEZO ENDS SHALL REMAIN A MINIMUM OF 6" FROM EDGES OF CENTERLINE PAINTING
2. JUNCTION BOX SHALL BE INSTALLED A MINIMUM OF 2' FROM CABINET FOUNDATION
3. OPTIMIZE PLACEMENT AND EQUIPMENT QUANTITY DEPENDING ON MEDIAN WIDTH AND ARRAY LOCATIONS
4. PIEZOS SHOULD BE CENTERED BETWEEN LOOPS WHERE POSSIBLE.

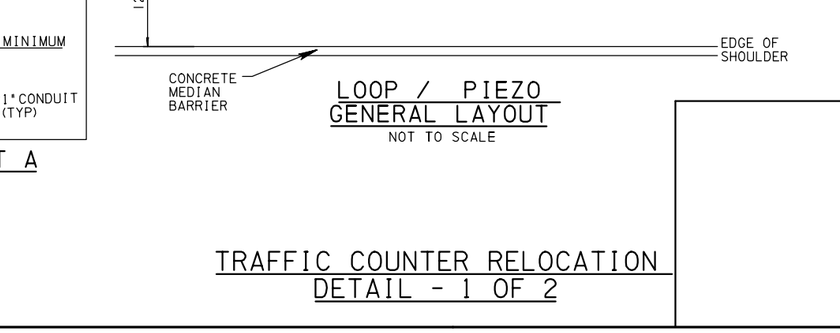


PLAN VIEW

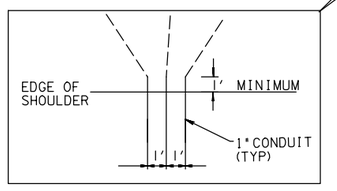
SCALE
0 25 50 FEET

LEGEND

- EXISTING TRAFFIC SIGNAL SUPPORT POLE
- CC-1 EXISTING CONTROLLER CABINET/ASSEMBLY
- C/1" CONDUIT/SIZE
- PIEZO SENSOR CLASS II
- (1) LOOP SENSOR
- CONDUIT MARKER
- (2) JUNCTION BOX



LOOP / PIEZO GENERAL LAYOUT
NOT TO SCALE



ENLARGEMENT A
NOT TO SCALE

TRAFFIC COUNTER RELOCATION
DETAIL - 1 OF 2

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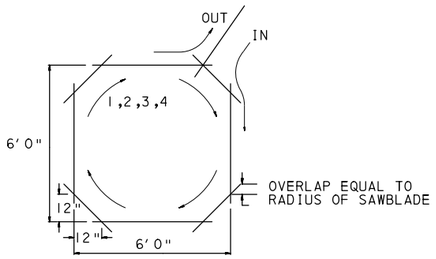
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	71 OF 247
GREAT BEND TOWNSHIP (PA) & TOWN OF KIRKWOOD (NY)				

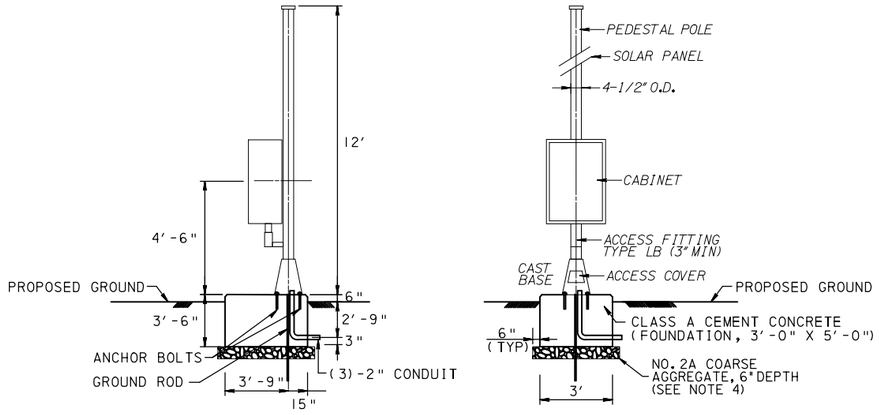
REVISION NUMBER	REVISIONS	DATE	BY



LOOP SENSOR DETAIL

NOT TO SCALE

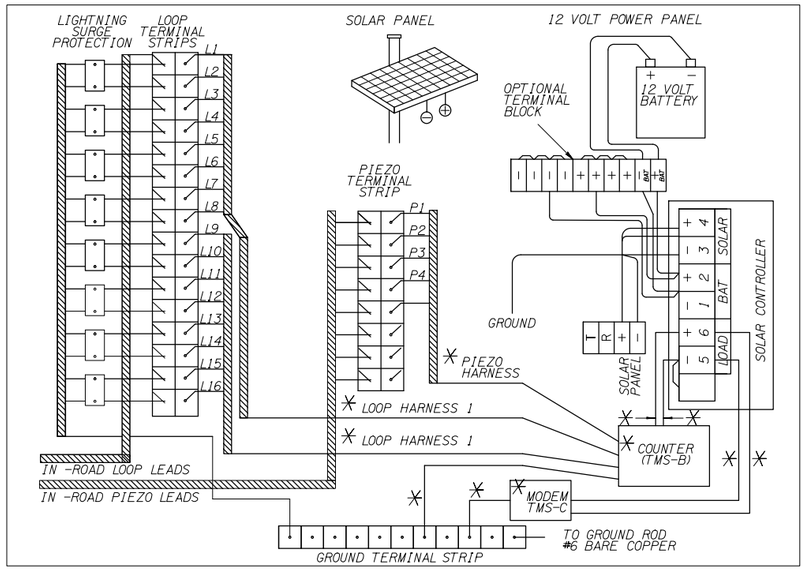
NOTES:
1. PROVIDE 4 TURNS.
2. INSTALL LOOPS IN THE CENTER OF EACH TRAFFIC LANE.



CABINET, PEDESTAL AND FOUNDATION DETAIL

NOT TO SCALE

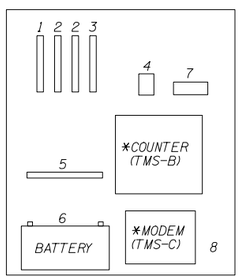
NOTES:
1. FOR FOUNDATION SUPPLEMENTAL DETAILS REFER TO TC-8801 AND TC-8804.
2. HARDWARE FOR ATTACHING CABINETS TO TRAFFIC SIGNAL SUPPORT SHALL BE GALVANIZED STEEL U-BOLTS OR STAINLESS STEEL STRAPS.
3. ORIENT CABINET TO HAVE REAR PANEL FACE ONCOMING TRAFFIC.
4. INSTALL CEMENT CONCRETE FOUNDATION ON COMPACTED BED OF NO. 2A COARSE AGGREGATE, 6" DEPTH



TERMINAL BLOCK WIRING DIAGRAM TYPICAL WIM/CAVC

NOT TO SCALE

NOTE: ✳FURNISHED BY BPR- FIELD OPERATIONS



LEGEND:
1. LIGHTING SUPPRESSION FOR LOOPS
2. LOOP TERMINAL STRIPS
3. PIEZO TERMINAL STRIP
4. POWER TERMINAL STRIP
5. GROUND TERMINAL STRIP (6" ABOVE SHELF) TO GROUND ROD #6 BARE COPPER
6. 12V BATTERY
7. SOLAR CONTROLLER
8. SHELF

CAVC CABINET LAYOUT

NOT TO SCALE

NOTES:
1. ALL COMPONENTS WILL BE MOUNTED ON A SEPARATE PANEL SCREWED TO THE BACK OF THE CABINET.

GENERAL NOTES

PROVIDE MATERIALS AND CONSTRUCT THIS PROJECT IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS; TC-8700 SERIES (PUBLICATION 111M); TC-8800 SERIES (PUBLICATION 148) WORK ZONE TRAFFIC CONTROL (PUBLICATION 213); THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD AND PUBLICATION 212); TRAFFIC ENGINEERING MANUAL (PUBLICATION 46); GOVERNING THE DESIGN, LOCATION, AND OPERATION OF ALL OFFICIAL TRAFFIC SIGNS, SIGNALS AND PAVEMENT MARKINGS ON AND ALONG ALL HIGHWAYS WITHIN THE COMMONWEALTH OF PENNSYLVANIA AND SPECIFICATIONS (PUBLICATION 408).

ALL CONTRACTOR SUPPLIED MATERIALS MUST BE DEPARTMENT APPROVED AND USED ONLY UNDER THE CONDITIONS FOR WHICH THE MATERIALS WERE APPROVED AS PER BULLETIN 15 (PUB. 35).

DETAILS FOR ANCHOR BOLTS AND JUNCTION BOXES, OTHER THAN THOSE INDICATED, ARE ON THE FOLLOWING STANDARD DRAWINGS:

TC-8801	DEC. 12, 2011
TC-8802	DEC. 12, 2011
TC-8804	DEC. 12, 2011
TC-8806	DEC. 12, 2011
RC-82M	JUN. 01, 2010

SITE DETAILS AND EXACT LOCATION IN THE FIELD TO BE DETERMINED BY THE REPRESENTATIVE IN CONJUNCTION WITH THE BUREAU OF PLANNING AND RESEARCH.

ALL WARRANTIES HAVING TO DO WITH THE CONSTRUCTION AND MATERIALS WILL BE FORWARDED TO THE BUREAU OF PLANNING AND RESEARCH.

CONTRACTOR SHALL PROVIDE A CERTIFIED VENDOR REPRESENTATIVE TO BE ON SITE TO OVERSEE AND ASSIST WITH THE INSTALLATIONS OF ALL PIEZO SENSORS.

THE LOOP, PIEZO, AND SHIELDED LEAD-IN CABLES IN EACH PULL BOX AND CABINET SHALL BE IDENTIFIED BY THE USE OF WATERPROOF TAGS. THE TAGS SHALL SHOW THE LOOP NUMBER OR AXLE SENSOR NUMBER THE CABLE IS ATTACHED TO. A NUMBERING KEY SHALL BE FURNISHED AND LEFT IN THE CABINET BY THE CONTRACTOR.

JB-12 JUNCTION BOXES MUST BE USED IN SHOULDERS OR OTHER LOCATIONS SUBJECT TO VEHICULAR LOADS. JB-27 JUNCTION BOXES MUST BE USED IN AREAS NOT SUBJECT TO VEHICULAR TRAFFIC (BEHIND GUIDE RAILS ONLY).

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
GEOFFREY W. GRIBBLE
ENGINEER NO. PE073596

TRAFFIC COUNTER RELOCATION DETAIL - 2 OF 2

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TCP-TRAFFIC CONTROL PLAN
S&PMP-SIGNING AND PAVEMENT MARKING PLAN
WMRP-WETLAND MITIGATION PLAN
♦ - SEE SPECIAL PROVISIONS

SUMMARY

TSP-TEMPORARY TRAFFIC SIGNAL PLAN
S1-STRUCTURE PLAN S-40117
S2-STRUCTURE PLAN S-37509
S3-STRUCTURE PLAN S-40116
S4-STRUCTURE PLAN S-40118
S5-STRUCTURE PLAN S-37616

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	72 OF 247

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
	0201 0001 / LS	CLEARING AND GRUBBING		3
2	0203 0001 / CY	CLASS 1 EXCAVATION		TTSP, TCP , S1, 19,
	0203 0006 / LF	SAW CUTTING		TCP , 70-71 ,
	0204 0001 / CY	CLASS 2 EXCAVATION		9, 19, PCSM
	0204 0150 / CY	CLASS 4 EXCAVATION		6
	0205 0263 / CY	SELECTED BORROW EXCAVATION ROCK, CLASS R-3		19
	0212 0001 / LF	GEOTEXTILE, CLASS 1		6, 19
10565	0212 0014 / SY	GEOTEXTILE, CLASS 4, TYPE A		19, PCSM, 70-71, 76-91
	0220 0020 / CY	FLOWABLE BACKFILL, TYPE C		9
	0313 0320 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, < 0.3 MILLION ESALS, 25.0 MM MIX, 3" DEPTH		70-71
	0313 0322 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, < 0.3 MILLION ESALS, 25.0 MM MIX, 4" DEPTH		70-71
1056	0313 0404 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 37.5 MM MIX, 6" DEPTH		70-71, 76-91
	0313 0421 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 3 1/2" DEPTH		70-71
1051	0313 0426 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 6" DEPTH		70-71, 76-91
207	0313 0431 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 8 1/2" DEPTH		76-91
4545	0313 0437 / TON	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX		76-91
	0313 0602 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 10 TO < 30 MILLION ESALS, 37.5 MM MIX, 5" DEPTH		TCP
	0313 0608 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 10 TO < 30 MILLION ESALS, 37.5 MM MIX, 8" DEPTH		TCP
	0313 0615 / TON	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 10 TO < 30 MILLION ESALS, 37.5 MM MIX		TCP
	0313 0707 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, >/= 30 MILLION ESALS, 37.5 MM MIX, 7 1/2" DEPTH		TCP
66	0350 0106 / SY	SUBBASE 6" DEPTH (NO. 2A)		TCP , 70-71, 76-91
1549	0350 0108 / SY	SUBBASE 8" DEPTH (NO. 2A)		TCP , 70-71, 76-91
	0350 0110 / SY	SUBBASE 10" DEPTH (NO. 2A)		TCP
3448	0350 0120 / CY	SUBBASE (NO. 2A)		TCP , 70-71, 76-91
	0404 0010 / DOLLA	ASPHALT PAVEMENT RIDE QUALITY INCENTIVE, SCHEDULE A		3
9	0413 0194 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, < 0.3 MILLION ESALS, 9.5 MM MIX, 1 1/2" DEPTH, SRL-M		70-71
1	0413 0200 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, < 0.3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-L		70-71
1	0413 0249 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-E		70-71, 76-91
	0413 0250 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-H		70-71
	0413 0303 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 3 TO < 10 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-H		70-71
	0413 0482 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64E-22, >/= 30 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-E		TCP , 70-71
138	0413 2086 / TON	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE (LEVELING), PG 64S-22, 3 TO < 10 MILLION ESALS, 9.5 MM MIX, SRL-H		70-71
	0413 6035 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, < 0.3 MILLION ESALS, 19.0 MM MIX, 2 1/2" DEPTH		70-71
2	0413 6047 / TON	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX		76-91
1051	0413 6048 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH		70-71, 76-91
	0413 6058 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 3 TO < 10 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH		70-71
	0413 7007 / TON	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE (LEVELING), PG 64S-22, < 0.3 MILLION ESALS, 19.0 MM MIX		70-71
213	0413 7011 / TON	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE (LEVELING), PG 64S-22, 3 TO < 10 MILLION ESALS, 19.0 MM MIX		70-71
	0413 8087 / SY	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, RPS, PG 64E-22, >/= 30 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH		70-71
- - -	0419 0000 / PDA	DEMONSTRATION PLACEMENT		3
	0419 0010 / TON	STONE MATRIX ASPHALT MIXTURE DESIGN, WEARING COURSE, RPS PG 64E-22, LTS ACCEPTANCE 9.5 MM MIX, SRL-E		70-71
9	0460 0001 / SY	ASPHALT TACK COAT		TCP , 70-71, 76-91
	0491 0013 / SY	MILLING OF ASPHALT PAVEMENT SURFACE, 2" DEPTH, MILLED MATERIAL RETAINED BY CONTRACTOR		TCP
	0491 0019 / SY	MILLING OF ASPHALT PAVEMENT SURFACE, VARIABLE DEPTH, MILLED MATERIAL RETAINED BY CONTRACTOR		70-71
	0491 0020 / SY	MILLING OF ASPHALT PAVEMENT SURFACE, 6" DEPTH, MILLED MATERIAL RETAINED BY CONTRACTOR		TCP
	0491 0033 / SY	MILLING OF ASPHALT PAVEMENT SURFACE, 2" DEPTH, MILLED MATERIAL RETAINED BY DEPARTMENT (DELIVERED TO STOCKPILE)		TCP
	0491 0039 / SY	MILLING OF ASPHALT PAVEMENT SURFACE, VARIABLE DEPTH, MILLED MATERIAL RETAINED BY DEPARTMENT (DELIVERED TO STOCKPILE)		70-71
	0491 0040 / SY	MILLING OF ASPHALT PAVEMENT SURFACE, 6" DEPTH, MILLED MATERIAL RETAINED BY DEPARTMENT (DELIVERED TO STOCKPILE)		TCP
	0501 0020 / SY	PLAIN CEMENT CONCRETE PAVEMENT, 4" DEPTH		70-71
	0526 0001 / SY	RUBBLIZE AND SEAT CONCRETE PAVEMENT, TYPE 1		70-71
EITHER	0601 6760 / LF	14" X 23" ELLIPTICAL REINFORCED CONCRETE PIPE, TYPE B SHORE/TRENCH BOX HORIZONTAL, 10' - 7', 50 YEAR DESIGN LIFE	20	9
EITHER	0601 6761 / LF	19" X 30" ELLIPTICAL REINFORCED CONCRETE PIPE, TYPE B SHORE/TRENCH BOX HORIZONTAL, 10' - 7', 50 YEAR DESIGN LIFE	22	9
EITHER	4601 7016 / LF	18" REINFORCED CONCRETE PIPE, TYPE A, 25' - 1.5' FILL, 100 YEAR DESIGN LIFE, SHORE/TRENCH BOX ♦	11	9
EITHER	4601 7045 / LF	30" REINFORCED CONCRETE PIPE, TYPE A, 25' - 1.5' FILL, 100 YEAR DESIGN LIFE, SHORE/TRENCH BOX MODIFIED ♦	12	9
EITHER	4601 7060 / LF	36" REINFORCED CONCRETE PIPE, TYPE A, 25' - 1.5' FILL, 100 YEAR DESIGN LIFE, SHORE/TRENCH BOX ♦	13	9
EITHER	4601 7068 / LF	42" REINFORCED CONCRETE PIPE, TYPE A, 25' - 1.5' FILL, 100 YEAR DESIGN LIFE, SHORE/TRENCH BOX ♦	14	9
EITHER	4601 7075 / LF	48" REINFORCED CONCRETE PIPE, TYPE A, 25' - 1.5' FILL, 100 YEAR DESIGN LIFE, SHORE/TRENCH BOX ♦	15	9
EITHER	4601 7088 / LF	60" REINFORCED CONCRETE PIPE, TYPE A, 25' - 1.5' FILL, 100 YEAR DESIGN LIFE, SHORE/TRENCH BOX ♦	16	9
EITHER	4601 7115 / LF	84" REINFORCED CONCRETE PIPE, TYPE A, 25' - 1.5' FILL, 100 YEAR DESIGN LIFE, SHORE/TRENCH BOX ♦	18	9
EITHER	0601 7511 / LF	18" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	1	9
EITHER	0601 7517 / LF	24" REINFORCED CONCRETE PIPE, TYPE A, 7' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	2	9
EITHER	0601 7519 / LF	24" REINFORCED CONCRETE PIPE, TYPE A, 15' - 7' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	4	9
EITHER	0601 7528 / LF	30" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	6	9
EITHER	0601 7538 / LF	36" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	7	9
EITHER	0601 7542 / LF	42" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	8	9
EITHER	0601 7546 / LF	48" REINFORCED CONCRETE PIPE, TYPE A, 15' - 1.5' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	9	9
EITHER	0601 7556 / LF	60" REINFORCED CONCRETE PIPE, TYPE A, 15' - 1.5' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	10	9
EITHER	0601 7710 / LF	18" REINFORCED CONCRETE PIPE, TYPE B, 15' - 3' FILL, SHORE/TRENCH BOX	19	9
EITHER	0601 7718 / LF	24" REINFORCED CONCRETE PIPE, TYPE B, 15' - 3' FILL, SHORE/TRENCH BOX	21	9
EITHER	0601 7727 / LF	30" REINFORCED CONCRETE PIPE, TYPE B, 15' - 3' FILL, SHORE/TRENCH BOX	23	9
EITHER	0601 7737 / LF	36" REINFORCED CONCRETE PIPE, TYPE B, 15' - 3' FILL, SHORE/TRENCH BOX	24	9
	0605 1300 / EACH	CLEANING DRAINAGE STRUCTURES		9
	0605 2401 / SET	MANHOLE FRAME AND COVER		9
	0605 2640 / EACH	TYPE D ENDWALL FOR 18" PIPE		9
	4605 2640 / EACH	TYPE D ENDWALL FOR 14"X23" PIPE ♦		9
	0605 2642 / EACH	TYPE D ENDWALL FOR 24" PIPE		9
	4605 2642 / EACH	TYPE D ENDWALL FOR 19"X30" PIPE ♦		9
	0605 2644 / EACH	TYPE D ENDWALL FOR 30" PIPE		9
	0605 2646 / EACH	TYPE D ENDWALL FOR 36" PIPE		9
	4605 2646 / EACH	TYPE D ENDWALL FOR 29"X45" PIPE ♦		9
	0605 2648 / EACH	TYPE D ENDWALL FOR 42" PIPE		9
	0605 2650 / EACH	TYPE D ENDWALL FOR 48" PIPE		9
	4605 2650 / EACH	TYPE D ENDWALL FOR 38"X60" PIPE ♦		9
	0605 2652 / EACH	TYPE D-E ENDWALL FOR 18" PIPE		9
	0605 2660 / EACH	TYPE D-E ENDWALL FOR 42" PIPE		9
	0605 2676 / EACH	TYPE D-W ENDWALL FOR 36" PIPE, NO CONCRETE APRON		9
	0605 2677 / EACH	TYPE D-W ENDWALL FOR 42" PIPE, NO CONCRETE APRON		9
	0605 2678 / EACH	TYPE D-W ENDWALL FOR 48" PIPE, NO CONCRETE APRON		9
	0605 2680 / EACH	TYPE D-W ENDWALL FOR 60" PIPE, NO CONCRETE APRON		9
	0605 2681 / EACH	TYPE D-W ENDWALL FOR 72" PIPE, NO CONCRETE APRON		9
	0605 2710 / SET	TYPE C CONCRETE TOP UNIT AND GRATE		9
	0605 2730 / SET	TYPE M CONCRETE TOP UNIT AND GRATE		9
	0605 2740 / SET	TYPE S CONCRETE TOP UNIT AND GRATE		9

S6-STRUCTURE PLAN S-37507
S7-STRUCTURE PLAN S-37522
S8-STRUCTURE PLAN S-37568
S-9 STRUCTURE PLAN S-37596
S10-STRUCTURE PLAN S-40110

PROJECT ID: 3926
MPMS: 75917
ECMS: 75917
11/18/2021 9:43:59 AM

TCP-TRAFFIC CONTROL PLAN
S&PMP-SIGNING AND PAVEMENT MARKING PLAN
WMRP-WETLAND MITIGATION PLAN
♦ - SEE SPECIAL PROVISIONS

SUMMARY

TSP-TEMPORARY TRAFFIC SIGNAL PLAN
S1-STRUCTURE PLAN S-40117
S2-STRUCTURE PLAN S-37509
S3-STRUCTURE PLAN S-40116
S4-STRUCTURE PLAN S-40118
S5-STRUCTURE PLAN S-37616

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	73 OF 247

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
	0605 2750 SET	TYPE D-H CONCRETE TOP UNIT AND GRATES		9
	0605 2850 EACH	STANDARD INLET BOX, HEIGHT < /= 10'		9
	0605 2851 EACH	STANDARD INLET BOX, HEIGHT < /= 10'		9
	0605 2854 EACH	TYPE 4 INLET BOX, HEIGHT < /= 10'		9
	0605 2855 EACH	TYPE 4 INLET BOX, HEIGHT > 10' AND < /= 20'		9
	0605 2858 EACH	TYPE 5 INLET BOX, HEIGHT < /= 10'		9
	0605 2859 EACH	TYPE 5 INLET BOX, HEIGHT > 10' AND < /= 20'		9
	0605 2862 EACH	TYPE 6 INLET BOX, HEIGHT < /= 10'		9
	0605 2866 EACH	TYPE 7 INLET BOX, HEIGHT < /= 10'		9
	0605 2882 EACH	TYPE D-H INLET BOX, HEIGHT < /= 10'		9
	0605 2883 EACH	TYPE D-H INLET BOX, HEIGHT > 10' AND < /= 20'		9
	0605 3010 EACH	TYPE 4 MANHOLE, STORM WATER, HEIGHT < /=5'		9
	0605 3011 EACH	TYPE 4 MANHOLE, STORM WATER, HEIGHT >5' AND < /= 10'		9
	0605 3012 EACH	TYPE 4 MANHOLE, STORM WATER, HEIGHT >10' AND < /= 20'		9
	0605 3020 EACH	TYPE 5 MANHOLE, STORM WATER, HEIGHT < /=5'		9
	0605 3021 EACH	TYPE 5 MANHOLE, STORM WATER, HEIGHT >5' AND < /= 10'		9
	0605 3022 EACH	TYPE 5 MANHOLE, STORM WATER, HEIGHT >10' AND < /= 20'		9
	0605 3031 EACH	TYPE 6 MANHOLE, STORM WATER, HEIGHT >5' AND < /= 10'		9
	0605 3032 EACH	TYPE 6 MANHOLE, STORM WATER, HEIGHT >10' AND < /= 20'		9
	0605 3041 EACH	TYPE 7 MANHOLE, STORM WATER, HEIGHT >5' AND < /= 10'		9
	0605 3042 EACH	TYPE 7 MANHOLE, STORM WATER, HEIGHT >10' AND < /= 20'		9
	0605 3043 EACH	TYPE 7 MANHOLE, STORM WATER, HEIGHT >20' AND < /= 30'		9
	0605 3051 EACH	TYPE 8 MANHOLE, STORM WATER, HEIGHT >5' AND < /= 10'		9
	0605 3052 EACH	TYPE 8 MANHOLE, STORM WATER, HEIGHT >10' AND < /= 20'		9
	0608 0001 LS	MOBILIZATION		3
	0609 0002 LS	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE A		3
	0609 0009 LS	EQUIPMENT PACKAGE		3
	0609 0011 LS	FIELD LABORATORY		3
	4610 1001 LF	6" PIPE UNDERDRAIN, TYPE II BACKFILL MODIFIED ♦		19
	0610 7001 LF	4" PAVEMENT BASE DRAIN		PCSM
	0610 7002 LF	6" PAVEMENT BASE DRAIN		6
	0612 0001 LF	SUBGRADE DRAINS		6
	0615 0022 LF	6" SUBSURFACE DRAIN OUTLETS		6
	0615 0040 EACH	SUBSURFACE DRAIN OUTLET ENDWALL		6
	0615 0066 EACH	66" RED SUBSURFACE DRAIN OUTLET MARKER		6
11	0619 0450 EACH	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, FLARED (MASH)		76-91
4	0619 0459 EACH	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)		76-91
10	0619 0744 EACH	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, MASH, WIDTHS LESS THAN OR EQUAL TO 36 INCHES		76-91
16	0620 0010 EACH	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT		TCP , 76-91
13	0620 0011 EACH	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT		76-91
14	0620 0400 EACH	TERMINAL SECTION, SINGLE		76-91
21	0620 0402 EACH	TERMINAL SECTION, BRIDGE CONNECTION		TCP , 76-91
90300	0620 0503 LF	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)		TCP , 76-91
12	0620 0528 EACH	8" X 6" WOOD OFFSET BRACKETS		76-91
38	0620 0575 LF	GUIDE RAIL ELEMENT		76-91
38	0620 0585 LF	RUBBING RAIL		76-91
6	0620 0872 EACH	BURIED-IN-BACKSLOPE TERMINAL, SINGLE PANEL		76-91
80475	0620 1600 LF	TYPE 31-S GUIDE RAIL		TCP , 76-91
600	0620 1602 LF	TYPE 31-S GUIDE RAIL WITH 8' EXTRA LENGTH POSTS		76-91
1163	0620 1625 LF	TYPE 31-SC GUIDE RAIL		76-91
9988	0620 1640 LF	TYPE 31-SM GUIDE RAIL		76-91
1000	0620 1645 LF	CURVED W-BEAM GUIDE RAIL AT INTERSECTIONS		76-91
34	0620 1660 EACH	TYPE 31-STRONG POST ANCHOR TERMINAL		76-91
23	0620 1670 EACH	TYPE 31-STRONG POST IN-LINE ANCHOR		76-91
4056	0622 0001 LF	CONCRETE GLARE SCREEN		76-91
29100	0623 0001 LF	CONCRETE MEDIAN BARRIER		76-91
1044	0623 0052 LF	SINGLE FACE CONCRETE BARRIER		76-91
9	0623 0109 EACH	END TRANSITION, CONCRETE MEDIAN BARRIER		76-91
6	0623 0122 EACH	END TRANSITION, SINGLE FACE CONCRETE BARRIER		76-91
2274	0624 0001 LF	RIGHT-OF-WAY FENCE, TYPE 1		92-94
48856	0624 0250 LF	RIGHT-OF-WAY FENCE, TYPE 5		92-94
29665	0624 0275 LF	REMOVAL OF EXISTING RIGHT-OF-WAY FENCE		92-94
6	0624 0300 EACH	END POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE		92-94
69	0624 0304 EACH	END POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE		92-94
26	0624 0400 EACH	CORNER POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE		92-94
120	0624 0404 EACH	CORNER POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE		92-94
2	0624 0500 EACH	PULL POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE		92-94
122	0624 0504 EACH	PULL POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE		92-94
228	0624 0600 EACH	LINE POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE		92-94
3071	0624 0602 EACH	LINE POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE		92-94
3	0624 0724 EACH	VEHICULAR GATE FOR TYPE 1 RIGHT-OF-WAY FENCE, 14-FOOT OPENING		92-94
8	0624 0779 EACH	VEHICULAR GATE FOR TYPE 5 RIGHT-OF-WAY FENCE, 14-FOOT OPENING		92-94
788	0626 0020 CY	CORROSION RESISTANT GABIONS, TYPE A		95
	0627 3019 LF	TEMPORARY BARRIER, TEST LEVEL 3, BARRIER DEFLECTION DISTANCE < /=1'		TCP
	0627 3092 LF	TEMPORARY BARRIER, CONCRETE GLARE SCREEN, PLATE, F-SHAPE (PENNDOT)		TCP
	0628 3019 LF	RESET TEMPORARY BARRIER, TEST LEVEL 3, BARRIER DEFLECTION DISTANCE < /=1'		TCP
	0628 3092 LF	RESET TEMPORARY BARRIER, CONCRETE GLARE SCREEN, PLATE, F-SHAPE (PENNDOT)		TCP
	0630 0021 LF	PLAIN CEMENT CONCRETE CURB, 4" HEIGH		70-71
	0633 0200 LF	PLAIN CONCRETE MOUNTABLE CURB, TYPE A		70-71
	0643 0001 LF	TEMPORARY CONCRETE BARRIER, STRUCTURE MOUNTED		TCP
	0643 0003 LF	TEMPORARY CONCRETE GLARE SCREEN MEDIAN BARRIER, STRUCTURE MOUNTED		TCP
	0644 0001 LF	TEMPORARY CONCRETE BARRIER, STRUCTURE MOUNTED, RESET		TCP
	0644 0003 LF	TEMPORARY CONCRETE GLARE SCREEN MEDIAN BARRIER, STRUCTURE MOUNTED, RESET		TCP
	0660 0005 LF	MILLED ASPHALT PAVEMENT SHOULDER/GORE RUMBLE STRIPS FOR INTERSTATES, EXPRESSWAYS AND FREEWAYS		70-71
6	0676 0001 SY	CEMENT CONCRETE SIDEWALK		TTSP
	0680 0121 SY	MEMBRANE WATERPROOFING SYSTEM INSTALLED ON OTHER SURFACES		S1
	0686 0010 LS	CONSTRUCTION SURVEYING, TYPE A		3
	0689 0005 LS	CPM SCHEDULE, WITH UPDATES		3
10	0695 0003 SF	DETECTABLE WARNING SURFACE, POLYMER CONCRETE		TTSP
	0696 0610 EACH	TEMPORARY IMPACT ATTENUATING DEVICE, TYPE V (STANDARD), TEST LEVEL 3		TCP
	0697 0610 EACH	RESET TEMPORARY IMPACT ATTENUATING DEVICE, TYPE V (STANDARD), TEST LEVEL 3		TCP
	0703 0020 CY	NO. 1 COARSE AGGREGATE		19, PCSM, 70-71
	0703 0022 CY	NO. 8 COARSE AGGREGATE		6

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S-9 STRUCTURE PLAN S-37596
S10-STRUCTURE PLAN S-40110

TCP-TRAFFIC CONTROL PLAN
S&PMP-SIGNING AND PAVEMENT MARKING PLAN
WMRP-WETLAND MITIGATION PLAN
♦ - SEE SPECIAL PROVISIONS

SUMMARY

TSP-TEMPORARY TRAFFIC SIGNAL PLAN
S1-STRUCTURE PLAN S-40117
S2-STRUCTURE PLAN S-37509
S3-STRUCTURE PLAN S-40116
S4-STRUCTURE PLAN S-40118
S5-STRUCTURE PLAN S-37616

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	74 OF 247

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
	0703 0024 / CY	NO. 2A COARSE AGGREGATE		70-71
320	0703 0025 / CY	NO. 57 COARSE AGGREGATE		19, PCSM, 70-71, 76-91
	0802 0001 / CY	TOPSOIL FURNISHED AND PLACED		19
1	0804 0002 / LB	SEEDING AND SOIL SUPPLEMENTS - FORMULA C, INCLUDING MULCH		TTSP
	0804 0012 / LB	SEEDING AND SOIL SUPPLEMENTS - FORMULA C		19
	0804 0013 / LB	SEEDING AND SOIL SUPPLEMENTS - FORMULA D		19, PCSM
	0804 0020 / LB	SEEDING AND SOIL SUPPLEMENTS - FORMULA L		19, PCSM
	0806 0111 / SY	TEMPORARY SHORT-TERM, ROLLED EROSION CONTROL PRODUCT, TYPE 2B		19
	0806 0112 / SY	TEMPORARY SHORT-TERM, ROLLED EROSION CONTROL PRODUCT, TYPE 2C		19
	0806 0113 / SY	TEMPORARY SHORT-TERM, ROLLED EROSION CONTROL PRODUCT, TYPE 2D		19, PCSM
	0806 0120 / SY	TEMPORARY EXTENDED-TERM, ROLLED EROSION CONTROL PRODUCT, TYPE 3A		19
	0806 0121 / SY	TEMPORARY EXTENDED-TERM, ROLLED EROSION CONTROL PRODUCT, TYPE 3B		19
	0806 0140 / SY	PERMANENT ROLLED EROSION CONTROL PRODUCT, TYPE 5A		PCSM
	0808 3073 / EACH	RED MAPLE - (2" CAL. B&B)		PCSM
	0808 3730 / EACH	ARROWWOOD VIBURNUM - (2' HT. B&B)		PCSM
	0808 3842 / EACH	WHITE PINE - (5' HT. B&B)		PCSM
	0808 4120 / EACH	GRAY DOGWOOD - (18" HT. B.R.)		PCSM
	0808 4190 / EACH	INKBERRY - (18" HT. B.R.)		PCSM
	0808 4786 / EACH	SPICEBUSH - (18" HT. CONTAINER)		PCSM
	0808 7111 / EACH	ELDERBERRY (18" HT. B.R. OR CONTAINER)		PCSM
	0811 0003 / LF	TEMPORARY PROTECTIVE FENCE		19
	0845 0001 / DOLLA	UNFORESEEN WATER POLLUTION CONTROL		3
	0849 0010 / EACH	ROCK CONSTRUCTION ENTRANCE		19
	0850 0022 / SY	ROCK, CLASS R-4		19
	0850 0031 / CY	ROCK, CLASS R-3		19
102	0850 0032 / CY	ROCK, CLASS R-4		S1, 19, PCSM, 70-71, 76-91
	0850 0033 / CY	ROCK, CLASS R-5		PCSM
	0850 0036 / CY	ROCK, CLASS R-8		S1
	0851 0003 / SY	ROCK APRON		19
	0855 0003 / EACH	PUMPED WATER FILTER BAG		19
	0855 0004 / EACH	REPLACEMENT PUMPED WATER FILTER BAG		19
	0860 0000 / EACH	INLET FILTER BAG FOR TYPE M INLET		19
	0860 0002 / EACH	INLET FILTER BAG FOR TYPE C INLET		19
	0860 0010 / EACH	CONCRETE BLOCK/GRAVEL INLET PROTECTION FOR TYPE M INLET		19
	0860 0012 / EACH	CONCRETE BLOCK/GRAVEL INLET PROTECTION FOR TYPE C INLET		19
	0860 0020 / EACH	PIPE/GRAVEL INLET PROTECTION FOR TYPE M INLET		19
	0860 0022 / EACH	PIPE/GRAVEL INLET PROTECTION FOR TYPE C INLET		19
	0867 0012 / LF	COMPOST FILTER SOCK, 12" DIAMETER		19
	0867 0018 / LF	COMPOST FILTER SOCK, 18" DIAMETER		19
	0867 0022 / LF	COMPOST FILTER SOCK, 24" DIAMETER		19
	0867 0032 / LF	COMPOST FILTER SOCK, 32" DIAMETER		19
	0875 0001 / EACH	CONCRETE OUTLET STRUCTURE		PCSM
	4875 0001 / EACH	CONCRETE OUTLET STRUCTURE MODIFIED ♦		PCSM
	0901 0001 / LS	MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION		3
	0901 0025 / TON	CALCIUM CHLORIDE		TCP
	0901 0042 / EACH	REMOVE TUBULAR MARKERS		TCP
	0901 0044 / EACH	TUBULAR MARKERS		TCP
	0901 0102 / EACH	SHADOW VEHICLE		TCP
	0901 0120 / EACH	SPEED DISPLAY SIGN		TCP
	0901 0202 / EACH	FLOODLIGHTS		TCP
	0901 0222 / EACH	TEMPORARY LANE SEPARATOR CURB		TCP
	0901 0231 / DAY	ADDITIONAL WARNING LIGHTS, TYPE B		TCP
	0901 0240 / SF	ADDITIONAL TRAFFIC CONTROL SIGNS		TCP
	0901 0241 / EACH	ADDITIONAL TRAFFIC CONTROL DEVICES, VERTICAL PANELS		TCP
	0901 0250 / LS	TEMPORARY HIGHWAY LIGHTING		TCP
	0901 0320 / LF	4" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, YELLOW		TCP
	0901 0321 / LF	6" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, YELLOW		TCP
	0901 0330 / LF	4" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, WHITE		TCP
	0901 0331 / LF	6" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, WHITE		TCP
	0901 0334 / LF	24" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, WHITE		TCP
	0901 0460 / EACH	FULL-MATRIX CHANGEABLE MESSAGE SIGN WITH TELECOMMUNICATIONS		TCP
2	0901 0700 / EACH	TEMPORARY TRAFFIC SIGNALS (EITHER PERMANENT OR PORTABLE)		TTSP
1	0901 0710 / EACH	TEMPORARY TRAFFIC CONTROL SIGNAL RESET (EITHER PERMANENT OR PORTABLE)		TTSP
3	0910 0002 / EACH	JUNCTION BOXES J.B.-2		95
14	0910 0154 / EACH	POLE FOUNDATION, TYPE FC		95
7	0910 0330 / EACH	STEEL LIGHTING POLE WITH 15-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A		95
7	0910 0332 / EACH	STEEL LIGHTING POLE WITH 20-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A		95
11108	0910 4116 / LF	AWG 8 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR		95
3034	0910 5055 / LF	2" DIRECT BURIAL CONDUIT		95
12	0910 5500 / EACH	BURIED CABLE AND CONDUIT MARKER		95
2941	0910 6000 / LF	TRENCH		95
	0910 7025 / LS	ASSET NUMBERING SYSTEM UPDATE EFFORT		95
	0910 7210 / LS	TESTING OF ENTIRE LIGHTING SYSTEM		95
2756	4930 0004 / SF	POST MOUNTED SIGNS, TYPE A ♦		S & PMP
19666	0930 0101 / LB	STEEL S OR W BEAM POSTS		S & PMP
38	0930 0110 / EACH	BREAKAWAY SYSTEM REPLACEMENT		S & PMP
1437	0931 0001 / SF	POST MOUNTED SIGNS, TYPE B		S & PMP
756	0932 0001 / SF	POST MOUNTED SIGNS, TYPE C		S & PMP
404	4934 0002 / SF	POST MOUNTED SIGNS, TYPE E ♦		S & PMP
426	0935 0001 / SF	POST MOUNTED SIGNS, TYPE F		S & PMP
603	0937 0104 / EACH	GUIDE RAIL MOUNTED DELINEATOR TYPE B, (Y/B)		S & PMP
666	0937 0106 / EACH	GUIDE RAIL MOUNTED DELINEATOR TYPE B, (W/B)		S & PMP
	0937 0113 / EACH	GUIDE RAIL MOUNTED DELINEATOR TYPE D, (W/B)		TCP
20	0937 0123 / EACH	GUIDE RAIL MOUNTED DELINEATOR TYPE B, (Y/W)		S & PMP
408	0937 0198 / EACH	BARRIER MOUNTED DELINEATOR, TOP-MOUNT TYPE R, (W/B)		S & PMP
99	0937 0199 / EACH	BARRIER MOUNTED DELINEATOR, TOP-MOUNT TYPE R, (Y/Y)		S & PMP
	0937 0213 / EACH	BARRIER MOUNTED DELINEATOR, TOP-MOUNT TYPE WZ, (O/B)		TCP
	0937 0214 / EACH	BARRIER MOUNTED DELINEATOR, TOP-MOUNT TYPE WZ, (O/O)		TCP
127	0937 0303 / EACH	FLEXIBLE DELINEATOR POST, SURFACE-MOUNT TYPE SM-1, RED POST WITH WHITE SHEETING		S & PMP
177	0937 0304 / EACH	FLEXIBLE DELINEATOR POST, SURFACE-MOUNT TYPE SM-1, RED POST WITH YELLOW SHEETING		S & PMP
80	0937 0320 / EACH	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-1, WHITE POST WITH WHITE SHEETING		S & PMP
132	0937 0321 / EACH	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-1, YELLOW POST WITH YELLOW SHEETING		S & PMP
	0937 0330 / EACH	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-2, WHITE POST WITH WHITE/BLANK SHEETING		TCP

S6-STRUCTURE PLAN S-37507
S7-STRUCTURE PLAN S-37522
S8-STRUCTURE PLAN S-37568
S-9 STRUCTURE PLAN S-37596
S10-STRUCTURE PLAN S-40110

PROJECT ID: 3926
MPMS: 75917
ECMS: 75917
11/18/2021 9:43:59 AM

TCP-TRAFFIC CONTROL PLAN
S&PMP-SIGNING AND PAVEMENT MARKING PLAN
WMRP-WETLAND MITIGATION PLAN
♦ - SEE SPECIAL PROVISIONS

SUMMARY

TSP-TEMPORARY TRAFFIC SIGNAL PLAN
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9	0937 0331 / EACH	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-2, WHITE POST WITH WHITE/RED SHEETING		S & PMP
	0937 0333 / EACH	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-2, YELLOW POST WITH YELLOW/BLANK SHEETING		TCP
9	0937 0335 / EACH	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-2, YELLOW POST WITH YELLOW/RED SHEETING		S & PMP
	0937 0500 / EACH	DELINEATOR REMOVAL		TCP
2	0940 0001 / EACH	RESET POST MOUNTED SIGNS, TYPE A		S & PMP
1	0941 0001 / EACH	RESET POST MOUNTED SIGNS, TYPE B		S & PMP
6	0944 0003 / EACH	RESET POST MOUNTED SIGNS, TYPE E		S & PMP
3	0945 0001 / EACH	RESET POST MOUNTED SIGNS, TYPE F		S & PMP
1	0951 4014 / EACH	TRAFFIC SIGNAL SUPPORT, 14' PEDESTAL		TTSP
10	0954 0012 / LF	2 INCH CONDUIT		TTSP
15	0954 0102 / LF	SIGNAL CABLE, 12 AWG, 5 CONDUCTOR		TTSP
1	0954 0302 / EACH	JUNCTION BOX, JB-27		TTSP
2	0955 3722 / EACH	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, TYPE A		TTSP
2	0956 0500 / EACH	PEDESTRIAN PUSH BUTTON		TTSP
50	0960 0002 / LF	4" YELLOW HOT THERMOPLASTIC PAVEMENT MARKINGS		TTSP
155	0960 0005 / LF	6" WHITE HOT THERMOPLASTIC PAVEMENT MARKINGS		TTSP
136	0960 0021 / LF	24" WHITE HOT THERMOPLASTIC PAVEMENT MARKINGS		TTSP
	0963 0001 / SF	PAVEMENT MARKING REMOVAL		TCP
1711	0964 0001 / LF	4" WHITE EPOXY PAVEMENT MARKINGS		S & PMP
101495	4964 0001 / LF	4" WHITE EPOXY PAVEMENT MARKINGS (RECESSED) ♦		S & PMP
3133	0964 0002 / LF	4" YELLOW EPOXY PAVEMENT MARKINGS		S & PMP
102191	4964 0002 / LF	4" YELLOW EPOXY PAVEMENT MARKINGS (RECESSED) ♦		S & PMP
1816	0964 0005 / LF	6" WHITE EPOXY PAVEMENT MARKINGS		S & PMP
7284	4964 0008 / LF	8" WHITE EPOXY PAVEMENT MARKINGS (RECESSED) ♦		S & PMP

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
1454	0964 0021 / LF	24" WHITE EPOXY PAVEMENT MARKINGS		S & PMP
662	0964 0022 / LF	24" YELLOW EPOXY PAVEMENT MARKINGS		S & PMP
6	0964 0224 / EACH	WHITE EPOXY LEGEND, "LEFT ARROW", 12' - 0" X 3' - 0"		S & PMP
4	0964 0230 / EACH	WHITE EPOXY LEGEND, "WRONG WAY ARROW" , 23'- 0"		S & PMP
9	0970 0001 / EACH	REMOVE POST MOUNTED SIGNS, TYPE A		S & PMP
25	0971 0001 / EACH	REMOVE POST MOUNTED SIGNS, TYPE B		S & PMP
6	0972 0001 / EACH	REMOVE POST MOUNTED SIGNS, TYPE C		S & PMP
1	0975 0001 / EACH	REMOVE POST MOUNTED SIGNS, TYPE F		S & PMP
1485	1001 1080 / CY	CLASS AA CEMENT CONCRETE		76-91
	1001 1120 / CY	CLASS A CEMENT CONCRETE		S1
193200	1002 0052 / LB	REINFORCEMENT BARS, EPOXY COATED		S3, S4, S1, 76-91
	1003 0002 / EACH	DOWEL HOLES, 6" DEPTH		S3, S1
	1019 0020 / SY	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (EPOXY RESIN)		S3, S1
808	1019 0050 / SY	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE)		76-91
	1091 0331 / LF	EPOXY INJECTION CRACK SEAL		S3, S1
	1999 9999 / HOUR	TRAINEES		3
	4610 1001 / LF	6" PIPE UNDERDRAIN, TYPE II BACKFILL MODIFIED ♦		19
	5018 0001 / LS	REMOVAL OF EXISTING BRIDGE ♦		S5
	5018 0002 / LS	REMOVAL OF EXISTING BRIDGE ♦		S5
	5018 0060 / LS	REMOVAL OF EXISTING CULVERT ♦		S4
	5018 0070 / LS	REMOVAL A PORTION OF EXISTING CULVERT ♦		S1
	5018 0071 / LS	REMOVAL OF PORTION OF EXISTING CULVERT ♦		S3
EITHER	8030 0002 / LS	BRIDGE STRUCTURE, AS DESIGNED, S-37616	52	S5
AND ---	1002 0052 / LB	REINFORCEMENT BARS, EPOXY COATED	52	S5

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
AND ---	1002 0112 / EACH	MECHANICAL SPLICE SYSTEM FOR NO. 5 REINFORCEMENT BARS	52	S5
AND 80700	1002 0001 / LB	REINFORCEMENT BARS	52	S5
AND 108200	1002 0053 / LB	REINFORCEMENT BARS, EPOXY COATED	52	S5
AND ---	1005 1845 / LF	STEEL HP14X102 PILE TIP REINFORCEMENT (HEAVY DUTY)	52	S5
OR	8000 0001 / LS	PRESTRESSED CONCRETE BRIDGE STRUCTURE ♦	52	S5
OR	8100 0001 / LS	STEEL BRIDGE STRUCTURE ♦	52	S5
EITHER	8030 0003 / LS	BRIDGE STRUCTURE, AS DESIGNED, S-37568	56	S8
AND 175949	1002 0053 / LB	REINFORCEMENT BARS, EPOXY COATED	56	S8
AND 10	1002 0111 / EACH	MECHANICAL SPLICE SYSTEM FOR NO. 4 REINFORCEMENT BARS	56	S8
AND 150	1002 0112 / EACH	MECHANICAL SPLICE SYSTEM FOR NO. 5 REINFORCEMENT BARS	56	S8
AND 10	1002 0115 / EACH	MECHANICAL SPLICE SYSTEM FOR NO. 8 REINFORCEMENT BARS	56	S8
AND ---	5018 0003 / LS	REMOVAL OF EXISTING BRIDGE ♦	56	S8
OR	8000 0001 / LS	PRESTRESSED CONCRETE BRIDGE STRUCTURE ♦	56	S8
OR	8100 0001 / LS	STEEL BRIDGE STRUCTURE ♦	56	S8
EITHER	8030 0004 / LS	BRIDGE STRUCTURE, AS DESIGNED, S-37596 ♦	60	S9
AND ---	1002 0052 / LB	REINFORCEMENT BARS, EPOXY COATED	60	S9
AND ---	1002 0112 / EACH	MECHANICAL SPLICE SYSTEM FOR NO. 5 REINFORCEMENT BARS	60	S9
AND ---	1002 0115 / EACH	MECHANICAL SPLICE SYSTEM FOR NO. 8 REINFORCEMENT BARS	60	S9
AND ---	1005 1825 / LF	STEEL HP12X74 PRODUCTION PILE	60	S9
AND ---	1005 2025 / EACH	STEEL HP12X74 PILE TIP REINFORCEMENT (HEAVY DUTY)	60	S9
AND ---	5018 0006 / LS	REMOVAL OF EXISTING BRIDGE ♦	60	S9
OR	8000 0001 / LS	PRESTRESSED CONCRETE BRIDGE STRUCTURE ♦	60	S9
OR	8100 0001 / LS	STEEL BRIDGE STRUCTURE ♦	60	S9
	8510 0001 / LS	PRECAST CONCRETE BOX CULVERT, AS DESIGNED, S-40118 ♦		S4

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
EITHER	8550 0001 / LS	PRECAST REINFORCED CONCRETE ARCH CULVERT, AS DESIGNED, S-37509 ♦	51	S2
AND	1002 0001 / LB	REINFORCEMENT BARS	51	S2
AND	1002 0053 / LB	REINFORCEMENT BARS, EPOXY COATED	51	S2
AND	5018 0003 / LS	REMOVAL OF EXISTING BRIDGE ♦	51	S2
AND 64	1002 0113 / EACH	MECHANICAL SPLICE SYSTEM FOR NO. 6 REINFORCEMENT BARS	51	S2
AND 32	1002 0118 / EACH	MECHANICAL SPLICE SYSTEM FOR NO. 11 REINFORCEMENT BARS	51	S2
OR	8590 0001 / LS	CONCRETE CULVERT ♦	51	S2
	8590 0001 / LS	CULVERT REHABILITATION, AS DESIGNED, S-40116 ♦		S3
	9000 0001 / DAY	RAILROAD PROTECTIVE SERVICES COST ♦		3
1272	9000 0002 / LF	CONCRETE GLARE SCREEN, SINGLE FACE ♦		76-91
5	9000 0003 / EACH	TRANSITION, CONCRETE GLARE SCREEN, 50 INCH HEIGHT, 24 INCH TO 42 INCH WIDTH ♦		76-91
1	9000 0004 / EACH	TRANSITION, CONCRETE GLARE SCREEN, 32 INCH TO 51 7/8 INCH HEIGHT, 34 1/2 INCH TO 30 1/4 INCH WIDTH ♦		76-91
1	9000 0005 / EACH	TRANSITION, CONCRETE GLARE SCREEN, 51 7/8 INCH TO 50 INCH HEIGHT, 30 1/4 INCH TO 24 INCH WIDTH ♦		76-91
24798	9000 0006 / LF	6" PERMANENT PREFORMED PATTERNED REFLECTIVE PAVEMENT MARKING, WHITE MODIFIED ♦		S & PMP
	9000 0007 / LS	REMOVE EXISTING OVERHEAD SIGN STRUCTURE ♦		S & PMP
1	9000 0008 / EACH	RESET SGL 035 SIGN ♦		S & PMP
	9000 0009 / EACH	BUILDING INSPECTION ♦		3
	9000 0014 / LS	TEMPORARY CAUSEWAY - STAGE 3 ♦		19
	9000 0015 / LS	TEMPORARY CAUSEWAY - STAGE 4 ♦		19
	9000 0016 / LS	TEMPORARY CAUSEWAY - STAGE 5 ♦		19
	9000 0017 / LS	TEMPORARY CAUSEWAY - STAGE 6 ♦		19

S6-STRUCTURE PLAN S-37507
S7-STRUCTURE PLAN S-37522
S8-STRUCTURE PLAN S-37568
S-9 STRUCTURE PLAN S-37596
S10-STRUCTURE PLAN S-40110

TCP-TRAFFIC CONTROL PLAN
S&PMP-SIGNING AND PAVEMENT MARKING PLAN
WMRP-WETLAND MITIGATION PLAN
♦ - SEE SPECIAL PROVISIONS

SUMMARY

TSP-TEMPORARY TRAFFIC SIGNAL PLAN
S1-STRUCTURE PLAN S-40117
S2-STRUCTURE PLAN S-37509
S3-STRUCTURE PLAN S-40116
S4-STRUCTURE PLAN S-40118
S5-STRUCTURE PLAN S-37616

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	76 OF 247

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
X	9000 0018 / LS	TEMPORARY CAUSEWAY - STAGE 7 ♦		19
X	9000 0019 / LS	TEMPORARY CAUSEWAY - STAGE 8 ♦		19
	9000 0020 / LF	TEMPORARY 24" PIPE FLUME ♦		19
	9000 0021 / LF	TEMPORARY 42" PIPE FLUME ♦		19
	9000 0022 / EACH	TEMPORARY PUMP BYPASS SYSTEM ♦		19
	9000 0023 / LF	WATER DEFLECTOR ♦		19
	9000 0024 / EACH	TEMPORARY INLET COVER PLATE ♦		19
X	9000 0025 / LS	PRE-BLASTING SURVEY ♦		70-71
X	9000 0026 / LS	POST-BLASTING SURVEY ♦		70-71
X	9000 0027 / LS	AIDS TO NAVIGATION ♦		3
X	9000 0028 / LS	REMOVAL OF EXISTING LIGHTING EQUIPMENT ♦		95
14	9000 0029 / EACH	LED LUMINAIRE, ARM MOUNT ♦		95
X	9000 0031 / LS	TEMPORARY BRIDGE, SUPERSTRUCTURE AND SUPPORT ♦		S2
120	9000 0032 / CY	OVEREXCAVATION AND BACKFILLING WITH COARSE AGGREGATE UNDER FOUNDATION ♦		S2, S4, S8
	9000 0033 / CF	POLYMER COMPOUND INJECTION ♦		S3, S1
	9000 0034 / SF	CONCRETE SPALL REPAIR, TYPE 1 ♦		S3, S1
	9000 0035 / SF	CONCRETE SPALL REPAIR, TYPE 2 ♦		S3, S1
X	9000 0036 / LS	TEMPORARY PIER SUPPORT ♦		S8
18	9000 0037 / EACH	REMOVAL OF EXISTING PILES ♦		S5, S8
	9000 0038 / CY	AMENDED SOIL MIX ♦		PCSM
	9000 0039 / EACH	TYPE D ENDWALL FOR 66" PIPE ♦		9
	9000 0040 / EACH	TYPE D ENDWALL FOR DUAL 19"X30" PIPES ♦		9
	9000 0041 / EACH	TYPE D-E ENDWALL FOR 72" PIPE ♦		9
	9000 0042 / EACH	TYPE D-W ENDWALL FOR 18" PIPE, NO CONCRETE APRON ♦		9

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
	9000 0043 / EACH	TYPE D-W ENDWALL FOR 24" PIPE, NO CONCRETE APRON ♦		9
	9000 0044 / EACH	TYPE D-W ENDWALL FOR 30" PIPE, NO CONCRETE APRON ♦		9
	9000 0045 / EACH	TYPE D-W ENDWALL FOR 66" PIPE, NO CONCRETE APRON ♦		9
	9000 0046 / EACH	TYPE D-W ENDWALL FOR 84" PIPE, NO CONCRETE APRON ♦		9
	9000 0047 / EACH	TYPE D-W ENDWALL FOR 66" PIPE AND 30" PIPE THROUGH WINGWALL, NO CONCRETE APRON ♦		9
EITHER	9000 0048 / LF	66" REINFORCED CONCRETE PIPE, TYPE A, 25' - 1.5' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE ♦	17	9
	9000 0051 / SY	EMERGENCY EPO REPAIRS ♦		TCP
	9000 0052 / SY	EMERGENCY BITUMINOUS REPAIRS ♦		TCP
	9000 0053 / SY	EMERGENCY DECK REPAIRS ♦		TCP
	9000 0054 / DOLLA	SNOW REMOVAL ♦		TCP
	9000 0055 / LF	CLEANING OF TEMPORARY GLARE SCREEN ♦		TCP
	9000 0058 / EACH	TIMING CHNAGES TO EXISTING TRAFFIC SIGNALS ♦		TCP
24	9000 9351 / EACH	POST MOUNTED DELINEATOR, (RED) SIGN, TYPE F, HIGH INTENSITY ♦		S & PMP
16	9000 9352 / EACH	POST MOUNTED DELINEATOR (WHITE SIGN)TYPE F, HIGH INTENSITY ♦		S & PMP
	9005 0007 / EACH	DYNAMIC PILE LOAD MONITORING ♦		S5
	9005 0008 / EACH	DYNAMIC PILE LOAD TESTING ♦		S9
	9005 0500 / LF	MANDATORY PRE-DRILLING FOR DRIVEN PILES ♦		S9
	9005 0600 / LF	PREDRILLING FOR UNFORESEEN OBSTRUCTIONS, EARTH DRILLING ♦		S5
	9005 0610 / LF	PREDRILLING FOR UNFORESEEN OBSTRUCTIONS, OBSTRUCTION DRILLING ♦		S5
	9005 0620 / DOLLA	PILE EXTRACTION AND RE-DRIVING ♦		S5
	9005 0621 / EACH	RE-DRIVING PILES ♦		S9
	9005 0700 / DOLLA	MOBILIZATION FOR PREDRILLING FOR UNFORESEEN OBSTRUCTIONS ♦		S5
X	9005 2600 / LS	PREDRILLING FOR UNFORESEEN OBSTRUCTIONS, EARTH DRILLING ♦		S9
	9005 2700 / DOLLA	MOBILIZATION FOR PRE-DRILLING FOR UNFORESEEN OBSTRUCTIONS ♦		S9

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
X	9202 0001 / LS	MCGLYNN'S DEMOLITION ♦		3
X	9202 0002 / LS	FIREWORKS DEMOLITION ♦		3
X	9203 0001 / LS	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM ♦		S3
X	9203 0101 / LS	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, ABUTMENTS 1 & 2 ♦		S5
X	9203 0102 / LS	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, PIERS 1, 2 & 3 ♦		S5
X	9203 0103 / LS	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SUSTEM, ABUTMENTS 1 & 2 ♦		S5
X	9203 0104 / LS	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, PIERS 1, 2 & 3 ♦		S5
X	9203 0105 / LS	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, STAGE 3 ♦		S2
X	9203 0106 / LS	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM, STAGE 4 ♦		S2
X	9203 0701 / LS	TEMPORARY EXCAVATION AND SUPPORT SYSTEM ♦		TCP
X	9203 2101 / LS	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM ♦		S4
X	9203 2102 / LS	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM ♦		S8
X	9203 2103 / LS	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM ♦		S9
	9601 5002 / EACH	TEMPORARY PIPE CONNECTOR ♦		19
EITHER	9627 0010 / LF	CONCRETE BARRIER COFFERDAM ♦	45	19
OR X	9000 0012 / LS	SANDBAG DIKE ♦	45	19
EITHER	9627 0011 / LF	RESET CONCRETE BARRIER COFFERDAM ♦	46	19
OR ---	9000 0013 / LF	RESET SANDBAG DIKE ♦	46	19
24195	9629 0001 / LF	HIGH-TENSION CABLE BARRIER SYSTEM ♦		76-91
26	9629 0002 / EACH	END ANCHOR TERMINAL, HIGH-TENSION CABLE BARRIER SYSTEM ♦		76-91
	9851 0003 / SY	ROCK CHUTE ♦		19
	9860 0001 / EACH	SEDIMENT TRAP INLET PROTECTION FOR TYPE M INLET ♦		19
	9901 0501 / CALL	CLASS 1 TOW TRUCK, ON CALL ♦		TCP
	9901 0502 / CALL	CLASS 2 TOW TRUCK, ON CALL ♦		TCP

QUANTITY	ITEM NO / UNIT	DESCRIPTION	DESIGN NO	FOR TAB SEE SHEET
	9901 0503 / CALL	RAMP TRUCK, ON CALL ♦		TCP
	9901 0504 / EACH	INCIDENT MANAGEMENT TRUCK AND TRAILER ♦		TCP
328	9937 0003 / EACH	LINEAR DELINEATION REFLECTIVE PANEL, FLUORESCENT WHITE, 4" ♦		S & PMP
347	9937 0004 / EACH	LINEAR DELINEATION REFLECTIVE PANEL,FLUORESCENT YELLOW, 4" ♦		S & PMP
	9999 9990 / VF	MAXIMUM FILL HEIGHT (FOR INFORMATION ONLY)		9
	9999 9991 / VF	MINIMUM FILL HEIGHT (FOR INFORMATION ONLY)		9
	9999 9993 / CY	CLASS 1 EXCAVATION (FOR INFORMATION ONLY)		9
	9999 9994 / CY	CLASS 4 EXCAVATION (FOR INFORMATION ONLY)		9

S6-STRUCTURE PLAN S-37507
S7-STRUCTURE PLAN S-37522
S8-STRUCTURE PLAN S-37568
S-9 STRUCTURE PLAN S-37596
S10-STRUCTURE PLAN S-40110

PROJECT ID: 3926
MPMS: 75917
ECMS: 75917
11/18/2021 9:43:59 AM

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	77 OF 247

GEOTEXTILE, CLASS 4, TYPE A	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 37.5 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 8 1/2" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX	SUBBASE 6" DEPTH (NO. 2A)	SUBBASE 8" DEPTH (NO. 2A)	SUBBASE (NO. 2A)	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-E	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH	ASPHALT TACK COAT	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, FLARED (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, MASH, WIDTHS LESS THAN OR EQUAL TO 36 INCHES	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	TERMINAL SECTION, SINGLE	TERMINAL SECTION, BRIDGE CONNECTION	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)	8" X 6" WOOD OFFSET BRACKETS	GUIDE RAIL ELEMENT	RUBBING RAIL	BURIED-IN-BACKSLOPE TERMINAL, SINGLE PANEL	TYPE 31-S GUIDE RAIL	TYPE 31-S GUIDE RAIL WITH 8' EXTRA LENGTH POSTS	TYPE 31-SC GUIDE RAIL	REMARKS	SIDE	STATIONS
0212 0014 SY	0313 0404 SY	0313 0426 SY	0313 0431 SY	0313 0437 TON	0350 0106 SY	0350 0108 SY	0350 0120 CY	0413 0249 SY	0413 6047 TON	0413 6048 SY	0460 0001 SY	0619 0450 EACH	0619 0459 EACH	0619 0744 EACH	0620 0010 EACH	0620 0011 EACH	0620 0400 EACH	0620 0402 EACH	0620 0503 LF	0620 0528 EACH	0620 0575 LF	0620 0585 LF	0620 0872 EACH	0620 1600 LF	0620 1602 LF	0620 1625 LF	ITEM NUMBER / UNIT		
																											SR 0081 SOUTHBOUND		
																			417								REMOVE EXSITNG GUIDE RAIL ALONG INSIDE SHOULDER	RT	1969+88.50 to 1974+05.00
												1			1									150	187.5		GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	1969+89.25 to 1973+97.00
															1								1	1937.5	112.5		GUIDE RAIL. PROTECT WITH A BURIED-IN BACKSLOPE TERMINAL	LT	1970+15.00 to 1990+90.00
																			2002								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	1970+17.75 to 1990+38.00
																		1						975		337.5	GUIDE RAIL. CONNECT TO SUSQUEHANNA STREET BRIDGE. INCLUDE 337.5' OF TYPE 31-SC FOR ROCK SLOPE PROTECTION	LT	2005+00.00 to 2018+42.00
																			1283								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2005+62.25 to 2018+60.25
																			243								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2018+71.75 to 2021+12.75
																			217								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2018+94.50 to 2021+13.50
																1							1	3637.5		425	GUIDE RAIL. PROTECT WITH A BURIED-IN BACKSLOPE TERMINAL. CONNECT TO SUSQUEHANNA STREET BRIDGE. INCLUDE 425' OF	LT	2019+53.00 to 2060+46.00
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2021+00.00 to 2038+00.00
																			3634								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2022+18.25 to 2058+35.50
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2038+50.00 to 2058+00.00
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2058+50.00 to 2077+07.00
																			1881								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2064+48.75 to 2083+31.50
																	1							1025			GUIDE RAIL. CURVED PANELS AT 8.5' RADIUS	LT	2070+87.50 to 2081+47.00
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2078+00.00 to 2099+00.00
																			35								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2091+55.00 to 2091+89.00
																			7059								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2096+17.00 to 2166+62.00
																	1							1150			GUIDE RAIL. CURVED PANELS AT 8.5' RADIUS	LT	2096+38.00 to 2108+04.50
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2099+54.00 to 2120+64.00
																		1						1737.5			GUIDE RAIL. CURVED PANELS AT 50' RADIUS	LT	2108+40.00 to 2126+26.75
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2121+16.00 to 2142+50.00
1466							334	0.1	0.1		1																MOMENT SLAB WITH TOE WALL. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE END TRANSITION	LT	2126+23.00 to 2141+72.50
															1								1	2587.5			GUIDE RAIL. PROTECT WITH A BURIED-IN BACKSLOPE TERMINAL	LT	2141+69.75 to 2168+00.00
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2143+02.00 to 2162+74.00
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2163+26.00 to 2183+75.00
																			1410								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2176+24.00 to 2190+38.50

PROJECT ID: 3926 MPMS: 75917 ECMS: 75917 11/18/2021 9:47:23 AM

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	78 OF 247

TYPE 31-SM GUIDE RAIL 0620 1640 LF	CURVED W-BEAM GUIDE RAIL AT INTERSECTIONS 0620 1645 LF	TYPE 31-STRONG POST ANCHOR TERMINAL 0620 1660 EACH	TYPE 31-STRONG POST IN-LINE ANCHOR 0620 1670 EACH	CONCRETE GLARE SCREEN 0622 0001 LF	CONCRETE MEDIAN BARRIER 0623 0001 LF	SINGLE FACE CONCRETE BARRIER 0623 0032 LF	END TRANSITION, CONCRETE MEDIAN BARRIER 0623 0109 EACH	END TRANSITION, SINGLE FACE CONCRETE BARRIER 0623 0122 EACH	NO. 57 COARSE AGGREGATE 0703 0025 CY	ROCK, CLASS R-4 0850 0032 CY	CLASS AA CEMENT CONCRETE 1001 1080 CY	REINFORCEMENT BARS, EPOXY COATED 1002 0052 LB	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) 1019 0050 SY	CONCRETE GLARE SCREEN, SINGLE FACE 9000 0002 LF	TRANSITION, CONCRETE GLARE SCREEN, 50 INCH HEIGHT, 24 INCH TO 42 INCH WIDTH 9000 0003 EACH	TRANSITION, CONCRETE GLARE SCREEN, 32 INCH TO 51 7/8 INCH HEIGHT, 34 1/2 INCH TO 30 1/4 INCH WIDTH 9000 0004 EACH	TRANSITION, CONCRETE GLARE SCREEN, 51 7/8 INCH TO 50 INCH HEIGHT, 30 1/4 INCH TO 24 INCH WIDTH 9000 0005 EACH	HIGH-TENSION CABLE BARRIER SYSTEM 9629 0001 LF	END ANCHOR TERMINAL, HIGH-TENSION CABLE BARRIER SYSTEM 9629 0002 EACH	ITEM NUMBER / UNIT	REMARKS	SIDE	STATIONS
																					SR 0081 SOUTHBOUND		
																					REMOVE EXSITNG GUIDE RAIL ALONG INSIDE SHOULDER	RT	1969+88.50 to 1974+05.00
										6											GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	1969+89.25 to 1973+97.00
										6											GUIDE RAIL. PROTECT WITH A BURIED-IN BACKSLOPE TERMINAL	LT	1970+15.00 to 1990+90.00
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	1970+17.75 to 1990+38.00
		1																			GUIDE RAIL. CONNECT TO SUSQUEHANNA STREET BRIDGE. INCLUDE 337.5' OF TYPE 31-SC FOR ROCK SLOPE PROTECTION	LT	2005+00.00 to 2018+42.00
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2005+62.25 to 2018+60.25
																					REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2018+71.75 to 2021+12.75
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2018+94.50 to 2021+13.50
																					GUIDE RAIL. PROTECT WITH A BURIED-IN BACKSLOPE TERMINAL. CONNECT TO SUSQUEHANNA STREET BRIDGE. INCLUDE 425' OF	LT	2019+53.00 to 2060+46.00
																		1698	2		HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2021+00.00 to 2038+00.00
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2022+18.25 to 2058+35.50
																		1947	2		HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2038+50.00 to 2058+00.00
																		1858	2		HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2058+50.00 to 2077+07.00
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2064+48.75 to 2083+31.50
	25	1	1																		GUIDE RAIL. CURVED PANELS AT 8.5' RADIUS	LT	2070+87.50 to 2081+47.00
																		2102	2		HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2078+00.00 to 2099+00.00
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2091+55.00 to 2091+89.00
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2096+17.00 to 2166+62.00
	25	1	1																		GUIDE RAIL. CURVED PANELS AT 8.5' RADIUS	LT	2096+38.00 to 2108+04.50
																		2111	2		HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2099+54.00 to 2120+64.00
	37.5	1	1																		GUIDE RAIL. CURVED PANELS AT 50' RADIUS	LT	2108+40.00 to 2126+26.75
																		2131	2		HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2121+16.00 to 2142+50.00
											1485	193200	808								MOMENT SLAB WITH TOE WALL. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE END TRANSITION	LT	2126+23.00 to 2141+72.50
										6											GUIDE RAIL. PROTECT WITH A BURIED-IN BACKSLOPE TERMINAL	LT	2141+69.75 to 2168+00.00
																		1972	2		HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2143+02.00 to 2162+74.00
																		2051	2		HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2163+26.00 to 2183+75.00
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2176+24.00 to 2190+38.50

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	79 OF 247

GEOTEXTILE, CLASS 4, TYPE A	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 37.5 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 8 1/2" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX	SUBBASE 6" DEPTH (NO. 2A)	SUBBASE 8" DEPTH (NO. 2A)	SUBBASE (NO. 2A)	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-E	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH	ASPHALT TACK COAT	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, FLARED (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, MASH, WIDTHS LESS THAN OR EQUAL TO 36 INCHES	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	TERMINAL SECTION, SINGLE	TERMINAL SECTION, BRIDGE CONNECTION	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)	8" X 6" WOOD OFFSET BRACKETS	GUIDE RAIL ELEMENT	RUBBING RAIL	BURIED-IN-BACKSLOPE TERMINAL, SINGLE PANEL	TYPE 31-S GUIDE RAIL	TYPE 31-S GUIDE RAIL WITH 8' EXTRA LENGTH POSTS	TYPE 31-SC GUIDE RAIL	REMARKS	SIDE	STATIONS
0212 0014 SY	0313 0404 SY	0313 0426 SY	0313 0431 SY	0313 0437 TON	0350 0106 SY	0350 0108 SY	0350 0120 CY	0413 0249 SY	0413 6047 TON	0413 6048 SY	0460 0001 SY	0619 0450 EACH	0619 0459 EACH	0619 0744 EACH	0620 0010 EACH	0620 0011 EACH	0620 0400 EACH	0620 0402 EACH	0620 0503 LF	0620 0528 EACH	0620 0575 LF	0620 0585 LF	0620 0872 EACH	0620 1600 LF	0620 1602 LF	0620 1625 LF	ITEM NUMBER UNIT		
																			445				1	1525			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	2176+50.00 to 2192+02.00
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2184+25.00 to 2204+50.00
																											REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2199+69.00 to 2204+14.75
																		1						5012.5			GUIDE RAIL.	LT	2200+00.00 to 2250+25.50
														1													GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	2210+50.00 to 2222+00.00
																			3775								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2212+07.25 to 2249+81.75
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2240+50.00 to 2260+75.00
310	1	1		213		1	86	0.1		1	2																CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	LT	2250+21.50 to 2264+11.50
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2261+25.00 to 2281+75.00
																			4203								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2263+86.75 to 2305+66.50
															1		1							287.5			GUIDE RAIL. CURVED PANELS AT 8.5' RADIUS	LT	2264+08.00 to 2267+44.50
																	1							2625			GUIDE RAIL. CURVED PANELS AT 30' RADIUS	LT	2268+14.00 to 2294+75.00
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2282+25.00 to 2292+75.00
																											HIGH-TENSION CABLE BARRIER SYSTEM ALONG SOUTHBOUND INSIDE SHOULDER	RT	2293+24.00 to 2305+00.00
																		1						962.5			GUIDE RAIL. CURVED PANELS AT 50' RADIUS	LT	2295+10.00 to 2305+20.00
	1	1		108		1	44	0.1		1	2																CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	LT	2305+15.75 to 2312+26.00
																		1						625			GUIDE RAIL	RT	2306+75.00 to 2313+04.00
																			655								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2311+68.00 to 2318+30.25
															1			1						512.5		37.5	GUIDE RAIL. CONNECT TO SUSQUEHANNA RIVER BRIDGE. INCLUDE 37.5' OF TYPE 31-SC GUIDE RAIL FOR CURB/INLET PROTECTION	LT	2312+22.50 to 2318+21.00
																			401								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2325+39.25 to 2329+39.75
																			328								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2330+94.75 to 2334+21.75
																		1						187.5		25	GUIDE RAIL. INCLUDE 25' OF TYPE 31-SC GUIDE GUIDE RAIL FOR CURB PROTECTION. CONNECT TO SR 0171 BRIDGE	LT	2331+77.00 to 2334+04.00
																			431								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2335+69.00 to 2339+99.50
																			763								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2335+69.50 to 2343+32.00
												1				1								325			GUIDE RAIL. PROTECT WITH A PERMANET IMPACT ATTENUATING DEVICE. CONNECT TO THE SR 0171 BRIDGE	LT	2335+86.00 to 2339+84.00
187				64			441																				CONCRETE BARRIER. CONNECT TO THE RAILROAD BARRIER WITH MOMENT SLAB. INCLUDE SUBBASE IN FRONT OF BARRIER, STA	LT	2344+60.25 to 2352+70.00
																			155								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2344+81.25 to 2346+36.75
																			153								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2344+91.25 to 2346+43.25

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	80 OF 247

| TYPE 31-SM GUIDE RAIL
0620 1640
LF | CURVED W-BEAM GUIDE RAIL AT INTERSECTIONS
0620 1645
LF | TYPE 31-STRONG POST ANCHOR TERMINAL
0620 1660
EACH | TYPE 31-STRONG POST IN-LINE ANCHOR
0620 1670
EACH | CONCRETE GLARE SCREEN
0622 0001
LF | CONCRETE MEDIAN BARRIER
0623 0001
LF | SINGLE FACE CONCRETE BARRIER
0623 0032
LF | END TRANSITION, CONCRETE MEDIAN BARRIER
0623 0109
EACH | END TRANSITION, SINGLE FACE CONCRETE BARRIER
0623 0122
EACH | NO. 57 COARSE AGGREGATE
0703 0025
CY | ROCK, CLASS R-4
0850 0032
CY | CLASS AA CEMENT CONCRETE
1001 1080
CY | REINFORCEMENT BARS, EPOXY COATED
1002 0052
LB | PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE)
1019 0050
SY | CONCRETE GLARE SCREEN, SINGLE FACE
9000 0002
LF | TRANSITION, CONCRETE GLARE SCREEN, 50 INCH HEIGHT, 24 INCH TO 42 INCH WIDTH
9000 0003
EACH | TRANSITION, CONCRETE GLARE SCREEN, 32 INCH TO 51 7/8 INCH HEIGHT, 34 1/2 INCH TO 30 1/4 INCH WIDTH
9000 0004
EACH | TRANSITION, CONCRETE GLARE SCREEN, 51 7/8 INCH TO 50 INCH HEIGHT, 30 1/4 INCH TO 24 INCH WIDTH
9000 0005
EACH | HIGH-TENSION CABLE BARRIER SYSTEM
9629 0001
LF | END ANCHOR TERMINAL, HIGH-TENSION CABLE BARRIER SYSTEM
9629 0002
EACH | | | | | | | | | | | | | | REMARKS
ITEM NUMBER
UNIT | SIDE | STATIONS |
|---|---|---|---|---|---|---|---|---

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	81 OF 247

GEOTEXTILE, CLASS 4, TYPE A	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 37.5 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 8 1/2" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX	SUBBASE 6" DEPTH (NO. 2A)	SUBBASE 8" DEPTH (NO. 2A)	SUBBASE (NO. 2A)	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-E	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH	ASPHALT TACK COAT	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, FLARED (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, MASH, WIDTHS LESS THAN OR EQUAL TO 36 INCHES	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	TERMINAL SECTION, SINGLE	TERMINAL SECTION, BRIDGE CONNECTION	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)	8" X 6" WOOD OFFSET BRACKETS	GUIDE RAIL ELEMENT	RUBBING RAIL	BURIED-IN-BACKSLOPE TERMINAL, SINGLE PANEL	TYPE 31-S GUIDE RAIL	TYPE 31-S GUIDE RAIL WITH 8' EXTRA LENGTH POSTS	TYPE 31-SC GUIDE RAIL	REMARKS	SIDE	STATIONS
0212 0014 SY	0313 0404 SY	0313 0426 SY	0313 0431 SY	0313 0437 TON	0350 0106 SY	0350 0108 SY	0350 0120 CY	0413 0249 SY	0413 6047 TON	0413 6048 SY	0460 0001 SY	0619 0450 EACH	0619 0459 EACH	0619 0744 EACH	0620 0010 EACH	0620 0011 EACH	0620 0400 EACH	0620 0402 EACH	0620 0503 LF	0620 0528 EACH	0620 0575 LF	0620 0585 LF	0620 0872 EACH	0620 1600 LF	0620 1602 LF	0620 1625 LF	ITEM NUMBER / UNIT		
																			1090								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2362+70.75 to 2373+67.00
												1												2487.5			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	2363+11.00 to 2388+16.00
160	160	160				160				160																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	RT	2366+20.00 to 2373+36.75
														1	1			1		12	37.5	37.5					GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. INCLUDE ITEMS FOR NB FACE CONNECTION.	RT	2373+37.00 to 2380+77.25
																		1						637.5		37.5	GUIDE RAIL. INCLUDE 37.5' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO TROWBRIDGE CREEK BRIDGE	RT	2389+67.00 to 2396+51.50
17	1	1		8		1	7	0.1		1																	CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	LT	2390+40.75 to 2391+35.75
																			43								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2390+46.25 to 2390+88.50
																			558								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2391+12.00 to 2396+69.25
																			59								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2391+27.25 to 2391+86.25
															1			1						450		37.5	GUIDE RAIL. INCLUDE 37.5' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO SR 1029 AND TROWBRIDGE CREEK	LT	2391+33.00 to 2396+51.50
																			268								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2391+95.00 to 2394+62.50
																			290								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2397+57.25 to 2400+47.00
												1			1									237.5			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CONNECT TO TROWBRIDGE CREEK BRIDGE	RT	2397+73.00 to 2400+85.50
																			1153								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 9203 RAMP A	LT	2406+97.50 to 2415+76.75
														1										487.5			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	2408+58.00 to 2413+80.25
																			3188								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE GUIDE RAIL. CONTINUE AT STA 4+35 OF SR 9203 RAMP A	LT	2421+99.00 to 2453+85.50
																								2762.5			GUIDE RAIL. THIS GUIDE RAIL CONTINUE FROM STA 0+08.00 SR 9203 RAMP A. CONNECT WITH EXISTING GUIDE RAIL AT THE NY	LT	2426+25.50 to 2453+85.50
												1												225			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	2447+83.00 to 2450+56.00
																											SR 0081 NORTHBOUND		
														1			2	1						5650	225		GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	1969+42.00 to 2076+48.00
																			1513								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	1969+45.75 to 1984+54.00
																								687.5			GUIDE RAIL. CONNECT TO NB GUIDE RAIL AT STA 1976+46	RT	1976+46.00 to 1983+50.00
																			725								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	1976+46.00 to 1983+76.50
																			3249								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	1985+23.00 to 2017+70.50
															1								1	375		175	GUIDE RAIL. PROTECT WITH A PERMANENT BURIED-IN BACKSLOPE TERMINAL. CONNECT TO SUSQUEHANNA STREET BRIDGE.	RT	2011+15.00 to 2017+03.00
																			500								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2012+55.00 to 2017+48.00
																			102								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2017+79.50 to 2018+79.25
																			19455								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2018+03.00 to 2212+56.00

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TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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TYPE 31-SM GUIDE RAIL 0620 1640 LF	CURVED W-BEAM GUIDE RAIL AT INTERSECTIONS 0620 1645 LF	TYPE 31-STRONG POST ANCHOR TERMINAL 0620 1660 EACH	TYPE 31-STRONG POST IN-LINE ANCHOR 0620 1670 EACH	CONCRETE GLARE SCREEN 0622 0001 LF	CONCRETE MEDIAN BARRIER 0623 0001 LF	SINGLE FACE CONCRETE BARRIER 0623 0032 LF	END TRANSITION, CONCRETE MEDIAN BARRIER 0623 0109 EACH	END TRANSITION, SINGLE FACE CONCRETE BARRIER 0623 0122 EACH	NO. 57 COARSE AGGREGATE 0703 0025 CY	ROCK, CLASS R-4 0850 0032 CY	CLASS AA CEMENT CONCRETE 1001 1080 CY	REINFORCEMENT BARS, EPOXY COATED 1002 0052 LB	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) 1019 0050 SY	CONCRETE GLARE SCREEN, SINGLE FACE 9000 0002 LF	TRANSITION, CONCRETE GLARE SCREEN, 50 INCH HEIGHT, 24 INCH TO 42 INCH WIDTH 9000 0003 EACH	TRANSITION, CONCRETE GLARE SCREEN, 32 INCH TO 51 7/8 INCH HEIGHT, 34 1/2 INCH TO 30 1/4 INCH WIDTH 9000 0004 EACH	TRANSITION, CONCRETE GLARE SCREEN, 51 7/8 INCH TO 50 INCH HEIGHT, 30 1/4 INCH TO 24 INCH WIDTH 9000 0005 EACH	HIGH-TENSION CABLE BARRIER SYSTEM 9629 0001 LF	END ANCHOR TERMINAL, HIGH-TENSION CABLE BARRIER SYSTEM 9629 0002 EACH	REMARKS ITEM NUMBER UNIT	SIDE	STATIONS
																			REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2362+70.75 to 2373+67.00
		1																	GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	2363+11.00 to 2388+16.00
				720															MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	RT	2366+20.00 to 2373+36.75
662.5										6									GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. INCLUDE ITEMS FOR NB FACE CONNECTION.	RT	2373+37.00 to 2380+77.25
		1																	GUIDE RAIL. INCLUDE 37.5' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO TROWBRIDGE CREEK BRIDGE	RT	2389+67.00 to 2396+51.50
						96		1											CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	LT	2390+40.75 to 2391+35.75
																			REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2390+46.25 to 2390+88.50
																			REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	LT	2391+12.00 to 2396+69.25
																			REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2391+27.25 to 2391+86.25
										6									GUIDE RAIL. INCLUDE 37.5' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO SR 1029 AND TROWBRIDGE CREEK	LT	2391+33.00 to 2396+51.50
																			REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2391+95.00 to 2394+62.50
																			REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	2397+57.25 to 2400+47.00
										6									GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CONNECT TO TROWBRIDGE CREEK BRIDGE	RT	2397+73.00 to 2400+85.50
																			REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 9203 RAMP A	LT	2406+97.50 to 2415+76.75
		1																	GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	2408+58.00 to 2413+80.25
																			REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE GUIDE RAIL. CONTINUE AT STA 4+35 OF SR 9203 RAMP A	LT	2421+99.00 to 2453+85.50
																			GUIDE RAIL. THIS GUIDE RAIL CONTINUE FROM STA 0+08.00 SR 9203 RAMP A. CONNECT WITH EXISTING GUIDE RAIL AT THE NY	LT	2426+25.50 to 2453+85.50
		1																	GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	2447+83.00 to 2450+56.00
																			SR 0081 NORTHBOUND		
4787.5		1																	GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	1969+42.00 to 2076+48.00
																			REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	1969+45.75 to 1984+54.00
		1																	GUIDE RAIL. CONNECT TO NB GUIDE RAIL AT STA 1976+46	RT	1976+46.00 to 1983+50.00
																			REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	1976+46.00 to 1983+76.50
																			REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	1985+23.00 to 2017+70.50
										6									GUIDE RAIL. PROTECT WITH A PERMANENT BURIED-IN BACKSLOPE TERMINAL. CONNECT TO SUSQUEHANNA STREET BRIDGE.	RT	2011+15.00 to 2017+03.00
																			REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2012+55.00 to 2017+48.00
																			REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2017+79.50 to 2018+79.25
																			REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2018+03.00 to 2212+56.00

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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GEOTEXTILE, CLASS 4, TYPE A	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 37.5 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 8 1/2" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX	SUBBASE 6" DEPTH (NO. 2A)	SUBBASE 8" DEPTH (NO. 2A)	SUBBASE (NO. 2A)	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-E	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH	ASPHALT TACK COAT	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, FLARED (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, MASH, WIDTHS LESS THAN OR EQUAL TO 36 INCHES	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	TERMINAL SECTION, SINGLE	TERMINAL SECTION, BRIDGE CONNECTION	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)	8" X 6" WOOD OFFSET BRACKETS	GUIDE RAIL ELEMENT	RUBBING RAIL	BURIED-IN-BACKSLOPE TERMINAL, SINGLE PANEL	TYPE 31-S GUIDE RAIL	TYPE 31-S GUIDE RAIL WITH 8' EXTRA LENGTH POSTS	TYPE 31-SC GUIDE RAIL	REMARKS	SIDE	STATIONS
0212 0014 SY	0313 0404 SY	0313 0426 SY	0313 0431 SY	0313 0437 TON	0350 0106 SY	0350 0108 SY	0350 0120 CY	0413 0249 SY	0413 6047 TON	0413 6048 SY	0460 0001 SY	0619 0450 EACH	0619 0459 EACH	0619 0744 EACH	0620 0010 EACH	0620 0011 EACH	0620 0400 EACH	0620 0402 EACH	0620 0503 LF	0620 0528 EACH	0620 0575 LF	0620 0585 LF	0620 0872 EACH	0620 1600 LF	0620 1602 LF	0620 1625 LF	ITEM NUMBER UNIT		
1258				572			538																				CONCRETE BARRIER. END TRANSITION ON APPROACH END. INCLUDE SUBBASE IN FRONT OF BARRIER. STA 2029+77.25 TO	RT	2029+77.25 to 2070+43.00
																			1146								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2069+53.25 to 2080+96.25
																		1						987.5			GUIDE RAIL.	RT	2070+39.00 to 2080+33.00
												1					1							12500			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	2077+50.00 to 2210+10.00
																			648								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2101+30.50 to 2107+78.25
															1		1							512.5			GUIDE RAIL. CURVED PANELS AT 8.5' RADIUS	RT	2101+91.00 to 2107+54.00
315	1	1		217		1	88	0.1		1	2																CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	RT	2107+50.00 to 2121+60.00
																			1175								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2133+75.50 to 2145+52.00
												1			1									175			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	2142+61.00 to 2145+13.00
106	1	1		72		1	30	0.1		1	2																CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	RT	2145+10.00 to 2149+80.00
264				182			74							1													CONCRETE BARRIER. PROTECT WITH IMPACT ATTENUATING DEVICE	RT	2150+53.00 to 2162+65.00
867				284			440																				CONCRETE BARRIER. END TRANSITION ON APPROACH END. INCLUDE SUBBASE IN FRONT OF BARRIER. STA 2163+07.50 TO STA	RT	2163+07.50 to 2184+85.00
558				385			156							1													CONCRETE BARRIER. PROTECT WITH IMPACT ATTENUATING DEVICE	RT	2185+23.00 to 2210+50.00
																	1	1						150			GUIDE RAIL. CURVED PANELS AT 23' RADIUS	RT	2210+46.00 to 2212+30.00
																			1591								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2210+52.00 to 2226+49.00
																	0							1350			GUIDE RAIL. CURVED PANELS AT 23' RADIUS	RT	2212+50.00 to 2226+42.75
																			7811								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2216+50.00 to 2294+57.75
														1	1		1							6962.5			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	2222+50.00 to 2312+44.50
1180				499			528																				CONCRETE BARRIER. END TRANSITION ON APPROACH END. INCLUDE SUBBASE IN FRONT OF BARRIER. STA 2228+67.50 TO STA	RT	2228+67.50 to 2264+60.00
583				402			163							1													CONCRETE BARRIER. PROTECT WITH IMPACT ATTENUATING DEVICE	RT	2265+95.00 to 2292+59.50
																			94								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2292+50.75 to 2293+44.75
																		1						112.5			GUIDE RAIL	RT	2292+56.00 to 2293+72.00
386				267			108							1													CONCRETE BARRIER. PROTECT WITH IMPACT ATTENUATING DEVICE	RT	2294+11.50 to 2311+60.00
																1								575			GUIDE RAIL. CONNECT TO SUSQUEHANNA RIVER BRIDGE	RT	2311+56.00 to 2318+19.50
																			578								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2311+93.03 to 2318+26.50
207			207			207																					MEDIAN CONCRETE BARRIER. INCLUDE NB AND SB BARRIERS. INCLUDES COARSE AGGREGATE AND PAVEMENT SECTION	MEDIAN	2312+41.75 to 2314+63.00
5	5			2		5			1																		MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2314+63.00 to 2314+78.50
																			304								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2314+66.50 to 2318+26.50

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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TYPE 31-SM GUIDE RAIL	CURVED W-BEAM GUIDE RAIL AT INTERSECTIONS	TYPE 31-STRONG POST ANCHOR TERMINAL	TYPE 31-STRONG POST IN-LINE ANCHOR	CONCRETE GLARE SCREEN	CONCRETE MEDIAN BARRIER	SINGLE FACE CONCRETE BARRIER	END TRANSITION, CONCRETE MEDIAN BARRIER	END TRANSITION, SINGLE FACE CONCRETE BARRIER	NO. 57 COARSE AGGREGATE	ROCK, CLASS R-4	CLASS AA CEMENT CONCRETE	REINFORCEMENT BARS, EPOXY COATED	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE)	CONCRETE GLARE SCREEN, SINGLE FACE	TRANSITION, CONCRETE GLARE SCREEN, 50 INCH HEIGHT, 24 INCH TO 42 INCH WIDTH	TRANSITION, CONCRETE GLARE SCREEN, 32 INCH TO 51 7/8 INCH HEIGHT, 34 1/2 INCH TO 30 1/4 INCH WIDTH	TRANSITION, CONCRETE GLARE SCREEN, 51 7/8 INCH TO 50 INCH HEIGHT, 30 1/4 INCH TO 24 INCH WIDTH	HIGH-TENSION CABLE BARRIER SYSTEM	END ANCHOR TERMINAL, HIGH-TENSION CABLE BARRIER SYSTEM								REMARKS	SIDE	STATIONS
0620 1640 LF	0620 1645 LF	0620 1660 EACH	0620 1670 EACH	0622 0001 LF	0623 0001 LF	0623 0032 LF	0623 0109 EACH	0623 0122 EACH	0703 0025 CY	0850 0032 CY	1001 1080 CY	1002 0052 LB	1019 0050 SY	9000 0002 LF	9000 0003 EACH	9000 0004 EACH	9000 0005 EACH	9629 0001 LF	9629 0002 EACH								ITEM NUMBER UNIT		
					4044		1																				CONCRETE BARRIER. END TRANSITION ON APPROACH END. INCLUDE SUBBASE IN FRONT OF BARRIER. STA 2029+77.25 TO	RT	2029+77.25 to 2070+43.00
																											REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2069+53.25 to 2080+96.25
		1																									GUIDE RAIL.	RT	2070+39.00 to 2080+33.00
700		2																									GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	2077+50.00 to 2210+10.00
																											REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2101+30.50 to 2107+78.25
	25		1							6																	GUIDE RAIL. CURVED PANELS AT 8.5' RADIUS	RT	2101+91.00 to 2107+54.00
					1404		1																				CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	RT	2107+50.00 to 2121+60.00
																											REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2133+75.50 to 2145+52.00
										6																	GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	2142+61.00 to 2145+13.00
					468		1																				CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	RT	2145+10.00 to 2149+80.00
					1188																						CONCRETE BARRIER. PROTECT WITH IMPACT ATTENUATING DEVICE	RT	2150+53.00 to 2162+65.00
					2172		1																				CONCRETE BARRIER. END TRANSITION ON APPROACH END. INCLUDE SUBBASE IN FRONT OF BARRIER, STA 2163+07.50 TO STA	RT	2163+07.50 to 2184+85.00
					2508																						CONCRETE BARRIER. PROTECT WITH IMPACT ATTENUATING DEVICE	RT	2185+23.00 to 2210+50.00
	37.5																										GUIDE RAIL. CURVED PANELS AT 23' RADIUS	RT	2210+46.00 to 2212+30.00
																											REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2210+52.00 to 2226+49.00
	37.5	1	1																								GUIDE RAIL. CURVED PANELS AT 23' RADIUS	RT	2212+50.00 to 2226+42.75
																											REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2216+50.00 to 2294+57.75
1962.5		2								6																	GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	2222+50.00 to 2312+44.50
					3588		1																				CONCRETE BARRIER. END TRANSITION ON APPROACH END. INCLUDE SUBBASE IN FRONT OF BARRIER, STA 2228+67.50 TO STA	RT	2228+67.50 to 2264+60.00
					2628																						CONCRETE BARRIER. PROTECT WITH IMPACT ATTENUATING DEVICE	RT	2265+95.00 to 2292+59.50
																											REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2292+50.75 to 2293+44.75
		1																									GUIDE RAIL	RT	2292+56.00 to 2293+72.00
					1740																						CONCRETE BARRIER. PROTECT WITH IMPACT ATTENUATING DEVICE	RT	2294+11.50 to 2311+60.00
																											GUIDE RAIL. CONNECT TO SUSQUEHANNA RIVER BRIDGE	RT	2311+56.00 to 2318+19.50
																											REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2311+93.03 to 2318+26.50
						444			155																		MEDIAN CONCRETE BARRIER. INCLUDE NB AND SB BARRIERS. INCLUDES COARSE AGGREGATE AND PAVEMENT SECTION	MEDIAN	2312+41.75 to 2314+63.00
																1											MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2314+63.00 to 2314+78.50
																											REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2314+66.50 to 2318+26.50

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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GEOTEXTILE, CLASS 4, TYPE A	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 37.5 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 8 1/2" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX	SUBBASE 6" DEPTH (NO. 2A)	SUBBASE 8" DEPTH (NO. 2A)	SUBBASE (NO. 2A)	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-E	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH	ASPHALT TACK COAT	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, FLARED (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, MASH, WIDTHS LESS THAN OR EQUAL TO 36 INCHES	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	TERMINAL SECTION, SINGLE	TERMINAL SECTION, BRIDGE CONNECTION	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)	8" X 6" WOOD OFFSET BRACKETS	GUIDE RAIL ELEMENT	RUBBING RAIL	BURIED-IN-BACKSLOPE TERMINAL, SINGLE PANEL	TYPE 31-S GUIDE RAIL	TYPE 31-S GUIDE RAIL WITH 8' EXTRA LENGTH POSTS	TYPE 31-SC GUIDE RAIL	REMARKS	SIDE	STATIONS
0212 0014 SY	0313 0404 SY	0313 0426 SY	0313 0431 SY	0313 0437 TON	0350 0106 SY	0350 0108 SY	0350 0120 CY	0413 0249 SY	0413 6047 TON	0413 6048 SY	0460 0001 SY	0619 0450 EACH	0619 0459 EACH	0619 0744 EACH	0620 0010 EACH	0620 0011 EACH	0620 0400 EACH	0620 0402 EACH	0620 0503 LF	0620 0528 EACH	0620 0575 LF	0620 0585 LF	0620 0872 EACH	0620 1600 LF	0620 1602 LF	0620 1625 LF	ITEM NUMBER / UNIT		
40	40	40				40				40																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2314+78.50 to 2317+07.00
9	9	9				9				9																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2317+07.00 to 2317+45.50
6	6	6				6				6																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2317+45.50 to 2317+63.00
18	18	18				18				18																	MEIDAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2317+63.00 to 2318+07.75
																			136								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2325+35.25 to 2326+70.50
18	18	18				18				18																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2325+51.50 to 2325+96.50
6	6	6				6				6																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2325+96.50 to 2326+14.00
167	167	167				167				167																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2326+14.00 to 2333+65.00
												1				1								387.5			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CONNECT TO SR 0171 BRIDGE	RT	2329+46.00 to 2334+06.00
																			430								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2329+86.00 to 2334+15.25
																			343								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2330+73.00 to 2334+15.25
6	6	6				6				6																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2333+65.00 to 2333+82.75
18	18	18				18				18																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2333+82.75 to 2334+28.00
18	18	18				18				18																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2335+60.00 to 2336+05.00
																			504								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2335+72.00 to 2340+75.50
																		1						225		25	GUIDE RAIL. INCLUDE 25' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO SR 0171 BRIDGE	RT	2335+87.00 to 2338+50.00
6	6	6				6				6																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2336+05.00 to 2336+22.50
563	563	563				563				563																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2336+22.50 to 2361+53.25
																			304								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2340+16.50 to 2343+19.50
345				238			96																				CONCRETE BARRIER. CONNECT TO THE RAILROAD BARRIER WITH MOMENT SLAB	RT	2344+36.50 to 2359+85.00
9	9	9				9				9																	MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2361+53.25 to 2361+80.50
286				266		286																					MEDIAN CONCRETE BARRIER. INCLUDE NB AND SB BARRIERS. INCLUDE PAVEMENT SECTION	MEDIAN	2361+80.50 to 2366+22.50
															1								1	1687.5			GUIDE RAIL. PROTECT WITH A BURIED-IN BACKSLOPE TERMINAL. CONNECT TO SR 1029 BRIDGE	RT	2373+00.00 to 2390+33.50
														1		1								637.5			GUIDE RAIL. CONNECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CONNECT TO THE TROWBRIDGE CREEK BRIDGE	LT	2381+66.00 to 2396+50.50
																			250								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2388+51.00 to 2391+01.00
																			229								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2388+64.00 to 2390+92.25
24	1	1		12		1	11	0.1		1																	CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	RT	2390+30.50 to 2391+73.90
																			150								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2391+31.00 to 2392+80.50

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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TYPE 31-SM GUIDE RAIL 0620 1640 LF	CURVED W-BEAM GUIDE RAIL AT INTERSECTIONS 0620 1645 LF	TYPE 31-STRONG POST ANCHOR TERMINAL 0620 1660 EACH	TYPE 31-STRONG POST IN-LINE ANCHOR 0620 1670 EACH	CONCRETE GLARE SCREEN 0622 0001 LF	CONCRETE MEDIAN BARRIER 0623 0001 LF	SINGLE FACE CONCRETE BARRIER 0623 0032 LF	END TRANSITION, CONCRETE MEDIAN BARRIER 0623 0109 EACH	END TRANSITION, SINGLE FACE CONCRETE BARRIER 0623 0122 EACH	NO. 57 COARSE AGGREGATE 0703 0025 CY	ROCK, CLASS R-4 0850 0032 CY	CLASS AA CEMENT CONCRETE 1001 1080 CY	REINFORCEMENT BARS, EPOXY COATED 1002 0052 LB	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) 1019 0050 SY	CONCRETE GLARE SCREEN, SINGLE FACE 9000 0002 LF	TRANSITION, CONCRETE GLARE SCREEN, 50 INCH HEIGHT, 24 INCH TO 42 INCH WIDTH 9000 0003 EACH	TRANSITION, CONCRETE GLARE SCREEN, 32 INCH TO 51 7/8 INCH HEIGHT, 34 1/2 INCH TO 30 1/4 INCH WIDTH 9000 0004 EACH	TRANSITION, CONCRETE GLARE SCREEN, 51 7/8 INCH TO 50 INCH HEIGHT, 30 1/4 INCH TO 24 INCH WIDTH 9000 0005 EACH	HIGH-TENSION CABLE BARRIER SYSTEM 9629 0001 LF	END ANCHOR TERMINAL, HIGH-TENSION CABLE BARRIER SYSTEM 9629 0002 EACH	REMARKS	SIDE	STATIONS
																	1			ITEM NUMBER / UNIT		
																				MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2314+78.50 to 2317+07.00
				48																MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2317+07.00 to 2317+45.50
															1					MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2317+45.50 to 2317+63.00
														96						MEIDAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2317+63.00 to 2318+07.75
																				REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2325+35.25 to 2326+70.50
														96						MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2325+51.50 to 2325+96.50
															1					MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2325+96.50 to 2326+14.00
				756																MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2326+14.00 to 2333+65.00
																				GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CONNECT TO SR 0171 BRIDGE	RT	2329+46.00 to 2334+06.00
																				REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2329+86.00 to 2334+15.25
																				REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2330+73.00 to 2334+15.25
															1					MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2333+65.00 to 2333+82.75
														96						MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2333+82.75 to 2334+28.00
														96						MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2335+60.00 to 2336+05.00
																				REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2335+72.00 to 2340+75.50
		1																		GUIDE RAIL. INCLUDE 25' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO SR 0171 BRIDGE	RT	2335+87.00 to 2338+50.00
															1					MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2336+05.00 to 2336+22.50
				2532																MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2336+22.50 to 2361+53.25
																				REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2340+16.50 to 2343+19.50
					1560															CONCRETE BARRIER. CONNECT TO THE RAILROAD BARRIER WITH MOMENT SLAB	RT	2344+36.50 to 2359+85.00
															1					MEDIAN CONCRETE BARRIER. INCLUDE PAVEMENT SECTION	MEDIAN	2361+53.25 to 2361+80.50
									165					888						MEDIAN CONCRETE BARRIER. INCLUDE NB AND SB BARRIERS. INCLUDE PAVEMENT SECTION	MEDIAN	2361+80.50 to 2366+22.50
										6										GUIDE RAIL. PROTECT WITH A BURIED-IN BACKSLOPE TERMINAL. CONNECT TO SR 1029 BRIDGE	RT	2373+00.00 to 2390+33.50
775		1																		GUIDE RAIL. CONNECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CONNECT TO THE TROWBRIDGE CREEK BRIDGE	LT	2381+66.00 to 2396+50.50
																				REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2388+51.00 to 2391+01.00
																				REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2388+64.00 to 2390+92.25
						144		1												CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	RT	2390+30.50 to 2391+73.90
																				REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2391+31.00 to 2392+80.50

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	87 OF 247

GEOTEXTILE, CLASS 4, TYPE A	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 37.5 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 8 1/2" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX	SUBBASE 6" DEPTH (NO. 2A)	SUBBASE 8" DEPTH (NO. 2A)	SUBBASE (NO. 2A)	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-E	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH	ASPHALT TACK COAT	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, FLARED (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, MASH, WIDTHS LESS THAN OR EQUAL TO 36 INCHES	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	TERMINAL SECTION, SINGLE	TERMINAL SECTION, BRIDGE CONNECTION	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)	8" X 6" WOOD OFFSET BRACKETS	GUIDE RAIL ELEMENT	RUBBING RAIL	BURIED-IN-BACKSLOPE TERMINAL, SINGLE PANEL	TYPE 31-S GUIDE RAIL	TYPE 31-S GUIDE RAIL WITH 8' EXTRA LENGTH POSTS	TYPE 31-SC GUIDE RAIL	REMARKS	SIDE	STATIONS
0212 0014 SY	0313 0404 SY	0313 0426 SY	0313 0431 SY	0313 0437 TON	0350 0106 SY	0350 0108 SY	0350 0120 CY	0413 0249 SY	0413 6047 TON	0413 6048 SY	0460 0001 SY	0619 0450 EACH	0619 0459 EACH	0619 0744 EACH	0620 0010 EACH	0620 0011 EACH	0620 0400 EACH	0620 0402 EACH	0620 0503 LF	0620 0528 EACH	0620 0575 LF	0620 0585 LF	0620 0872 EACH	0620 1600 LF	0620 1602 LF	0620 1625 LF	ITEM NUMBER / UNIT		
																			521								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2391+45.75 to 2396+66.50
																1		1						450			GUIDE RAIL. CONNECT TO SR 1029 AND TROWBRIDGE CREEK BRIDGE	RT	2391+70.00 to 2396+50.50
																			281								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2393+86.75 to 2396+67.00
																			145								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2397+58.50 to 2399+03.00
																			543								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2397+59.00 to 2403+02.00
																1		1						437.5			GUIDE RAIL. INCLUDE 25' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO TROWBRIDGE CREEK BRIDGE	RT	2397+72.50 to 2402+72.50
																		1						5237.5		25	GUIDE RAIL. INCLUDE 25' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO TROWBRIDGE CREEK BRIDGE	LT	2397+72.50 to 2450+37.00
																											GUIDE RAIL. INCLUDE 25' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO TROWBRIDGE CREEK BRIDGE	LT	2397+72.50 to 2450+37.00
1091	1	1		754		1	304	0.1		1																	CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	RT	2402+69.75 to 2451+81.50
																			578								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2423+56.75 to 2429+34.00
																			291								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2447+99.50 to 2450+89.75
																											SR 8011 RAMP A		
															1									850			GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL AT SR 0171	RT	33+91.00 to 42+53.00
																			872								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	RT	33+97.00 to 42+41.00
																			478								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171		34+35.00 to 37+20.75
															1									337.5			GUIDE RAIL. CURVED PANELS AT 30' RADIUS. CONNECT TO SR 0171 CONCRETE BARRIER	LT	34+46.00 to 37+48.00
																											SR 8011 RAMP B		
																		1						775			GUIDE RAIL. CURVED PANELS AT 88' RADIUS	LT	333+87.00 to 342+64.00
																			926								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	LT	333+88.67 to 342+73.50
																			447								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	RT	334+29.00 to 336+60.25
												1						1						350			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CURVED PANELS AT 20' RADIUS	RT	334+40.00 to 337+20.00
																											SR 8011 RAMP C		
																			1092								REMOVE EXISTING GUIDE RAIL ALONG OUTISDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	LT	124+69.25 to 134+86.00
												1				1								925			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CURVED PANELS AT 48' RADIUS. CONNECT TO	LT	124+73.00 to 134+85.00
																			550								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	RT	130+80.00 to 134+22.00
																											SR 8011 RAMP D		
																			1019								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	RT	204+66.25 to 214+55.00
																1		1						862.5		37.5	GUIDE RAIL. CURVED PANELS AT 63.5'. CONNECT TO SUSQUEHANNA RIVER BRIDGE	RT	204+68.00 to 214+55.00

PROJECT ID: 3926 MPMS: 75917 ECMS: 75917 11/18/2021 9:47:23 AM

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	88 OF 247

TYPE 31-SM GUIDE RAIL 0620 1640 LF	CURVED W-BEAM GUIDE RAIL AT INTERSECTIONS 0620 1645 LF	TYPE 31-STRONG POST ANCHOR TERMINAL 0620 1660 EACH	TYPE 31-STRONG POST IN-LINE ANCHOR 0620 1670 EACH	CONCRETE GLARE SCREEN 0622 0001 LF	CONCRETE MEDIAN BARRIER 0623 0001 LF	SINGLE FACE CONCRETE BARRIER 0623 0052 LF	END TRANSITION, CONCRETE MEDIAN BARRIER 0623 0109 EACH	END TRANSITION, SINGLE FACE CONCRETE BARRIER 0623 0122 EACH	NO. 57 COARSE AGGREGATE 0703 0025 CY	ROCK, CLASS R-4 0850 0032 CY	CLASS AA CEMENT CONCRETE 1001 1080 CY	REINFORCEMENT BARS, EPOXY COATED 1002 0052 LB	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) 1019 0050 SY	CONCRETE GLARE SCREEN, SINGLE FACE 9000 0002 LF	TRANSITION, CONCRETE GLARE SCREEN, 50 INCH HEIGHT, 24 INCH TO 42 INCH WIDTH 9000 0003 EACH	TRANSITION, CONCRETE GLARE SCREEN, 32 INCH TO 51 7/8 INCH HEIGHT, 34 1/2 INCH TO 30 1/4 INCH WIDTH 9000 0004 EACH	TRANSITION, CONCRETE GLARE SCREEN, 51 7/8 INCH TO 50 INCH HEIGHT, 30 1/4 INCH TO 24 INCH WIDTH 9000 0005 EACH	HIGH-TENSION CABLE BARRIER SYSTEM 9629 0001 LF	END ANCHOR TERMINAL, HIGH-TENSION CABLE BARRIER SYSTEM 9629 0002 EACH	ITEM NUMBER UNIT	REMARKS	SIDE	STATIONS
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2391+45.75 to 2396+66.50
																					GUIDE RAIL. CONNECT TO SR 1029 AND TROWBRIDGE CREEK BRIDGE	RT	2391+70.00 to 2396+50.50
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2393+86.75 to 2396+67.00
																					REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2397+58.50 to 2399+03.00
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	2397+59.00 to 2403+02.00
																					GUIDE RAIL. INCLUDE 25' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO TROWBRIDGE CREEK BRIDGE	RT	2397+72.50 to 2402+72.50
		1																			GUIDE RAIL. INCLUDE 25' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO TROWBRIDGE CREEK BRIDGE	LT	2397+72.50 to 2450+37.00
																					GUIDE RAIL. INCLUDE 25' OF TYPE 31-SC GUIDE RAIL FOR CURB PROTECTION. CONNECT TO TROWBRIDGE CREEK BRIDGE	LT	2397+72.50 to 2450+37.00
					4908		1														CONCRETE BARRIER. INCLUDE PAVEMENT FOR THE TRIANGLE SECTION IN FRONT OF THE APPROACH END TRANSITION	RT	2402+69.75 to 2451+81.50
																					REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2423+56.75 to 2429+34.00
																					REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	2447+99.50 to 2450+89.75
																					SR 8011 RAMP A		
										6											GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL AT SR 0171	RT	33+91.00 to 42+53.00
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	RT	33+97.00 to 42+41.00
																					REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171		34+35.00 to 37+20.75
	62.5		2							6											GUIDE RAIL. CURVED PANELS AT 30' RADIUS. CONNECT TO SR 0171 CONCRETE BARRIER	LT	34+46.00 to 37+48.00
																					SR 8011 RAMP B		
	100	1	1																		GUIDE RAIL. CURVED PANELS AT 88' RADIUS	LT	333+87.00 to 342+64.00
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	LT	333+88.67 to 342+73.50
																					REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	RT	334+29.00 to 336+60.25
	50		2																		GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CURVED PANELS AT 20' RADIUS	RT	334+40.00 to 337+20.00
																					SR 8011 RAMP C		
																					REMOVE EXISTING GUIDE RAIL ALONG OUTISDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	LT	124+69.25 to 134+86.00
	62.5		2																		GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CURVED PANELS AT 48' RADIUS. CONNECT TO	LT	124+73.00 to 134+85.00
																					REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	RT	130+80.00 to 134+22.00
																					SR 8011 RAMP D		
																					REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	RT	204+66.25 to 214+55.00
	87.5	1	1																		GUIDE RAIL. CURVED PANELS AT 63.5'. CONNECT TO SUSQUEHANNA RIVER BRIDGE	RT	204+68.00 to 214+55.00

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	89 OF 247

GEOTEXTILE, CLASS 4, TYPE A	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 37.5 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 8 1/2" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX	SUBBASE 6" DEPTH (NO. 2A)	SUBBASE 8" DEPTH (NO. 2A)	SUBBASE (NO. 2A)	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-E	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH	ASPHALT TACK COAT	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, FLARED (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, MASH, WIDTHS LESS THAN OR EQUAL TO 36 INCHES	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	TERMINAL SECTION, SINGLE	TERMINAL SECTION, BRIDGE CONNECTION	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)	8" X 6" WOOD OFFSET BRACKETS	GUIDE RAIL ELEMENT	RUBBING RAIL	BURIED-IN-BACKSLOPE TERMINAL, SINGLE PANEL	TYPE 31-S GUIDE RAIL	TYPE 31-S GUIDE RAIL WITH 8' EXTRA LENGTH POSTS	TYPE 31-SC GUIDE RAIL	REMARKS	SIDE	STATIONS
0212 0014 SY	0313 0404 SY	0313 0426 SY	0313 0431 SY	0313 0437 TON	0350 0106 SY	0350 0108 SY	0350 0120 CY	0413 0249 SY	0413 6047 TON	0413 6048 SY	0460 0001 SY	0619 0450 EACH	0619 0459 EACH	0619 0744 EACH	0620 0010 EACH	0620 0011 EACH	0620 0400 EACH	0620 0402 EACH	0620 0503 LF	0620 0528 EACH	0620 0575 LF	0620 0585 LF	0620 0872 EACH	0620 1600 LF	0620 1602 LF	0620 1625 LF	ITEM NUMBER / UNIT		
																			661								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	LT	209+50.00 to 214+15.00
																											SR 9203 RAMP A		
																								1712.5			GUIDE RAIL. CONNECT TO THE SB GUIDE RAIL AT STA 0+08.00. FROM THIS POINT NORTH THE GUIDE RAIL WILL CONTINUE ON SR	LT	0+08.00 to 17+35.25
																			1303								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER. FROM STA 4+35 GUIDE RAIL REMOVAL CONTINUE ALONG SR 0081	LT	4+35.00 to 17+35.00
																			209								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	15+47.50 to 17+52.00
													1											100				GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	16+00.00 to 17+52.00
																											SR 9203 RAMP B		
																			1110								REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	45+30.00 to 56+55.00
																			138								REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	45+30.50 to 46+58.00
																								125			GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL AT RAMP	LT	45+31.00 to 46+57.00
															1									1062.5			GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL AT THE RAMP	RT	45+37.00 to 56+38.00
																											SR 1029		
																1								300			GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL	LT	116+64.00 to 119+99.00
																			345								REMOVE EXISTING GUIDE RAIL ALONG LEFT SIDE	LT	116+64.00 to 120+10.00
																								62.5	75		GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL. CURVED PANELS AT 61' RADIUS. INCLUDE SR 1031 GUIDE RAIL.	RT	116+73.00 to 118+20.00
																			262								REMOVE EXISTING GUIDE RAIL ALONG RIGHT SIDE. INCLUDE CONTINUOUS GUIDE RAIL ALONG RANDOLPH ST	RT	116+73.00 to 118+20.00
																1								125			GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL. CURVED PANELS AT 31' RADIUS	RT	118+33.00 to 119+90.00
																			296								REMOVE EXISTING GUIDE RAIL ALONG LEFT SIDE. INCLUDE CONTINUOUS GUIDE RAIL ALONG RANDOLPH ST	RT	118+51.00 to 119+91.00
																1	1							237.5			GUIDE RAIL. CURVED PANELS AT 50' RADIUS	RT	122+02.00 to 125+40.00
													1			1								350			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	122+11.00 to 126+30.00
																			412								REMOVE EXISTING GUIDE RAIL ALONG LEFT SIDE	LT	122+19.00 to 126+30.00
																			329								REMOVE EXISTING GUIDE RAIL ALONG RIGHT SIDE. INCLUDE CONTINUOUS GUIDE RAIL ALONG T-847	RT	122+25.00 to 125+39.00
													1				1							12.5			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CURVED PANELS AT 26' RADIUS	RT	125+74.00 to 126+57.00
																			116								REMOVE EXISTING GUIDE RAIL ALONG THE RIGHT SIDE. INCLUDE CONTINUOUS GUIDE RAIL ALONG T-847	RT	125+77.00 to 126+59.00
																											SR 0171		
35					35																						CONCRETE BARRIER UNDER SR 0171. APPROACH END TRANSITION AT BOTH END OF THE CONCRETE BARRIER	RT	433+73.00 to 435+72.25
31					31																						CONCRETE BARRIER UNDER SR 0171. APPROACH END TRANSITION AT BOTH END OF THE CONCRETE BARRIER. CONNECT TO GUIDE	LT	433+75.00 to 435+71.50
																											SUSQUEHANNA STREET		

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TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	90 OF 247

TYPE 31-SM GUIDE RAIL 0620 1640 LF	CURVED W-BEAM GUIDE RAIL AT INTERSECTIONS 0620 1645 LF	TYPE 31-STRONG POST ANCHOR TERMINAL 0620 1660 EACH	TYPE 31-STRONG POST IN-LINE ANCHOR 0620 1670 EACH	CONCRETE GLARE SCREEN 0622 0001 LF	CONCRETE MEDIAN BARRIER 0623 0001 LF	SINGLE FACE CONCRETE BARRIER 0623 0032 LF	END TRANSITION, CONCRETE MEDIAN BARRIER 0623 0109 EACH	END TRANSITION, SINGLE FACE CONCRETE BARRIER 0623 0122 EACH	NO. 57 COARSE AGGREGATE 0703 0025 CY	ROCK, CLASS R-4 0850 0032 CY	CLASS AA CEMENT CONCRETE 1001 1080 CY	REINFORCEMENT BARS, EPOXY COATED 1002 0052 LB	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) 1019 0050 SY	CONCRETE GLARE SCREEN, SINGLE FACE 9000 0002 LF	TRANSITION, CONCRETE GLARE SCREEN, 50 INCH HEIGHT, 24 INCH TO 42 INCH WIDTH 9000 0003 EACH	TRANSITION, CONCRETE GLARE SCREEN, 32 INCH TO 51 7/8 INCH HEIGHT, 34 1/2 INCH TO 30 1/4 INCH WIDTH 9000 0004 EACH	TRANSITION, CONCRETE GLARE SCREEN, 51 7/8 INCH TO 50 INCH HEIGHT, 30 1/4 INCH TO 24 INCH WIDTH 9000 0005 EACH	HIGH-TENSION CABLE BARRIER SYSTEM 9629 0001 LF	END ANCHOR TERMINAL, HIGH-TENSION CABLE BARRIER SYSTEM 9629 0002 EACH								ITEM NUMBER / UNIT	REMARKS	SIDE	STATIONS
																											REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER. INCLUDE CONTINUOUS GUIDE RAIL ALONG SR 171	LT	209+50.00 to 214+15.00
																											SR 9203 RAMP A		
		1																									GUIDE RAIL. CONNECT TO THE SB GUIDE RAIL AT STA 0+08.00. FROM THIS POINT NORTH THE GUIDE RAIL WILL CONTINUE ON SR	LT	0+08.00 to 17+35.25
																											REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER. FROM STA 4+35 GUIDE RAIL REMOVAL CONTINUE ALONG SR 0081	LT	4+35.00 to 17+35.00
																											REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	RT	15+47.50 to 17+52.00
		1																									GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	16+00.00 to 17+52.00
																											SR 9203 RAMP B		
																											REMOVE EXISTING GUIDE RAIL ALONG OUTSIDE SHOULDER	RT	45+30.00 to 56+55.00
																											REMOVE EXISTING GUIDE RAIL ALONG INSIDE SHOULDER	LT	45+30.50 to 46+58.00
		1																									GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL AT RAMP	LT	45+31.00 to 46+57.00
										6																	GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL AT THE RAMP	RT	45+37.00 to 56+38.00
																											SR 1029		
																											GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL	LT	116+64.00 to 119+99.00
																											REMOVE EXISTING GUIDE RAIL ALONG LEFT SIDE	LT	116+64.00 to 120+10.00
	100		2																								GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL. CURVED PANELS AT 61' RADIUS. INCLUDE SR 1031 GUIDE RAIL.	RT	116+73.00 to 118+20.00
																											REMOVE EXISTING GUIDE RAIL ALONG RIGHT SIDE. INCLUDE CONTINUOUS GUIDE RAIL ALONG RANDOLPH ST	RT	116+73.00 to 118+20.00
	100		2																								GUIDE RAIL. CONNECT TO EXISTING GUIDE RAIL. CURVED PANELS AT 31' RADIUS	RT	118+33.00 to 119+90.00
																											REMOVE EXISTING GUIDE RAIL ALONG LEFT SIDE. INCLUDE CONTINUOUS GUIDE RAIL ALONG RANDOLPH ST	RT	118+51.00 to 119+91.00
	62.5		1																								GUIDE RAIL. CURVED PANELS AT 50' RADIUS	RT	122+02.00 to 125+40.00
																											GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	LT	122+11.00 to 126+30.00
																											REMOVE EXISTING GUIDE RAIL ALONG LEFT SIDE	LT	122+19.00 to 126+30.00
																											REMOVE EXISTING GUIDE RAIL ALONG RIGHT SIDE. INCLUDE CONTINUOUS GUIDE RAIL ALONG T-847	RT	122+25.00 to 125+39.00
	62.5																										GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CURVED PANELS AT 26' RADIUS	RT	125+74.00 to 126+57.00
																											REMOVE EXISTING GUIDE RAIL ALONG THE RIGHT SIDE. INCLUDE CONTINUOUS GUIDE RAIL ALONG T-847	RT	125+77.00 to 126+59.00
																											SR 0171		
						168		2																			CONCRETE BARRIER UNDER SR 0171. APPROACH END TRANSITION AT BOTH END OF THE CONCRETE BARRIER	RT	433+73.00 to 435+72.25
						192		2																			CONCRETE BARRIER UNDER SR 0171. APPROACH END TRANSITION AT BOTH END OF THE CONCRETE BARRIER. CONNECT TO GUIDE	LT	433+75.00 to 435+71.50
																											SUSQUEHANNA STREET		

TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	91 OF 247

GEOTEXTILE, CLASS 4, TYPE A	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 37.5 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 6" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX, 8 1/2" DEPTH	SUPERPAVE ASPHALT MIXTURE DESIGN, BASE COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 25.0 MM MIX	SUBBASE 6" DEPTH (NO. 2A)	SUBBASE 8" DEPTH (NO. 2A)	SUBBASE (NO. 2A)	SUPERPAVE ASPHALT MIXTURE DESIGN, WEARING COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 2" DEPTH, SRL-E	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX	SUPERPAVE ASPHALT MIXTURE DESIGN, BINDER COURSE, PG 64S-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX, 3 1/2" DEPTH	ASPHALT TACK COAT	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, FLARED (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3, TANGENT (MASH)	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V, TEST LEVEL 3, MASH, WIDTHS LESS THAN OR EQUAL TO 36 INCHES	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITHOUT INLET PLACEMENT	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	TERMINAL SECTION, SINGLE	TERMINAL SECTION, BRIDGE CONNECTION	REMOVE EXISTING GUIDE RAIL (CONTRACTOR'S PROPERTY)	8" X 6" WOOD OFFSET BRACKETS	GUIDE RAIL ELEMENT	RUBBING RAIL	BURIED-IN-BACKSLOPE TERMINAL, SINGLE PANEL	TYPE 31-S GUIDE RAIL	TYPE 31-S GUIDE RAIL WITH 8' EXTRA LENGTH POSTS	TYPE 31-SC GUIDE RAIL	REMARKS	SIDE	STATIONS
0212 0014 SY	0313 0404 SY	0313 0426 SY	0313 0431 SY	0313 0437 TON	0350 0106 SY	0350 0108 SY	0350 0120 CY	0413 0249 SY	0413 6047 TON	0413 6048 SY	0460 0001 SY	0619 0450 EACH	0619 0459 EACH	0619 0744 EACH	0620 0010 EACH	0620 0011 EACH	0620 0400 EACH	0620 0402 EACH	0620 0503 LF	0620 0528 EACH	0620 0575 LF	0620 0585 LF	0620 0872 EACH	0620 1600 LF	0620 1602 LF	0620 1625 LF	ITEM NUMBER / UNIT			
													1				1							25			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	11+52.00 to 12+21.00
																											T-847 (EMERSON ROAD)		
												1												612.5			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CURVED PANELS AT 13' RADIUS	LT	22+70.00 to 29+42.00
10565	1056	1051	207	4545	66	1549	3448	0.8	1.1	1051	9	11	4	10	16	13	14	21	90300	12	37.5	37.5	6	80475	600	1162.5	TOTALS		

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TABULATION OF QUANTITIES

GUIDE RAIL/CONCRETE BARRIER

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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TYPE 31-SM GUIDE RAIL 0620 1640 LF	CURVED W-BEAM GUIDE RAIL AT INTERSECTIONS 0620 1645 LF	TYPE 31-STRONG POST ANCHOR TERMINAL 0620 1660 EACH	TYPE 31-STRONG POST IN-LINE ANCHOR 0620 1670 EACH	CONCRETE GLARE SCREEN 0622 0001 LF	CONCRETE MEDIAN BARRIER 0623 0001 LF	SINGLE FACE CONCRETE BARRIER 0623 0052 LF	END TRANSITION, CONCRETE MEDIAN BARRIER 0623 0109 EACH	END TRANSITION, SINGLE FACE CONCRETE BARRIER 0623 0122 EACH	NO. 57 COARSE AGGREGATE 0703 0025 CY	ROCK, CLASS R-4 0850 0032 CY	CLASS AA CEMENT CONCRETE 1001 1080 CY	REINFORCEMENT BARS, EPOXY COATED 1002 0052 LB	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE) 1019 0050 SY	CONCRETE GLARE SCREEN, SINGLE FACE 9000 0002 LF	TRANSITION, CONCRETE GLARE SCREEN, 50 INCH HEIGHT, 24 INCH TO 42 INCH WIDTH 9000 0003 EACH	TRANSITION, CONCRETE GLARE SCREEN, 32 INCH TO 51 7/8 INCH HEIGHT, 34 1/2 INCH TO 30 1/4 INCH WIDTH 9000 0004 EACH	TRANSITION, CONCRETE GLARE SCREEN, 51 7/8 INCH TO 50 INCH HEIGHT, 30 1/4 INCH TO 24 INCH WIDTH 9000 0005 EACH	HIGH-TENSION CABLE BARRIER SYSTEM 9629 0001 LF	END ANCHOR TERMINAL, HIGH-TENSION CABLE BARRIER SYSTEM 9629 0002 EACH								ITEM NUMBER / UNIT	REMARKS	SIDE	STATIONS
																																			GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE	RT	11+52.00 to 12+21.00
																																			T-847 (EMERSON ROAD)		
	25		1																																GUIDE RAIL. PROTECT WITH A PERMANENT IMPACT ATTENUATING DEVICE. CURVED PANELS AT 13' RADIUS	LT	22+70.00 to 29+42.00
9987.5	1000	34	23	4056	29100	1044	9	6	320	102	1485	193200	808	1272	5	1	1	24195	26																TOTALS		

PROJECT ID: 3926 MPMS: 75917 ECMS: 75917 11/18/2021 9:47:23 AM

TABULATION OF QUANTITIES

RIGHT-OF-WAY FENCE

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	93 OF 247

RIGHT-OF-WAY FENCE, TYPE 1 0624 0001 LF	RIGHT-OF-WAY FENCE, TYPE 5 0624 0250 LF	REMOVAL OF EXISTING RIGHT-OF-WAY FENCE 0624 0275 LF	END POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE 0624 0300 EACH	END POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE 0624 0304 EACH	CORNER POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE 0624 0400 EACH	CORNER POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE 0624 0404 EACH	PULL POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE 0624 0500 EACH	PULL POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE 0624 0504 EACH	LINE POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE 0624 0600 EACH	LINE POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE 0624 0602 EACH	VEHICULAR GATE FOR TYPE 1 RIGHT-OF-WAY FENCE, 14-FOOT OPENING 0624 0724 EACH	VEHICULAR GATE FOR TYPE 5 RIGHT-OF-WAY FENCE, 14-FOOT OPENING 0624 0779 EACH	REMARKS ITEM NUMBER UNIT	SIDE	STATIONS
													BASIN 2377		
1155			2		10		2		116		1		FOR BASIN 2377 OFF T-841 (EMERSON ROAD)	LT	23+34.00 to 29+82.00
													BASIN 2213		
650			2		9				65		1		FOR BASIN 2213 - SR 0081 NORTHBOUND	RT	2212+24.00 to 2214+74.00
													BASIN 2333		
469			2		7				47		1		FOR BASIN 2333 - SR 0081 NORTHBOUND OFF SR 8011 RAMP D	RT	2332+40.00 to 2334+08.00
													SR 0081 NORTHBOUND		
		697											FENCE REMOVAL	RT	227+87.00 to 2234+69.00
	600			2				2		38			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOR THE LINE POSTS AS PER RC-60M	RT	1981+50.00 to 1987+50.00
	777			2		3		4		49			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOR LINE POSTS PER RC-60M. INCLUDES AROUND SUSQUEHANNA ST ARCH	RT	2012+00.00 to 2019+50.00
	1040			1				3		65			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOR LINE POSTS PER RC-60M	RT	2070+50.00 to 2080+86.00
				2							1		FENCE GATE - PAR 2081 NB, CENTER AT STA 0+60.00	RT	2080+91.00
	300			2				1		19			ALONGSIDE NORTHBOUND LANES - 16FT MAX SPACING FOR LINE POSTS PER RC-60M	RT	2096+00.00 to 2099+00.00
				2							1		FENCE GATE - PAR 2101 NB, CENTER AT STA 1+33.00	RT	2101+93.00
	604			1				2		38			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOE LINE POSTS PER RC-60M	RT	2101+96.00 to 2108+00.00
	402			2		4		1		26			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOR LINE POSTS PER RC-60M	RT	2161+50.00 to 2165+50.00
	150			2				1		10			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOR LINE POSTS PER RC-60M	RT	2184+50.00 to 2186+00.00
	130			1		1				9			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOR LINE POSTS PER RC-60M	RT	2210+97.00 to 2212+16.00
		373											FENCE REMOVAL	RT	2210+97.00 to 2214+58.00
	1268					2		3		80			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOR LINE POSTS PER RC-60M	RT	2214+72.00 to 2227+00.00
				2							1		FENCE GATE - PAR 2227 NB, CENTER AT 0+50.00	RL	2227+03.00
	196			1						13			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOR LINE POSTS PER RC-60M	RT	2227+05.00 to 2229+00.00
	3095			2		6		7		194			ALONGSIDE NORTHBOUND LANES - 16FT MAX SPACING FOR LINE POSTS PER RC-60M	RT	2261+50.00 to 2292+65.00
		999											☒ FENCE REMOVAL	RT	2264+94.00 to 2275+03.00
		1136											☒ FENCE REMOVAL	RT	2275+68.00 to 2287+20.00
				2							1		FENCE GATE - PAR 2294 NB, CENTER AT 0+30.00	RT	2293+85.00
	610			1		4		2		39			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOR LINE POSTS PER RC-60M	RT	2293+92.00 to 2300+00.00
	771			2		1		2		49			ALONGSIDE NORTHBOUND LANES - 16 FT MAX SPACING FOR LINE POSTS PER RC-60M	RT	2310+50.00 to 2318+40.00

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TABULATION OF QUANTITIES

RIGHT-OF-WAY FENCE

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	94 OF 247

| RIGHT-OF-WAY FENCE, TYPE 1 | RIGHT-OF-WAY FENCE, TYPE 5 | REMOVAL OF EXISTING RIGHT-OF-WAY FENCE | END POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE | END POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE | CORNER POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE | CORNER POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE | PULL POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE | PULL POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE | LINE POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE | LINE POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE | VEHICULAR GATE FOR TYPE 1 RIGHT-OF-WAY FENCE, 14-FOOT OPENING | VEHICULAR GATE FOR TYPE 5 RIGHT-OF-WAY FENCE, 14-FOOT OPENING | | | | | | | |

TABULATION OF QUANTITIES

RIGHT-OF-WAY FENCE

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	95 OF 247

| RIGHT-OF-WAY FENCE, TYPE 1 | RIGHT-OF-WAY FENCE, TYPE 5 | REMOVAL OF EXISTING RIGHT-OF-WAY FENCE | END POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE | END POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE | CORNER POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE | CORNER POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE | PULL POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE | PULL POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE | LINE POSTS FOR TYPE 1 RIGHT-OF-WAY FENCE | LINE POSTS FOR TYPE 5 RIGHT-OF-WAY FENCE | VEHICULAR GATE FOR TYPE 1 RIGHT-OF-WAY FENCE, 14-FOOT OPENING | VEHICULAR GATE FOR TYPE 5 RIGHT-OF-WAY FENCE, 14-FOOT OPENING | | | | | | | |

TABULATION OF QUANTITIES

MISCELLANEOUS

REVISION NO	REVISIONS	DATE	BY	DISTRICT	COUNTY	ROUTE	SECTION	SHEET
				04	SUSQUEHANNA	81	511	96 OF 247

CORROSION RESISTANT GABIONS, TYPE A 0626 0020 CY	JUNCTION BOXES J.B.-2 0910 0002 EACH	POLE FOUNDATION, TYPE FC 0910 0154 EACH	STEEL LIGHTING POLE WITH 15-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A 0910 0330 EACH	STEEL LIGHTING POLE WITH 20-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A 0910 0332 EACH	AWG 8 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR 0910 4116 LF	2" DIRECT BURIAL CONDUIT 0910 5055 LF	BURIED CABLE AND CONDUIT MARKER 0910 5500 EACH	TRENCH 0910 6000 LF	ASSET NUMBERING SYSTEM UPDATE EFFORT 0910 7025 LS	TESTING OF ENTIRE LIGHTING SYSTEM 0910 7210 LS	REMOVAL OF EXISTING LIGHTING EQUIPMENT 9000 0028 LS	LED LUMINAIRE, ARM MOUNT 9000 0029 EACH	ITEM NUMBER UNIT	REMARKS	SIDE	STATIONS
														SR 0081 NORTHBOUND		
48														SWALE WITH GABIONS. GEOTEXTILE CLASS 4, TYPE A CONSIDERED INCIDENTAL TO GABIONS	RT	2251+78.00 to 2253+22.00
64														SWALE WITH GABIONS. GEOTEXTILE CLASS 4, TYPE A CONSIDERED INCIDENTAL TO GABIONS	RT	2273+79.00 to 2275+71.00
48														SWALE WITH GABIONS. GEOTEXTILE CLASS 4, TYPE A CONSIDERED INCIDENTAL TO GABIONS	RT	2286+78.00 to 2288+22.00
28														SWALE WITH GABIONS. GEOTEXTILE CLASS 4, TYPE A CONSIDERED INCIDENTAL TO GABIONS	RT	2290+98.00 to 2291+82.00
48														SWALE WITH GABIONS. GEOTEXTILE CLASS 4, TYPE A CONSIDERED INCIDENTAL TO GABIONS	RT	2299+38.00 to 2300+82.00
144														SWALE WITH GABIONS. GEOTEXTILE CLASS 4, TYPE A CONSIDERED INCIDENTAL TO GABIONS	RT	2307+36.00 to 2308+80.00
60														SWALE WITH GABIONS. GEOTEXTILE CLASS 4, TYPE A CONSIDERED INCIDENTAL TO GABIONS	RT	2405+20.00 to 2407+00.00
348														SWALE WITH GABIONS. GEOTEXTILE CLASS 4, TYPE A CONSIDERED INCIDENTAL TO GABIONS	RT	2440+69.00 to 2451+13.00
														SR 9203 RAMP A		
	1	7	5	2	5590	1596	6	1548				7		WELCOME CENTER RAMP, BEHIND GUIDE RAIL	RT	1+75.00 to 17+42.00
														SR 9203 RAMP B		
	2	7	2	5	5518	1438	6	1393				7		WELCOME CENTER RAMP B, BEHIND GUIDE RAIL	RT	45+23.00 to 60+75.00
														SR 9203 RAMP A AND SR 9203 RAMP B		
														ENTIRE PROJECT. WELCOME CENTER RAMP A AND RAMP B	RT	60+75.00
788	3	14	7	7	11108	3034	12	2941	---	---	---	14		TOTALS		

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	97 OF 247

NEW MILFORD BOROUGH & NEW MILFORD TOWNSHIP

REVISION NUMBER	REVISIONS	DATE	BY

BM 1G ELEV 1257.16
35.67'RT STA 1967+68.36
CHISEL SQUARE W/ MAG IN BRIDGE PARAPET

BM 1A ELEV 1608.39'
N:619534'E:2531626'
CHISEL SQUARE W/ MAG SIGN BASE

BM 1H ELEV 1212.38
41.70'LT STA 1981+86.06
CHISEL SQUARE W/ MAG IN SIGN BASE

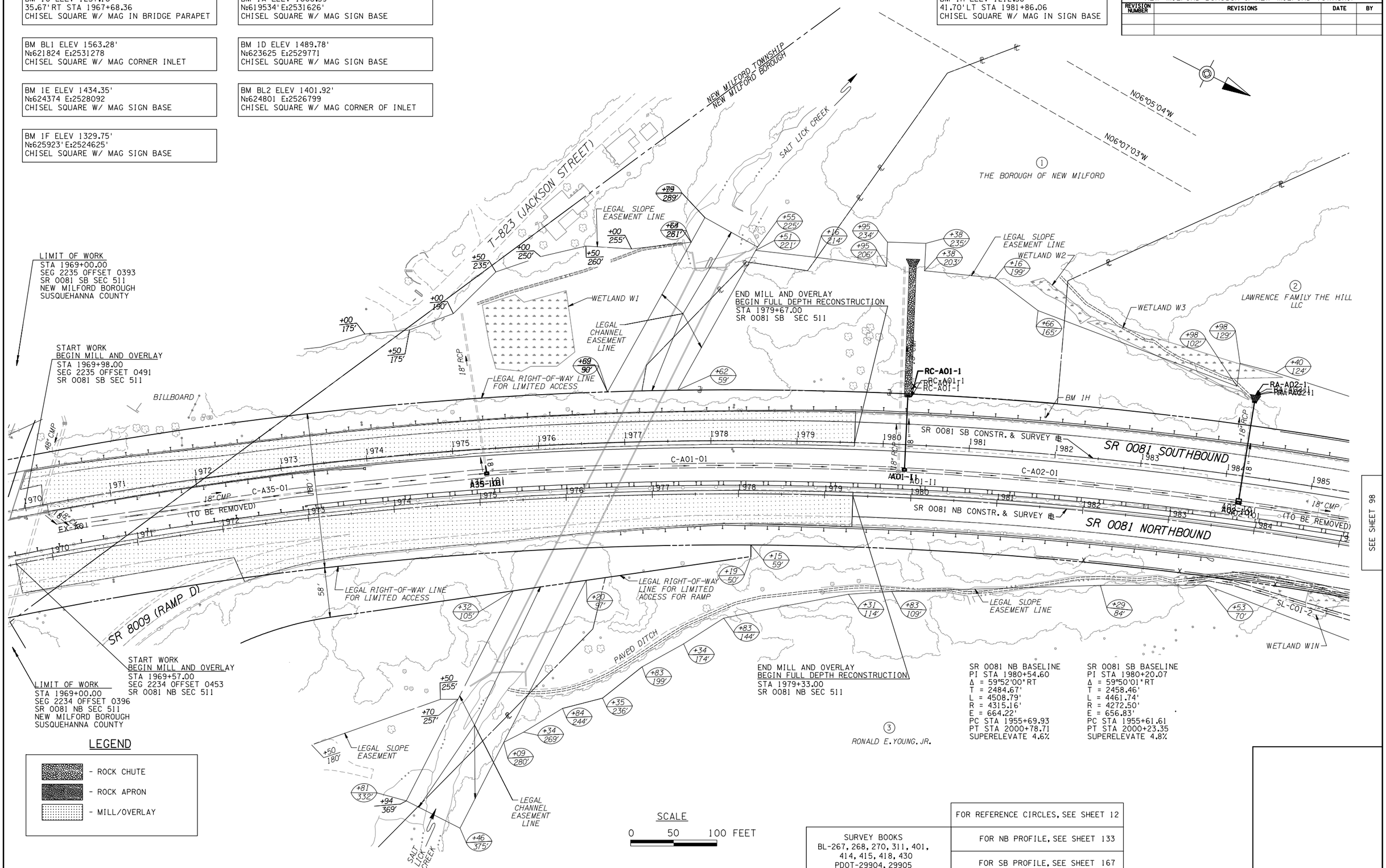
BM BL1 ELEV 1563.28'
N:621824 E:2531278
CHISEL SQUARE W/ MAG CORNER INLET

BM 1D ELEV 1489.78'
N:623625 E:2529771
CHISEL SQUARE W/ MAG SIGN BASE

BM 1E ELEV 1434.35'
N:624374 E:2528092
CHISEL SQUARE W/ MAG SIGN BASE

BM BL2 ELEV 1401.92'
N:624801 E:2526799
CHISEL SQUARE W/ MAG CORNER OF INLET

BM 1F ELEV 1329.75'
N:625923'E:2524625'
CHISEL SQUARE W/ MAG SIGN BASE



SEE SHEET 98

LEGEND

- ROCK CHUTE
- ROCK APRON
- MILL/OVERLAY

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12

FOR NB PROFILE, SEE SHEET 133

FOR SB PROFILE, SEE SHEET 167

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4-0	SUSQUEHANNA	0081	511	98 OF 247
	NEW MILFORD BOROUGH			

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 97

SEE SHEET 99

+86 368'
+35 355'
+72 75'
+22 75'
+24 80'
+24 85'
+24 85'
+28 100'
+24 165'
+74 185'
+24 180'
+72 175'
+22 185'
+21 190'
+20 215'
+70 195'
+20 195'
+71 216'
+24 231'
+69 255'
+43 265'
+17 220'

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

BILLBOARD (TO REMAIN)

RIGHT-OF-WAY FENCE, TYPE 5

(TO BE REMOVED)

(TO BE REMOVED) (TO BE PLUGGED)

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

LEGAL SLOPE EASEMENT LINE

2 LAWRENCE FAMILY THE HILL LLC

4 JOHN J. ABBOTT & SUSAN J. ABBOTT

5 MITCHELL FAMILY TRUST

3 RONALD E. YOUNG, JR.

1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999

SR 0081 NB BASELINE
PI STA 1980+20.07
Δ = 59°50'01" RT
T = 2458.46'
L = 4461.74'
R = 4272.50'
E = 656.83'
PC STA 1955+61.61
PT STA 2000+23.35
SUPERELEVATE 4.8%

SR 0081 SB BASELINE
PI STA 1980+54.60
Δ = 59°52'00" RT
T = 2484.67'
L = 4508.79'
R = 4315.16'
E = 664.22'
PC STA 1955+69.93
PT STA 2000+78.71
SUPERELEVATE 4.6%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12

FOR NB PROFILE, SEE SHEET 134

FOR SB PROFILE, SEE SHEET 168

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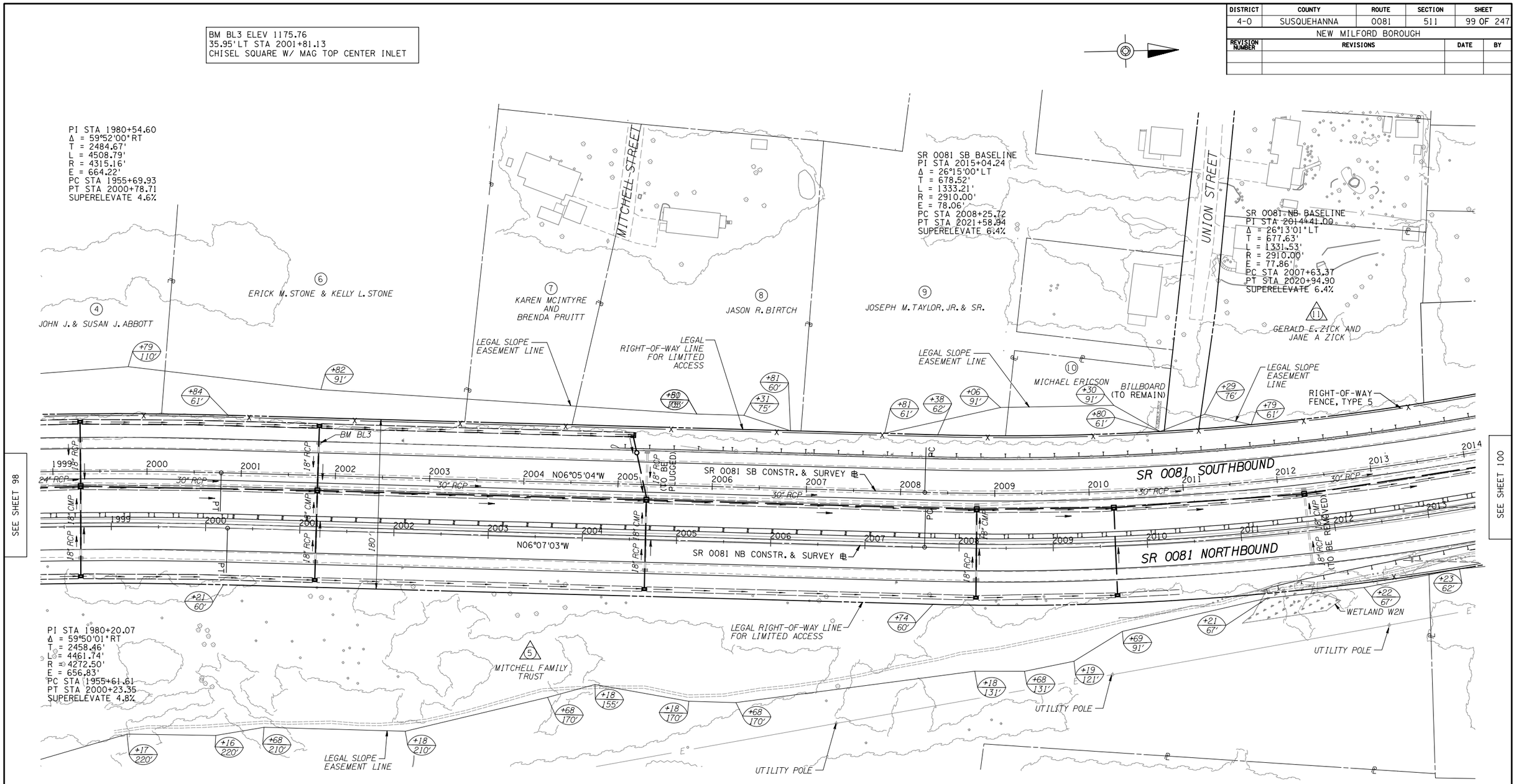
4-0	SUSQUEHANNA	0081	511	99 OF 247
NEW MILFORD BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12

FOR NB PROFILE, SEE SHEET 135

FOR SB PROFILE, SEE SHEET 169

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	100 OF 247
BOROUGH OF NEW MILFORD & NEW MILFORD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

HYDRAULIC DATA BOX CULVERT

	EXISTING	PROPOSED
DRAINAGE AREA	2.43 SQ MI.	2.43 SQ MI.
WATERWAY OPENING	119 SF	119 SF
50-YR. DESIGN FLOOD:		
MAGNITUDE	648 CFS	648 CFS
WATER SURFACE ELEVATION	1141.92'	1141.92'
VELOCITY	4.6 FPS	4.6 FPS
100-YR. FLOOD:		
MAGNITUDE	822 CFS	822 CFS
WATER SURFACE ELEVATION	1143.04'	1143.04'
VELOCITY	4.7 FPS	4.7 FPS

BM 11 ELEV 1163.87'
39.84'RT STA 2017+45.55
CHISEL SQUARE W/ MAG IN BRIDGE PARAPET

PI STA 11+08.08
Δ = 1°47'17"RT
T = 46.81'
L = 93.62'
R = 3000.00'
E = 0.37'
PC STA 10+61.27
PT STA 11+54.89
SUPERELEVATE NC

PI STA 2015+04.24
Δ = 26°15'00"LT
T = 678.52'
L = 1333.21'
R = 2910.00'
E = 78.06'
PC STA 2008+25.72
PT STA 2021+58.94
SUPERELEVATE 6.4%

PI STA 2035+40.77
Δ = 23°24'23"RT
T = 795.45'
L = 1568.71'
R = 3840.00'
E = 81.52'
PC STA 2027+45.32
PT STA 2043+14.03
SUPERELEVATE 5.2%

PI STA 2014+41.00
Δ = 26°13'01"LT
T = 677.63'
L = 1331.53'
R = 2910.00'
E = 77.86'
PC STA 2007+63.37
PT STA 2020+94.90
SUPERELEVATE 6.4%

PI STA 2034+93.22
Δ = 23°24'23"RT
T = 793.38'
L = 1564.63'
R = 3830.00'
E = 81.31'
PC STA 2026+99.84
PT STA 2042+64.47
SUPERELEVATE 5.2%

START WORK
BEGIN MILL AND OVERLAY
STA 11+00.00
SUSQUEHANNA ST

END MILL AND OVERLAY
BEGIN FULL DEPTH CONSTR
STA 11+50.00
SUSQUEHANNA ST

END FULL DEPTH SHOULDER
STA 14+50.00 LT/RT
SUSQUEHANNA ST

STOP WORK
END FULL DEPTH CONSTR
STA 15+00.00
SUSQUEHANNA ST

PI STA 14+85.20
Δ = 18°03'44"LT
T = 76.03'
L = 150.80'
R = 478.34'
E = 6.00'
PC STA 14+09.17
PT STA 15+59.97
SUPERELEVATE 4.4%

POT STA 12+88.57 SUSQUEHANNA ST =
POC STA 2018+55.89 SR 0081 SB =
POT STA 13+53.48 SUSQUEHANNA ST =
POC STA 2017+82.74 SR 0081 NB =

MAPLE STREET
SUSQUEHANNA STREET
JAMES STREET
SMITH CREEK
SR 0081 SOUTHBOUND
SR 0081 NORTHBOUND
SR 0081 SB CONSTR. & SURVEY
SR 0081 NB CONSTR. & SURVEY
SUSQUEHANNA STREET SURVEY & CONSTR
NEW MILFORD BOROUGH
NEW MILFORD TOWNSHIP
N32°20'04"W
N06°05'04"W
N06°07'03"W
N73°10'43"E
N8°22'50"E
BM · 11
SCOTT T. YOUNG
PHILLIP E. JAMES & JEAN LORRAINE JAMES
JUDITH ANN HUMBERT
GERALD E. ZICK & JANE A. ZICK
JAMES C. REYNOLDS
FREDRICK RONALD SHIPTOSKI
REBECCA LYNN KINNEY
GLENN A. BAILEY, MARK C. BAILEY, BRIAN C. BAILEY & GARY R. BAILEY
DONALD D. MARSHMAN & SHARON A. MARSHMAN
JERRY L. DECKER AND DEBORAH DECKER
WETLAND W4
TEMPORARY CONSTRUCTION EASEMENT
LEGAL CHANNEL EASEMENT
LEGAL SLOPE EASEMENT LINE
LEGAL RIGHT-OF-WAY LINE FOR BOROUGH STREET
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
RIGHT-OF-WAY FENCE, TYPE 5
PENELEC NMG-9 (RELOCATE BY OTHERS)
PENELEC IN162 (RELOCATE BY OTHERS)
NEPT NO XXXX'S (RELOCATE BY OTHERS)
NEP NO XXXX'S
2" SANITARY (RELOCATE BY OTHERS)
MOMENT SLAB WITH BARRIER (STRUCTURE ITEM) (TYP)
TRAILER (TO REMAIN)
BILLBOARD (TO REMAIN)
TREES (TO REMAIN)
UTILITY POLE
RIP RAP
PLCC CURB
SEE SHEET 99
SEE SHEET 101

EXISTING STRUCTURE DATA
NORTHBOUND/SOUTHBOUND
TYPE: 1 SPAN P/S ADJ. BOX BEAM
SPAN: 36'-9 5/8"
UNDERCLEARANCE: 16'-0"
SKEW: 62°
CLEAR ROADWAY WIDTH: 42'-7" CURB TO CURB

PROPOSED STRUCTURE DATA
NORTHBOUND/SOUTHBOUND
TYPE: PRECAST CONCRETE ARCH
SPAN: 36'-9 5/8"
UNDERCLEARANCE: 16'-6"
SKEW: 62°
CLEAR ROADWAY WIDTH: 42'-7" CURB TO CURB
STRUCTURE NO: 37509

EXISTING STRUCTURE DATA
NORTHBOUND & SOUTHBOUND
TYPE: BOX CULVERT
SPAN: 14'-0"
UNDERCLEARANCE: 8'-6"
SKEW: 75°
CLEAR ROADWAY WIDTH: NA

LEGEND
- ROCK CHUTE
- ROCK APRON
- MILL/OVERLAY

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 136
FOR SB PROFILE, SEE SHEET 170

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11/18/2021 AT 9:57:46 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	101 OF 247
BOROUGH OF NEW MILFORD & NEW MILFORD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 100

SEE SHEET 102

ORCHARD STREET

UTILITY POLE

JAMES B. STOCKHOLM (22)

DONALD D. MARSHMAN & SHARON A. MARSHMAN (20)

LEGAL SLOPE EASEMENT LINE

UTILITY POLE

JERRY L. DECKER AND DEBORAH DECKER (21)

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

FREDERICK R. & MELINDA SHIPTOSKI (23)

PAVED DITCH

B & D BROTHERS, LLC. (25)

PAVED DITCH

SR 0081 SB CONSTR. & SURVEY

SR 0081 NB CONSTR. & SURVEY

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

C-A09-02

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

LEGAL SLOPE EASEMENT LINE

PENELEC NMG-3

UTILITY POLE

NEW MILFORD BOROUGH

NEW MILFORD TOWNSHIP

JERRY L. DECKER AND DEBORAH DECKER (21)

HARRY E. SQUARES, JR. (24)

B & D BROTHERS, LLC. (25)

SR 0081 NB BASELINE
PI STA 2034+93.22
Δ = 23°24'23" RT
T = 793.38'
L = 1564.63'
R = 3830.00'
E = 81.31'
PC STA 2026+99.94
PT STA 2042+64.57
SUPERELEVATE 5.2%

SR 0081 SB BASELINE
PI STA 2035+40.77
Δ = 23°24'23" RT
T = 795.45'
L = 1568.71'
R = 3840.00'
E = 81.52'
PC STA 2027+45.32
PT STA 2043+14.03
SUPERELEVATE 5.2%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430 PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12

FOR NB PROFILE, SEE SHEET 137

FOR SB PROFILE, SEE SHEET 171

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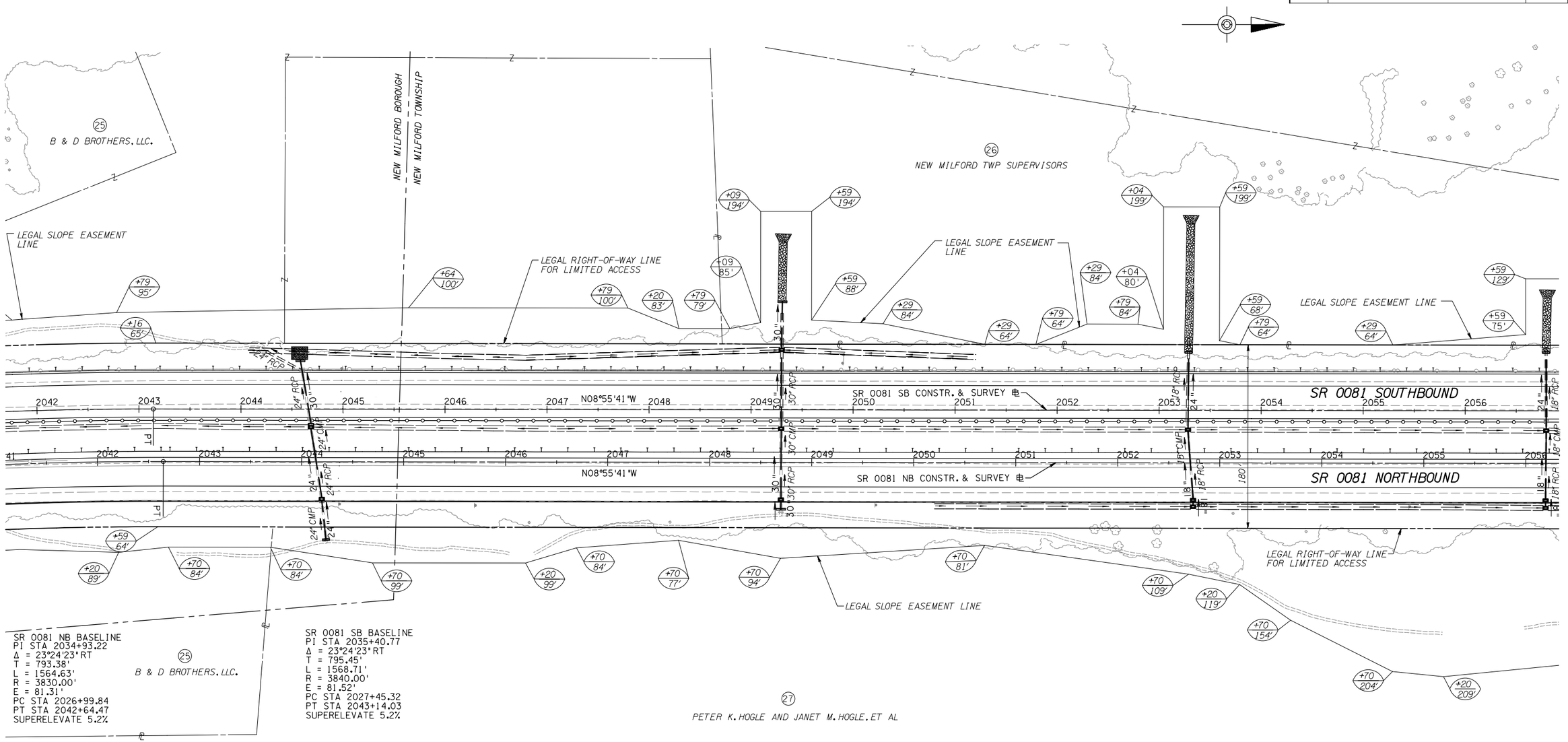
11/18/2021 AT 9:57:47 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511 R/W	102 OF 247
BOROUGH OF NEW MILFORD & NEW MILFORD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

BM 1J ELEV 1163.31'
53'LT STA 2052+63.09
CHISEL SQUARE W/ MAG IN SIGN BASE



SR 0081 NB BASELINE
PI STA 2034+93.22
Δ = 23°24'23" RT
T = 793.38'
L = 1564.63'
R = 3830.00'
E = 81.31'
PC STA 2026+99.84
PT STA 2042+64.47
SUPERELEVATE 5.2%

SR 0081 SB BASELINE
PI STA 2035+40.77
Δ = 23°24'23" RT
T = 795.45'
L = 1568.71'
R = 3840.00'
E = 81.52'
PC STA 2027+45.32
PT STA 2043+14.03
SUPERELEVATE 5.2%

SEE SHEET 101

SEE SHEET 103

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 138
FOR SB PROFILE, SEE SHEET 172

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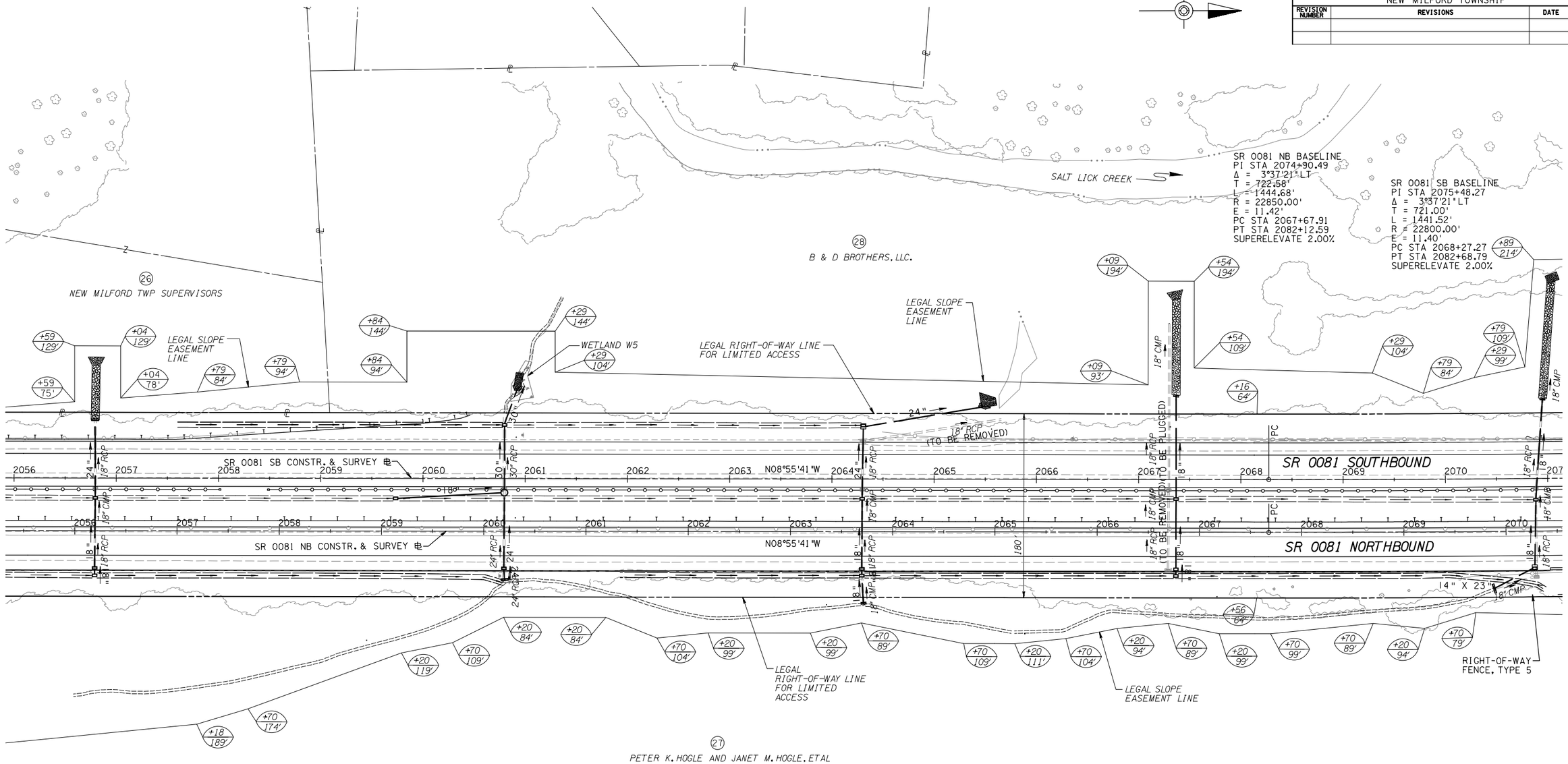
11/18/2021 AT 9:57:48 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	103 OF 247

NEW MILFORD TOWNSHIP

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 102

SEE SHEET 104

LEGEND

- ROCK ARMORED SLOPE
- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 139
FOR SB PROFILE, SEE SHEET 173

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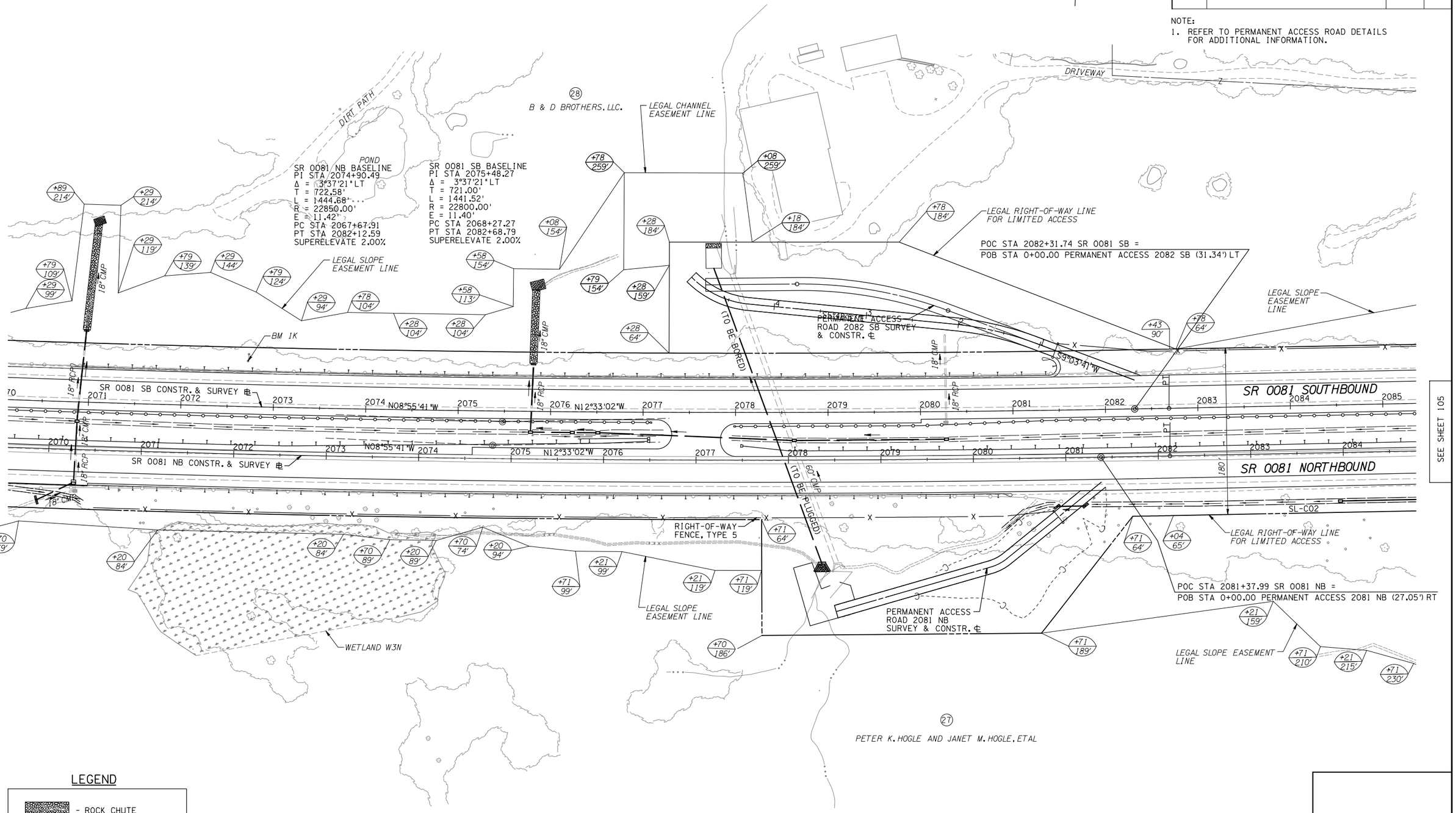
11/18/2021 AT 9:57:49 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	104 OF 247
	NEW MILFORD TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

NOTE:
1. REFER TO PERMANENT ACCESS ROAD DETAILS FOR ADDITIONAL INFORMATION.

BM 1K ELEV 1109.00'
47.41'LT STA 2072+71.87
CHISEL SQUARE W/ MAG IN SIGN BASE



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 140
FOR SB PROFILE, SEE SHEET 174

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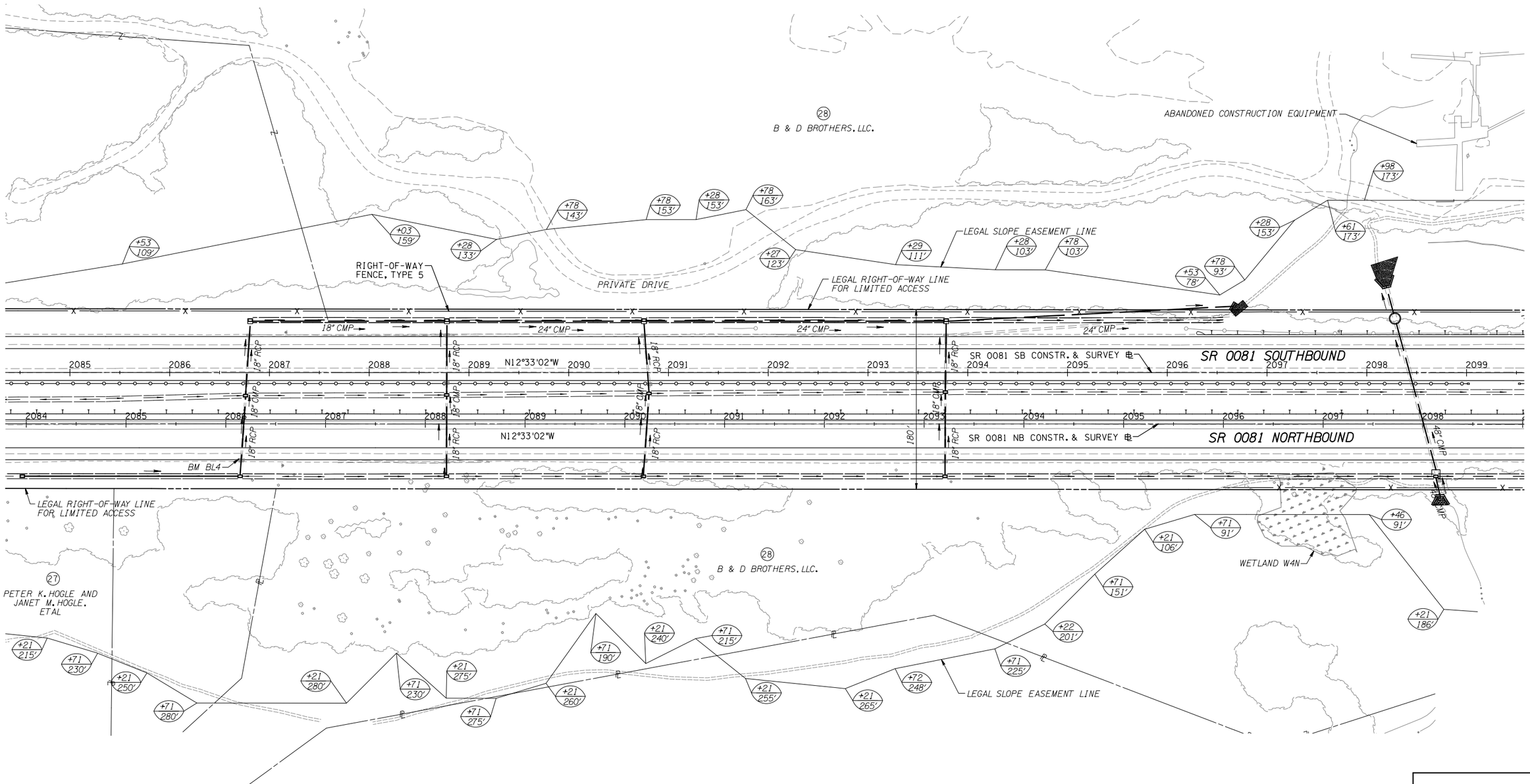
11/18/2021 AT 9:57:50 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	105 OF 247
NEW MILFORD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

BM BL4 ELEV 1120.82
38.35' RT STA 2086+16.67
CHISEL SQUARE W/ MAG TOP CENTER INLET



SEE SHEET 104

SEE SHEET 106

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 141
FOR SB PROFILE, SEE SHEET 175

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11/18/2021 AT 9:57:51 AM

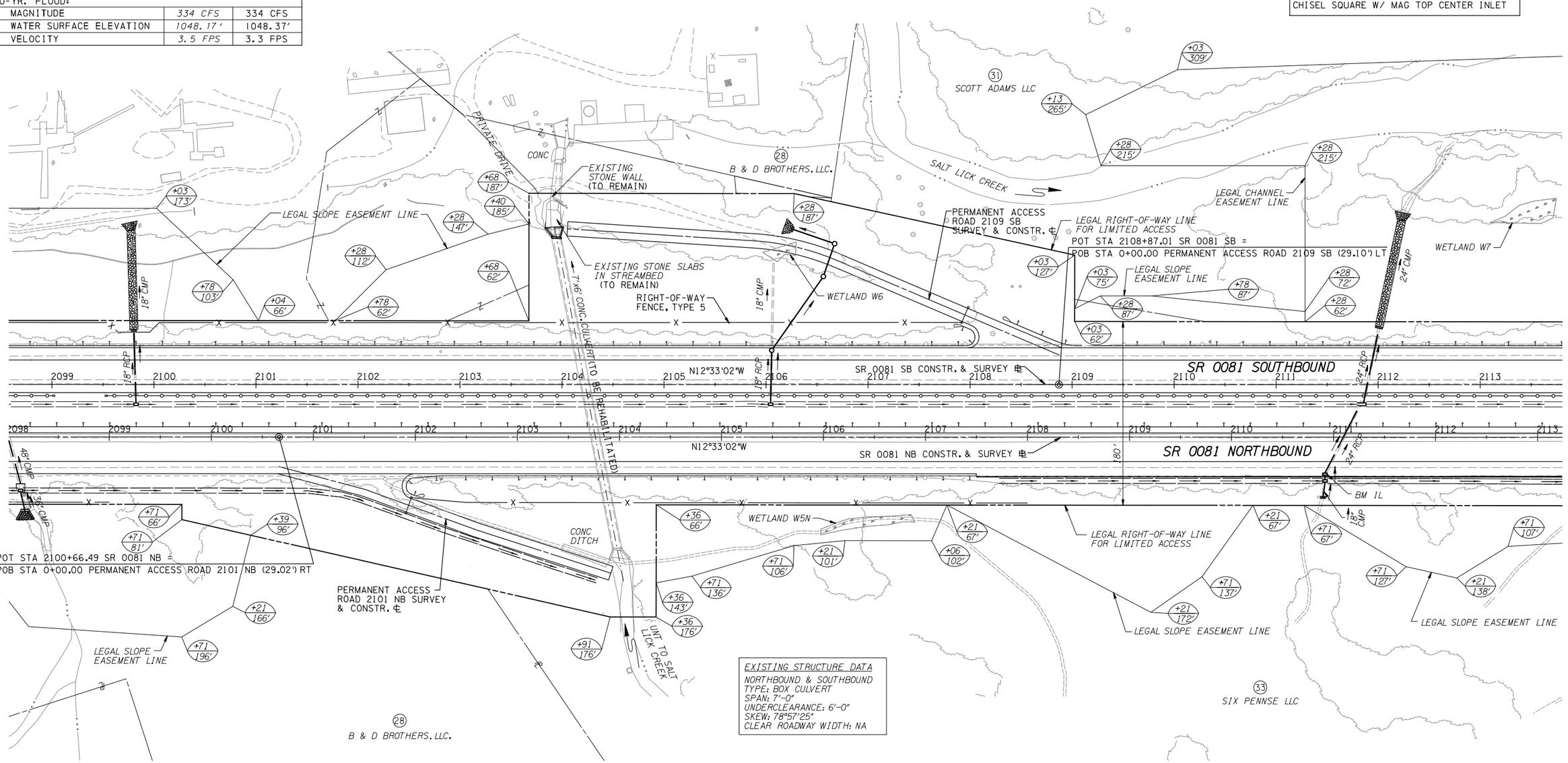
HYDRAULIC DATA BOX CULVERT		
	EXISTING	PROPOSED
DRAINAGE AREA	*0.48 SQ MI*	0.48 SQ MI
WATERWAY OPENING	*42 SF*	41 SF
50-YR. DESIGN FLOOD:		
MAGNITUDE	*270 CFS*	270 CFS
WATER SURFACE ELEVATION	*1047.15'*	1047.37'
VELOCITY	*4.2 FPS*	3.8 FPS
100-YR. FLOOD:		
MAGNITUDE	*334 CFS*	334 CFS
WATER SURFACE ELEVATION	*1048.17'*	1048.37'
VELOCITY	*3.5 FPS*	3.3 FPS

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	106 OF 247
NEW MILFORD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

NOTE:
1. REFER TO PERMANENT ACCESS ROAD DETAILS FOR ADDITIONAL INFORMATION.

BM 1L ELEV 1062.46'
39.01'RT STA 2110+92.05
CHISEL SQUARE W/ MAG TOP CENTER INLET



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 142
FOR SB PROFILE, SEE SHEET 176

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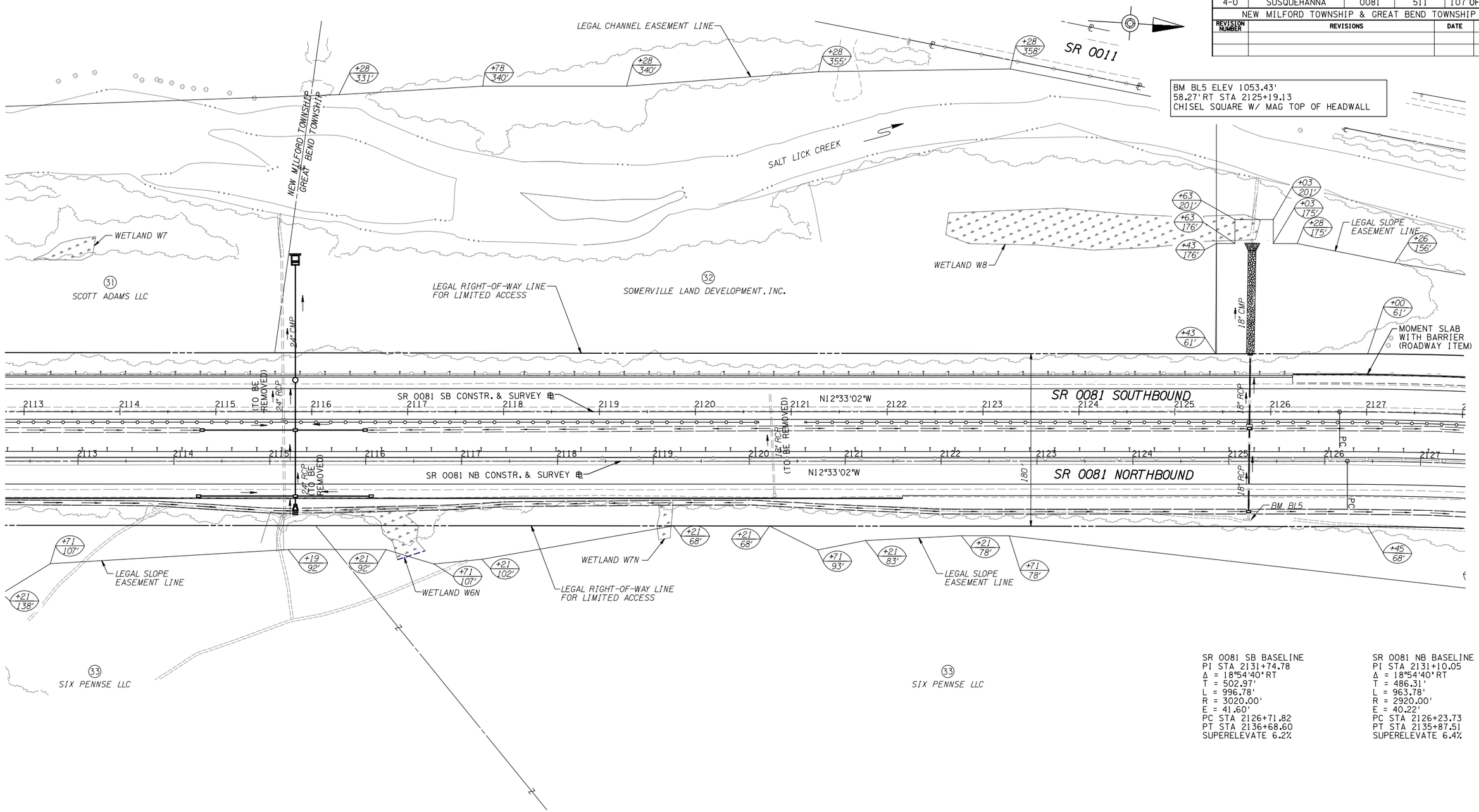
11/18/2021 AT 9:57:52 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	107 OF 247
NEW MILFORD TOWNSHIP & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 106

SEE SHEET 108

SR 0081 SB BASELINE
PI STA 2131+74.78
Δ = 18°54'40" RT
T = 502.97'
L = 996.78'
R = 3020.00'
E = 41.60'
PC STA 2126+71.82
PT STA 2136+68.60
SUPERELEVATE 6.2%

SR 0081 NB BASELINE
PI STA 2131+10.05
Δ = 18°54'40" RT
T = 486.31'
L = 963.78'
R = 2920.00'
E = 40.22'
PC STA 2126+23.73
PT STA 2135+87.51
SUPERELEVATE 6.4%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 143
FOR SB PROFILE, SEE SHEET 177

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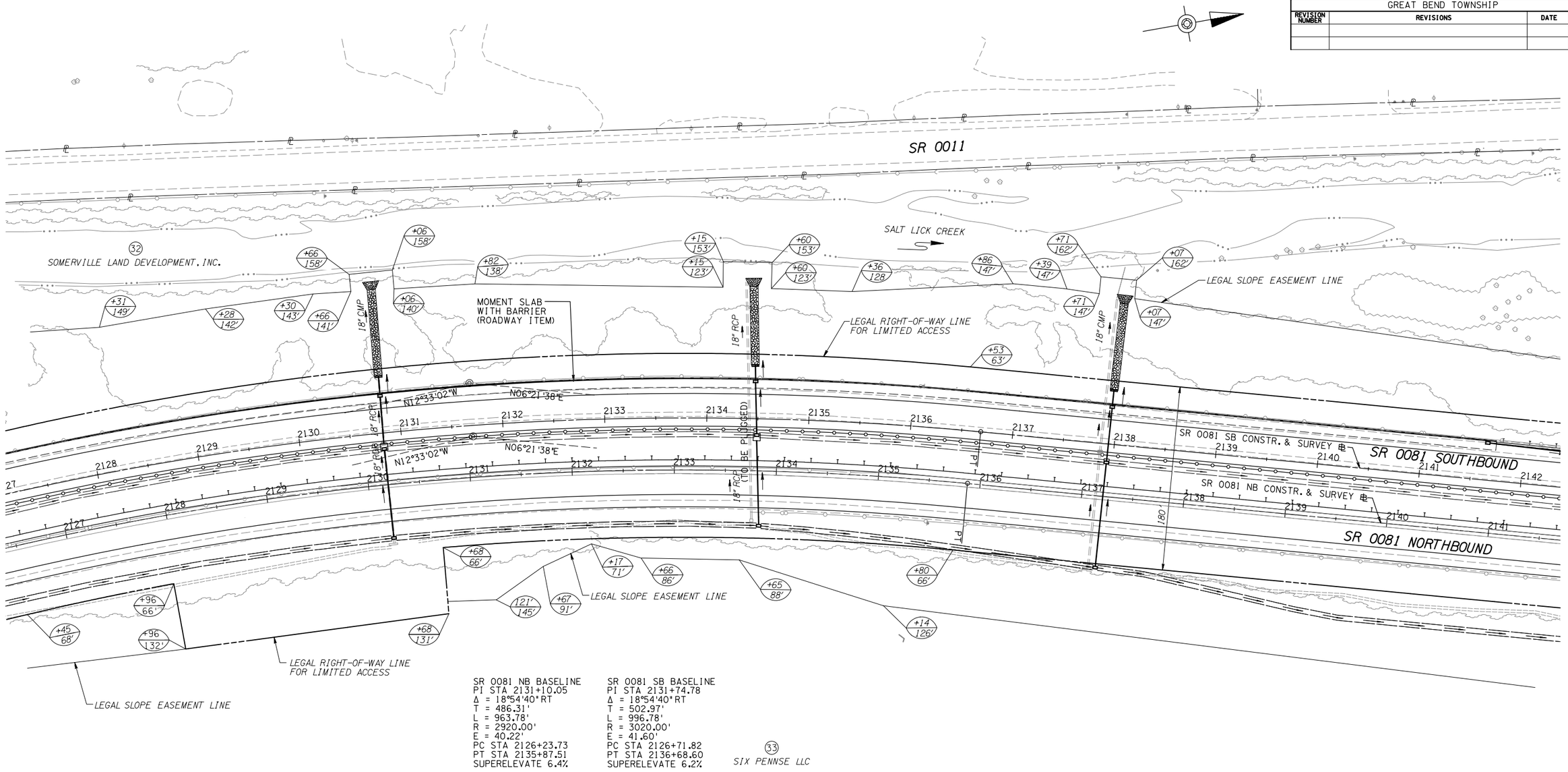
11/18/2021 AT 9:57:53 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	108 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 107

SEE SHEET 109



SR 0081 NB BASELINE
PI STA 2131+10.05
Δ = 18°54'40"RT
T = 486.31'
L = 963.78'
R = 2920.00'
E = 40.22'
PC STA 2126+23.73
PT STA 2135+87.51
SUPERELEVATE 6.4%

SR 0081 SB BASELINE
PI STA 2131+74.78
Δ = 18°54'40"RT
T = 502.97'
L = 996.78'
R = 3020.00'
E = 41.60'
PC STA 2126+71.82
PT STA 2136+68.60
SUPERELEVATE 6.2%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 144
FOR SB PROFILE, SEE SHEET 178

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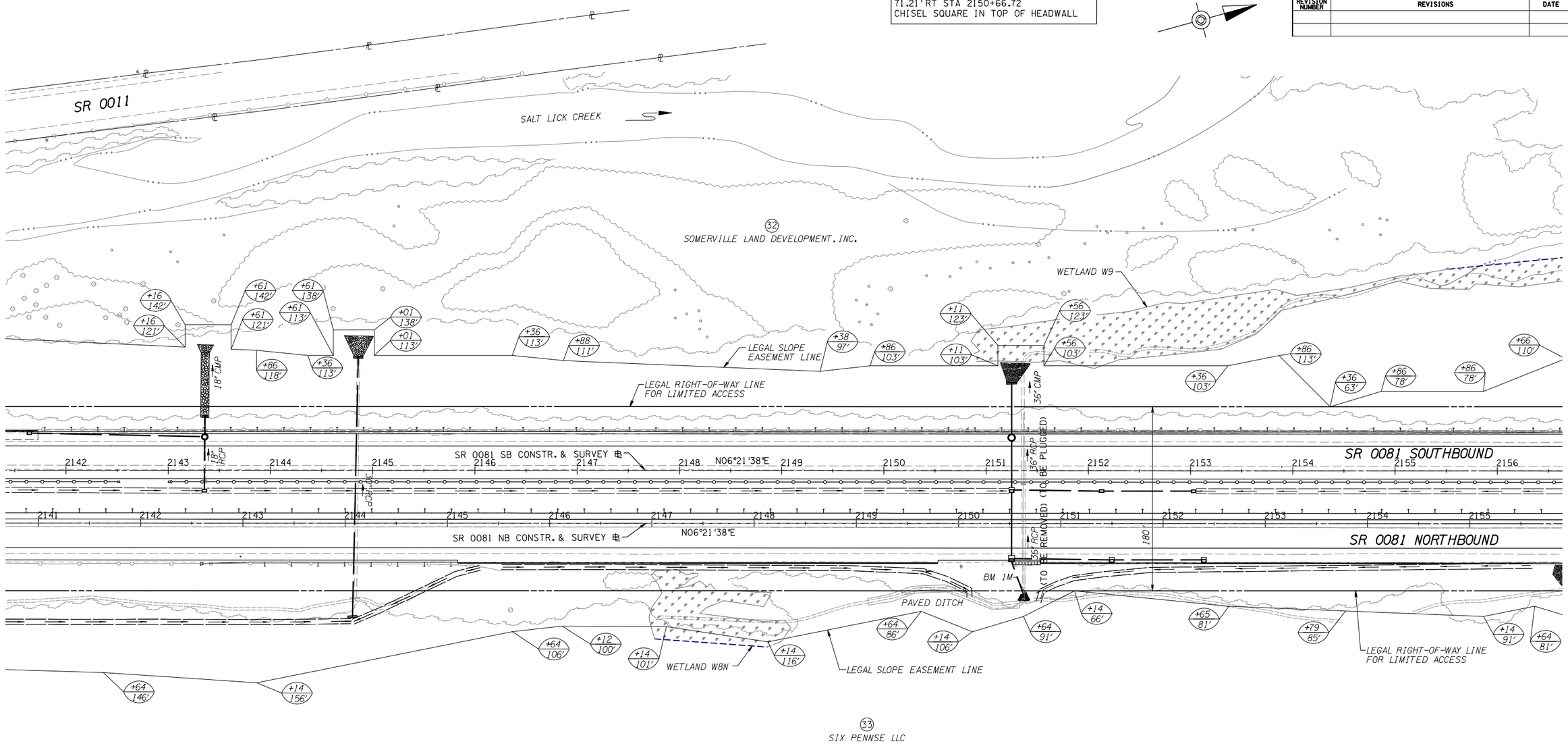
11/18/2021 AT 9:57:54 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	109 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

BM 1M ELEV 993.34'
71.21'RT STA 2150+66.72
CHISEL SQUARE IN TOP OF HEADWALL



SEE SHEET 108

SEE SHEET 110

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 145
FOR SB PROFILE, SEE SHEET 179

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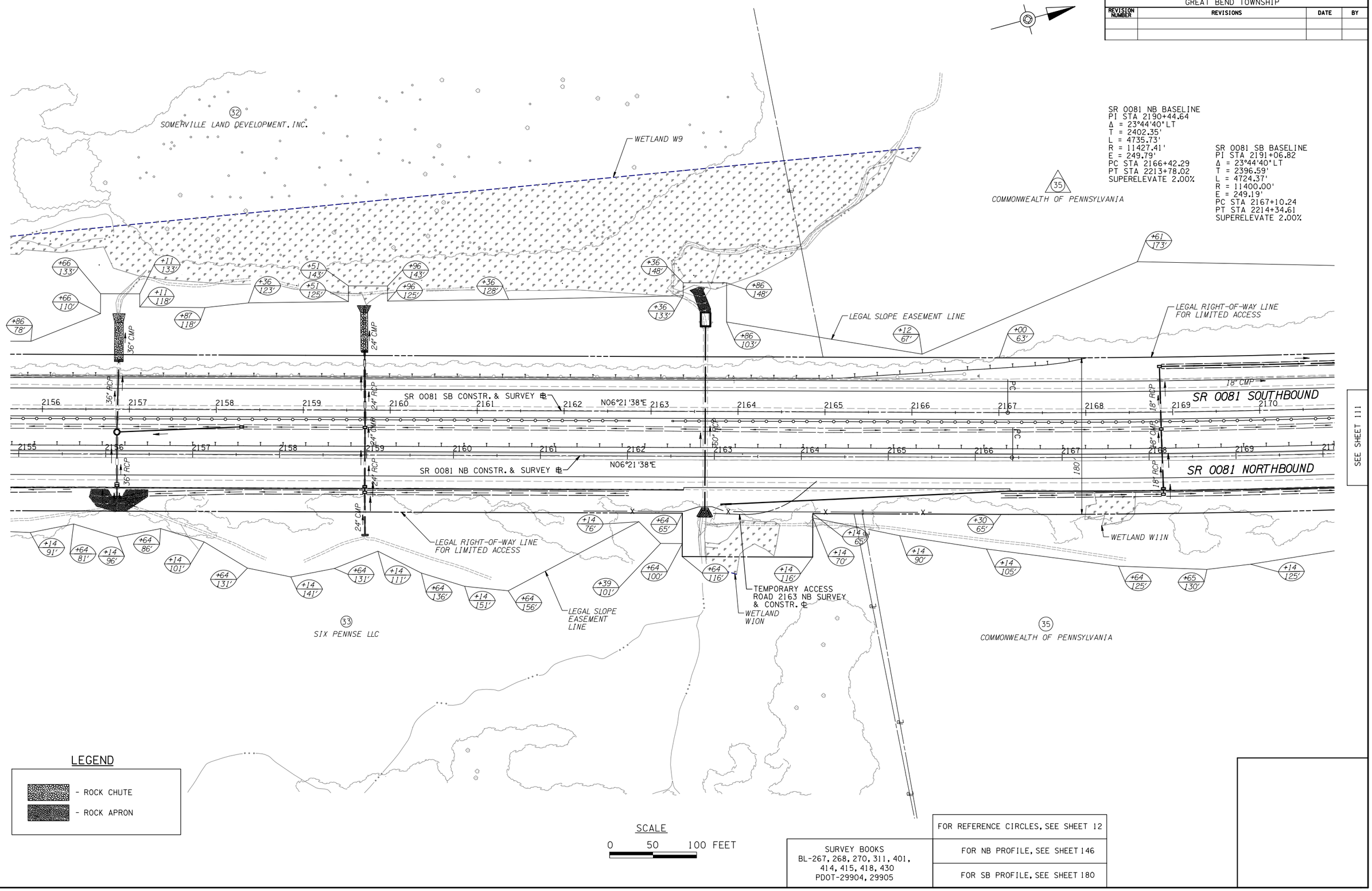
11/18/2021 AT 9:57:56 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	110 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12

FOR NB PROFILE, SEE SHEET 146

FOR SB PROFILE, SEE SHEET 180

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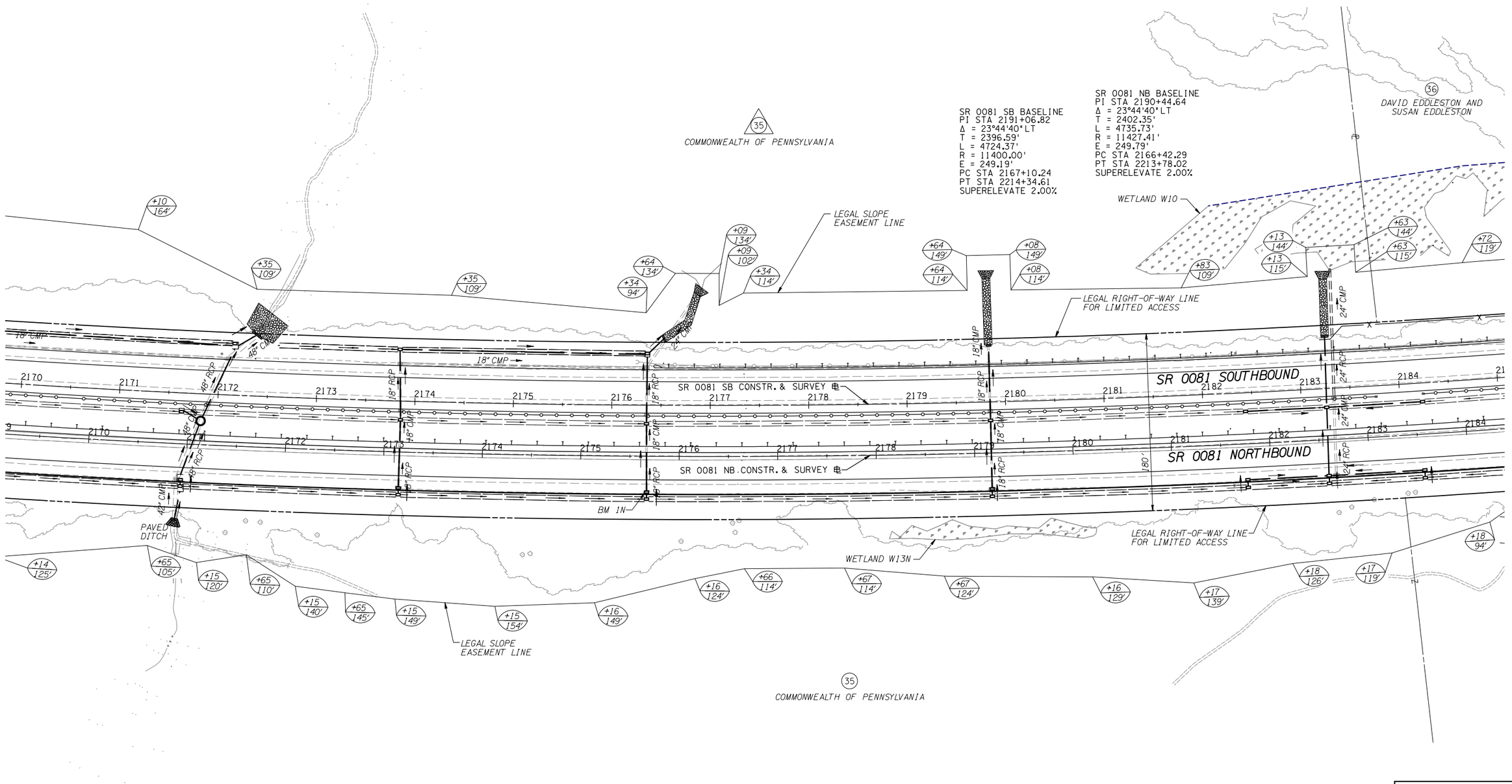
11/18/2021 AT 9:57:57 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	111 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

BM 1N ELEV 992.38'
38.85'RT STA 2175+67.21
CHISEL SQUARE W/ MAG TOP CENTER INLET



SEE SHEET 110

SEE SHEET 112

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12

FOR NB PROFILE, SEE SHEET 147

FOR SB PROFILE, SEE SHEET 181

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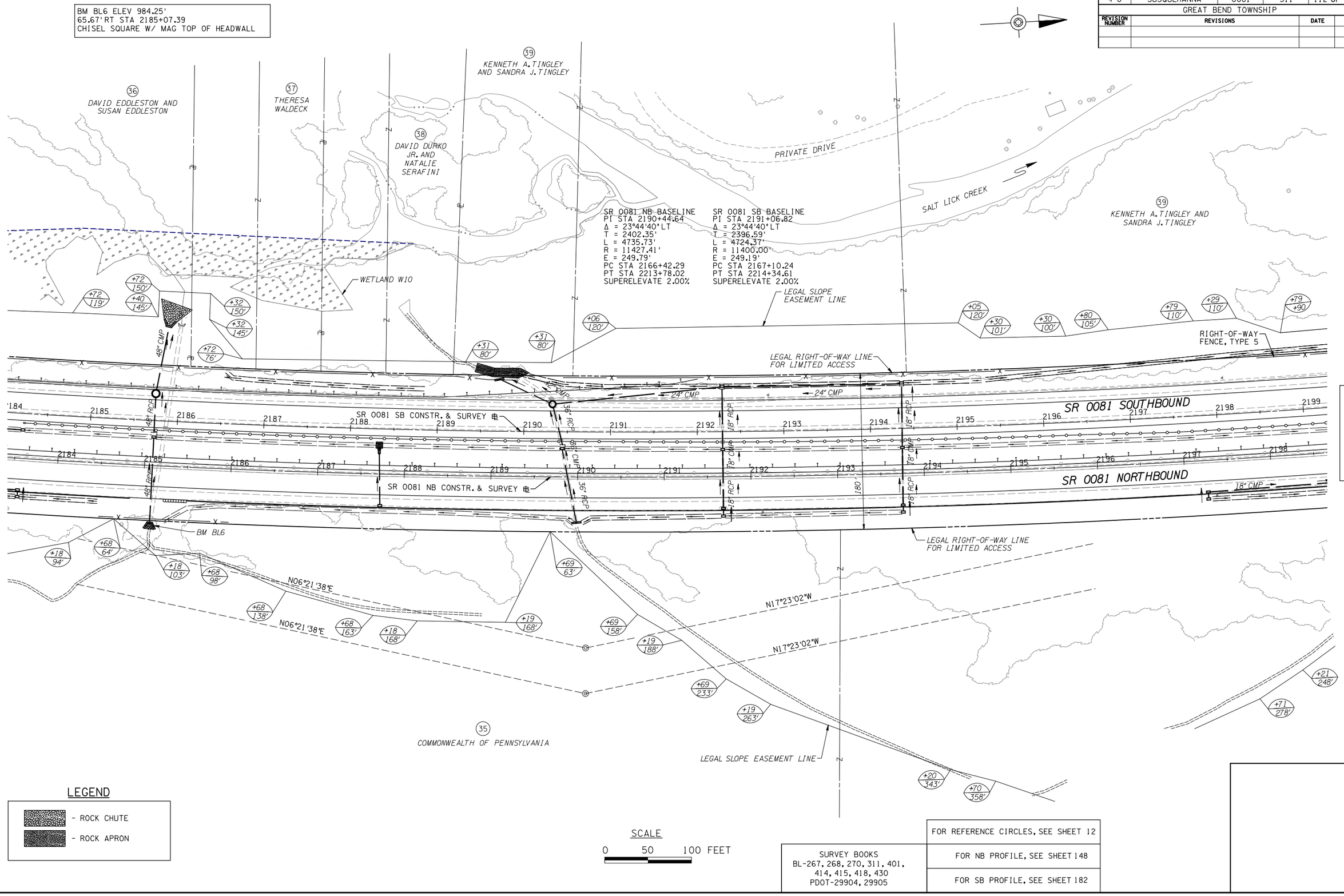
11/18/2021 AT 9:57:58 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	112 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

BM BL6 ELEV 984.25'
65.67'RT STA 2185+07.39
CHISEL SQUARE W/ MAG TOP OF HEADWALL



SEE SHEET 111

SEE SHEET 113

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12

FOR NB PROFILE, SEE SHEET 148

FOR SB PROFILE, SEE SHEET 182

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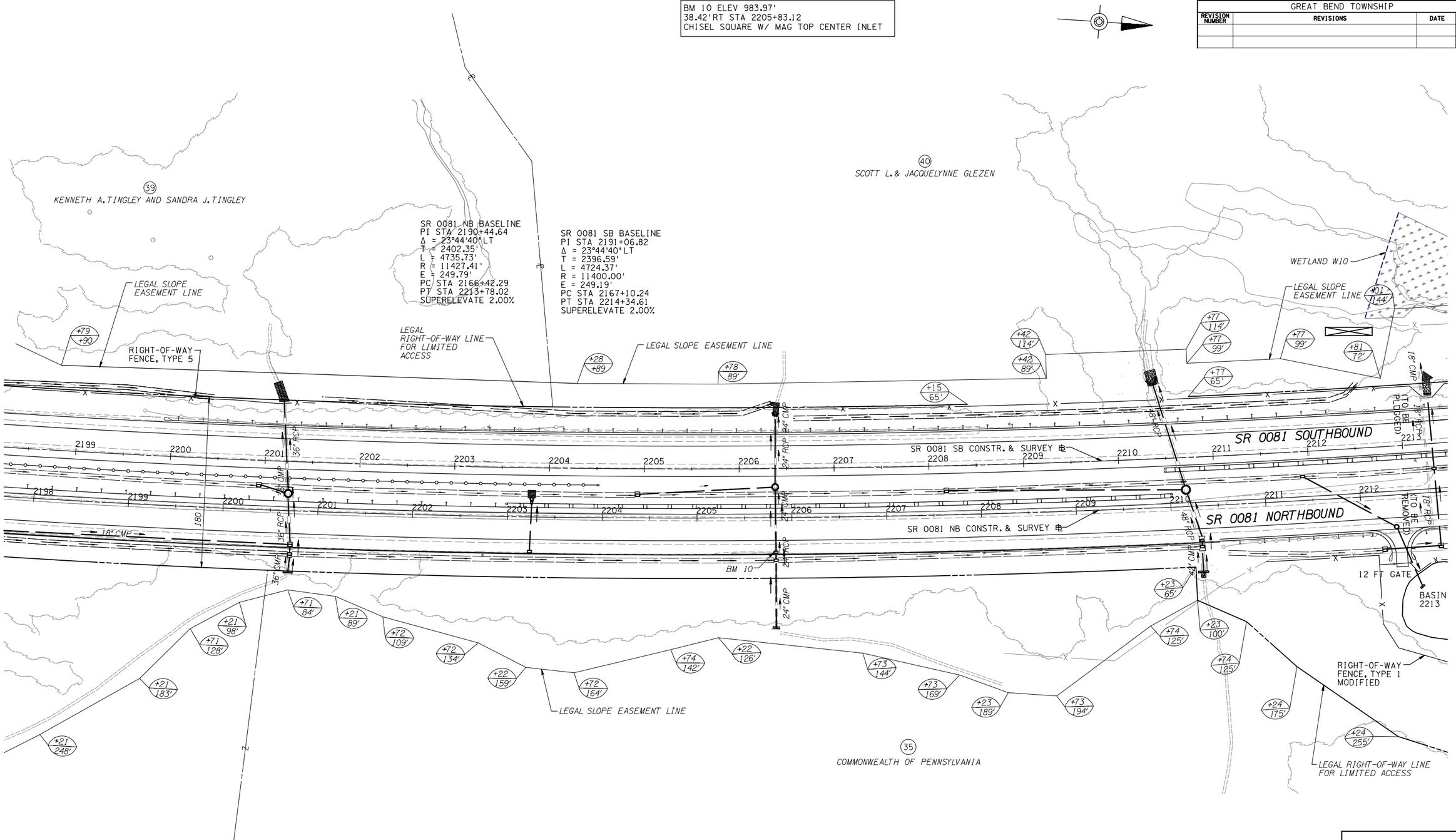
11/18/2021 AT 9:57:59 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	113 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

BM 10 ELEV 983.97'
38.42' RT STA 2205+83.12
CHISEL SQUARE W/ MAG TOP CENTER INLET



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS BL-267, 268, 270, 311, 401, 414, 415, 418, 430 PDOT-29904, 29905	FOR REFERENCE CIRCLES, SEE SHEET 12
	FOR NB PROFILE, SEE SHEET 149
	FOR SB PROFILE, SEE SHEET 183

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11/18/2021 AT 9:58:00 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	114 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

NOTE:
1. REFER TO PERMANENT ACCESS ROAD DETAILS FOR ADDITIONAL INFORMATION.

BM 1P ELEV 928.67
49.78' RT STA 2226+15.31
CHISEL SQUARE IN SIGN BASE

SR 0081 SB BASELINE
PI STA 2191+06.82
Δ = 23°44'40" LT
T = 2396.59'
L = 4724.37'
R = 11400.00'
E = 249.19'
PC STA 2167+10.24
PT STA 2214+34.61
SUPERELEVATE 2.00%

SR 0081 NB BASELINE
PI STA 2190+44.64
Δ = 23°44'40" LT
T = 2402.35'
L = 4735.73'
R = 11427.41'
E = 249.79'
PC STA 2166+42.29
PT STA 2213+78.02
SUPERELEVATE 2.00%

(40) SCOTT L. & JACQUELYNNE GLEZEN

(40) SCOTT L. & JACQUELYNNE GLEZEN

LEGAL CHANNEL EASEMENT LINE

LEGAL SLOPE EASEMENT LINE

WETLAND W10

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

SALT LICK CREEK

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

18" CMP (TO BE PLUGGED)

24" RCP (TO BE PLUGGED)

18" RCP (TO BE REMOVED)

18" RCP

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

N17°23'02"W

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

12 FT GATE

BASIN 2213

RIGHT-OF-WAY FENCE, TYPE 1, MODIFIED

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

RIGHT-OF-WAY FENCE, TYPE 5

BM 1P

WETLAND W15N

WETLAND W16N

WETLAND W14N

PERMANENT ACCESS ROAD 2227 NB SURVEY & CONSTR. ℄

(35) COMMONWEALTH OF PENNSYLVANIA

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430 PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 150
FOR SB PROFILE, SEE SHEET 184

SEE SHEET 113

SEE SHEET 115

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11/18/2021 AT 9:58:01 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511 R/W	115 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

NOTE:
1. REFER TO PERMANENT ACCESS ROAD DETAILS FOR ADDITIONAL INFORMATION.

BM BL7 ELEV 935.43'
38.68' RT STA 2241+03.45
CHISEL SQUARE W/MAG TOP CENTER INLET

SEE SHEET 114

SEE SHEET 116

(40) SCOTT L. & JACQUELYNNE GLEZEN

(41) JOHN S. ALDRICH, JR.

(35) COMMONWEALTH OF PENNSYLVANIA

LEGAL CHANNEL EASEMENT LINE

SALT LICK CREEK

WETLAND W11

WETLAND W12

WETLAND W16N

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

RIGHT-OF-WAY FENCE, TYPE 5

LEGAL SLOPE EASEMENT LINE

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

N17°23'02"W

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

180'

72" RCP

(TO BE PLUGGED) 18" RCP

18" RCP

24" RCP

24" CMP

18" CMP

BM BL7

PERMANENT ACCESS ROAD 2227 NB SURVEY & CONSTR. ℄

POT STA 2227+43.92 SR 0081 NB =
POB STA 0+00.00 PERMANENT ACCESS ROAD 2227 NB (29.86') RT

+56 265'
+06 260'
+56 205'
+06 99'
+56 94'
+06 94'
+06 94'
+56 74'
+56 74'
+06 99'
+06 114'
+06 139'
+06 149'
+06 134'
+56 114'
+06 89'
+56 74'
+06 74'
+56 104'
+06 129'
+06 139'
+56 154'
+06 164'

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430 PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 151
FOR SB PROFILE, SEE SHEET 185

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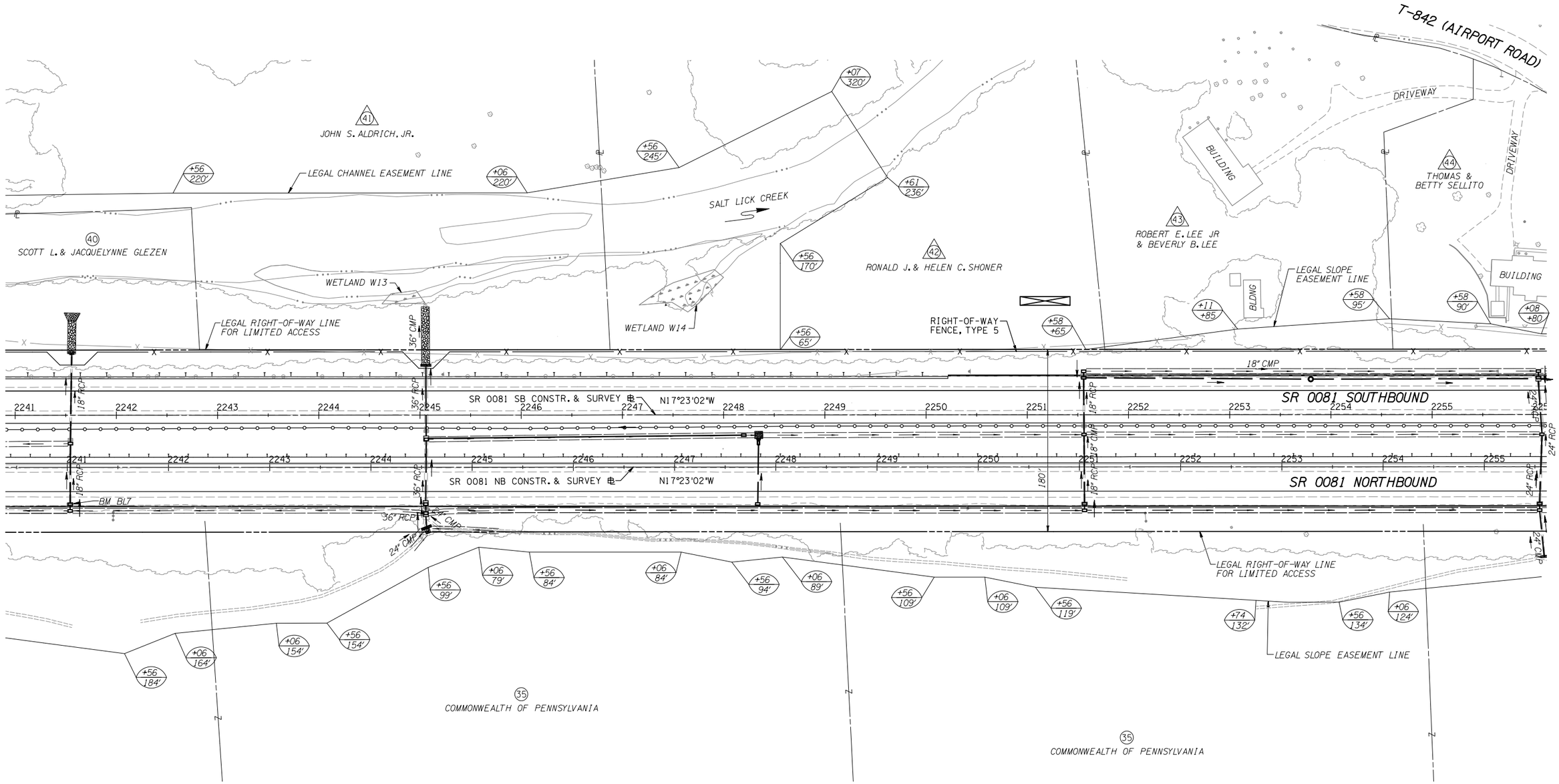
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	116 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

BM BL7 ELEV 935.43'
38.68'RT STA 2241+03.45
CHISEL SQUARE W/MAG TOP CENTER INLET



SEE SHEET 115

SEE SHEET 117

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 152
FOR SB PROFILE, SEE SHEET 186

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	117 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

BM 1Q ELEV 929.18'
49.29'RT STA 2261+79.46
CHISEL SQUARE W/MAG SIGN BASE

NOTE:
1. REFER TO PERMANENT ACCESS ROAD DETAILS FOR ADDITIONAL INFORMATION.

T-842 (AIRPORT ROAD)

DRIVEWAY
DRIVEWAY
DRIVEWAY
BUILDING
BUILDING
BUILDING
BUILDING
BUILDING
BUILDING
BUILDING
POND
POOL
DIRT PILE

(44) THOMAS & BETTY SELLITO
(45) GEORGE H. STOVER, JR. AND JUDY Y. STOVER
(46) DONALD R. & LINDA J. ANESI
(47) EUGENE R. & GAIL G. GRAVES
(48) EUGENE R. & GAIL G. GRAVES
(49) GARY WILSON & LYDIA P. PIRES
(50) SIMMONS ROCKWELL REALITY OF PA. LLC
(35) COMMONWEALTH OF PENNSYLVANIA

POT STA 2268+39.78 SR 0081 SB =
POB STA 0+00.00 PERMANENT ACCESS ROAD 2268 SB (30.33') LT

PERMANENT ACCESS ROAD 2268 SB SURVEY & CONSTR. ℄
SR 0081 SB CONSTR. & SURVEY ℄
SR 0081 NB CONSTR. & SURVEY ℄
SR 0081 SOUTHBOUND
SR 0081 NORTHBOUND
N17°23'02"W

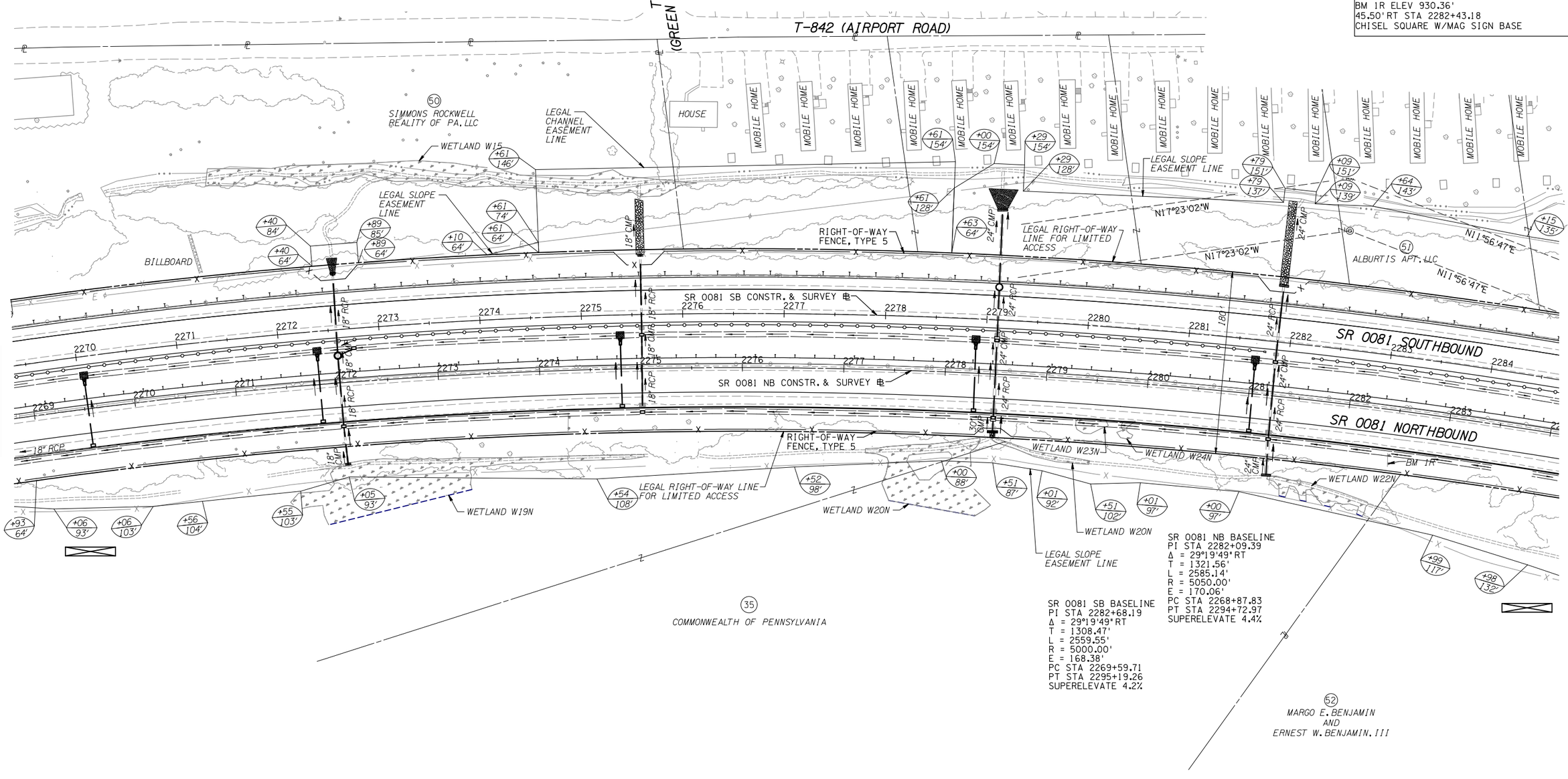
RIGHT-OF-WAY FENCE, TYPE 5
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
LEGAL SLOPE EASEMENT LINE
LEGAL SLOPE EASEMENT LINE
LEGAL SLOPE EASEMENT LINE
LEGAL SLOPE EASEMENT LINE
LEGAL CHANNEL EASEMENT LINE
BILLBOARD (TO BE REMOVED)
WETLAND W17N
WETLAND W18N
BM 1Q

18" CMP
24" CMP
30" CMP
30" CMP
CONC
24" CMP
24" RCP
24" RCP
18" CMP
18" RCP
18" RCP
18" RCP
18" RCP
18" RCP
66" RCP
18" CMP
18" RCP
18" RCP
18" RCP
18" RCP
18" RC

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	118 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

BM 1R ELEV 930.36'
45.50' RT STA 2282+43.18
CHISEL SQUARE W/MAG SIGN BASE



SEE SHEET 117

SEE SHEET 119

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 154
FOR SB PROFILE, SEE SHEET 188

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	119 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

NOTE:
1. REFER TO PERMANENT ACCESS ROAD DETAILS FOR ADDITIONAL INFORMATION.

BM BL8 ELEV 909.01'
52.07'LT STA 2297+38.89
CHISEL SQUARE SIGN BASE

SEE SHEET 118

SEE SHEET 120

I-842 (AIRPORT ROAD)

(51) SCHMIDT PROPERTIES, LLC

(53) DALE HENRY AND TRUDY HENRY

(52) MARGO E. BENJAMIN AND ERNEST W. BENJAMIN, III

UTILITY POLE

WETLAND W16

WETLANDS

BUILDING

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

RIGHT-OF-WAY FENCE, TYPE 5

UNNAMED TRIBUTARY TO SALT LICK CREEK

LEGAL CHANNEL EASEMENT LINE

DRIVEWAY

PERMANENT ACCESS ROAD 2295 SB SURVEY & CONSTR. ℄

POT STA 2295+46.00 SR 0081 SB =
POB STA 0+00.00 PERMANENT ACCESS ROAD 2295 SB (26.69') LT

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

N11°56'47"E

18" CMP

18" RCP

30" RCP

30" CMP

6'x8' BOX CONCRETE CULVERT

C-B20-01

C-B20-02

C-B21-01

C-B21-00

C-R8-04

C-R8-03

C-R8-01

PAVED DITCH

REFER TO STRUCTURE PLAN FOR CHANNEL LINING (TYP)

PERMANENT ACCESS ROAD 2294 NB SURVEY & CONSTR. ℄

POT STA 2294+06.81 SR 0081 NB =
POB STA 0+00.00 PERMANENT ACCESS ROAD 2294 NB (27.65') RT

WETLAND W25N

WETLAND W26N

WETLAND W27N

LEGAL SLOPE EASEMENT LINE

LEGAL CHANNEL EASEMENT LINE

UNNAMED TRIBUTARY TO SALT LICK CREEK

EXISTING STRUCTURE DATA
NORTHBOUND & SOUTHBOUND
TYPE: RC BOX CULVERT
SPAN: 6'-0"
UNDERCLEARANCE: 6'-0"
SKEW: 105°-17'-33"
CLEAR ROADWAY WIDTH: 122'-4"

PROPOSED STRUCTURE DATA
NORTHBOUND/SOUTHBOUND
TYPE: PRECAST CONCRETE BOX CULVERT
SPAN: 8'-0"
UNDERCLEARANCE: 6'-0" CLEAR (TO STREAM BED)
SKEW: 75°
CLEAR ROADWAY WIDTH: 48' NB; 49'SB
STRUCTURE NO: S-40118

HYDRAULIC DATA BOX CULVERT		
	EXISTING	PROPOSED
DRAINAGE AREA	*0.40 SQ MI*	0.40 SQ MI
WATERWAY OPENING	*36 SF*	48 SF
50-YR. DESIGN FLOOD:		
MAGNITUDE	*376 CFS*	376 CFS
WATER SURFACE ELEVATION	*919.98'*	918.43'
VELOCITY	*1.3 FPS*	1.7 FPS
FEMA 100-YR. FLOOD:		
MAGNITUDE	*464 CFS*	464 CFS
WATER SURFACE ELEVATION	*921.64'*	919.47'
VELOCITY	*1.0 FPS*	1.8 FPS

SR 0081 NB BASELINE
PI STA 2282+09.39
Δ = 29°19'49"RT
T = 1321.56'
L = 2585.14'
R = 5050.00'
E = 170.06'
PC STA 2268+87.83
PT STA 2294+72.97
SUPERELEVATE 4.4%

SR 0081 SB BASELINE
PI STA 2282+68.19
Δ = 29°19'49"RT
T = 1308.47'
L = 2559.55'
R = 5000.00'
E = 168.38'
PC STA 2269+59.71
PT STA 2295+19.26
SUPERELEVATE 4.2%

LEGEND

- ROCK CHUTE
- ROCK APRON
- ROCK, CLASS R-4

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430 PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 155
FOR SB PROFILE, SEE SHEET 189

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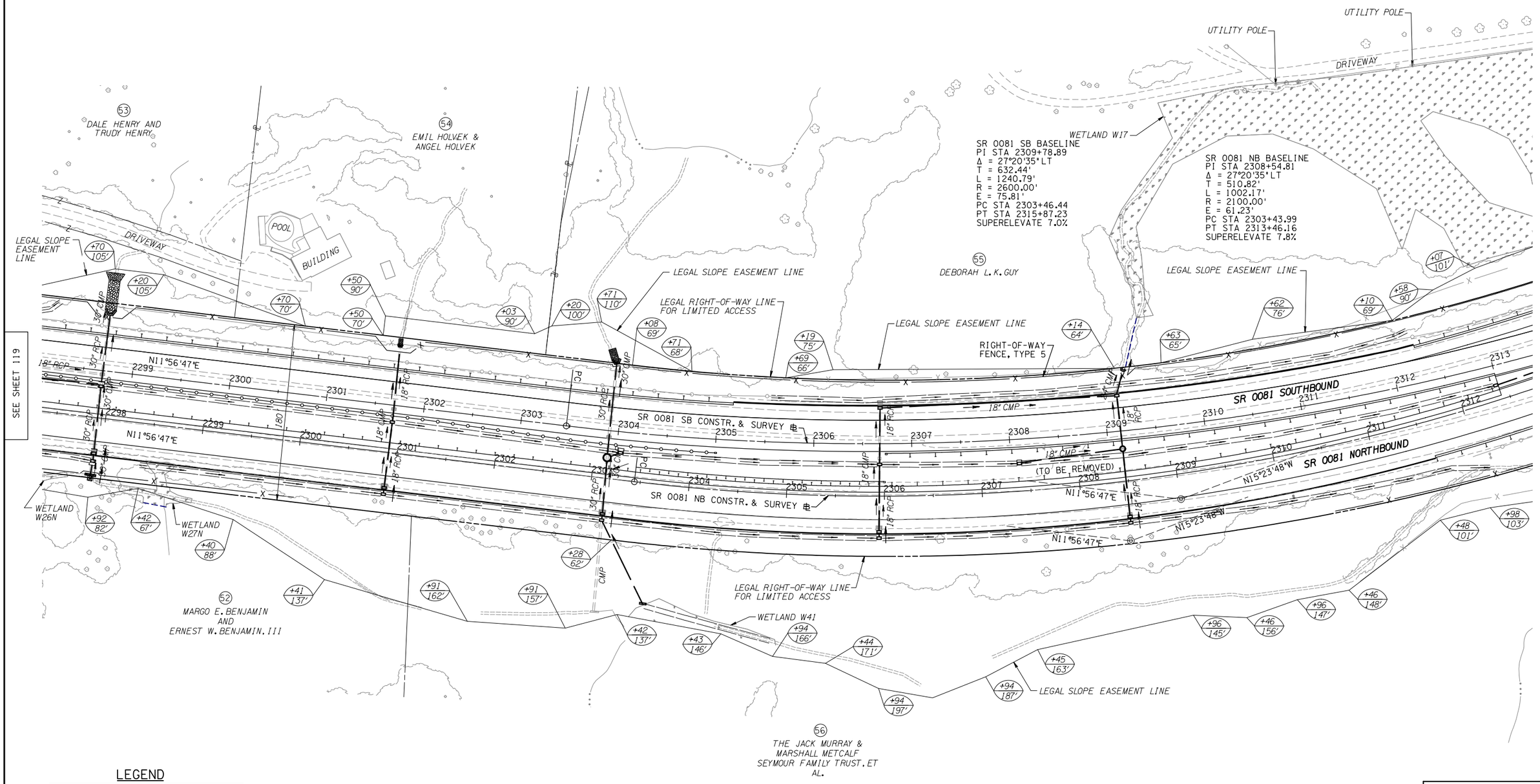
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	120 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY


SEE SHEET 119
SEE SHEET 121
53
DALE HENRY AND TRUDY HENRY
54
EMIL HOLVEK & ANGEL HOLVEK
55
DEBORAH L.K.GUY
52
MARGO E.BENJAMIN AND ERNEST W.BENJAMIN, III
56
THE JACK MURRAY & MARSHALL METCALF SEYMOUR FAMILY TRUST, ET AL.
UTILITY POLE
UTILITY POLE
DRIVEWAY
DRIVEWAY
POOL
BUILDING
WETLAND W17
WETLAND W26N
WETLAND W27N
WETLAND W41
SR 0081 SB BASELINE
PI STA 2309+78.89
Δ = 27°20'35"LT
T = 632.44'
L = 1240.79'
R = 2600.00'
E = 75.81'
PC STA 2303+46.44
PT STA 2315+87.23
SUPERELEVATE 7.0%
SR 0081 NB BASELINE
PI STA 2308+54.81
Δ = 27°20'35"LT
T = 510.82'
L = 1002.17'
R = 2100.00'
E = 61.23'
PC STA 2303+43.99
PT STA 2313+46.16
SUPERELEVATE 7.8%
LEGAL SLOPE EASEMENT LINE
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
LEGAL SLOPE EASEMENT LINE
LEGAL SLOPE EASEMENT LINE
RIGHT-OF-WAY FENCE, TYPE 5
LEGAL SLOPE EASEMENT LINE
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
LEGAL SLOPE EASEMENT LINE
SR 0081 SB CONSTR. & SURVEY
SR 0081 NB CONSTR. & SURVEY
SR 0081 SOUTHBOUND
SR 0081 NORTHBOUND
(TO BE REMOVED)
N11°56'47"E
N15°23'48"W
30" RCP
18" RCP
30" CMP
18" CMP
18" RCP
30" RCP
18" CMP
18" RCP
18" RCP
18" RCP
30" RCP
18" RCP
18" CMP
18" RCP
18" RCP
18" RCP
18" RCP
30" CMP
18" CMP
18" RCP
18" RCP
18" RCP
18" RCP
18" CMP
18" RCP
18" RCP
18" RCP
18" RC

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	121 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SR 0081 NB BASELINE
PI STA 2308+54.81
Δ = 27°20'35" LT
T = 510.82'
L = 1002.17'
R = 2100.00'
E = 61.23'
PC STA 2303+43.99
PT STA 2313+46.16
SUPERELEVATE 7.8%

SR 0081 SB BASELINE
PI STA 2309+78.89
Δ = 27°20'35" LT
T = 632.44'
L = 1240.79'
R = 2600.00'
E = 75.81'
PC STA 2303+46.44
PT STA 2315+87.23
SUPERELEVATE 7.0%

BM 1S ELEV 893.49'
49.27' RT STA 2318+27.68
CHISEL SQUARE W/MAG ON BRIDGE PARAPET

PROPOSED STRUCTURE DATA
TYPE: 4-SPAN CONT. COMPOSITE P/S CONC. PA BULB TEE BEAMS
SPANS: 165'-0"; 175'-0"; 175'-0"; 165'-0" = 680'-0"
UNDERCLEARANCE: 16.69' (NB), 16.46' (SB)
SKEW: 90°-00'-00"
CLEAR ROADWAY WIDTH: 56'-0" CURB TO CURB (NB & SB)
S-NUMBER: S-37616

EXISTING STRUCTURE DATA
TYPE: 5 SPAN STEEL I-BEAM
SPANS: 119'-6"; 143'-6"; 143'-6"; 143'-6"; 119'-6"
UNDERCLEARANCE: 15'-4"
SKEW: 90°
CLEAR ROADWAY WIDTH: 34'-0" CURB TO CURB

POT STA 2315+06.44 (36.00', LT) SR 0081 =
PC STA 114+42.13 SR 8011 (RAMP C)

PI STA 114+80.00
Δ = 1°46'49" LT
T = 39.84'
L = 79.67'
R = 2564.00'
E = 0.31'
PC STA 114+40.17
PT STA 115+19.84
SUPERELEVATE NC

POT STA 2317+85.00 (36.00', RT) SR 0081 =
POT STA 197+14.06 SR 8011 (RAMP D)

STA 2315+30.75 BK =
STA 2315+87.23 AHD (SR 0081 NB)

SR 1010 (HARMONY ROAD)

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

SR 8011 (RAMP C)

SR 8011 (RAMP D)

SUSQUEHANNA RIVER

WETLAND W17

WETLAND W28N

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

RIGHT-OF-WAY FENCE, TYPE 5

TEMPORARY ACCESS ROAD 2315 SB SURVEY & CONSTR. ℄

TEMPORARY ACCESS ROAD 2315 NB SURVEY & CONSTR. ℄

TEMPORARY ACCESS ROAD 2327 SB SURVEY & CONSTR. ℄

TEMPORARY ACCESS ROAD 2328 NB SURVEY & CONSTR.

TEMPORARY CONSTRUCTION EASEMENT

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

SR 8011 (RAMP C) SURVEY & CONSTR. ℄

SR 8011 (RAMP D) SURVEY & CONSTR. ℄

PENELEC NO XXX'S

PENELEC 7G575 (RELOCATE BY OTHERS)

PENELEC 7G-481 (RELOCATE BY OTHERS)

UTILITY POLE NO YK 7.5 (RELOCATE BY OTHERS)

DRIVEWAY

BUILDING

GRAVEL DRIVE

ELEC BOX

PLCC CURB (TYP)

12" CMP

15" CMP

18" RCP

15" RCP

18" RCP (REMOVED)

30" CMP (TO BE PLUGGED)

30" CMP TO BE BORED

55 DEBORAH L. K. GUY

56 THE JACK MURRAY & MARSHALL METCALF SEYMOUR FAMILY TRUST. ET AL.

57 PENNSYLVANIA AMERICAN WATER COMPANY

58 HALLSTEAD ASSOCIATES

59 MVPGB. LLC.

HYDRAULIC DATA SUSQUEHANNA RIVER		
	EXISTING	PROPOSED
DRAINAGE AREA	*2,044 SQ MI*	2,044 SQ MI
WATERWAY OPENING	*15,744 SF*	16,320 SF
50-YR. DESIGN FLOOD:		
MAGNITUDE	*60,476 CFS*	60,476 CFS
WATER SURFACE ELEVATION	*876.18*	876.17
VELOCITY	*5.7 FPS*	5.7 FPS
FEMA 100-YR. FLOOD:		
MAGNITUDE	*64,270 CFS*	64,270 CFS
WATER SURFACE ELEVATION	*877.05*	877.03
VELOCITY	*5.8 FPS*	5.8 FPS

NOTES:
-OVERTOPPING EVENT > 500-YR STORM (83,455 CFS)
-FOR SCOUR VALUES, SEE SHEET 6

PI STA 207+47.03
Δ = 22°24'32" RT
T = 198.09'
L = 391.11'
R = 1000.00'
E = 19.43'
PC STA 205+48.95
PT STA 209+40.06
SUPERELEVATE 5.0%

LEGEND
- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 157
FOR SB PROFILE, SEE SHEET 191

SEE SHEET 120
SEE SHEET 122

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	122 OF 247
BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

EXISTING STRUCTURE DATA
TYPE: 3 SPAN PRESTRESSED CONCRETE
SPANS: 30'-11", 71'-0", 33'-2"
UNDERCLEARANCE: 14'- 9½"
SKEW: 90°
CLEAR ROADWAY WIDTH: 40'-0" CURB TO CURB

BM 1T ELEV 895.34'
56.00'RT STA 2334+11.44
CHISEL SQUARE W/MAG ON BRIDGE PAROPET

START WORK
BEGIN MILL AND OVERLAY
STA 430+28.00
SEG 0710 OFF 1571
SR 0171

POE STA 134+93.17 SR 8011 (RAMP C) =
POB STA 333+74.70 SR 8011 (RAMP B) =
POT STA 431+37.85 SR 0171

PI STA 129+48.35
Δ = 31°02'31"LT
T = 277.72'
L = 541.78'
R = 1000.00'
E = 37.85'
PC STA 126+70.63
PT STA 132+12.42
SUPERELEVATE 5.0%

PI STA 341+28.85
Δ = 22°25'51"LT
T = 198.28'
L = 391.49'
R = 1000.00'
E = 19.47'
PC STA 339+30.57
PT STA 343+22.06
SUPERELEVATE 5.0%

PI STA 207+47.03
Δ = 22°24'32"RT
T = 198.09'
L = 391.11'
R = 1000.00'
E = 19.43'
PC STA 205+48.95
PT STA 209+40.06
SUPERELEVATE 5.0%

POE STA 214+73.28 SR 8011 (RAMP D) =
POB STA 33+78.72 SR 8011 (RAMP A) =
POT STA 437+98.40 SR 0171

POT STA 434+61.61 SR 0171 =
POT STA 2334+93.97 SR 0081 SB

POT STA 2334+93.97 SR 0081 NB =
POT STA 434+83.61 SR 0171

STOP WORK
END MILL AND OVERLAY
STA 438+58.00
SEG 0710 OFF 0741
SR 0171

PI STA 443+01.89
Δ = 52°06'00"LT
T = 430.88'
L = 801.54'
R = 881.47'
E = 99.67'
PC STA 438+71.01
PT STA 446+72.55
SUPERELEVATE N/A

PI STA 41+31.13
Δ = 21°44'52"RT
T = 192.10'
L = 379.57'
R = 1000.00'
E = 18.28'
PC STA 39+39.04
PT STA 43+18.61
SUPERELEVATE 5.0%

SR 8011 (RAMP C)
SR 8011 (RAMP B)
SR 8011 (RAMP D)
SR 8011 (RAMP A)
SR 0171
SR 0081 SOUTHBOUND
SR 0081 NORTHBOUND
SR 0081 SB CONSTR. & SURVEY
SR 0081 NB CONSTR. & SURVEY
SR 8011 (RAMP C) SURVEY & CONSTR.
SR 8011 (RAMP B) SURVEY & CONSTR.
SR 8011 (RAMP D) SURVEY & CONSTR.
SR 8011 (RAMP A) SURVEY & CONSTR.
SR 0171 SURVEY & CONSTR.

N15°23'48"W
N46°26'19"W
N74°35'10"E
N07°02'03"E
N07°00'44"E
N37°08'40"W

STORE
GREAT BEND HOLDINGS, INC.
MVPGB, LLC.
HALLSTEAD PROPERTIES LLC. 13787
HALLSTEAD ASSOCIATES
PUMP N PANTRY, INC.
GREAT BEND TOWNSHIP LAND CO., LLC.
GREAT BEND TOWNSHIP
GREAT BEND BOROUGH

PENELEC 7G466
PENELEC 7G1032
PENELEC 7G646 (RELOCATED BY OTHERS)
PENELEC 7G467 (RELOCATED BY OTHERS)
PENELEC 7G468
PENELEC 254725-166250
PENELEC POLE (RELOCATED BY OTHERS)
TELECOM NO. XXX'S (RELOCATED BY OTHERS)
UTILITY BOX
UTILITY POLE
SAN MH (RIM ADJ)
BURIED CONCRETE BARRIER END SECTION
BASIN 2333
WETLAND W18
WETLAND W19
WETLAND W29N
BUILDING
DUMPSTER
TANKS
CANOPY
FREEZER
SHED
SIGN
FILLER CAPS
LEGAL SLOPE EASEMENT LINE
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS (FOR RAMPS)
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS (FOR RAMP)
RIGHT-OF-WAY FENCE, TYPE 5
RIGHT-OF-WAY FENCE, TYPE 1 MODIFIED
TEMPORARY ACCESS ROAD 2327 SB SURVEY & R/W ℄
TEMPORARY ACCESS ROAD 2328 NB SURVEY & CONSTR. ℄
TEMPORARY CONSTRUCTION EASEMENT
BURIED CONCRETE BARRIER END SECTION
TIE-IN TO EXISTING GUIDE RAIL
BM 1T
PLCC CURB (TYP)
SLOPE
PC
PT
BC
EC

18" RCP
12" RCP
15" RCP
72" RCP
18" CMP
15" CMP
12" CMP
24" RCP
(TO BE PLUGGED)
(TO BE BORED)

C01-I03
C01-I03B
C01-I04
C01-I04B
C01-I05
C01-I05B
C01-I06
C01-I06B
C04-I02
C04-I02B
C04-I04
C04-I04B

LEGEND

- ROCK CHUTE
- ROCK APRON

PROPOSED STRUCTURE DATA
TYPE: SINGLE SPAN P/S BULB-TEE BEAM
SPANS: 1 @ 87'-0"
UNDERCLEARANCE: 17'-5⅜"
SKEW: 90°
CLEAR ROADWAY WIDTH: 44'-0" CURB TO CURB
S-NUMBER: S-37507

SCALE
0 50 100 FEET

SEE SHEET 121
SEE SHEET 123
SEE SHEET 125

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 158
FOR SB PROFILE, SEE SHEET 192

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	123 OF 247
BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 132

BM 99-81-5 ELEV 909.27'
62.89'RT STA 2343+06.29
PDOT DISK ON OVERPASS PARAPET

PI STA 341+28.85
Δ = 22°25'51"LT
T = 198.28'
L = 391.49'
R = 1000.00'
E = 19.47'
PC STA 339+30.57
PT STA 343+22.06
SUPERELEVATE 5.0%

EXISTING STRUCTURE DATA
SOUTHBOUND
TYPE: 3 SPAN CONTINUOUS STEEL I-BEAM
SPANS: 38'-6"; 52'-3"; 46'-0"
UNDERCLEARANCE: 23'-8"
SKEW: 76°-29'-40"
CLEAR ROADWAY WIDTH: 40'-10" CURB TO CURB

(63) HALLSTEAD PROPERTIES LLC. 13787
(64) UNKNOWN OWNER
(65) NORFOLK SOUTHERN RAIL COMPANY
(66) JEFFREY JOHN KAMINSKI & REBECCA KAMINSKI
(67) JERYLIN ABBOTT KING & ROBERT W. KING JR.
(68) ANTHONY J. DIMICHELE & ALBERT A. R. DIMICHELE
(69) JERRY JOYCE
(71) CARLTON M. BURDICK JR. & VALERIE A. BURDICK
(72) BRETT S. GROVER & ELAINE D. GROVER
(73) GREAT BEND TOWNSHIP
(116) ERIC & AMY R. STEDMAN
(62) GREAT BEND TOWNSHIP LAND CO., LLC.

GREAT BEND TOWNSHIP
GREAT BEND BOROUGH
WETLAND W19
WETLAND W29N
TEMPORARY CONSTRUCTION EASEMENT (FOR ACCESS ONLY)
NORFOLK SOUTHERN RAILROAD
ERIE STREET
FRANKLIN STREET
WASHINGTON STREET
LEGAL SLOPE EASEMENT LINE
SR 8011 (RAMP B) SURVEY & CONSTR.
SR 8011 (RAMP A) SURVEY & CONSTR.
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS (FOR RAMP)
LEGAL HIGHWAY EASEMENT
LEGAL AERIAL EASEMENT
54" RCP (TO BE CLEANED)
PAVED DITCH
BILLBOARD (TO REMAIN)
30" CMP
PENELEC 2G179 (RELOCATED BY OTHERS)
PENELEC 2G180 (RELOCATED BY OTHERS)
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS (FOR RAMP)
RIGHT-OF-WAY FENCE, TYPE 5
T-836 (OLD ROUTE 10 RD)
HOUSE
DRIVEWAY
POOL
BARN
TANK
LEGAL SLOPE EASEMENT LINE
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
GREAT BEND BOROUGH
GREAT BEND TOWNSHIP

POT STA 2348+80.00 (36.00', LT) SR 0081 =
POT STA 348+12.81 SR 8011 (RAMP B)

SR 8011 (RAMP B)
SR 0081 SOUTHBOUND
SR 0081 NORTHBOUND
SR 8011 (RAMP A)
SR 0081 SB CONSTR. & SURVEY
SR 0081 NB CONSTR. & SURVEY
N15°23'48"W
N07°02'03"E
N 37°08'40" W
24" RCP
18" RCP
C-D01-04
C-D01-08
C-D01-13

PI STA 47+25.33
Δ = 02°17'26"LT
NO CURVE

PI STA 41+31.13
Δ = 21°44'52"RT
T = 192.10'
L = 379.57'
R = 1000.00'
E = 18.28'
PC STA 39+39.04
PT STA 43+18.61
SUPERELEVATE 5.0%

SEE SHEET 125

PROPOSED STRUCTURE DATA
STATION: 2343+78.77 NB; 2343+89.14 SB
TYPE: P/C CONCRETE ARCH CULVERT
SPAN: 48'-0"
UNDERCLEARANCE: 23'-0" REQ'D; 23'-2" PROV'D
SKEW: 76
CLEAR ROADWAY WIDTH:
S-NUMBER: S-37522

EXISTING STRUCTURE DATA
NORTHBOUND
TYPE: 3 SPAN P/S SPREAD BOX BEAM
SPANS: 38'-2"; 52'-3"; 45'-8"
UNDERCLEARANCE: 23'-11"
SKEW: 76°-29'-40"
CLEAR ROADWAY WIDTH: 48'-0" CURB TO CURB

LEGEND
- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 159
FOR SB PROFILE, SEE SHEET 193

SEE SHEET 122
SEE SHEET 124

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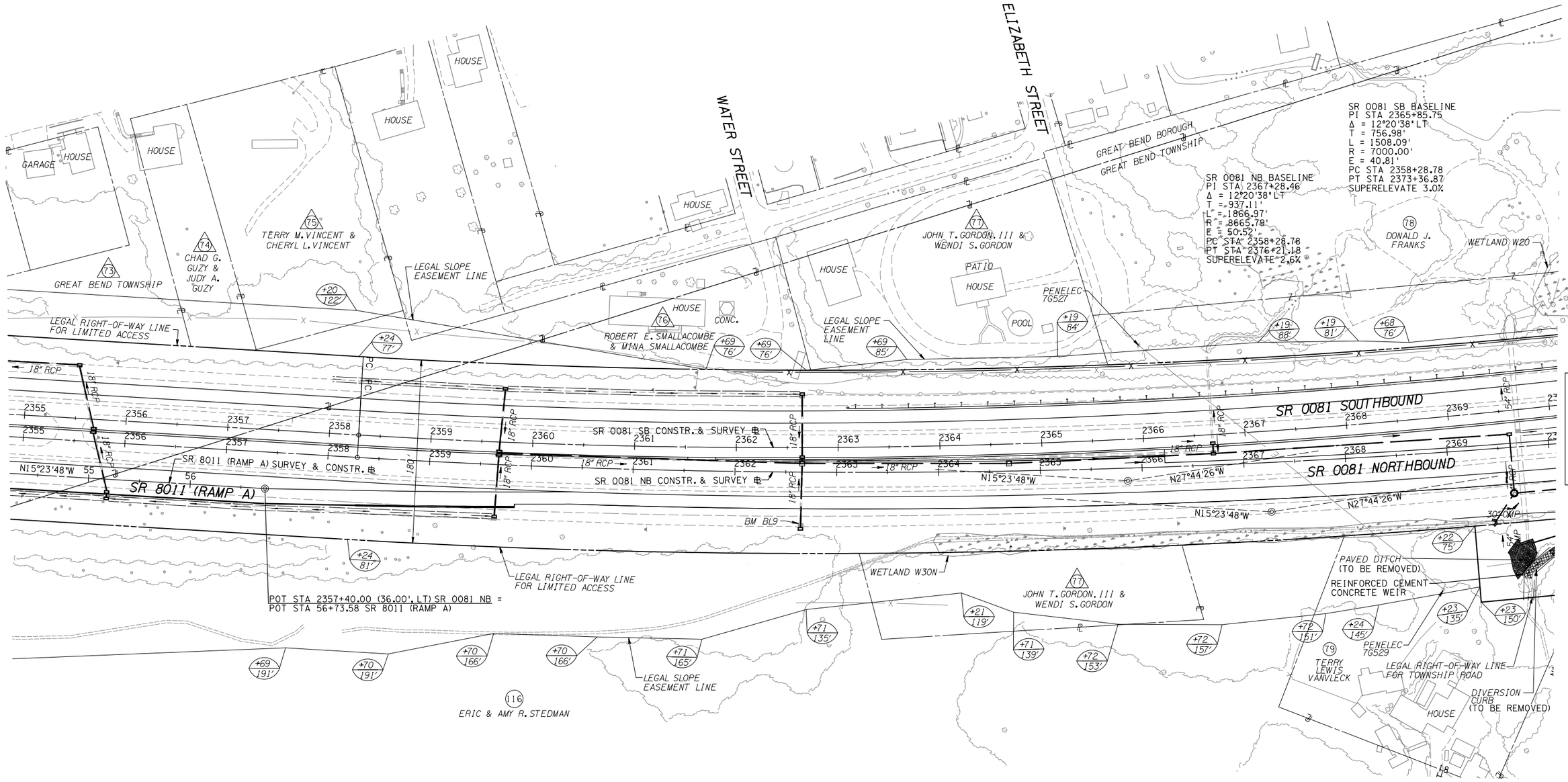
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	124 OF 247
BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

BM-BL9 ELEV 930.78'
54.08' RT STA 2362+64.84 NB
CHISEL SQUARE W/MAG TOP CENTER INLET



SEE SHEET 123

SEE SHEET 125

LEGEND

- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 160
FOR SB PROFILE, SEE SHEET 194

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	125 OF 247
BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

BM 1U ELEV 890.43'
47.38'LT STA 2380+80.61
CHISEL SQUARE W/MAG SIGN BASE

SEE SHEET 124

SEE SHEET 126

GREAT BEND BOROUGH
GREAT BEND TOWNSHIP

SR 0081 SB BASELINE
PI STA 2365+85.75
Δ = 12°20'38"LT
T = 756.98'
L = 1508.09'
R = 7000.00'
E = 40.81'
PC STA 2358+28.78
PT STA 2373+36.87
SUPERELEVATE 3.0%

SR 0081 NB BASELINE
PI STA 2367+28.46
Δ = 12°20'38"LT
T = 937.11'
L = 1866.97'
R = 8665.79'
E = 50.52'
PC STA 2358+28.78
PT STA 2376+21.18
SUPERELEVATE 2.6%

HOUSE
DRIVEWAY
(78) DONALD J. FRANKS
GARAGE
POOL
HOUSE
HOUSE
POOL
HOUSE
SR 1031 (RANDOLPH STREET)
GRANT STREET
DRIVEWAY
DRIVEWAY
HOUSE
+50 25'
HOUSE
DRIVEWAY
+50 35'
DEANS ROAD
(82) FRED S. VISSER AND LORETTA DEBELLA
(83) DAVID A. HINKLEY AND CARRIE L. HINKLEY
HOUSE
LEGAL SLOPE EASEMENT LINE
PENELEC 76515
LEGAL SLOPE EASEMENT LINE
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
STA 2377+93.10 BK = STA 2378+00.00 AHD (SR 0081 SB)
WETLAND W20
WETLAND W21
+48 95'
+18 96'
+68 72'
+74 63'
+86 88'
+73 63'
+73 73'
+69 73'
+23 63'
RIGHT-OF-WAY FENCE, TYPE 5
BM 1U
PT
54" RCP
18" RCP
SR 0081 SB CONSTR. & SURVEY
SR 0081 SOUTHBOUND
N27°44'26"W
180'
C-D03-01
C-D04-01
PT
18"
18" RCP
SR 0081 NB CONSTR. & SURVEY
SR 0081 NORTHBOUND
N27°44'26"W
18"
GB-C74
30"
30" CMP
54" CMP
54" RCP
RIGHT-OF-WAY FENCE, TYPE 5
36"
C-74N
PAVED DITCH (TO BE REMOVED)
DIVERSION CURB (TO REMOVED)
+73 118'
+74 148'
+23 150'
SHED
+34 119'
+10 133'
+82 66'
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
WETLAND W31N
WETLAND W42N
BASIN 2377
12 FT. GATE
24"
15" CMP
15" CMP
15" CMP
+46.34 25.00'
+55 17'
+55 25.00'
+95 25'
+89 16'
+28 81'
+73 75'
+23 80'
T-841 (EMERSON ROAD)
LEGAL RIGHT-OF-WAY LINE FOR TOWNSHIP ROAD
DRIVEWAY
REINFORCED CEMENT CONCRETE WEIR
(79) TERRY LEWIS VANVLECK
(80) ERIC GRIFFIN & ALLISON GRIFFIN
LEGAL RIGHT-OF-WAY LINE FOR TOWNSHIP ROAD
RIGHT-OF-WAY FENCE, TYPE 1 MODIFIED
FILTER 2374
(84) PATRICIA M. ALLEN
PI STA 21+35.80
Δ = 48°44'14"LT
T = 86.06'
L = 161.62'
R = 190.00'
E = 18.58'
PC STA 20+49.73
PT STA 22+11.35
SUPERELEVATE NC
+74 145'
POND
HOUSE
DRIVEWAY
RELOCATED T-841 (EMERSON ROAD)
PC
PT
PC
PT
PI STA 29+02.19
Δ = 23°34'16"LT
T = 41.73'
L = 82.28'
R = 200.00'
E = 4.31'
PC STA 28+60.46
PT STA 29+42.74
SUPERELEVATE NC
PI STA 30+75.43
Δ = 42°43'32"RT
T = 78.23'
L = 149.14'
R = 200.00'
E = 14.76'
PC STA 29+97.20
PT STA 31+46.34
SUPERELEVATE NC
HOUSE
+42.74 25.00'
+97.20 25.00'
+44.85 25.00'
+60.46 25.00'
+60.57 25.00'
+72.47 25.00'
+49.62 25.00'
+50.00 25.00'
+50.00 18'
WETLAND W44N
(81) C. ROBERT EMERSON AND BONNIE D. EMERSON
(84) PATRICIA M. ALLEN
WETLAND W43N
DRIVEWAY
DRIVEWAY
FOOTBRIDGE
LEGAL RIGHT-OF-WAY LINE FOR TOWNSHIP ROAD
PI STA 23+11.26
Δ = 14°44'04"RT
T = 38.79'
L = 77.15'
R = 300.00'
E = 2.50'
PC STA 22+72.47
PT STA 23+49.62
SUPERELEVATE NC
PI STA 26+02.87
Δ = 12°04'17"LT
T = 42.29'
L = 84.27'
R = 400.00'
E = 2.23'
PC STA 25+60.57
PT STA 26+44.85
SUPERELEVATE NC
(116) ERIC STEDMAN & AMY STEDMAN
POND

LEGEND
- ROCK APRON
- WETLAND UNDERCUT

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 161
FOR SB PROFILE, SEE SHEET 195

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	126 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

HYDRAULIC DATA TROWBRIDGE CREEK

	EXISTING	PROPOSED
DRAINAGE AREA	16.7 SQ MI	16.7 SQ MI
WATERWAY OPENING	SEE NOTE 1	SEE NOTE 2
50-YR. DESIGN FLOOD:		
MAGNITUDE	3,026 CFS	3,026 CFS
WATER SURFACE ELEVATION	886.62'	884.57'
VELOCITY	4.8 FPS	5.9 FPS
FEMA 100-YR. FLOOD:		
MAGNITUDE	3,567 CFS	3,567 CFS
WATER SURFACE ELEVATION	887.28'	885.63'
VELOCITY	5.0 FPS	5.5 FPS

NOTES:
1. 520 SF (NB) & 571 SF (SB)
2. 781 SF (NB) & 771 SF (SB)

PI STA 19+50.00
Δ = 10°00'48"RT
T = 10.95'
L = 21.85'
R = 125.00'
E = 0.48'
PC STA 19+39.05
PT STA 19+60.90
SUPERELEVATE NC

PI STA 114+13.27
Δ = 29°33'44"LT
T = 278.10'
L = 543.80'
R = 1053.95'
E = 36.07'
PC STA 111+35.17
PT STA 116+78.97
SUPERELEVATE EXISTING

START WORK
STA 116+64.00
SEG 0010 OFF 0709
SR 1029 SEC 550

BEGIN MILL AND OVERLAY
STA 117+10.00
SR 1029 SEC 550

LIMIT OF WORK
STA 116+00.00
SEG 0010 OFF 0645
SR 1029 SEC 550
GREAT BEND TOWNSHIP
SUSQUEHANNA COUNTY

END MILL AND OVERLAY
BEGIN PAVEMENT TRANSITION
STA 117+50.00
SR 1029 SEC 550

PI STA 57+88.34
Δ = 1°07'56"RT
T = 105.73'
L = 211.45'
R = 10700.00'
E = 0.52'
PC STA 56+82.61
PT STA 58+94.06
SUPERELEVATE NC

BM 99-81-4 ELEV 891.22'
52.63'LT STA 2396+74.21
PDOT DISK ON BRIDGE ABUTMENT

PROPOSED STRUCTURE DATA
STATION 2397+11.84 SOUTHBOUND
TYPE: SINGLE SPAN COMP. P/S
PA BULB-TEE BEAM
SPANS: 112'-0"
UNDERCLEARANCE: REQ'D = 9.1'; PROV'D = 9.4'
SKEW: 90°
CLEAR ROADWAY WIDTH: 62'-3½" OUT-TO-OUT
58'-11" CURB TO CURB
S-NUMBER: S-37596

EXISTING STRUCTURE DATA
STATION 2397+01.66 SOUTHBOUND
TYPE: SINGLE SPAN COMP. P/S CONC ADJ. BOX BEAM
SPAN: 79'-6"
UNDERCLEARANCE: 9'-0"
SKEW: 90°
CLEAR ROADWAY WIDTH: 57'-6" CURB TO CURB

PI STA 118+23.66
Δ = 1°30'41"LT
T = 56.19'
L = 112.38'
R = 4260.00'
E = 0.37'
PC STA 117+67.47
PT STA 118+79.85
SUPERELEVATE NC

END MILL AND OVERLAY
BEGIN FULL DEPTH RECONSTR
STA 18+50.00
SR 1031 SEC 550

START WORK
BEGIN MILL AND OVERLAY
STA 18+25.00
SEG 0010 OFF 2141
SR 1031 SEC 550

LIMIT OF WORK
STA 17+75.00
SEG 0010 OFF 2091
SR 1031 SEC 550
GREAT BEND TOWNSHIP
SUSQUEHANNA COUNTY

END PAVEMENT TRANSITION
BEGIN FULL DEPTH RECONSTR
STA 118+10.00
SR 1029 SEC 550

POT STA 18+10.00 SR 1029 =
POT STA 19+92.13 SR 1031

STOP WORK
END FULL DEPTH RECONSTR
STA 19+92.12
SEG 0010 OFF 2308
SR 1031 SEC 550

STOP WORK
STA 61+49.93
SEG TBD OFF TBD
SR 9203 (RAMP B) SEC 511

END FULL DEPTH RECONSTR
BEGIN PAVEMENT TRANSITION
STA 123+25.00
SR 1029 SEC 550

EXISTING STRUCTURE DATA
STATION 121+02.81
TYPE: 4 SPAN STEEL I-BEAM
SPAN: 2 @ 29'-0", 2 @ 68'-0"
UNDERCLEARANCE: 16'-4" MIN
SKEW: 75°
CLEAR ROADWAY WIDTH: 28'-0"

PROPOSED STRUCTURE DATA
STATION 121+03.54
TYPE: 2-SPAN COMPOSITE P/S
BULB-TEE BEAM
SPANS: 75'-3"; 69'-1½"
UNDERCLEARANCE: 17'-5¼"
SKEW: 75°
CLEAR ROADWAY WIDTH: 35'-0"
CURB TO CURB
S-NUMBER: S-37568

PI STA 122+76.06
Δ = 0°50'07"LT
T = 31.05'
L = 62.10'
R = 4260.00'
E = 0.11'
PC STA 122+45.01
PT STA 123+07.11
SUPERELEVATE NC

PI STA 125+19.56
Δ = 0°51'26"RT
T = 31.87'
L = 63.74'
R = 4260.00'
E = 0.12'
PC STA 124+87.69
PT STA 125+51.43
SUPERELEVATE NC

END PAVEMENT TRANSITION
BEGIN MILL AND OVERLAY
STA 124+50.00
SR 1029 SEC 550

END MILL AND OVERLAY
STA 124+92.00
SR 1029 SEC 550

HYDRAULIC DATA RANDOLPH ROAD CULVERT

	EXISTING	PROPOSED
DRAINAGE AREA	0.26 SQ MI	0.26 SQ MI
WATERWAY OPENING	28.3 SF	42.9 SF
50-YR. DESIGN EVENT:		
FLOW	288 CFS	288 CFS
WATER SURFACE ELEVATION	890.29'	888.89'
VELOCITY	3.4 FPS	6.2 FPS
100-YR. DESIGN EVENT:		
FLOW	351 CFS	351 CFS
WATER SURFACE ELEVATION	890.53'	889.30'
VELOCITY	3.3 FPS	6.6 FPS
100-YR. DESIGN EVENT W/ FEMA BACKWATER:		
FLOW	351 CFS	351 CFS
WATER SURFACE ELEVATION	890.73'	889.79'
VELOCITY	2.6 CFS	5.4 CFS

PROPOSED STRUCTURE DATA
STATION 2397+11.84 NORTHBOUND
TYPE: SINGLE SPAN COMP. P/S
PA BULB-TEE BEAM
SPANS: 112'-0"
UNDERCLEARANCE: REQ'D=7.1'; PROV'D = 8.7'
SKEW: 90°
CLEAR ROADWAY WIDTH: 47'-4½" OUT TO OUT
44'-0" CURB TO CURB
S-NUMBER: S-37569

EXISTING STRUCTURE DATA
STATION 2397+01.79 NORTHBOUND
TYPE: SINGLE SPAN COMP. P/S CONCRETE ADJ. BOX BEAM
SPAN: 79-6"
UNDERCLEARANCE: 7.8'
SKEW: 90°
CLEAR ROADWAY WIDTH: 45'-10 ½" CURB TO CURB

LEGEND
▒ - ROCK APRON

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

SCALE
0 50 100 FEET

SEE SHEET 125
SEE SHEET 127
FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 162
FOR SB PROFILE, SEE SHEET 196

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	127 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

EXISTING STRUCTURE DATA
SOUTHBOUND
TYPE: 1 SPAN COMPOSITE P/S CONCRETE SPREAD BOX BEAM
SPAN: 51'-10 5/16"
UNDERCLEARANCE: 16'-6" (MIN)
SKEW: 73°-18'-32"
CLEAR ROADWAY WIDTH: 33'-0"

BM DISK ELEV 902.45'
216.36'LT STA 2408+89.78
DISK ON BRIDGE RAMP ABUTMENT

PI STA 49+96.09
Δ = 4°00'58"RT
T = 210.04'
L = 419.91'
R = 5990.91'
E = 3.68'
PCC STA 46+96.05
PT STA 51+15.97
SUPERELEVATE NC

PI STA 45+73.02
Δ = 51°59'55"RT
T = 142.92'
L = 265.94'
R = 293.03'
E = 33.00'
PC STA 44+30.10
PCC STA 46+96.05
SUPERELEVATE 6.0%

START WORK
STA 46+33.64
SEG TBD OFF TBD
SR 9203 (RAMP B) SEC 511

STOP WORK
END MILL AND OVERLAY
STA 17+50.00
SEG TBD OFF TBD
SR 9203 (RAMP A) SEC 511

END FULL DEPTH RECONSTR
BEGIN MILL AND OVERLAY
STA 17+00.00
SR 9203 (RAMP A) SEC 511

PI STA 15+53.08
Δ = 15°03'07"RT
T = 205.73'
L = 409.10'
R = 1557.25'
E = 13.53'
PC STA 13+47.35
PCC STA 17+56.44
SUPERELEVATE 3.8%

PI STA 2412+83.65
Δ = 14°54'09"RT
T = 988.75'
L = 1966.34'
R = 7560.00'
E = 64.38'
PC STA 2402+94.90
PT STA 2422+61.24
SUPERELEVATE 2.8%

PI STA 2411+14.57
Δ = 14°54'09"RT
T = 1030.81'
L = 2049.54'
R = 7730.00'
E = 68.43'
PC STA 2400+83.75
PT STA 2421+33.29
SUPERELEVATE 2.8%

WELCOME CENTER
HVAC
HVAC
COMMONWEALTH OF PENNSYLVANIA
PENELEC NO XXX'S
LIGHT POLE (TO BE REMOVED)
LIGHT JB (TO BE REMOVED)
CAMERA CCTV
LIGHT POLE
REFER TO WELCOME CENTER LIGHTING DETAIL FOR FURTHER INFORMATION
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
LEGAL SLOPE EASEMENT LINE
BM DISK
BASIN
RIGHT-OF-WAY FENCE, TYPE 5
EXISTING RIGHT-OF-WAY OF WILLIAMS GAS LINE
GEORGE H. STOVER, JR. AND JUDY Y. STOVER

SR 9203 (RAMP B)
SR 9203 (RAMP B) SURVEY & CONSTR
SR 9203 (RAMP A)
SR 9203 (RAMP A) SURVEY & R/W
SR 0081 SOUTHBOUND
SR 0081 SB CONSTR. & SURVEY
SR 0081 NB CONSTR. & SURVEY

C-D09-01
C-D10-01
C-D10-03
C-D11-03

S 28°52'22"E
S 32°53'20"E
S 85°53'14"E
S 13°58'12"E
S 35°47'01"W
N27°44'26"W
N12°32'57"W

18" RCP
15" CMP
24" RCP
30" RCP
8" RCP

SEE SHEET 126
SEE SHEET 128

LEGEND
- ROCK APRON
- MILL/OVERLAY

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

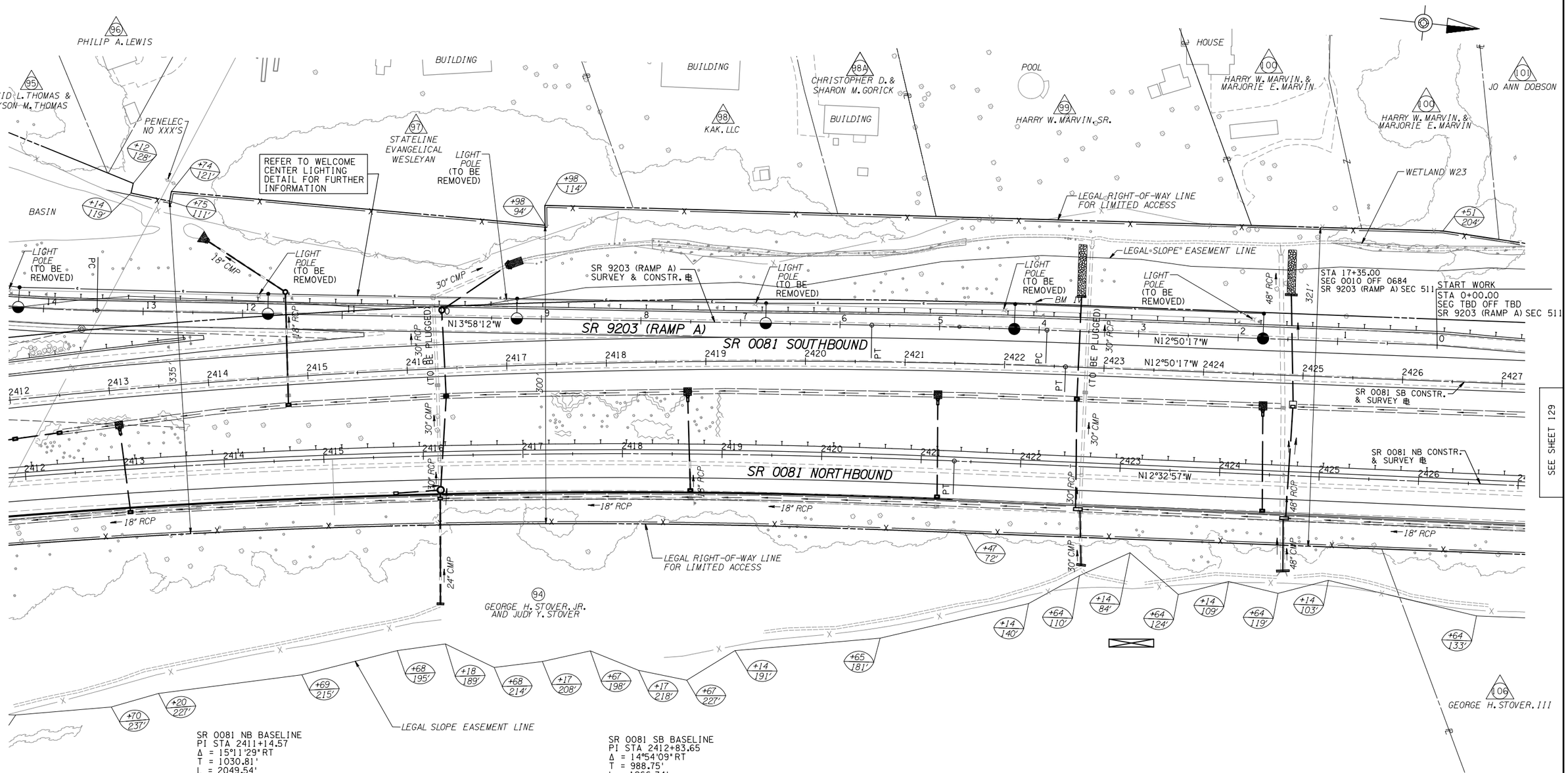
FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 163
FOR SB PROFILE, SEE SHEET 197

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T7031A_255800.dgn
11/18/2021 AT 9:58:17 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	128 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

BM 1V ELEV 903.44'
54.21'LT STA 2422+30.11
CHISEL SQUARE W/MAG SIGN BASE



SEE SHEET 127

SEE SHEET 129

SR 0081 NB BASELINE
PI STA 2411+14.57
Δ = 15°11'29"RT
T = 1030.81'
L = 2049.54'
R = 7730.00'
E = 68.43'
PC STA 2400+83.75
PT STA 2421+33.29
SUPERELEVATE 2.8%

SR 0081 SB BASELINE
PI STA 2412+83.65
Δ = 14°54'09"RT
T = 988.75'
L = 1966.34'
R = 7560.00'
E = 64.38'
PC STA 2402+94.90
PT STA 2422+61.24
SUPERELEVATE 2.8%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 164
FOR SB PROFILE, SEE SHEET 198

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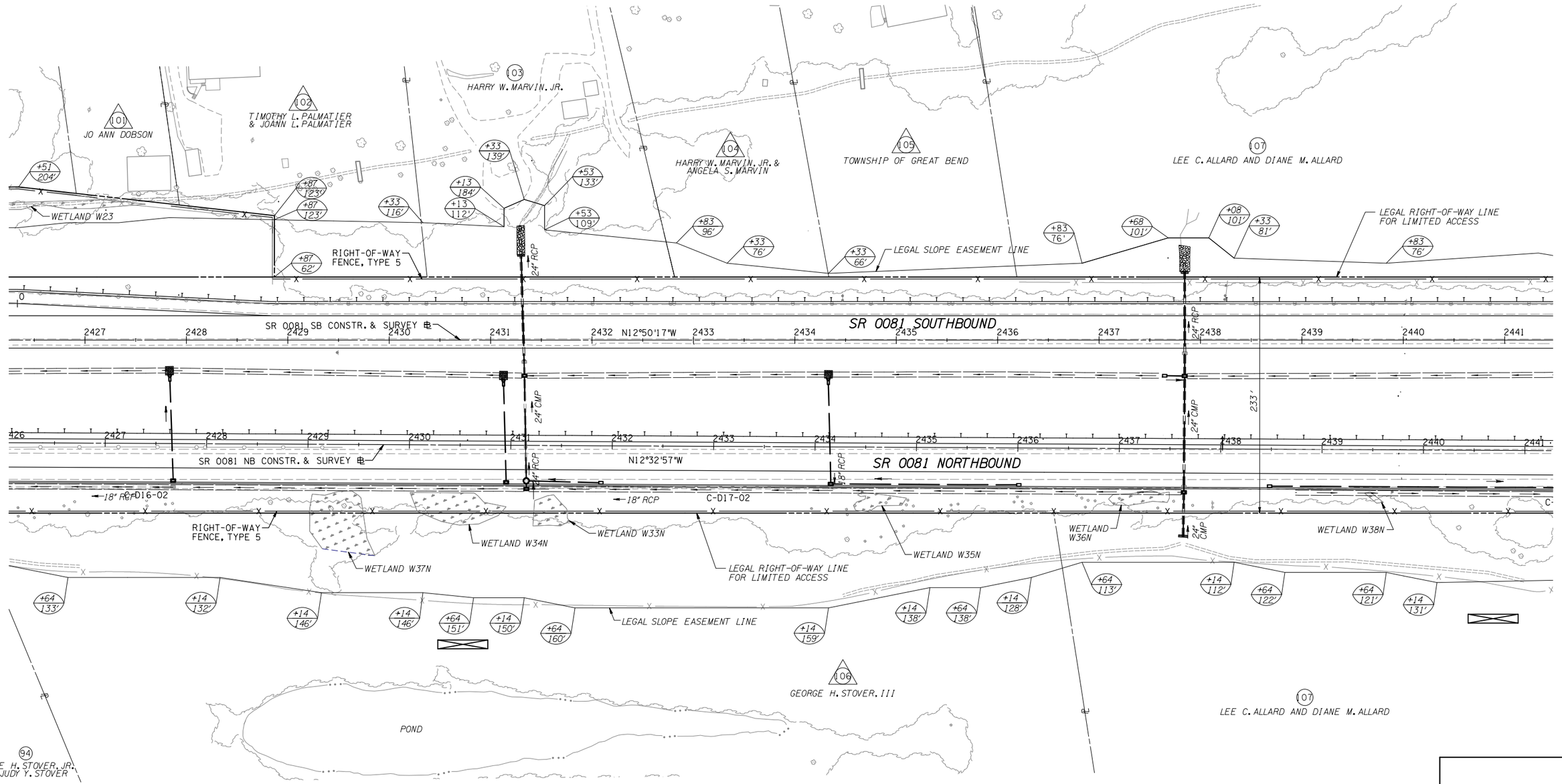
11/18/2021 AT 9:58:18 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	129 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12

FOR NB PROFILE, SEE SHEET 165

FOR SB PROFILE, SEE SHEET 199

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11/18/2021 AT 9:58:19 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	130 OF 247
GREAT BEND TOWNSHIP (PA) & TOWN OF KIRKWOOD (NY)				

REVISION NUMBER	REVISIONS	DATE	BY

BM BL10 ELEV 906.57'
23.57'LT STA 2450+57.43
CHISEL SQUARE W/MAG SOLAR PANEL BASE

SEE SHEET 129

SEE SHEET 131

(107) LEE C. ALLARD AND DIANE M. ALLARD

LEGAL SLOPE EASEMENT LINE

WETLAND W24

STOP & LIMIT OF WORK
END FULL DEPTH RECONSTR
BEGIN MILL AND OVERLAY
STA 2453+51.00
SEG TBD OFF TBD
SR 0081 SB SEC 511
GREAT BEND TOWNSHIP
SUSQUEHANNA COUNTY, PA

GREAT BEND TOWNSHIP (PENNSYLVANIA)
TOWN OF KIRKWOOD (NEW YORK)

START & LIMIT OF WORK
END FULL DEPTH RECONSTR
BEGIN MILL AND OVERLAY
STA 2453+51.00
SR 0081 SB SEC 511
TOWN OF KIRKWOOD
BROOME COUNTY, NY

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

RIGHT-OF-WAY FENCE, TYPE 5

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 SOUTHBOUND

N12°50'17"W

24" RCP

24" CMP

24" CMP (TO BE PLUGGED)

18" CMP (TO BE REMOVED)

36" RCP

36" CMP

TRAFFIC COUNTER W/ SOLAR PANEL (TO BE RElocated)

JB

PT

BM BL10

SR 0081 NB CONSTR. & SURVEY ℄

SR 0081 NORTHBOUND

N12°32'57"W

PC

RIGHT-OF-WAY FENCE, TYPE 5

WETLAND W39N

WETLAND W9N

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

PI STA A 2447+24.70
Δ = 0°17'20"LT
T = 378.20'
L = 756.40'
R = 150000.00'
E = 0.48'
PC STA. 2443+46.49
PT STA. 2451+02.90
SUPERELEVATE NC

(107) LEE C. ALLARD AND DIANE M. ALLARD

STOP & LIMIT OF WORK
END FULL DEPTH
BEGIN MILL AND OVERLAY
STA 2453+03.00
SR 0081 NB SEC 511
SEG TBD OFF TBD
GREAT BEND TOWNSHIP
SUSQUEHANNA COUNTY, PA

START & LIMIT OF WORK
END FULL DEPTH RECONSTR
BEGIN MILL AND OVERLAY
STA 2453+03.00
SR 0081 NB SEC 511
TOWN OF KIRKWOOD
BROOME COUNTY, NY

GREAT BEND TOWNSHIP (PENNSYLVANIA)
TOWN OF KIRKWOOD (NEW YORK)

LEGEND

- ROCK CHUTE
- ROCK APRON
- MILL/OVERLAY

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12

FOR NB PROFILE, SEE SHEET 166

FOR SB PROFILE, SEE SHEET 200

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11/18/2021 AT 9:58:20 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	131 OF 247
	TOWN OF KIRKWOOD (NY)			

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 130

LIMIT OF WORK
STA 2471+00.00
SR 0081 SB SEC 511
TOWN OF KIRKWOOD
BROOME COUNTY, NY

STOP WORK
END MILL AND OVERLAY
STA 2470+13.00
SR 0081 SB SEC 511

PI STA 2467+63.52
Δ = 15°19'49"LT
T = 779.68'
L = 1550.05'
R = 5793.20'
E = 52.23'
PC STA 2459+83.84
PT STA 2475+33.89
SUPERELEVATE NC

SR 0081 SOUTHBOUND

2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470

PC

N12°50'17"W

36" RCP

SR 0081 SB CONSTR. & SURVEY

N28°10'06"W

N12°50'17"W

PI STA 2469+66.68
Δ = 11°48'28"LT
T = 606.92'
L = 1209.54'
R = 5869.17'
E = 31.30'
PC STA 2463+59.76
PT STA 2475+69.30
SUPERELEVATE NC

SR 0081 NB CONSTR. & SURVEY

2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469

PC

N12°50'17"W

N12°50'17"W

SR 0081 NORTHBOUND

N12°50'17"W

3.5 MILES
TO EXIT 1
(KIRKWOOD)

36" CMP

TRUCK INSPECTION AREA

STOP WORK
END MILL AND OVERLAY
STA 2461+56.00
SR 0081 NB SEC 511

LIMIT OF WORK
STA 2463+00.00
SR 0081 NB SEC 511
TOWN OF KIRKWOOD
BROOME COUNTY, NY

LEGEND

- MILL/OVERLAY

SCALE

0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

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11/18/2021 AT 9:58:21 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	132 OF 247
GREAT BEND BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 123

SR 0011

64
UNKNOWN OWNER

+11
684'

+28
676'

TEMPORARY CONSTRUCTION EASEMENT (FOR ACCESS ONLY)

22'

65
NORFOLK SOUTHERN RAILWAY COMPANY

R=2150.72'

R=2087.04'

NORFOLK SOUTHERN RAILROAD

+13
1252'

AT-GRADE X-ING

R=2140.20'

+27
1233'

SR 0011

ERIE STREET

HOUSE

FRANKLIN STREET

HOUSE

68
ANTHONY J. DIMICHELE & ALBERTA R. DIMICHELE

DRIVEWAY

+95
817'

+20
727'

HOUSE

HOUSE

40'

LEGAL RIGHT-OF-WAY LINE FOR BOROUGH STREET

KILROW STREET

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

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11/18/2021 AT 9:58:27 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	133 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

LIMIT OF WORK
STA 1969+00.00
SEG 2234 OFF 0396
SR 0081 NB SEC 511
NEW MILFORD BOROUGH
SUSQUEHANNA COUNTY

START WORK
BEGIN MILL AND OVERLAY
STA 1969+57.00
SEG 2234 OFF 0453
SR 0081 NB SEC 511

PVI STA 1979+33.00
ELEV 1220.89
NO CURVE

END MILL AND OVERLAY
BEGIN FULL DEPTH RECONSTRUCTION
STA 1979+33.00
SR 0081 NB SEC 511

PVI STA 1986+97.00
ELEV 1197.37
VC 650'
MO 2.09'
HLSD 1263'

-3.08%

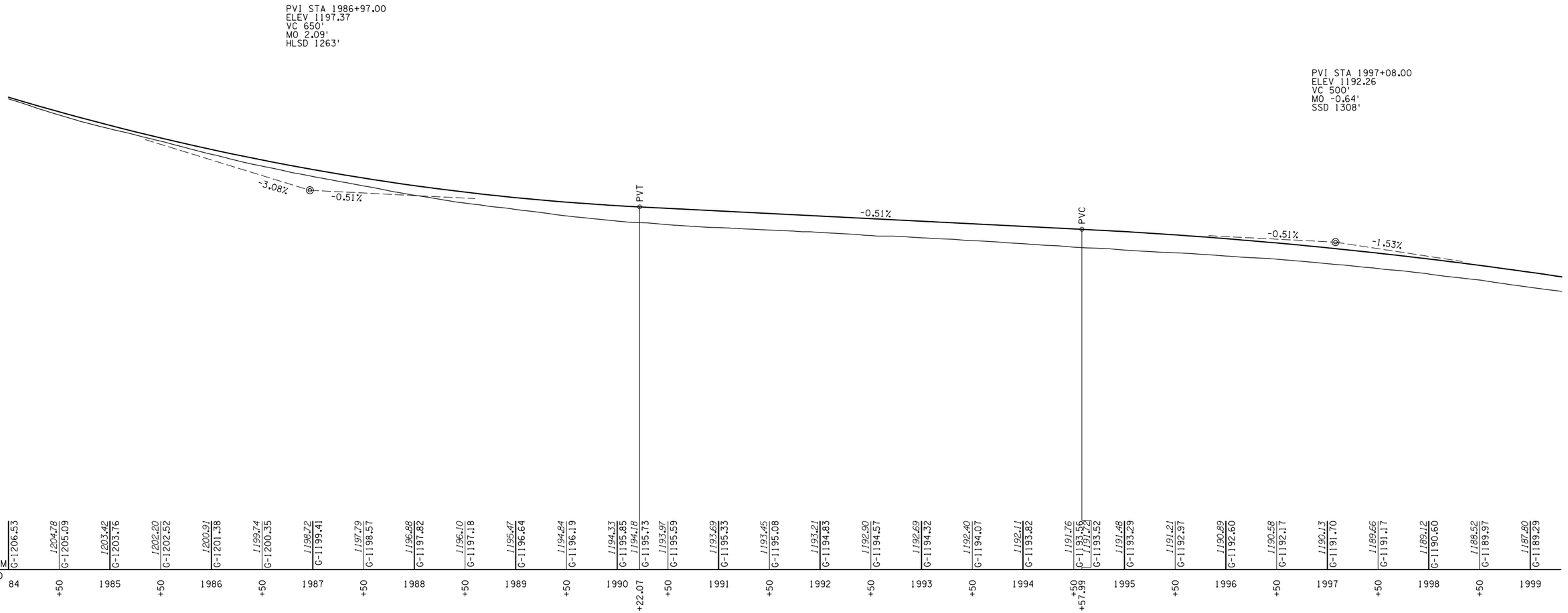
PVC

SEE SHEET 134

| | | | |

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	134 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 98

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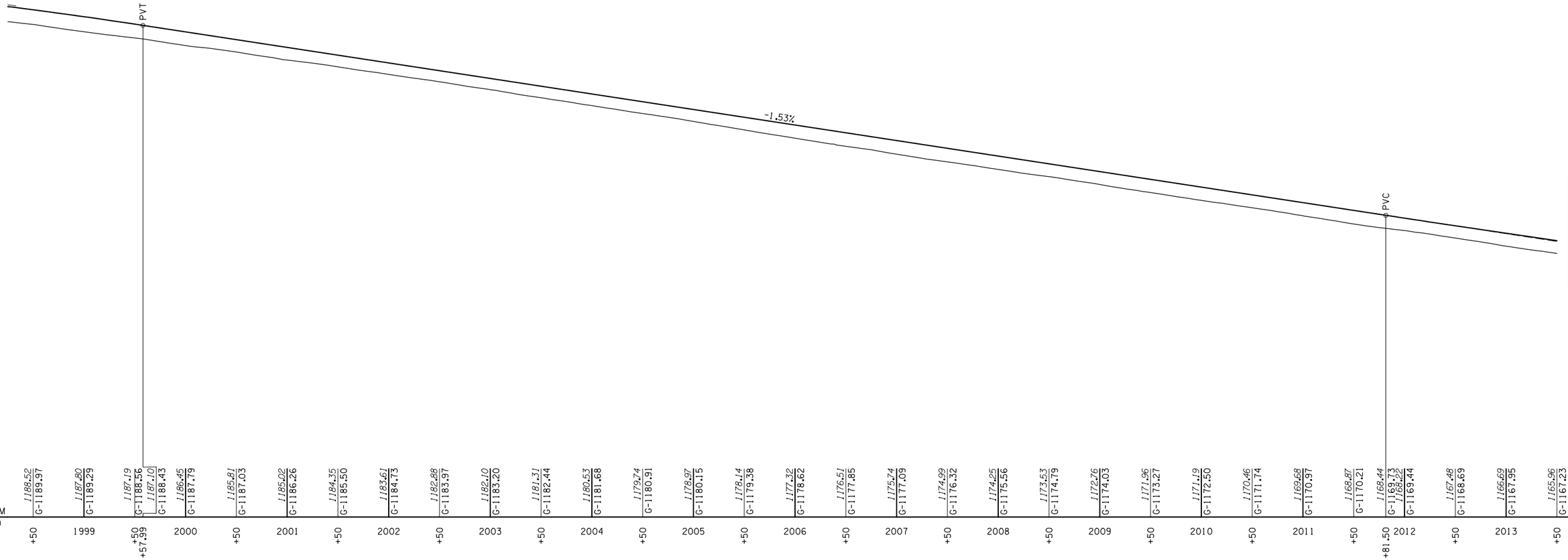
11/18/2021 AT 9:58:29 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	135 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 99

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11/18/2021 1:58:29 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	136 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 135

SEE SHEET 137

PVI STA 2013+81.50
ELEV 1166.67
VC 400'
MO 0.11'
HLSD 6199'

OVERHEAD LINE CROSSING #1
STA 2015+28.00
LINE ELEV 1181.50'
PG ELEV 1164.77'
PROVIDED CLEARANCE = 16.73'
REQUIRED MIN. CLEARANCE = 18.00'

PVI STA 2021+50.00
ELEV 1156.68
VC 500'
MO 1.38'
HLSD 1636'

PVT

-1.30%

PROPOSED PRECAST ARCH REPLACEMENT AT SUSQUEHANNA STREET

PVC

LOW POINT
STA 2021+93.71
ELEV 1158.02

PVT

+0.91%

OVERHEAD LINE CROSSING #2
STA 2017+63.00
ELEV 1151.90'

100 YEAR
WSEL 1143.08

50 YEAR
WSEL 1141.95

MIN UNCLEAR
REQUIRED: 14.5'
PROVIDED: 16.5'

SMITH CREEK UPSTREAM

EXISTING BOX CULVERT CARRYING SMITH CREEK

SMITH CREEK DOWNSTREAM

	2013	+50	2014	+50	2015	+50	+81.50 2016	+50	2017	+50	2018	+50	2019	+50	2020	+50	2021	+50	2022	+50	2023	+50	2024	+50	2025	+50	2026	+50	2027	+50
1166.69		*1165.96*		*1165.16*		*1164.44*		*1163.64*	*1162.63*	*1162.14*		*1160.88*	*1160.02*	*1159.49*	*1135.42*	*1158.17*	*1157.45*	*1156.78*	*1156.27*	*1155.93*	*1155.66*	*1155.64*	*1155.76*	*1155.92*	*1156.22*	*1156.62*	*1157.12*	*1157.66*	*1158.16*	*1158.76*	*1159.33*	*1159.94*	*1160.40*	*1160.94*
G-1167.95		G-1167.23		G-1166.52		G-1165.83		G-1165.15	G-1164.48	G-1164.07	G-1161.87	G-1163.83	G-1163.18	G-1162.53	G-1161.88	G-1161.23	G-1160.58	G-1159.93	G-1159.33	G-1158.85	G-1158.47	G-1158.21	G-1158.06	G-1158.02	G-1158.09	G-1158.27	G-1158.56	G-1158.96	G-1159.42	G-1159.87	G-1160.33	G-1160.78	G-1161.24	G-1161.70	G-1162.15

DATUM
1120

+00.00

+00.00

STA 2017+83.80 NB CONSTR. ℄ =
STA 13+50.68 SUSQUEHANNA STREET

SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 100

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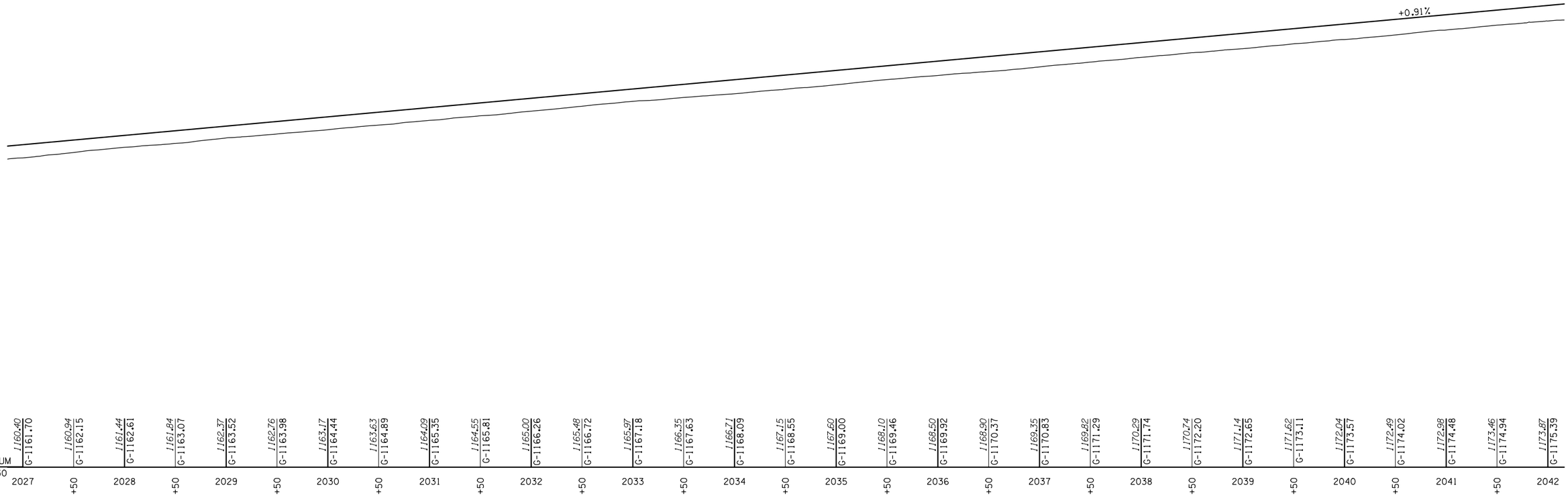
11/18/2021 8:45:30 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	137 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 101

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11/18/2021 AT 9:58:31 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	138 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

SEE SHEET 137

PVI STA 2050+32.00
ELEV 1182.99
VC 1600'
MO -7.73'
SSD 946'

+0.91%

PVC

HIGH POINT
STA 2046+09.67
ELEV 1177.41

-2.95%

SEE SHEET 139

| | | | |

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	139 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

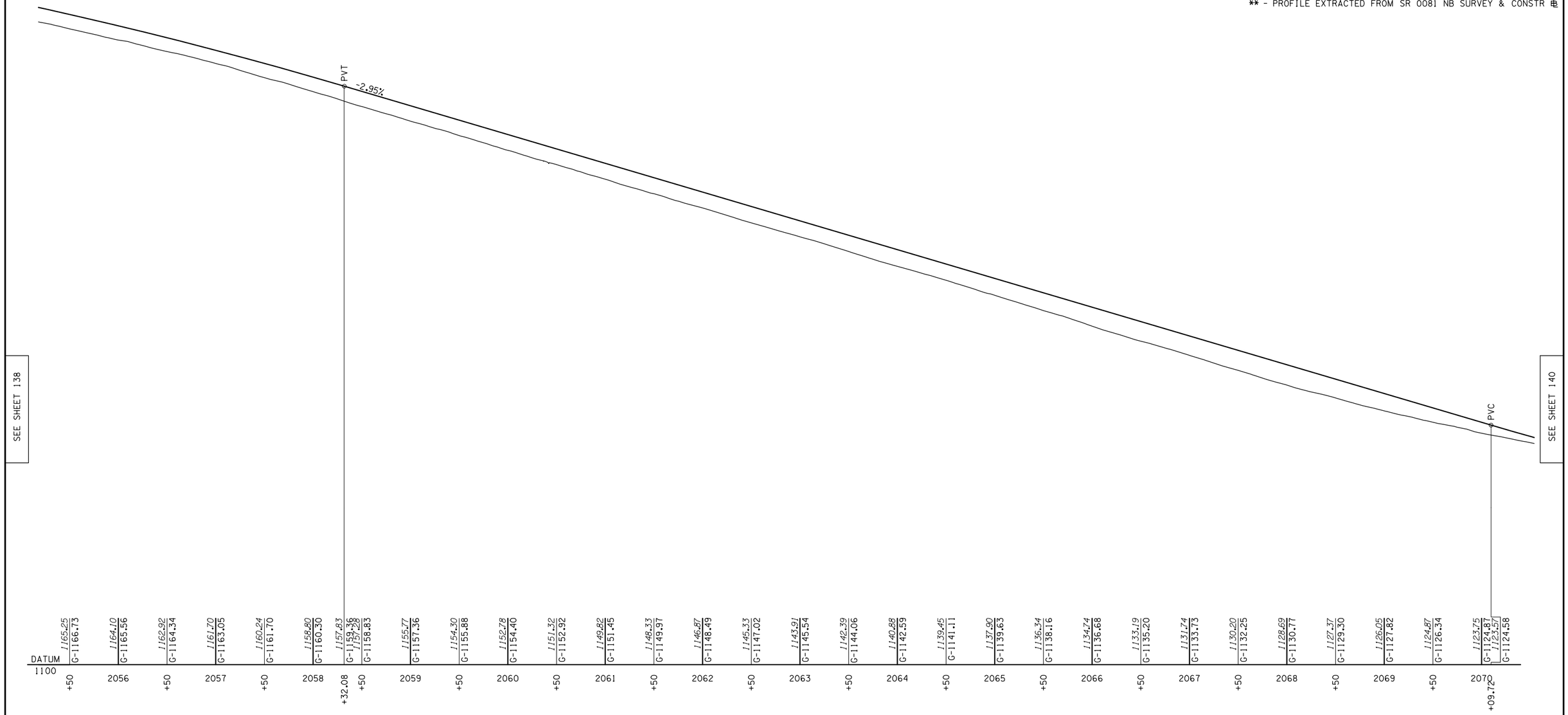
REVISION NUMBER	REVISIONS	DATE	BY

NOTE:

** - PROFILE EXTRACTED FROM SR 0081 NB SURVEY & CONSTR ℄

SEE SHEET 138

SEE SHEET 140



SR 0081 NORTHBOUND**

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 103

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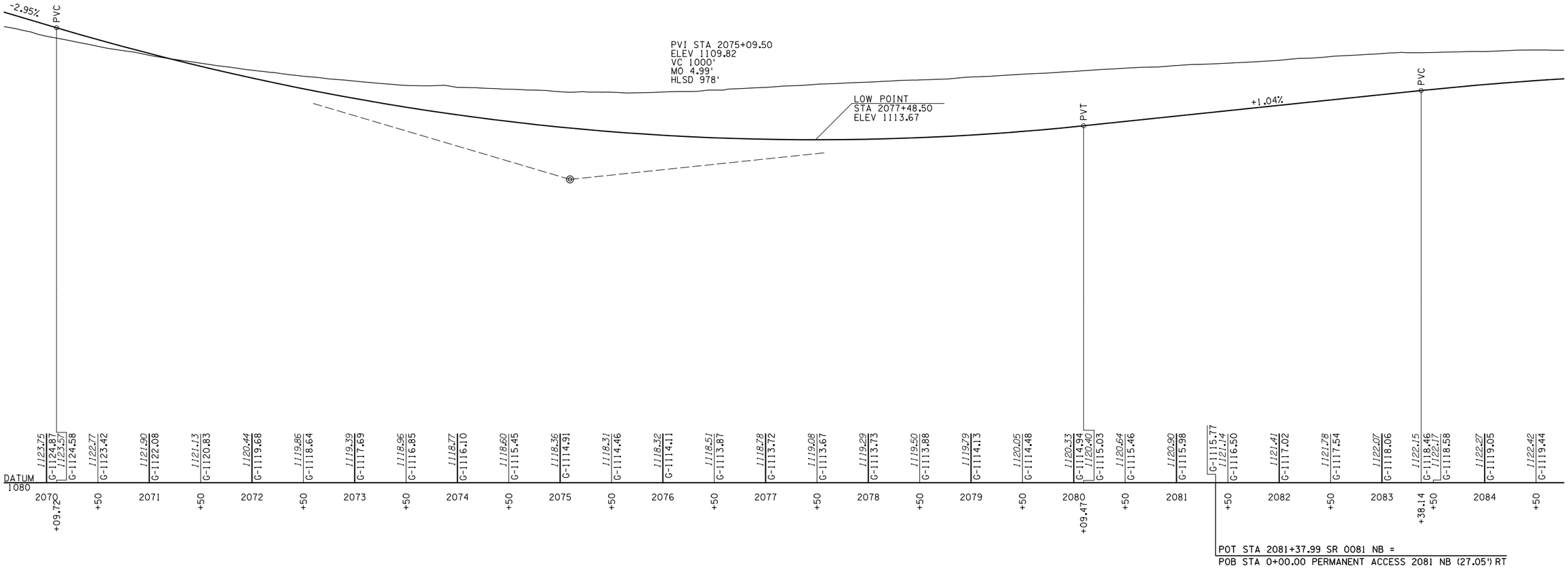
11/18/2021 11:46:32 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	140 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 104

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11/18/2021 AT 9:58:02 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	141 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

SEE SHEET 140

PVI STA 2089+88.10
ELEV 1125.24
VC 1300'
MO 6.50'
SSD 837'

+1.04%

-2.96%

HIGH POINT
STA 2086+76.70
ELEV 1120.23

℄ PVT

-2.96%

100 YEAR
WSEL 1097.59

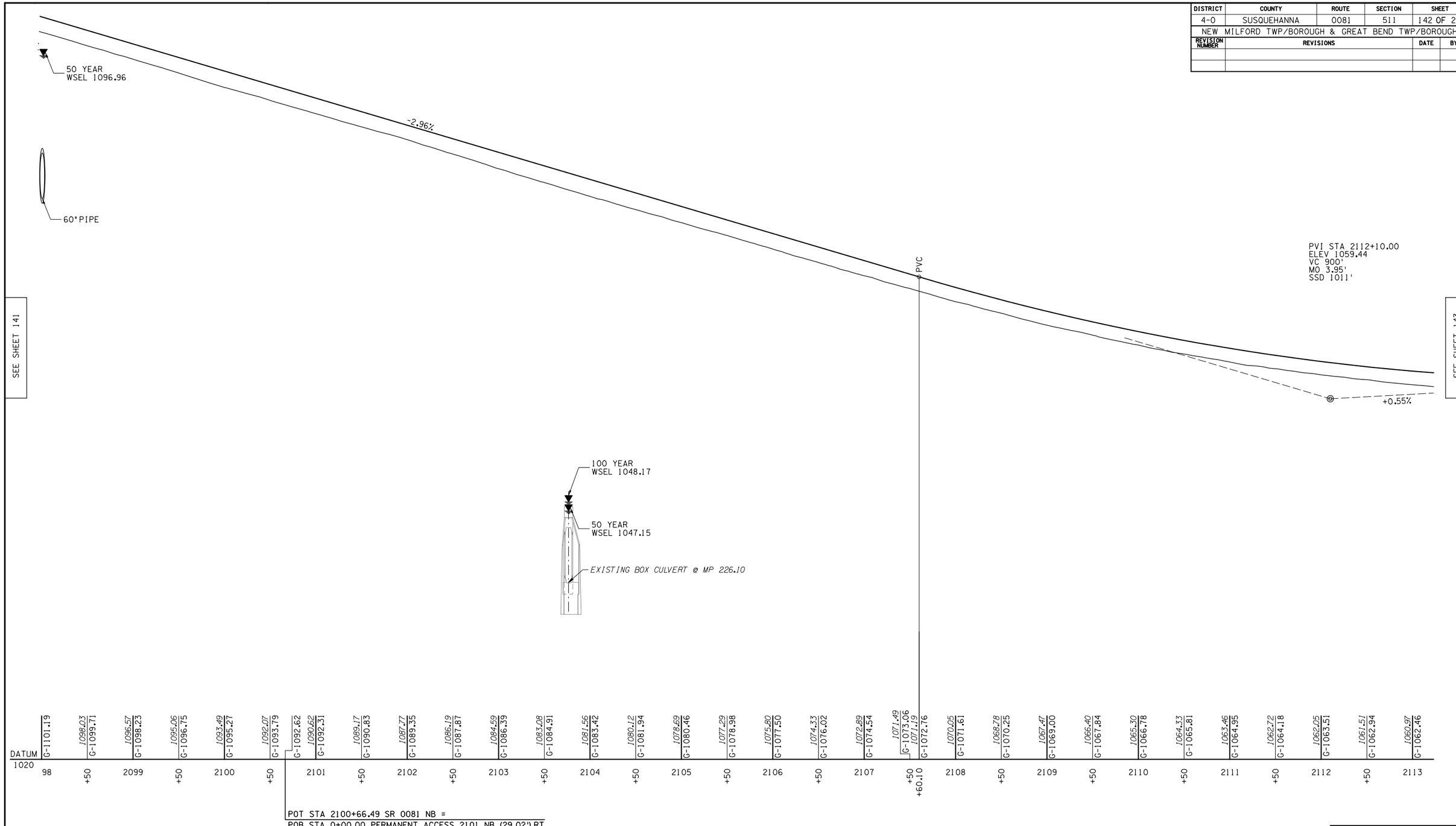
50 YEAR
WSEL 1096.96

SEE SHEET 142

| | | | |

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	142 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 141

SEE SHEET 143

SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 106

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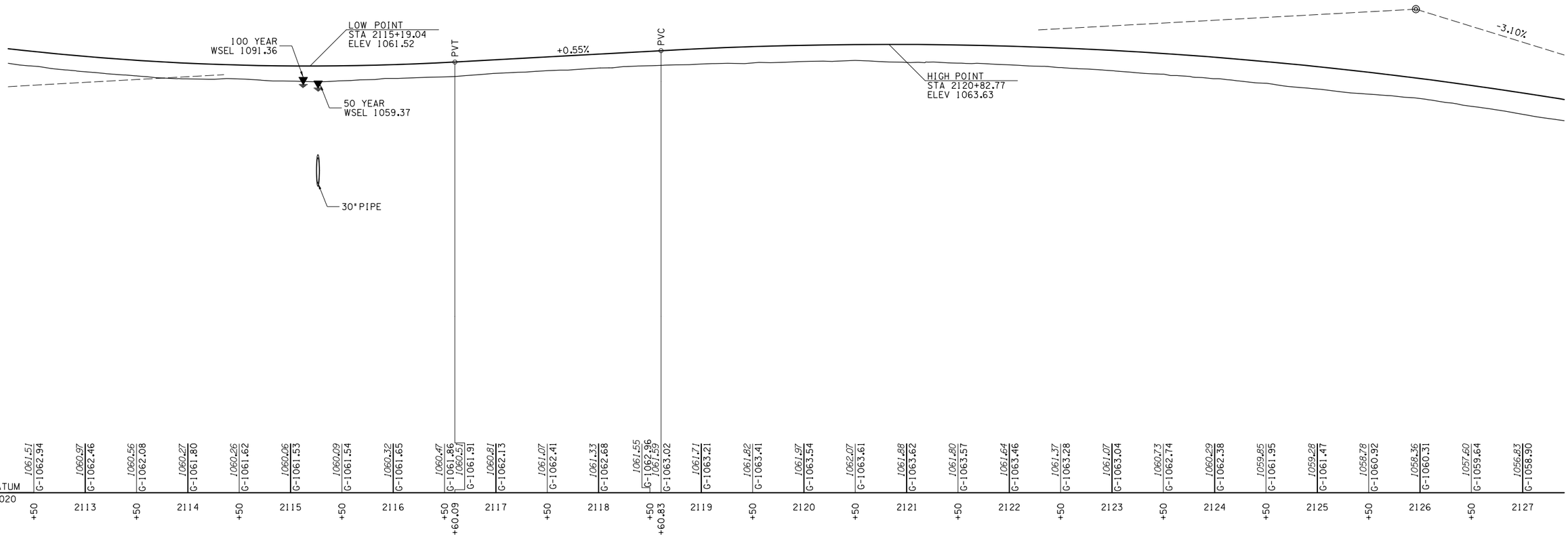
11/18/2021 AT 9:58:33 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	143 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

PVI STA 2125+96.00
ELEV 1067.06
VC 1470'
MO -6.70'
SSD 932'



SEE SHEET 142

SEE SHEET 144

SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 107

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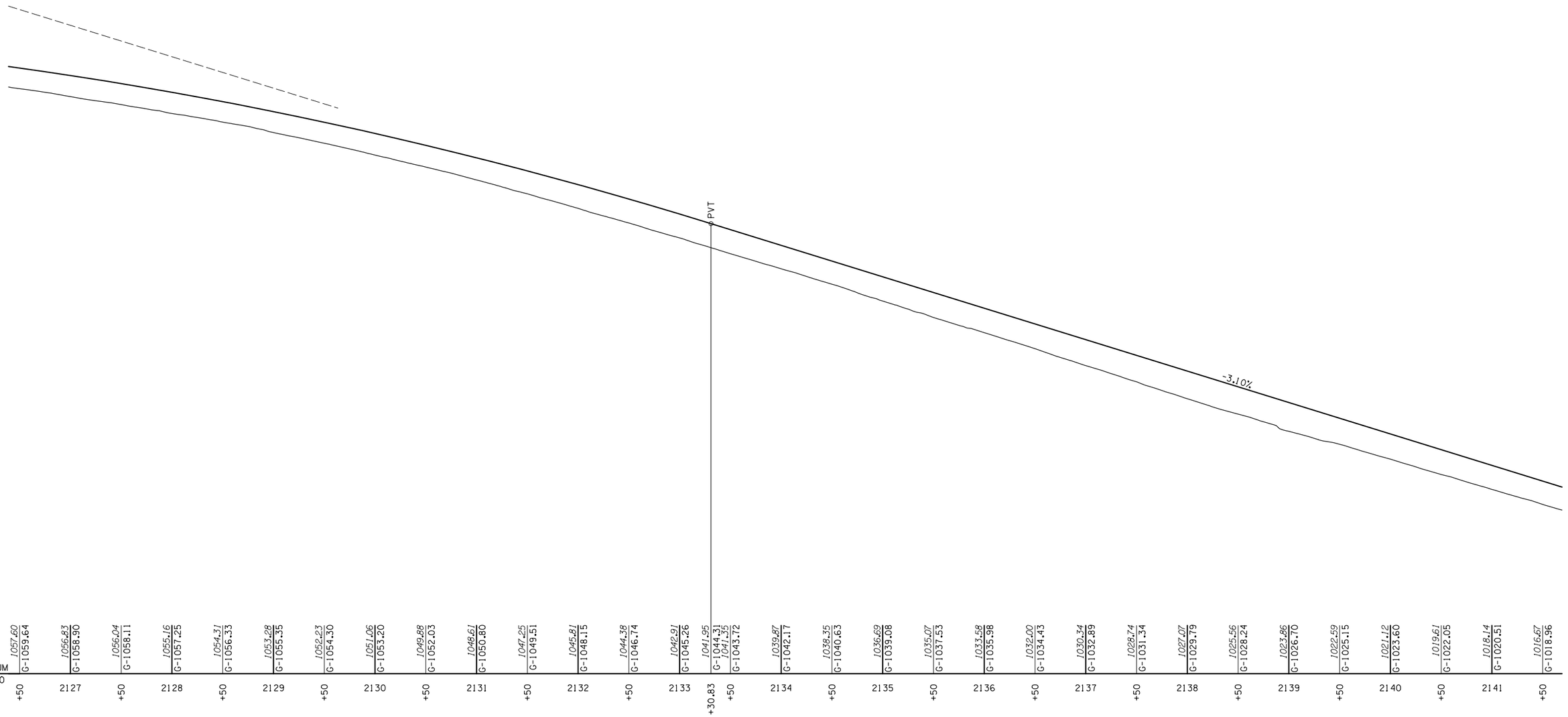
11/18/2021 AT 9:38:34 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	144 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 143

SEE SHEET 145



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 108

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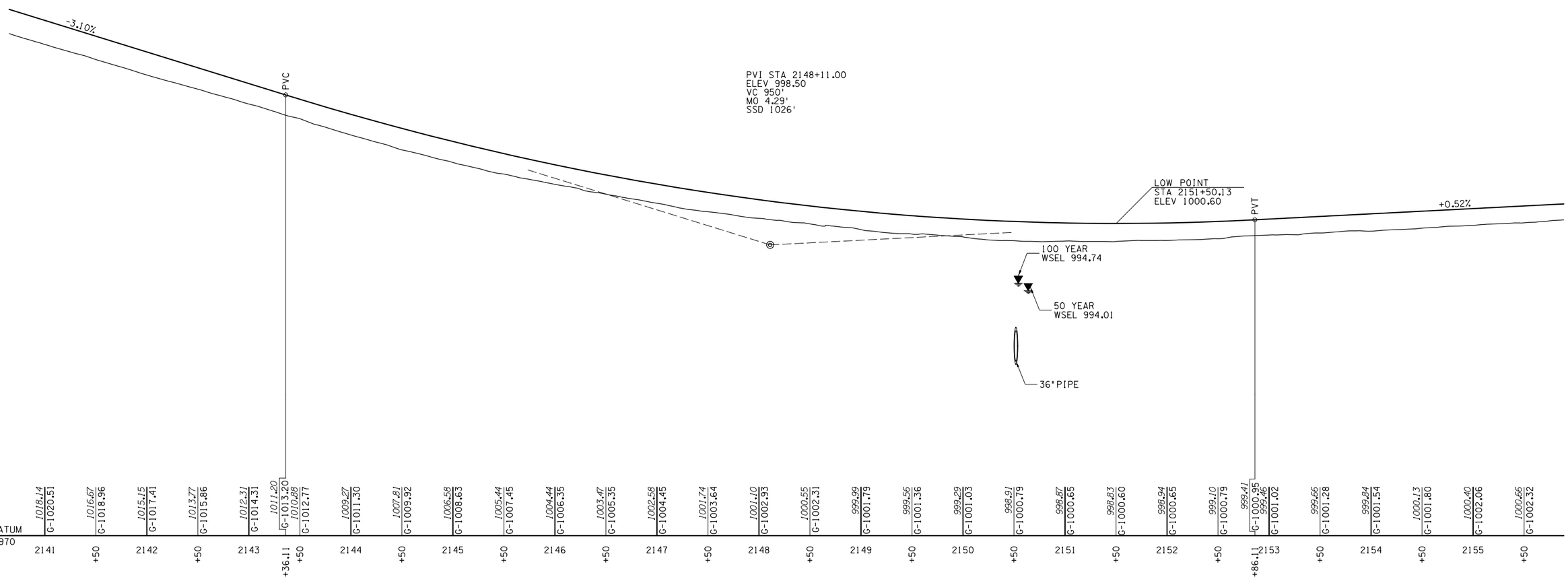
11/18/2021 AT 9:58:34 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	145 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 144



SEE SHEET 146

SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 109

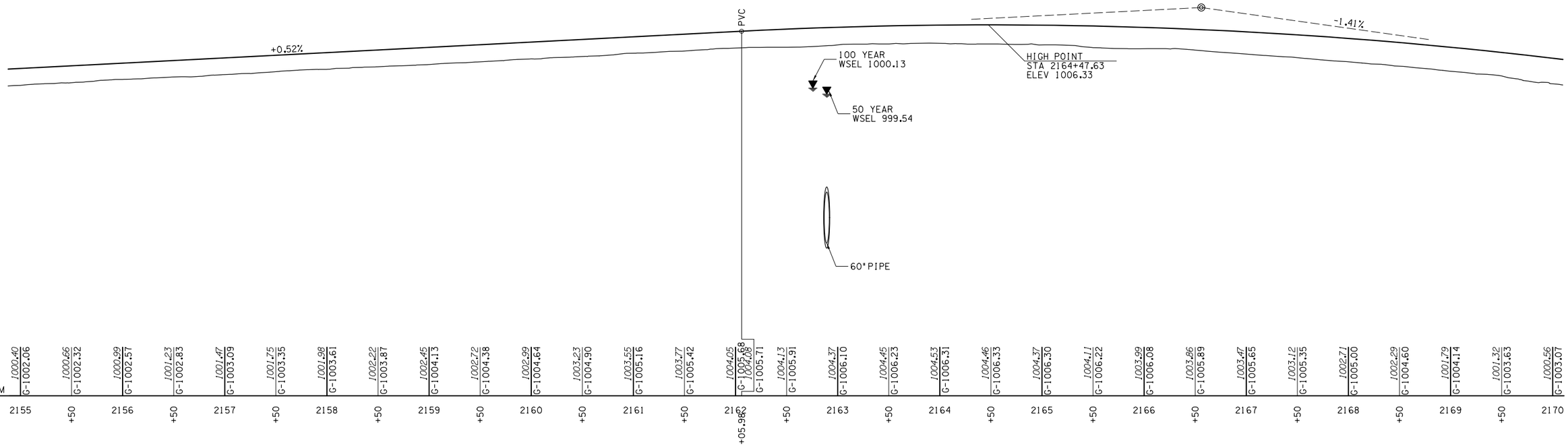
P:\2020\255R\DOL\DWGS\TRANS\PLAN SHEETS\Construction\T80144_255800.dgn
11/18/2021 9:58:35 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	146 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

NOTE:

** - PROFILE EXTRACTED FROM SR 0081 NB SURVEY & CONSTR ℄

PVI STA 2166+56.00
ELEV 1008.03
VC 900'
MO -2.17'
SSD 1009'



SEE SHEET 145

SEE SHEET 147

SR 0081 NORTHBOUND**

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 110

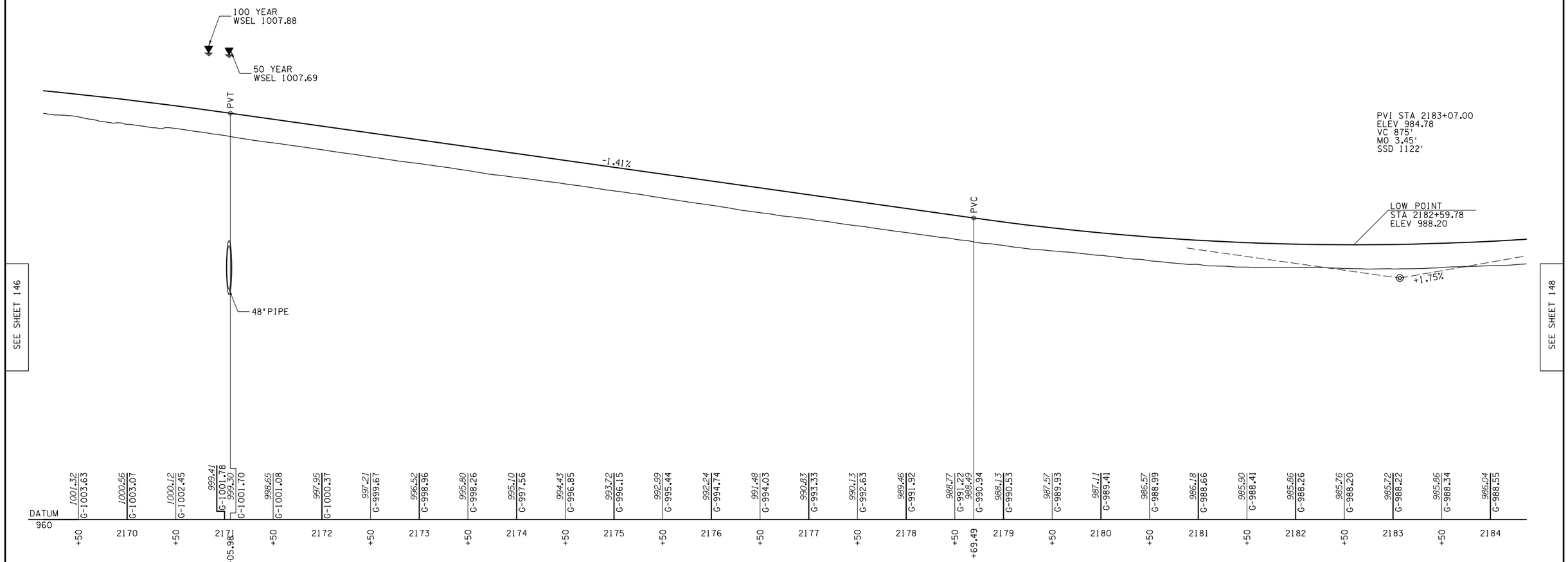
P:\2019\25810\00\DWGS\TRANS\PLAN SHEETS\Construction\T80154_255800.dgn
11/18/2021, PT 9:58:35 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	147 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

NOTE:

** - PROFILE EXTRACTED FROM SR 0081 NB SURVEY & CONSTR ℄



SR 0081 NORTHBOUND**

SCALE

HORIZONTAL 0 50 100 FEET

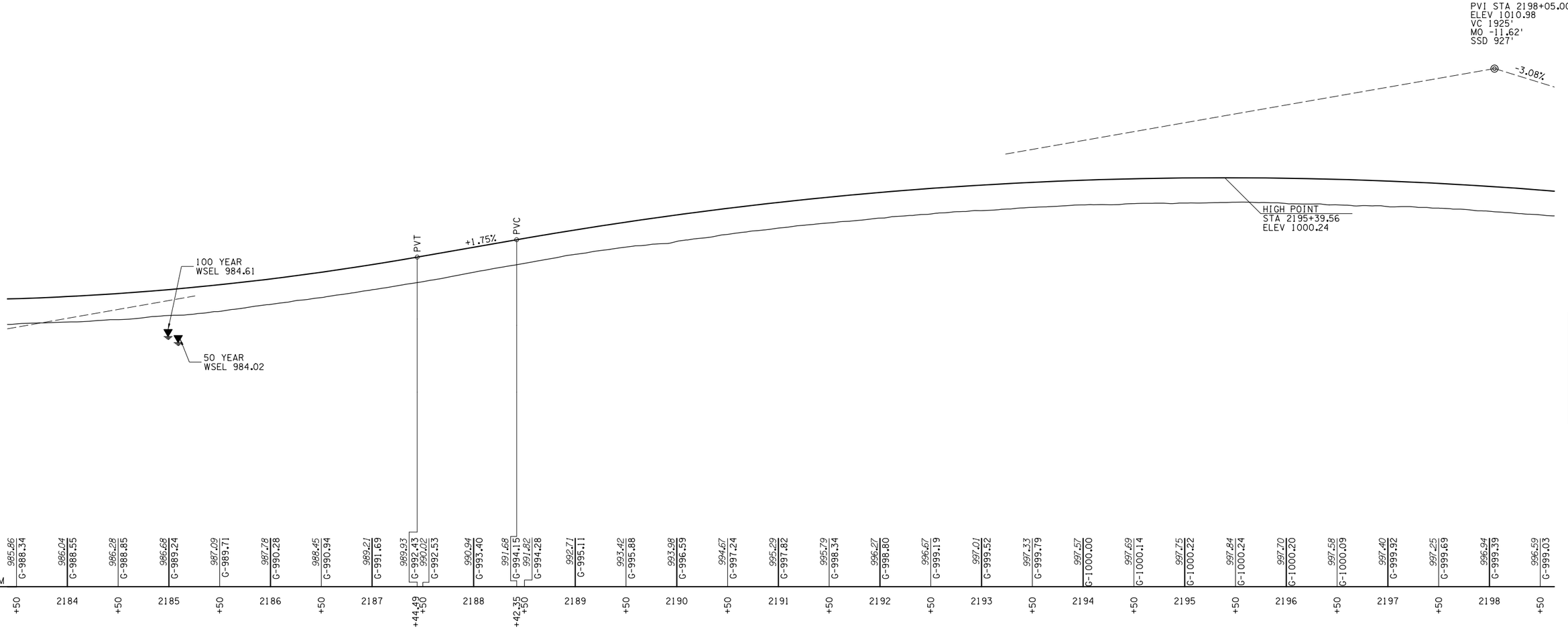
VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 111

P:\2009\2558\DOD\MISC\TRANS\PLAN SHEETS\Construction\T80168_255800.dgn
11/18/2021 AT 9:38:48 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	148 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

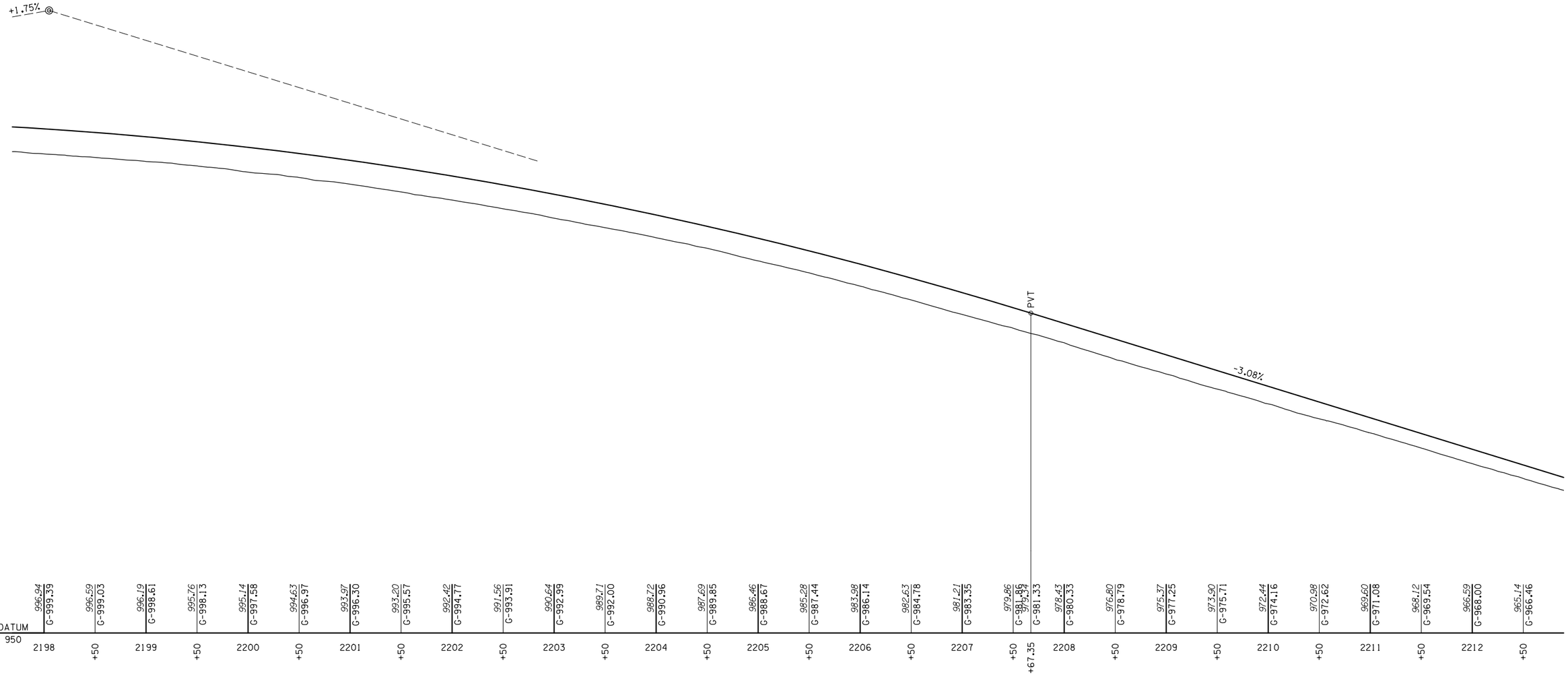
FOR PLAN, SEE SHEET 112

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T801TA_255800.dgn
11/18/2021 AT 9:58:36 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	149 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

PVI STA 2198+05.00
ELEV 1010.98
VC 1925'
MO -11.62'
SSD 927'



SR 0081 NORTHBOUND

SCALE
HORIZONTAL 0 50 100 FEET
VERTICAL 0 5 10 FEET

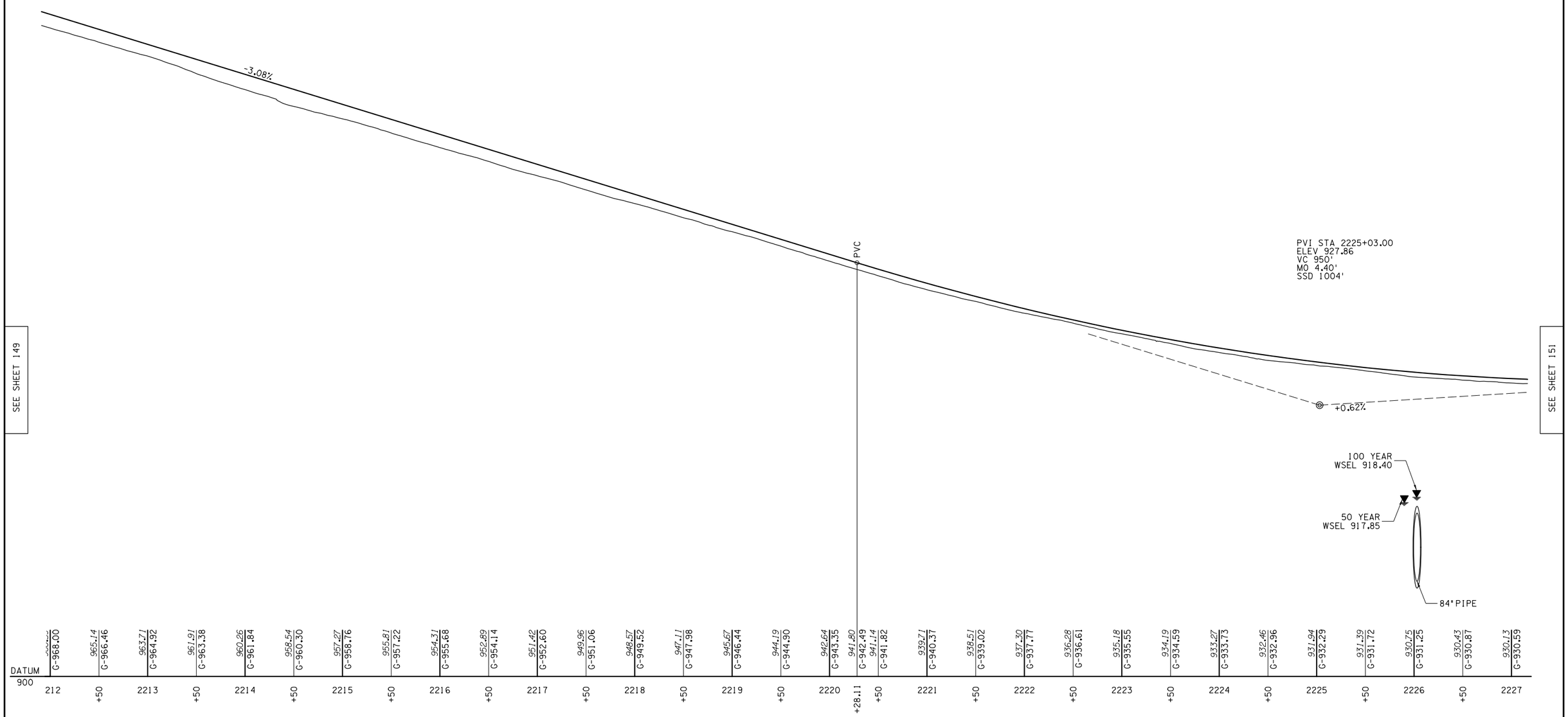
SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 113

P:\2009\255815\DGN\DWGS\TRANS\PLAN SHEETS\Construction\T80184_255800.dgn
11/18/2021 9:58:37 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	150 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

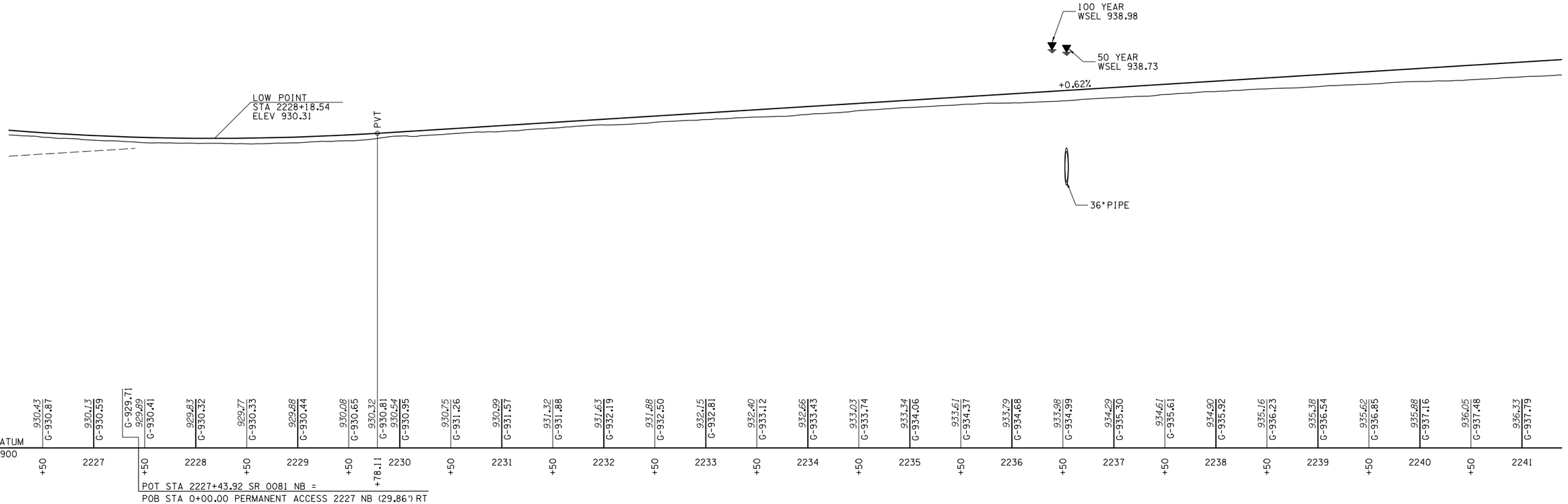
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 114

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8019A_255800.dgn
11/18/2021 1:58:37 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	151 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

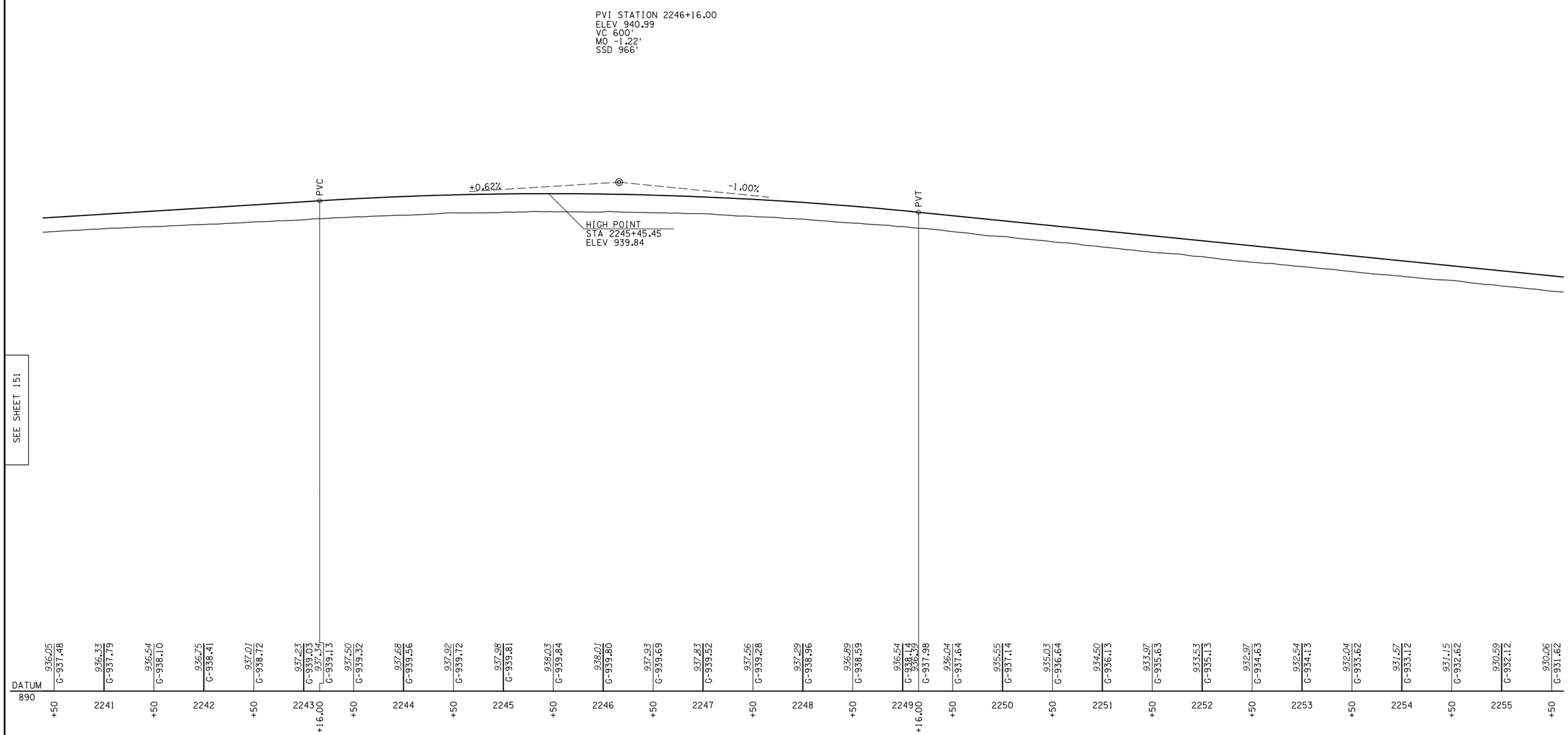
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 115

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8020A_255800.dgn
11/18/2021 AT 9:58:38 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	152 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 116

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8021A_255800.dgn
11/18/2021 AT 9:58:39 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	153 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 152

SEE SHEET 154

PVI STA 2265+35.00
ELEV 921.73
VC 550'
MO 1.04'
SSD 1380'

-1.00%

PVC

LOW POINT
STA 2266+23.86
ELEV 922.66

PVT

+0.51%

100 YEAR
WSEL 915.69

50 YEAR
WSEL 915.19

66"PIPE

DATUM
890

2255	+50	2256	+50	2257	+50	2258	+50	2259	+50	2260	+50	2261	+50	2262	+50	2263	+50	2264	+50	2265	+50	2266	+50	2267	+50	2268	+50	2269	+50
930.59 G-932.12		930.06 G-931.62		929.62 G-931.11		928.96 G-930.61		928.51 G-930.11		928.06 G-929.61		927.59 G-929.11		927.12 G-928.60		926.67 G-928.10		926.15 G-927.60		925.57 G-927.10		925.05 G-926.60		924.61 G-926.09		924.15 G-925.59		923.53 G-925.09		923.13 G-924.59	923.01 G-924.49	922.61 G-924.11		922.09 G-923.70		921.65 G-923.35		921.26 G-923.08		921.09 G-922.87		921.01 G-922.74		920.89 G-922.67		920.89 G-922.67		921.00 G-922.74		921.25 G-922.88		921.54 G-923.09	921.62 G-923.14		921.84 G-923.34		922.13 G-923.60		922.36 G-923.86	
																	+60.01												+10.00														

POT STA 2268+39.78 SR 0081 SB =
POB STA 0+00.00 PERMANENT ACCESS 2268 SB (30.33') LT

SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 117

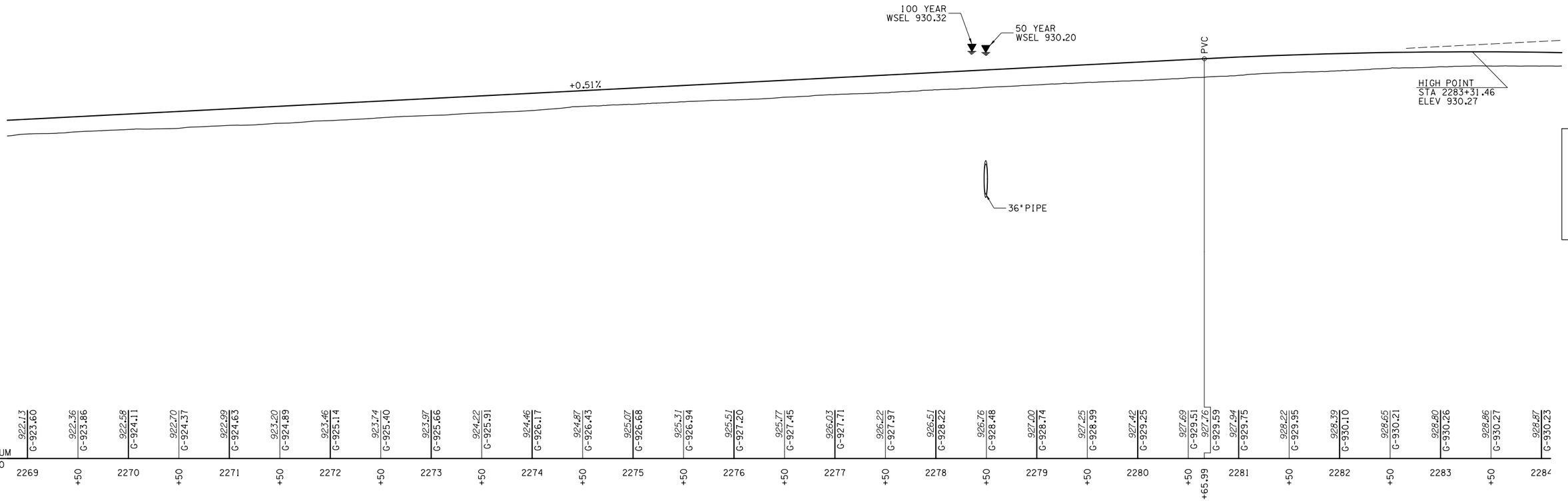
P:\2020\255810\DWGS\TRANS\PLAN SHEETS\Construction\T80224_255800.dgn
11/16/2021 9:58:39 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	154 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 153

SEE SHEET 155



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

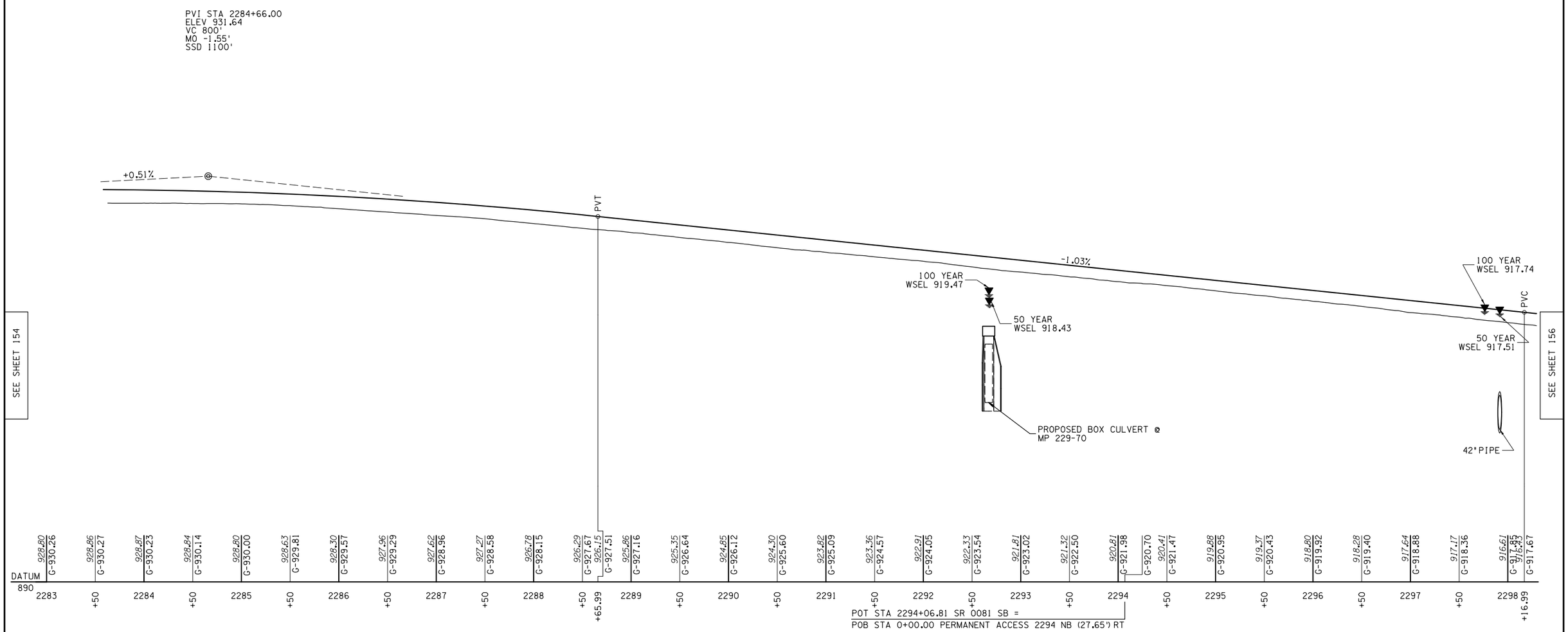
SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 118

P:\2020\255851\DOLDWGS\TRANS\PLAN SHEETS\Construction\T80234_255800.dgn
11/18/2021 AT 9:38:40 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	155 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 119

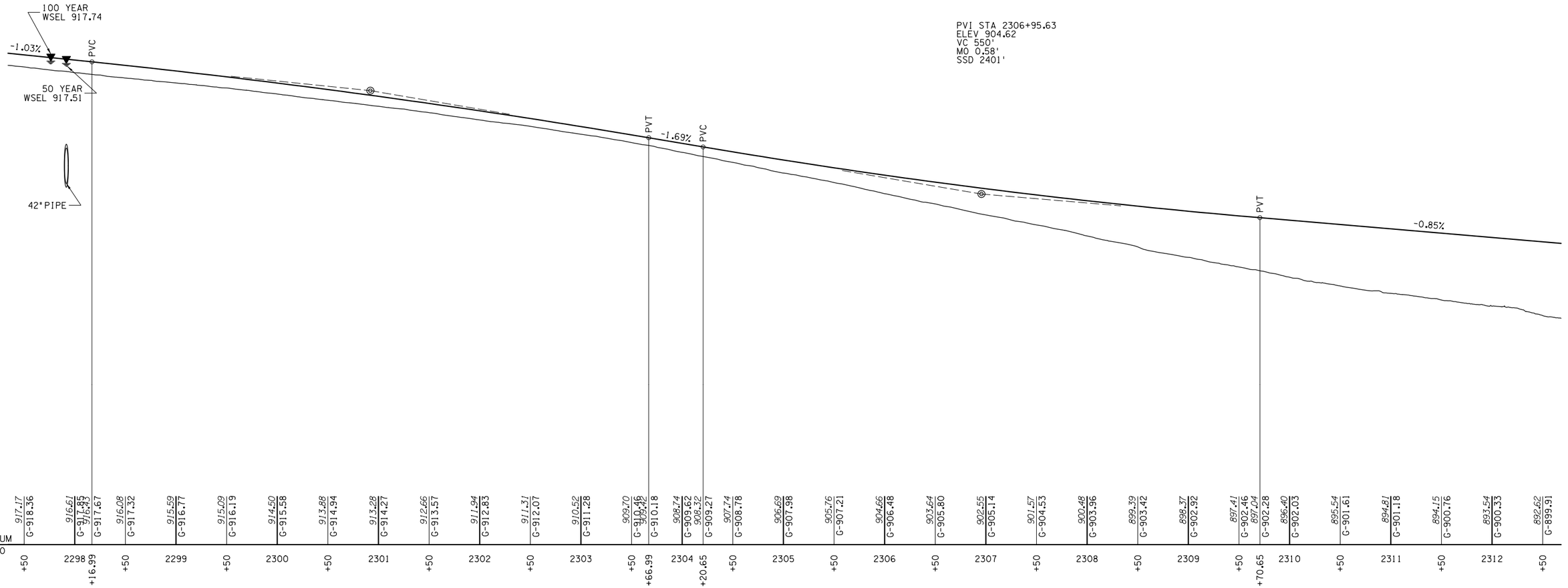
P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8024A_255800.dgn
11/18/2021 AT 9:58:40 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	156 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

PVI STA 2300+92.00
ELEV 914.83
VC 550'
MO -0.45'
SSD 1910'

PVI STA 2306+95.63
ELEV 904.62
VC 550'
MO 0.58'
SSD 2401'



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

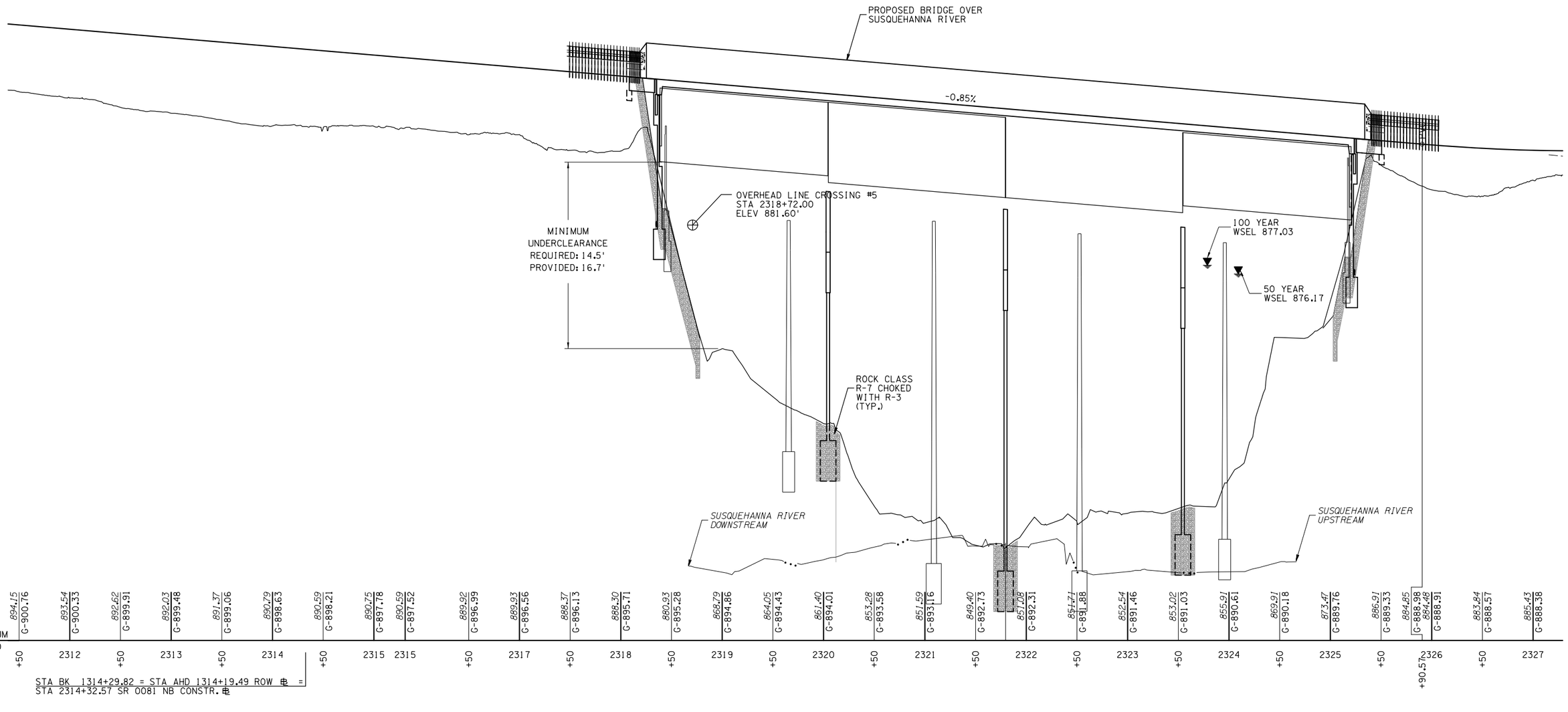
FOR PLAN, SEE SHEET 120

P:\2009\95581\GOLDWGS\TRANS\PLAN SHEETS\Construction\T8025A_255800.dgn
11/18/2021 AT 9:51:41 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	157 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 156



STA BK 1314+29.82 = STA AHD 1314+19.49 ROW ℄ =
STA 2314+32.57 SR 0081 NB CONSTR. ℄

SEE SHEET 158

SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

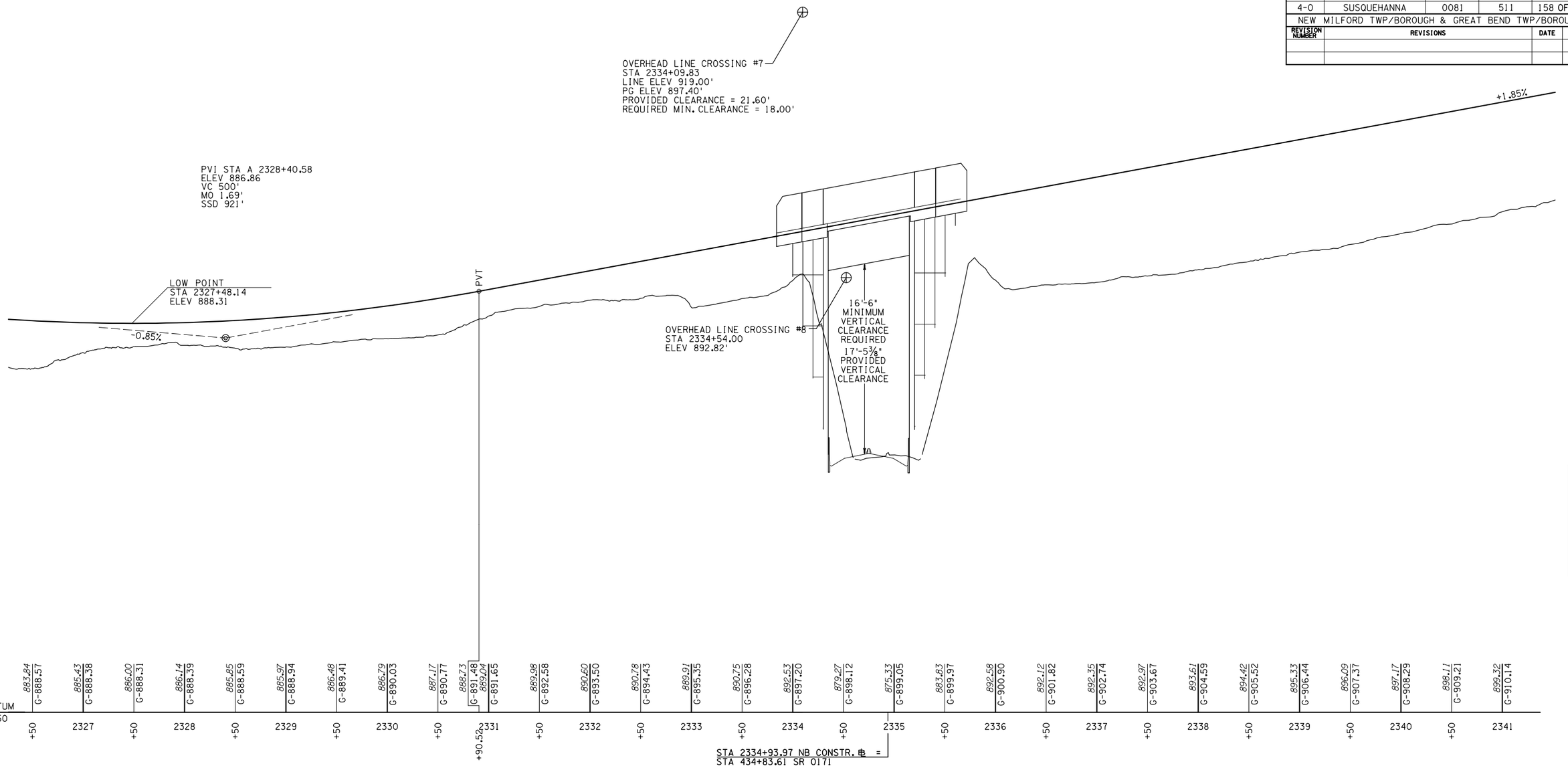
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 121

P:\2021\255800\DWGS\TRANS\PLAN SHEETS\Construction\T80256A_255800.dgn
11/16/2021 9:58:41 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	158 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

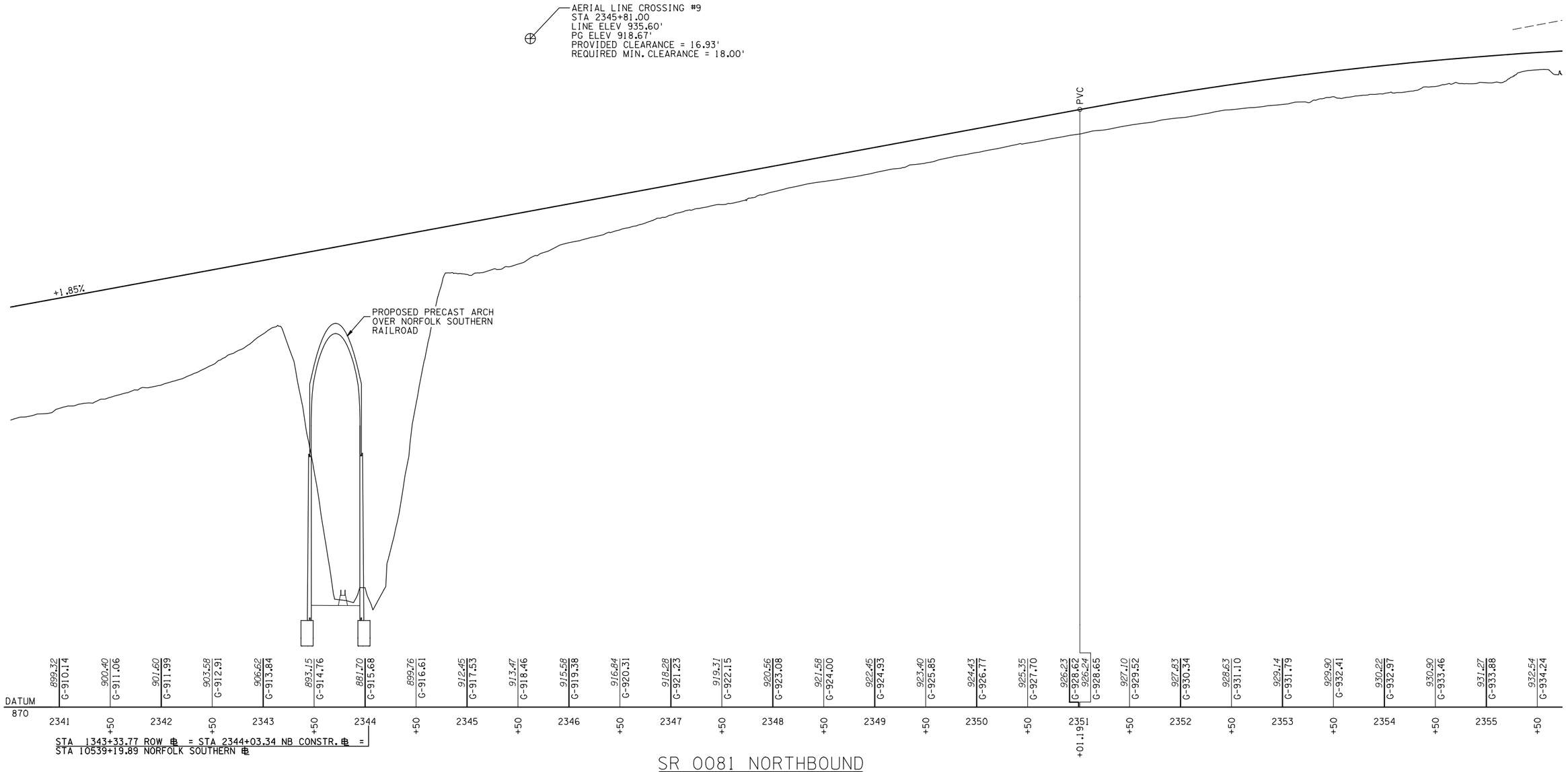
FOR PLAN, SEE SHEET 122

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8027A_255800.dgn
11/18/2021 AT 9:58:42 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	159 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 158



SEE SHEET 160

SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

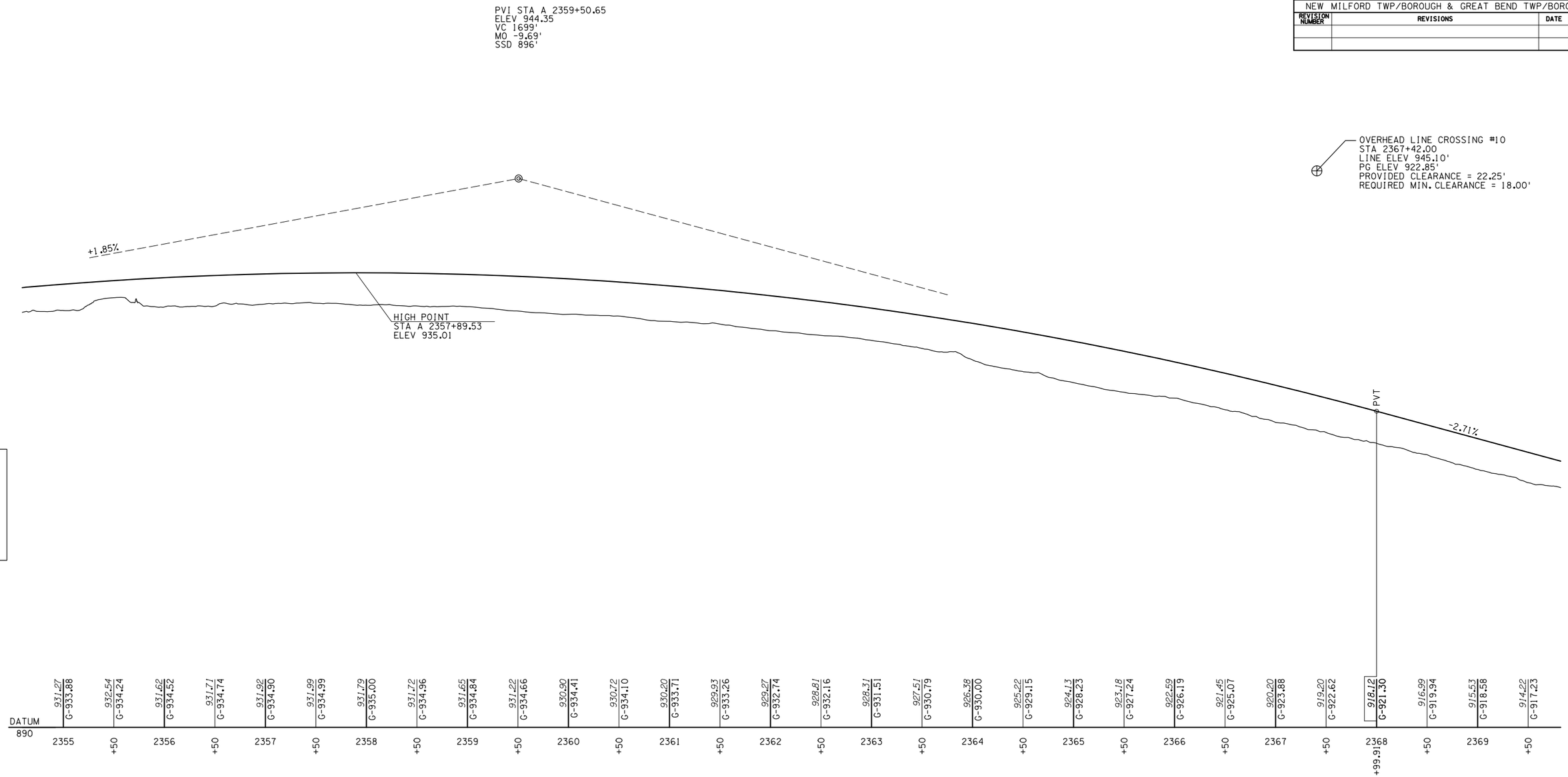
SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 123

P:\2009\255R\00\DWGS\TRANS\PLAN SHEETS\Construction\T8028A_255800.dgn
11/18/2021 9:58:43 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	160 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

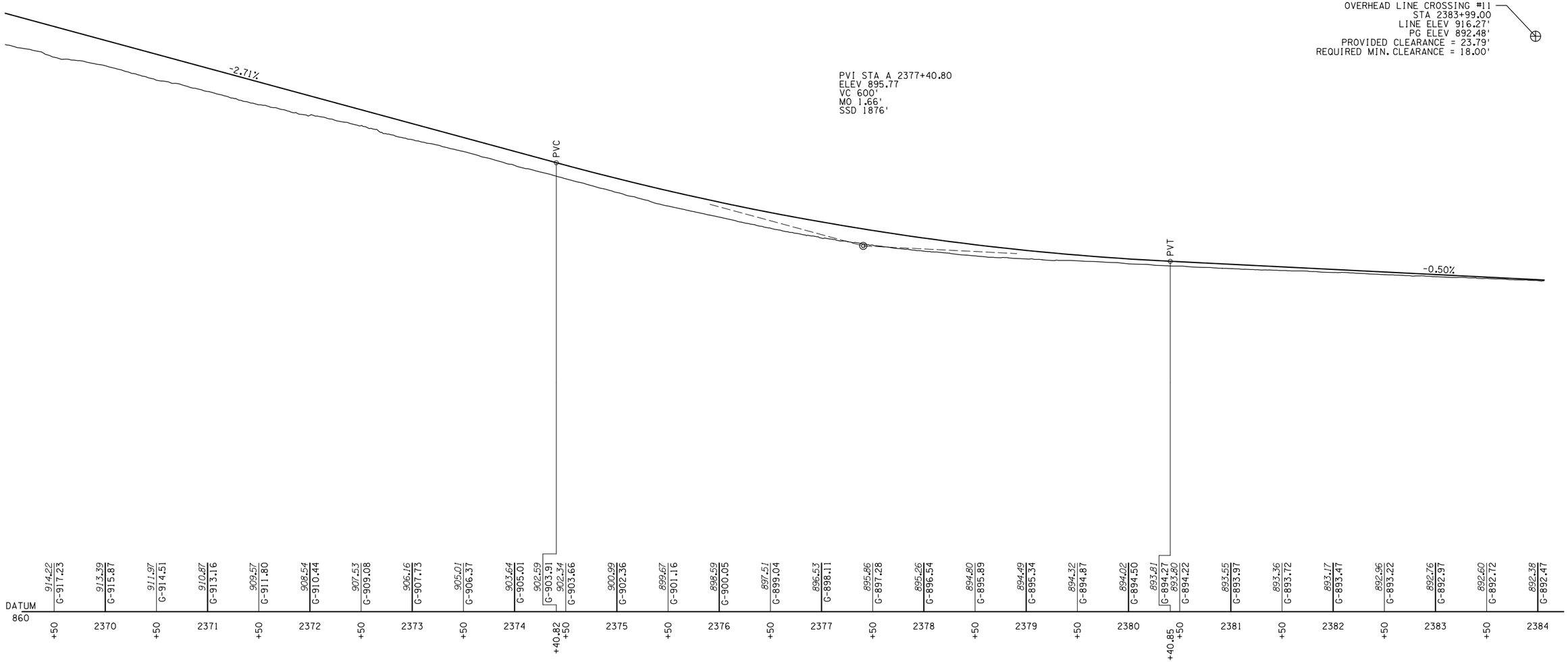
FOR PLAN, SEE SHEET 124

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8029A_255800.dgn
11/18/2021 AT 9:58:43 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	161 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 160



SEE SHEET 162

SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 125

P:\2009\2558\DOLDWGS\TRANS\PLAN SHEETS\Construction\T8030A_255800.dgn
11/18/2021 AT 9:38:44 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	162 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

OVERHEAD LINE CROSSING #12
STA 2384+25.00
LINE ELEV 919.27'
PG ELEV 892.35'
PROVIDED CLEARANCE = 26.92'
REQUIRED MIN. CLEARANCE = 18.00'

SR 1029 (RANDOLPH ROAD)
SURVEY & CONSTR ℄

PROPOSED BRIDGE
OVER SR0081

PVI STA A 2391+28.68
ELEV 888.83
VC 700'
MO 1.11'
SSD 2037'

MINIMUM
UNDERCLEARANCE
REQUIRED: 16.5'
PROVIDED: 17.4'

LOW POINT
STA 2390+54.88
ELEV 889.89

PVC

PVT

-0.50%

+0.77%

PROPOSED BRIDGE OVER
TROWBRIDGE CREEK

FEMA 100 YEAR WSEL 887.18

50 YEAR WSEL 886.12

MIN UNCLEAR
REQUIRED: 7.1'
PROVIDED: 8.7'

SEE SHEET 161

SEE SHEET 163

	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398
	+50	+50	+50	+50	+50	+50	+50	+50	+50	+50	+50	+50	+50	+50	+50
	+78.86											+78.50			
892.60	*892.38*	*892.16*	*891.93*	*891.76*	*891.47*	*891.31*	*891.12*	*891.00*	*891.00*	*890.63*	*890.33*	*890.07*	*889.78*	*889.62*	*889.38*	*889.30*	*889.34*	*889.57*	*889.63*	*889.83*	*890.10*	*890.51*	*890.68*	*891.51*	*891.06*	*891.16*	*891.37*	*879.78*	*892.73*
G-892.72	G-892.47	G-892.22	G-891.97	G-891.72	G-891.47	G-891.22	G-890.97	G-890.72	G-890.58	G-890.27	G-890.11	G-889.99	G-889.92	G-889.89	G-889.91	G-889.97	G-890.08	G-890.23	G-890.43	G-890.68	G-890.97	G-891.30	*890.68*	G-891.68	G-892.06	G-892.45	G-892.83	G-893.21	G-893.60	G-893.98

DATUM
850

STA 2391+10.75 NB CONSTR. ℄ =
STA 121+30.46 SR 1029 CONSTR ℄

SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

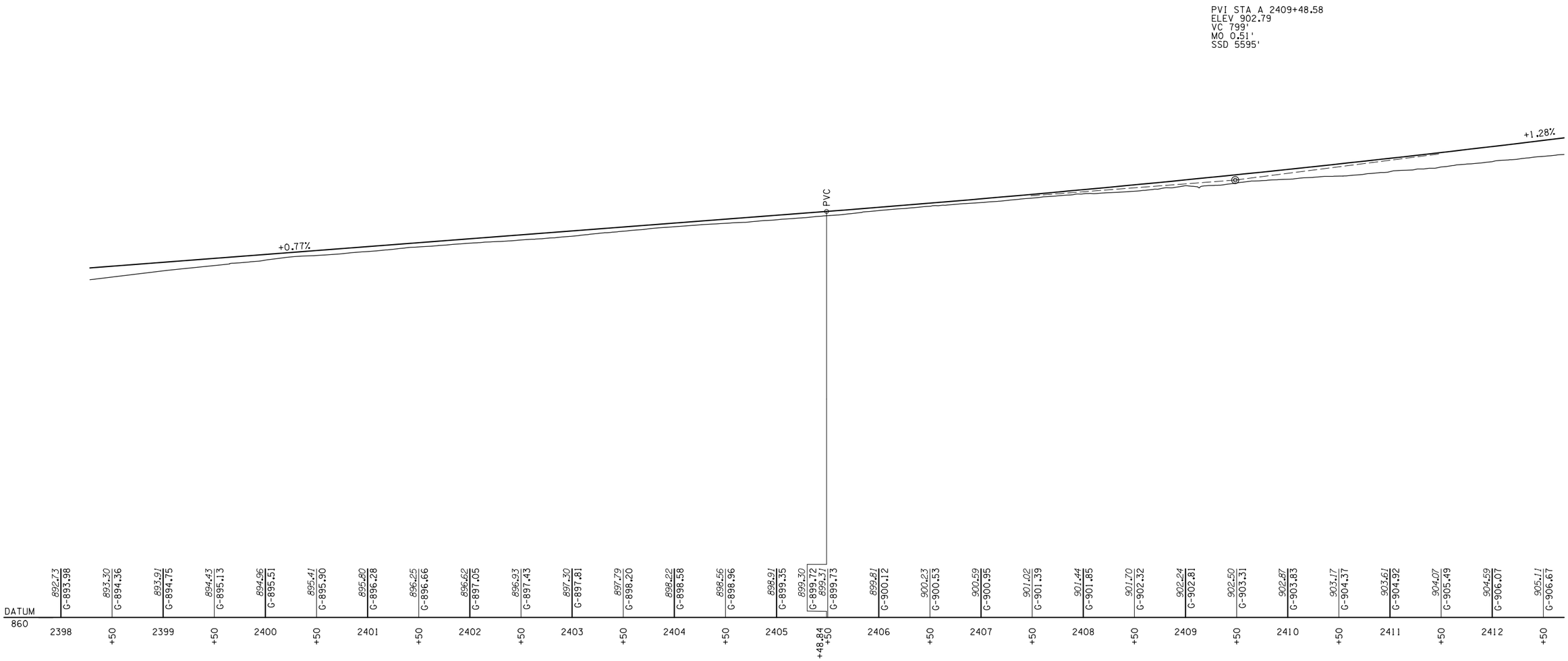
FOR PLAN, SEE SHEET 126

P:\2020\255R\DGN\DWGS\TRANS\PLAN SHEETS\Construction\T8031A_255800.dgn
11/18/2021 9:58:44 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	163 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 162



SEE SHEET 164

SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

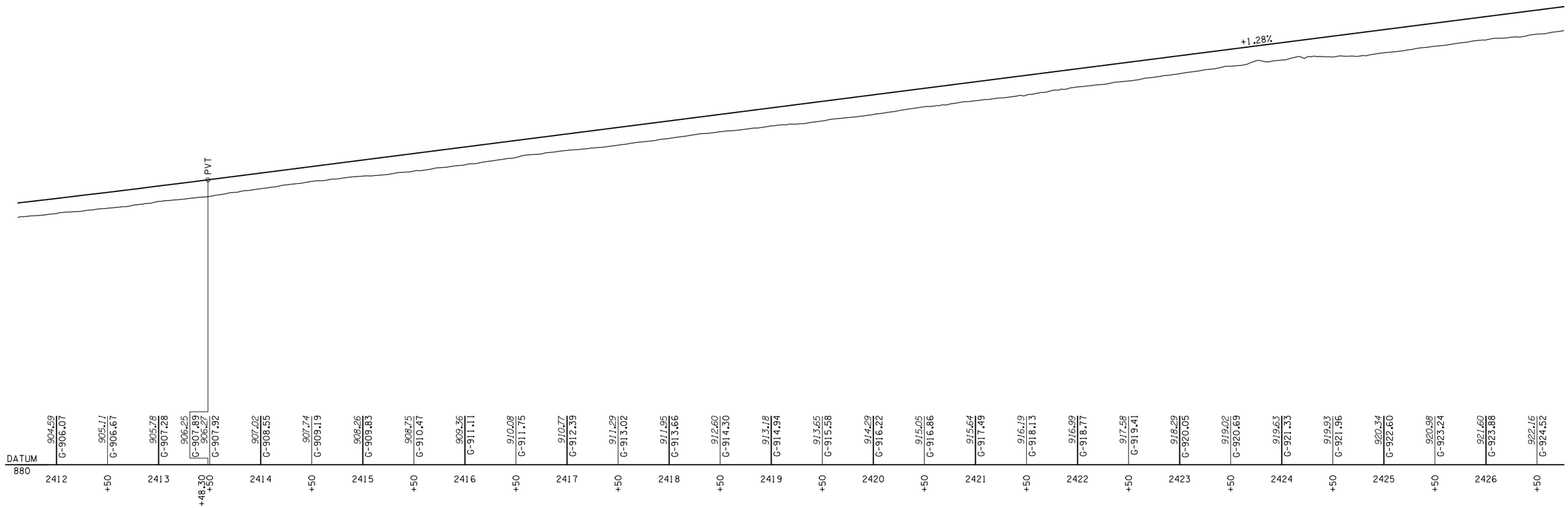
FOR PLAN, SEE SHEET 127

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8032A_255800.dgn
11/18/2021 AT 9:58:45 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	164 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

OVERHEAD LINE CROSSING #11
STA 2411+83.00
LINE ELEV >25' ABOVE ROADWAY
PG ELEV 905.03'
REQUIRED MIN. CLEARANCE = 18.00'



SEE SHEET 163

SEE SHEET 165

SR 0081 NORTHBOUND

SCALE
HORIZONTAL 0 50 100 FEET
VERTICAL 0 5 10 FEET

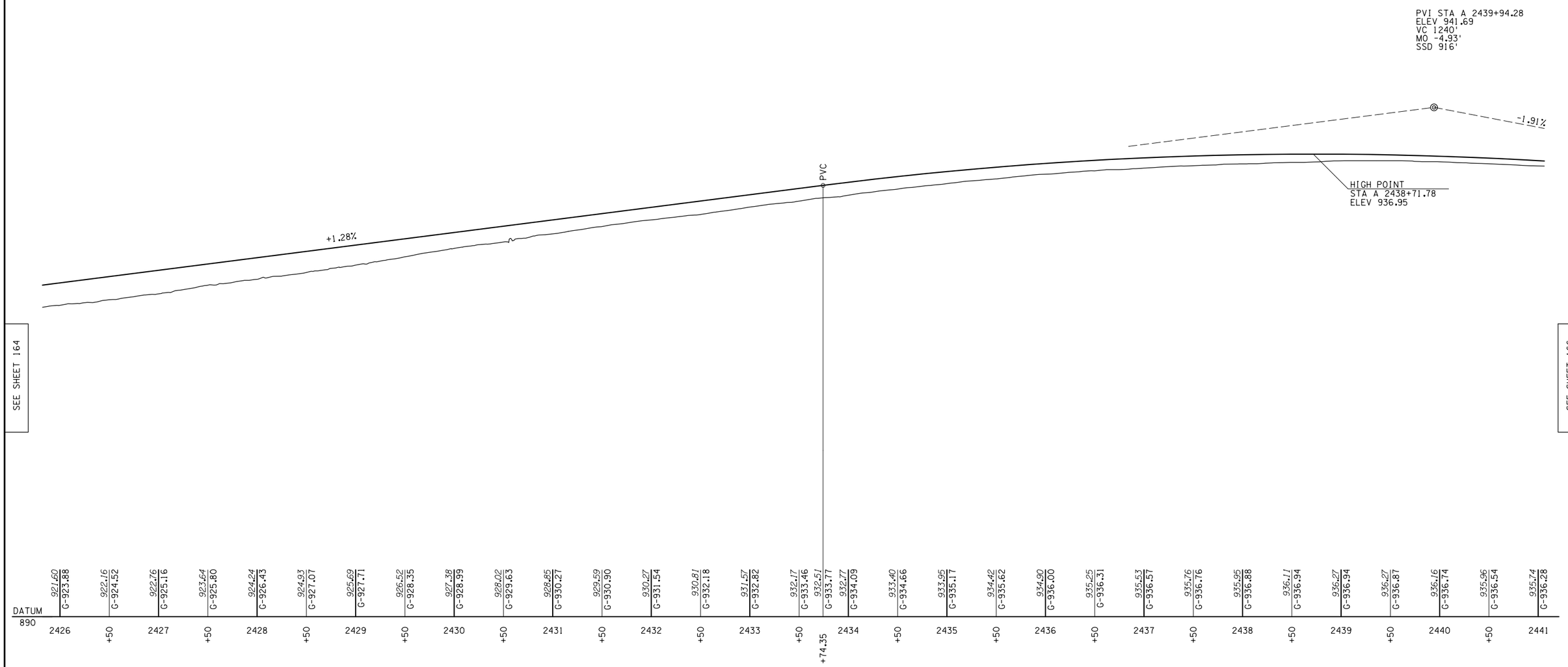
SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 128

P:\2020\255R\DOL\DWGS\TRANSPLAN SHEETS\Construction\76033A_255R00.dgn
11/18/2021 AT 9:38:45 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	165 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 NORTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 129

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8034A_255800.dgn
11/18/2021 AT 9:58:46 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	166 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

SEE SHEET 165

100 YEAR
WSEL 937.96

50 YEAR
WSEL 937.81

PVI STA A 2451+46.38
ELEV 919.73
VC 327'
MO 0.54'
SSD 962'

100 YEAR
WSEL 1091.36

50 YEAR
WSEL 929.85

STOP & LIMIT OF WORK
END FULL DEPTH
BEGIN MILL AND OVERLAY
STA 2453+03.00
SR 0081 NB SEC 511
SEG TBD OFF TBD
GREAT BEND TOWNSHIP
SUSQUEHANNA COUNTY, PA

START & LIMIT OF WORK
END FULL DEPTH RECONSTR
BEGIN MILL AND OVERLAY
STA 2453+03.00
SR 0081 NB SEC 511
SEG TBD OFF TBD
TOWN OF KIRKWOOD
BROOME COUNTY, NY

PVT
PVC
PVT
-1.91%
0.58%

42"PIPE
42"PIPE

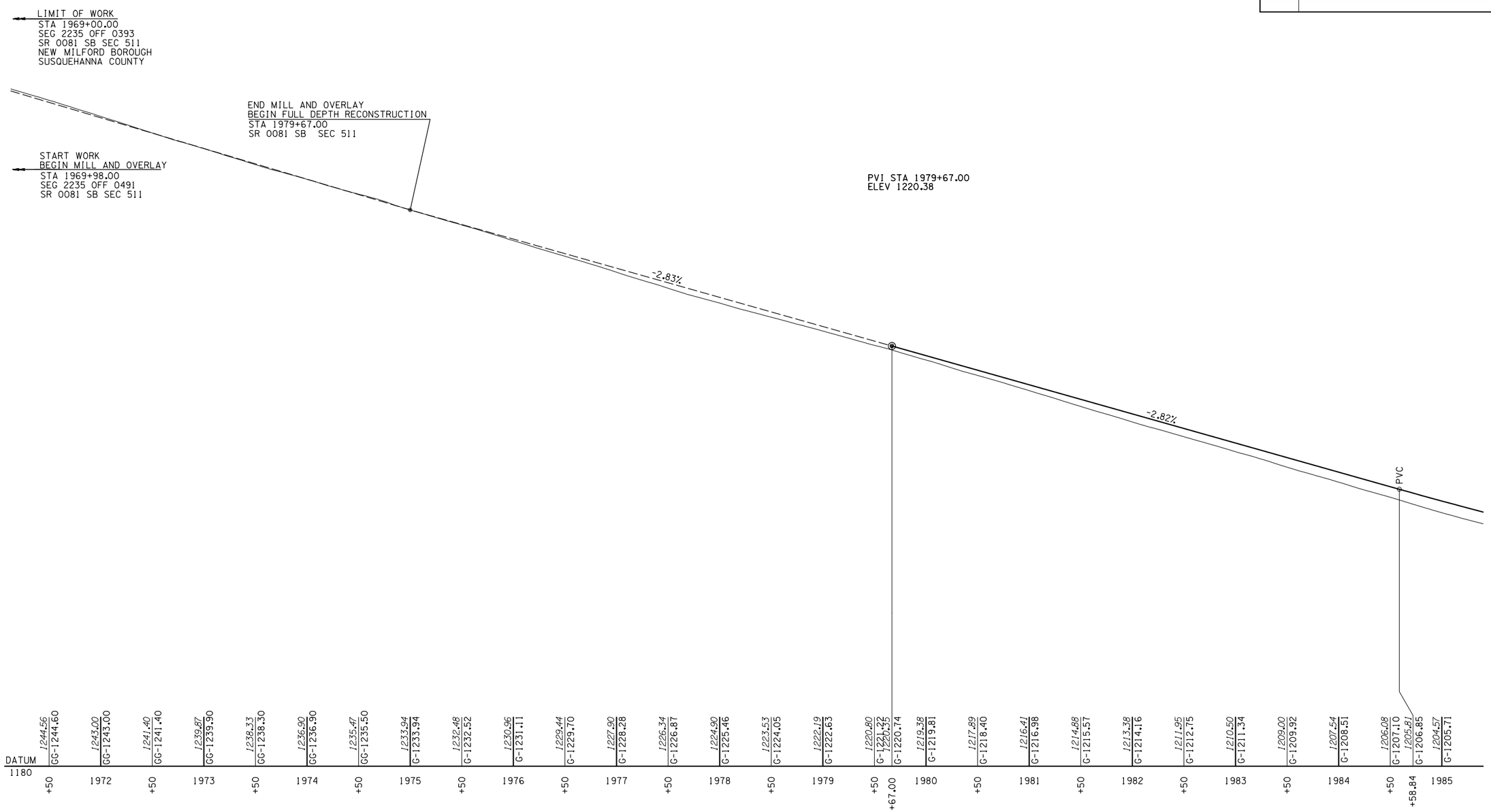
STOP WORK
END MILL AND OVERLAY
STA 2461+56.00
SEG TBD OFF TBD
SR 0081 NB SEC 511

LIMIT OF WORK
STA 2463+00.00
SEG TBD OFF TBD
SR 0081 NB SEC 511
TOWN OF KIRKWOOD
BROOME COUNTY, NY

| | | | |

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	167 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

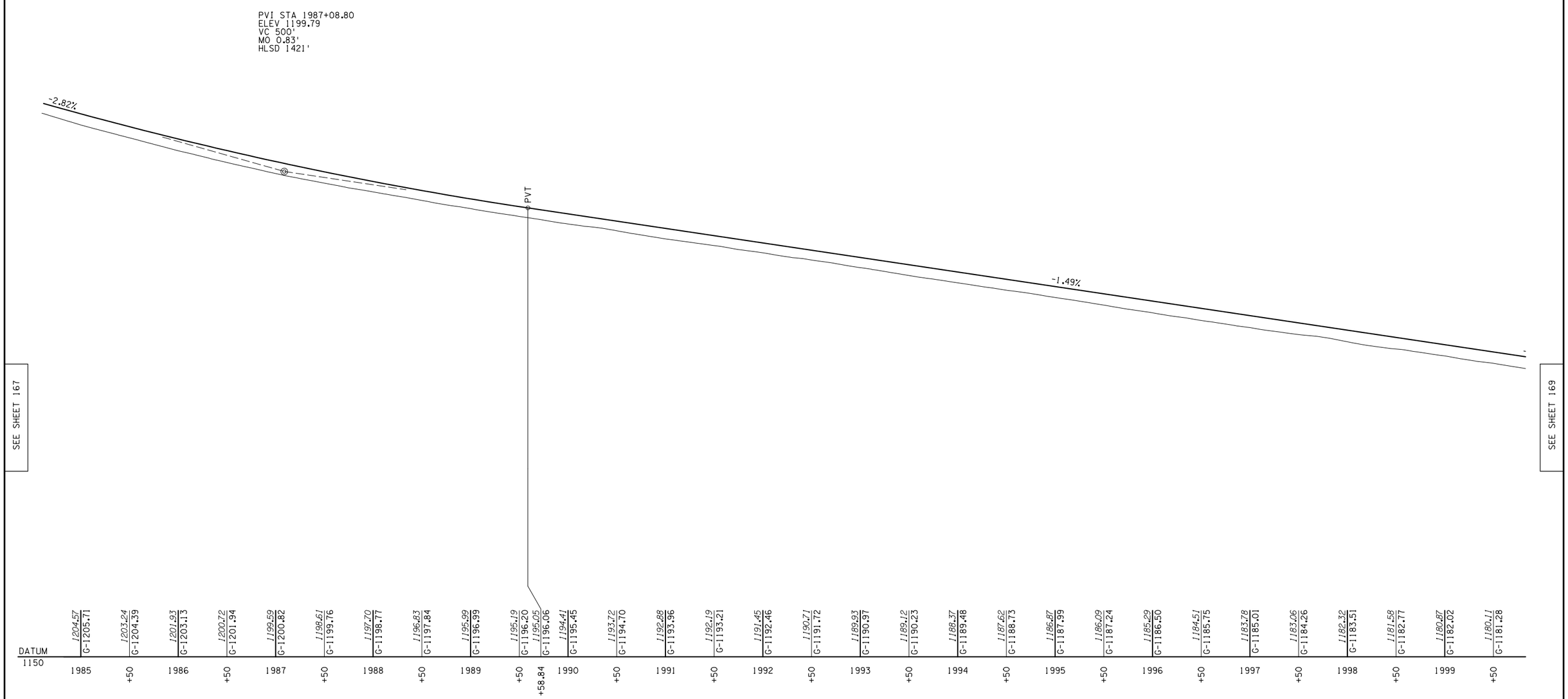
SEE SHEET 168

FOR PLAN, SEE SHEET 97

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8200A_255800.dgn
11/18/2021 AT 9:58:47 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	168 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 98

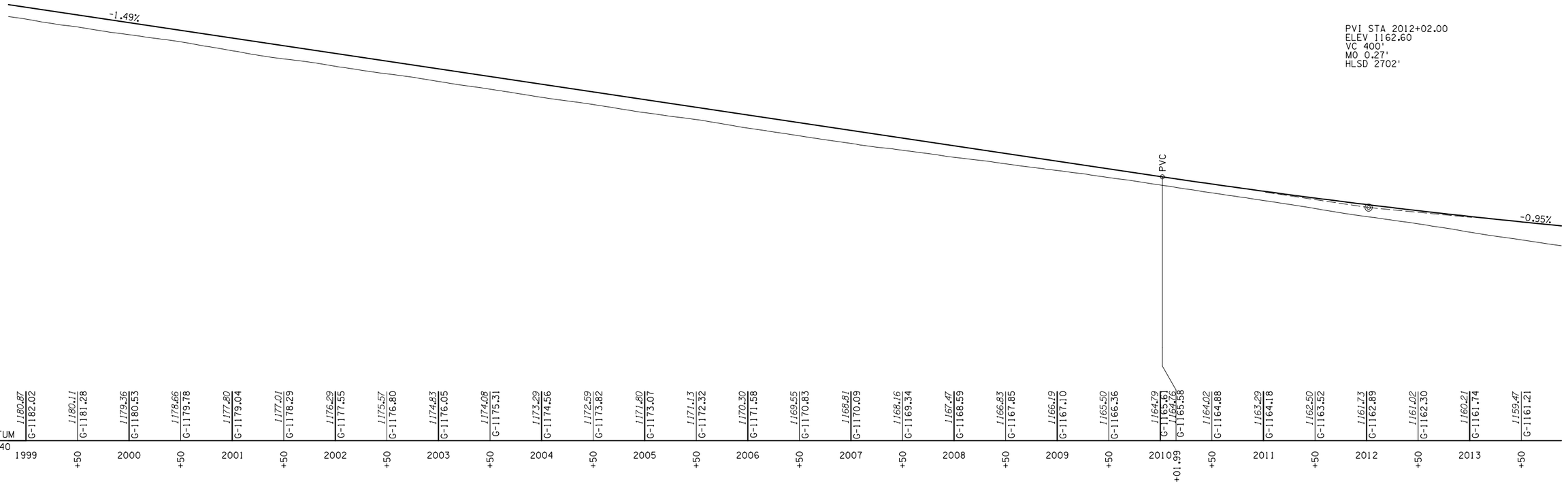
P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8201A_255800.dgn
11/18/2021 AT 9:58:48 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	169 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 168

SEE SHEET 170



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

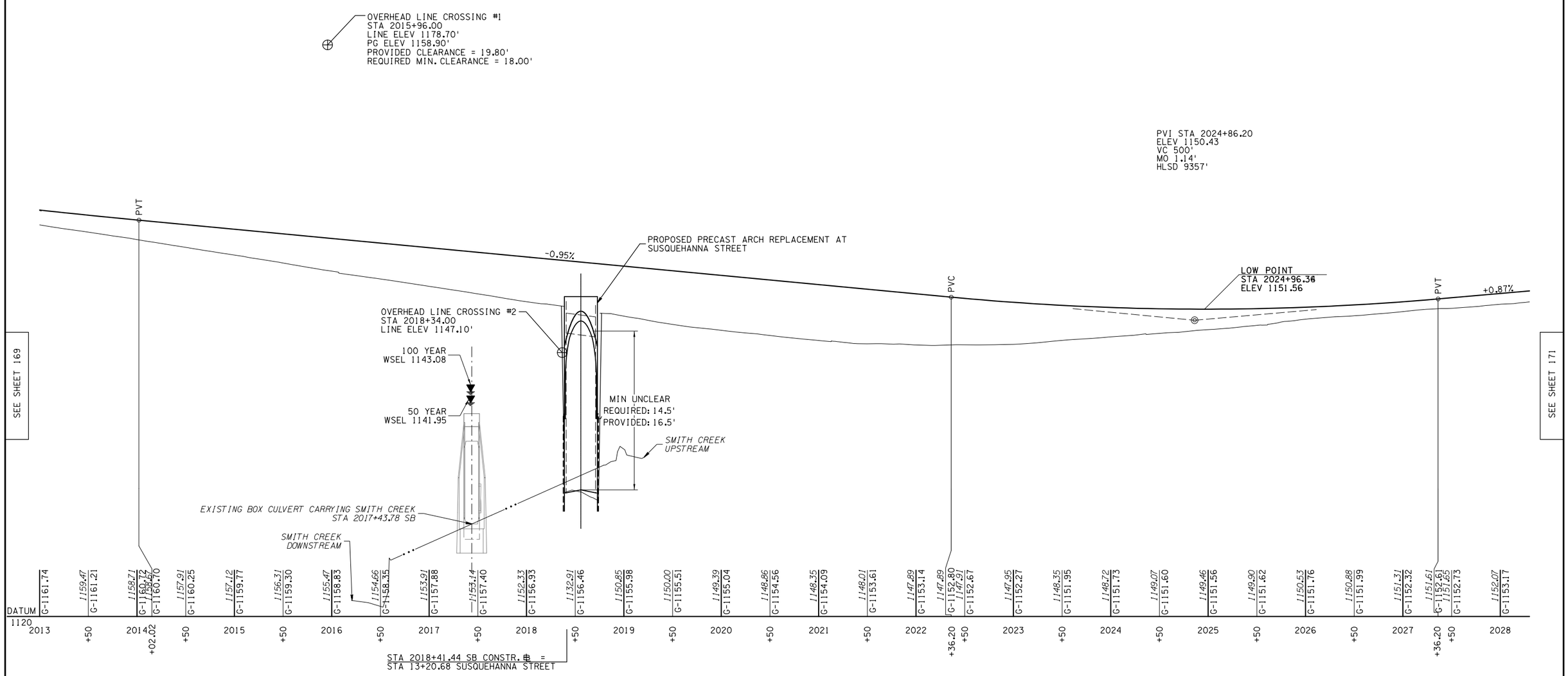
VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 99

P:\2019\25581\00\DWGS\TRANS\PLAN SHEETS\Construction\T82024_255800.dgn
11/18/2021 9:55:48 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	170 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

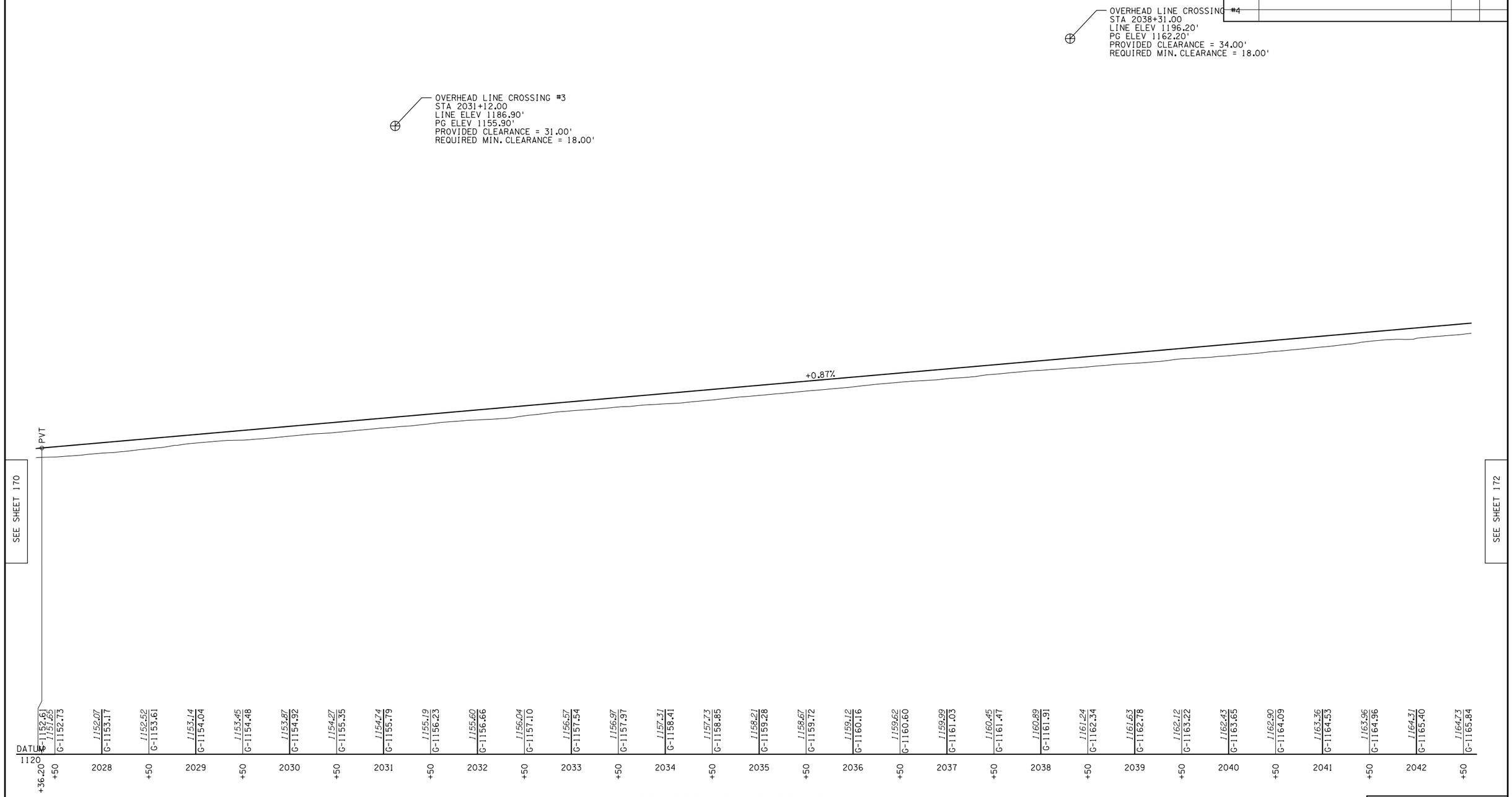
SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 100

P:\2019\25580\00\DWGS\TRANS\PLAN SHEETS\Construction\T8203A_255800.dgn
11/18/2021 8:45:49 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	171 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 101

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8204A_255800.dgn
11/18/2021 AT 9:58:49 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	172 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

SEE SHEET 171

SEE SHEET 173

PVI STA 2051+40.40
ELEV 1173.62
VC 1550'
MO -7.47'
SSD 932'

+0.87%

PVC

HIGH POINT
STA 2047+16.75
ELEV 1168.38

-2.98%

	2042	+50	2043	+50	+65.25	2044	+50	2045	+50	2046	+50	2047	+50	2048	+50	2049	+50	2050	+50	2051	+50	2052	+50	2053	+50	2054	+50	2055	+50	2056	+50
1164.31																															
G-1165.40																															
1164.73																															
G-1165.84																															
1165.22																															
G-1166.27																															
1165.65																															
G-1166.71																															
1165.81																															
G-1166.84																															
1166.15																															
G-1167.13																															
1166.44																															
G-1167.49																															
1166.79																															
G-1167.80																															
1167.06																															
G-1168.03																															
1167.25																															
G-1168.21																															
1167.31																															
G-1168.32																															
1167.37																															
G-1168.38																															
1167.32																															
G-1168.37																															
1167.28																															
G-1168.29																															
1167.09																															
G-1168.16																															
1166.82																															
G-1167.96																															
1166.62																															
G-1167.70																															
1166.29																															
G-1167.38																															
1165.88																															
G-1167.00																															
1165.41																															
G-1166.55																															
1164.89																															
G-1166.05																															
1164.25																															
G-1165.48																															
1163.64																															
G-1164.85																															
1162.94																															
G-1164.15																															
1162.19																															
G-1163.40																															
1161.41																															
G-1162.58																															
1160.53																															
G-1161.70																															
1159.57																															
G-1160.75																															
1158.57																															
G-1159.75																															
1157.58																															
G-1158.68																															
1156.45																															
G-1157.55																															

DATUM
1120

SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 102

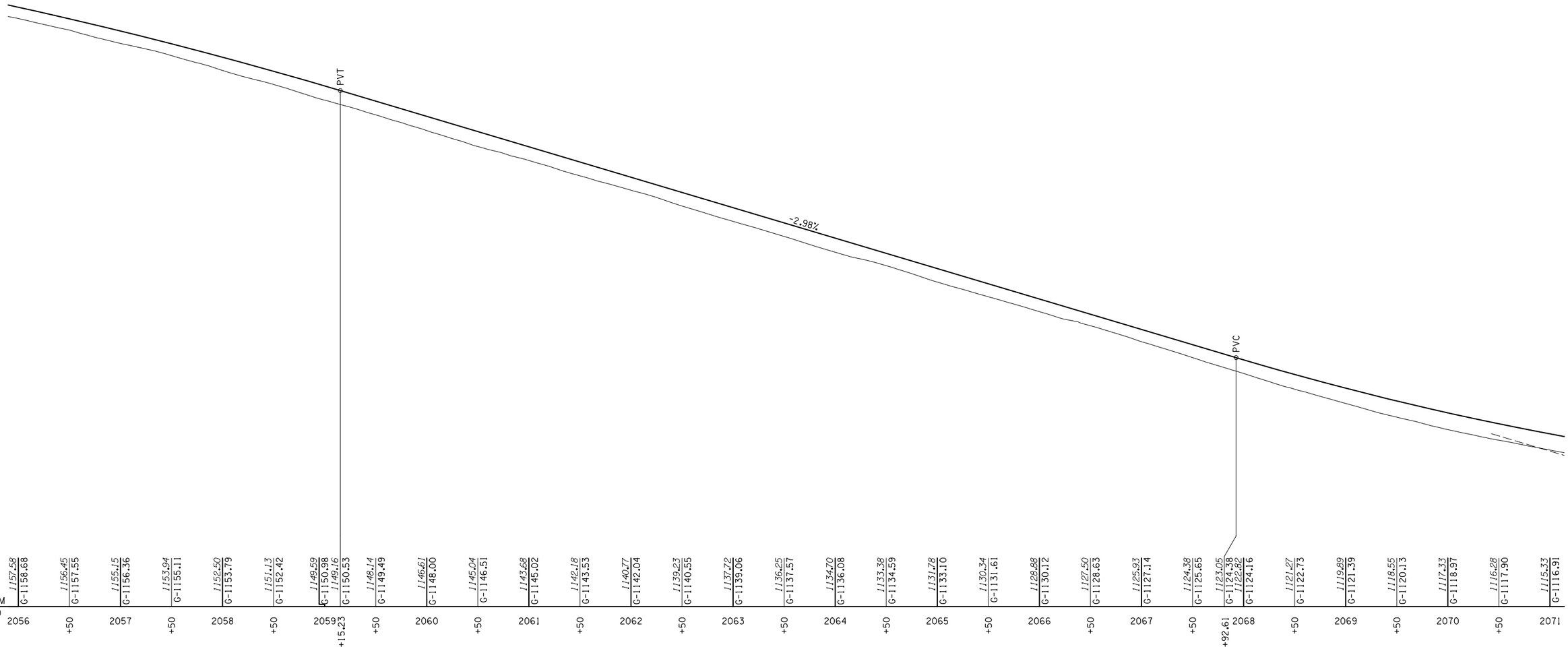
P:\2020\255R\DOD\DWGS\TRANS\PLAN SHEETS\Construction\T82054_255800.dgn
11/18/2021 AT 9:38:50 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	173 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 172

SEE SHEET 174



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

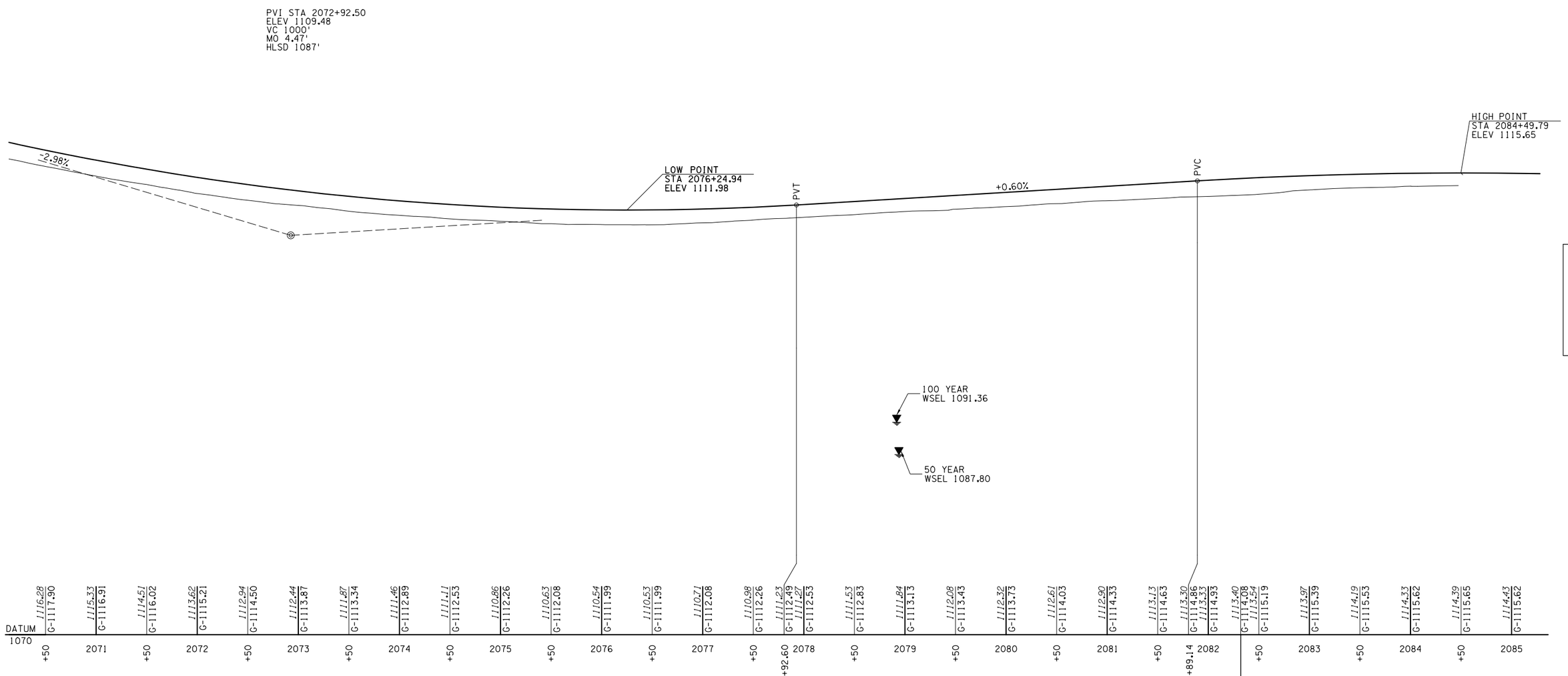
SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 103

P:\2009\255851\DGN\DWGS\TRANS\PLAN SHEETS\Construction\T82064_255800.dgn
11/18/2021 AT 9:58:50 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	174 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 173

SEE SHEET 175

SR 0081 SOUTHBOUND

POC STA 2082+31.74 SR 0081 SB =
POB STA 0+00.00 PERMANENT ACCESS 2082 SB (31.34') LT

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 104

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8207A_255800.dgn
11/18/2021 AT 9:58:51 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	175 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

PVI STA 2089+64.30
ELEV 1119.52
VC 1550'
MO -6.91'
SSD 968'

+0.60%

HIGH POINT
STA 2084+49.79
ELEV 1115.65

-2.97%

100 YEAR
WSEL 1097.59

50 YEAR
WSEL 1096.96

PVT

SEE SHEET 174

SEE SHEET 176

| DATUM 1070 | | | |

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	176 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 175

SEE SHEET 177

-2.97%

60"PIPE

PVI STA 2112+62.80
ELEV 1051.26
VC 900'
MO 3.90'
SSD 1024'

PVC

+0.50%

100 YEAR
WSEL 1048.17

50 YEAR
WSEL 1047.15

EXISTING BOX CULVERT @ MP 226.10
(STA 2104+22.65 SB)

	2099	+50	2100	+50	2101	+50	2102	+50	2103	+50	2104	+50	2105	+50	2106	+50	2107	+50	2108	+12.90	+50	2109	+50	2110	+50	2111	+50	2112	+50	2113	+50
1090.33																														
G-1091.73																														
1088.84																														
G-1090.25																														
1087.40																														
G-1088.76																														
1085.90																														
G-1087.28																														
1084.43																														
G-1085.79																														
1082.96																														
G-1084.31																														
1081.47																														
G-1082.82																														
1079.95																														
G-1081.34																														
1078.44																														
G-1079.85																														
1076.93																														
G-1078.37																														
1075.26																														
G-1076.88																														
1073.77																														
G-1075.40																														
1072.32																														
G-1073.91																														
1070.81																														
G-1072.43																														
1069.42																														
G-1070.95																														
1067.96																														
G-1069.46																														
1066.51																														
G-1067.98																														
1065.09																														
G-1066.49																														
1063.63																														
G-1065.01																														
1063.28																														
G-1064.62																														
1062.24																														
G-1063.55																														
1061.25																														
G-1062.81																														
1060.90																														
G-1062.18																														
1059.61																														
G-1060.91																														
1058.45																														
G-1059.74																														
1057.46																														
G-1058.67																														
1056.45																														
G-1057.69																														
1055.56																														
G-1056.80																														
1054.81																														
G-1056.02																														
1054.11																														
G-1055.33																														
1053.41																														
G-1054.73																														
1052.93																														
G-1054.24																														

DATUM
1010

POT STA 2108+87.01 SR 0081 SB =
POB STA 0+00.00 PERMANENT ACCESS 2109 SB (29.10') LT

SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 106

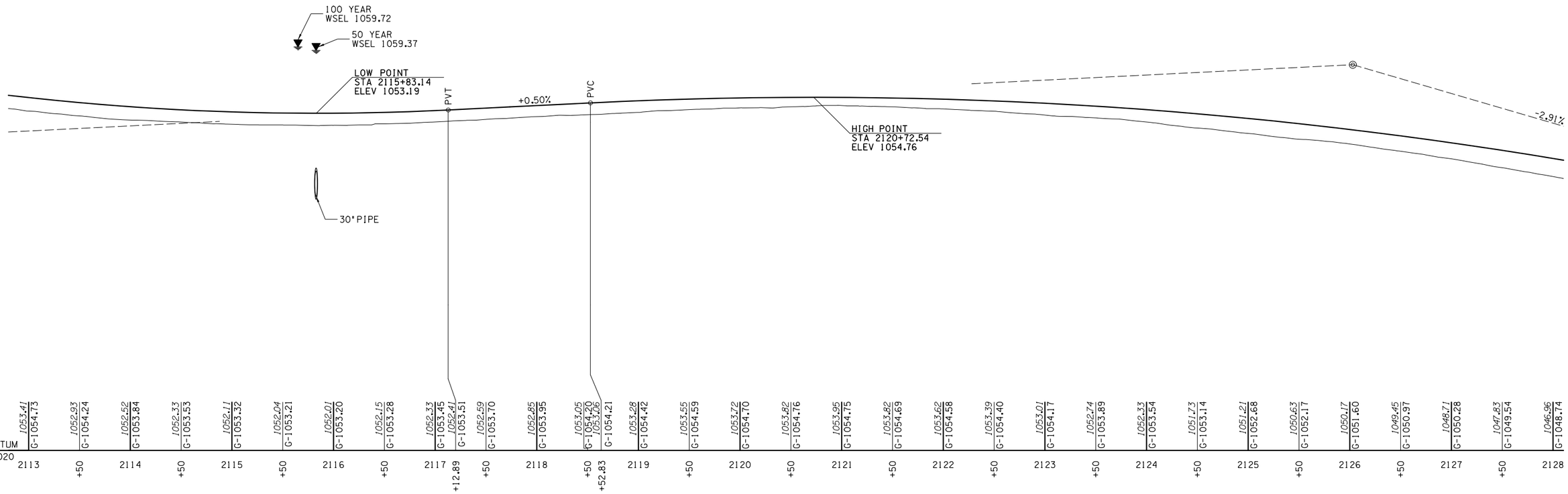
P:\2020\255R\00\DWGS\TRANS\PLAN SHEETS\Construction\B2094_255R00.dgn
11/18/2021 AT 9:58:52 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	177 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

PVI STA 2112+62.80
ELEV 1051.26
VC 900'
MO 3.90'
SSD 1024'

PVI STA 2126+03.00
ELEV 1057.96
VC 1500'
MO -6.40'
SSD 974'



SR 0081 SOUTHBOUND

SCALE
HORIZONTAL 0 50 100 FEET
VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 107

P:\2019\25581\00\DWGS\TRANS\PLAN SHEETS\Construction\T8210A_255800.dgn
11/18/2021 11:26:52 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	178 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 177

SEE SHEET 179

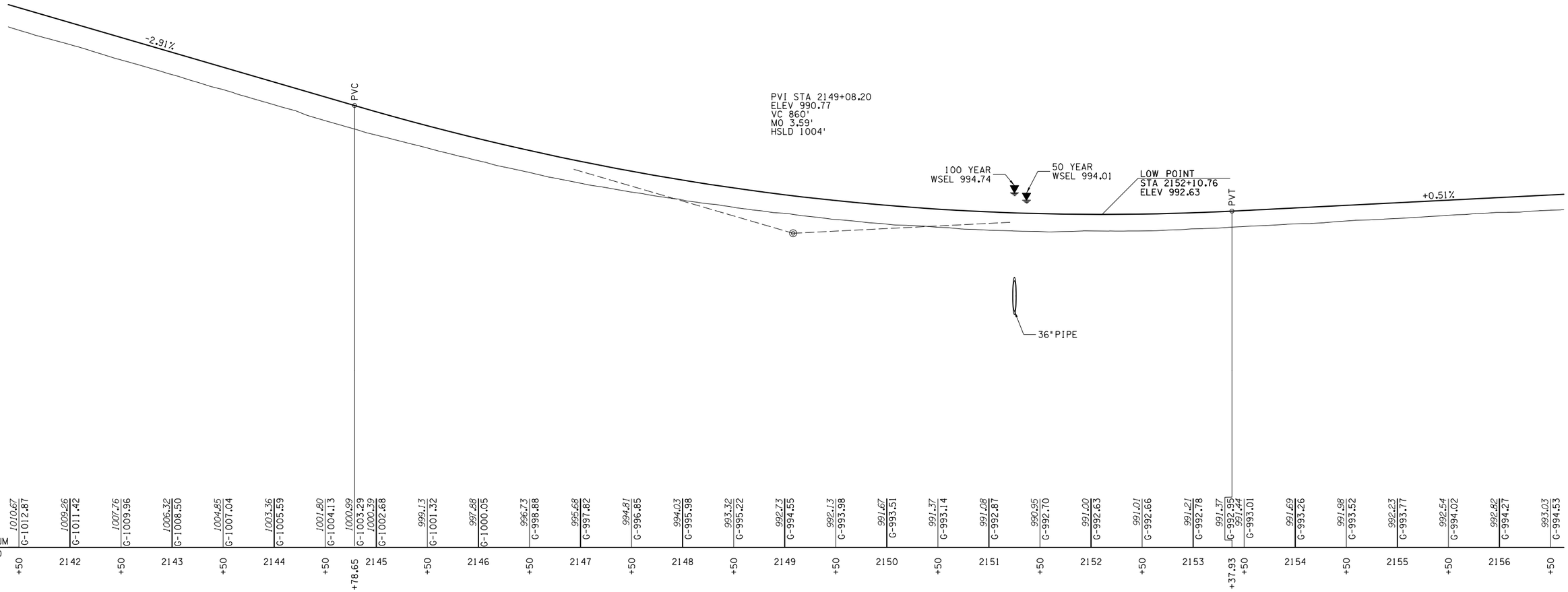
-2.91%

℄ PVT

| | | | |

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	179 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 109

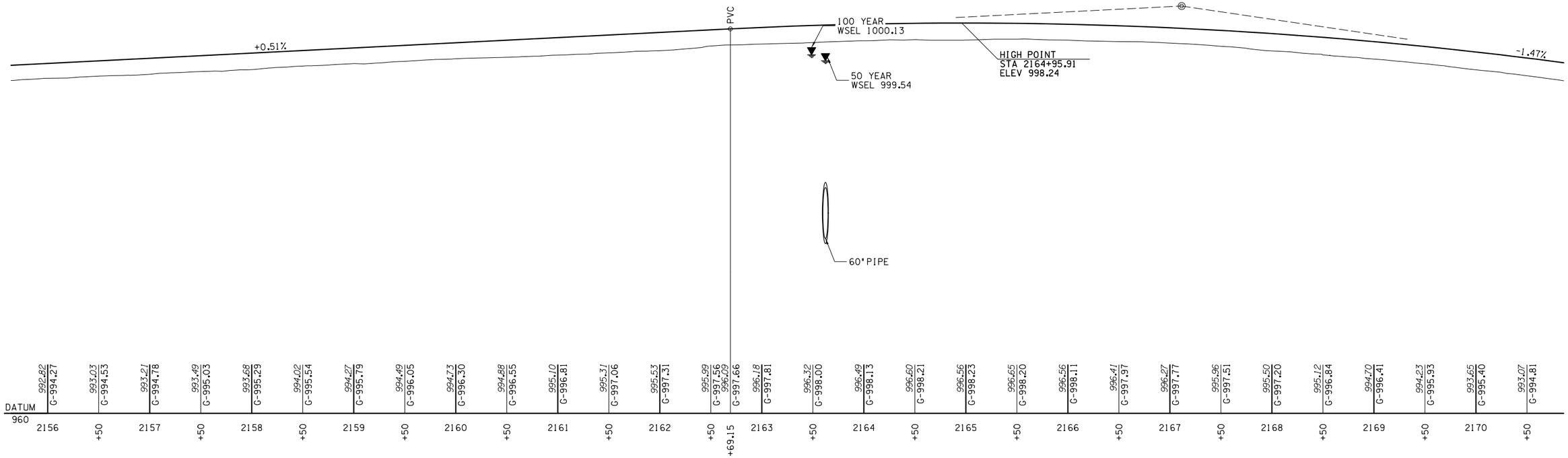
P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8212A_255800.dgn
11/18/2021 AT 9:58:53 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	180 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

SEE SHEET 179

SEE SHEET 181

PVI STA 2167+11.50
ELEV 999.90
VC 885'
MO -2.18'
SSD 989'



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

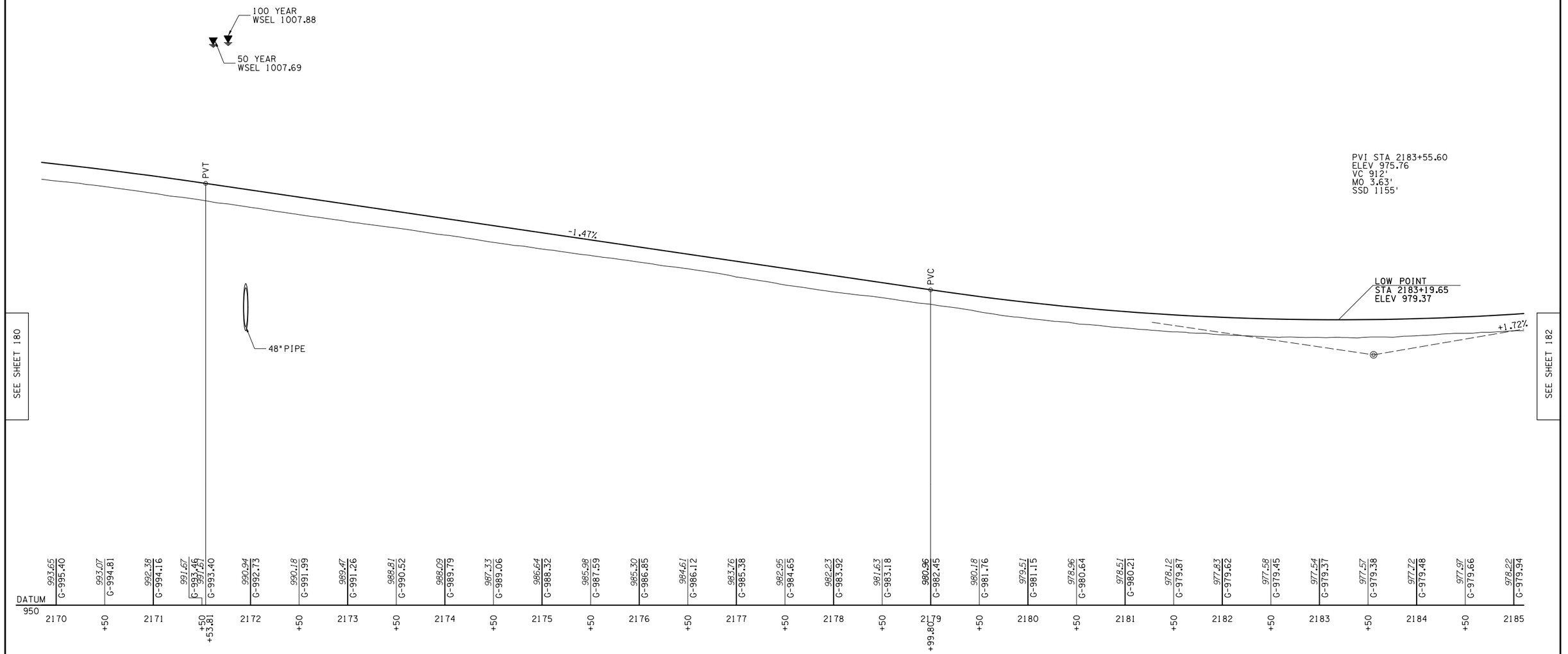
SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 110

P:\2009\2558\DOLDWGS\TRANS\PLAN SHEETS\Construction\T82134_255800.dgn
11/18/2021 AT 9:38:54 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	181 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

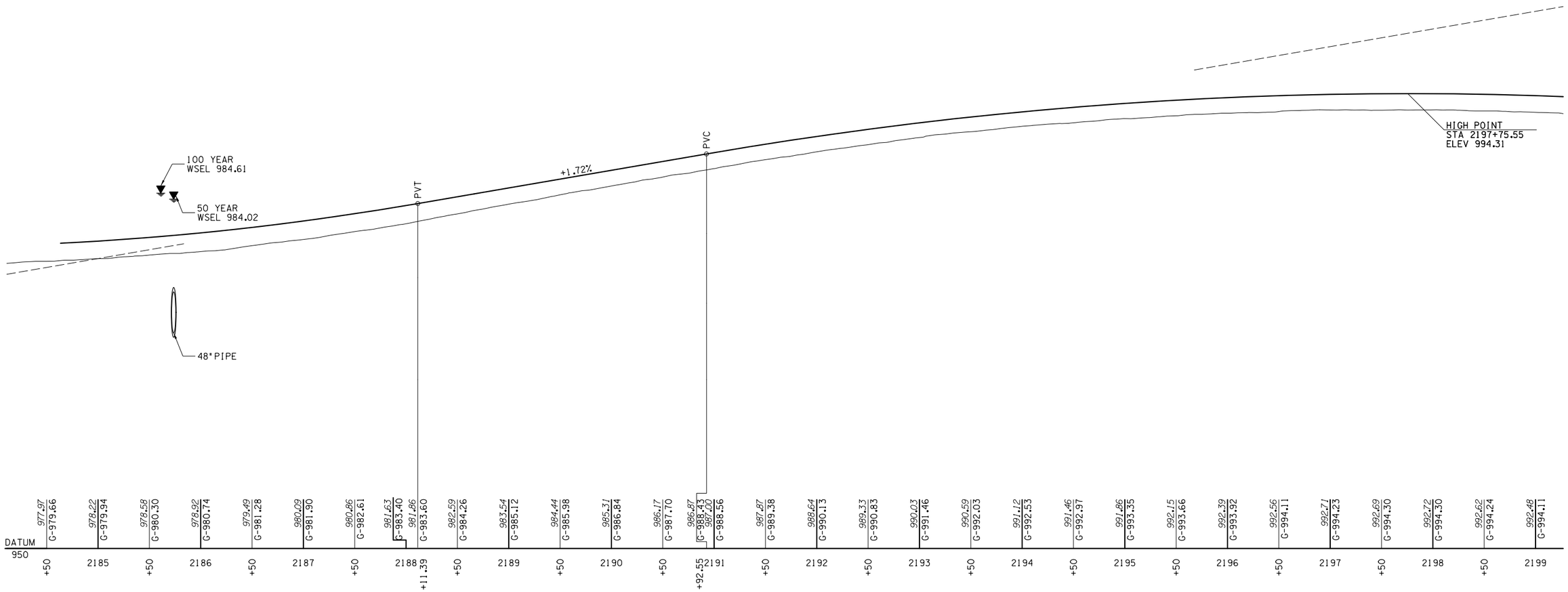
SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 111

P:\2009\2558\DOD\DWGS\TRANS\PLAN SHEETS\Construction\TB214A_255800.dgn
11/18/2021 AT 9:38:54 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	182 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

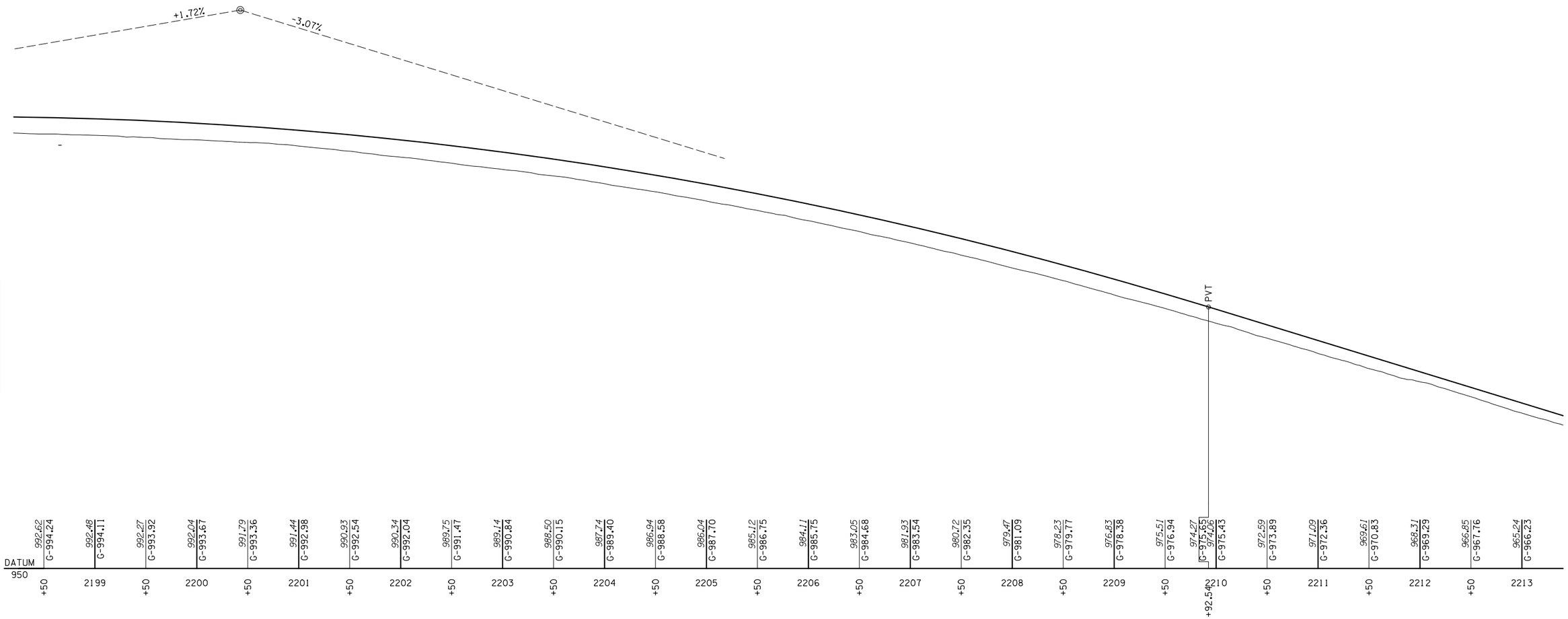
FOR PLAN, SEE SHEET 112

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8215A_255800.dgn
11/18/2021 AT 9:58:55 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	183 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

PVI STA 2200+42.70
ELEV 1004.77
VC 1900'
MO -11.36'
SSD 925'



SEE SHEET 182

SEE SHEET 184

SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 113

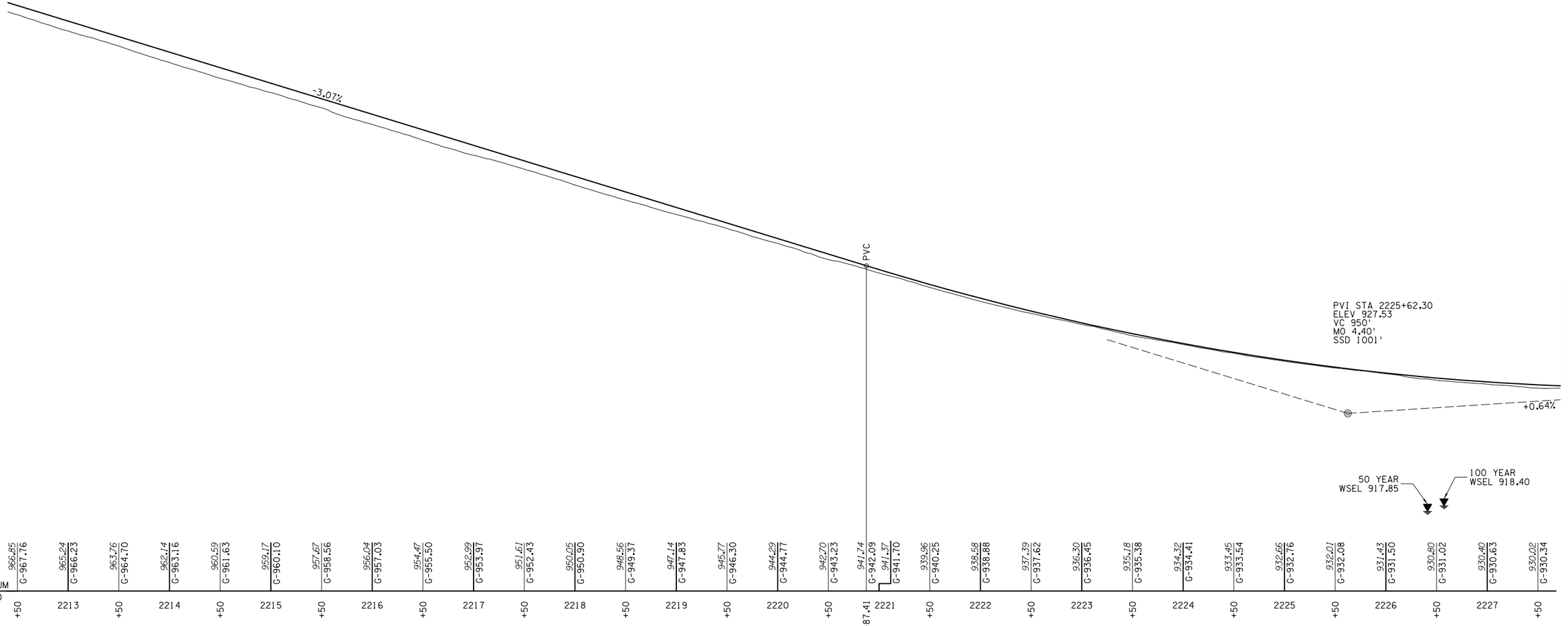
P:\2019\255811\DGN\LDWGS\TRANSPLAN SHEETS\Construction\782164_255800.dgn
11/18/2021 AT 9:38:55 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	184 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 183

SEE SHEET 185



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

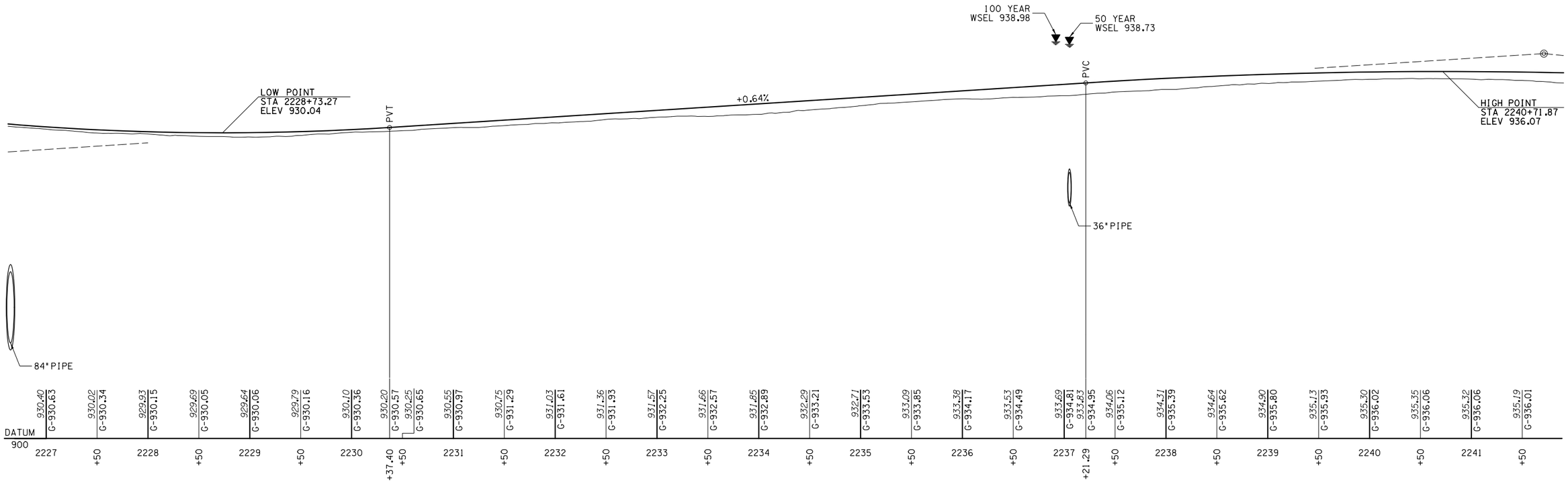
FOR PLAN, SEE SHEET 114

P:\2020\255811\GOVDWGS\TRANS\PLAN SHEETS\Construction\T8217A_255800.dgn
11/18/2021 at 9:58:56 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	185 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

PVI STA 2241+71.30
ELEV 937.83
VC 900'
MO -1.85'
SSD 1108'



SEE SHEET 184

SEE SHEET 186

SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

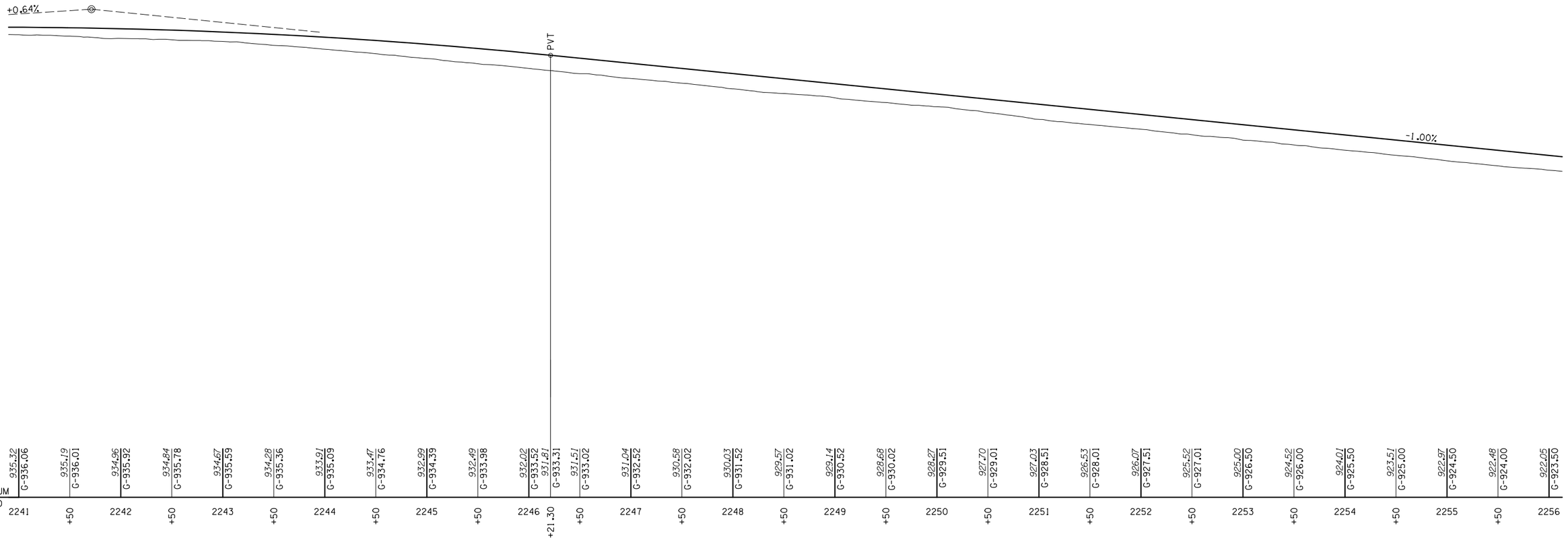
FOR PLAN, SEE SHEET 115

P:\2019\255800\DWGS\TRANS\PLAN SHEETS\Construction\T8218A_255800.dgn
11/18/2021 9:45:45 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	186 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

PVI STA 2241+71.30
ELEV 937.83
VC 900'
MO -1.85'
SSD 1108'



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

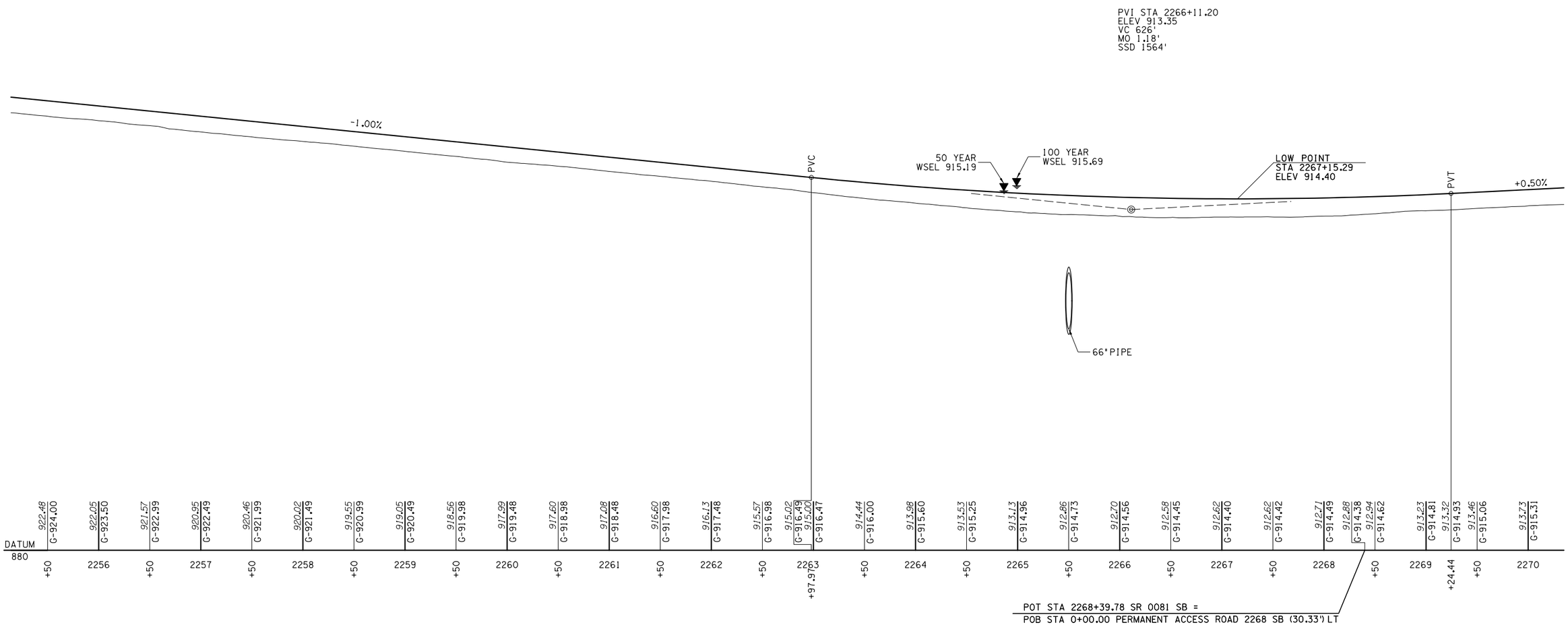
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 116

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8219A_255800.dgn
11/18/2021 AT 9:58:57 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	187 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 186

SEE SHEET 188

SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

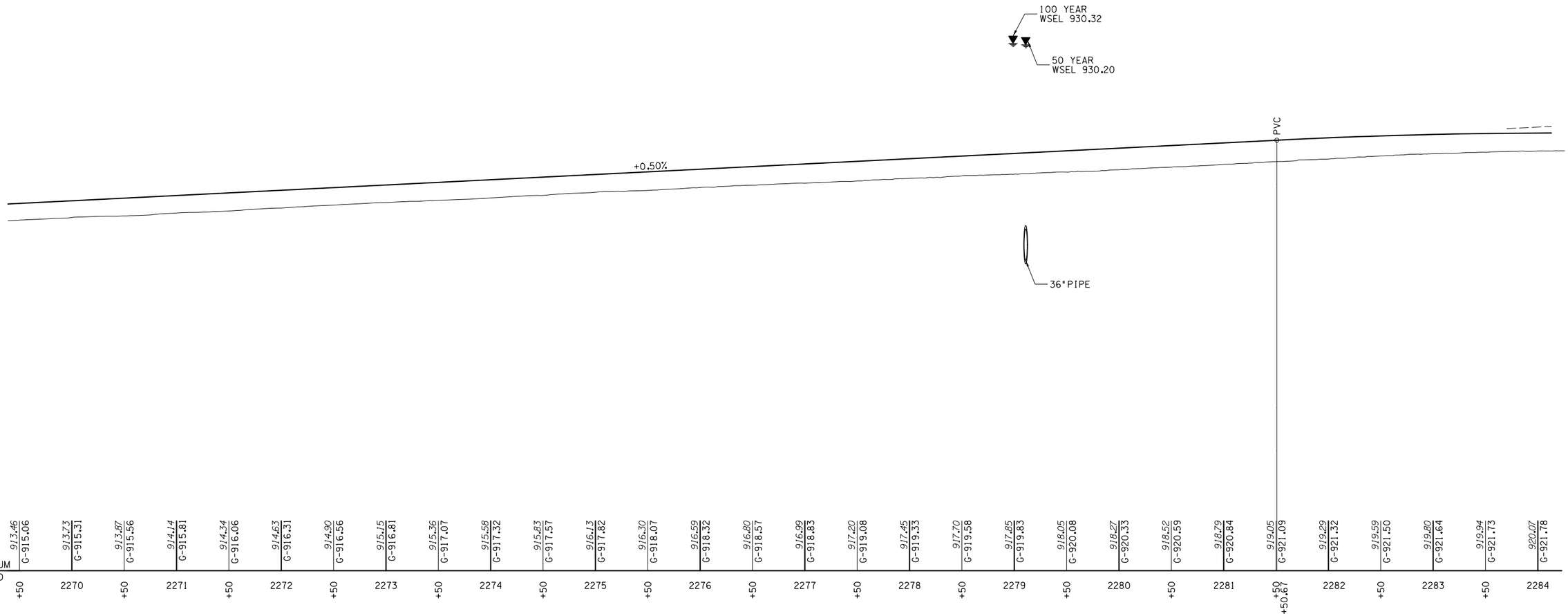
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 117

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8220A_255800.dgn
11/18/2021 4:58:57 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	188 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

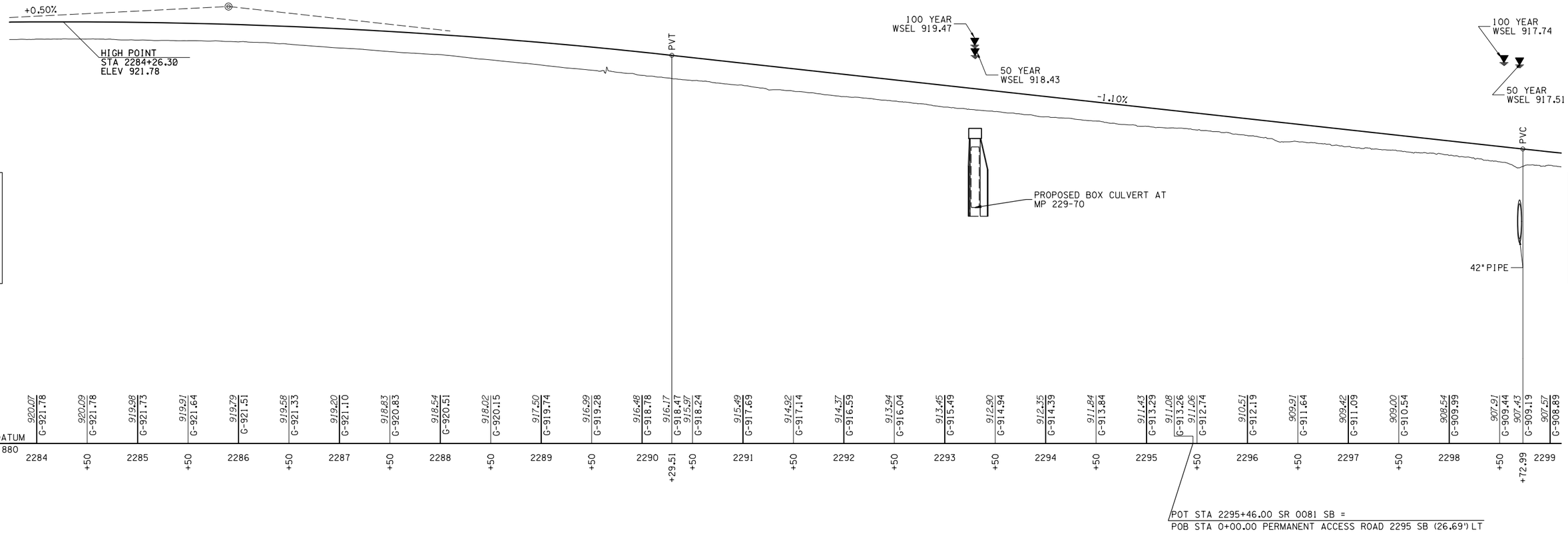
FOR PLAN, SEE SHEET 118

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8221A_255800.dgn
11/18/2021 AT 9:58:58 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	189 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

PVI STA 2285+90.10
ELEV 923.30
VC 879'
MO -1.76'
SSD 1113'



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

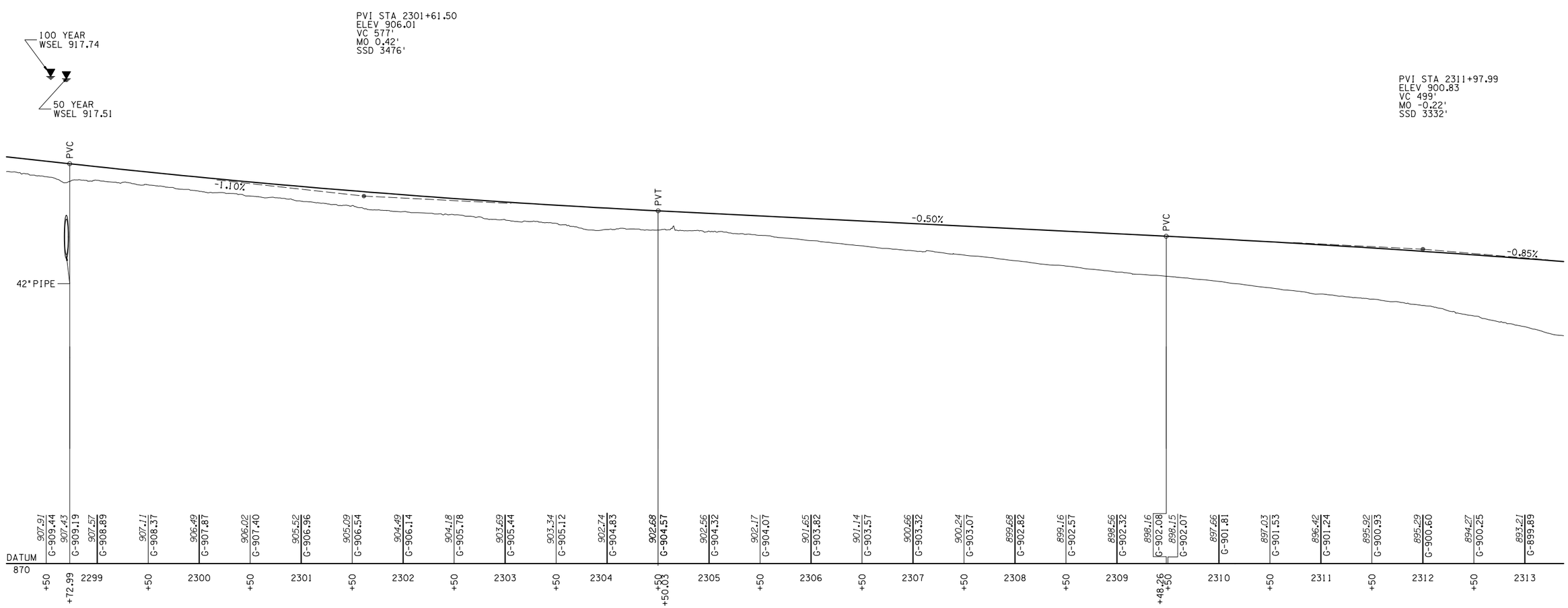
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 119

P:\2020\255A\GO\DWGS\TRANS\PLAN SHEETS\Construction\182224_255800.dgn
11/18/2021 11:36:59 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	190 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

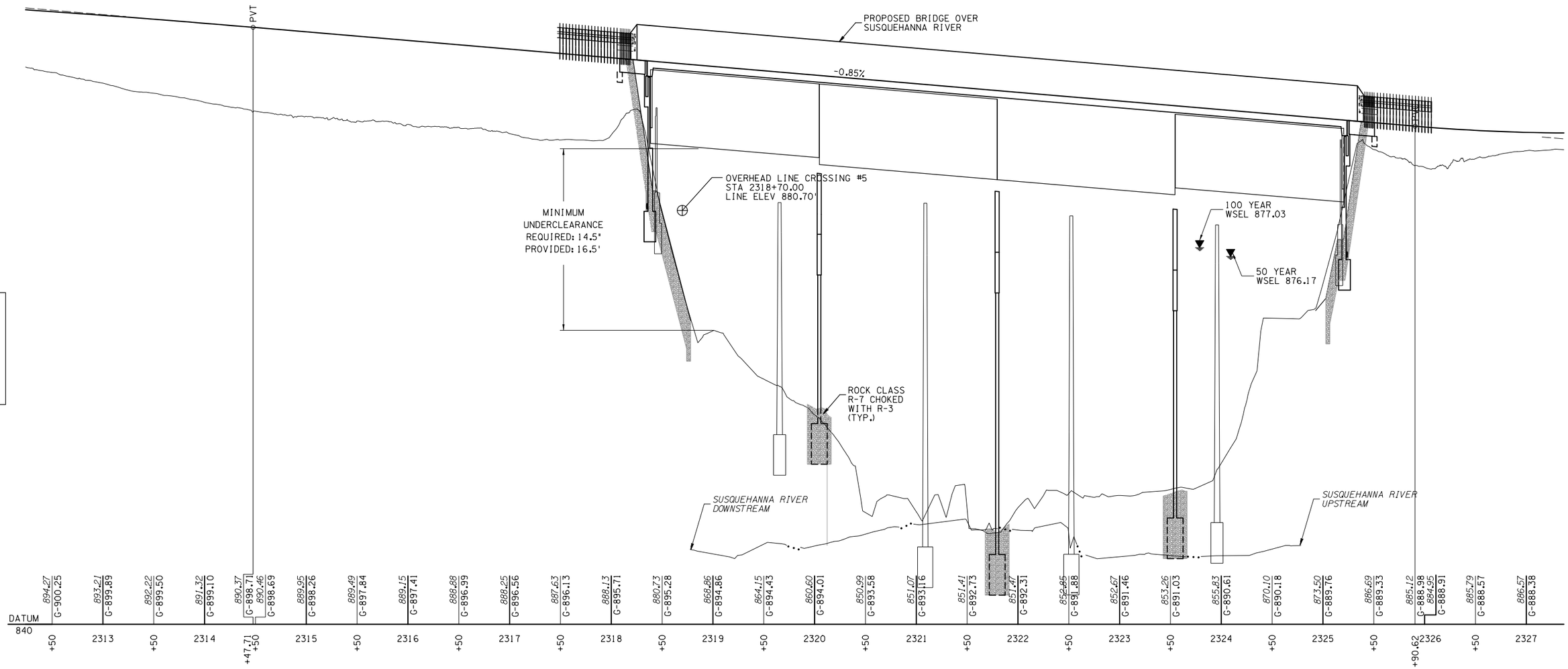
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 120

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8223A_255800.dgn
11/18/2021 AT 9:58:59 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	191 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 121

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8224A_255800.dgn
11/18/2021 AT 9:58:59 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	192 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 191

SEE SHEET 193

OVERHEAD LINE CROSSING #7
STA 2334+12.10
LINE ELEV 918.00'
PG ELEV 897.42'
PROVIDED CLEARANCE = 20.58'
REQUIRED MIN. CLEARANCE = 18.00'

+1.85%

PROPOSED BRIDGE
OVER SR 0171

PVI STA 2328+40.58
ELEV 886.86
VC 500'
MO 1.69'
SSD 921'

LOW POINT
STA 2327+48.17
ELEV 888.31

-0.85%

PVT

OVERHEAD LINE CROSSING #8
STA 2334+54.00
LINE ELEV 892.86'

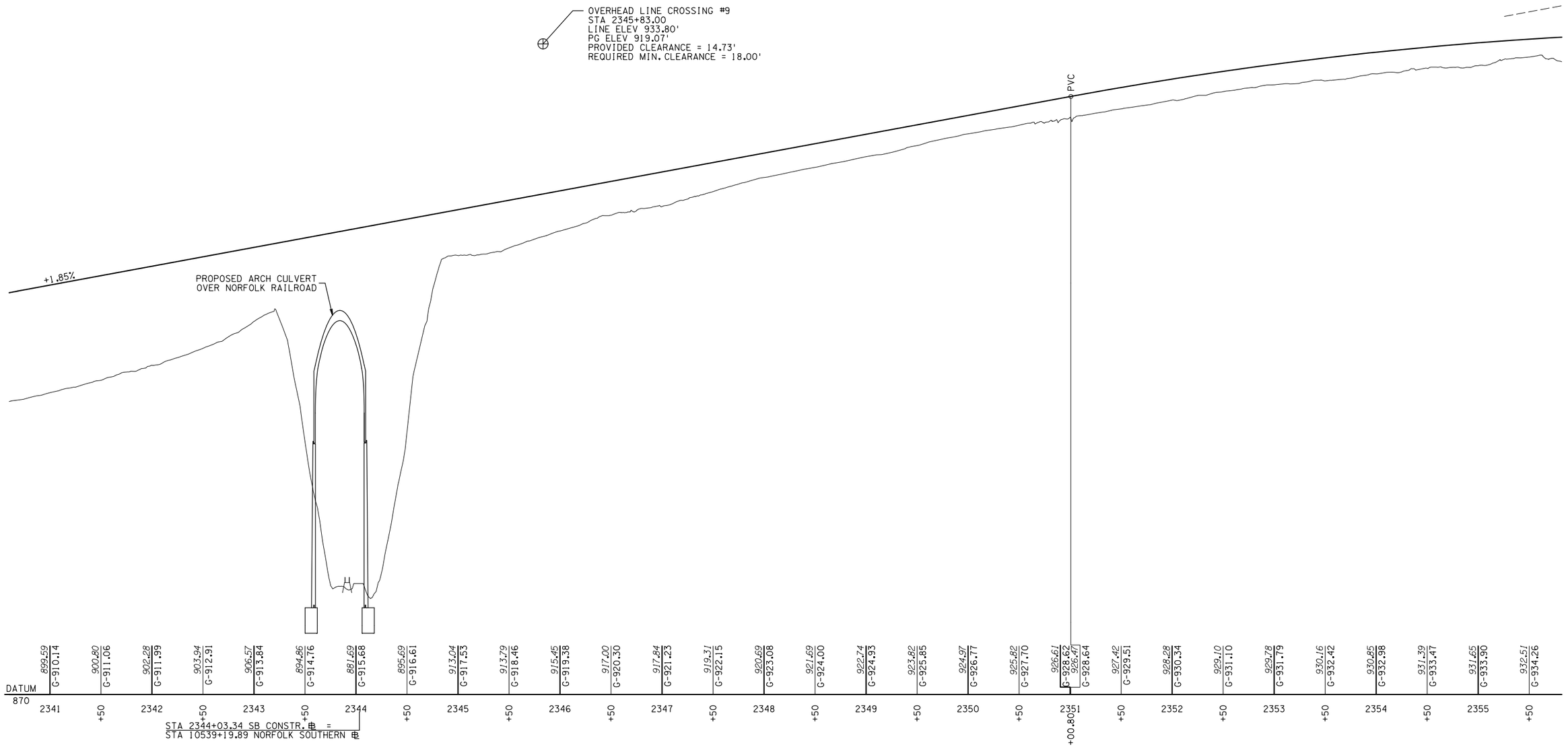
16'-6" MINIMUM VERTICAL CLEARANCE

17'-5⅜" PROVIDED VERTICAL CLEARANCE

| | | | |

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	193 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

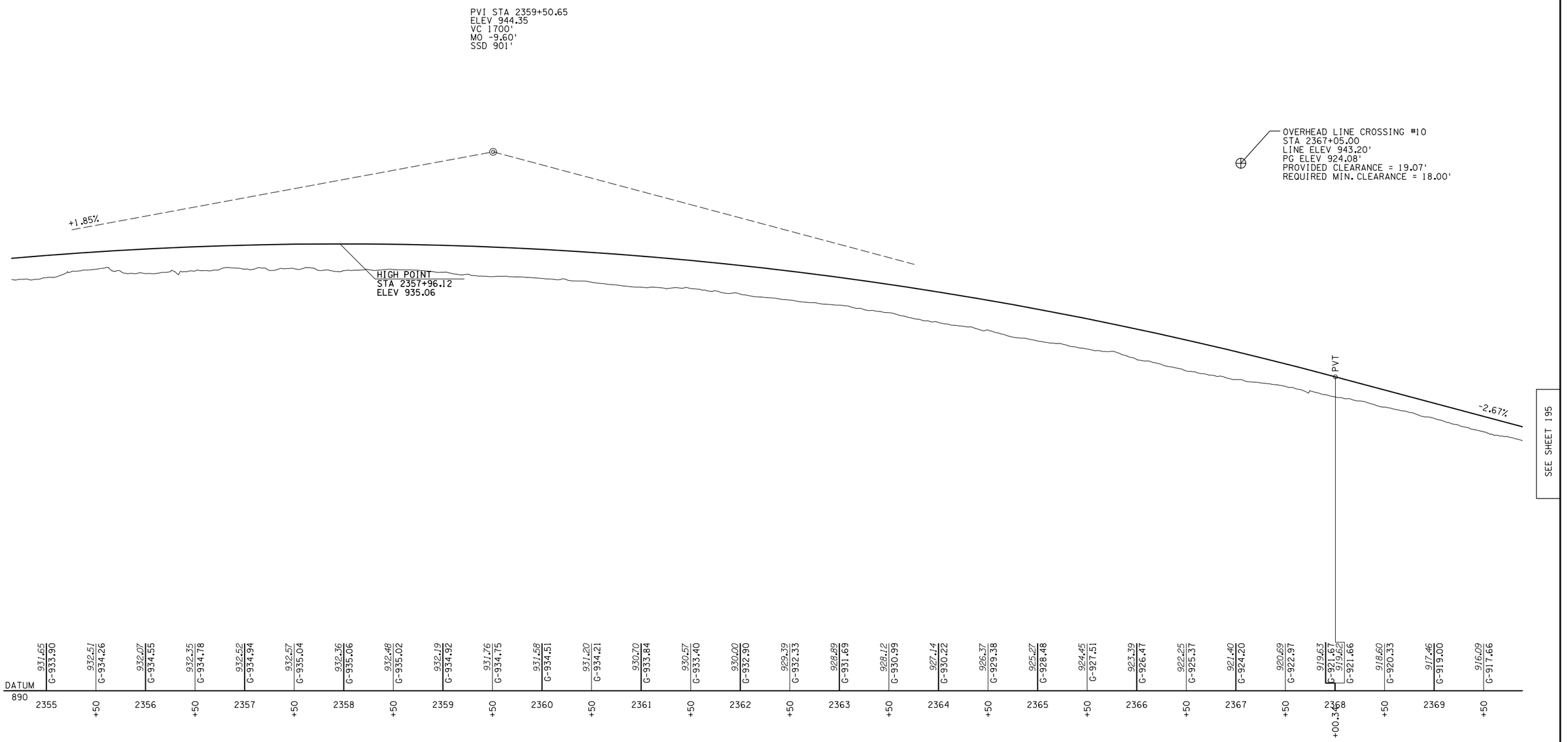
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 123

P:\2019\25581\00\DWGS\TRANS\PLAN SHEETS\Construction\T82264_255800.dgn
11/18/2021 11:45:03 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	194 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 124

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8227A_255800.dgn
11/18/2021 AT 9:59:02 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	195 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 194

SEE SHEET 196

OVERHEAD LINE CROSSING #11
STA 2383+50.00
LINE ELEV 915.50'
PG ELEV 892.80'
PROVIDED CLEARANCE = 22.69'
REQUIRED MIN. CLEARANCE = 18.00'

PVI STA A 2377+74.40
ELEV 895.65
VC 437'
MO 1.18'
SSD 1605'

-2.67%

-0.50%

PVC

PVT

DATUM 870	916.09	914.90	913.54	912.23	910.77	909.48	908.13	906.82	905.46	904.17	902.74	901.34	899.95	899.79	898.67	897.50	896.57	895.78	895.28	894.76	894.42	894.22	893.97	893.97	893.78	893.57	893.33	893.18	893.01	892.82	892.61	892.39
	G-917.66	G-916.33	G-914.99	G-913.66	G-912.32	G-910.99	G-909.65	G-908.32	G-906.98	G-905.65	G-904.31	G-902.98	G-901.64	G-901.48	G-900.35	G-899.19	G-898.15	G-897.24	G-896.55	G-895.86	G-895.30	G-894.87	G-894.56	G-894.56	G-894.31	G-894.06	G-893.81	G-893.55	G-893.30	G-893.05	G-892.80	G-892.55
	+50	2370	+50	2371	+50	2372	+50	2373	+50	2374	+50	2375	+50	+56.14	2376	+50	2377	+50	2378	+50	2379	+50	2380	+99.63	+50	2381	+50	2382	+50	2383	+50	2384

STA 2377+93.10 BK =
STA 2378+00.00 AHD SR 0081

SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

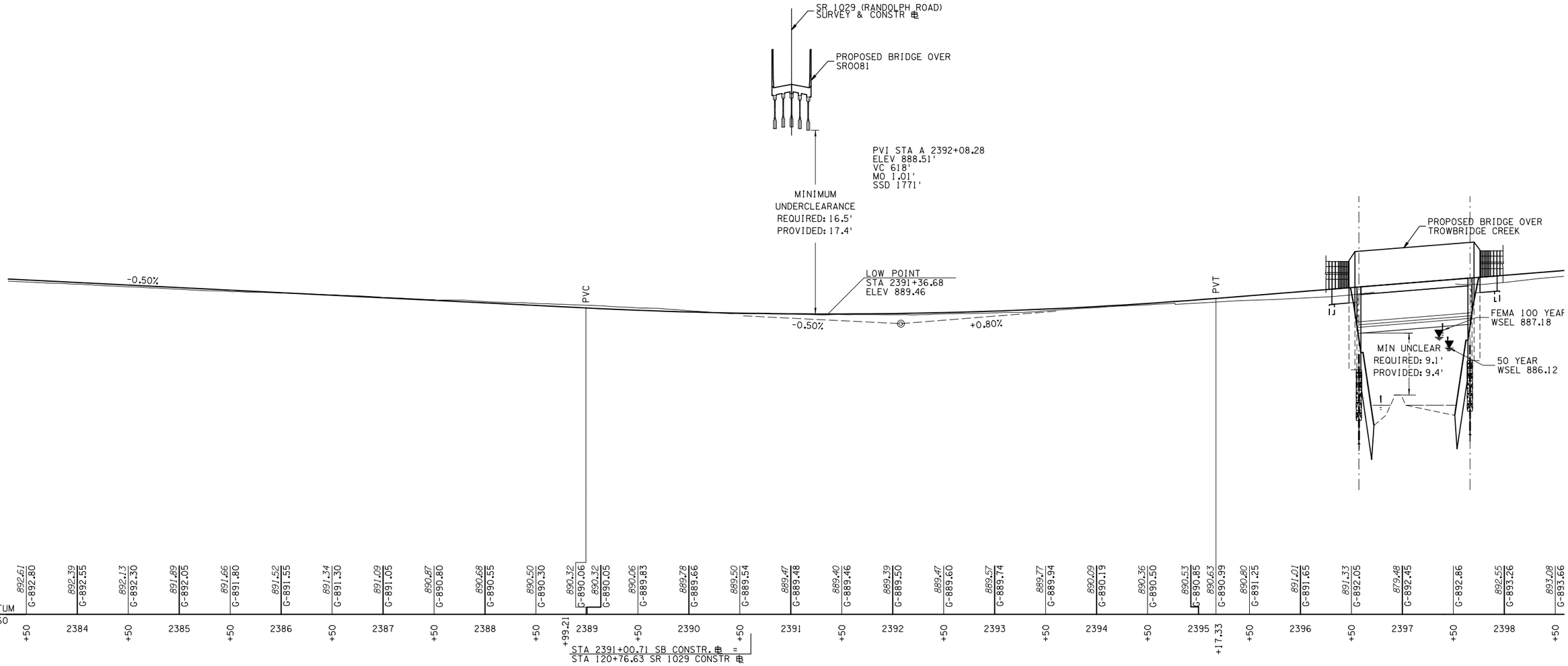
SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 125

P:\2019\255801\DGN\DWGS\TRANSPLAN SHEETS\Construction\782284_255800.dgn
11/18/2021 A1 9:39:02 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	196 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

SEE SHEET 195



SEE SHEET 197

SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 126

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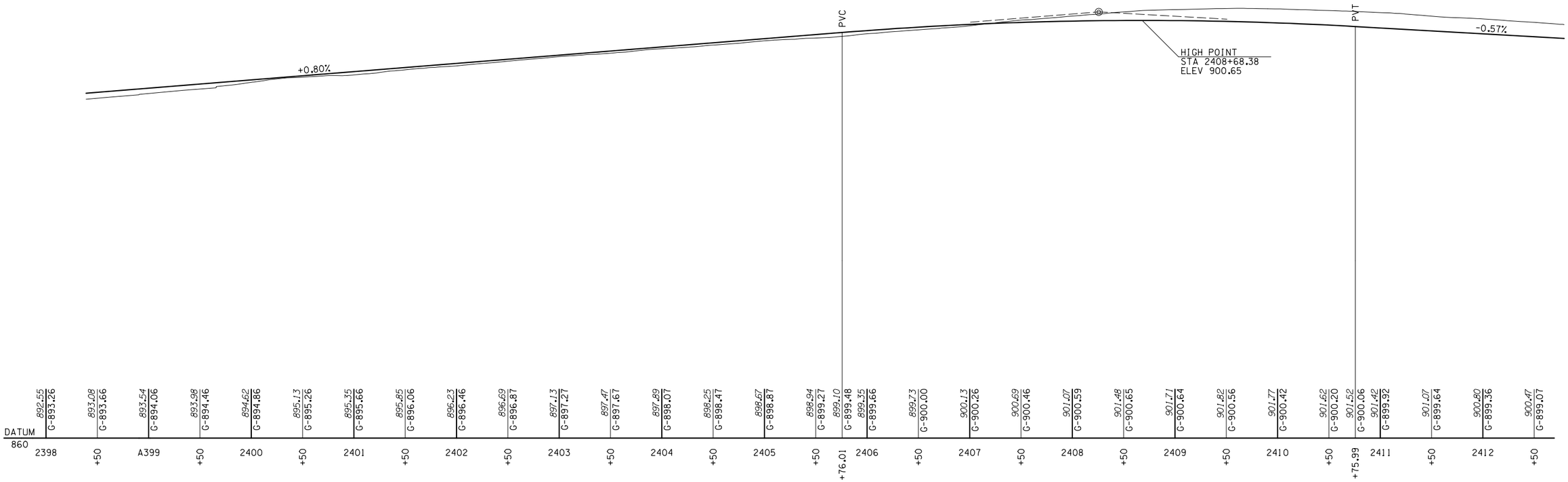
11/18/2021 9:45:03 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	197 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

SEE SHEET 196

SEE SHEET 198

PVI STA A 2408+26.00
ELEV 901.49
VC 500'
MO -0.86'
SSD 1038'



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 127

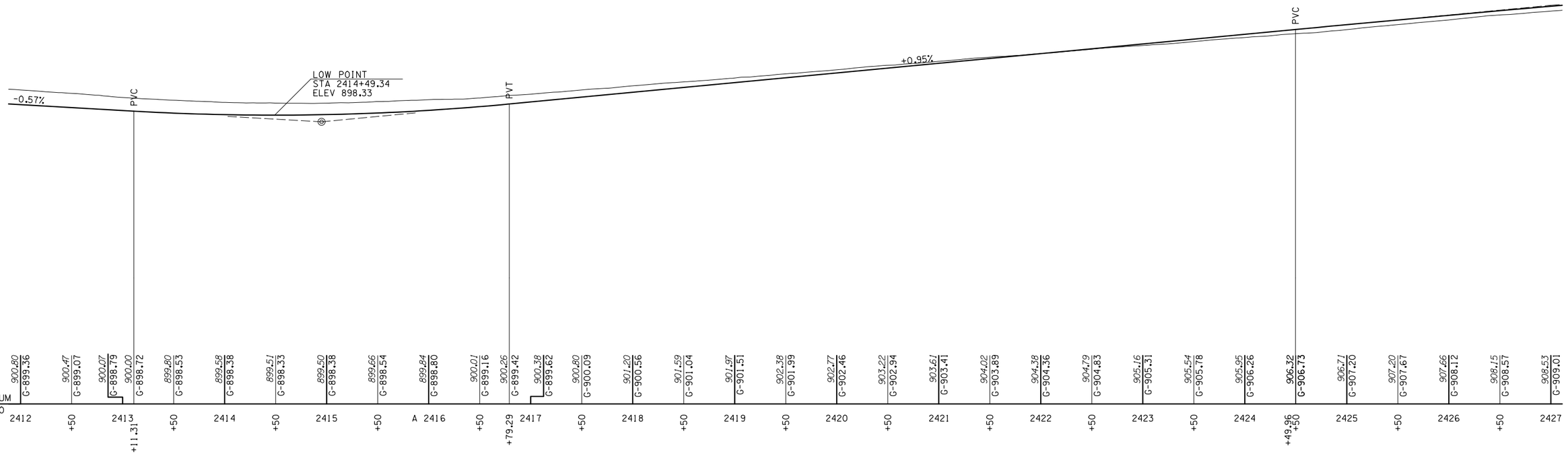
P:\2009\2558\DOL\DWGS\TRANS\PLAN SHEETS\Construction\T8230A_255800.dgn
11/18/2021 AT 9:39:03 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	198 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 197

PVI STA A 2414+95.30
ELEV 897.67
VC 368'
MO 0.65'
SSD 1074'



SR 0081 SOUTHBOUND

SEE SHEET 199

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 128

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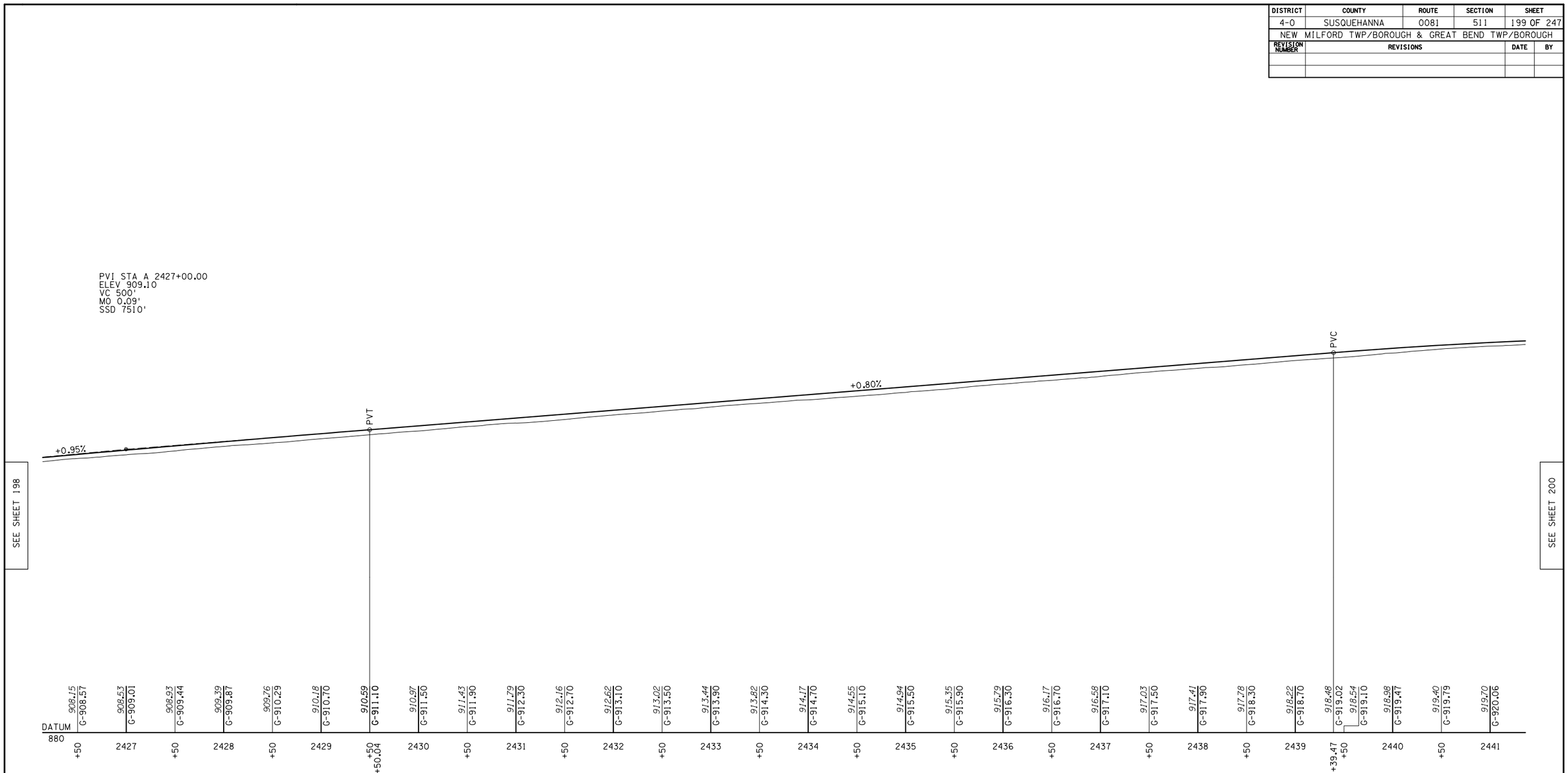
11/18/2021 AT 9:39:10 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	199 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

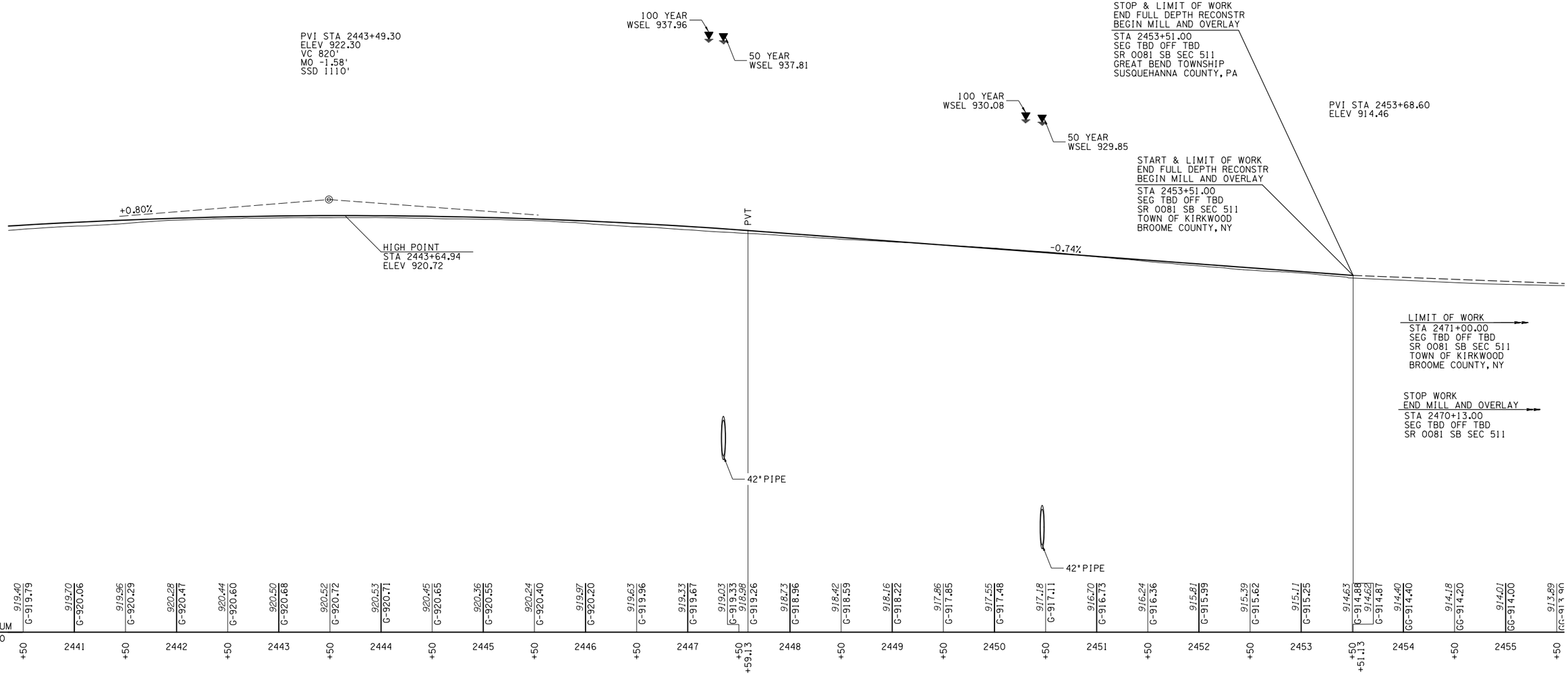
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 129

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8232A_255800.dgn
11/18/2021 AT 9:59:10 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	200 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 199

SR 0081 SOUTHBOUND

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 130

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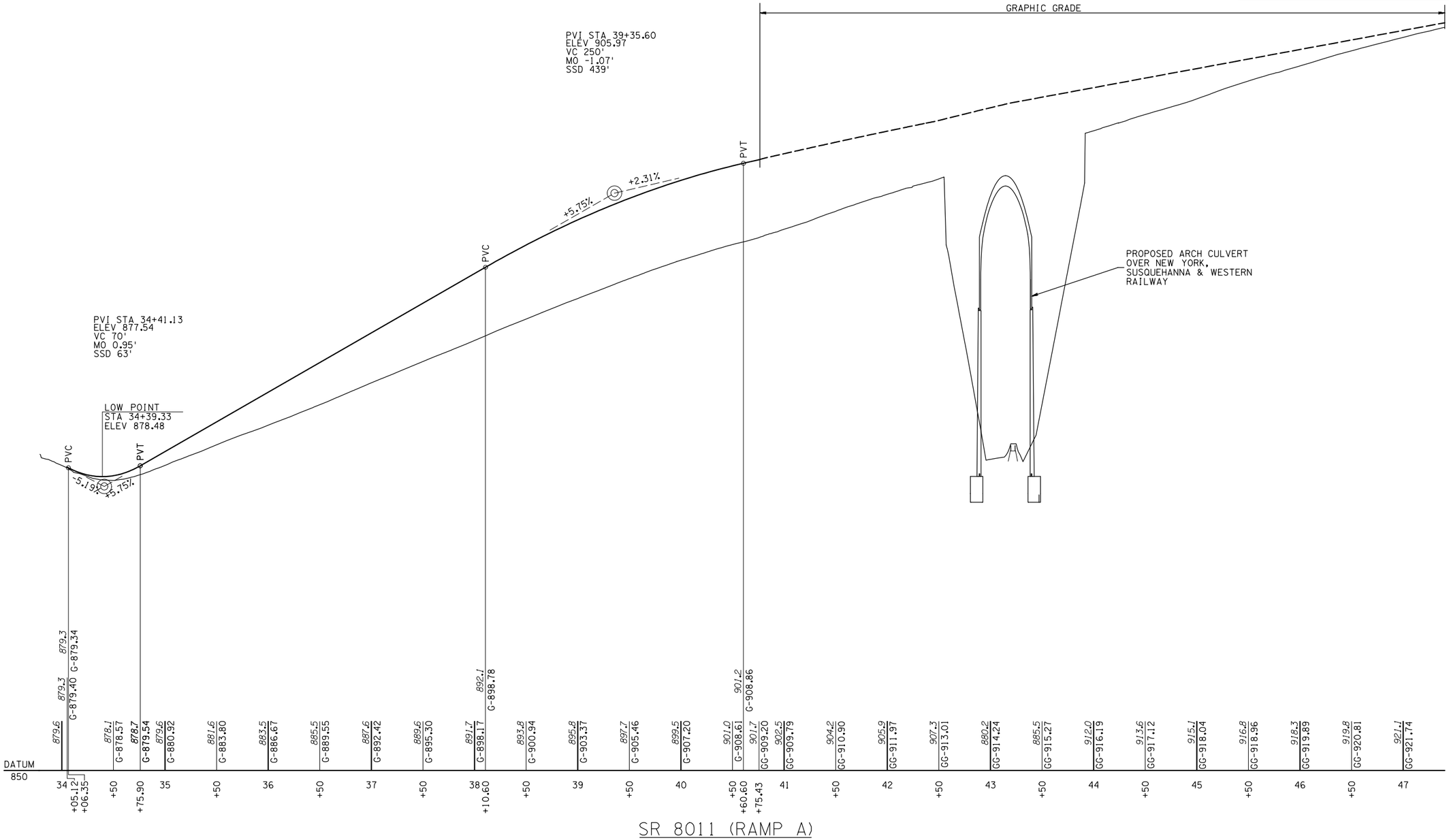
11/18/2021 AT 9:59:11 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	201 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 8011 (RAMP A)

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

SEE SHEET 140

FOR PLAN, SEE SHEET 122

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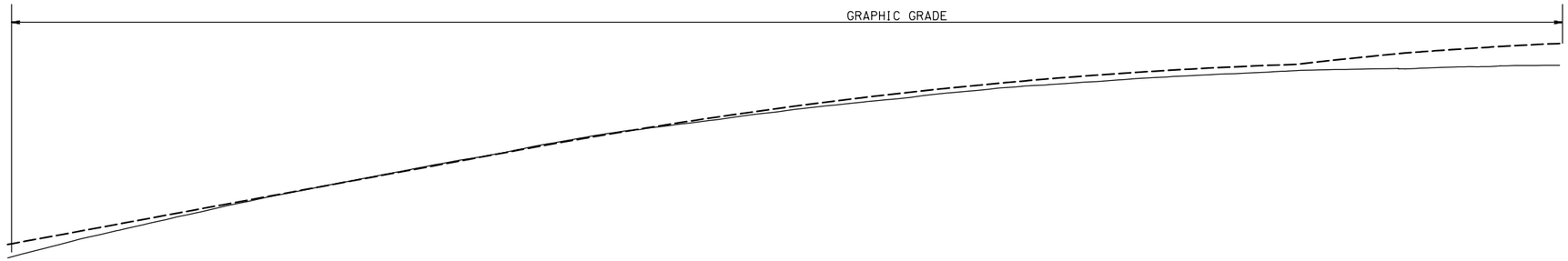
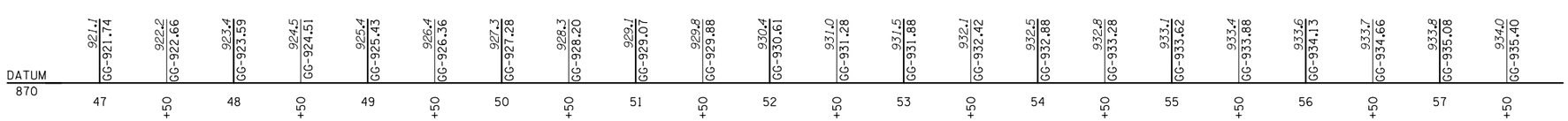
11/18/2021 9:59:11 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	202 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 139



SR 8011 (RAMP A)

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

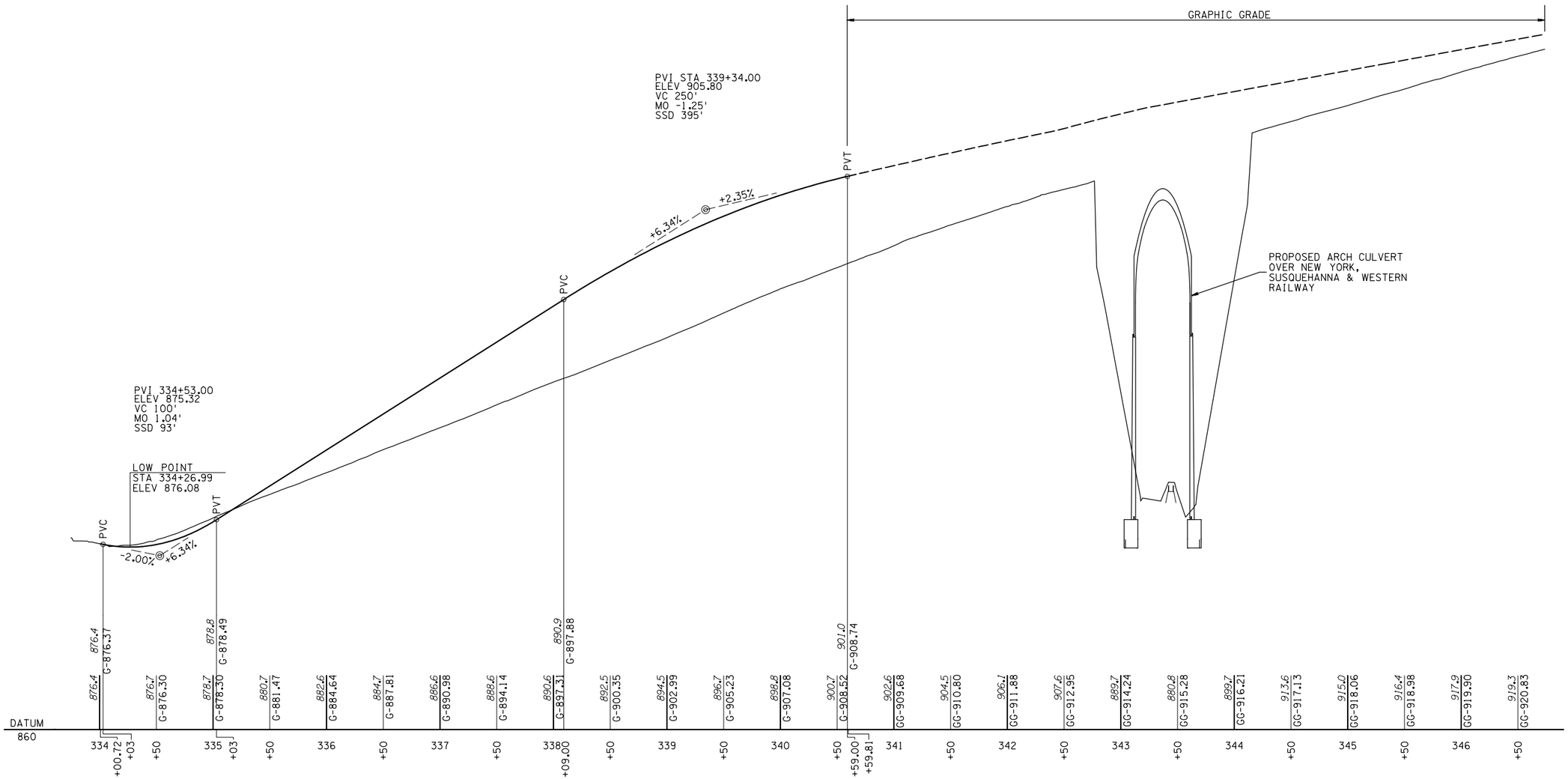
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 122

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8311A_255800.dgn
11/18/2021 AT 9:59:12 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	203 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 8011 (RAMP B)

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

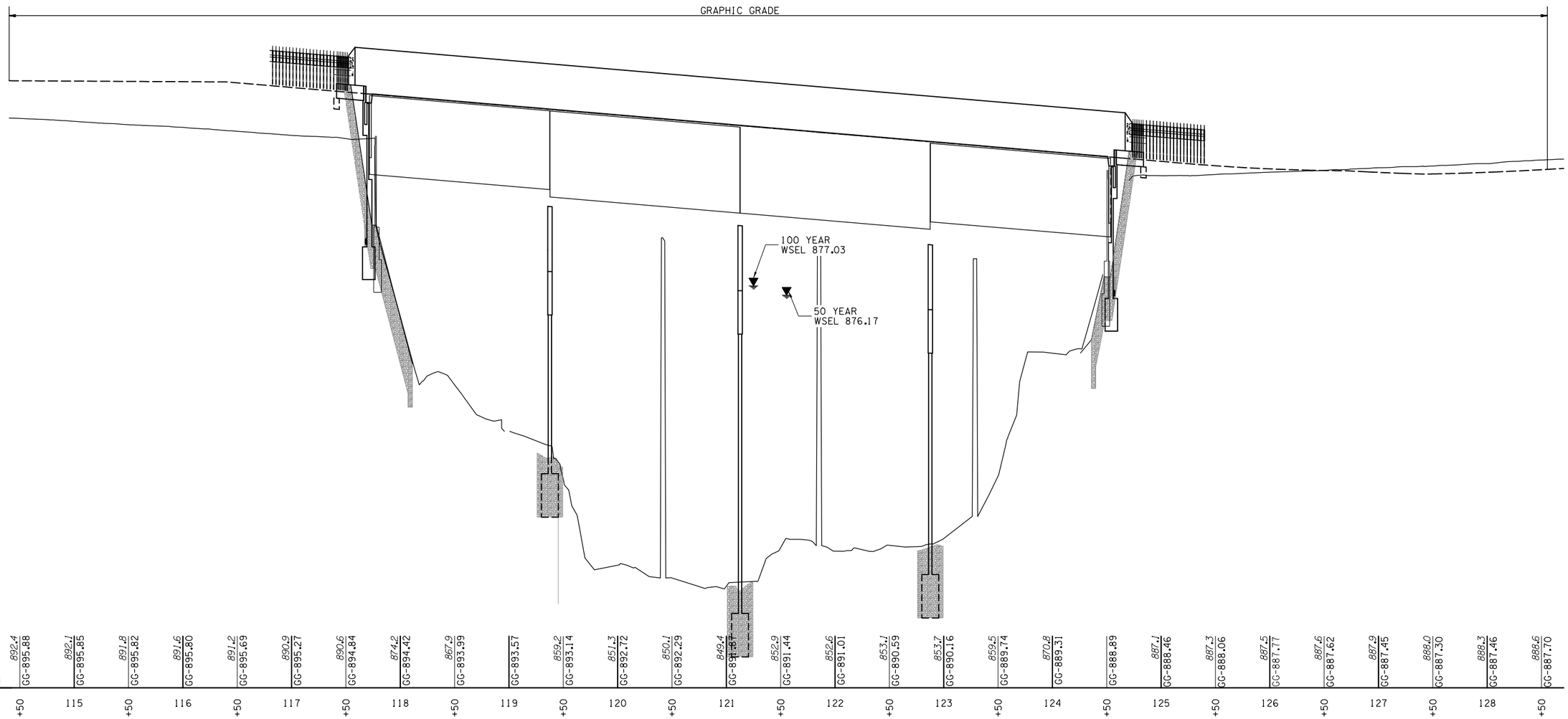
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 122

P:\2020\255851\DWGS\TRANS\PLAN SHEETS\Construction\T8320A_255800.dgn
11/18/2021 AT 9:39:12 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	204 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 8011 (RAMP C)

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

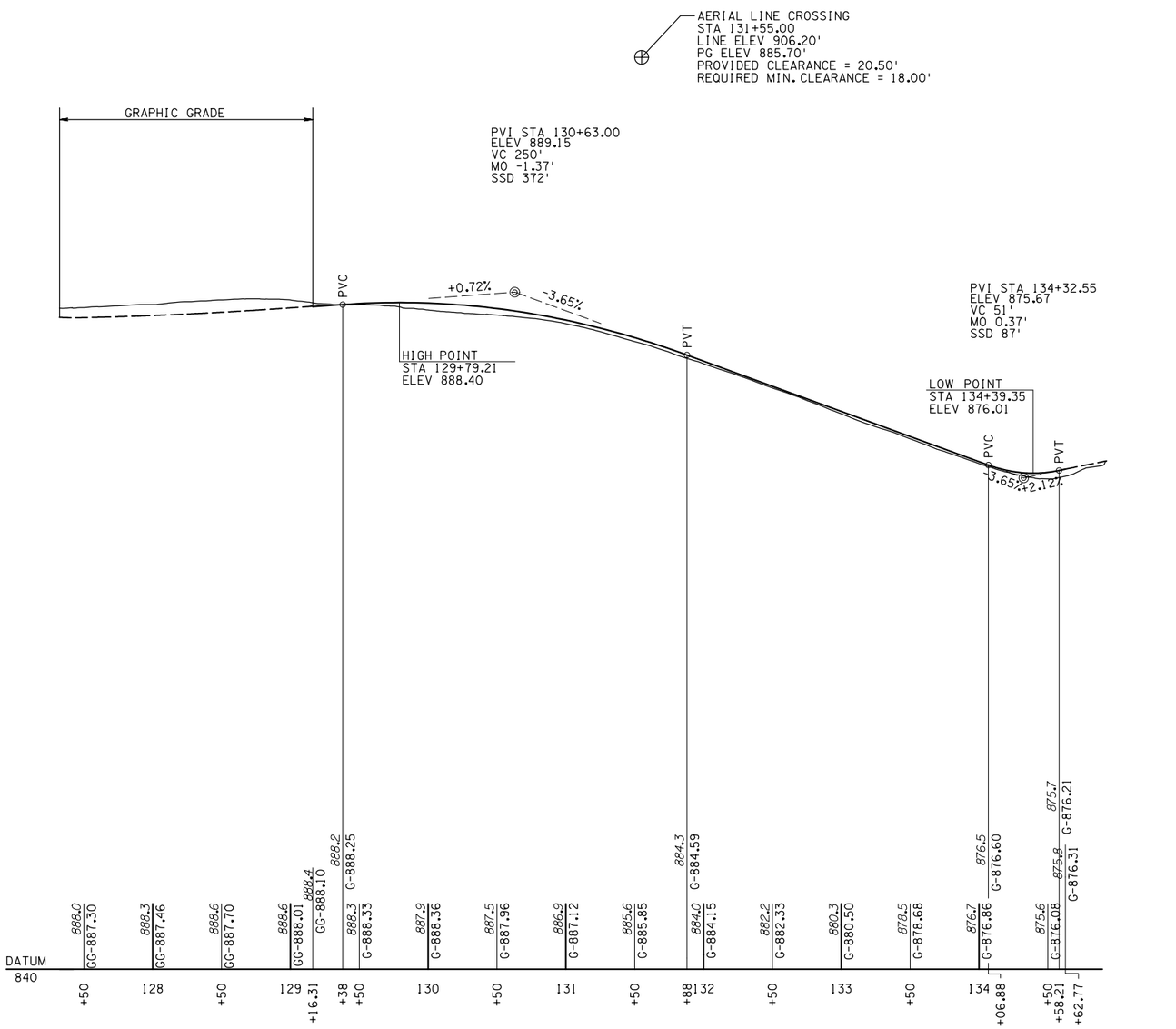
SEE SHEET 143

FOR PLAN, SEE SHEET 121

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8330A_255800.dgn
11/18/2021 AT 9:59:13 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	205 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 8011 (RAMP C)

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

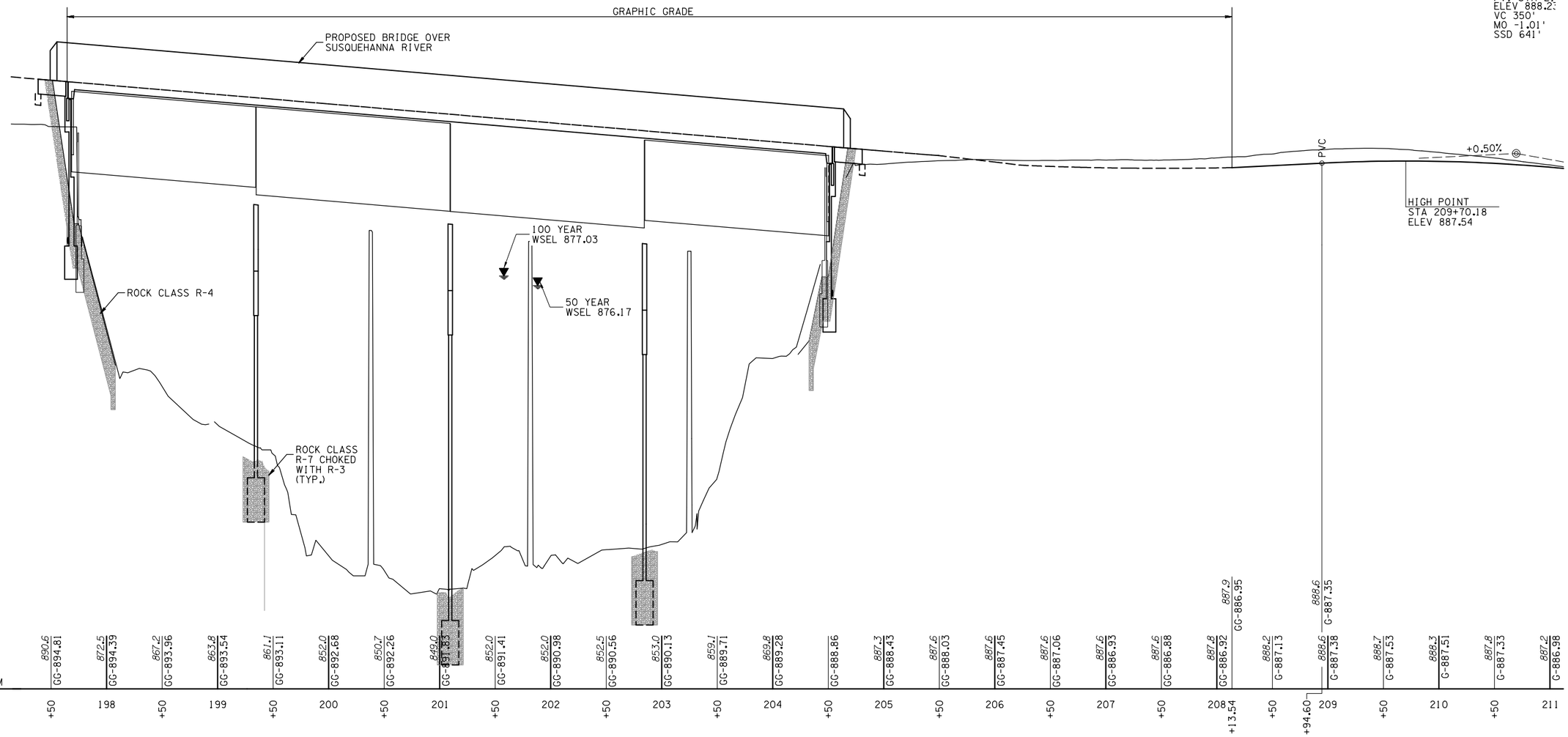
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

SEE SHEET 142

FOR PLAN, SEE SHEET 122

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8331A_255800.dgn
11/18/2021 AT 9:59:14 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	206 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY



SR 8011 (RAMP D)

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

SEE SHEET 145

FOR PLAN, SEE SHEET 121

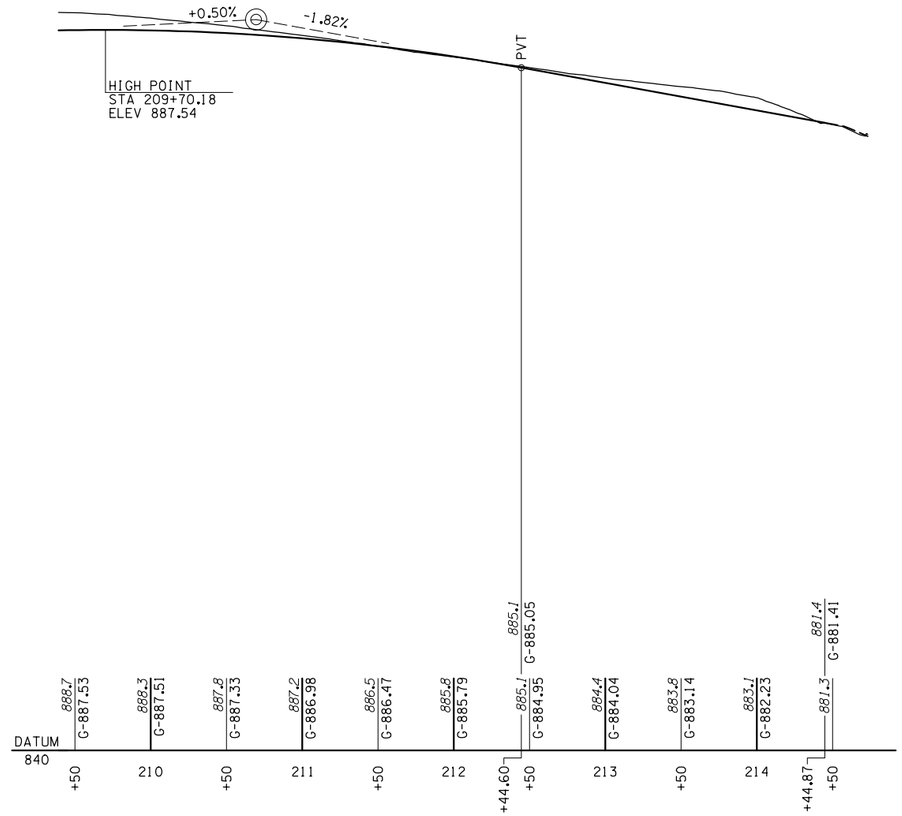
P:\2020\255851\DGN\DWGS\TRANS\PLAN SHEETS\Construction\T8340A_255800.dgn
11/18/2021 11:45:14 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	207 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 144

PVI STA 210+69.60
ELEV 888.23
VC 350'
MO -1.01'
SSD 641'



SR 8011 (RAMP D)

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 122

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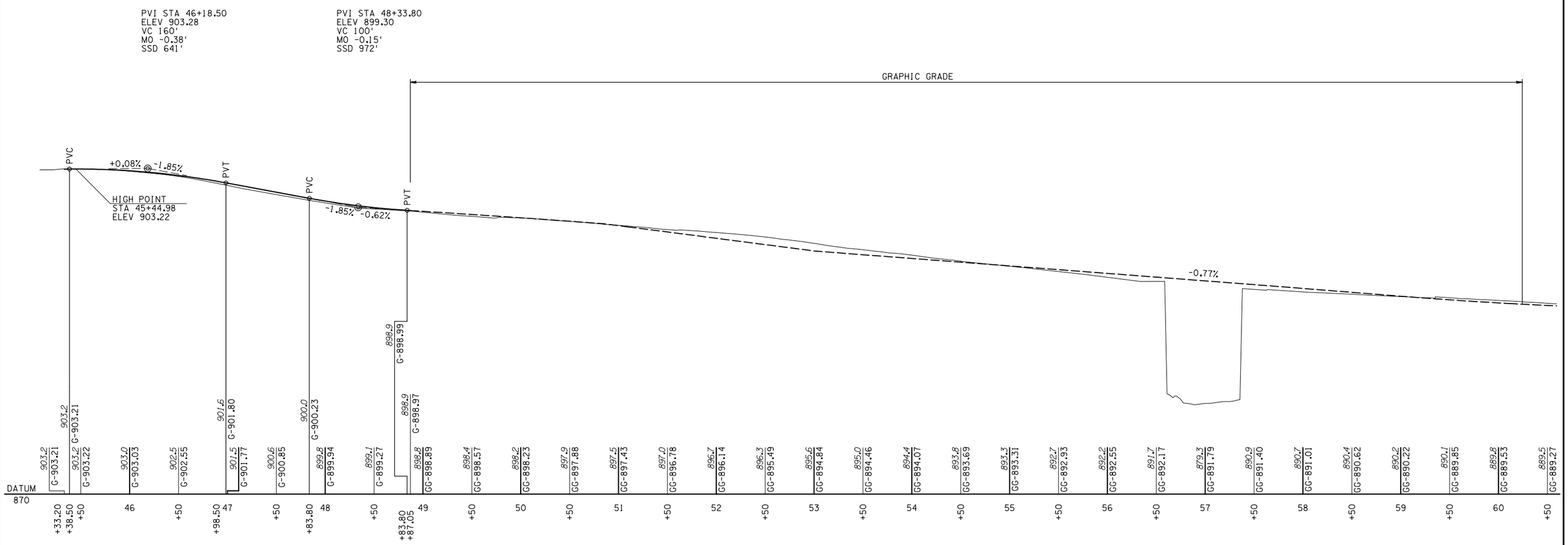
11/18/2021 AT 9:39:15 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	208 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 9203 - WELCOME CENTER (RAMP B)

SCALE

HORIZONTAL 0 50 100 FEET

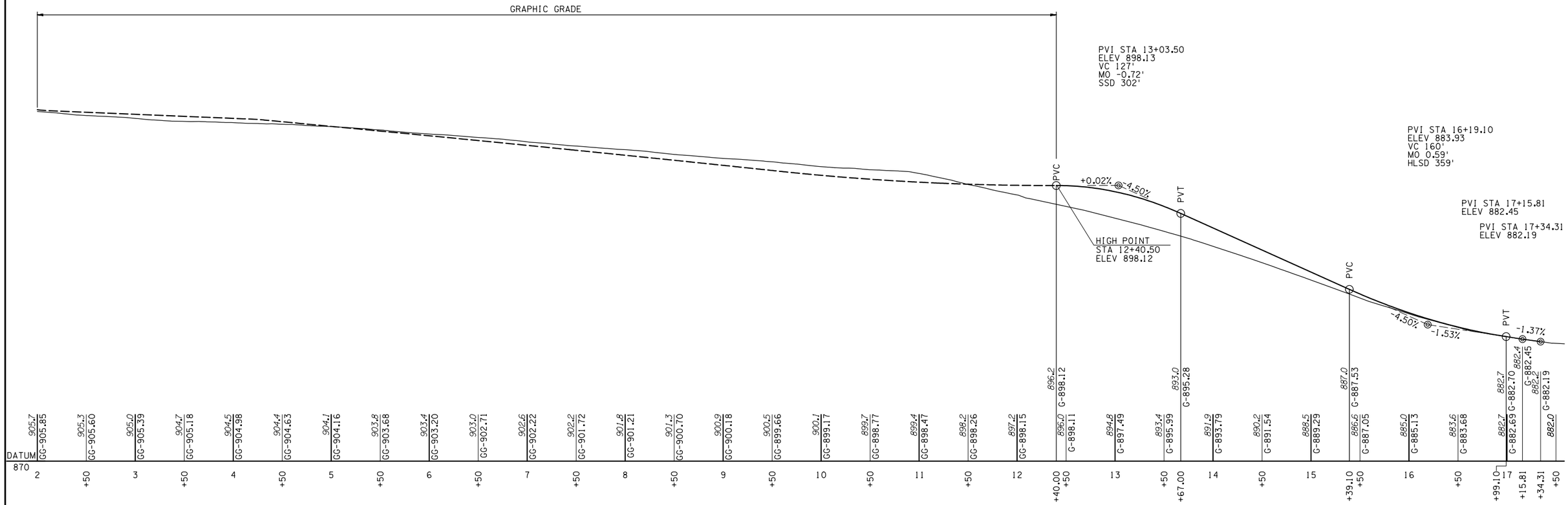
VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 127

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8410A.255800.dgn
11/18/2021 AT 9:59:16 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	209 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY



SR 9203 - WELCOME CENTER (RAMP A)

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

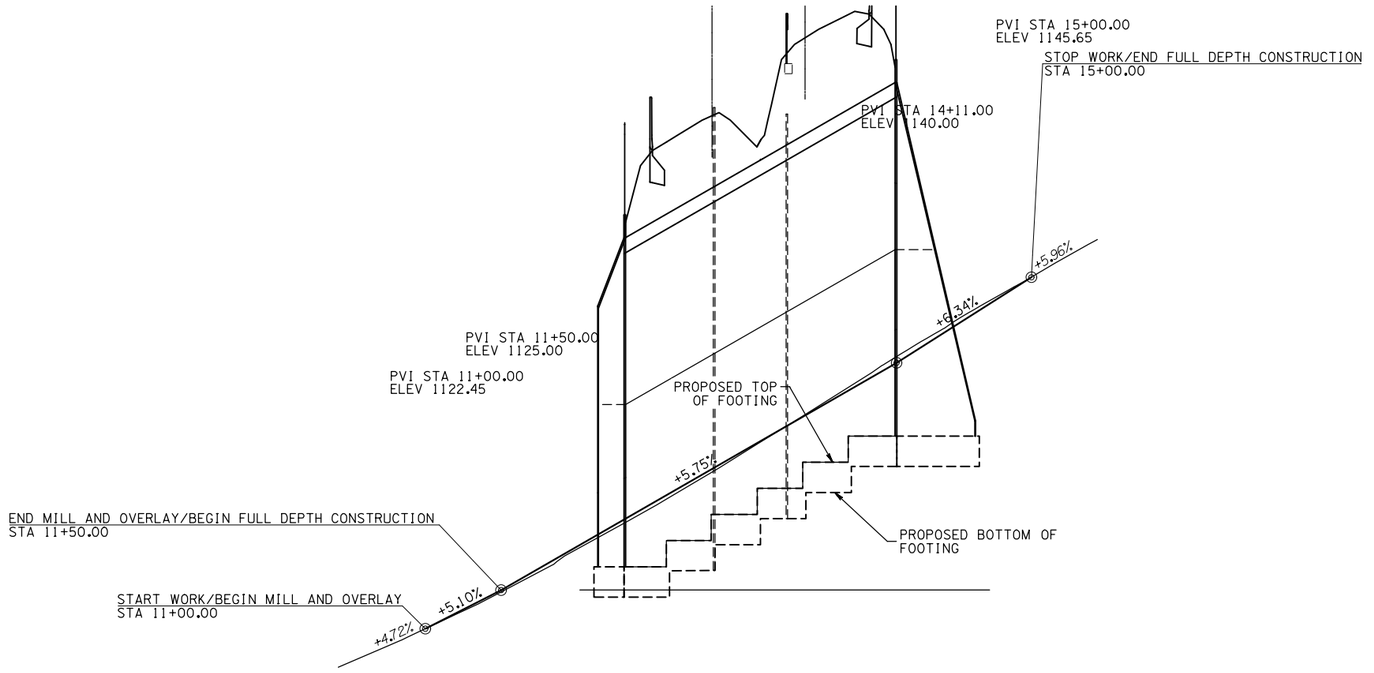
SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

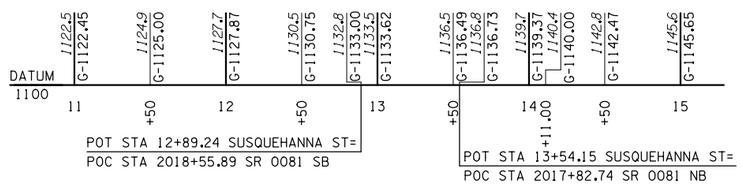
FOR PLAN, SEE SHEET 128

P:\2020\255R\GOUDWGS\TRANS\PLAN SHEETS\Construction\T8420A_255800.dgn
11/18/2021 4:49:39 PM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	210 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY





SUSQUEHANNA STREET

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

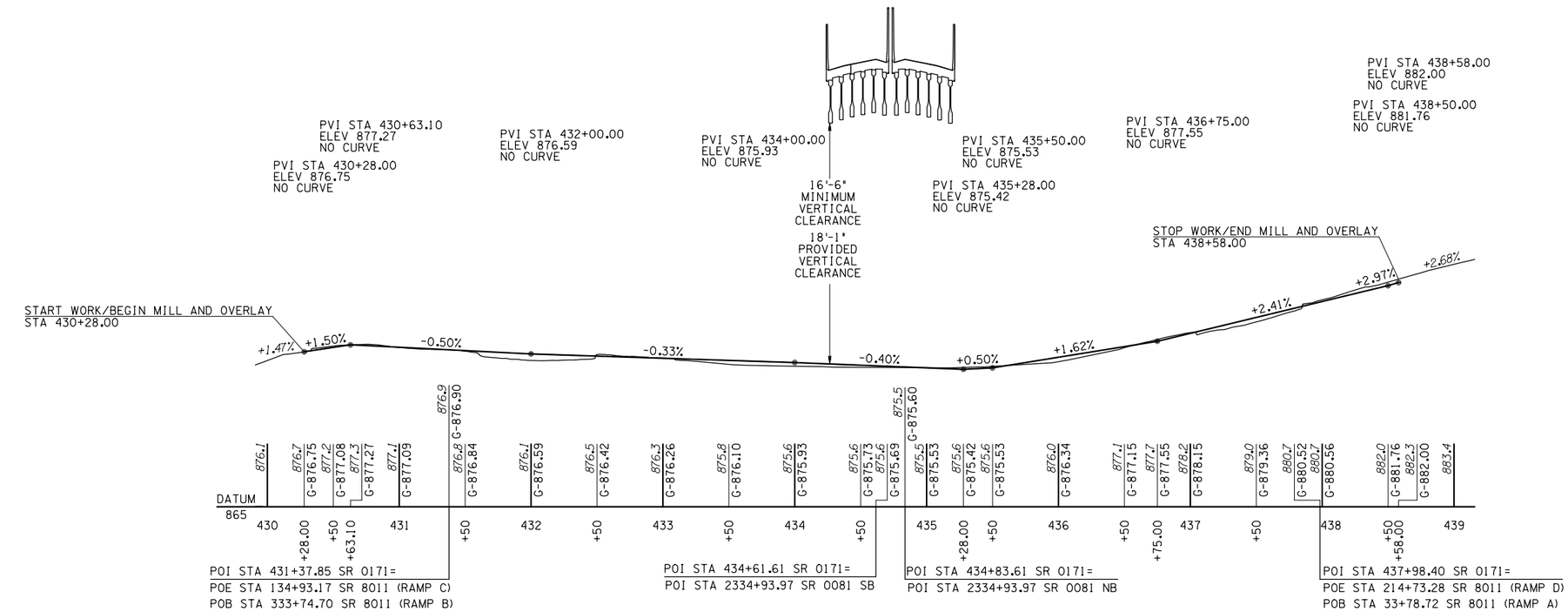
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 101

P:\2020\25581\DGN\DWGS\TRANS\PLAN SHEETS\Construction\T8500A_255800.dgn
11/18/2021 11:45:17 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	211 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



SR 0171

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

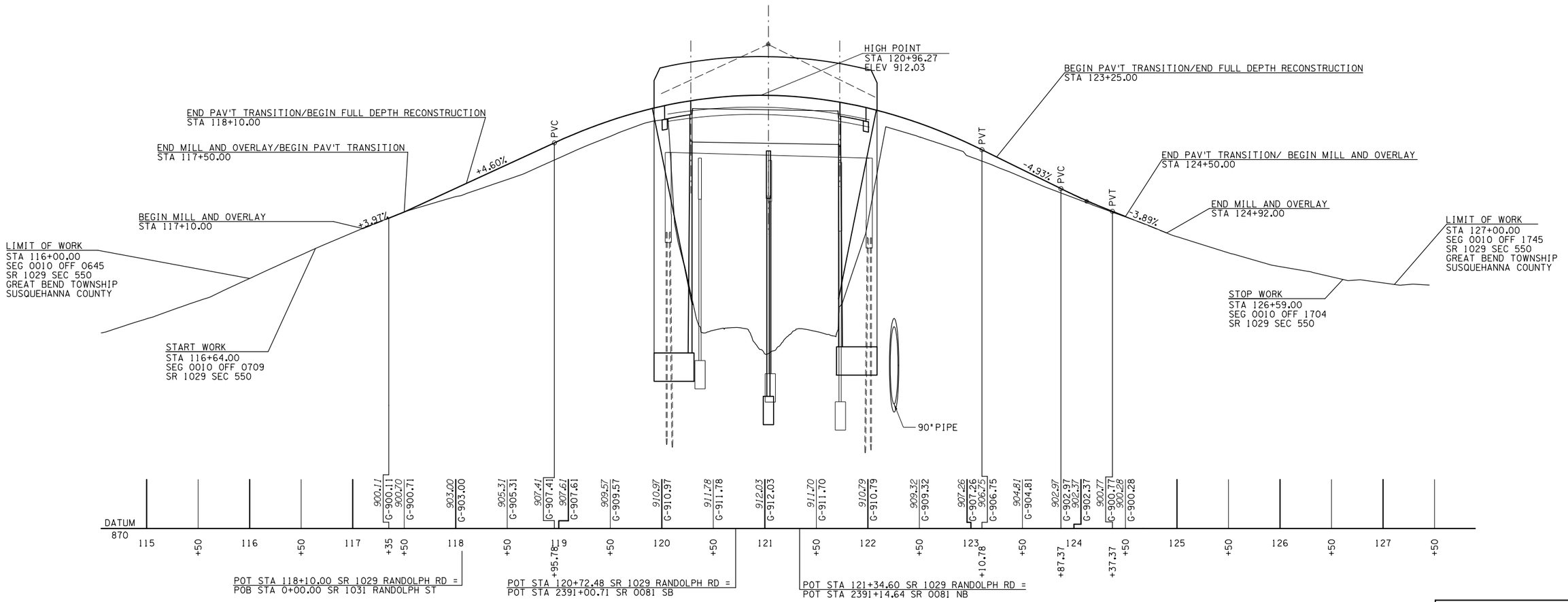
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 122

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8600A_255800.dgn
11/18/2021 AT 9:59:17 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	212 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				
REVISION NUMBER	REVISIONS		DATE	BY

PVI STA 121+03.28
916.97
VC 415'
MO -4.94'
SSD 307'



SR 1029 RANDOLPH ROAD

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

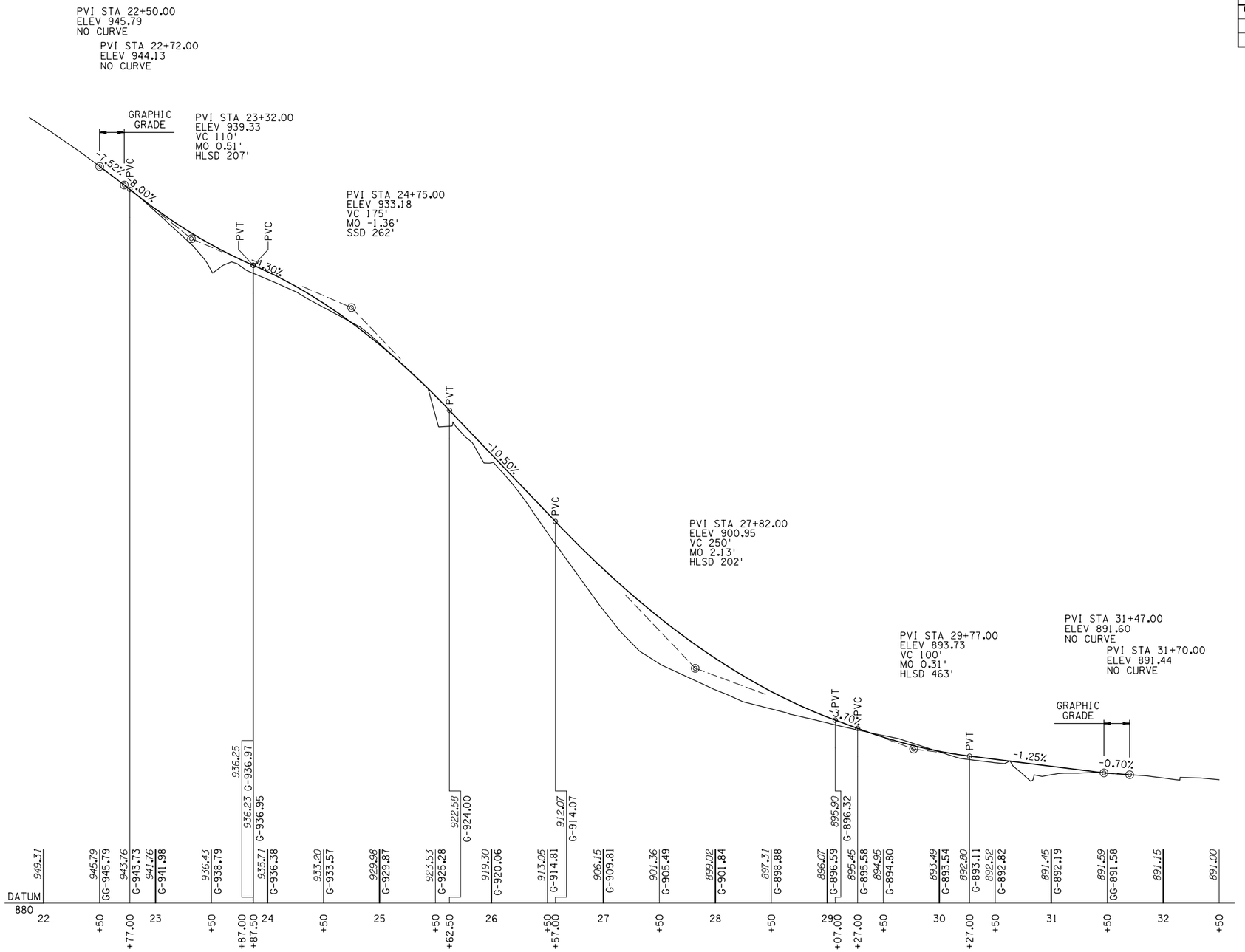
SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

FOR PLAN, SEE SHEET 126

P:\2020\255R\00\DWGS\TRANS\PLAN SHEETS\Construction\T8700A_255800.dgn
11/22/2021 AT 12:36:35 PM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	213 OF 247
NEW MILFORD TWP/BOROUGH & GREAT BEND TWP/BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY



T-841 (EMERSON ROAD)

SCALE

HORIZONTAL 0 50 100 FEET

VERTICAL 0 5 10 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401,
414, 415, 418, 430
PDOT-29904, 29905

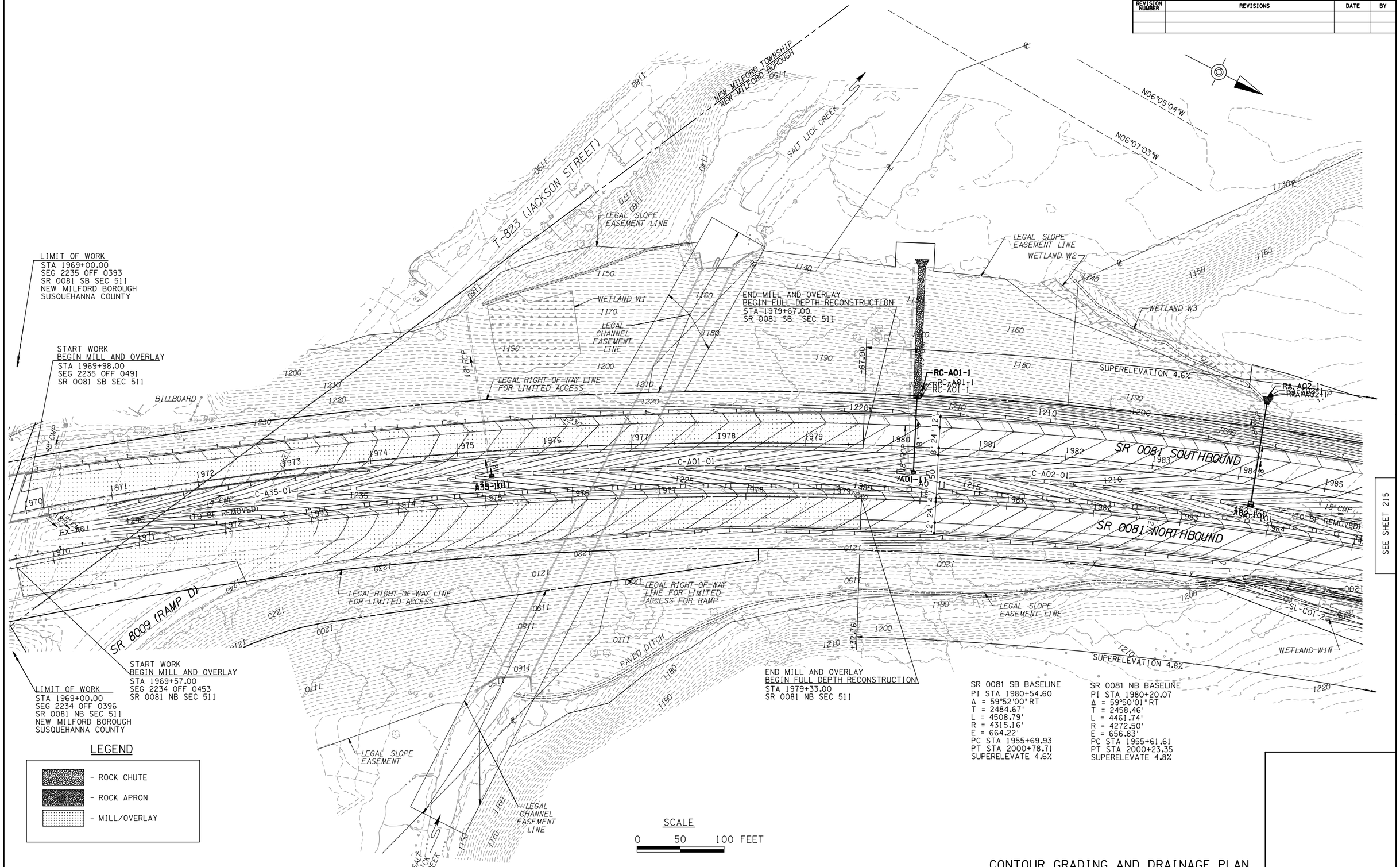
FOR PLAN, SEE SHEET 126

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\T8800A_255800.dgn
11/18/2021 AT 9:59:18 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	214 OF 247

NEW MILFORD BOROUGH & NEW MILFORD TOWNSHIP

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 215

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7001ACG_255800.dgn
11/18/2021 AT 9:59:32 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	215 OF 247
NEW MILFORD BOROUGH				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 214

SEE SHEET 216

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

SUPERELEVATION 4.6%

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

SUPERELEVATION 4.8%

LEGAL SLOPE EASEMENT LINE

WETLAND WIN

18" CMP (TO BE REMOVED)

SR 0081 NB BASELINE
PI STA 1980+20.07
Δ = 59°50'01" RT
T = 2458.46'
L = 4461.74'
R = 4272.50'
E = 656.83'
PC STA 1955+61.61
PT STA 2000+23.35
SUPERELEVATE 4.8%

SR 0081 SB BASELINE
PI STA 1980+54.60
Δ = 59°52'00" RT
T = 2484.67'
L = 4508.79'
R = 4315.16'
E = 664.22'
PC STA 1955+69.93
PT STA 2000+78.71
SUPERELEVATE 4.6%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T70024CG_255800.dgn
11/18/2021 AT 9:59:34 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	216 OF 247
	NEW MILFORD BOROUGH			

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 215

SEE SHEET 217

PI STA 1980+54.60
Δ = 59°52'00"RT
T = 2484.67'
L = 4508.79'
R = 4315.16'
E = 664.22'
PC STA 1955+69.93
PT STA 2000+78.71
SUPERELEVATE 4.6%

SR 0081 SB BASELINE
PI STA 2015+04.24
Δ = 26°15'00"LT
T = 678.52'
L = 1333.21'
R = 2910.00'
E = 78.06'
PC STA 2008+25.72
PT STA 2021+58.94
SUPERELEVATE 6.4%

SR 0081 NB BASELINE
PI STA 2014+41.00
Δ = 26°13'01"LT
T = 677.63'
L = 1331.53'
R = 2910.00'
E = 77.86'
PC STA 2007+63.37
PT STA 2020+94.90
SUPERELEVATE 6.4%

PI STA 1980+20.07
Δ = 59°50'01"RT
T = 2458.46'
L = 4461.74'
R = 4272.50'
E = 656.83'
PC STA 1955+61.61
PT STA 2000+23.35
SUPERELEVATE 4.8%

MITCHELL STREET

UNION STREET

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

SUPERELEVATION 4.6%

298.75'
SE TRANSITION

+06.72

+51.35

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

+23.72

194.15'
SE TRANSITION

+21.72

SUPERELEVATION 6.4%

LEGAL SLOPE EASEMENT LINE

SUPERELEVATION 4.8%

123.32'
SE TRANSITION

+77.35

LEGAL RIGHT-OF-WAY LINE
1220 FOR LIMITED ACCESS

+81.37

383.24'
SE TRANSITION

+59.37

SUPERELEVATION 6.4%

LEGAL SLOPE EASEMENT LINE

WETLAND W2N

C-A04-11 · A04-11P · C-A04-08 · A04-UH1 · C-A04-09 30" · C-A04-06 · A04-T06 · C-A04-04 30" · C-A04-02 30" · C-A04-24 · A04-T24 · C-A04-01 · C-A04-10 · A04-T10 · C-A04-07 · A04-T07 · C-A04-05 · A04-T05 · C-A04-03 · A04-T03 · A04-T09 · A04-T12 · A04-T04 · A04-T02

24" RCP · 30" RCP · 18" RCP · 8" RCP

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7003ACG_255800.dgn
11/18/2021 AT 9:59:35 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	217 OF 247
BOROUGH OF NEW MILFORD & NEW MILFORD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

HYDRAULIC DATA BOX CULVERT

	EXISTING	PROPOSED
DRAINAGE AREA	-	-
WATERWAY OPENING	SEE NOTE 1	SEE NOTE 2
50-YR. DESIGN FLOOD:		
MAGNITUDE	648 CFS	648 CFS
WATER SURFACE ELEVATION	1141.95'	1141.95'
VELOCITY	4.4 FPS	4.4 FPS
FEMA 100-YR. FLOOD:		
MAGNITUDE	822 CFS	822 CFS
WATER SURFACE ELEVATION	1143.06'	1143.06'
VELOCITY	4.6 FPS	4.6 FPS

NOTES:
1. 520 SF (NB) & 571 SF (SB)
2. 781 SF (NB) & 771 SF (SB)

PI STA 2015+04.24
Δ = 26°15'00"LT
T = 678.52'
L = 1333.21'
R = 2910.00'
E = 78.06'
PC STA 2008+25.72
PT STA 2021+58.94
SUPERELEVATE 6.4%

PI STA 11+08.08
Δ = 1°47'17"RT
T = 46.81'
L = 93.62'
R = 3000.00'
E = 0.37'
PC STA 10+61.27
PT STA 11+54.89
SUPERELEVATE NC

PI STA 2035+40.77
Δ = 23°24'23"RT
T = 795.45'
L = 1568.71'
R = 3840.00'
E = 81.52'
PC STA. 2027+45.32
PT STA. 2043+14.03
SUPERELEVATION: 5.2%

PI STA 2014+41.00
Δ = 26°13'01"LT
T = 677.63'
L = 1331.53'
R = 2910.00'
E = 77.86'
PC STA 2007+63.37
PT STA 2020+94.90
SUPERELEVATE 6.4%

PI STA 14+85.20
Δ = 18°03'44"LT
T = 76.03'
L = 150.80'
R = 478.34'
E = 6.00'
PC STA 14+09.17
PT STA 15+59.97
SUPERELEVATE 4.4%

PI STA 2034+93.22
Δ = 23°24'23"RT
T = 793.38'
L = 1564.63'
R = 3830.00'
E = 81.31'
PC STA. 2026+99.94
PT STA. 2042+64.47
SUPERELEVATION: 5.2%

MAPLE STREET
JAMES STREET
SUSQUEHANNA STREET
SMITH CREEK
RIP RAP
LEGAL RIGHT-OF-WAY LINE FOR BOROUGH STREET
LEGAL CHANNEL EASEMENT
LEGAL SLOPE EASEMENT LINE
TEMPORARY CONSTRUCTION EASEMENT
RIGHT-OF-WAY FENCE, TYPE 5
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
SUPERELEVATION 6.4%
DRIVEWAY
GARAGE
HOUSE
POOL
WETLAND W4

START WORK
BEGIN MILL AND OVERLAY
STA 11+00.00
SUSQUEHANNA ST

END MILL AND OVERLAY
BEGIN FULL DEPTH CONSTR
STA 11+50.00
SUSQUEHANNA ST

197.20'
SE TRANSITION

LOW POINT
ELEV 1151.56

326.27'
SE TRANSITION

135.98'
SE TRANSITION

383.24'
SE TRANSITION

LOW POINT
STA 2021+93.71
ELEV 1158.02

POT STA 12+88.57 SUSQUEHANNA ST =
POC STA 2018+55.89 SR 0081 SB =
POT STA 13+53.48 SUSQUEHANNA ST =
POC STA 2017+82.74 SR 0081 NB =

MOMENT SLAB WITH BARRIER (STRUCTURE ITEM) (TYP)

END FULL DEPTH SHOULDER
STA 14+50.00 LT/RT
SUSQUEHANNA ST

STOP WORK
END FULL DEPTH CONSTR
STA 15+00.00
SUSQUEHANNA ST

SR 0081 SOUTHBOUND
SR 0081 NORTHBOUND
SR 0081 SB CONSTR. & SURVEY
SR 0081 NB CONSTR. & SURVEY
SUSQUEHANNA ST SURVEY & CONSTR

NEW MILFORD BOROUGH
NEW MILFORD TOWNSHIP

SEE SHEET 216
SEE SHEET 218

LEGEND
- ROCK CHUTE
- ROCK APRON
- MILL/OVERLAY

SCALE
0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

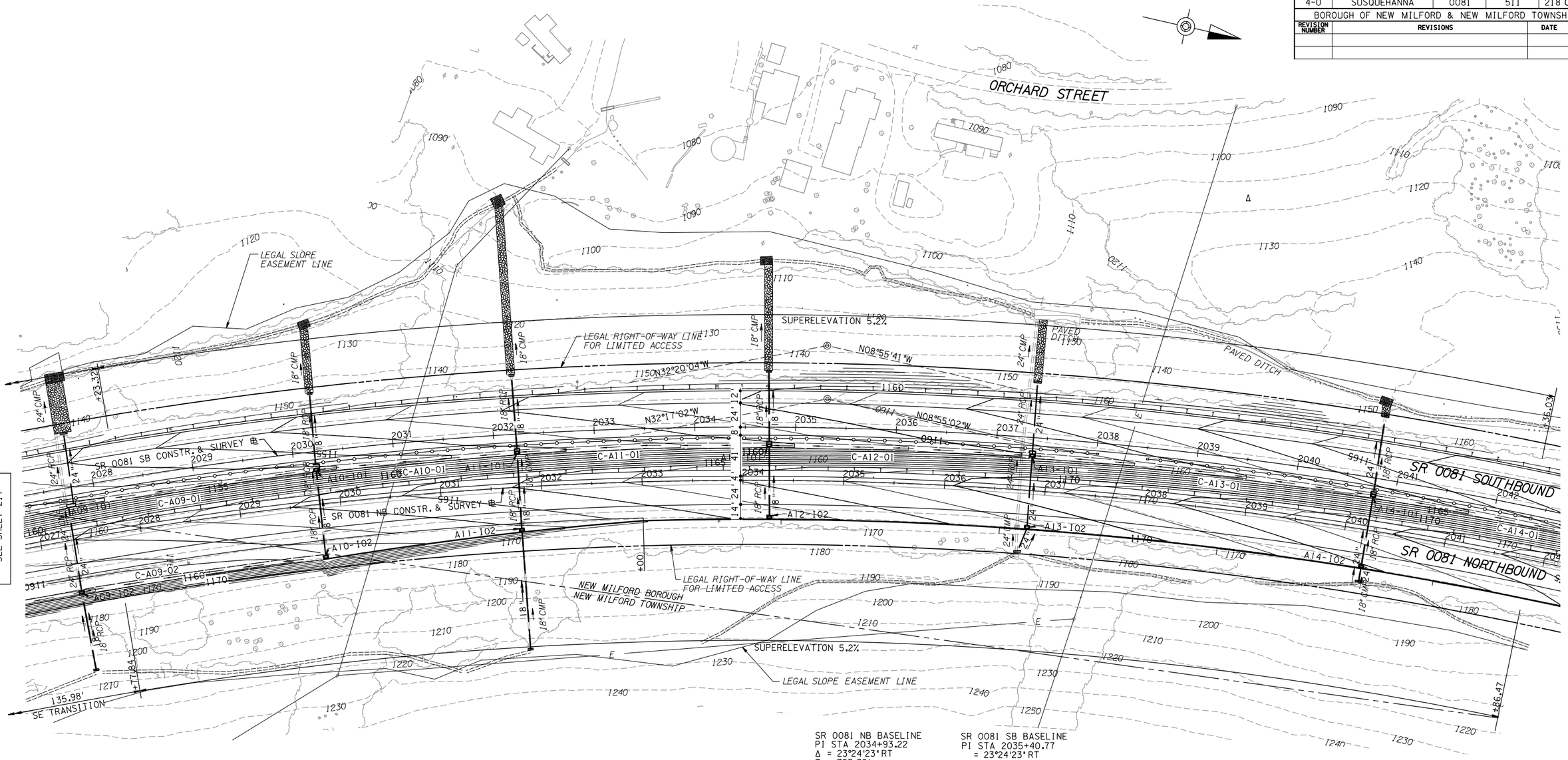
P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T70044CG_255800.dgn
11/18/2021 AT 9:59:38 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	218 OF 247
BOROUGH OF NEW MILFORD & NEW MILFORD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 217

SEE SHEET 219



SR 0081 NB BASELINE
PI STA 2034+93.22
Δ = 23°24'23"RT
T = 793.38'
L = 1564.63'
R = 3830.00'
E = 81.31'
PC STA. 2026+99.94
PT STA. 2042+64.57
SUPERELEVATION: 5.2%

SR 0081 SB BASELINE
PI STA 2035+40.77
= 23°24'23"RT
T = 795.45'
L = 1568.71'
R = 3840.00'
E = 81.52'
PC STA. 2027+45.32
PT STA. 2043+14.03
SUPERELEVATION: 5.2%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7005AGG_255800.dgn
11/18/2021 AT 9:59:39 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511 R/W	219 OF 247
BOROUGH OF NEW MILFORD & NEW MILFORD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 218

SEE SHEET 220

NEW MILFORD BOROUGH
NEW MILFORD TOWNSHIP

326.27'
SE TRANSITION

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

HIGH POINT
STA 2047+16.75
ELEV 1168.38

LEGAL SLOPE EASEMENT LINE

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

C-A14-01 | C-A15-01 | C-A16-01 | C-A17-01 | C-A18-01
C-A15-03 | C-A16-03LT | C-A16-03RT | C-A17-03 | C-A18-03
A15-I01 | A16-I01 | A17-I01 | A18-I01
A15-I02 | A16-I02 | A17-I02 | A18-I02
A16-I03 | A17-I03 | A18-I03

N08°55'41"W

HIGH POINT
STA 2046+09.67
ELEV 1177.41

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

SUPERELEVATION 5.2%
140.76'
SE TRANSITION

SR 0081 NB BASELINE
PI STA 2034+93.22
Δ = 23°24'23"RT
T = 793.38'
L = 1564.63'
R = 3830.00'
E = 81.31'
PC STA 2026+99.84
PT STA 2042+64.47
SUPERELEVATE 5.2%

SR 0081 SB BASELINE
PI STA 2035+40.77
Δ = 23°24'23"RT
T = 795.45'
L = 1568.71'
R = 3840.00'
E = 81.52'
PC STA 2027+45.32
PT STA 2043+14.03
SUPERELEVATE 5.2%

LEGEND

- ROCK CHUTE
- ROCK APRON

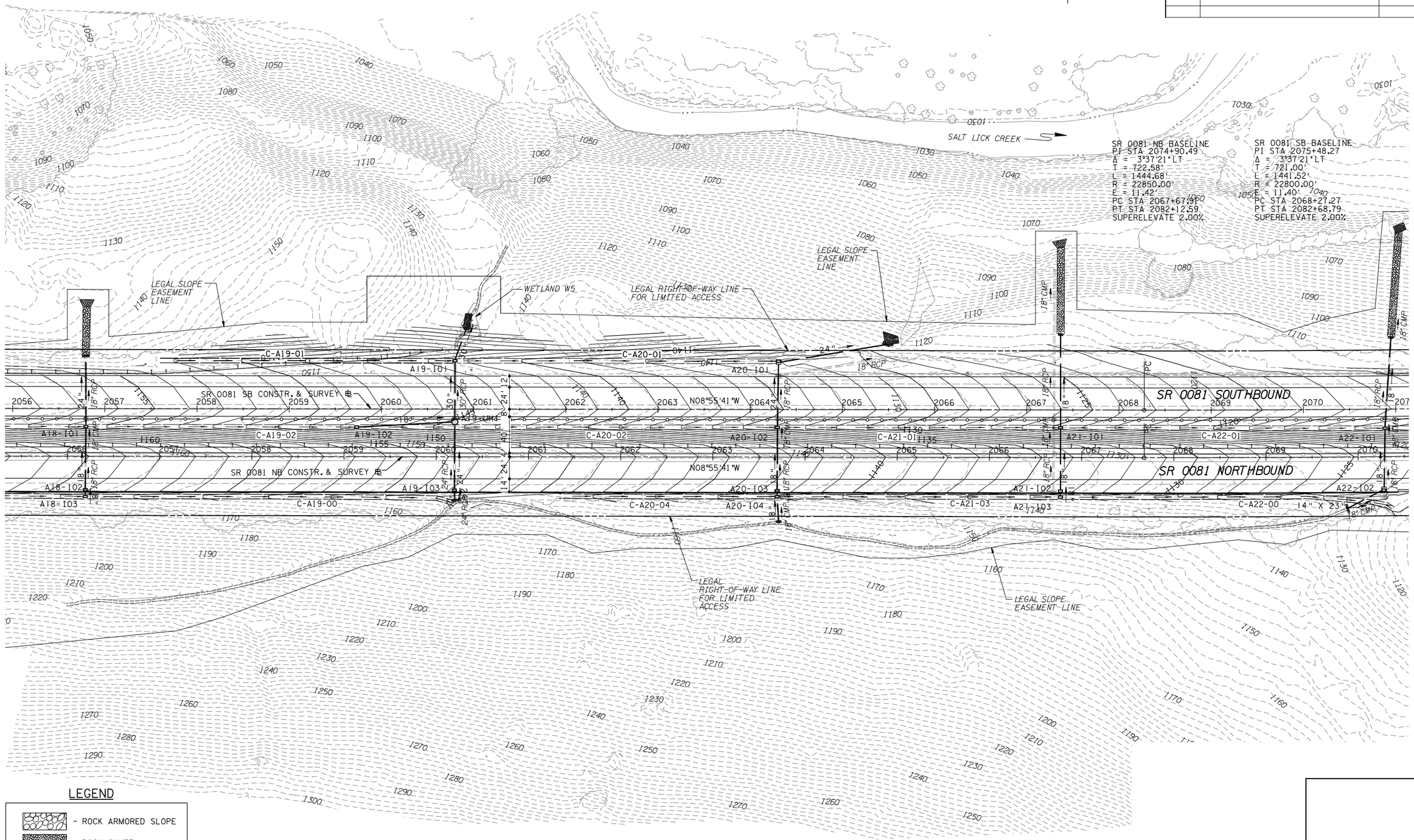
SCALE
0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7006ACG_255800.dgn
11/18/2021 AT 9:59:41 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	220 OF 247
NEW MILFORD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 219

SEE SHEET 221

LEGEND

- ROCK ARMORED SLOPE
- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

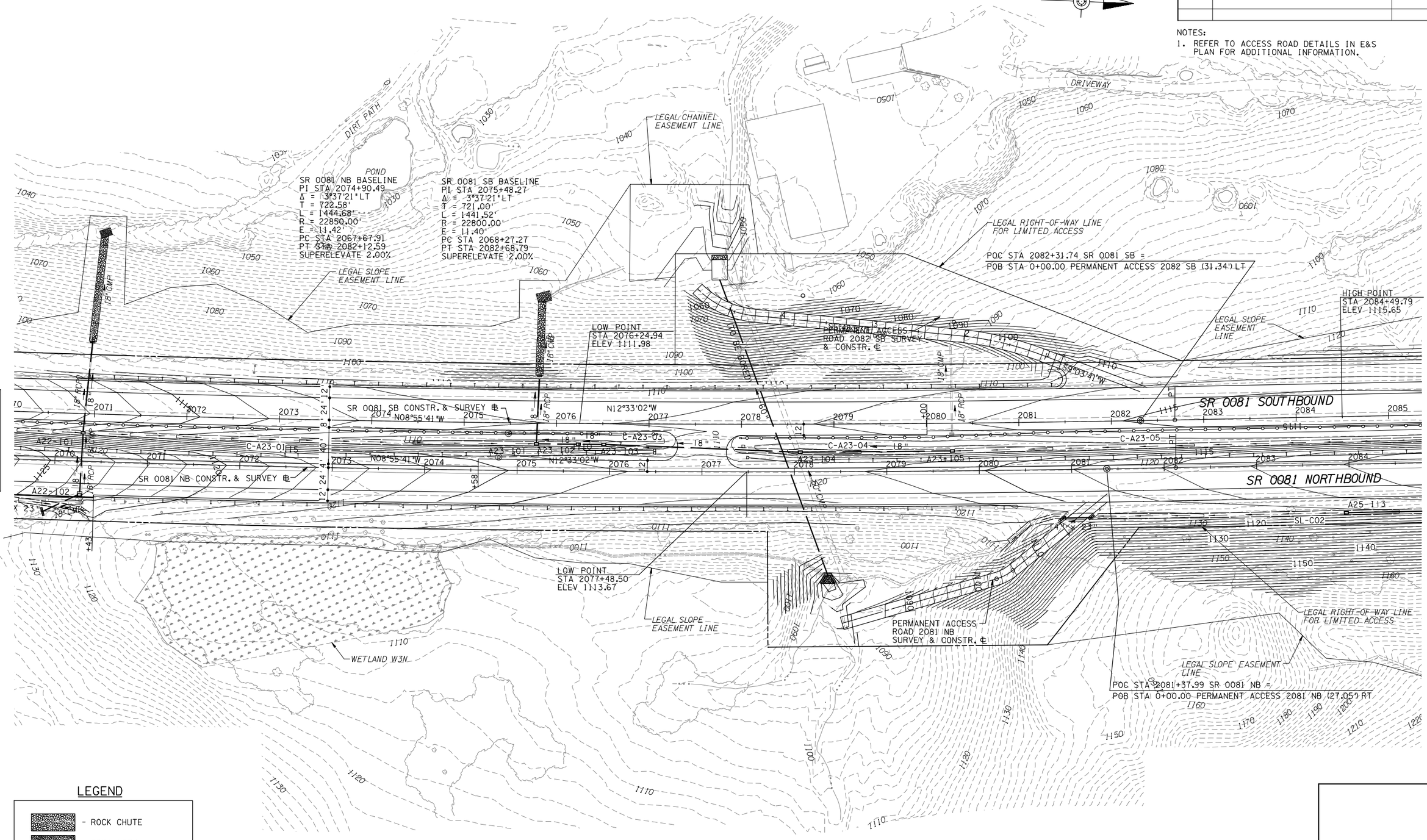
CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7007ACG_255800.dgn
11/18/2021 AT 9:59:42 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	221 OF 247
	NEW MILFORD TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

NOTES:
1. REFER TO ACCESS ROAD DETAILS IN E&S PLAN FOR ADDITIONAL INFORMATION.



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

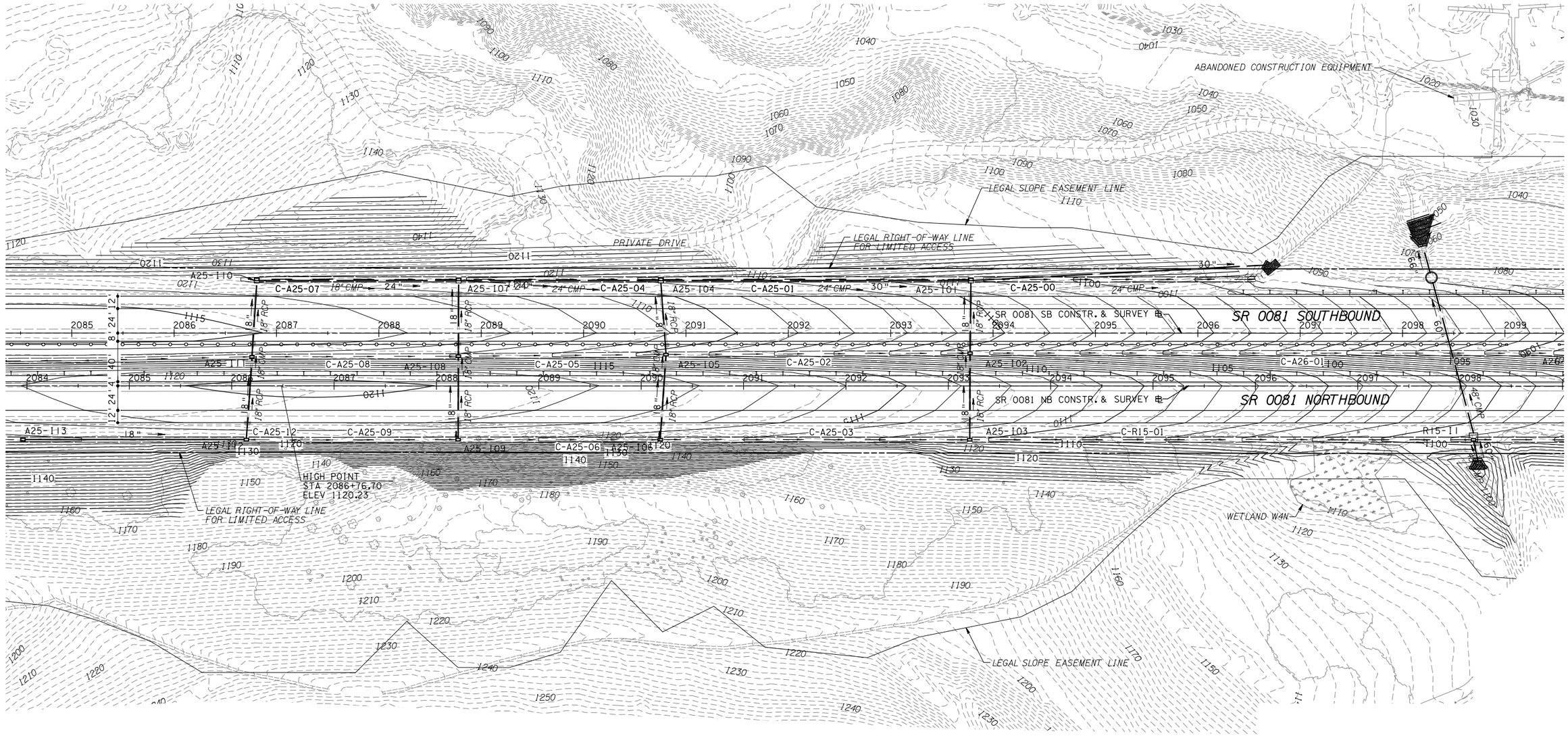
0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7008ACG_255800.dgn
11/18/2021 11:59:44 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	222 OF 247
	NEW MILFORD TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\17009AC0_255800.dgn
11/18/2021 AT 9:59:45 AM

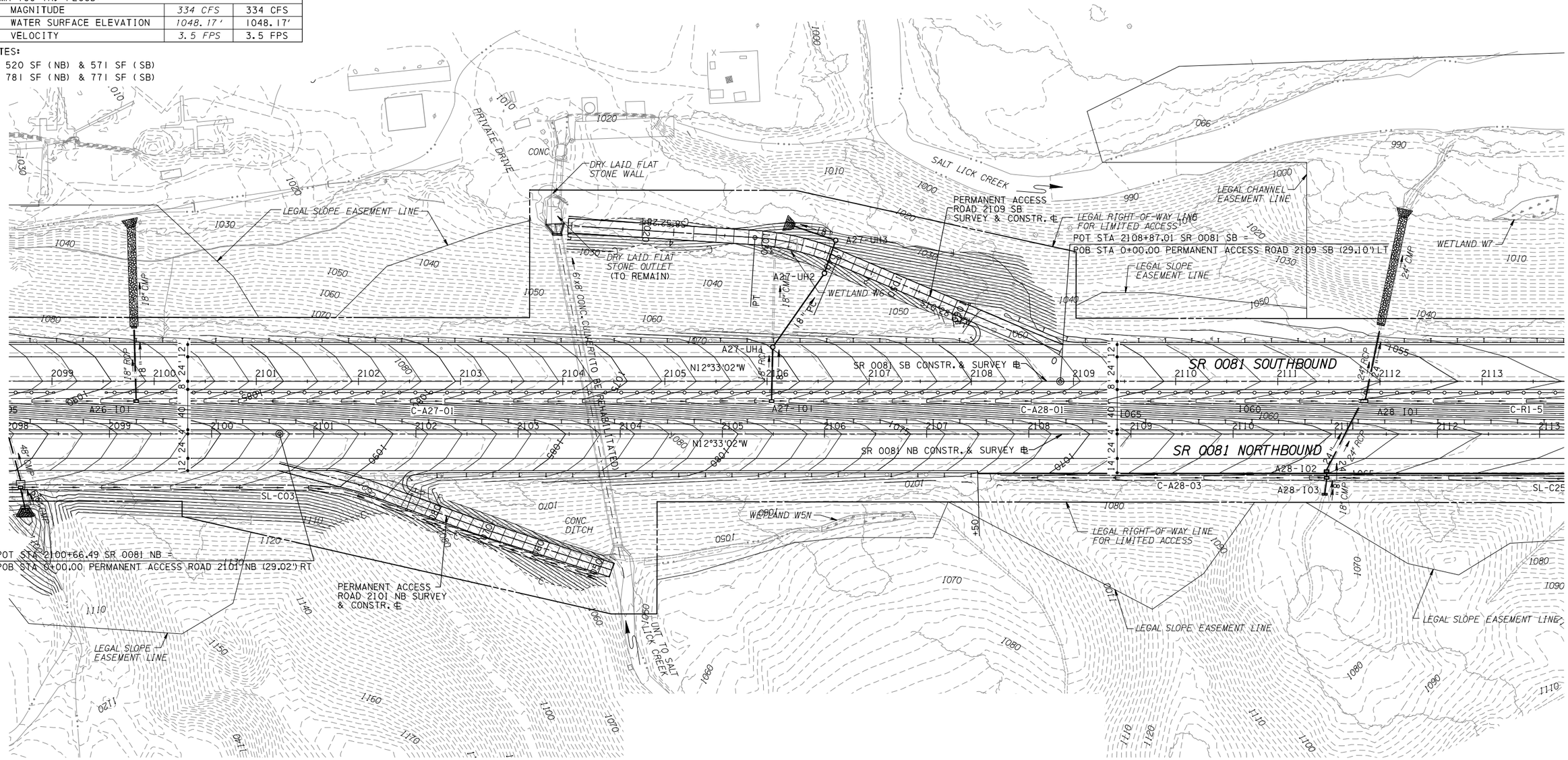
HYDRAULIC DATA BOX CULVERT		
	EXISTING	PROPOSED
DRAINAGE AREA	-	-
WATERWAY OPENING	*SEE NOTE 1*	SEE NOTE 2
50-YR. DESIGN FLOOD:		
MAGNITUDE	*270 CFS*	270 CFS
WATER SURFACE ELEVATION	*1047.15'*	1147.15'
VELOCITY	*4.2 FPS*	4.2 FPS
FEMA 100-YR. FLOOD:		
MAGNITUDE	*334 CFS*	334 CFS
WATER SURFACE ELEVATION	*1048.17'*	1048.17'
VELOCITY	*3.5 FPS*	3.5 FPS

NOTES:
1. 520 SF (NB) & 571 SF (SB)
2. 781 SF (NB) & 771 SF (SB)

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	223 OF 247
NEW MILFORD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

NOTES:
1. REFER TO ACCESS ROAD DETAILS IN E&S PLAN FOR ADDITIONAL INFORMATION.



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7010AC6_255800.dgn
11/18/2021 AT 9:59:47 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	224 OF 247
NEW MILFORD TOWNSHIP & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 223

SEE SHEET 225

LEGAL CHANNEL EASEMENT LINE

SR 0011

NEW MILFORD TOWNSHIP
GREAT BEND TOWNSHIP

SALT LICK CREEK

WETLAND W7

LEGAL SLOPE EASEMENT LINE

WETLAND W8

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

LOW POINT
STA 2115+83.14
ELEV 1053.19

HIGH POINT
STA 2120+72.54
ELEV 1054.76

372.44
SE TRANSITION

MOMENT SLAB WITH BARRIER (ROADWAY ITEM)

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

N12°33'02"W

LOW POINT
STA 2115+19.04
ELEV 1061.52

WETLAND W7N

WETLAND W6N

HIGH POINT
STA 2120+82.77
ELEV 1063.63

192.78'
SE TRANSITION

SR 0081 SB BASELINE	SR 0081 NB BASELINE
PI STA 2131+74.78	PI STA 2131+10.05
Δ = 18°54'40" RT	Δ = 18°54'40" RT
T = 502.97'	T = 486.31'
L = 996.78'	L = 963.78'
R = 3020.00'	R = 2920.00'
E = 41.60'	E = 40.22'
PC STA 2126+71.82	PC STA 2126+23.73
PT STA 2136+68.60	PT STA 2135+87.51
SUPERELEVATE 6.2%	SUPERELEVATE 6.4%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

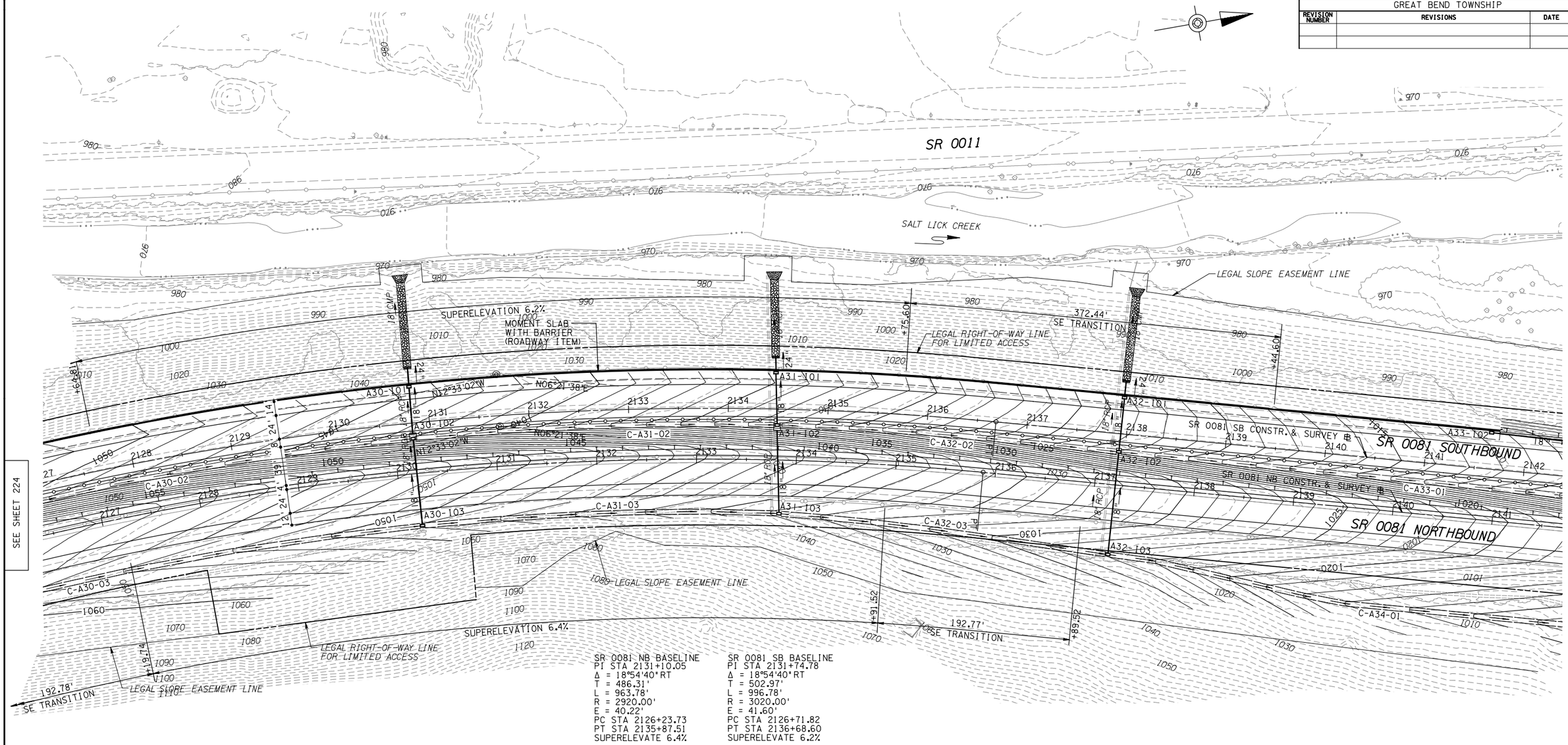
P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T0111AC6_255800.dgn
11/18/2021 AT 9:59:49 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	225 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 224

SEE SHEET 226



SR 0081 NB BASELINE
PI STA 2131+10.05
Δ = 18°54'40"RT
T = 486.31'
L = 963.78'
R = 2920.00'
E = 40.22'
PC STA 2126+23.73
PT STA 2135+87.51
SUPERELEVATE 6.4%

SR 0081 SB BASELINE
PI STA 2131+74.78
Δ = 18°54'40"RT
T = 502.97'
L = 996.78'
R = 3020.00'
E = 41.60'
PC STA 2126+71.82
PT STA 2136+68.60
SUPERELEVATE 6.2%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

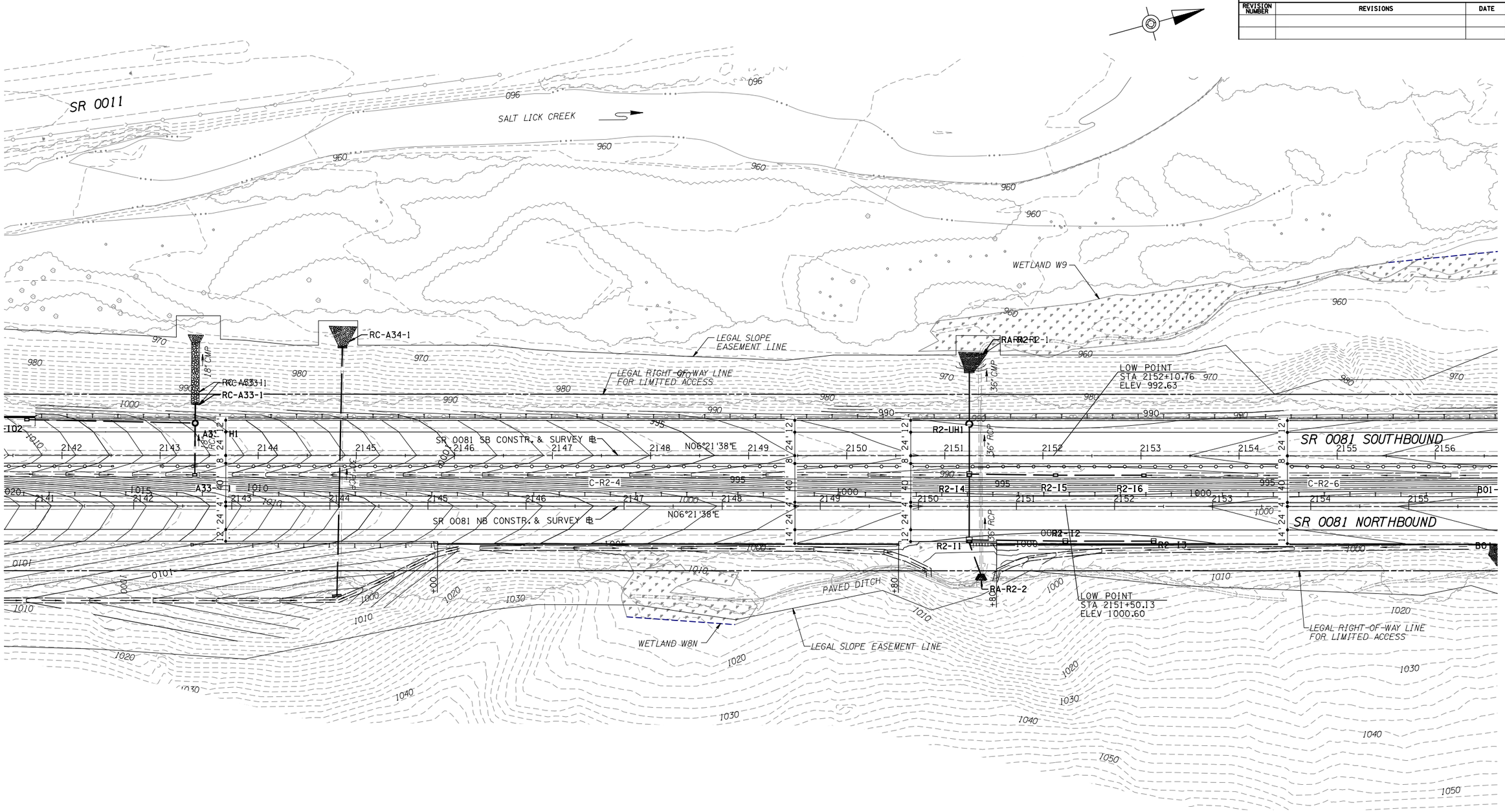
0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7012ACG_255800.dgn
11/18/2021 AT 9:59:50 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	226 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7013ACG.255800.dgn
11/18/2021 AT 9:59:52 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	227 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 226

SEE SHEET 228

SR 0081 NB BASELINE
PI STA 2190+44.64
Δ = 23°44'40"LT
T = 2402.35'
L = 4735.73'
R = 11427.41'
E = 249.79'
PC STA 2166+42.29
PT STA 2213+78.02
SUPERELEVATE 2.00%

SR 0081 SB BASELINE
PI STA 2191+06.82
Δ = 23°44'40"LT
T = 2396.59'
L = 4724.37'
R = 11400.00'
E = 249.19'
PC STA 2167+10.24
PT STA 2214+34.61
SUPERELEVATE 2.00%

WETLAND W9

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

LEGAL SLOPE EASEMENT LINE

HIGH POINT
STA 2164+95.91
ELEV 998.24

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

N06°21'38"E

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

B01-I01

B01-I02

B02-I01

B02-I02

B02-I03

SL-C31

C-B02-03

C-R17-01

C-R17-04

C-R17-05

R17-16

R17-17

R17-18

HIGH POINT
STA 2164+47.63
ELEV 1006.33

WETLAND W10

WETLAND W11

LEGAL SLOPE EASEMENT LINE

180.41'
SE TRANSITION

SUPERELEVATION 2.0%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7014ACG_255800.dgn
11/18/2021 AT 9:59:55 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	228 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SR 0081 SB BASELINE
PI STA 2191+06.82
Δ = 23°44'40" LT
T = 2396.59'
L = 4724.37'
R = 11400.00'
E = 249.19'
PC STA 2167+10.24
PT STA 2214+34.61
SUPERELEVATE 2.00%

SR 0081 NB BASELINE
PI STA 2190+44.64
Δ = 23°44'40" LT
T = 2402.35'
L = 4735.73'
R = 11427.41'
E = 249.79'
PC STA 2166+42.29
PT STA 2213+78.02
SUPERELEVATE 2.00%

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

WETLAND W10

LOW POINT
STA 2183+19.65
ELEV 979.37

SR 0081 SOUTHBOUND

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

SR 0081 NORTHBOUND

LOW POINT
STA 2182+59.78
ELEV 988.20

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

WETLAND W13N

PAVED DITCH

SUPERELEVATION 2.0%

LEGAL SLOPE EASEMENT LINE

SEE SHEET 227

SEE SHEET 229

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

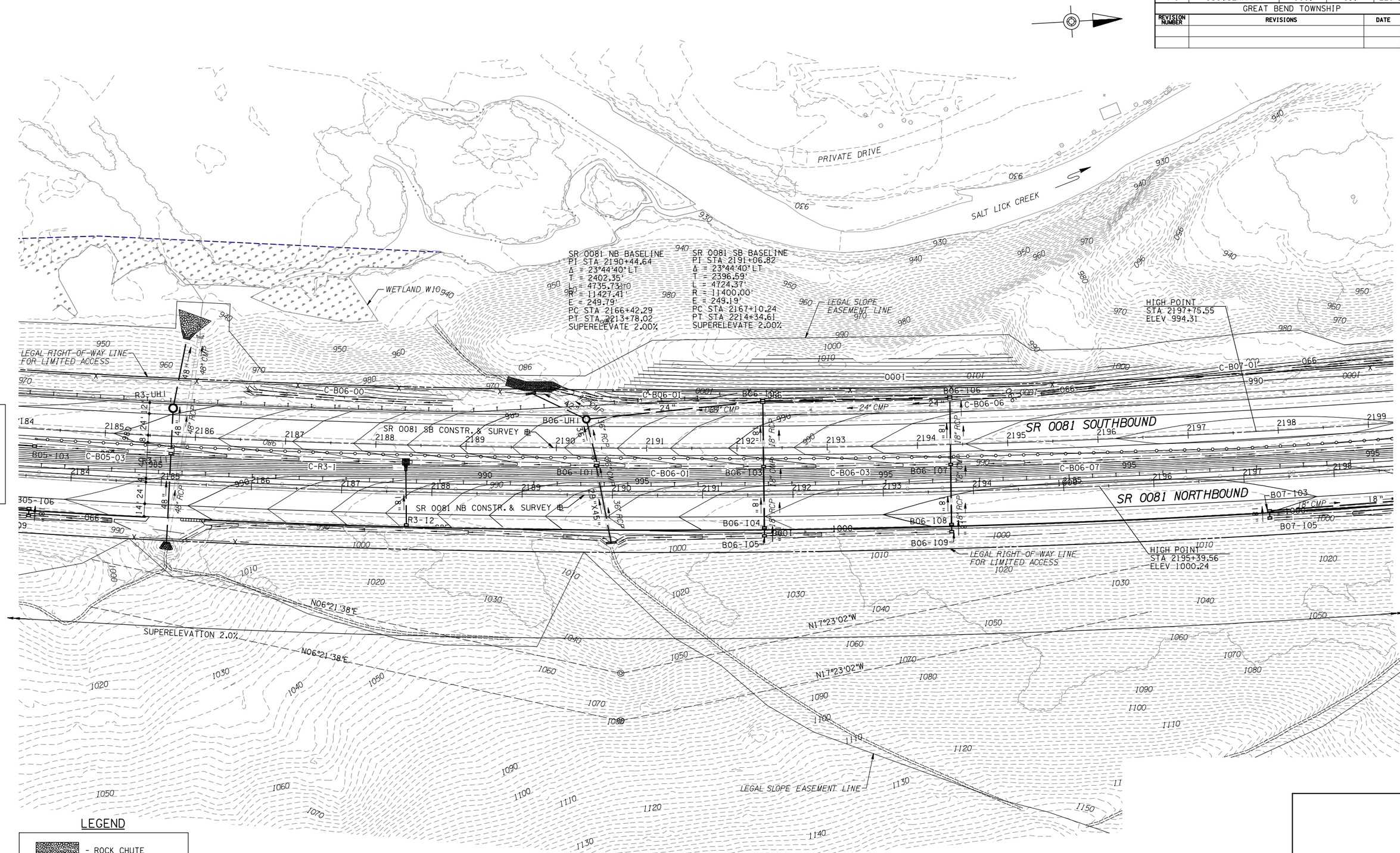
CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7015ACG_255800.dgn
11/18/2021 AT 9:59:56 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	229 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 228



SEE SHEET 230

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

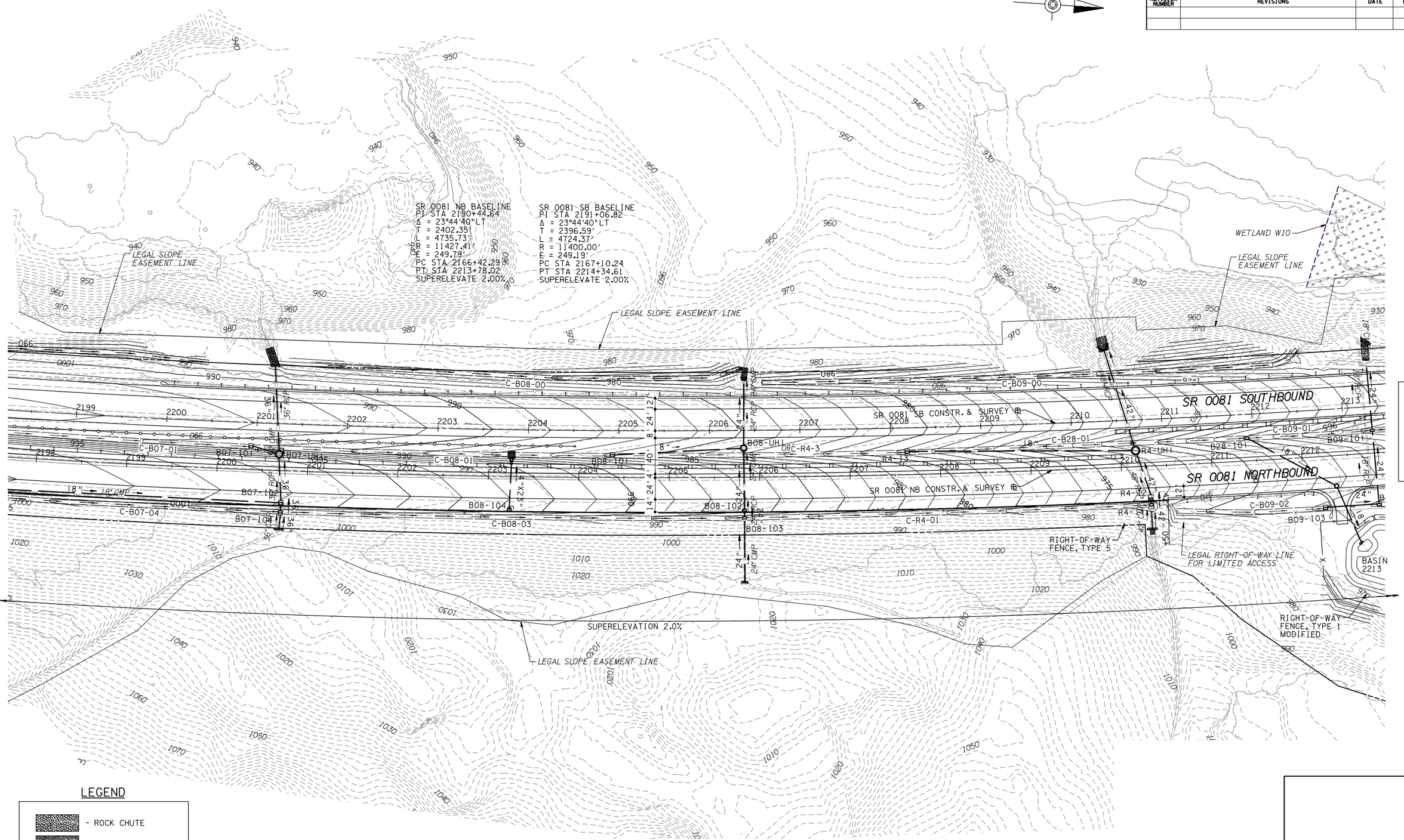
0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7016ACG_255800.dgn
11/18/2021 AT 9:59:57 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	230 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7017ACG_255800.dgn
11/18/2021 AT 9:59:59 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	231 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SR 0081 SB BASELINE
PI STA 2191+06.82
Δ = 23°44'40"LT
T = 2396.59'
L = 4724.37'
R = 11400.00'
E = 249.19'
PC STA 2167+10.24
PT STA 2214+34.61
SUPERELEVATE 2.00%

SR 0081 NB BASELINE
PI STA 2190+44.64
Δ = 23°44'40"LT
T = 2402.35'
L = 4735.73'
R = 11427.41'
E = 249.79'
PC STA 2166+42.29
PT STA 2213+78.02
SUPERELEVATE 2.00%

LEGAL CHANNEL EASEMENT LINE

LEGAL SLOPE EASEMENT LINE

WETLAND W10

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

SALT LICK CREEK

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

N17°23'02"W

B09-101

B09-102

B09-103

B29-101

C-B10-01

B10-101

C-B11-02

B11-101

B11-102

C-B12-02

BASIN 2213

180.41'

+48.03

+28.03

SUPERELEVATION 2.0%

WETLAND W15N

WETLAND W14N

WETLAND W16N

PERMANENT ACCESS ROAD 2227-NB SURVEY & CONSTR. ℄

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

SEE SHEET 230

SEE SHEET 232

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7018ACC_255800.dgn
11/18/2021 AT 10:00:01 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511 R/W	232 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 231

SEE SHEET 233

LEGAL CHANNEL EASEMENT LINE

SALT LICK CREEK

LOW POINT
STA 2228+73.27
ELEV 930.04

WETLAND W11

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

WETLAND W12

HIGH POINT
STA 2240+11.87
ELEV 936.07

SR 0081 SOUTHBOUND

SR 0081 SB CONSTR. & SURVEY ℄

N17°23'02"W

SR 0081 NB CONSTR. & SURVEY ℄

N17°23'02"W

SR 0081 NORTHBOUND

B12-I02 B12-I01 B12-I03 C-B12-03 B13-I01 C-B13-01 R5-I3 C-R5-3 R5-I2 R5-I1 B14-I01 B14-I02 B14-I03 B13-I02 B13-I03

WETLAND W16N

LOW POINT
STA 2228+18.54
ELEV 930.31

PERMANENT ACCESS ROAD 2227 NB SURVEY ℄ & CONSTR. ℄

POT STA 2227+43.92 SR 0081 NB =
POB STA 0+00.00 PERMANENT ACCESS ROAD 2227 NB (29.86') RT

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

LEGAL SLOPE EASEMENT LINE

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

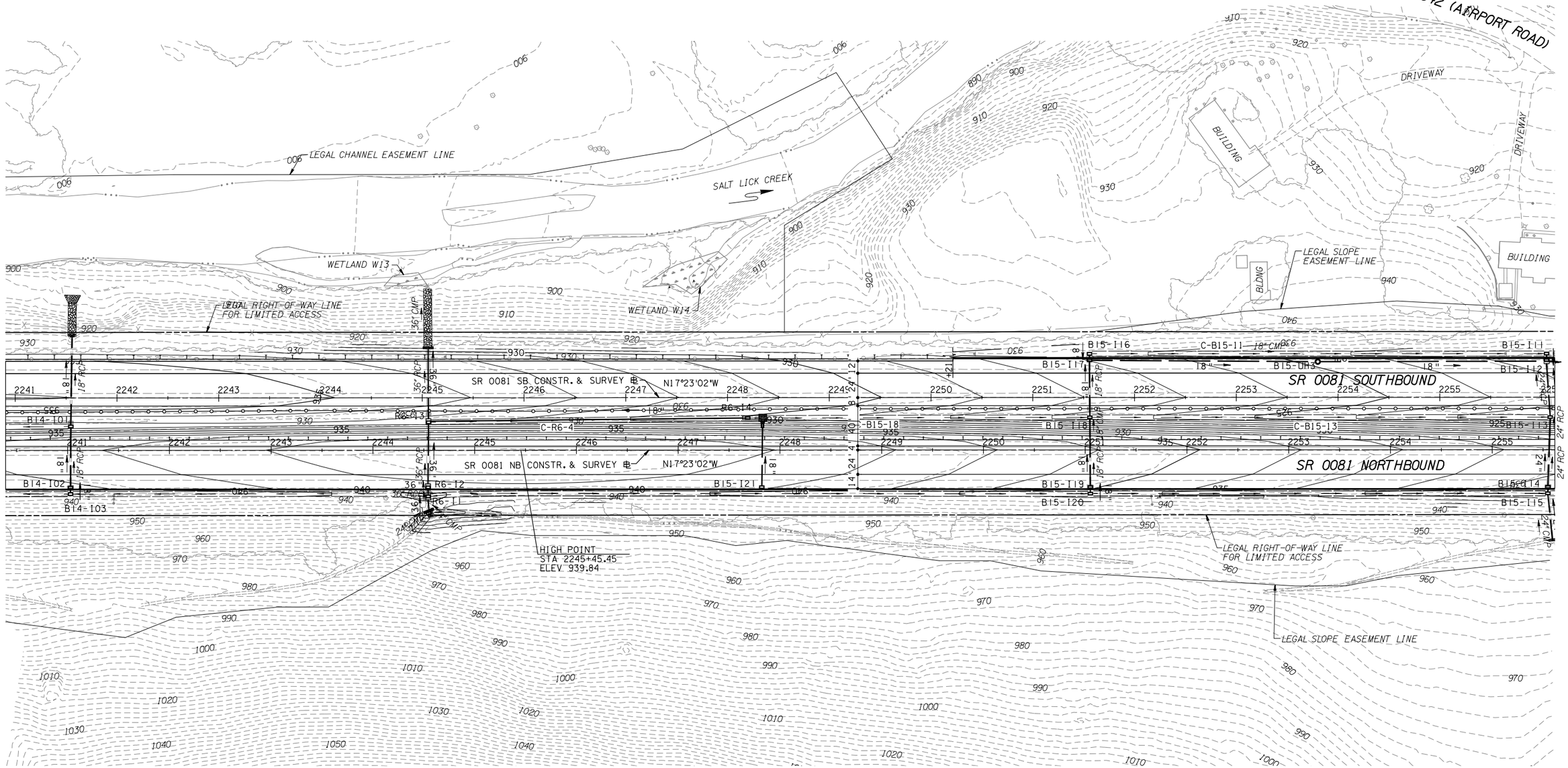
0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\GWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7019ACG_255800.dgn
11/18/2021 AT 10:50:02 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	233 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 232

SEE SHEET 234

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7020ACG_255800.dgn
11/18/2021 AT 10:00:04 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	234 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 233

SEE SHEET 235

T-842 (AIRPORT ROAD)

BUILDING

DRIVEWAY

POND

POOL

RIGHT-OF-WAY FENCE, TYPE 5

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

PERMANENT ACCESS ROAD 2268 SB SURVEY & CONSTR. ℄

POT STA 2268+39.78 SR 0081 SB =
POB STA 0+00.00 PERMANENT ACCESS ROAD 2268 SB (30.33') LT

LOW POINT
STA 2267+15.29
ELEV 914.40

DIRT PILE

280.51'
SE TRANSITION

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

N17°23'02"W

C-B15-01
C-B15-02
C-B15-03
C-B15-04
C-B15-05
C-B15-06
C-B15-08
C-B15-10

B15-UH1
B15-UH2
B15-I01
B15-I02
B15-I03
B15-I04
B15-I05
B15-I06
B15-I07
B15-I08
B15-I09
B15-I10
B15-I11
B15-I12
B15-I13
B15-I14
B15-I15

B16-UH1
B16-UH2
B16-I01
B16-I02
B16-I03
B16-I04

S-C58

LEGAL CHANNEL EASEMENT LINE

WETLAND W17N

WETLAND W18N

LOW POINT
STA 2266+23.86
ELEV 922.66

105.93'
SE TRANSITION

LEGEND

- ROCK APRON

SCALE

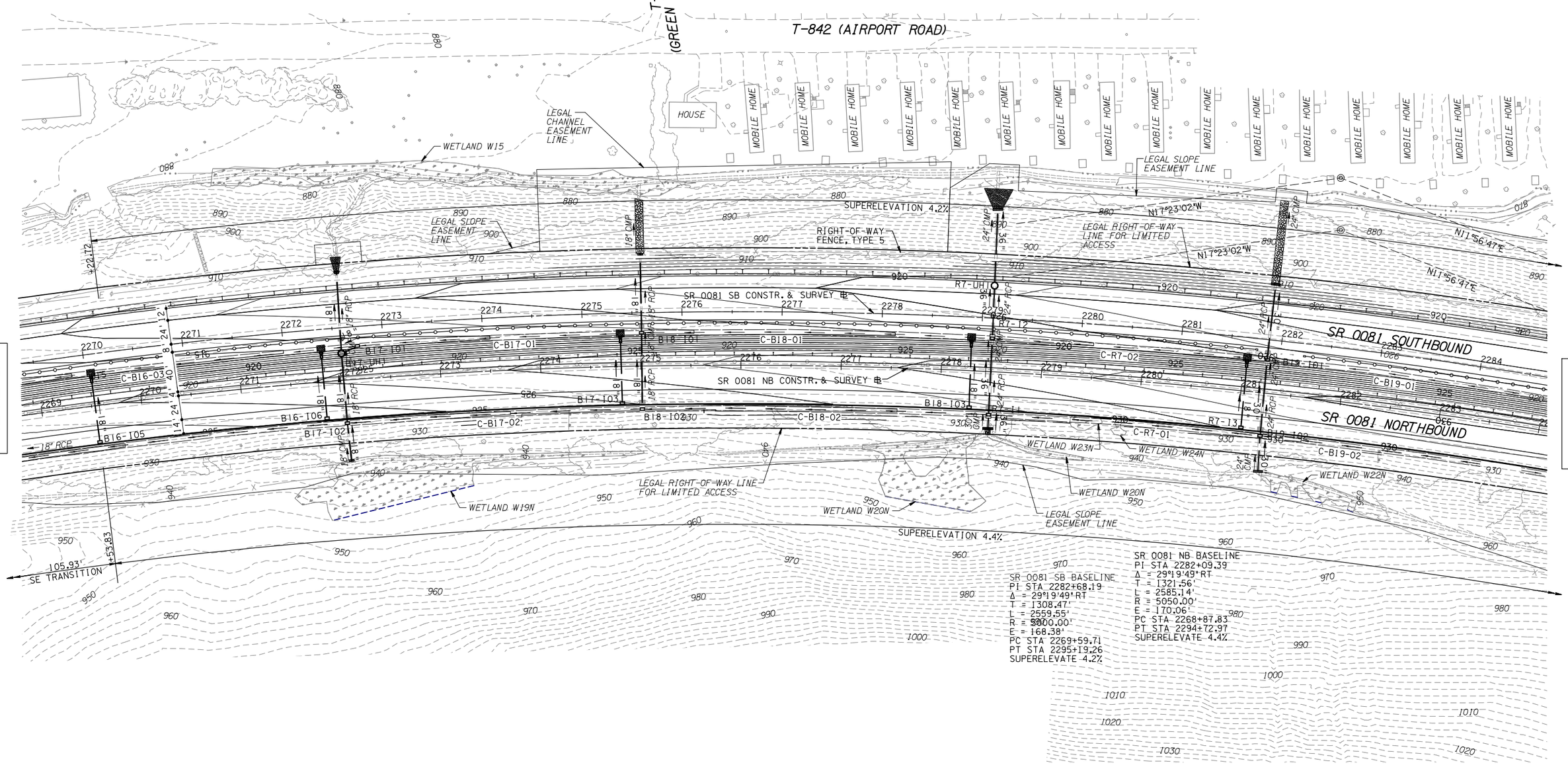
0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\GWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7021ACG_255800.dgn
11/18/2021 AT 10:00:05 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	235 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY



SEE SHEET 234

SEE SHEET 236

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7022ACG_255800.dgn
11/18/2021 AT 10:06:07 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	236 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 235

SEE SHEET 237

T-842 (AIRPORT ROAD)

UTILITY POLE

BUILDING

BUILDING

WETLAND W16

WETLANDS

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

HIGH POINT
STA 2284+26.30
ELEV 921.78

SR 0081 SB CONSTR. & SURVEY ℄

SR 0081 NB CONSTR. & SURVEY ℄

SUPERELEVATION 4.2%

LEGAL CHANNEL EASEMENT LINE

BUILDING

BUILDING

BUILDING

DRIVEWAY

DRIVEWAY

PERMANENT ACCESS ROAD 2295 SB SURVEY & CONSTR. ℄

POT STA 2295+46.00 SR 0081 SB =
POB STA 0+00.00 PERMANENT ACCESS ROAD 2295 SB (26.69') LT

280.49'
SE TRANSITION

LEGAL SLOPE EASEMENT LINE

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

PAVED DITCH

PERMANENT ACCESS ROAD 2294 NB SURVEY & CONSTR. ℄

105.93'
SE TRANSITION

POT STA 2294+06.81 SR 0081 SB =
POB STA 0+00.00 PERMANENT ACCESS ROAD 2294 NB (27.65') RT

LEGAL SLOPE EASEMENT LINE

WETLAND W27N

WETLAND W26N

LEGAL CHANNEL EASEMENT LINE

HIGH POINT
STA 2283+31.46
ELEV 930.27

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

SR 0081 SB BASELINE
PI STA 2282+68.19
Δ = 29°19'49" RT
T = 1308.47'
L = 2559.55'
R = 5000.00'
E = 168.38'
PC STA 2269+59.71
PT STA 2295+19.26
SUPERELEVATE 4.20%

SUPERELEVATION 4.4%

SR 0081 NB BASELINE
PI STA 2282+09.39
Δ = 29°19'49" RT
T = 1321.56'
L = 2585.14'
R = 5050.00'
E = 170.06'
PC STA 2268+87.83
PT STA 2294+72.97
SUPERELEVATE 4.40%

HYDRAULIC DATA BOX CULVERT

	EXISTING	PROPOSED
DRAINAGE AREA	-	-
WATERWAY OPENING	SEE NOTE 1	SEE NOTE 2
50-YR. DESIGN FLOOD:		
MAGNITUDE	376 CFS	376 CFS
WATER SURFACE ELEVATION	919.98'	918.44'
VELOCITY	1.3 FPS	1.6 FPS
FEMA 100-YR. FLOOD:		
MAGNITUDE	464 CFS	464 CFS
WATER SURFACE ELEVATION	921.64'	919.47'
VELOCITY	1.0 FPS	1.6 FPS

NOTES:
1. 520 SF (NB) & 571 SF (SB)
2. 781 SF (NB) & 771 SF (SB)

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

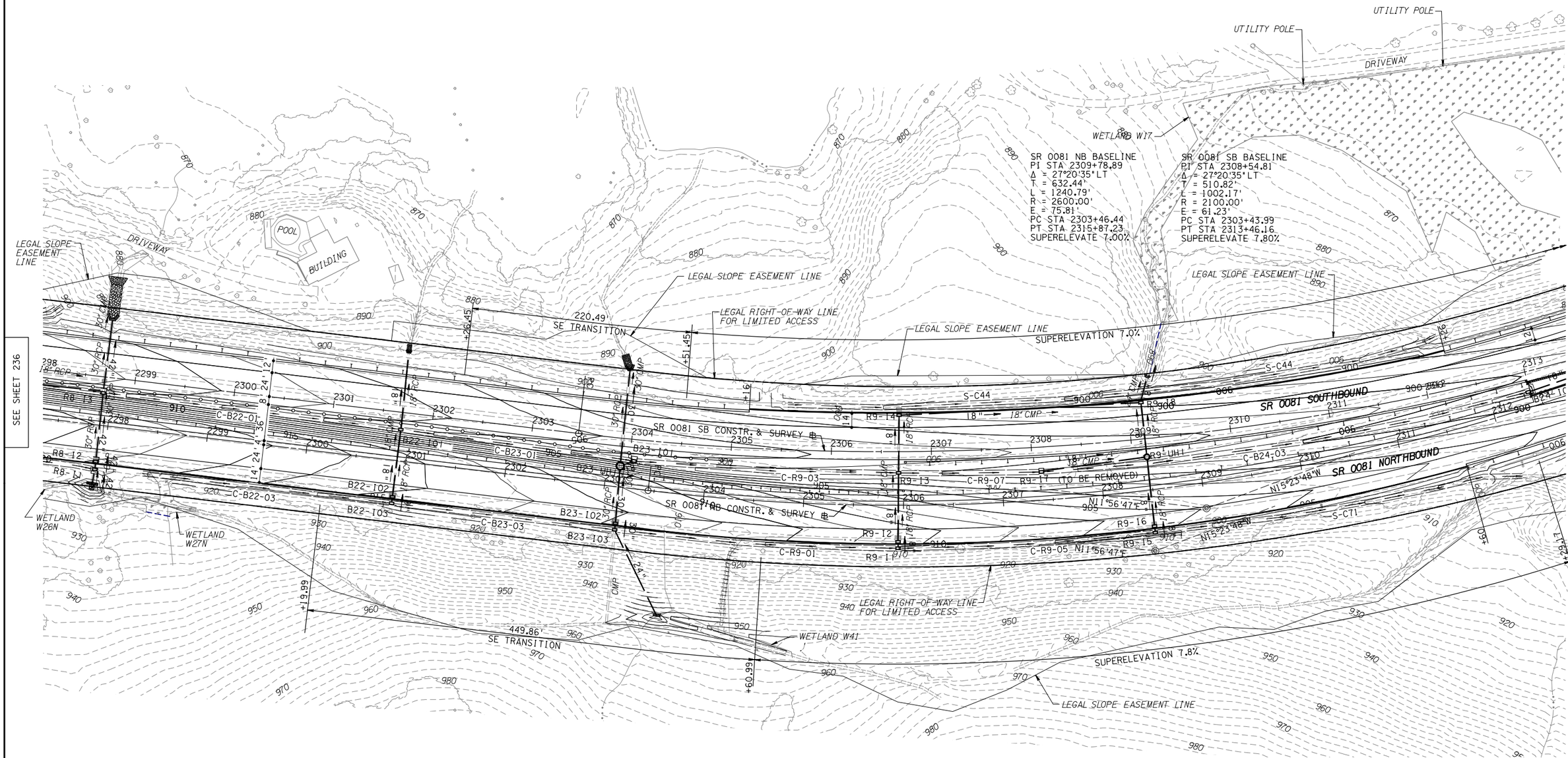
0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7023ACG_255800.dgn
11/18/2021 AT 10:06:08 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	237 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

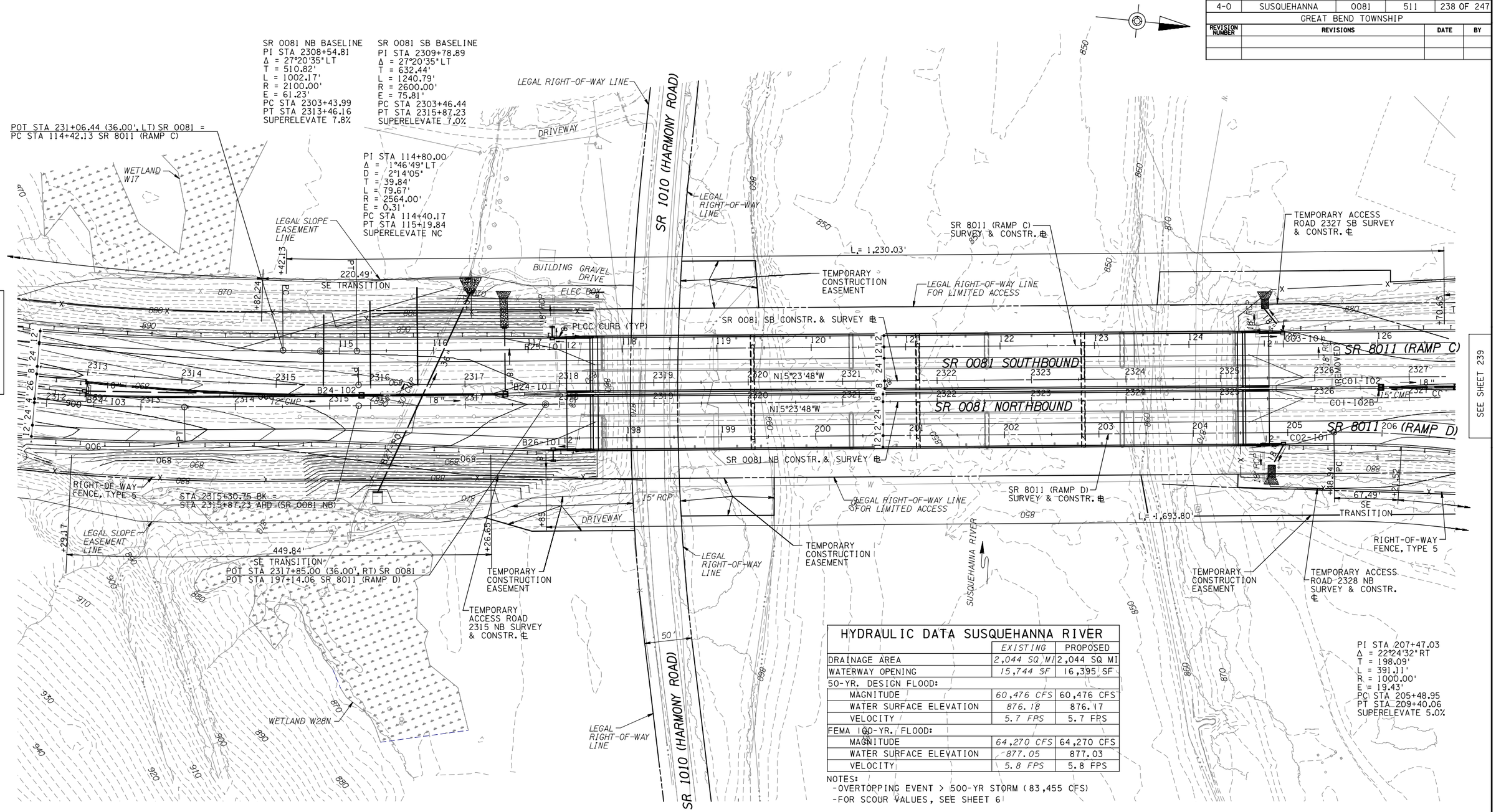
CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T70244CG_255800.dgn
11/18/2021 AT 10:00:10 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	238 OF 247

GREAT BEND TOWNSHIP

REVISION NUMBER	REVISIONS	DATE	BY



HYDRAULIC DATA SUSQUEHANNA RIVER

	EXISTING	PROPOSED
DRAINAGE AREA	2,044 SQ MI	2,044 SQ MI
WATERWAY OPENING	15,744 SF	16,395 SF
50-YR. DESIGN FLOOD:		
MAGNITUDE	60,476 CFS	60,476 CFS
WATER SURFACE ELEVATION	876.18	876.17
VELOCITY	5.7 FPS	5.7 FPS
FEMA 100-YR. FLOOD:		
MAGNITUDE	64,270 CFS	64,270 CFS
WATER SURFACE ELEVATION	877.05	877.03
VELOCITY	5.8 FPS	5.8 FPS

NOTES:
-OVERTOPPING EVENT > 500-YR STORM (83,455 CFS)
-FOR SCOUR VALUES, SEE SHEET 6

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7025ACG.255800.dgn
11/18/2021 AT 10:00:12 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	239 OF 247
BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

START WORK
BEGIN MILL AND OVERLAY
STA 430+28.00
SEG 0710 OFF 1571
SR 0171

POE STA 134+93.17 SR 8011 (RAMP C) =
POB STA 333+74.70 SR 8011 (RAMP B) =
POT STA 431+37.85 SR 0171

PI STA 129+48.35
Δ = 31°02'31"LT
T = 277.72'
L = 541.78'
R = 1000.00'
E = 37.85'
PC STA 126+70.63
PT STA 132+12.42
SUPERELEVATE 5.0%

PI STA 341+28.85
Δ = 22°25'51"LT
T = 198.28'
L = 391.49'
R = 1000.00'
E = 19.47'
PC STA 339+30.57
PT STA 343+22.06
SUPERELEVATE 5.0%

L = 1,230.03'

L = 1,367.65'

POT STA 434+61.61 SR 0171 =
POT STA 2334+93.97 SR 0081 SB

POT STA 2334+93.97 SR 0081 NB =
POT STA 434+83.61 SR 0171

POE STA 214+73.28 SR 8011 (RAMP D) =
POB STA 33+78.72 SR 8011 (RAMP A) =
POT STA 437+98.40 SR 0171

PI STA 207+47.03
Δ = 22°24'32"RT
T = 198.09'
L = 391.11'
R = 1000.00'
E = 19.43'
PC STA 205+48.95
PT STA 209+40.06
SUPERELEVATE 5.0%

PI STA 443+01.89
Δ = 52°06'00"LT
T = 430.88'
L = 801.54'
R = 881.47'
E = 99.67'
PC STA 438+71.01
PT STA 446+72.55
SUPERELEVATE N/A

PI STA 41+31.13
Δ = 21°44'52"RT
T = 192.10'
L = 379.57'
R = 1000.00'
E = 18.28'
PC STA 39+39.04
PT STA 43+18.61
SUPERELEVATE 5.0%

STOP WORK
END MILL AND OVERLAY
STA 438+58.00
SEG 0710 OFF 0741
SR 0171

SEE SHEET 62

SEE SHEET 238

SEE SHEET 240

LEGEND

- ROCK ARMORED SLOPE
- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7026AGG_255800.dgn
11/18/2021 AT 10:00:14 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	240 OF 247
BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

PI STA 341+28.85
Δ = 22°25'51"LT
T = 198.28'
L = 391.49'
R = 1000.00'
E = 19.47'
PC STA 339+30.57
PT STA 343+22.06
SUPERELEVATE 5.0%

SEE SHEET 239

SEE SHEET 242

WETLAND W19

TEMPORARY CONSTRUCTION EASEMENT (FOR ACCESS ONLY)

GREAT BEND TOWNSHIP
GREAT BEND BOROUGH

LEGAL SLOPE EASEMENT LINE

L = 1,367.05'

SUPERELEVATION 5.0%

SR 8011 (RAMP B) SURVEY & CONSTR.

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS (FOR RAMP)

NORFOLK SOUTHERN RAILROAD

ERIE STREET

FRANKLIN STREET

WASHINGTON STREET

PAVED DITCH

BILLBOARD (TO REMAIN)

PENELEC 2G179 (RELOCATED BY OTHERS)

POT STA 2348+80.00 (36.00' LT) SR 0081 =
POT STA 348+12.81 SR 8011 (RAMP B)

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

SR 8011 (RAMP B)
SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

SR 8011 (RAMP A)

SR 0081 SB CONSTR. & SURVEY

SR 0081 NB CONSTR. & SURVEY

LEGAL HIGHWAY EASEMENT

LEGAL AERIAL EASEMENT

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

LEGAL SLOPE EASEMENT LINE

PI STA 47+25.33
Δ = 02°17'26"LT
NO CURVE

L = 1,354.96'

T-836 (OLD ROUTE 10 RD)

TEMPORARY CONSTRUCTION EASEMENT

PI STA 41+31.13
Δ = 21°44'52"RT
T = 192.10'
L = 379.57'
R = 1000.00'
E = 18.28'
PC STA 39+39.04
PT STA 43+18.61
SUPERELEVATE 5.0%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7027ACG_255800.dgn
11/18/2021 AT 10:00:17 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	241 OF 247
BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 241

SEE SHEET 243

WATER STREET

ELIZABETH STREET

GREAT BEND BOROUGH

GREAT BEND TOWNSHIP

SR 0081 NB BASELINE
PI STA 2367+28.46
Δ = 12°20'38"LT
T = 937.11'
L = 1866.97'
R = 8665.79'
E = 50.52'
PC STA 2358+28.78
PT STA 2376+21.18
SUPERELEVATE 2.6%

SR 0081 SB BASELINE
PI STA 2365+85.75
Δ = 12°20'38"LT
T = 756.98'
L = 1508.09'
R = 7000.00'
E = 40.81'
PC STA 2358+28.78
PT STA 2373+36.87
SUPERELEVATE 3.0%

HIGH POINT
STA 2357+96.12
ELEV 935.06

SE TRANSITION
45.22'

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

SUPERELEVATION 3.0%

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

SR 0081 SB CONSTR. & SURVEY

SR 0081 NB CONSTR. & SURVEY

SR 8011 (RAMP A)

SR 8011 (RAMP A) SURVEY & CONSTR.

N15°23'48"W

N27°44'26"W

HIGH POINT
STA A 2357+89.53
ELEV 935.01

POT STA 2357+40.00 (36.00' LT) SR 0081 =
POT STA 56+73.58 SR 8011 (RAMP A)

207.71'
SE TRANSITION

SUPERELEVATION 2.6%

PAVED DITCH (TO BE REMOVED)

DIVERSION CURB (TO REMAIN)

WETLAND W20

WETLAND W30N

LEGAL SLOPE EASEMENT LINE

HOUSE

GARAGE

CONC.

PATIO

POOL

LEGEND

- ROCK APRON

SCALE

0 50 100 FEET

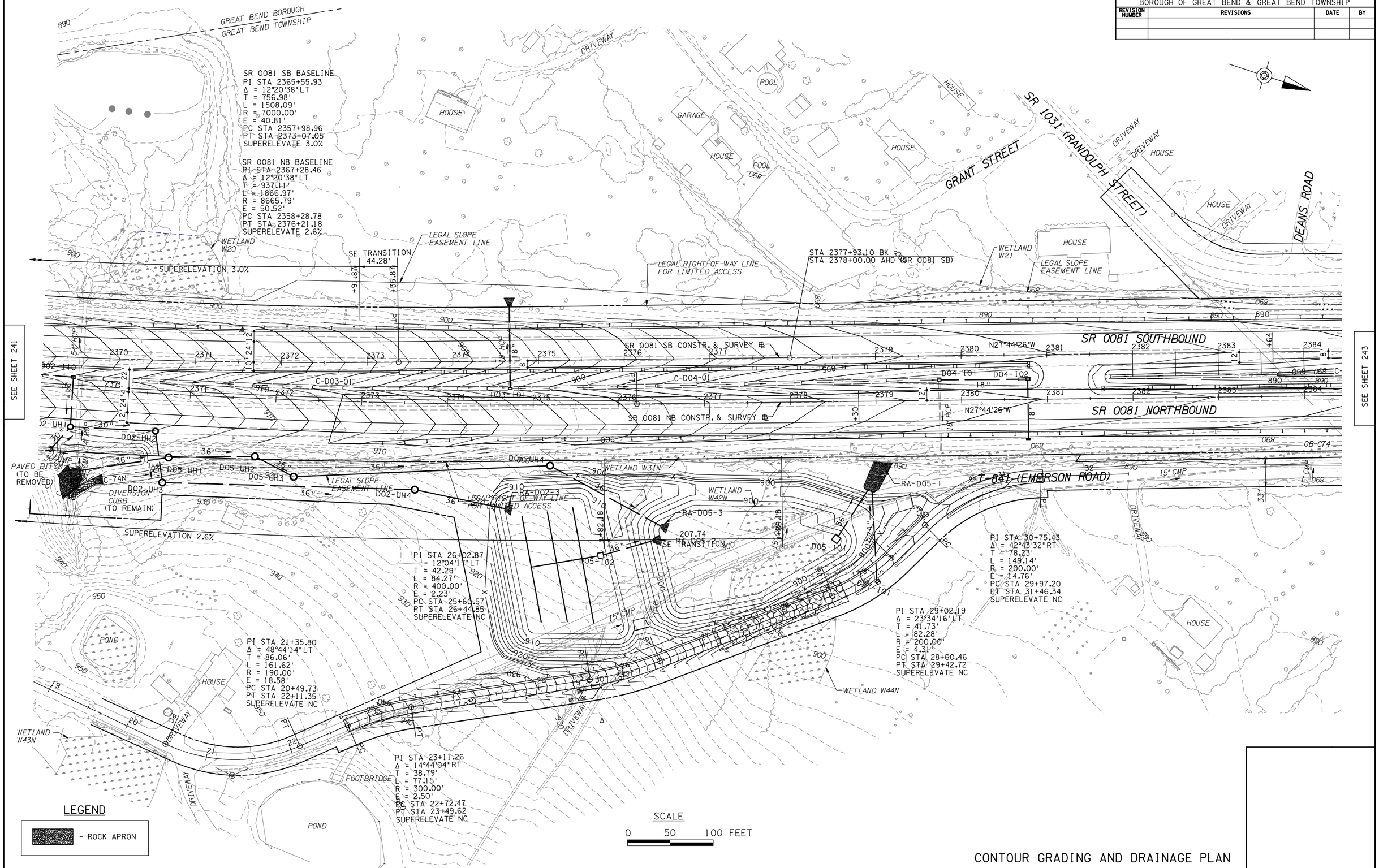
CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7028ACG_255800.dgn
11/18/2021 AT 10:00:23 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	242 OF 247

BOROUGH OF GREAT BEND & GREAT BEND TOWNSHIP

REVISION NUMBER	REVISIONS	DATE	BY



CONTOUR GRADING AND DRAINAGE PLAN

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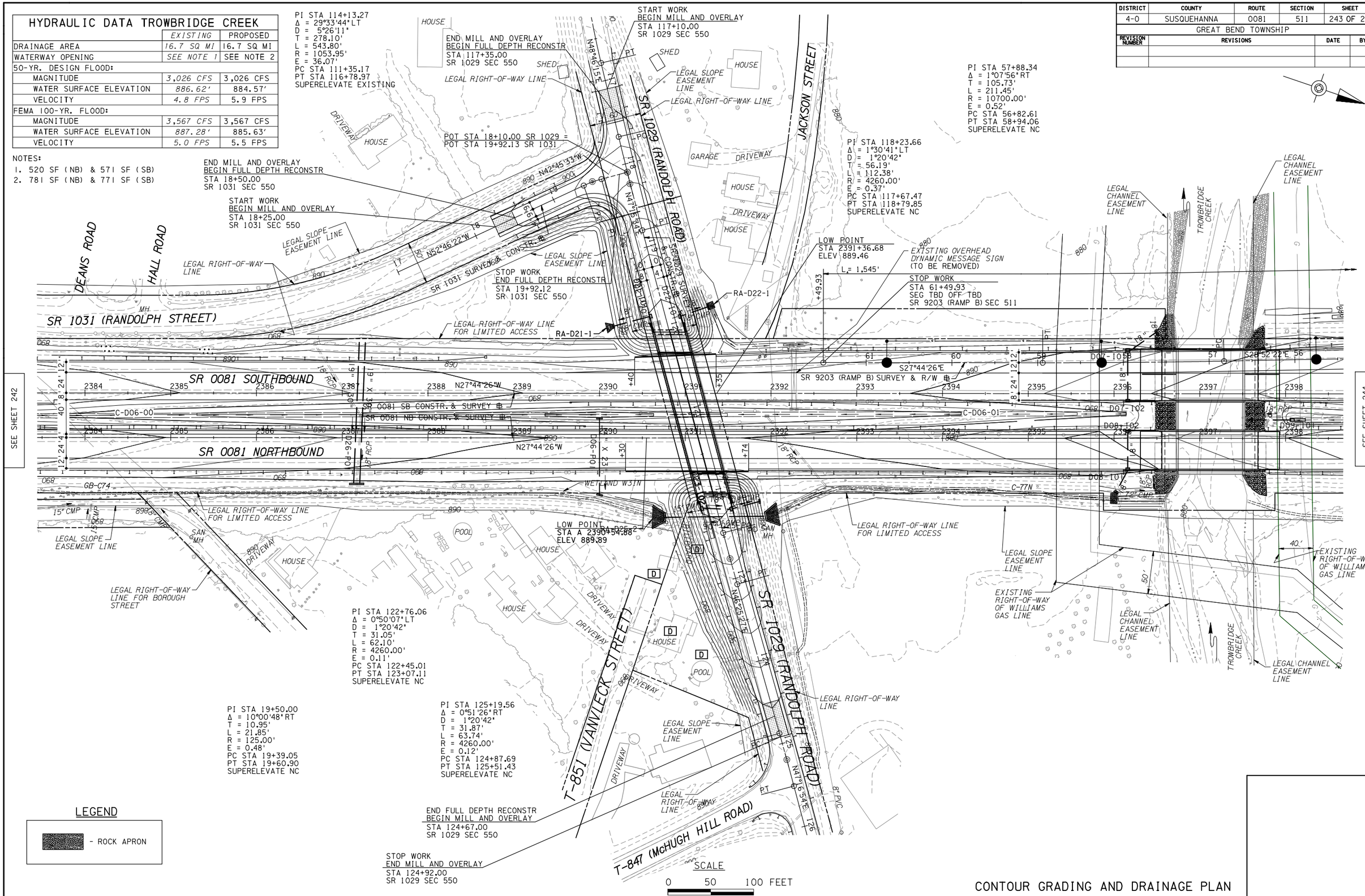
11/18/2021 AT 10:00:24 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	243 OF 247
GREAT BEND TOWNSHIP				
REVISION NUMBER	REVISIONS		DATE	BY

HYDRAULIC DATA TROWBRIDGE CREEK

	EXISTING	PROPOSED
DRAINAGE AREA	16.7 SQ MI	16.7 SQ MI
WATERWAY OPENING	SEE NOTE 1	SEE NOTE 2
50-YR. DESIGN FLOOD:		
MAGNITUDE	3,026 CFS	3,026 CFS
WATER SURFACE ELEVATION	886.62'	884.57'
VELOCITY	4.8 FPS	5.9 FPS
FEMA 100-YR. FLOOD:		
MAGNITUDE	3,567 CFS	3,567 CFS
WATER SURFACE ELEVATION	887.28'	885.63'
VELOCITY	5.0 FPS	5.5 FPS

NOTES:
1. 520 SF (NB) & 571 SF (SB)
2. 781 SF (NB) & 771 SF (SB)



CONTOUR GRADING AND DRAINAGE PLAN

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11/18/2021 AT 10:00:26 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	244 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

PI STA 49+96.09
Δ = 4°00'58"RT
T = 210.04'
L = 419.91'
R = 5990.91'
E = 3.68'
PCC STA 46+96.05
PT STA 51+15.97
SUPERELEVATE NC

PI STA 45+73.02
Δ = 51°59'55"RT
T = 142.92'
L = 265.94'
R = 293.03'
E = 33.00'
PC STA 44+30.10
PCC STA 46+96.05
SUPERELEVATE 6.0%

STOP WORK
END MILL AND OVERLAY
STA 17+35.00
SR 9203 (RAMP A) SEC 511

END FULL DEPTH RECONSTR
BEGIN MILL AND OVERLAY
STA 17+00.00
SR 9203 (RAMP A) SEC 511

PI STA 15+53.08
T = 15°03'07"RT
L = 205.73'
R = 409.10'
E = 13.53'
PC STA 13+47.35
PCC STA 17+56.44
SUPERELEVATE 3.8%

PI STA 2412+83.65
Δ = 14°54'09"RT
T = 988.75'
L = 1966.34'
R = 7560.00'
E = 64.38'
PC STA 2402+94.90
PT STA 2422+61.24
SUPERELEVATE 2.8%

PI STA 2411+14.57
Δ = 14°54'09"RT
T = 1030.81'
L = 2049.54'
R = 7730.00'
E = 68.43'
PC STA 2400+83.75
PT STA 2421+33.29
SUPERELEVATE 2.8%

HIGH POINT
STA 2408+68.38
ELEV 900.65

WELCOME CENTER
HVAC
HVAC
LEGAL SLOPE EASEMENT LINE
LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS
L= 1,545'
210.59' SE TRANSITION
95.56' SE TRANSITION
SUPERELEVATION 6.0%
SR 9203 (RAMP B)
SR 9203 (RAMP B) SURVEY & CONSTR ℄
SR 9203 (RAMP A) SURVEY & R/W ℄
SR 0081 SB CONSTR. & SURVEY ℄
SR 0081 NB CONSTR. & SURVEY ℄
SR 0081 SOUTHBOUND
TRANSITION
BASIN
C-D09-01
C-D10-01
C-D10-03
C-D11-03
D09-I01
D10-I01
D10-UH1
D10-I02
D10-I03
D11-I01
D11-UH1
D11-I02
D11-I03
D11-I04
D12-UH1
D12-I01
D12-I02
D12-I03
D12-I04
D12-I05
D12-I06
18" RCP
24" RCP
30" RCP
36" RCP
15" CMP
18" CMP
24" CMP
30" CMP
EXISTING RIGHT-OF-WAY OF WILLIAMS GAS LINE
SEE SHEET 243
SEE SHEET 245

LEGEND

- ROCK APRON
- MILL/OVERLAY

SCALE
0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

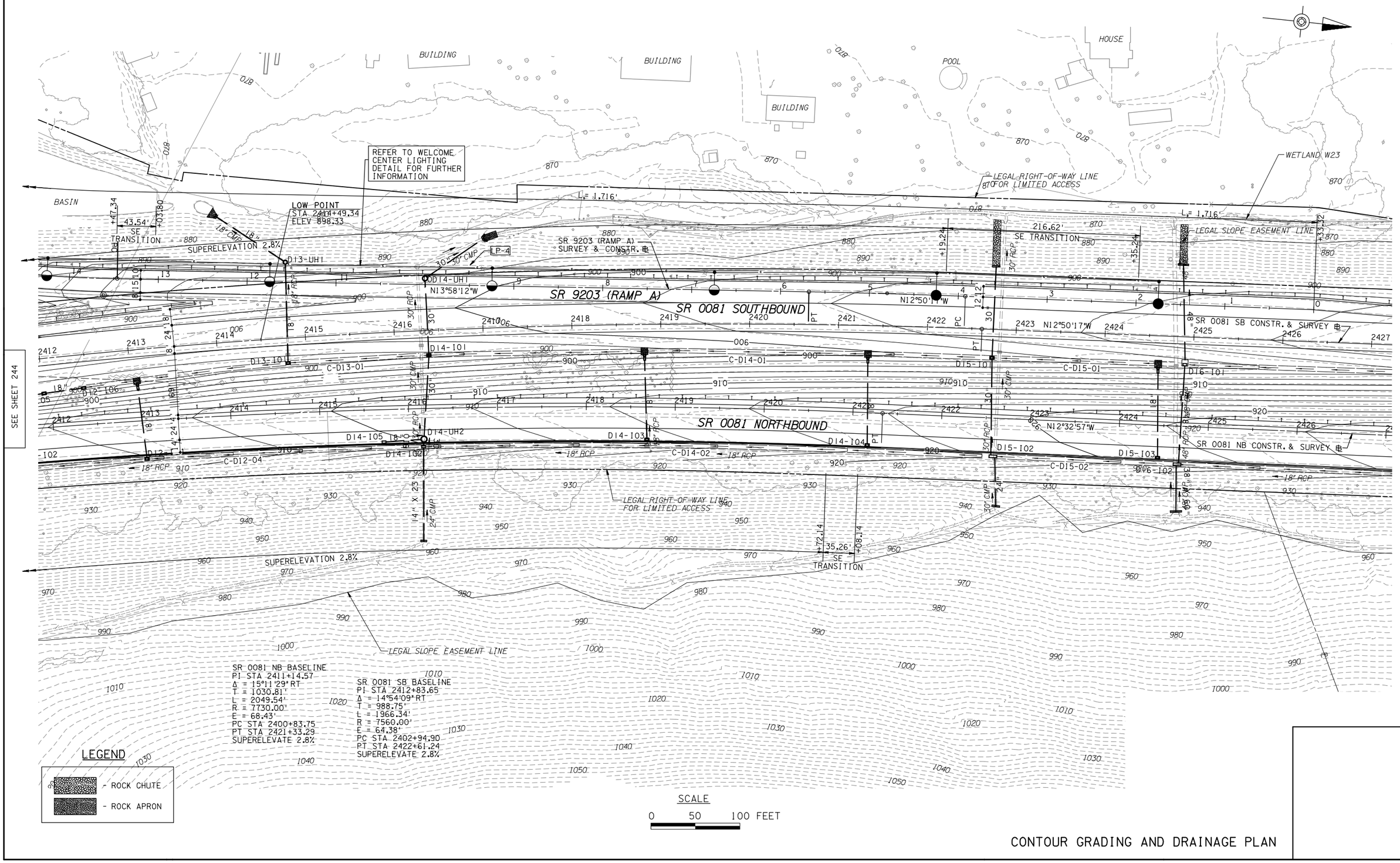
P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T703IACG_255800.dgn
11/18/2021 AT 10:00:28 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	245 OF 247
	GREAT BEND TOWNSHIP			

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 244

SEE SHEET 246



SR 0081 NB BASELINE
PI STA 2411+14.57
Δ = 15°11'29"RT
T = 1030.81'
L = 2049.54'
R = 7730.00'
E = 68.43'
PC STA 2400+83.75
PT STA 2421+33.29
SUPERELEVATE 2.8%

SR 0081 SB BASELINE
PI STA 2412+83.65
Δ = 14°54'09"RT
T = 988.75'
L = 1966.34'
R = 7560.00'
E = 64.38'
PC STA 2402+94.90
PT STA 2422+61.24
SUPERELEVATE 2.8%

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

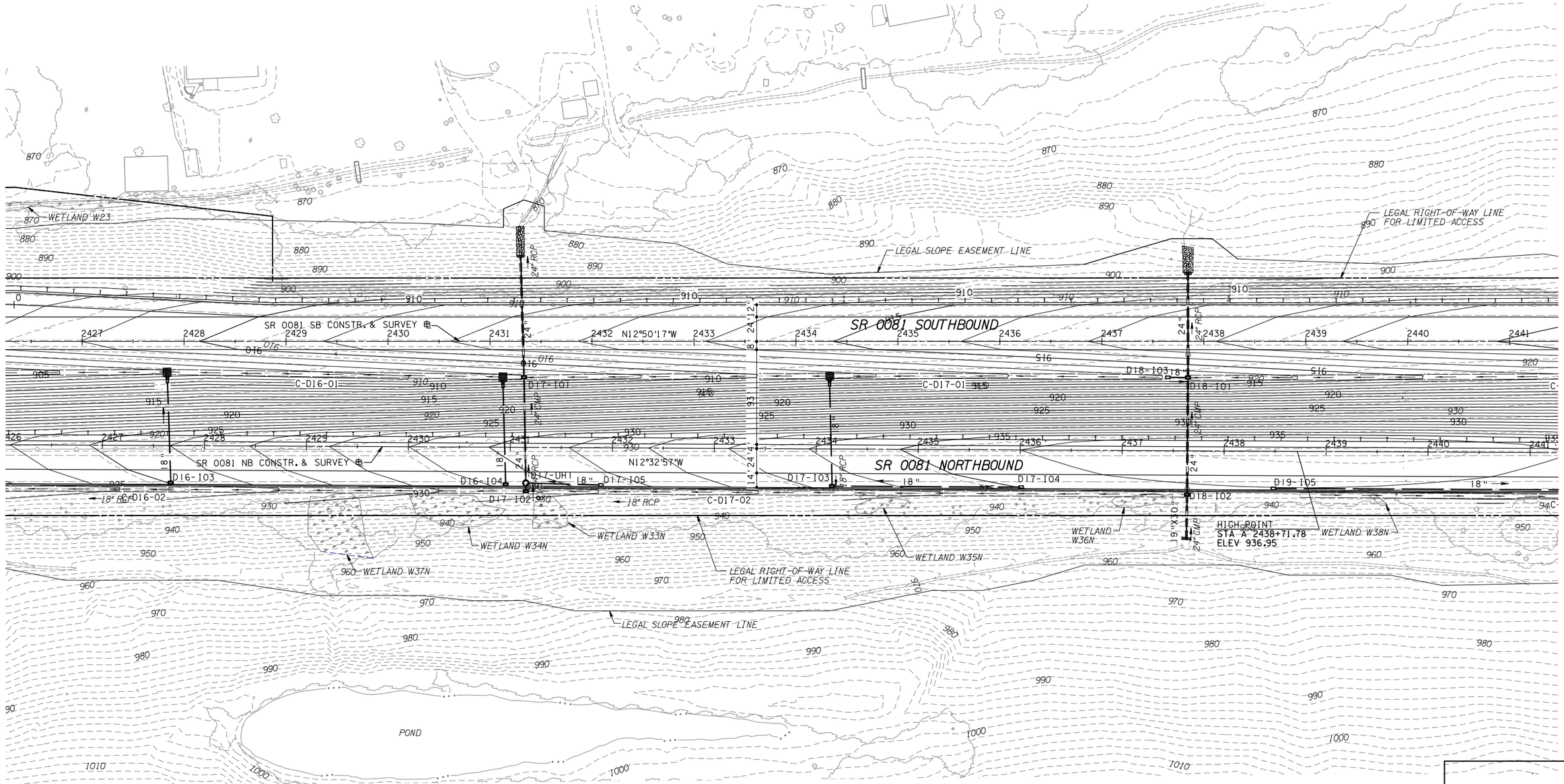
0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7032ACG_255800.dgn
11/18/2021 AT 10:05:30 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	246 OF 247
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE

0 50 100 FEET

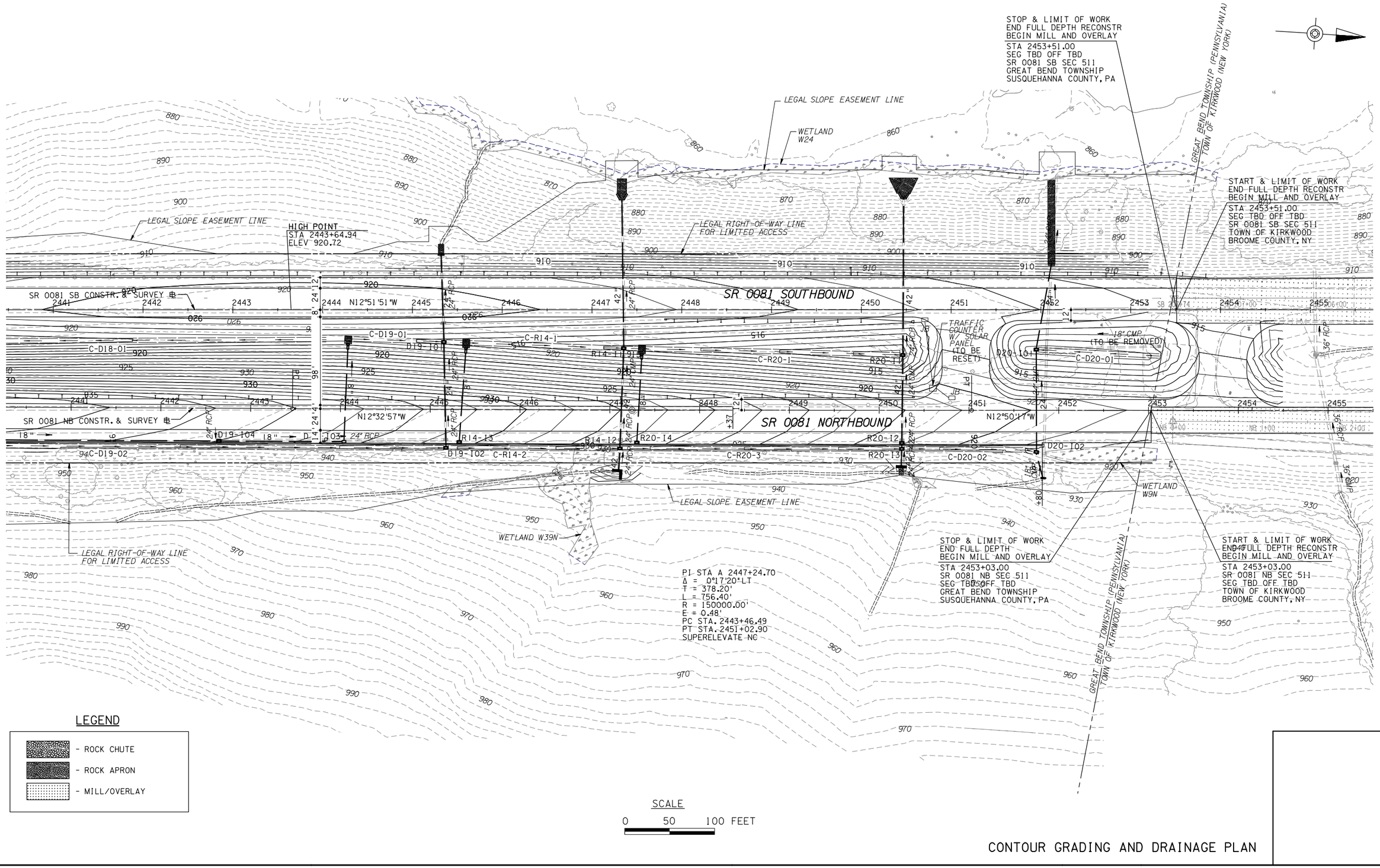
CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7033ACG_255800.dgn
11/18/2021 AT 10:00:32 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	247 OF 247
GREAT BEND TOWNSHIP (PA) & TOWN OF KIRKWOOD (NY)				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 246



LEGEND

- ROCK CHUTE
- ROCK APRON
- MILL/OVERLAY

SCALE

0 50 100 FEET

CONTOUR GRADING AND DRAINAGE PLAN

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\Construction\Contour and grading\T7034ACG_255800.dgn
11/18/2021 AT 10:00:34 AM

Appendix C
Agency Coordination

BORTON LAWSON

Making Our Client's Vision a Reality

December 27, 2021

Paul Fawcett
Waterways and Marina Management Division Chief,
Pennsylvania Fish and Boat Commission
Bureau of Boating
PO Box 67000
Harrisburg, PA 17106-7000

RE: S.R. 0081 Section 511 (I-81 Reconstruction Project)
Great Bend Township and Great Bend Borough, Susquehanna County

Dear Mr. Fawcett:

Please find the enclosed ATON Plan for replacement of dual bridges carrying SR 0081 over Susquehanna River in Great Bend Township, Susquehanna County for your review, comment and approval. Enclosed for your review please find the ATON Plan:

1. Project Description
2. USGS Location maps of project area and surrounding area including upstream and downstream boat access.
3. Color photos of the upstream and downstream waterway and a photo location map.
4. Color coded plans depicting obstructions caused by bridge construction, safe waterway openings, and approximate sign locations.
5. An example sign and buoy template.
6. PFBC-277 Application for Permit
7. An example Aids to Navigation Plan specification.

If you have any further questions, please contact me at 724-935-3110, ext. 4962 or e-mail me at efeichtner@borton-lawson.com.

Sincerely,

Erin Feichtner

Erin Feichtner P.E.
Transportation Engineer

Author: elf/GWG

Lehigh Valley
Pittsburgh
Wilkes-Barre

Wilkes-Barre
613 Baltimore Drive
Suite 300
Wilkes-Barre, PA 18702

P: 570.821.1999
F: 570.821.1990

borton-lawson.com

Project Description
SR 0081 Replacement
Over the Susquehanna River
Great Bend Township, Susquehanna County, Pennsylvania

Project Description

Full reconstruction of dual structures that carries S.R. 0081 over S.R. 1010 (Harmony Road) and the Susquehanna River is part of the larger Pennsylvania Department of Transportation S.R. 0081 Section 511 project. The SR 0081 project is scoped as an Interstate 4R Roadway Project, which will include full depth pavement replacement, full drainage replacement, guide rail updates and safety enhancements including lengthening of both the acceleration/deceleration lanes at Exit 230 Interchange. The project will be constructed using staged construction. Updating the ramps required the existing bridge over the Susquehanna River to be widened to accommodate the additional ramp lane and required outside shoulder width(s) of 12'. The acceleration/deceleration lanes will extend, full width, the entirety of the bridge.

The existing 5-span continuous steel I-beam bridges were built in 1961. Existing 669'-6" bridge span geometry is 119'-6", 143'-6", 143'-6", 143'-6", 119'-6".

Proposed 680'-0" bridge consist of four span continuous Composite Prestressed Concrete PA Bulb-Tee consisting of 165'-0", 175'-0", 175'-0", 165'-0". The new bridge was lengthened to prevent conflicts with the existing and prposed piles that help support the substructure footings. Two new abutments and three new piers will be constructed per structure. Existing Pier substructure units will be removed in their entirety, however Pier 3 to be removed to a minimum 4ft below stream bed. Additionally, the roadway has been elevated through this area, including the Exit 230 interhcange to provide standard underclearance where this bridge crosses over Harmony Road.

Susquehanna River

The headwaters to Susquehanna River are situated approximately 95 miles northeast of the SR 0081. The river flows through Great Bend Township, Great Bend Borough, and Hallstead Borough, in the project area, as a part of the North Branch Susquehanna; then on through Northeastern and southeast Pennsylvania and discharges into the Chesapeake Bay in Maryland. The Susquehanna River at the SR 0081 Bridge crossing is a perennial stream. According to Pennsylvania Code Title 25 Environmental Protection, Chapter 93 Water Quality Standards, Susquehanna River is classified as a Warm Water Water Fishery with Migratory Fishes (WWF, MF). The Pennsylvania Fish and Boat Commission does not classify the Susquehanna River, therefore, no instream work restrictions apply to the project. The Susquehanna River has been declared a navigable river and therefore an Aids to Navigation (ATON) plan is needed to warn waterway users of the changing conditions ahead as well as help guide users through and around the construction. Susquehanna River has the potential for power boat activity, requiring water-based Aids during boating season, generally defined as April 1st through Nov 1st. Average water depth through channel center is approximately 12 to 14ft.

PNDI Impact Resolution

October 2021 response to Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review for the project site resulted in knowledge of rare or protected freshwater mussel species in vicinity. Based on project scope, in-stream disturbances are proposed that may adversely impact freshwater mussels. PAFBC requested to be notified at least six weeks prior to construction date to complete an on-site survey. If species are identified, mussel translocations are to be completed prior to the start of any work in disturbance area. Note that mussel survey season begins on May 15th and concludes on October 1st. As of December of 2021, the notice to proceed for mussel salvage is anticipated to be May of 2024. Similarly, the beginning of the initial stage of bridge construction (Stage 3) is anticipated to be July of 2024. See additional detail under ATON signage on following page.

Obstruction and Impacts

Bridge replacement is proposed to be completed using half-width construction. Permanent stream impacts due to proposed construction and temporary stream impacts due to partial width causeways. Impacts by stage are as follows (stages based on project Maintenance and Protection of Traffic stages):

Temporary Stream Impacts:

- Stage 3 = 223 LF
- Stage 4 = 203 LF
- Stage 5 = 258 LF
- Stage 6 = 218 LF
- Stage 7 = 223 LF
- Stage 8 = 263 LF

Permanent Stream Impacts:

- Stage 3 = 93 LF total
- Stage 4 = 59.5 LF total
- Stage 5 = 80 LF total
- Stage 6 = 66.5 LF total
- Stage 7 = 93 LF total
- Stage 8 = 59.5 LF total

Water depth through navigable opening during all stages of construction is approximately 10ft based on low flow (92% annual dry working days). The minimum historic water depth is about 5ft through channel center based on minimum mean daily flow (historically min. flow occurred in August).

Place rigid containment/protection systems to protect the river during deck removal activities. Temporary causeways will be maintained within a portion of the river to complete removal of existing piers, construction of proposed piers and erection of beams. Due to the project Maintenance and Protection of Traffic requirements, construction and causeway work will occur in six different stages. River passage will be maintained through at least one of the three existing or of the two proposed navigable spans during all stages. Staging will generally follow the following sequence;

- Stage 3 = Construct partial causeway, extending from left bank of the stream (facing downstream) to midway existing span 3. Remove southern inside portion of SB and NB bridge superstructure, Abutment 1, Piers 1 and 2 with foundations. Construct inside, SB bridge portion of Abutment 1, Piers 1 and 2, and set span 1 and 2 beams with crane placed on causeway. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans.
- Stage 4 = Construct partial causeway, extending from right bank of the stream to approximately ¼ of span 3. Remove northern inside portion of SB and NB bridge superstructure, Abutment 2, Piers 3 and 4 with foundations. Construct inside, SB bridge portion of Abutment 2, Pier 3, and set span 3 and 4 beams with crane placed on causeway.

Causeway can remain in place or be removed during deck placement. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans.

- Stage 5 = Place eleven, sixty-inch, temporary pipes in existing span 4 under the causeway to help maintain normal flows in the river. Construct partial causeway, extending from right bank of the stream to midway existing span 3. Remove NB bridge superstructure, Abutment 2, Piers 4 and 3 with foundations. Construct NB bridge Abutment 2, Piers 4 and 3, and set span 3 and 4 beams with crane placed on causeway. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans.
- Stage 6 = Construct partial causeway, extending from left bank of the stream (facing downstream) to midway existing span 3 (proposed pier 2). Remove NB bridge superstructure, Abutment 1, Piers 1 and 2 with foundations. Construct NB bridge Abutment 1, Pier 1, and set span 1 and 2 beams with crane placed on causeway. Causeway can remain in place or be removed during deck placement. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans.
- Stage 7 = Construct partial causeway, extending from left bank of the stream (facing downstream) to midway existing span 3. Remove remaining southern portion of SB bridge superstructure, Abutment 1, Piers 1 and 2 with foundations. Construct SB bridge Abutment 1, Pier 1 and 2, and set span 1 and 2 beams with crane placed on causeway. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans.
- Stage 8 = Place eleven, sixty-inch, temporary pipes in existing span 4 under the causeway to help maintain normal flows in the river. Construct partial causeway, extending from right bank of the stream to midway existing span 3 (proposed pier 2). Remove remaining northern portion of SB bridge superstructure, Abutment 2, Piers 3 and 4 with foundations. Construct SB bridge Abutment 2, Pier 3, and set span 3 and 4 beams with crane placed on causeway. Causeway can remain in place or be removed during deck placement. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans. Complete full bridge area clean up and restoration. Verify no obstructions from construction activities left in channel.

The existing boat launches 1,000 feet downstream and 5 miles upstream from the project will remain open throughout construction. Construction warning signs will be posted at boat access sites throughout construction. PFBC information maps note river access at Abutment 1 side of I-81 bridge. During construction at the bridge, parking and canoe access will be closed to the public with signs and temporary traffic control barrels or barricades.

Aids to Navigation (ATON) Signage

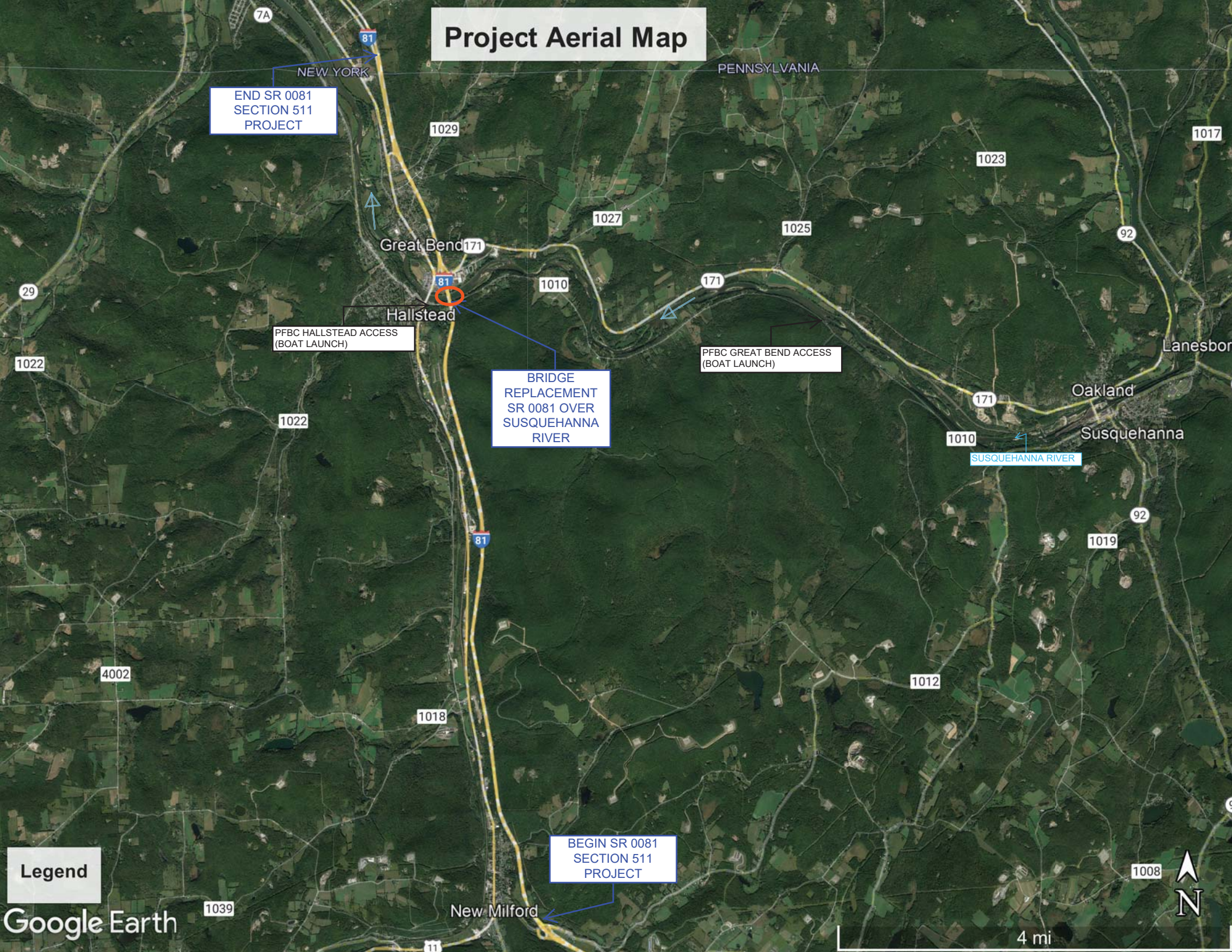
With at least a portion of the waterway blocked throughout construction, the primary Aid to Navigation provided for this project will take the form of warning signs, placed on both the streambanks, upstream and downstream within 200 feet of the bridge. Bushes and trees on the banks will be trimmed to expose and ensure the signs are clearly visible from the watercourse. To ensure safe passage through the work zone during construction a Boat Safety Coordinator

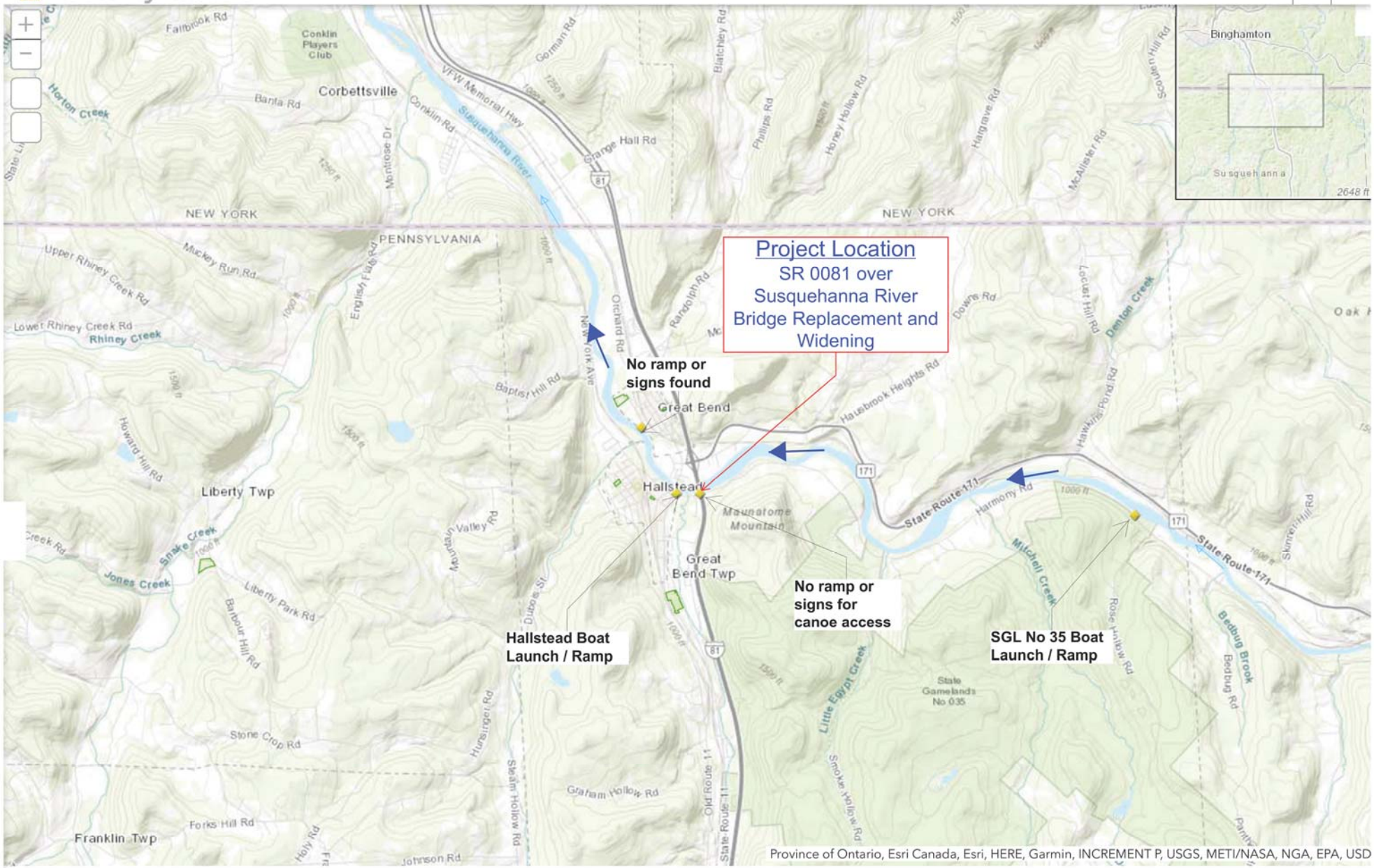
will be designated and water-based ATON (buoys) will be placed during boating season. Safe "Channel" signs will be placed to indicate open route for the appropriate stage of construction.

The anticipated SR 0081 project let date is Summer 2022. Construction activities are anticipated to span from 2022 to 2031. Schedule associated with Susquehanna River work activities is as follows;

1. Construction Notice to Proceed October 2022.
2. SR 81 over Susquehanna River bridge shop drawing review and approval May 2023.
3. Request to PAFBC for Susquehanna River survey and salvage of mussels April 2024.
4. Submit PFBC-277 "Application to Install Floating Structure(s) or Private Aids to Navigation" May 1, 2024. **PFBC-277 to be renewed each year following December 31st.**
5. Susquehanna River survey and salvage of mussels completed June 2024 (note survey and salvage activities limited to May 15 through October 1.)
6. Install ATON controls at boat launches and in channel, July 1, 2024. **Adjust ATON signs in channel as indicated before and after each stage of work.**
7. Install Stage 3 causeway, complete associated bridge work and remove causeway July 2024 to May 2025.
8. Install Stage 4 causeway, complete associated bridge work and remove causeway June 2025 to January 2026.
9. Install Stage 5 causeway, complete associated bridge work and remove causeway July 2026 to February 2027.
10. Install Stage 6 causeway, complete associated bridge work and remove causeway April 2028 to October 2028.
11. Install Stage 7 causeway, complete associated bridge work and remove causeway April 2029 to October 2029.
12. Install Stage 8 causeway, complete associated bridge work and remove causeway April 2030 to September 2030.

It should be noted that all dates are anticipated and subject to change based on obtainment of the appropriate waterway permits, the availability of funding, selection of a contractor to complete the replacement, and the owner's needs and constraints.


Project Aerial Map
NEW YORK
PENNSYLVANIA
END SR 0081
SECTION 511
PROJECT
Great Bend
Hallstead
PFBC HALLSTEAD ACCESS
(BOAT LAUNCH)
BRIDGE
REPLACEMENT
SR 0081 OVER
SUSQUEHANNA
RIVER
PFBC GREAT BEND ACCESS
(BOAT LAUNCH)
Oakland
Susquehanna
SUSQUEHANNA RIVER
BEGIN SR 0081
SECTION 511
PROJECT
New Milford
Legend
Google Earth
4 mi
N



1mi

-75.670 42.022 Degrees

Data Sources:
Streams - PADEP
Roads - TIGER
USGS Topographic Maps 1:24,000 Quadrangles
(Franklin Forks, Great Bend, New Milford)

N

NEW YORK

PENNSYLVANIA

BROOME CO

SUSQUEHANNA CO

KIRKWOOD

PROJECT AOI

SITE LOCATION

Boat Launch
5 miles upstream in
SGL No 35

Boat Launch

GREAT BEND TOWNSHIP

LIBERTY TOWNSHIP

Great Bend

Great Bend

Hallstead

Penny Hill

Hogback Hill

Trowbridge Cr

Trowbridge

Creek

SUSQUEHANNA

RIVER

GREAT BEND CORBOROUGH

Du Bois Cr

Rose Hill Cem

Cem

Trailer Park

MAIN ST

WELCOME CENTER RD

CHURCH ST

RANDOLPH RD

AMERICAN LEGION MEMORIAL HWY

RANDOLPH ST

NEW YORK AV

DUBOIS ST

CORP BDY

RAMP A RD

RAMP B RD

RAMP C RD

RAMP D RD

HARMONY RD

STATE ST

TRAIL

Maunaton

BM 865

BM 881

BM 889

BM 892

BM 913

879

883

894

913

Legend

- Project LOD
- PA Streams
- State Roads
- Municipalities

1,000 500 0 1,000 Feet

LOCATION MAP

Sheet 3 of 3

I-81 Interstate I-4R
PennDOT, District 4-0
Great Bend & New Milford Townships,
Susquehanna County, PA

Project: 2009-2558-02	
Date: December 2021	
Prepared By: RCF	
Checked By: ELF	

Borton Lawson
ENGINEERING
ARCHITECTURE


Project Aerial Map
Photo 1
Photo 2
Photo 3
Photo 4
Photo 5
Photo 6
Susquehanna River
Susquehanna Ave
Main St
William St
1010
1010
1010
81
81
81
11
Legend
Google Earth
N
900 ft


Photo Location Map
Boat Launch - 5 miles upstream from project site
Susquehanna River
Woodbridge Island
Susquehanna River
Sr1010
Photo 7 & 8
Harmony Rd
1010
Legend
Google Earth
N
600 ft

SR 0081 over Susquehanna River Bridge Replacement
Susquehanna County, PA

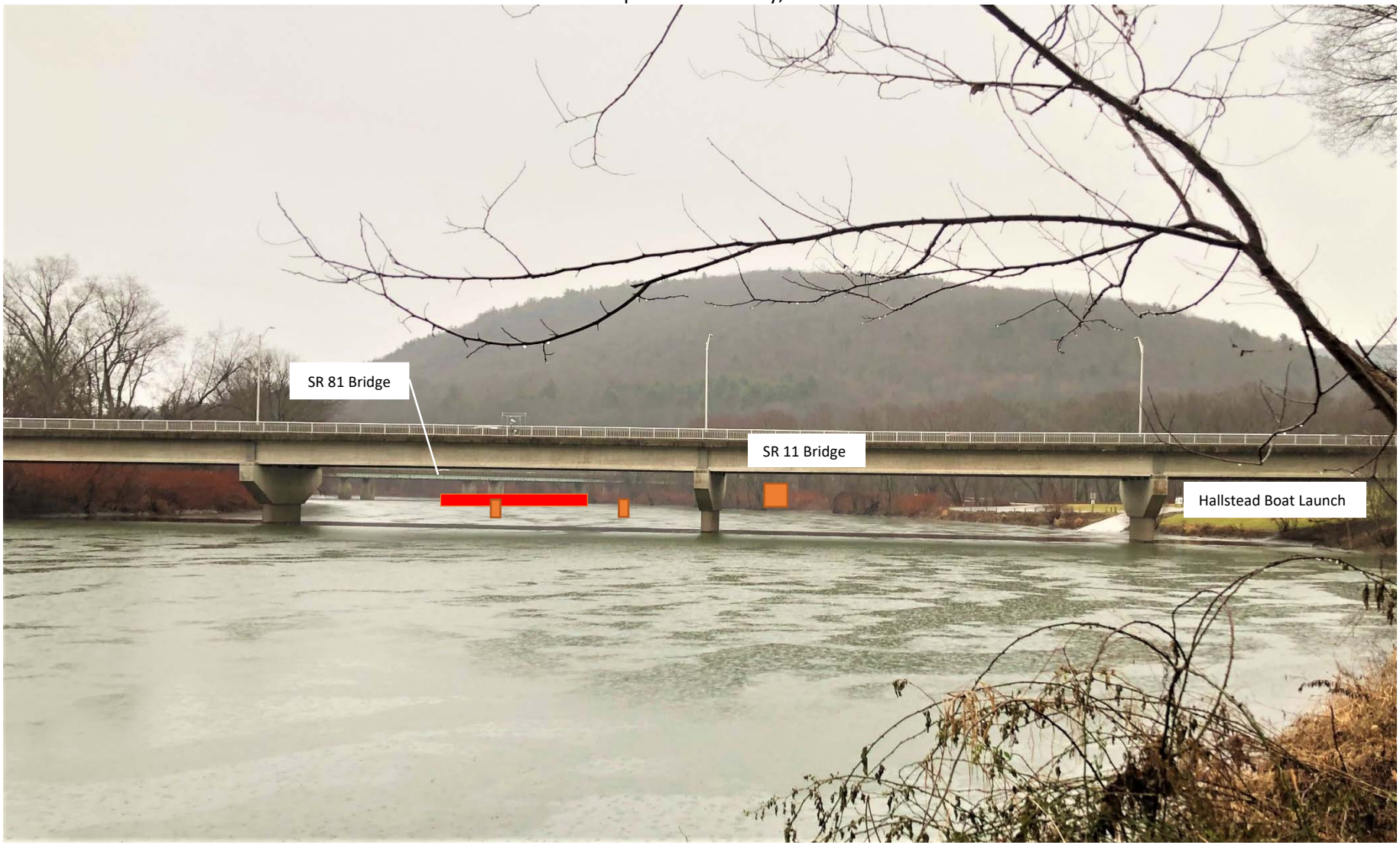


Photo 1 – View of boaters traveling upstream

(Concept of Stage 3, 6 & 7 obstruction with ATONs)



Photo 2 – PFBC Hallstead Access entrance looking downstream towards SR 11

(Concept placement of construction warning sign)



Photo 3 – Looking upstream from Hallstead Access at SR 81 SB Bridge

(Concept of Stage 8, 5 & 4 obstruction with ATONs)

SR 0081 over Susquehanna River Bridge Replacement
Susquehanna County, PA



Photo 4 – Looking towards North river bank between SR 81 bridges

(Concept stage 3 causeway)

SR 0081 over Susquehanna River Bridge Replacement
Susquehanna County, PA

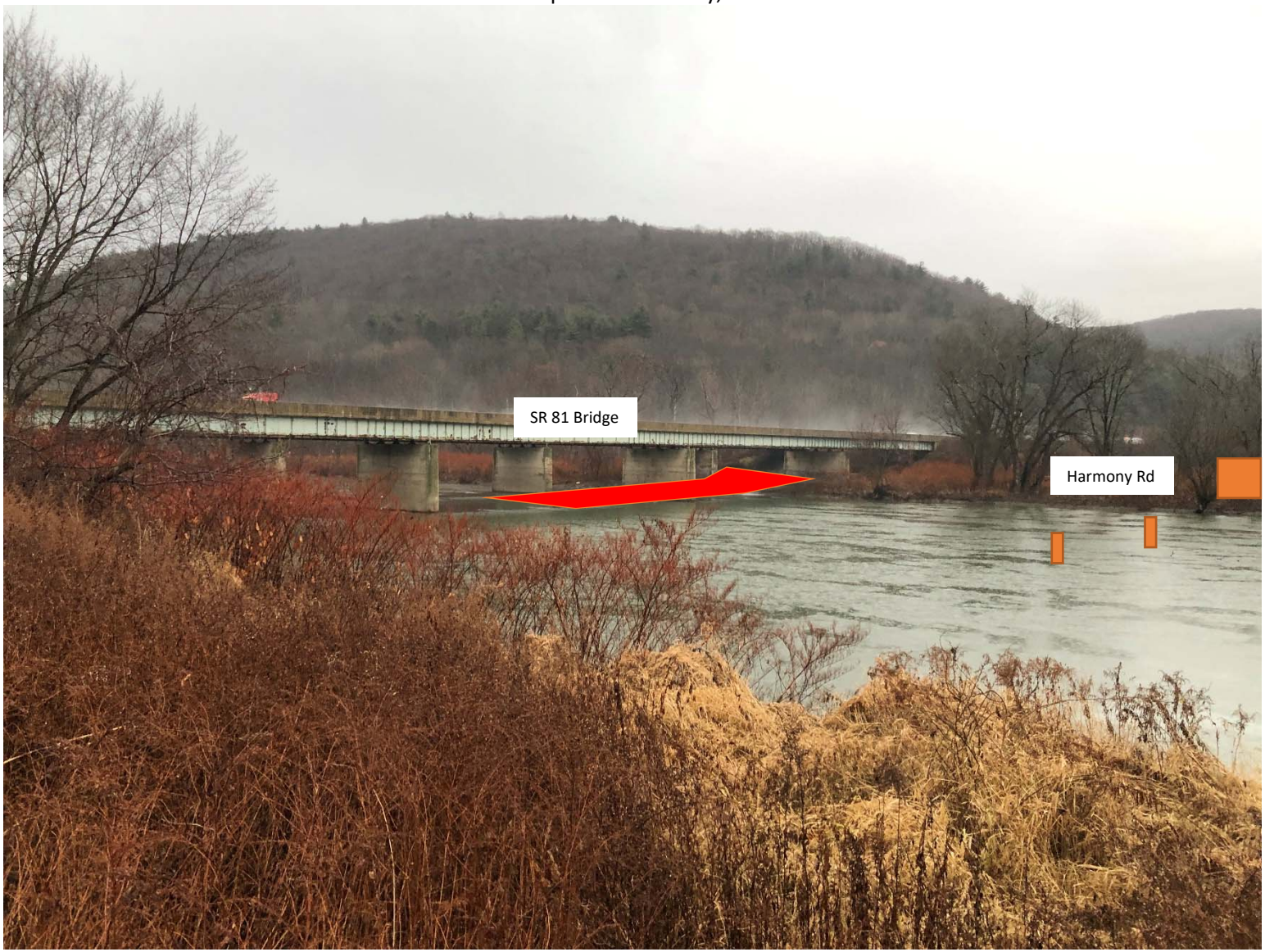


Photo 5 – Looking downstream at SR 81 NB Bridge, South bank Abutment 1

(Concept of Stage 3, 6 & 7 obstruction with ATONs)



Photo 6 – Looking upstream from South bank at SR 81 NB bridge

(Concept ATONs)



Photo 7 – Information signs at PFBC Great Bend Access

(Concept placement of warning sign)

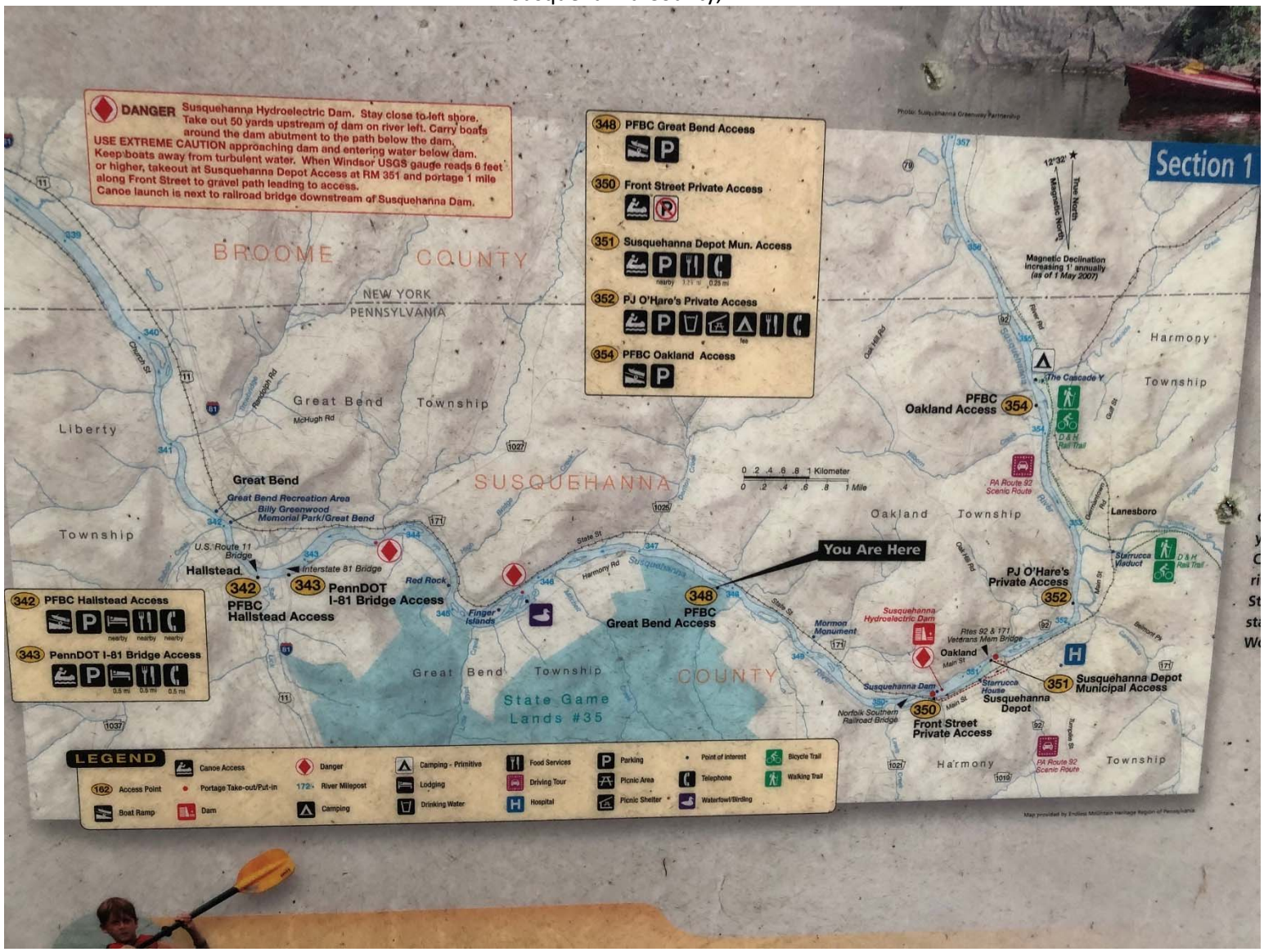


Photo 8 – PFBC Information Map for reference

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	1 OF 6

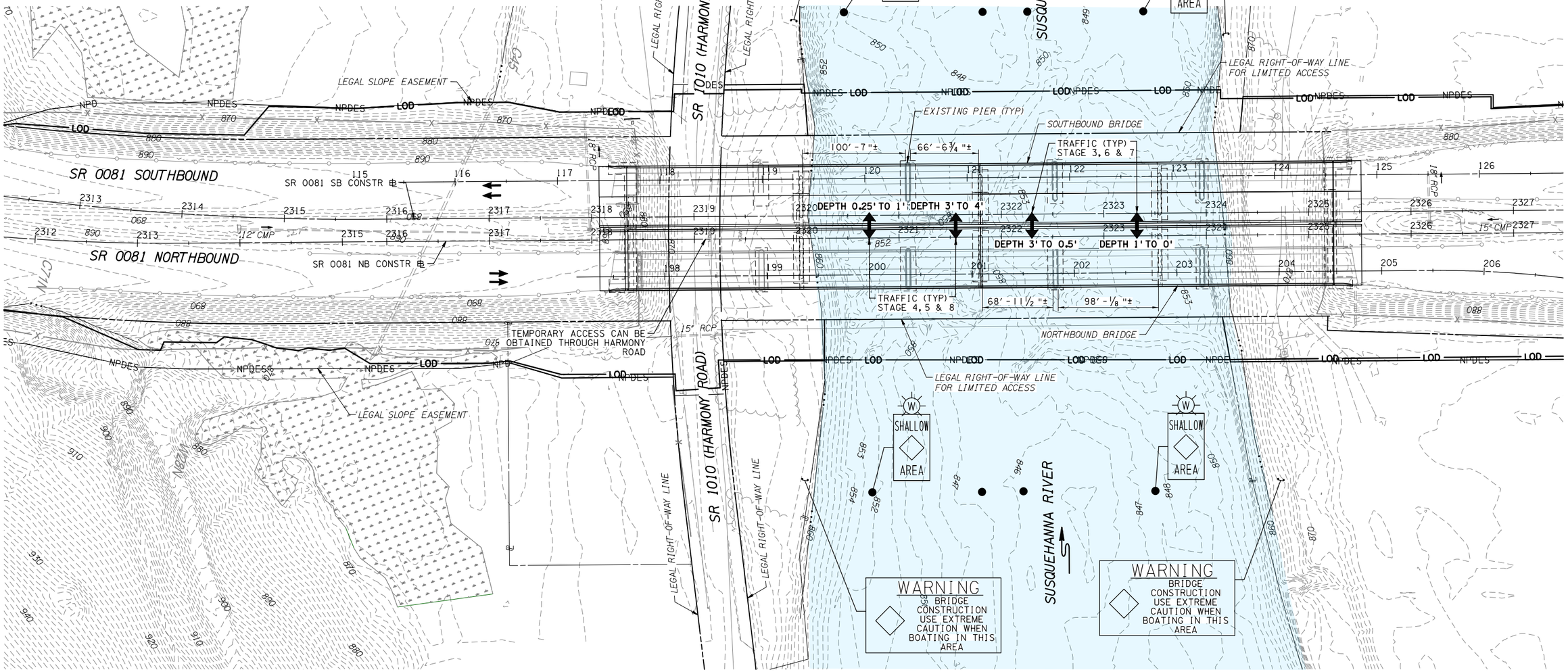
REVISION NUMBER	REVISIONS	DATE	BY

ATON PLAN LEGEND

- WATERWAY OPENING (NWSE)
- WATER-BASED ATON
- CONTROL SIGN
- BOATING TRAFFIC

NOTES:

1. DEPTHS INDICATED BELOW BASED ON HISTORICAL MINIMUM MEAN DAILY FLOW, MEASURED IN AUGUST, AT 800 CFS. THE MINIMUM MEAN DAILY FLOW WATER SURFACE ELEVATION AT THE PROJECT SITE DURING ALL STAGES OF CONSTRUCTION IS APPROXIMATELY 853.2.
2. CONTRACTOR IS RESPONSIBLE TO MONITOR SIGNS AND WATER-BASED ATONS. IF WATER SURFACE ELEVATION DROPS BELOW 856.0 SHALLOW WATER WATER-BASED ATONS SHOULD BE PLACED 200 FT UPSTREAM AND DOWNSTREAM OF PROJECT AREA.



SCALE

0 50 100 FEET

MINIMUM FLOW CONDITION AIDS TO NAVIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	1 OF 6

REVISION NUMBER	REVISIONS	DATE	BY

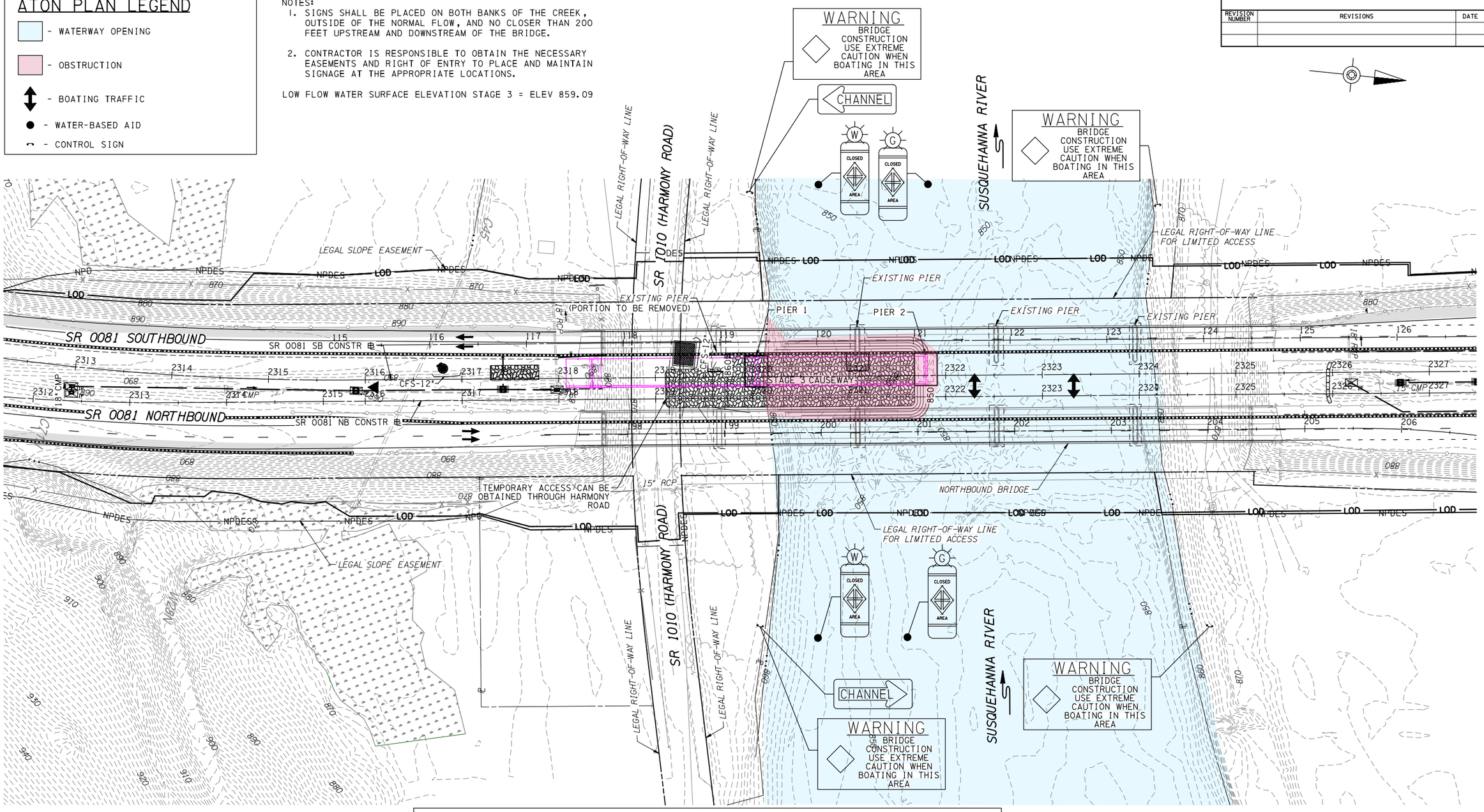
ATON PLAN LEGEND

- WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:

1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 3 = ELEV 859.09



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOKED WITH R-3 (CAUSEWAY)

STAGE 3 CONSTRUCTION
STAGE 4 CONSTRUCTION
STAGE 5 CONSTRUCTION
STAGE 6 CONSTRUCTION
STAGE 7 CONSTRUCTION
STAGE 8 CONSTRUCTION
} COLOR-CODED STAGED BRIDGE CONSTRUCTION

WORK COMPLETED IN STAGE 3

- PLACE CAUSEWAY FROM SOUTH BANK TO PROPOSED PIER 2 (MEDIAN).
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT PROPOSED PIER LOCATIONS, AS SHOWN.
- PLACE TEMP BARRIER ON EXISTING SB STRUCTURE.
- TRAFFIC - SB ON TEMP SB LANES & NB ON EXISTING STRUCTURE.
- SAW CUT EXISTING DECK AT CL OF GIRDER 4.
- PARTIAL DEMO OF ABUT 1 & PIERS 1 & 2.
- REMOVE GIRDER 5 TO PIER 3.
- PARTIAL CONSTRUCTION OF ABUTMENT 1 & PIERS 1 & 2.
- REMOVE TESPS THAT WAS INSTALLED EARLIER IN THIS STAGE.
- PLACE BEAMS 4-7 FOR SPANS 1 & 2. BEAMS WILL BE DELIVERED VIA NB (TEMP NIGHT CLOSURE), LIFTED BY CRANES ON THE CAUSEWAY.
- REMOVE STAGE 3 CAUSEWAY.

SCALE
0 50 100 FEET

STAGE 3
AIDS TO NAVIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	2 OF 6

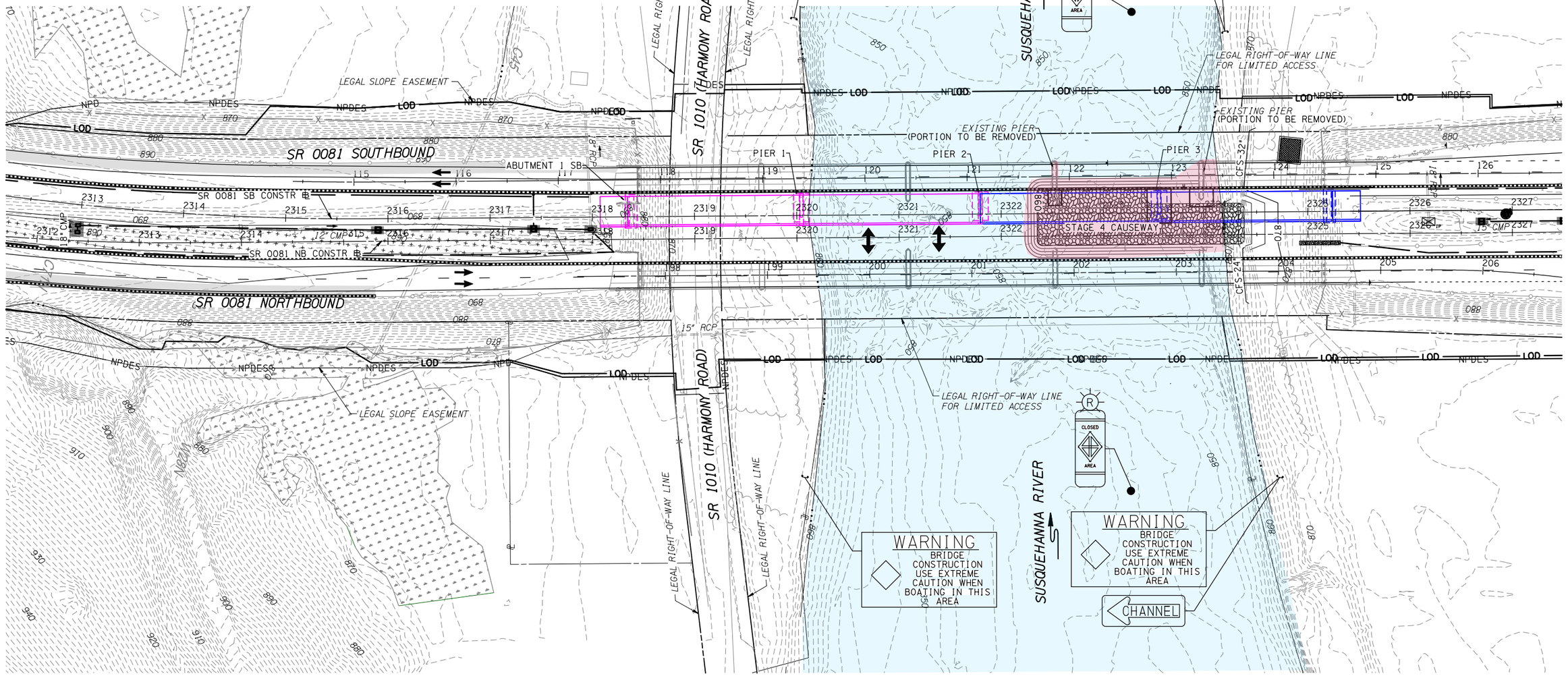
REVISION NUMBER	REVISIONS	DATE	BY

ATON PLAN LEGEND

- SAFE WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:
1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 4 = ELEV 859.05



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOKED WITH R-3

STAGE 3 CONSTRUCTION	STAGE 6 CONSTRUCTION	COLOR-CODED STAGED BRIDGE CONSTRUCTION
STAGE 4 CONSTRUCTION	STAGE 7 CONSTRUCTION	
STAGE 5 CONSTRUCTION	STAGE 8 CONSTRUCTION	

WORK COMPLETED IN STAGE 4

- PLACE CAUSEWAY FROM BETWEEN PIER 2 AND EXISTING PIER 3 TO NORTH BANK (MEDIAN), AS SHOWN BELOW.
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT PROPOSED PIER 3 LOCATION, AS SHOWN.
- SB TRAFFIC REMAINS ON TEMP SB LANES & NB TRAFFIC REMAINS ON THE EXISTING NB STRUCTURE.
- SAW CUT EXISTING SB DECK AT CL GIRDER 4.(IF NOT COMPLETED IN PREVIOUS STAGE)
- DEMOLISH A PORTION OF EXISTING SB PIERS 3 & 4 & ABUT 2. REMOVE REMAINDER OF SB GIRDER 5.
- PARTIALLY CONSTRUCT SB PIER 3 & ABUT 2, INCLUDING BEAMS 4-7 TO SB ABUT 2.
- BEAMS WILL BE DELIVERED VIA TEMPORARY NB LANES (TEMPORARY NIGHT CLOSURE) AND LIFTED BY CRANES FROM THE CAUSEWAY AND FROM BEHIND THE SB ABUTMENT.
- REMOVE A PORTION OF THE STAGE 4 CAUSEWAY.

SCALE
0 50 100 FEET

STAGE 4
AIDS TO NAVIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	3 OF 6

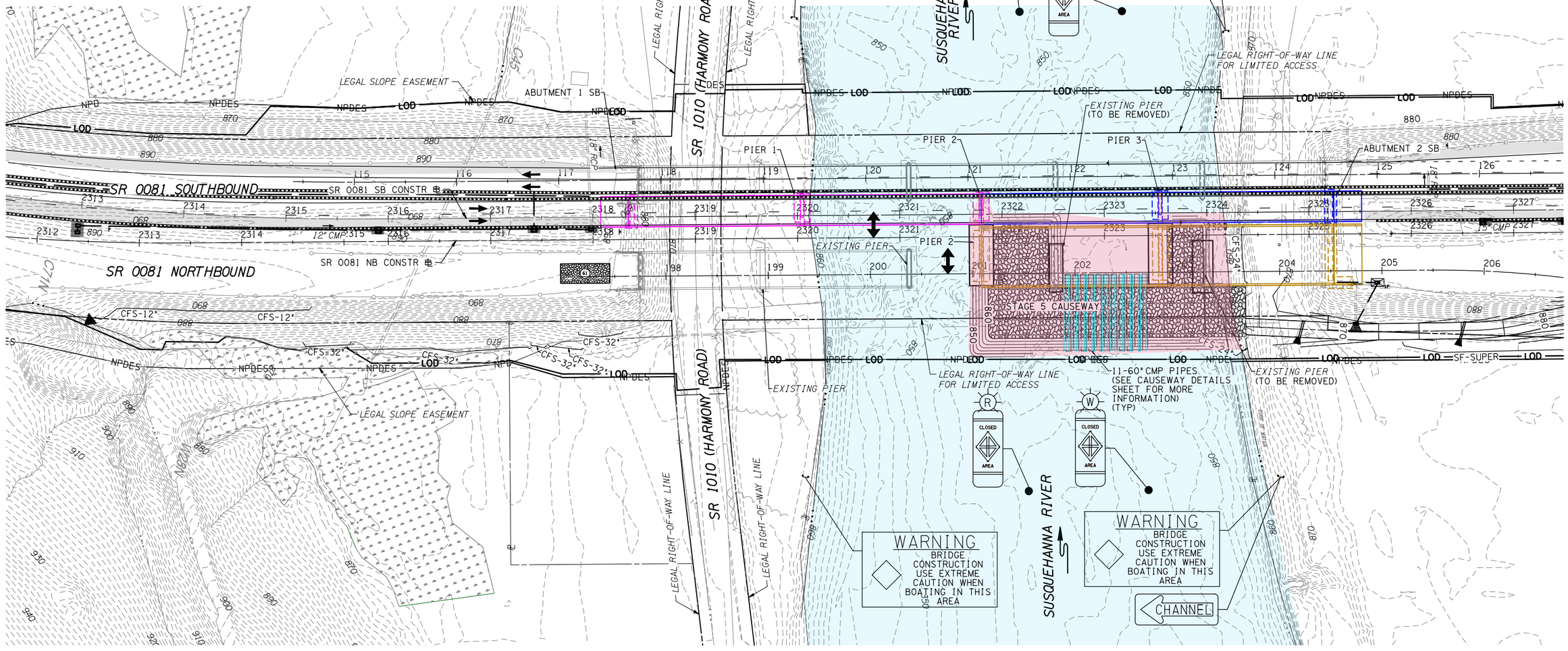
REVISION NUMBER	REVISIONS	DATE	BY

ATON PLAN LEGEND

- SAFE WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:
1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 5 = ELEV 859.16



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOKED WITH R-3

STAGE 3 CONSTRUCTION
STAGE 4 CONSTRUCTION
STAGE 5 CONSTRUCTION
STAGE 6 CONSTRUCTION
STAGE 7 CONSTRUCTION
STAGE 8 CONSTRUCTION
} COLOR-CODED STAGED BRIDGE CONSTRUCTION

WORK COMPLETED IN STAGE 5

- PLACE STAGE 5 CAUSEWAY FROM PROPOSED PIER 2 TO NORTH BANK (UPSTREAM).
- PLACE TEMP BARRIER ON NEW SB BRIDGE STRUCTURE AS SHOWN IN THE TYPICAL SECTIONS.
- SB TRAFFIC WILL REMAIN ON THE EXISTING SB TEMP LANES. NB TRAFFIC WILL BE ON THE NEW SB BRIDGE STRUCTURE (NB TRAFFIC WILL BE SHIFTED OVER BY CROSSOVER PRIOR TO STRUCTURE).
- DEMOLISH EXISTING NB SUPERSTRUCTURE FROM PIER 2 TO ABUT 2.
- DEMOLISH EXISTING NB PIER 3 & 4 AND ABUT 2.
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AROUND PROPOSED PIER 2 & 3 LOCATIONS.
- CONSTRUCT PIERS 2 & 3, ABUTMENT 2.
- AFTER SUBSTRUCTURE IS CONSTRUCTED, REMOVE TESPS.
- CONSTRUCT STAGE 5 SUPERSTRUCTURE. PROPOSED BEAMS WILL BE DELIVERED VIA THE ACCESS ROAD LOCATED UPSTREAM OF NB ABUTMENT 2. THEY WILL BE LIFTED BY CRANES FROM THE CAUSEWAY OR BEHIND THE PROPOSED ABUTMENT AND PLACED INTO THEIR FINAL POSITION.
- REMOVE STAGE 5 CAUSEWAY AND TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEMS.

SCALE
0 50 100 FEET

STAGE 5
AIDS TO NAVIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	4 OF 6

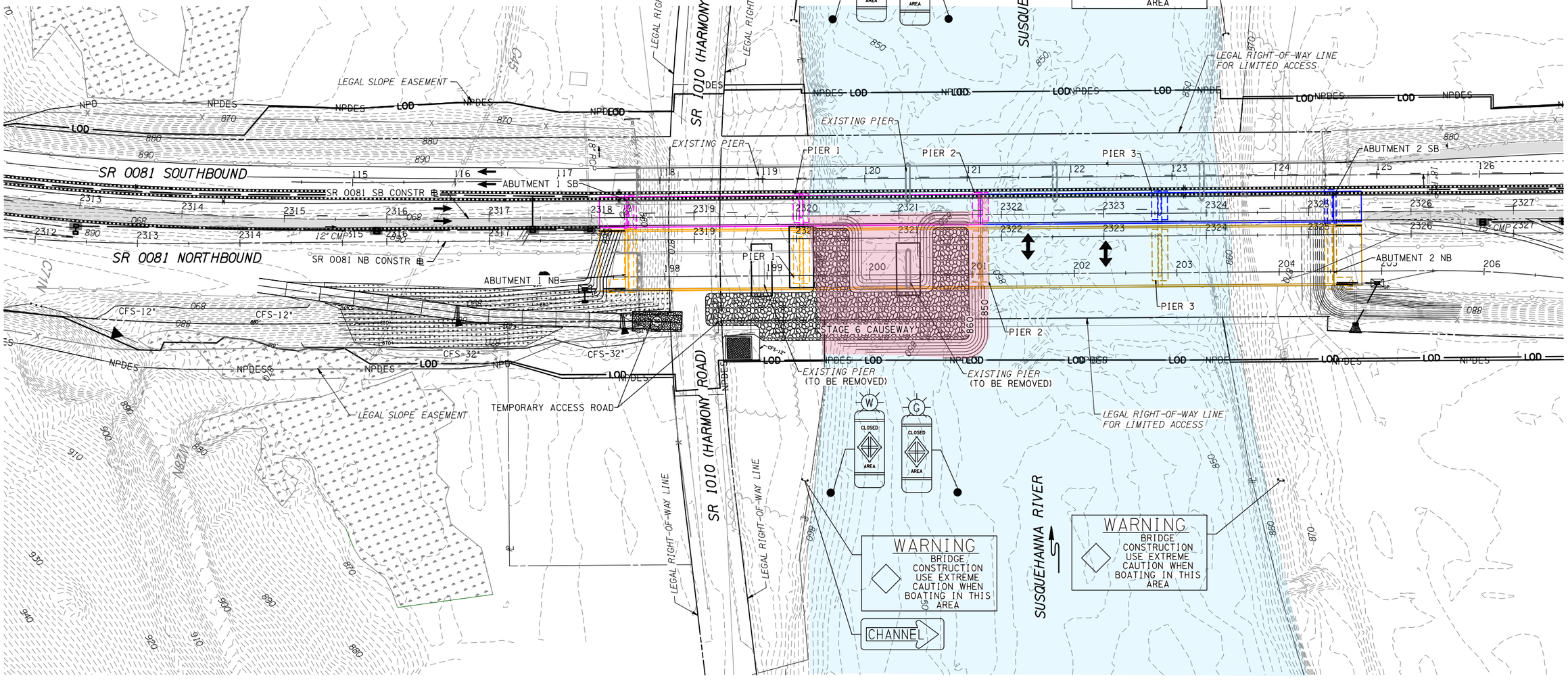
REVISION NUMBER	REVISIONS	DATE	BY

ATON PLAN LEGEND

- WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:
1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 6 = ELEV 859.10



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOKED WITH R-3

STAGE 3 CONSTRUCTION
STAGE 4 CONSTRUCTION
STAGE 5 CONSTRUCTION
STAGE 6 CONSTRUCTION
STAGE 7 CONSTRUCTION
STAGE 8 CONSTRUCTION
} COLOR-CODED STAGED BRIDGE CONSTRUCTION

WORK COMPLETED IN STAGE 6

- INSTALL THE STAGE 6 CAUSEWAY FROM SOUTH BANK TO PROPOSED NB PIER 2.
- SB TRAFFIC REMAINS ON EXISTING SB TEMP LANES. NB TRAFFIC WILL REMAIN ON THE NEW SB BRIDGE STRUCTURE (NB TRAFFIC IS SHIFTED OVER VIA A CROSSOVER PRIOR TO THE STRUCTURE).
- DEMOLISH THE EXISTING NB SUPERSTRUCTURE FROM ABUTMENT 1 TO PIER 2.
- DEMOLISH EXISTING PIER 1 & 2 AND ABUTMENT 1.
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT PROPOSED NB PIER 1 LOCATION.
- CONSTRUCT NB PIER 1 AND ABUTMENT 1.
- REMOVE THE TESPS AROUND PROPOSED NB PIER 1.
- CONSTRUCT THE REMAINING NB SUPERSTRUCTURE.
- BEAMS WILL BE DELIVERED VIA THE NB ACCESS RD (UPSTREAM). THEY WILL BE LIFTED BY CRANES LOCATED ON THE CAUSEWAY AND BEHIND THE NEW NB ABUTMENT 1.
- REMOVE STAGE 6 CAUSEWAY.

SCALE
0 50 100 FEET

STAGE 6
AIDS TO NAVIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	5 OF 6

REVISION NUMBER	REVISIONS	DATE	BY

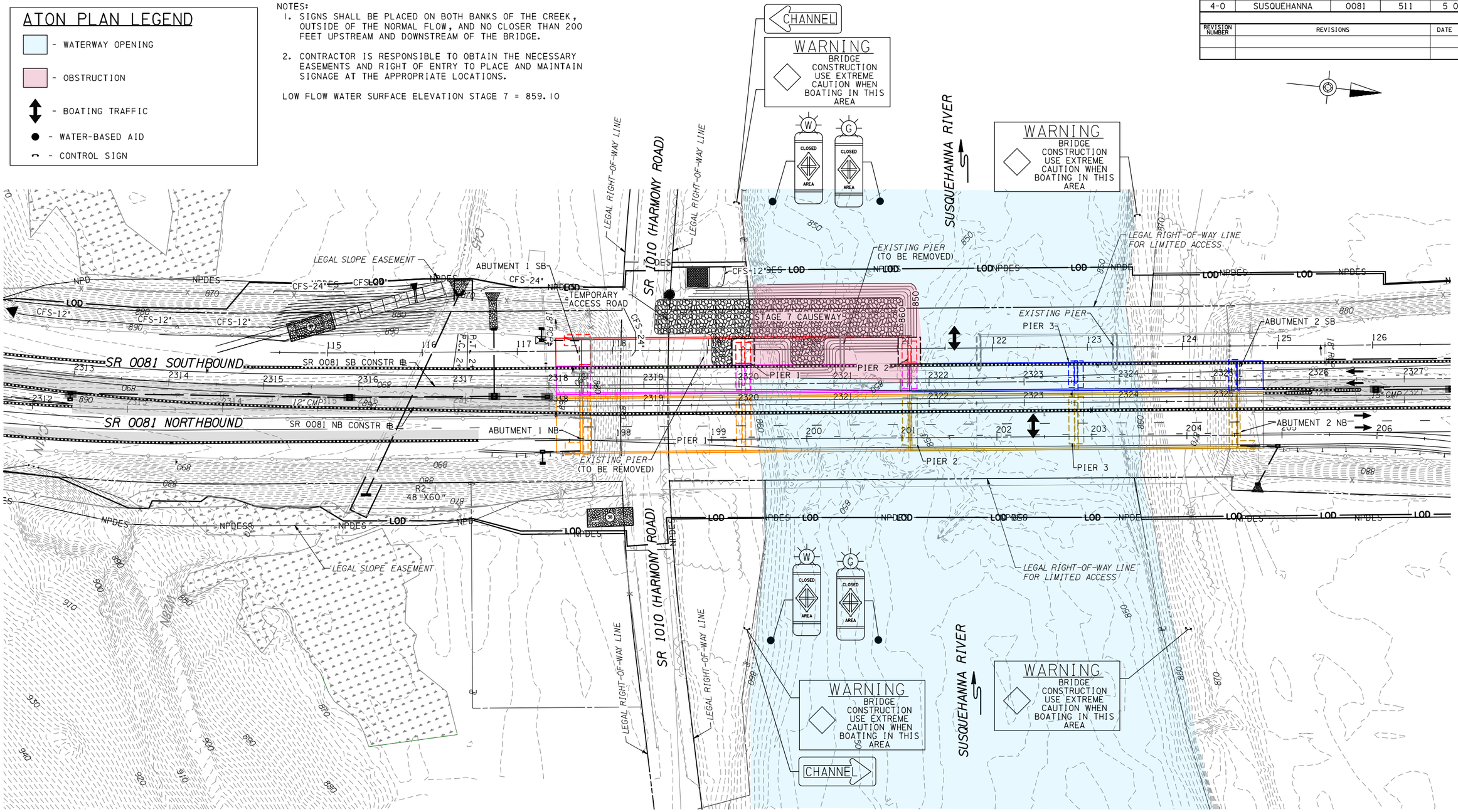
ATON PLAN LEGEND

- WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:

1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 7 = 859.10



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOCKED WITH R-3

STAGE 3 CONSTRUCTION
STAGE 4 CONSTRUCTION
STAGE 5 CONSTRUCTION
STAGE 6 CONSTRUCTION
STAGE 7 CONSTRUCTION
STAGE 8 CONSTRUCTION
} COLOR-CODED STAGED BRIDGE CONSTRUCTION

WORK COMPLETED IN STAGE 7

- PLACE CAUSEWAY FROM SOUTH BANK TO PROPOSED PIER 2 (DOWNSTREAM).
- SB TRAFFIC SWITCHES TO THE NEW SB LANES AND THE NB TRAFFIC MOVES TO NEWLY CONSTRUCTED NB STRUCTURE.
- DEMOLISH EXISTING SB SUPERSTRUCTURE FROM ABUTMENT 1 TO EXISTING PIER 3. DEMOLISH EXISTING SB PIER 1 & 2 AND ABUTMENT 1.
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT SB PIERS 1 & 2.
- CONSTRUCT THE REMAINDER OF SB PIER 1 & 2 AND ABUTMENT 1.
- COMPLETELY REMOVE ANY TESPS AROUND SB PIER 1 & 2.
- CONSTRUCT THE REMAINING SUPERSTRUCTURE FOR SB SPANS 1 & 2.
- BEAMS WILL BE DELIVERED VIA THE NEW SB LANES (TEMPORARY NIGHT LANE CLOSURE) AND WILL BE LIFTED BY CRANES FROM THE CAUSEWAY OR BEHIND SB ABUTMENT 1.
- REMOVE STAGE 7 CAUSEWAY AND ANY TESPS AT SB ABUTMENT 1.

SCALE
0 50 100 FEET

STAGE 7
AIDS TO NAVIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	6 OF 6

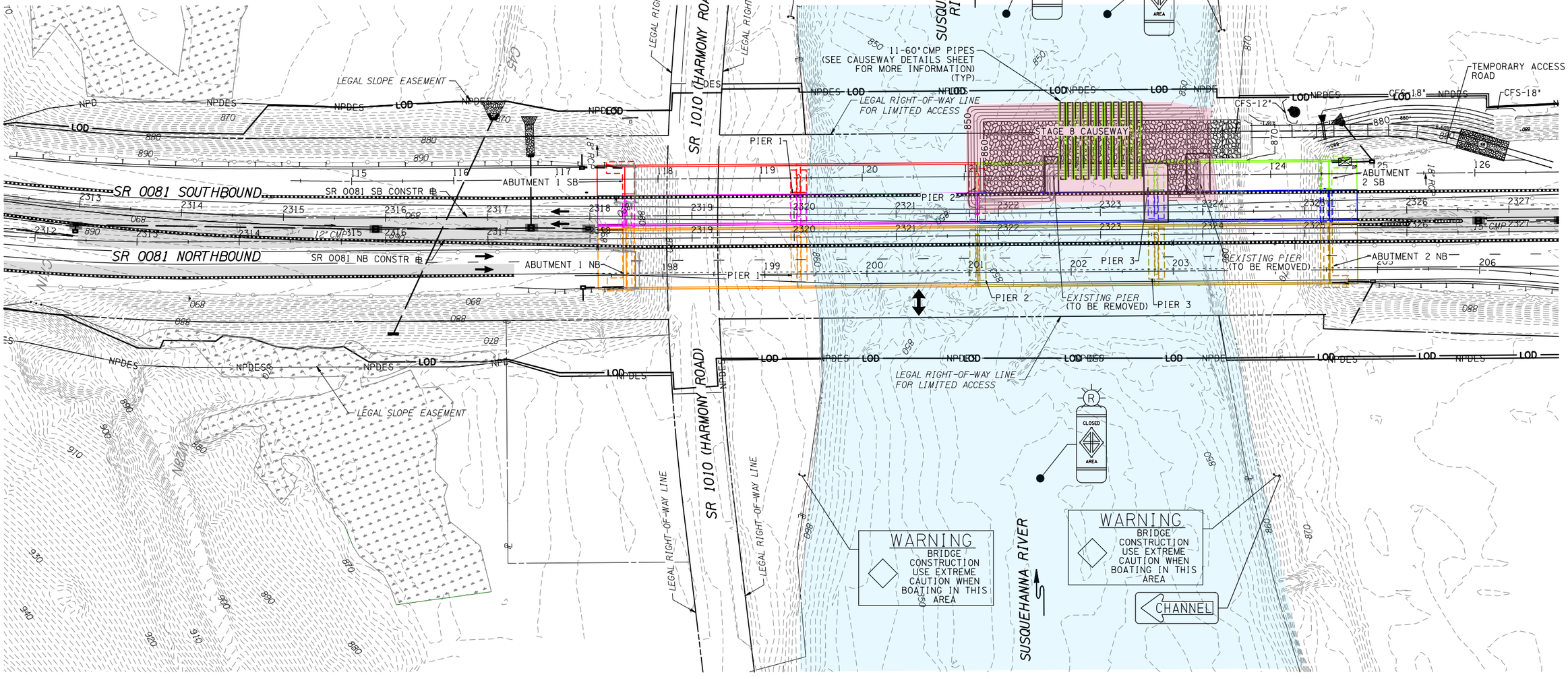
REVISION NUMBER	REVISIONS	DATE	BY

ATON PLAN LEGEND

- SAFE WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:
1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 8 = 859.13



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOKED WITH R-3

COLOR-CODED STAGED BRIDGE CONSTRUCTION:
STAGE 3 CONSTRUCTION
STAGE 4 CONSTRUCTION
STAGE 5 CONSTRUCTION
STAGE 6 CONSTRUCTION
STAGE 7 CONSTRUCTION
STAGE 8 CONSTRUCTION

WORK COMPLETED IN STAGE 8

- CONSTRUCT STAGE 8 CAUSEWAY FROM PROPOSED PIER 2 TO NORTH BANK (DOWNSTREAM).
- SB TRAFFIC REMAINS ON NEW SB LANES AND NB TRAFFIC WILL BE ON NB STRUCTURE.
- DEMOLISH EXISTING SB SUPERSTRUCTURE FROM SB PIER 3 TO ABUTMENT 2.
- DEMOLISH EXISTING PIERS 3 & 4.
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT PROPOSED SB PIER 3.
- CONSTRUCT SB PIER 3 AND ABUTMENT 2.
- REMOVE ALL REMAINING TEMPORARY EXCAVATION SUPPORT.
- CONSTRUCT PROPOSED SB SUPERSTRUCTURE.
- BEAMS WILL BE DELIVERED VIA THE NEW SB LANES (TEMPORARY NIGHT LANE CLOSURE) AND WILL BE LIFTED BY CRANES FROM THE CAUSEWAY OR BEHIND SB ABUTMENT 2.
- REMOVE STAGE 8 CAUSEWAY.

SCALE
0 50 100 FEET

STAGE 8
AIDS TO NAVIGATION PLAN

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FIGURE 10.5.1
EXAMPLE OF ATON SIGN SPECIFICATION FOR PLACEMENT UPSTREAM AND DOWNSTREAM OF PROJECT AREA



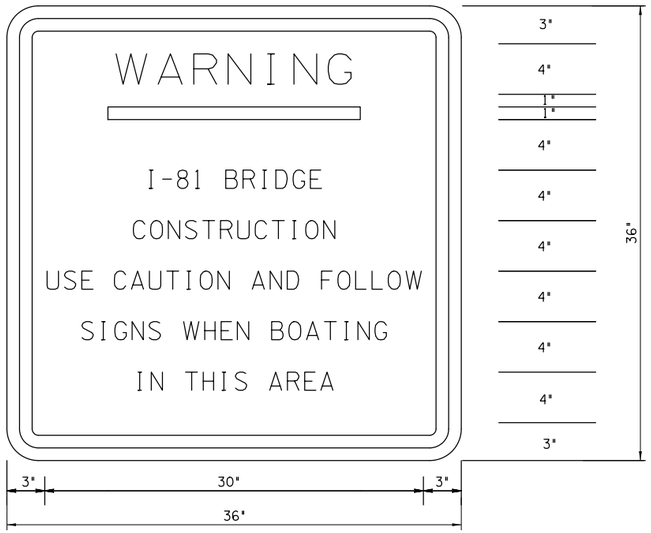
2.5" Radius, 1.0" Border, 1.0" Indent, Orange on White;
"WARNING" Black B; Horizontal Line White; "BRIDGE" Black B; "CONSTRUCTION" Black B;
"USE EXTREME" Black B; "CAUTION WHEN" Black B; "BOATING IN THIS" Black B;
"AREA" Black B;
Table of widths and spaces.

| | | |

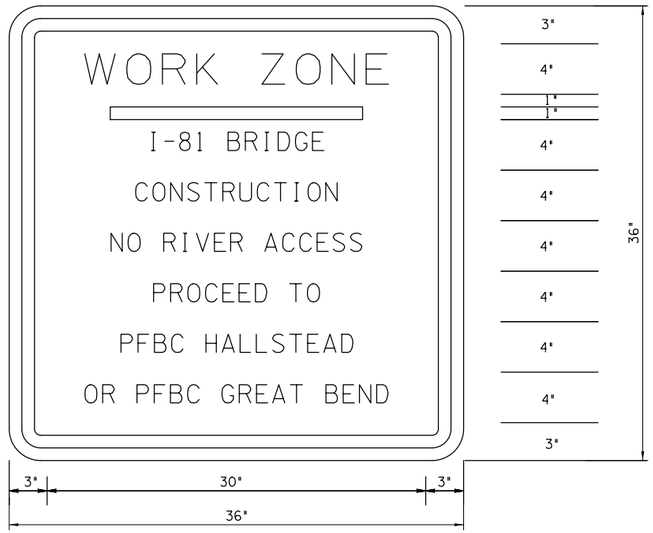
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	1 OF 1

REVISION NUMBER	REVISIONS	DATE	BY

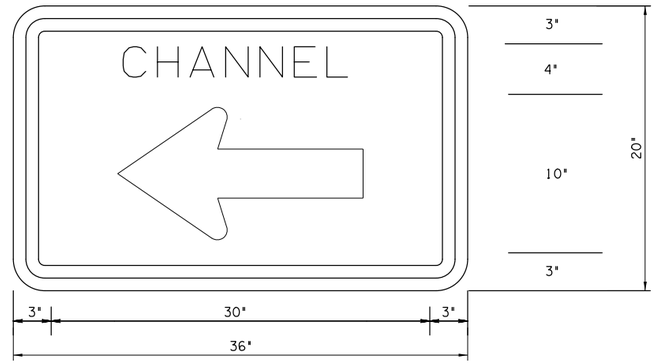
SP-2
36"X 36"



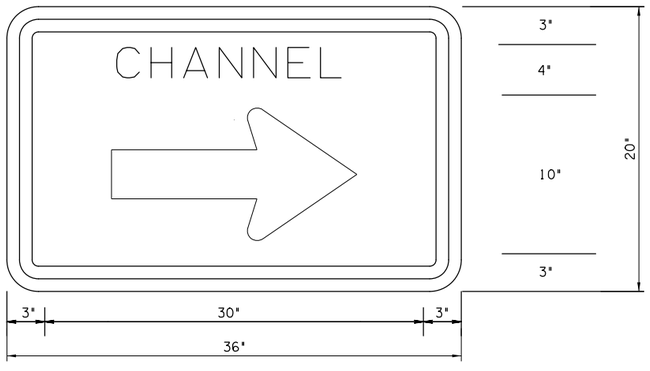
SP-3
36"X 36"



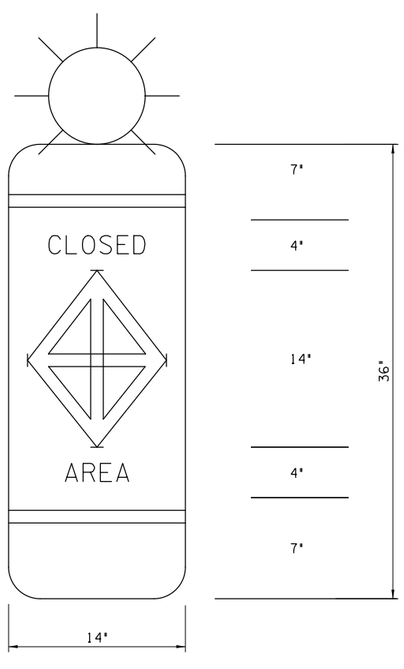
SP-4
20"X 36"



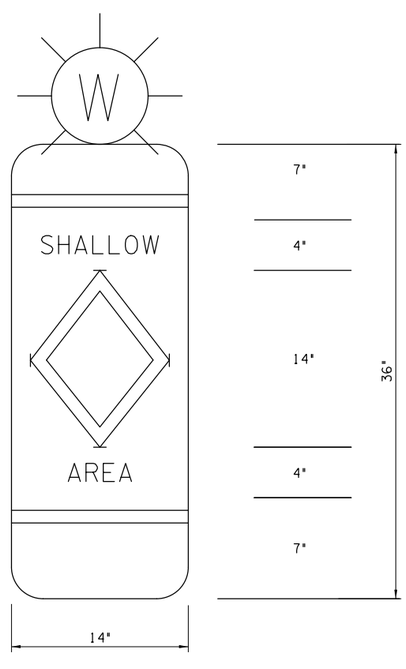
SP-5
20"X 36"



SP-6
36"X 14"



SP-7
36"X 14"



NOTES:
THESE ARE TEMPORARY SIGNS THAT ARE TO BE IN PLACE DURING CONSTRUCTION. AFTER CONSTRUCTION IS COMPLETE REMOVE THE SIGNS AND RESTORE THE GROUND TO ORIGINAL CONDITIONS.

SIGN DETAILS
AIDS TO NAVIGATION PLAN

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12/17/2021 AT 3:20:22 PM

PA Fish and Boat Commission PFBC-277 (01/2015)	APPLICATION FOR PERMIT TO INSTALL FLOATING STRUCTURES AND PRIVATE AIDS TO NAVIGATION	Date Submitted

INSTRUCTIONS Read regulations on reverse side before completing this form. Complete all blocks. Indicate N/A when items do not apply. **Enclosed check or money order for $10.00 with this application, payable to the Pennsylvania Fish and Boat Commission**

REASON FOR APPLICATION ❑ New Application *(See Block #14)* ❑ Renewal_____ *(Permit #)* ❑ Change _____ *(Permit #)*

1. Name and Address of Applicant

Telephone No. ( ) _____ - _____

Signature:

2. Name and Address of Applicant's Organization: *(If none, leave blank)*

Telephone: (_____) - _____ - _____

3. Type of Structure or Aid Requested: *(Buoy – Number & Type, Slalom Course, Float, etc.)*

4. Installation Date:

5. Removal Date:

6. County Structure or Aid Installed:

6. Body of Water:

7. Specific Area Structure or Aid Installed:

8. Reason for Structure or Aid:

9. What Provisions are made for safety of persons using structure?

10. No Persons Using Structure

11. Are You aware of any objections from area land owners, local government officials, or other persons to the placing of this floating structure/aid? If yes, please list.
❑ Yes ❑ No

12. Have there been any changes to your original permit?
❑ Yes ❑ No ❑ N/A

13. If "yes" to item #12, indicate item number changed and comply with Item #14. Item(s) changed:

14. With original application, amended renewal or change, **ATTACH** an accurate section of chart, map, or draw a detailed sketch of the waterway upon which proposed structure or aid is to be placed. Indicate position of structure or aid, distance from shore, other floating objects in vicinity, existing docks, roads, address, and adjacent property owner, as well as any other pertinent information.

DO NOT WRITE BELOW THIS LINE – PA FISH AND BOAT COMMISSION USE ONLY

Waterways Conservation Officer:	WCO No.	Comments or Additional Conditions:
Date:	❑ Approved ❑ Disapproved	
Agency, Municipality, Organization, Association:		Comments or Additional Conditions:
Date:	❑ Approved ❑ Disapproved	
Regional Manager:		Comments or Additional Conditions:
Date:	❑ Approved ❑ Disapproved	

Type of Structure/Aid Approved:

Effective this date, you are authorized a permit for the above structure or aid indicated in accordance with the application, any attachments hereto, and the regulations on the reverse side.

Permit is valid until _____unless terminated by the Pennsylvania Fish and Boat Commission.

Permit Number Issued: (See § 113.10(e) reverse)	Date:	Signature

(MAIL TO: PFBC BLE P.O. Box 67000 Harrisburg PA 17106)

REGULATIONS APPLICABLE TO PRIVATE AIDS TO NAVIGATION AND FLOATING STRUCTURES

(Chapter 113 Pennsylvania Fishing and Boating Regulations)

Section 113.1. General.

(a) The Coast Guard administers the U.S. Aids to Navigation System (33 CFR Part 62.) The System consists of federal aids to navigation operated by the Coast Guard, aids to navigation operated by other armed services, and private aids to navigation operated by other persons. This system is adopted by the Commission for use in Pennsylvania and is administered on waters not marked by the Coast Guard.

(b) An aid to navigation is a device external to a vessel intended to assist a boater in determining position or safe course or warn of dangers or obstruction to navigation.

Section 113.2. Prohibited Acts.

(a) Aids, other than those placed by the United States government, may not be placed on or along waters of this Commonwealth unless authorized by the Commission under Section 113.4. Permits.

(b) A person may not moor or fasten watercraft to an authorized and lawfully placed state or federal buoys, beacon or bridge. This section does not prohibit mooring of boats to authorized mooring buoys.

(c) It is unlawful for an unauthorized person to move, remove, tamper or injure a State or Federal aid or marker.

(d) No person shall place an aid to navigation that is incompatible with the United States Aids to Navigation System.

Section 113.4 Permits.

(a) Persons, including clubs, individual, state agencies, municipalities and other groups, wishing to establish an aid shall apply for permission from the Commission on Form PFBC-277 at least 30 days prior to the intended date of installation. Application forms are available from and should be submitted to the Pennsylvania Fish and Boat Commission, Bureau of Law Enforcement, PO Box 67000, Harrisburg, PA 17106-7000.

(a) The authorization of the placement of a private aid to navigation does not grant exclusive privileges nor does it eliminate the necessity to comply with other Federal or State permitting requirements.

Section 113.5. Responsibilities of Permittees.

(a) A permittee is solely responsible for placement and maintenance of private aids to navigation placed in waters of this Commonwealth under this Chapter. Private aids to navigation are the property of the permittee only and are not the property of the Commission or the Commonwealth. The permittee alone is responsible for claims related to the placement or maintenance of private aids to navigation. The permit will contain appropriate terms and conditions setting forth the responsibility of the permittee.

Section 113.6. Maintaining Aids to Navigation.

(a) Permittee shall maintain private aids to navigation throughout the period specified in the permit in accordance with permit requirements. If, during the period specified in the permit, the private aid is not in place, the permittee shall notify the Commission in writing within 5 days, stating the status of the aid.

Section 113.7. Transfer of Permit.

(a) Aids to navigation permits are not transferable. The party, or the successor in interest to the party, relinquishing responsibility for maintenance of the private aid to navigation shall advise the Commission in writing. The party accepting responsibility shall submit a new application.

Section 113.8 Accidents Involving Aids or Markers.

(a) Accidents involving and aid or marker shall be reported to the Commission as soon as possible, but not more than 5 days after the accident.

Section 113.9 Marking of Wrecks & Sunken Vessels

(a) When a sunken or submerged object creates a hazard to navigation, the owner of the boat, barge, raft or other craft, or of a motor vehicle or other obstruction which as sunk in waters of this Commonwealth is required to notify the Commission within 24 hours and to mark the hazard with a buoy or daymark during the day and with a light at night as the Commission directs.

(b) Buoys established by the Commission to mark wrecks may be lighted and placed on the channel side of the wreck and as near to the wreck as conditions will permit.

(c) Required markings shall be established and maintained until the wreck is removed or otherwise directed by the Commission.

Section 113.10. Permits for Installation and Lighting of Floats, Ski Ramps and Other Floating Structures.

(a) A person may not place a float, ski ramp or other floating structure on or along the waters of this Commonwealth unless authorized by the Commission, or an authorized representative of the Federal Government.

(b) Application shall be made on forms provided by the Commission at least 30 days prior to the intended date of installation of the structure.

(c) A ski ramp, floating dock, swim dock or other floating structure shall be lighted between sunset and sunrise and at other times when restricted visibility warrants it. Each structure shall show at least one all around white flashing or oscillating light visible for a distance of at least 1 mile. “Visible” means visible on a dark night with clear atmosphere.

(d) The permittee shall maintain the floating structure in accordance with permit requirements. The permittee shall notify the Commission in writing within 5 days if the floating structure is not in place or lighted during the period when the permit specifies that it shall be in place or lighted.

(e) **A STRUCTURE PERMITTED UNDER THIS SECTION SHALL DISPLAY THE PERMIT NUMBER IN CHARACTERS AT LEAST 3 INCHES IN HEIGHT IN A POSITION WHERE IT MAY BE OBSERVED EASILY BY AN OFFICER EMPOWERED TO ENFORCE THIS SECTION.**

Section 113.11. Unpermitted Buoys and Floating Structures.

(a) It is unlawful to place or maintain buoys and floating structures on the waters of this Commonwealth without proper permits. The owner of a buoy or structure is responsible for obtaining the necessary permits prior to placing or maintaining the buoys or structure on Commonwealth waters.

(b) Unpermitted buoys and structures shall be removed by the owner upon order of the Commission. If they are not removed, the Commission will remove or order their removal. The owner will be held responsible for the costs of the removal, in addition to payment of fines resulting from violation of this section.

ITEM 9000-0XXX AIDS TO NAVIGATION PLAN

DESCRIPTION – This item is the implementation and maintenance of an Aids To Navigation Plan (ATON) boat safety and recreational angler plan for the duel structure replacement of SR 0081 over Susquehanna River in Susquehanna County. The ATON Plan is to include boat signing and channel markers as approved by the Pennsylvania Fish and Boat Commission (PAFBC). All signs are to be in accordance with approved ATON Plan included in the contract drawings with bold face lettering contrasting from background sign color.

All buoys or similar devices placed in Susquehanna River are to contain illuminated flashing beacon on top of device with 1 - 2 nautical mile marine lighting.

Use buoys or devices acceptable to PA Fish and Boat Commission that have ability to property float in minimum water depth of 2.0 feet as well water depths greater than 2.0 feet. Buoys or acceptable devices that do not float in correct upright position are not acceptable since information will not be visible to River users. Monitor River levels and remove all ATON signs located in Susquehanna River due to predicted elevated River level conditions. Reset all ATON signs removed due to elevated River levels 24 hours after acceptable River levels are reached. It may be necessary to remove, reset or retrieve ATON plan components that are dislodged by elevated River levels numerous times during every construction season.

Complete required sections of PA Fish and Boat Commission – Form - PFBC-277, located as attachment in contract document. The Department completed a portion of Form PFBC-277. Complete remaining sections and submit to PAFBC to obtain permit approval to install ATON plan in Susquehanna River. Submit completed Form PFBC-277, applicable fee and entire ATON plan information package to PA Fish and BoatCommission one day after contract notice to proceed.

Allow 75 workdays to order, fabricate and receive on work site all signs and devices for use in approved ATON Plan. Do not begin any work associated with replacement or demolition of Susquehanna River Bridge without having approved ATON Plan in place.

CONSTRUCTION – Place and maintain all signs for length of bridge construction alerting users of construction project at SR 0081 bridges over Susquehanna River. Place buoys in Susquehanna River with sufficient anchorage to prevent dislodging or disorienting by waterway currents or wind damage. Locate warning signs on both banks of the project, above the normal water line, 200 feet upstream and downstream of bridge construction. The location of the signage, with respect to the distance from the construction, will need to be adjust in the field to obtain the minimum distance from the bridge construction activities specified.

Obtain permission from adjoining parcel owners to place and maintain signs throughout construction. Check all ATON Plan components on daily basis to verify they are correctly positioned and not require maintenance.

Trim brush and trees on banks to expose and make signs visible from stream.

Designate an individual as Boat Safety Coordinator for the project. This person is to be available 24 hours a day, seven days a week should the ATON Plan need maintenance during or after normal work-day is complete. Provide theft resistant hardware for all signs placed. Complete utility mark out and PA One Call as necessary to install each boat sign and associated portage. Provide sufficient anchorage if sign is placed on free standing post(s).

Place ATON signs and buoys in accordance with approved plan at the following locations:

- Route 0081 SB Bridge – West side of Bridge (Downstream).
- Route 0081 NB Bridge – East side of Bridge (Upstream).
- Upstream Boat Launch Facility --- State Game Lands 35.
- Downstream Boat Launch Facility --- Hallstead Boat Launch.

Place and maintain rigid shielding beneath underside of existing of both Susquehanna River Bridges – North and South bound directions for all phase of work to contain material from work area.

Maintain minimum of 12 feet of under clearance between underside of containment and Susquehanna River water surface for all phases of bridge construction or demolition. Depth of temporary containment cannot interfere with safe boat passage or restrict under clearance.

The Hallstead Boat Launch can be used to launch boat for installation and maintenance ATON Plan buoys only. Wear proper personal floatation jackets when operating boat. Do not interfere with boat launch or operations. Do not store equipment or materials within Hallstead Boat Launch facility or any other boat launch facility.

Provide warning vests, orange shirts or orange jackets at all times to all employees engaged in daylight work operation. Provide high visibility Type III Personal Floatation Devices to all construction personnel at the bridge construction site at all times when working on or near the river. Provide a registered motorized well maintained, flat bottom boat – minimum of 16 feet with sufficient horsepower to operate in river environment including oars and furnished with the following equipment: throw bags, Throwable Type IV Personal Floatation Device, Flashlight, Loud Hailer, air horn and whistle. Provide at least one person exclusively assigned to the boat whenever contractor operations have overhead operations that can affect safe passage of River users through work area.

Closure of Susquehanna River to recreational users is not allowed without approval from PA Fish and Boat Commission. Closure requests are to be submitted and coordinated 60 days in advance with PA Fish and Boat Commission. Prepare, submit, and complete all documentation (including coordination or approval from New York State and newspaper advertisements if necessary) to revise approved ATON Plan including new or additional ATON Sign(s) to convey proposed River conditions. Satisfactorily address all Department and PA Fish and Boat Commission comments or questions. Closure request(s) must demonstrate that all measures were taken to avoid or minimize impacts to River passage prior to making request to close River passage through work area. All work necessary to prepare and complete request to revise approved ATON Plan to close Susquehanna River passage is incidental to project.

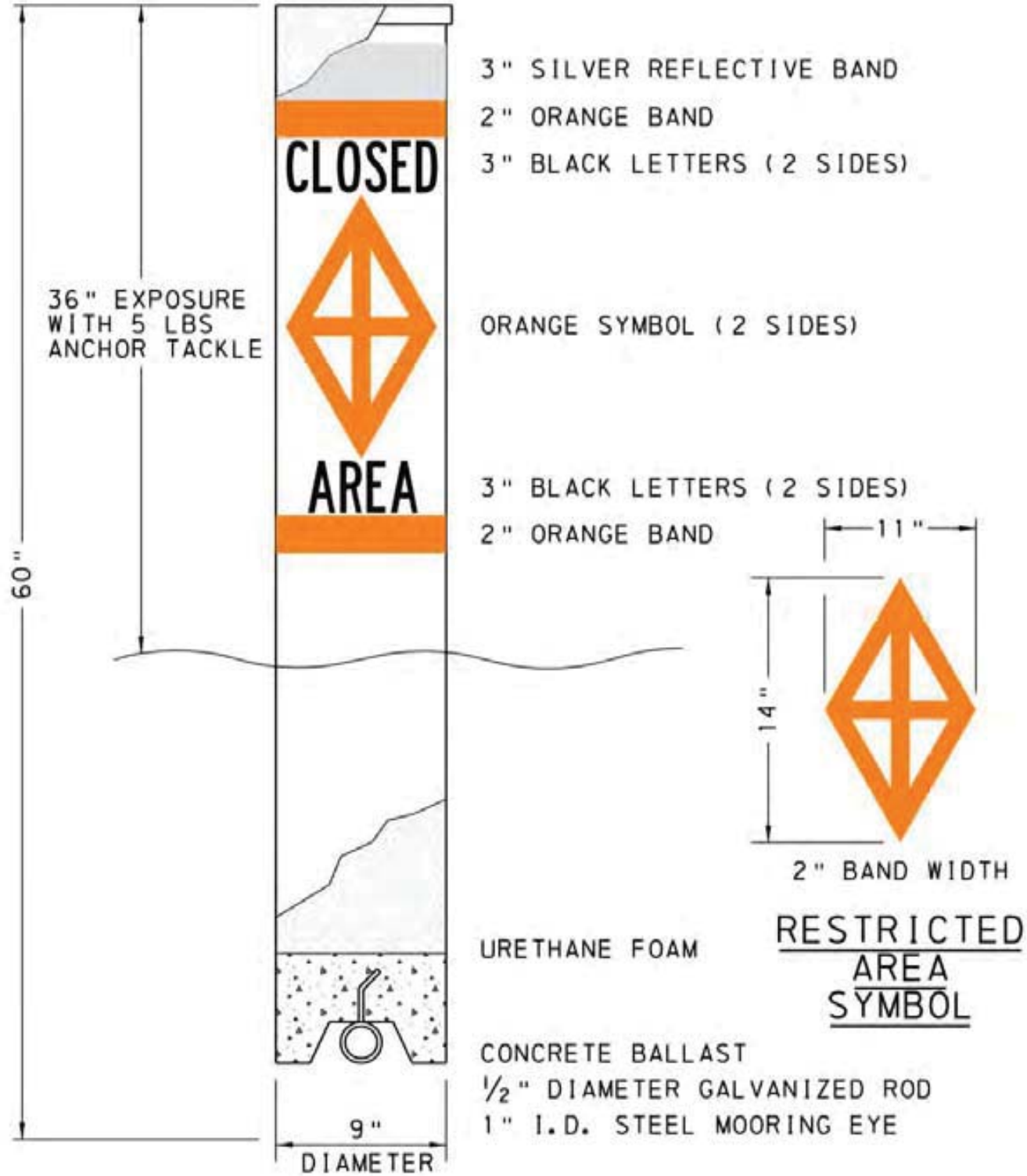
Maintain constant surveillance of the boat safety operation and replace any missing, stolen, vandalized, ineffective or misaligned equipment. Do not deviate from the ATON Plan without approval from the Department. Remove all signs at completion of work.

Check all ATON Plan components on daily basis to verify they are correctly positioned and not require maintenance. Any dislodged ATON device must be recovered and reinstalled as soon as possible.

MEASUREMENT AND PAYMENT – Lump Sum

BUOY

NOT TO SCALE



RESTRICTED AREA SYMBOL

SKU: 1428

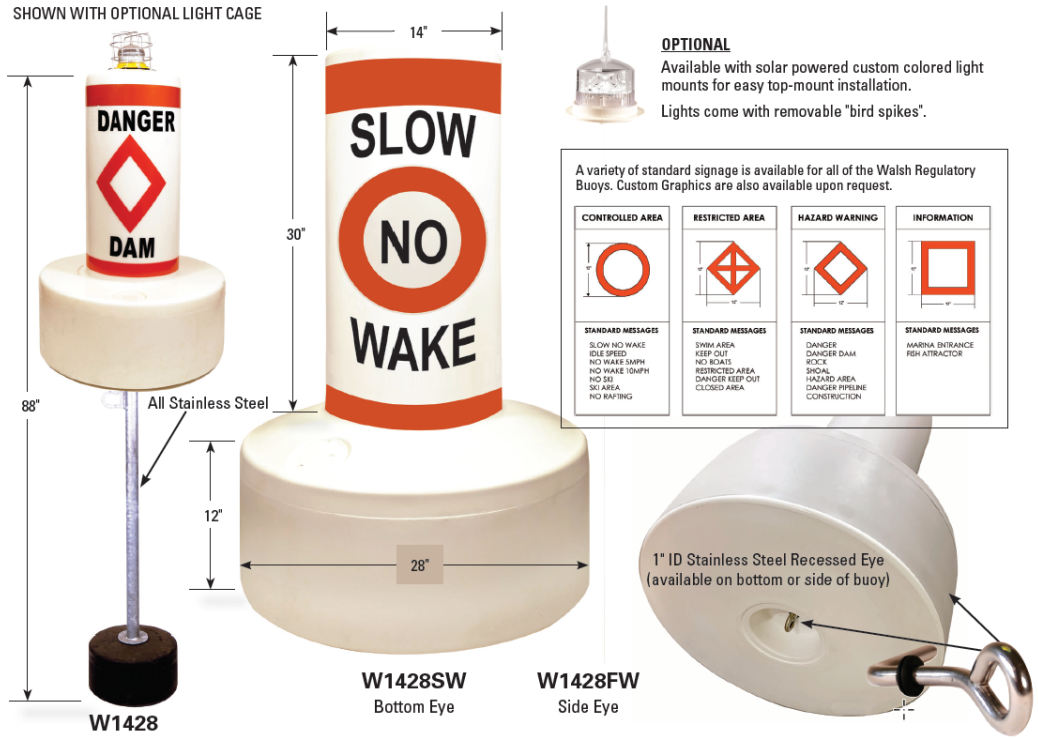
Category: 1428 Float Collar Buoys

DESCRIPTION ADDITIONAL INFORMATION

Tough Seal™ Rotationally-Molded Buoy Construction

Seamless Manufacturing: when durability matters

Our premium products are made from pollution resistant high-density polyethylene resin with a leak-proof, seamless design and vinyl marking graphics for maximum durability and fade protection.



Float Collar Buoys		
Model #	**Product Description**	**Size and Specs**
W1428	Tough Seal™ Float Collar Can: External Ballast	28" Diameter x 88" Tall - White
W1428SW	Tough Seal™ Shallow Water Float Collar Can Bottom Eye	28" Diameter x 42" Tall - White
W1428FW	Tough Seal™ Fast Water Float Collar Single Side Eye (1)	28" Diameter x 42" Tall - White

1428 Float Collar Buoy Details

- Our Float Collar Buoys are all one piece, rotational molded high-density polyethylene polymer shell with UV inhibitors
- High stability design with external ballast, side-eye, or bottom eye

- Standard symbols and messages. Graphics are solid vinyl with a 5-year factory no-fade warranty. No Silk-screening
- 3" (7.62cm) reflective orange band
- Completely foam filled, with urethane foam that meets or exceeds United States Coast Guard requirements
- Impervious to chemicals, fuels, and solvents
- Super Tough! No cracking, chipping, or peeling
- Self-righting without tackle
- Equipped with standard 1" diameter stainless steel mooring eye

Float Collar Buoys Customization Options

- Reflective symbols and bands: available in both standard and high intensity
- Owner or agency identification and/or permit numbers – vinyl lettering
- Solar lights
- Channel Markers
- Heavier wall thickness
- Custom colors: Green, Yellow, Red
- Multiple mooring eyes
- Pickup Eyes

W1428
Submerged buoyancy .....350 lbs.
Net weight.....130 lbs.

W1428SW / W1428FW
Submerged buoyancy .....350 lbs.
Net weight.....128 lbs.

ABOUT US

Walsh Marine Products was founded in Brookfield, Wisconsin in 2004 with one simple mission: become the world's leading manufacturer of buoys and floats, while providing the best pricing in the market.

LATEST


Buoy Maintenance & Restoration Kit


Long Float Buoy


Mooring Buoys (spherical)


1428 Float Collar Buoys - made w/ Tough Seal™

LATEST NEWS

GET GIFTS DELIVERED BY CHRISTMAS 30,000+ Items Eligible from Our Store to You ›

Internet #203677524 Model #14107

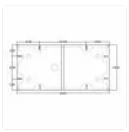
15

Eagle Floats

24 in. x 48 in. x 12 in. Foam Filled Dock Float Drum distributed by Multinautic

★★★★★ (12) Questions & Answers (5)







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— or —

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Frequently Bought Together


+


+


Price for all three:

$215.17

Add all three to cart

- This item: 24 in. x 48 in. x 12 in. Foam Filled Dock Float Drum distributed by Multinautic **$119.50**
- Multinautic Heavy Duty Floating Dock Hinges Kit **$69.99**
- PermaFloat 5 in. x 8.75 in. x 5 in. Metal Inside Corner **$25.68**

Product Overview

Eagle Floats relies on Multinautic to distribute its sturdy floats to US residents. Multinautic's excellent customer service, years of experience with waterfront property owners and recreational boaters, and wide range of top-quality docks and marine accessories will meet your expectations. This floating drum is rotational molded with .15 in. thick walls. Top quality virgin polyethylene with ultraviolet inhibitors guaranty sturdiness and long lasting use. This premium float can be used as replacement with existing docks or the key element to a brand-new dock. Whether you install it on a wood dock or an aluminum or steel structure, the heavy duty fabrication of this float will resist the saltwater, sun, oil and gaz spills, hence our 15-year limited warranty. These floats are filled with closed-cell expanded polystyrene (EPS).

Info & Guides

You will need Adobe® Acrobat® Reader to view PDF documents. Download a free copy from the Adobe Web site.

× Get Everything You Need (1)



TechStar
Floating Dock Anchor Mold
Distributed by Tommy Docks

★★★★★ (10)

Live Chat

Feedback

Pennsylvania Fish & Boat Commission

established 1866

BUREAU OF BOATING
P.O. BOX 67000
HARRISBURG, PA 17106-7000
717-836-3294
RMORDER@PA.GOV

30 December 2021

Erin Feichtner P.E.
Transportation Engineer
Barton Lawson
613 Baltimore Drive
Suite 300
Wilkes-Barre, PA 18702

Dear Erin Feichtner P.E.:

I have reviewed your recently submitted Aids to Navigation Plan SR 0081 I-81Reconstruction Project over the Susquehanna River in Great Bend Township, Susquehanna County. The plan is acceptable as submitted and has been approved. All signage/buoys must be installed prior to construction and inspected frequently to ensure it is always visible to boaters. Any changes to this plan must be submitted directly to this office for further review. If buoys are to be utilized, a PFBC-277 Application to Install Floating Structures/Private Aids to Navigation must be submitted and approved prior to installation.

I will share the approved ATON plan with the PA Fish & Boat Commission Division of Environmental Services and the Regional Law Enforcement Office to ensure they are aware of the project. Please advise the contractor that the project site may be inspected at any time by Bureau of Law Enforcement personnel for compliance with this plan. A copy of the approved plan along with this letter must be available for inspection, if requested.

Please feel free to contact me if you have any questions concerning this project or the PA Fish & Boat Commission Aids to Navigation program, in general.

Sincerely,

Richard Morder
Waterways and Marina Management Division

CC: NE Region Bureau of Law Enforcement
Division of Environmental Services

pennsylvania
DEPARTMENT OF TRANSPORTATION

September 14, 2022

Laurel Anders
Director, Bureau of Boating
PA Fish and Boat Commission, Office of Administration
PO Box 67000
Harrisburg, PA 17106-7000

Re: I-81 Susquehanna Bridge Project
Great Bend Township, Susquehanna County, PA
Requesting Concurrence with Section 4(f) Determination

Dear Ms. Anders:

The Pennsylvania Department of Transportation (PennDOT) proposes to replace the Interstate 81 (I-81), Section 511 Susquehanna River Bridges. The dual bridges (one northbound and one southbound) were built in 1961, rehabilitated in 1979, 1993 and 2006, and carry I-81 over the Susquehanna River, in Great Bend Township, Susquehanna County, Pennsylvania.

I-81 is a divided four-lane, interstate roadway with a posted speed limit of 65 mph. Combined, the bridges carry about 27,000 vehicles per day, approximately 41 percent of which is truck traffic. The combined daily traffic is expected to more than double by 2045 to around 55,000. The I-81 Susquehanna Bridges Project is a 9-mile corridor reconstruction project along I-81 from the New Milford Interchange with SR 492 (Exit 223) through the Great Bend Interchange with SR 171 (Exit 230) to the New York border. The project involves the replacement of five dual I-81 mainline bridges and one overpass structure; construction along cross streets (Susquehanna Street, SR 171 and SR 1029); and varying degrees of rehabilitation work for three box culverts. Proposed roadway work includes full depth pavement reconstruction for the northbound and southbound lanes, lengthening substandard interchange ramp acceleration/deceleration lanes, improving substandard vertical alignments, guide rail and signing replacement, shoulder widening, and drainage improvements.

Purpose: The purpose of the project is to address the pavement, structural, drainage, and ramp length deficiencies, providing a safer and more efficient corridor.

Needs:

- The underlying pavement in the corridor is nearly sixty years old and the Susquehanna River bridges and the pavement in the project area are approaching the end of their serviceable lifespan.

- All structures exceed the allowable limits for Chloride Ion content in reinforced concrete which accelerates corrosion of the reinforcing steel and deterioration of the concrete.

- The interchange ramps exhibit short acceleration and deceleration lengths and do not meet current design standards.

- The age of the storm system has exceeded its useful life.

The project is located in New Milford Township/Borough and Great Bend Township/Borough, Susquehanna County, Pennsylvania. This I-81 corridor is the primary route for north-south traffic serving a mix of both commuter and through traffic. A project location map is provided as **Attachment 1** within the enclosed draft Section 4(f) Temporary Occupancy form. Project construction will occur in eight stages. A series of causeways will be used to do the half-width construction. River passage will vary but will be maintained through at least one of the three existing or the two proposed navigable spans during all eight stages of construction (no work activities are proposed in the Susquehanna River during stages 1 and 2) over the course of the anticipated six-year construction schedule. In-stream work is anticipated to occur during approximately two-thirds of the total construction duration (approximately four-years of in-stream work over the course of six-years of overall construction).

Two formal PFBC boater access points, Great Bend Access (RM348) 5-miles upstream of the I-81 bridge and Hallstead Access (RM 342) approximately 1,000 feet downstream, will remain open during construction. Coordination with the PFBC Water Conservation Officer from the project area indicates that the Great Bend Access is primarily used by canoeists and kayakers floating to the Hallstead Access. With deeper water at the Hallstead Access, use includes motorboats in addition to canoes and kayaks. Boaters using the Hallstead Access typically travel downstream to the New York State area. Boating traffic during the boating season would be considered intermediate in the project area. An Aids to Navigation (ATON) Plan has been prepared and approved by Richard Morder, PFBC Waterways and Marina Management Division. Under Section 4(f) of the U.S. Department of Transportation Act of 1966, the Susquehanna River Water Trail is considered a Section 4(f) property as a publicly owned recreation area that serves a significant recreation purpose. Under 23 CFR 774.13(d), a temporary occupancy of a Section 4(f) resource is not considered to be a use (impact) if specific criteria are met.

The Project is not expected to adversely affect the recreational activities, features, and attributes that qualify the Susquehanna River Water Trail for protection under Section 4(f). Implementation of the ATON plan will ensure passage under the bridge is maintained throughout construction. Based on this information, the FHWA and PennDOT intend to make a temporary occupancy determination for the proposed project.

In accordance with 23 CFR 774.13(d), the following stipulations will be met:

- The duration of impacts will be temporary, i.e. less than the time needed for construction of the project, and there will be no change in ownership of the land;

- The scope of work is minor, i.e. both the nature and the magnitude of the changes to the Section 4(f) property is minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities, features, or attributes of the property, on either a temporary or permanent basis;
- The land being used will be fully restored, i.e. the property will be returned to a condition which is at least as good as that which existed prior to the project, and;
- There is documented agreement of the officials with jurisdiction over the Section 4(f) resource regarding the above conditions.

Please note that with regard to the first bullet point above, the replacement of the dual structures over the Susquehanna River are part of a larger project that includes roadway reconstruction. In-stream work is anticipated to occur during approximately two-thirds of the total construction duration (approximately four-years of in-stream work over the course of six-years of overall construction). With regard to the second, third and fourth bullets, the dual bridges are to be replaced on existing alignment and the number of bridge piers within the river will be reduced from 6 to 4 piers. In accordance with the approved ATON plan, boating access will be maintained throughout construction of the replacement bridges and river passage fully restored upon completion of bridge construction; therefore, the project would not temporarily or permanently interfere with the recreational activities, features, or attributes of the water trail.

The PFBC, in an email dated 8/24/2022, recommended revisions to the approved ATON Plan to address additional boater safety concerns during construction stages 5 and 8 which include causeways with several 60-inch pipes which could be hazardous to small boats (e.g., canoes and kayaks). The PFBC, in the same email, also requested that an update be provided to the North Branch Susquehanna River Water Trail manager at the beginning of each year of the project term to inform them of upcoming project plans that may impact their special events and the safety of water trail users. During a meeting to discuss the project on 8/31/2022, PennDOT agreed to incorporate the PFBC recommended ATON Plan recommendations into the approved ATON Plan and future design plan revisions along with annual coordination with the water trail manager. Revisions to and implementation of the ATON Plan will be included as a mitigation commitment for the project and will be tracked through PennDOT's Environmental Commitments and Mitigation Tracking System (ECMTS). After the construction of the bridge is complete, the Susquehanna River Water Trail will once again span the full width of the river under I-81.

It is also noteworthy that, as a measure to offset navigating past the various causeway configurations at the I-81 bridges during construction of the replacement of the bridges, PennDOT commits to repave the Hallstead boat access parking area. This commitment is discussed in the Navigable Waters section of the CE Reevaluation being prepared for the project and will be entered in the ECMTS database to be tracked through construction. Repaving will be completed prior to the first causeway being constructed.

If you agree that the project as proposed meets the conditions listed above, please sign and date below.

We have attached for your review a draft copy of the Section 4(f) Temporary Occupancy form, which provides details of the anticipated impacts to the Susquehanna River Water Trail and proposed mitigation measures.

Thank you for your assistance in this matter. If you have any questions, please feel free to contact me at 717-705-1481 or via email, johname@pa.gov

Sincerely,

Drew Ames

Drew Ames
Environmental Planning Manager
Environmental Policy and Development Division

Enclosures: Susquehanna River Draft Section 4(f) Temporary Occupancy Form

Concurrence: Laurel L Anders Date: 9/14/2022
Laurel Anders
Director, Bureau of Boating
PA Fish and Boat Commission

cc: Jon Crum, FHWA
Brian Shunk, PennDOT HDTS

DS-2C (12-15)

pennsylvania
DEPARTMENT OF TRANSPORTATION

September 14, 2022

Cain Chamberlin
Executive Director
Endless Mountains Heritage Region
602 Main Street, Suite 7
Towanda PA, 18848

Re: I-81 Susquehanna Bridge Project
Great Bend Township, Susquehanna County, PA
Requesting Concurrence for Section 4(f) Temporary Occupancy

Dear Mr. Chamberlin:

As noted during our call on September 9, 2022, the Pennsylvania Department of Transportation (PennDOT), in coordination with the Federal Highway Administration (FHWA), proposes to replace the Interstate 81 (I-81), Section 511 Susquehanna River Bridges. The dual bridges (one northbound and one southbound) were built in 1961, rehabilitated in 1979, 1993 and 2006, and carry I-81 over the Susquehanna River, in Great Bend Township, Susquehanna County, Pennsylvania.

I-81 is a divided four-lane, interstate roadway with a posted speed limit of 65 mph. Combined, the bridges carry about 27,000 vehicles per day, approximately 41 percent of which is truck traffic. The combined daily traffic is expected to more than double by 2045 to around 55,000. The I-81 Susquehanna Bridges Project is a 9-mile corridor reconstruction project along I-81 from the New Milford Interchange with SR 492 (Exit 223) through the Great Bend Interchange with SR 171 (Exit 230) to the New York border. The project involves the replacement of five dual I-81 mainline bridges and one overpass structure; construction along cross streets (Susquehanna Street, SR 171 and SR 1029); and varying degrees of rehabilitation work for three box culverts. Proposed roadway work includes full depth pavement reconstruction for the northbound and southbound lanes, lengthening substandard interchange ramp acceleration/deceleration lanes, improving substandard vertical alignments, guide rail and signing replacement, shoulder widening, and drainage improvements.

Purpose: The purpose of the project is to address the pavement, structural, drainage, and ramp length deficiencies, providing a safer and more efficient corridor.

Needs:

- The underlying pavement in the corridor is nearly sixty years old and the Susquehanna River bridges and the pavement in the project area are approaching the end of their serviceable lifespan.

- All structures exceed the allowable limits for Chloride Ion content in reinforced

concrete which accelerates corrosion of the reinforcing steel and deterioration of the concrete.

- The interchange ramps exhibit short acceleration and deceleration lengths and do not meet current design standards.

- The age of the storm system has exceeded its useful life.

The project is located in New Milford Township/Borough and Great Bend Township/Borough, Susquehanna County, Pennsylvania. This I-81 corridor is the primary route for north-south traffic serving a mix of both commuter and through traffic. A project location map is provided as **Attachment 1** within the enclosed ATON Plan.

Project construction will occur in eight stages. A series of causeways will be used to do the half-width construction. River passage will vary but will be maintained through at least one of the three existing or the two proposed navigable spans during all eight stages of construction (no work activities are proposed in the Susquehanna River during stages 1 and 2) over the course of the anticipated six-year bridge construction schedule. In-stream work is anticipated to occur during approximately two-thirds of the total bridge construction duration (approximately four-years of in-stream work over the course of six-years of overall construction).

Two formal PFBC boater access points, Great Bend Access (RM348) 5-miles upstream of the I-81 bridge and Hallstead Access (RM 342) approximately 1,000 feet downstream, will remain open during construction. Coordination with the PFBC Water Conservation Officer from the project area indicates that the Great Bend Access is primarily used by canoeists and kayakers floating to the Hallstead Access. With deeper water at the Hallstead Access, use includes motorboats in addition to canoes and kayaks. Boaters using the Hallstead Access typically travel downstream to the New York State area. Boating traffic during the boating season would be considered intermediate in the project area. An Aids to Navigation (ATON) Plan has been prepared and approved by Richard Morder, PFBC Waterways and Marina Management Division. Under Section 4(f) of the U.S. Department of Transportation Act of 1966, the Susquehanna River Water Trail is considered a Section 4(f) property as a publicly owned recreation area that serves a significant recreation purpose. Under 23 CFR 774.13(d), a temporary occupancy of a Section 4(f) resource is not considered to be a use (impact) if specific criteria are met.

The Project is not expected to adversely affect the recreational activities, features, and attributes that qualify the Susquehanna River Water Trail for protection under Section 4(f). Implementation of the ATON plan will ensure passage under the bridge is maintained throughout construction. After the construction of the bridge is complete, the Susquehanna River Water Trail will be fully accessible for public use. Based on this information, the FHWA and PennDOT intend to make a temporary occupancy determination for the proposed project.

In accordance with 23 CFR 774.13(d), the following stipulations will be met:

- The duration of impacts will be temporary, i.e. less than the time needed for construction of the project, and there will be no change in ownership of the land;

- The scope of work is minor, i.e. both the nature and the magnitude of the changes to the Section 4(f) property is minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities, features, or attributes of the property, on either a temporary or permanent basis;
- The land being used will be fully restored, i.e. the property will be returned to a condition which is at least as good as that which existed prior to the project; and,
- There is documented agreement of the officials with jurisdiction over the Section 4(f) resource regarding the above conditions.

Please note that with regard to the first bullet point above, the replacement of the dual structures over the Susquehanna River is part of a larger project that includes roadway reconstruction. In-stream work is anticipated to occur during approximately two-thirds of the total bridge construction duration (approximately four-years of in-stream work over the course of six-years of overall construction). With regard to the second, third and fourth bullets, the dual bridges are to be replaced on existing alignment and the number of bridge piers within the river will be reduced from 6 to 4 piers. In accordance with the approved ATON plan, boating access will be maintained throughout construction of the replacement bridges and river passage fully restored upon completion of bridge construction; therefore, the project would not temporarily or permanently interfere with the recreational activities, features, or attributes of the water trail.

Recent coordination with the PFBC identified the following additional commitments that PennDOT has agreed to:

- Revisions to the approved ATON Plan to address additional boater safety concerns during construction stages 5 and 8 which include causeways with several 60-inch pipes which could be hazardous to small boats (e.g., canoes and kayaks).

- Annual coordination with the North Branch Susquehanna River Water Trail manager (Endless Mountains Heritage Region) to inform them of upcoming project plans that may impact their special events and the safety of water trail users.

It is also noteworthy that, as a measure to offset navigating past the various causeway configurations at the I-81 bridges during construction of the replacement of the bridges, PennDOT commits to repave the Hallstead boat access parking area. This commitment is discussed in the Navigable Waters section of the Categorical Exclusion Reevaluation being prepared for the project and will be entered into PennDOT's Environmental Commitments and Mitigation Tracking System database to be tracked through construction. Repaving will be completed prior to the first causeway being constructed.

If you agree that the project as proposed meets the conditions listed above, please sign and date below.

We have attached for your review a copy of the approved ATON Plan, which provides a project location map, color photos, and proposed navigational signs and buoys.

Thank you for your assistance in this matter. If you have any questions, please feel free to contact me at 717-705-1481 or via email, johname@pa.gov

Sincerely,

Drew Ames

Drew Ames
Environmental Planning Manager
Environmental Policy and Development Division

Enclosures: PFBC Approved ATON Plan

Concurrence: _____ Date: 9/14/22
Cain Chamberlin
Executive Director
Endless Mountains Heritage Region

cc: Jon Crum, FHWA
Brian Shunk, PennDOT HDTS

Woleslagle, Claire E.

From: Duncanson, Scott W.
Sent: Wednesday, September 28, 2022 8:20 AM
To: Woleslagle, Claire E.
Subject: FW: [EXTERNAL] FW: I-81 Susquehanna Bridge Project (Susquehanna County, PA): National Recreation Trail Coordination.

From: Bonsall, Peter W <Peter_Bonsall@nps.gov>
Sent: Wednesday, August 31, 2022 1:41 PM
To: Crum, Jonathan (FHWA) <jonathan.crum@dot.gov>; Mahan, Helen <Helen_Mahan@nps.gov>; Waters, Corita <Corita_Waters@nps.gov>
Subject: Re: [EXTERNAL] FW: I-81 Susquehanna Bridge Project (Susquehanna County, PA): National Recreation Trail Coordination.

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Jon,

I talked with some water trail colleagues and we do not see an issue proceeding with this project as it relates to national recreation trail designation status.

National recreation trail designation is simply a recognition program. There is no additional Federal oversight for activities that take part on a designated trail. Any action remains with existing land owner. Since this project is not on NPS land, The NPS does not have any authority to respond to the 4(f) report or findings. Rather, the responsibility for response falls to the entity with "official jurisdiction". That would be the land owner or trail manager.

I appreciate and commend your efforts to keep the trail open for public use, and provide alternative methods to continue to provide access.

Thank you and please let me know if you have any questions.

Peter Bonsall
National Trails Program Specialist
(he/him/his)

12795 W. Alameda Parkway
Suite 215
Lakewood, CO 80228

303-969-2620 (o)
202-763-3450 (c)

Learn more about the National Trails System

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Fifth Coast Guard District

431 Crawford Street
Portsmouth, VA. 23704-5004
Staff Symbol: (dpb)
Phone: (757) 398-6422
Fax: (757) 398-6334
Email: Crystal.k.tucker@uscg.mil
Or CGDFiveBridges@uscg.mil

16591
08 SEP 2022

Mr. Jonathan Buck, PE
Federal Highway Administration
228 Walnut Street, Room 508
Harrisburg, PA 17101-1720

Dear Mr. Buck:

Coast Guard review of your proposed project as provided in your email or a letter/email dated August 31, 2022, is complete.

Based on the documentation provided and our research, it is determined that a Coast Guard Bridge Permit will not be required for the proposed highway fixed bridges – I-81 NB & SB across Susquehanna River, mile 342.7, (41.96384, -75.73763), at Susquehanna County, PA.

In addition, navigational lighting at the aforementioned bridge is not required, as per Title 33 Code of Federal Regulations, Part 118.40 (b).

The fact that a Coast Guard Bridge Permit is not required does not relieve you of the responsibility for compliance with the requirements of any other Federal, State, or local agency who may have jurisdiction over any aspect of the project.

If you have any further questions, please contact Ms. Crystal Tucker at the above listed address or telephone number.

Sincerely,

PITTS.HAL.R.1121267272 Digitally signed by PITTS.HAL.R.1121267272 Date: 2022.09.29 11:27:54 -04'00'

HAL R. PITTS
Bridge Program Manager
By direction

Copy: CG Sector Delaware Bay, Waterways Management
U. S. Army Corps of Engineers, Baltimore District

Appendix D
Threatened and Endangered Species

1. PROJECT INFORMATION

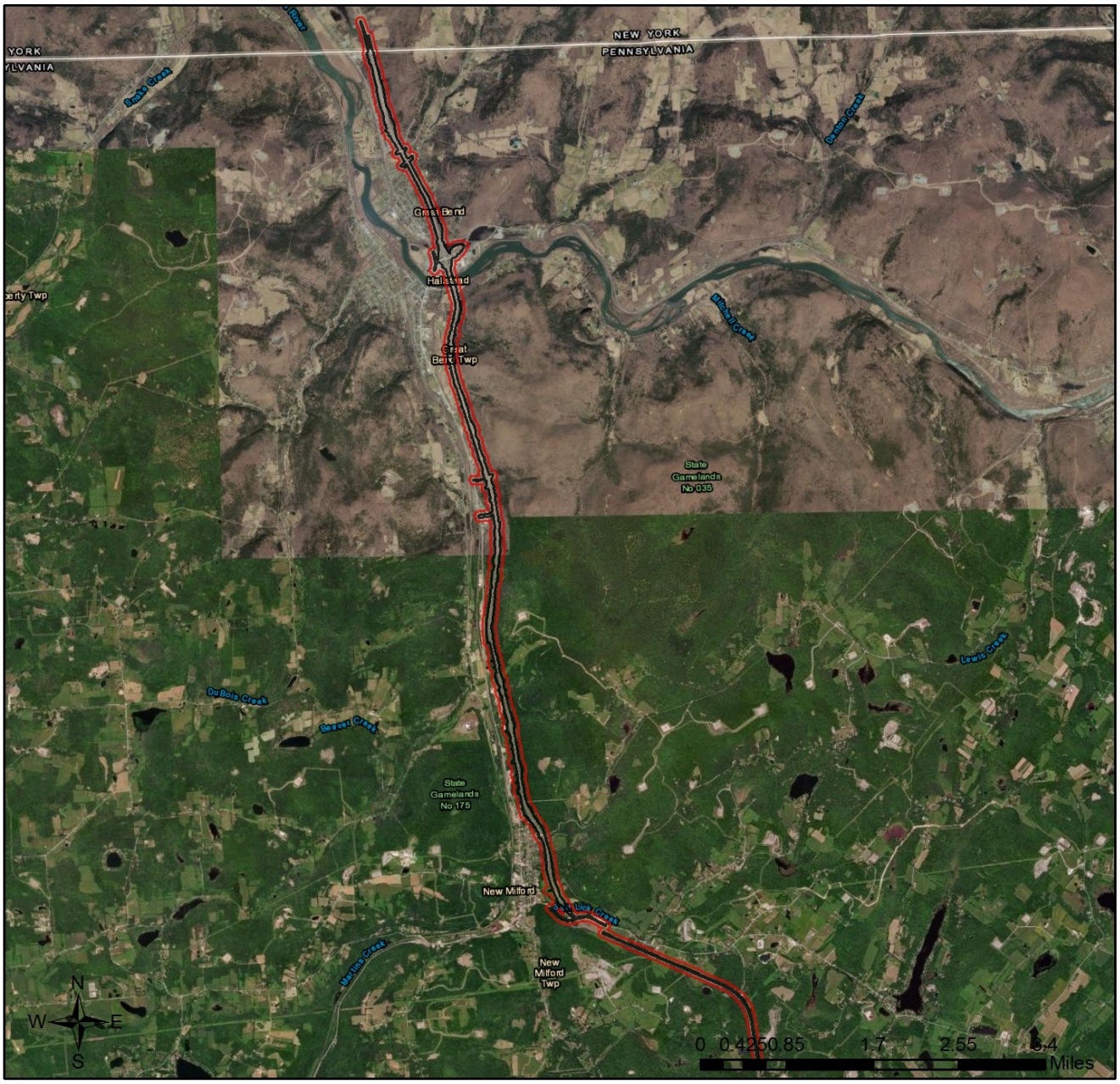
Project Name: **PennDOT - I-81 Susquehanna; PAthways Program**
Date of Review: **11/16/2021 12:08:55 PM**
Project Category: **Transportation, Other**
Project Area: **343.62 acres**
County(s): **Susquehanna**
Watersheds HUC 8: **Upper Susquehanna; Upper Susquehanna-Tunkhannock**
Watersheds HUC 12: **Butler Creek; Carlin Creek; Mitchell Creek-Susquehanna River; Salt Lick Creek; Trowbridge Creek**
Decimal Degrees: **41.978187, -75.743275**
Degrees Minutes Seconds: **41° 58' 41.4728" N, 75° 44' 35.7889" W**

2. SEARCH RESULTS - LARGE PROJECT

Agency	Results	Response
PA Game Commission	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
PA Department of Conservation and Natural Resources	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
PA Fish and Boat Commission	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
U.S. Fish and Wildlife Service	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**

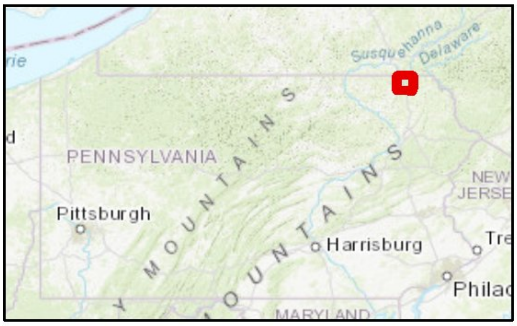
Large Project. The project area is greater than 10 miles and/or 5,165 acres and therefore is categorized as a Large Project, and is not analyzed by the PNDI tool. Coordination is therefore required with the four jurisdictional agencies to determine if potential impacts to threatened and endangered and/or special concern species and resources within the project area. Please see the DEP Information section of the receipt if a PA Department of Environmental Protection Permit is required.

PennDOT - I-81 Susquehanna; PAthways Program



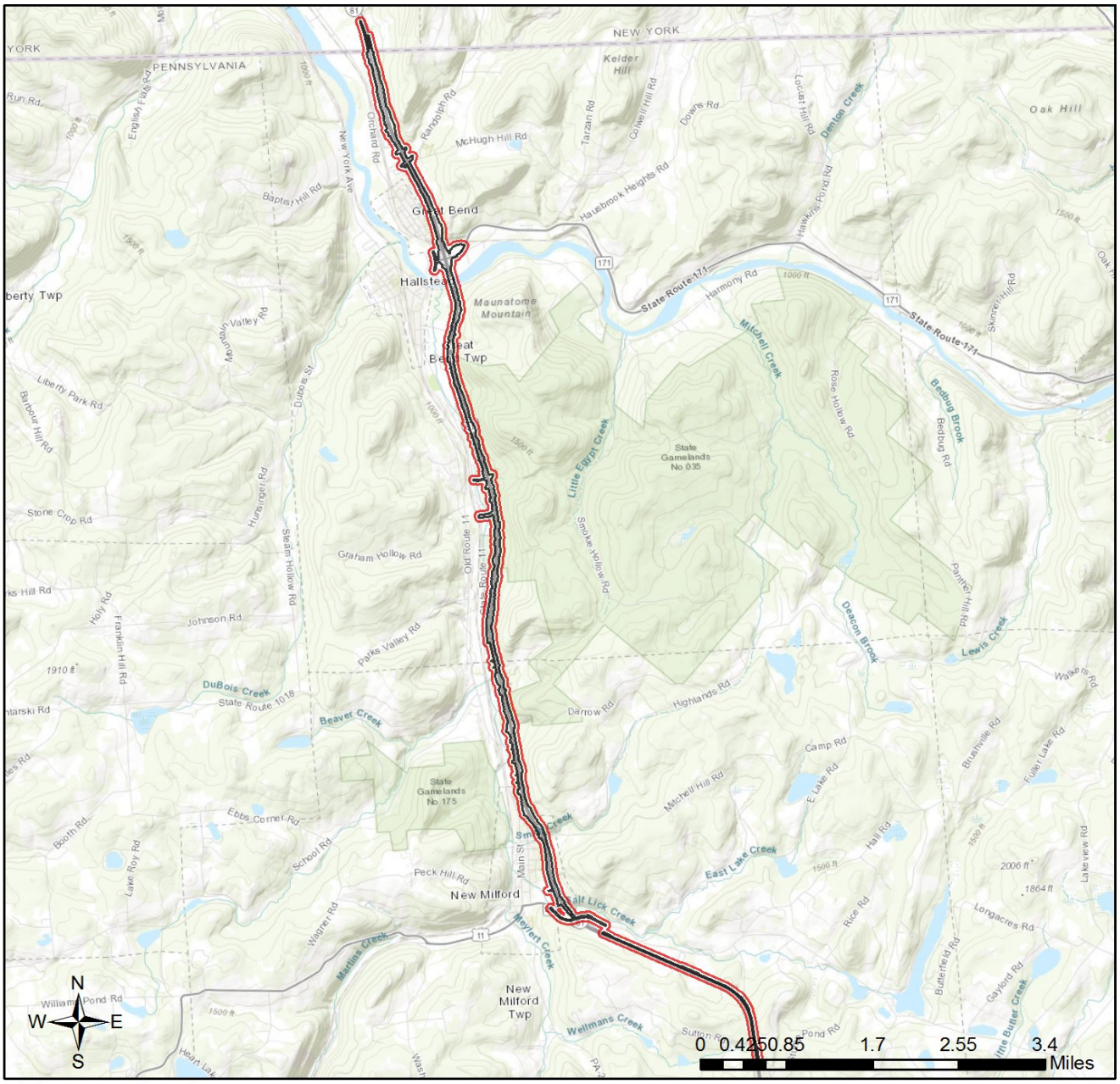
Project Boundary

Buffered Project Boundary



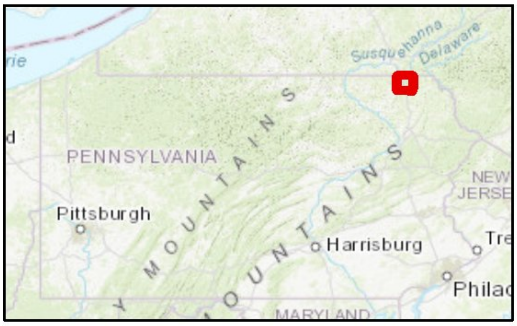
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

PennDOT - I-81 Susquehanna; PAthways Program



Project Boundary

Buffered Project Boundary



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PA Department of Conservation and Natural Resources

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PA Fish and Boat Commission

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

U.S. Fish and Wildlife Service

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email the following information to the agency(s) (see AGENCY CONTACT INFORMATION). Instructions for uploading project materials can be found here. This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies (but not USFWS).
*If information was requested by USFWS, applicants must email, or mail, project information to IR1_ESPenn@fws.gov to initiate a review. USFWS will not accept uploaded project materials.

Check-list of Minimum Materials to be submitted:
____Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
____A map with the project boundary and/or a basic site plan(particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
In addition to the materials listed above, USFWS REQUIRES the following
____**SIGNED** copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
Email: IR1_ESPenn@fws.gov
NO Faxes Please

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Kathleen I. Krommes
Company/Business Name: HDR
Address: 4900 Ritter Road, Suite 101
City, State, Zip: Mechanicsburg, PA 17055
Phone:(717) 979-0089 Fax:( )
Email: kathy.krommes@hdrinc.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Kath I. Krommes — applicant/project proponent signature

11/16/2021 — date

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION
2001 Elmerton Avenue
Harrisburg, PA 17110-9797
Wildlife Management
(717) 787-5529

November 17, 2021

Ms. Kathleen Krommes
HDR
4900 Ritter Road, Suite 101
Mechanicsburg, PA 17055

PNDI Receipt File: *project_receipt_penndot_i_81_susquehanna__740081_FINAL_1.pdf*
Re: I-81 Susquehanna; Pathways Program
Susquehanna County, Pennsylvania

Dear Ms. Krommes,

Thank you for submitting Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt *project_receipt_penndot_i_81_susquehanna__740081_FINAL_1.pdf* for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

No Impact Anticipated

PNDI records indicate that no known occurrences of species or resources of concern under PGC jurisdiction occur within the vicinity of the project. Therefore, the above-referenced project is not expected to impact any birds or mammals of concern, and no further PNDI coordination with the PGC is necessary for this project at this time. **However, the proposed project is located on State Game Lands No. 35. Please contact Mr. Philip Kasper, Land Management Supervisor, at 570-675-1143 to discuss the project activities and coordinate obtaining the necessary approvals if your project will impact State Game Lands. It is recommended that you coordinate with Game Commission Staff early in your project planning process.**

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission

have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Sue Guers
Wildlife Biologist / Environmental Review
Bureau of Wildlife Management
Phone: 717-787-4250, Extension 73412
Fax: 717-787-6957
E-mail: suguers@pa.gov

A PNHP Partner

Pennsylvania Natural Heritage Program

SLG/slg

CC: Schnupp
Williams
Lovallo
Figured
Kasper
Wenner

November 19, 2021

PNDI Number: 740081
Version: Final_1; 11/16/21

Kathleen Krommes
HDR
4900 Ritter Road, Suite 101
Mechanicsburg, PA 17055
Email: kathy.krommes@hdrinc.com (hard copy will not follow)

Re: PennDOT - I-81 Susquehanna; PAthways Program
New Milford Borough, Great Bend Borough, New Milford Township, and Great Bend Township
Susquehanna County, PA

Dear Kathleen Krommes,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **740081 (Final_1)**. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

No Impact Anticipated

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, DCNR has determined that no impact is likely. No further coordination with our agency is needed for this project.

Recommended Voluntary Actions:

- Use a conservative approach to project design, including staging areas, that minimizes permanent and temporary disturbances to soil and native vegetation, particularly wetland vegetation. This will conserve habitat and limit opportunities for invasive plants.
- Clean boot treads, tools, construction equipment, and vehicles thoroughly (especially the undercarriage and wheels) before they are brought on site. This will remove invasive plant seeds and invasive earthworms/cocoons that may have been picked up at other worksites.
- Revegetate or cover disturbed soil and stockpiles quickly to discourage the germination of invasive plants. Implement proper erosion control practices to stabilize soil and reduce runoff.
- Do not use seed mixes that include invasive species. More information about invasive plants in Pennsylvania can be found at the following link: http://www.dcnr.pa.gov/Conservation/WildPlants/InvasivePlants/Pages/default.aspx
- Use habitat appropriate seed mixes. For example, use a riparian seed mix when reseeding along a waterway. The *Bureau of Forestry Planting & Seeding Guidelines* can be found at the following link for recommendations: http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20031083.pdf

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter and a permit has not been acquired, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative, description of project changes and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Stephanie Seymour, Ecological Information Specialist, by phone (717-705-2819) or via email (c-steseymo@pa.gov).

Sincerely



Greg Podniesinski, Section Chief
Natural Heritage Section

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Watershed Analysis Section
595 E Rolling Ridge Dr.
Bellefonte, PA 16823

November 23, 2021

IN REPLY REFER TO
SIR# 55342

HDR Inc.
Kathleen Krommes
4900 Ritter Road
Suite 101
Mechanicsburg, Pennsylvania 17055

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 740081
I-81 Pathways Project Bridge Replacements and Tolling Facilities
SUSQUEHANNA County: Great Bend Borough, Hallstead Borough

Dear Kathleen Krommes:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

I have examined the project information accompanying your recent correspondence which shows the location of the above-referenced project. Based on records maintained in the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files, **rare or protected freshwater mussel species are known from the vicinity of the project area.**

Freshwater mussels are the most imperiled taxonomic group in North America. Nearly half of the species known to occur in the Commonwealth are now extirpated (locally extinct) from Pennsylvania. Freshwater mussel species are extremely vulnerable to physical (i.e., siltation, dredging, trenching, rip-rap) and chemical (i.e., pH, temperature, dissolved oxygen, organic contaminants, heavy metals) changes to their aquatic environment. As such, we are concerned about direct and indirect effects that the proposed project may have on these species

of concern. Therefore, we recommend construction techniques that avoid and/or minimize instream work, sedimentation, and changes to water quality.

Based on the project description that was submitted, in-stream disturbances are proposed that may adversely impact freshwater mussels known to exist within the proposed project area. **As stated in our email correspondence on November 22, 2021, I indicated that we would need several (preferably 4-6) weeks of notice to plan a mussel survey/salvage. We request that you notify this office six weeks prior to construction (or as soon as a construction date is set) so that we will have enough time to perform on-site surveys and mussel translocations in the area of disturbance during suitable conditions. Please note that the mussel survey season begins May 15 and concludes October 1.** The notification can be in the form of an email to this office and should include the project start date, a plan sheet showing the area to be impacted, description of the waterway in the disturbance area (i.e. depths, substrate, etc.), photos, and a detailed description of the proposed work activities and sequencing. This information will assist us in our evaluation and expedite our review process and ultimately help us determine if translocation efforts are warranted.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Joshua Wisor at 814-359-5135 and refer to the SIR # 55342. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Joshua M Wisor

Joshua Wisor, Fisheries Biologist
Watershed Analysis Section

HAS/JMW/dn

PNDI # 740081 **USFWS Project #** 2022-0297

U.S. FISH AND WILDLIFE SERVICE

110 Radnor Road, Suite 101, State College, PA 16801

This responds to your inquiry about a PNDI Internet Database search that resulted in a potential conflict with a federally listed, proposed or candidate species.

PROJECT LOCATION INFORMATION

County: Susquehanna

Township: GREAT BEND; GREAT BEND TOWNSHIP; NEW MILFORD

MISC INFORMATION

Date received by FWS: November 16, 2021

☐ ACTIVE ☐ ARCHIVE

USFWS COMMENTS ☑ EMAILED ☐ MAILED

To: Kathy Krommes, JeanPhilippe Magron

Email: Kathleen.Krommes@hdrinc.com, JP.Magron@hdrinc.com

Affiliation: HDR, Inc.

SPECIFIC PROJECT: I-81 Susquehanna; Pathways Program

FISH AND WILDLIFE SERVICE COMMENT(s):

X ***NOT LIKELY TO ADVERSELY AFFECT***

The federally listed northern long eared bat, Indiana bat occurs or may occur in or near the project area. However, based on our review of the information provided, including the project description and location (Minimal tree clearing for temporary (3 years) powerline access (less than 0.25 acres) in a highly developed, urbanized area. After three years, once the gantry is no longer operational, project proponents will restore the area to pre-project conditions including in-kind revegetation.), no adverse effects to this species are likely to occur. If there is any change in the location, scale, scope, layout or design of the project, further consultation or coordination with the Service will be necessary.

The above determination is valid for two years from the date of this letter. In addition, this response relates only to federally listed, proposed, and candidate species under our jurisdiction, based on an office review of the proposed project's location and anticipated impacts. No field inspection of the project area has been conducted by this office. Consequently, comments on this form are not to be construed as addressing other Service concerns under the Fish and Wildlife Coordination Act or other authorities. *Please reference the above PNDI # and USFWS Project # in any future correspondence regarding this project.*

This review was conducted by the biologist listed below. He/she can be contacted at 814-206-(Extension).

☐ Melinda Turner (x7449)	☐ Nicole Ranalli (x7455)	☑ Jennifer Kagel (x7451)
☐ Richard Novak (x7477)	☐ Alison Whitlock (x7461)	☐ Pamela Shellenberger (x7459)

SIGNATURE: ROBERT ANDERSON Digitally signed by ROBERT ANDERSON Date: 2021.12.22 11:19:36 -05'00'

Supervisor, Pennsylvania Field Office

Appendix E
Section 4(f) Evaluation

pennsylvania
DEPARTMENT OF TRANSPORTATION
On Behalf of the Federal Highway Administration–Pennsylvania Division Office

Determination of Section 4(f) *De Minimis* Use
Section 2002 No Adverse Use
Public Parks, Recreation Areas, Wildlife and/or Waterfowl Refuges, State Forest Land, and State Game Land

May 2014 Version

County:	Susquehanna	**State Route:**	81	**Section:**	511
Project Name:	I-81 NTier Interstate 4R	**FPN:**	X045-248-L01E	**MPMS:**	75917

SELECT ONE: ☐ **EIS** ☐ **EA** ☒ **CE** ☐ **EER** ☐ **ED**

PROJECT DESCRIPTION:
(Provide a concise but thorough description of the proposed action.)

The proposed project is located in New Milford Borough, New Milford Township, Great Bend Township and Great Bend Borough in Susquehanna County. The project involves reconstruction of 9 miles in each direction along interstate 81 both northbound and southbound lanes between the New Milford Interchange – Exit 223, through Exit 230 for Great Bend / Susquehanna ending at the New York State border. This section of Interstate 81 was originally constructed in 1961.

Replacement of existing north and southbound pavement;
Replacement of five dual bridge structures and one overpass bridge structure;
Full replacement of the storm water drainage network;
Full replacement of guiderail and concrete safety barrier;
Replacement of all informative signing;
Construction along cross streets – Susquehanna St., SR 171, and Randolph Rd., SR 1029;
Varying degrees of rehabilitation work for deteriorated conditions at three box culverts.

IDENTIFICATION OF SECTION 4(f)/SECTION 2002 PROPERTY:
(List the property and provide a description of the property as per Chapter 6 of the *Section 4(f)/Section 2002 Handbook*. Attach a map, photo(s), etc. as appropriate.)

State Game Lands 35 – Owned and maintained by PA State Game Commission.
State Game Lands (SGL) 35 located in Great Bend, Harmony, Jackson and New Milford Townships in Susquehanna County. It contains 7,772 acres of mountainous and wooded land that is open to the public for passive recreation such as hunting, hiking, bird watching, and fishing. See attached map of SGL 35.

FOR PARKS, IDENTIFY KEY COMPONENTS OF ANY EXISTING MANAGEMENT PLAN (if it exists):

Sate Game Lands 35.

OFFICIAL WITH JURISDICTION OVER SECTION 4(f)/SECTION 2002 PROPERTY:

1. Identify agency with jurisdiction:
   PA Game Commission

County:	Susquehanna	**State Route:**	81	**Section:**	511
Project Name:	I-81 NTier Interstate 4R	**FPN:**	X045-248-L01E	**MPMS:**	75917

2. Name and title of contact person at agency:
Donald Wandling -

APPLICABILITY DETERMINATION:

1. Provide the total acreage of the property: 7,772

Describe the use of land from the property (identify amount of the property to be used, including temporary and permanent acquisition):

Project requires the acquisition of 1.542 acres from SGL 35 for construction of new stormwater management basin, fencing, entrance driveway and support facilities and required drainage updates at five separate locations adjacent to I-81 as displayed on attached impact mapping.
Impact 1 – 0.8305 acre to construct new stormwater facility.
Impact 2 – 0.0430 acre to construct new pipe at existing pipe location.
Impact 3 – 0.0327 acre to remove existing pipe, construct new pipe and rock outlet protection.
Impact 4 – 0.0363 acre to construct new pipe/rock chute at existing location with rock outlet protection.
Impact 5 – 0.6000 acre to construct drainage swale and install a new pipe with rock outlet protection.

2. The project **does not** adversely affect the activities, features, and attributes of the resource that qualify it for protection under Section 4(f) or Section 2002. **(If this statement cannot be verified as true, *de minimis*/no adverse use does not apply.)** ☒ YES

Describe the effect to the qualities, activities, features, or attributes of the resource that qualify it for protection. Include a description of any mitigation included when making the determination regarding effects to the resource:

The required area will not impact habitat opportunities or any other features of SGL 35. Areas where work will occur are directly adjacent to existing I-81 and do not contain any Game Land facilities such as parking areas or trails. SGL 35 will continue to function for its designated purposes both during and after the proposed project.

3. The public was afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the resource. ☒ YES

County:	Susquehanna	**State Route:**	81	**Section:**	511
Project Name:	I-81 NTier Interstate 4R	**FPN:**	X045-248-L01E	**MPMS:**	75917

Identify the opportunity(ies) for public comment and describe the input received (provide attachments as appropriate to document the public involvement activity):

Information regarding the Interstate 81, Section 511 reconstruction project and its potential effect SGL 35 was posted to PennDot District 4 website from July 1 to July 15, 2021. As of July 28, 2021, no comments, questions or inquiries have been made regarding impacts to SGL 35. The Interstate 81, Section 511 project received environmental clearance with approval of a Level 2, Categorical Exclusion Evaluation (CEE), on March 21, 2018. Impacts described in this document resulted from Final Design analysis of the existing storm water collection system that occurred after the original 2018 CEE approval. The current CEE Re-evaluation (August 2021) will include impacts to SGL 35 resulting from project related storm water collection system improvements.

4. The official with jurisdiction over the property was informed of FHWA's and/or PennDOT's intent to make a *de minimis*/no adverse use finding. ☒ YES

Identify the method used to notify the official with jurisdiction, and attach appropriate correspondence.

Intent To Make De Minimis Use Finding --- PGC Correspondence --- October 29, 2020 – Email with project description, summary of proposed impacts and intent to make a De Minimis finding was sent to the PGC on October 29, 2020. Email reply from Game Commission Reviewer, Tracey Librandi Mumma stated that Game Commission reviewed information regarding proposed impacts regarding storm water basin and drainage pipe construction. Game Commission agreed that project would impact 1.542 acres of SGL 35 and requested that 1.542 acres of replacement property be provided as mitigation for impact to SGL 35.

PGC Phone Call Clarification / Discussion --- June 2021 ---Tracey Librandi Mumma - PGC, Susan E. Hazelton – PennDot, ADE – Design and Camille Otto – FHWA. The 1.001 acres of existing Slope Easement being converted to Required Right-of-Way was discussed. Since the area is currently in transportation use as a slope easement, conversion of the easement to required right-of-way would not require the Department to provide 1.001 acres of replacement right-of-way.

Correspondence documenting notification of the official with jurisdiction is included in the following Attachment: PGC CORRESPONDENCE.

County:	Susquehanna	**State Route:**	81	**Section:**	511
Project Name:	I-81 NTier Interstate 4R	**FPN:**	X045-248-L01E	**MPMS:**	75917

5. The official with jurisdiction over the property concurred in writing with FHWA's and/or PennDOT's determination that the project will not adversely affect the property. (NOTE: Public input must be received and considered prior to the official with jurisdiction making a final determination.) ☒ YES

   Identify the official with jurisdiction and date of concurrence and attach written concurrence:

   Public Involvement --- Information regarding the Interstate 81, Section 511 reconstruction project and its potential effect to SGL 35 was posted to PennDot District 4 website from July 1 to July 15, 2021. As of July 28, 2021, no comments, questions or inquiries were made regarding impacts to SGL 35.

   Official with Jurisdiction - Mr. Thomas Grohol, Deputy Executive Director - PA Game Commission signed the Section 4(f) De Minimis Use Form on August 31, 2021 concurring that the Use was De Minimis and that project will not adversely affect SGL 35.

   Written concurrence from the official with jurisdiction is included in the following Attachment: PGC Correspondence.

6. If the Section 4(f)/Section 2002 use involves State Game Land, verify that the use is considered *de minimis* in accordance with the *Cooperative Interagency Agreement for Interdepartmental Land Transfer of State Game Lands.* (Describe and obtain PA Game Commission concurrence signature below for use of a State Game Land Bank and/or Interdepartmental Land Transfer.) ☒ YES

   ☒ **State Game Land Bank**

   Debiting 1.542 (acres)

   From Hoffman SGL bank

   PGC Signature: Thomas P. Grohol Date: Click here to enter a date. 8/31/21

   ☐ **Interdepartmental Land Transfer**

   PGC Signature: Date: Click here to enter a date.

7. Have Federal or State funds [LWCF 6(f)/Project 70/Project 500/other recreation grants] been used in the acquisition of, or for any improvements to, the Section 4(f) property? ☐ YES ☒ NO

County:	Susquehanna	**State Route:**	81	**Section:**	511
Project Name:	I-81 NTier Interstate 4R	**FPN:**	X045-248-L01E	**MPMS:**	75917

If Yes, the appropriate Federal agency has been coordinated with and is in agreement with the land conversion or transfer. ☐ YES

Provide more information regarding the Section 6(f)/Project 70/Project 500/other recreation grants coordination:

March 26, 2021 – Email – Tracey Librandi Mumma researched Game Commission records and determined that SGL 35 did not receive LWCF, Project 70 or Pittman-Roberts funding.

8. The project does not involve any uses that would require an individual Section 4(f) evaluation. (It is acceptable if there are other Section 4(f) uses that are covered by one of the nationwide programmatic Section 4(f) evaluations or meet temporary occupancy criteria.) ☒ YES

If there are other Section 4(f) properties used, list them here, briefly describe the use, and identify which form(s) will be completed to address the use:

The SR 81, Section 511 project does not involve any use that would require individual Section 4(f) evaluation.

No other Section 4(f) Resources are present within project footprint.

County:	Susquehanna	**State Route:**	81	**Section:**	511
Project Name:	I-81 NTier Interstate 4R	**FPN:**	X045-248-L01E	**MPMS:**	75917

In accordance with PA Act 120 Section 2002 requirements, briefly summarize the impacts to other Section 2002 areas of concern that would occur if the use of the public park, recreation area, or wildlife or waterfowl refuge was avoided. Other Section 2002 areas of concern to be discussed could include the following:

(1) residential and neighborhood character and location, (2) conservation including air, erosion, sedimentation, wildlife and general ecology of area, (3) noise, and air and water pollution, (4) multiple use of space, (5) replacement housing, (6) displacement of families and business, (7) aesthetics, (8) public health and safety, (9) fast, safe and efficient transportation, (10) civil defenses, (11) economic activity, (12) employment, (13) fire protection, (14) public utilities, (15) religious institutions, (16) conduct and financing of government including the effect on the local tax base and social service costs, (17) property values, (18) education, including the disruption of school district operations, (19) engineering, right-of-way and construction costs of the project and related facilities, (20) maintenance and operating costs of the project and related facilities, and (21) operation and use of existing transportation routes and programs during construction and after completion.

Use of Game Land 35 is limited to areas directly adjacent to I-81.

4 Drainage Pipe Locations --- The existing stormwater collection system is being reconstructed within the project limits. There are 4 locations within SGL 35 that will be reconstructed. This work directly abuts existing Interstate 81 right of way / SGL border. Disturbance necessary to complete rock armor placement and drainage swale stabilization has been minimized as much as possible to reduce impacts to SGL 35.

New Storm Water Management Basin --- All areas parallel to the Interstate 81 corridor were evaluated for potential storm water management basin construction. Factors such as topography, soil properties, presence of bed rock and elevation of proposed basin area compared to storm water collection system were evaluated. The proposed location on SGL 35 property was selected since the site best met necessary design factors. The proposed basin was located immediately adjacent to existing Interstate 81 right of way. Construction requires removal of a limited quantity of trees and vegetation.

Construction of these improvements will allow for the discharge of storm water in a controlled and stabilized manner which will reduce potential for future erosion of State Game Land property bordering Interstate 81.

County:	Susquehanna	**State Route:**	81	**Section:**	511
Project Name:	I-81 NTier Interstate 4R	**FPN:**	X045-248-L01E	**MPMS:**	75917

County:	Susquehanna	**State Route:**	81	**Section:**	511
Project Name:	I-81 NTier Interstate 4R	**FPN:**	X045-248-L01E	**MPMS:**	75917

Include any additional information related to the park impact that is relevant to the determination of *de minimis*/no adverse use:

Click here to enter text.

SUMMARY AND DETERMINATION:

The project involves a *de minimis*/no adverse use on the Section 4(f)/Section 2002 property as evidenced through the minimization of harm to a public park, recreation land, or wildlife and waterfowl refuge as a result of mitigation to or avoidance of impacts to the qualifying characteristics and/or the functions of the resource. Based on the scope of the undertaking; the fact that the undertaking does not adversely affect the function/qualities of the Section 4(f)/Section 2002 property on a permanent or temporary basis; and with agreement from the official with jurisdiction, the proposed action constitutes a *de minimis*/no adverse use; and therefore, no analysis of avoidance alternatives is required.

Name and Organization of Preparer: Donald Rau – PennDot Dist. 4 Date: 7/21/2021

Project Manager: Susan Williams Date: 8/10/2021

Environmental Manager: *Gregory P. Augustine* Date: 9/23/2021

PennDOT, BOPD: Ryan VanKirk Digitally signed by Ryan VanKirk Date: 2021.09.23 14:53:12 -04'00' Date:

FHWA: CAMILLE A OTTO Digitally signed by CAMILLE A OTTO Date: 2021.09.23 16:05:59 -04'00' Date:

County:	Susquehanna	**State Route:**	81	**Section:**	511
Project Name:	I-81 NTier Interstate 4R	**FPN:**	X045-248-L01E	**MPMS:**	75917

List Section 4(f) mitigation measures associated with this use that are part of this project:

Mitigation for the loss of property from State Game Land (SGL) 35 will consist of an equivalent acreage debited from the Hoffman SGL Bank in PennDOT District 3-0.

Install temporary protective fence to identify limits of project limits prior to start of any construction activity. Do not disturb State Game Land 35 outside of approved limits of work.

SGL 35 is owned and managed by the PA Game Commission. Do not interfere with operation of SGL 35. The contractor is restricted from using SGL 35 land outside of the projects limit of work.

Use of SGL 35 outside of the approved limits of work for office, equipment, storage or staging of materials is not allowed. Remove all construction materials and stabilize all disturbed areas at completion of work.

Prior to completion of work conduct a pre-final inspection with PA Game Commission Staff regarding work completed and create punch list of required items based upon inspection. Satisfactorily address all punch list comments, questions, or concerns. Conduct final inspection with PA Game Commission Staff to verify that all comments were satisfactorily addressed.

All construction equipment/machinery are to be fitted with properly working appropriate noise muffling devices to minimize local disturbances.

Attachments:

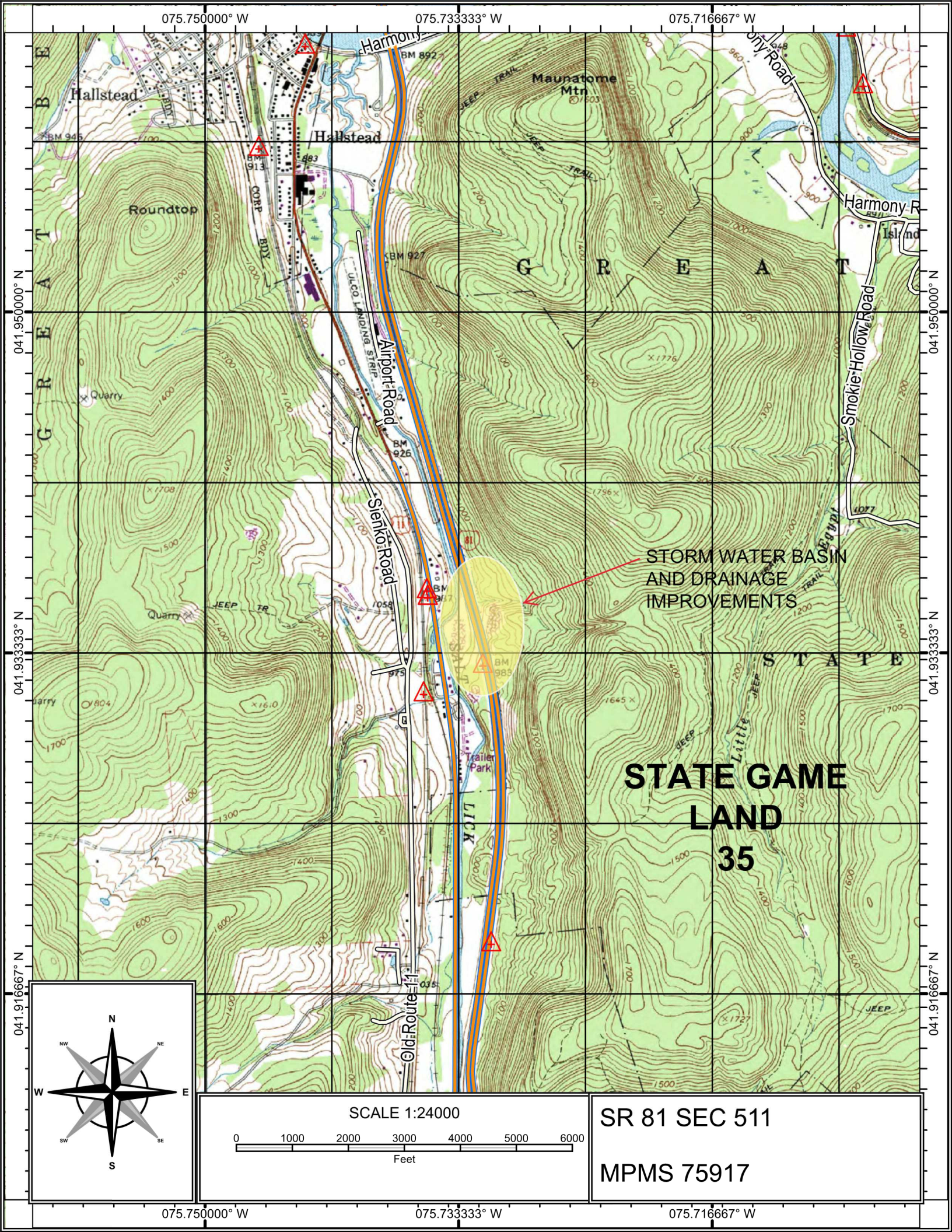
Project Location Map
SGL 35 Map
Impact Plans
PGC Correspondence
Agreement to Debit from Hoffman SGL Bank
Public Involvement

County:	Susquehanna	**State Route:**	81	**Section:**	511
Project Name:	I-81 NTier Interstate 4R	**FPN:**	X045-248-L01E	**MPMS:**	75917

Typical attachments for this form include, but are not limited to:

- Project location map
- Map of affected Section 4(f) property and other Section 4(f) property(ies) in the project vicinity
- Photographs of the Section 4(f) property
- Project plan sheet to show impacts
- Correspondence with the official with jurisdiction
- Public involvement information

PROJECT LOCATION MAP


075.750000° W
075.733333° W
075.716667° W
041.950000° N
041.933333° N
041.916667° N
Hallstead
Roundtop
Maunatome Mtn
Harmony
Harmony R
Island
Smokie Hollow Road
Airport Road
Sienko Road
Old Route 11
Quarry
Trailer Park
STORM WATER BASIN AND DRAINAGE IMPROVEMENTS
STATE GAME LAND 35
N
S
E
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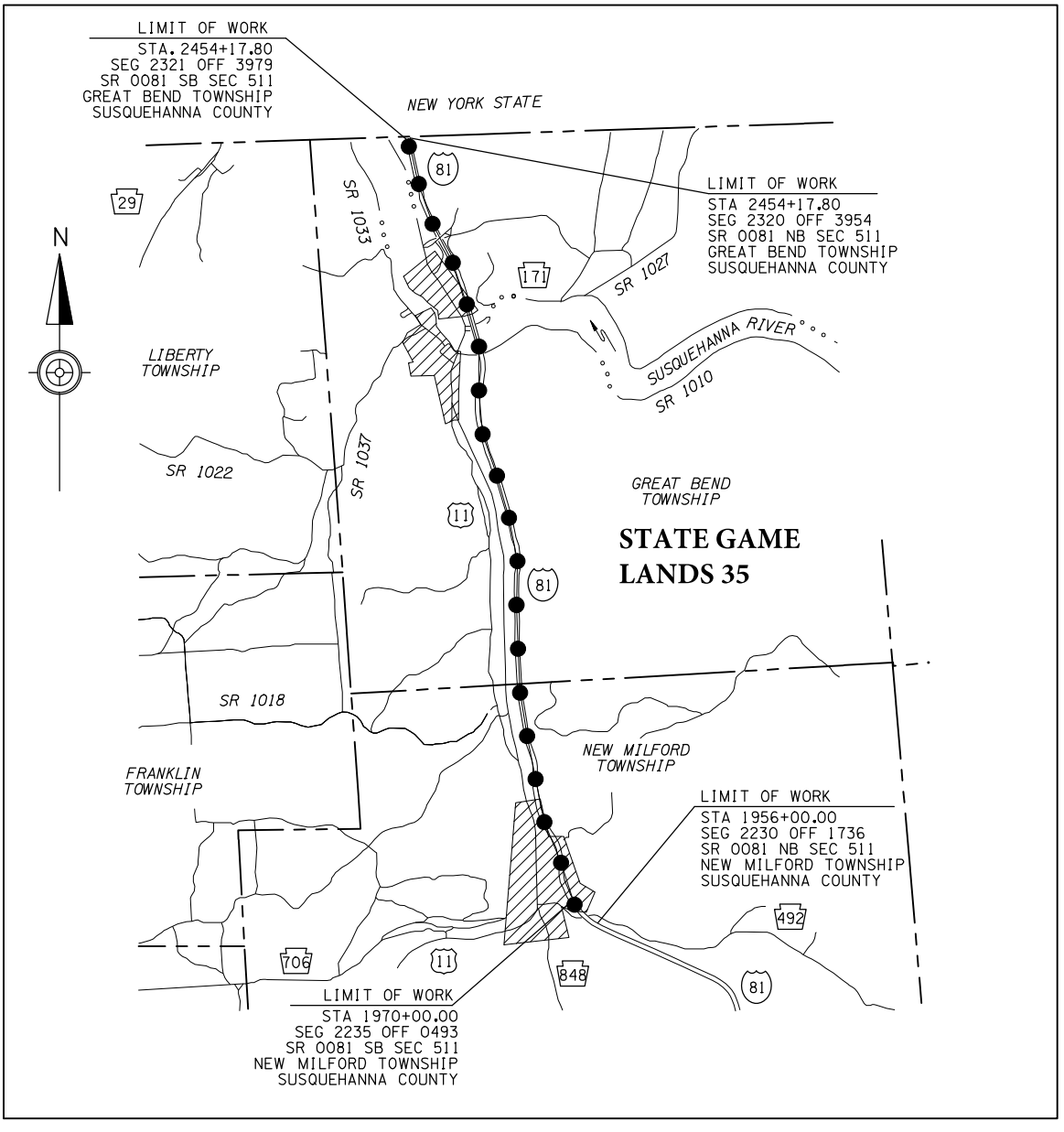
NE
SE
SW
NW
SCALE 1:24000
0
1000
2000
3000
4000
5000
6000
Feet
SR 81 SEC 511
MPMS 75917



LOCATION MAP

SCALE IN MILES

0 1 2 3

LEGEND

- PROJECT
- DETOUR
- STATE HIGHWAY
- TOWNSHIP LINE
- BOROUGH

SGL 35 MAP

- Electric
- Oil Pipeline; Gas Line
- Other Line
- Phone
- Sewer Line; Water Line
- Trail
- Special Trails
- Stream
- Parking Area
- Food & Cover Crew HQ
- Garage
- Headquarters
- Other
- Storage
- Gate
- Tower Site
- Food Plot
- Game Land Boundary
- Other Game Lands
- Wetland

N

PENNSYLVANIA GAME COMMSISSION

STATE GAME LANDS 035

SUSQUEHANNA COUNTY

Feet

0 2500 5000 7500 10000

1 inch = 4,000 feet

January 2014

Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed

IMPACT PLANS

Borton Lawson
ENGINEERING ARCHITECTURE

PROJECT: 2009-2558-020
DATE: 05/17/2021

PA STATE GAME LAND NO. 35
SUMMARY OF REQUIRED TAKES

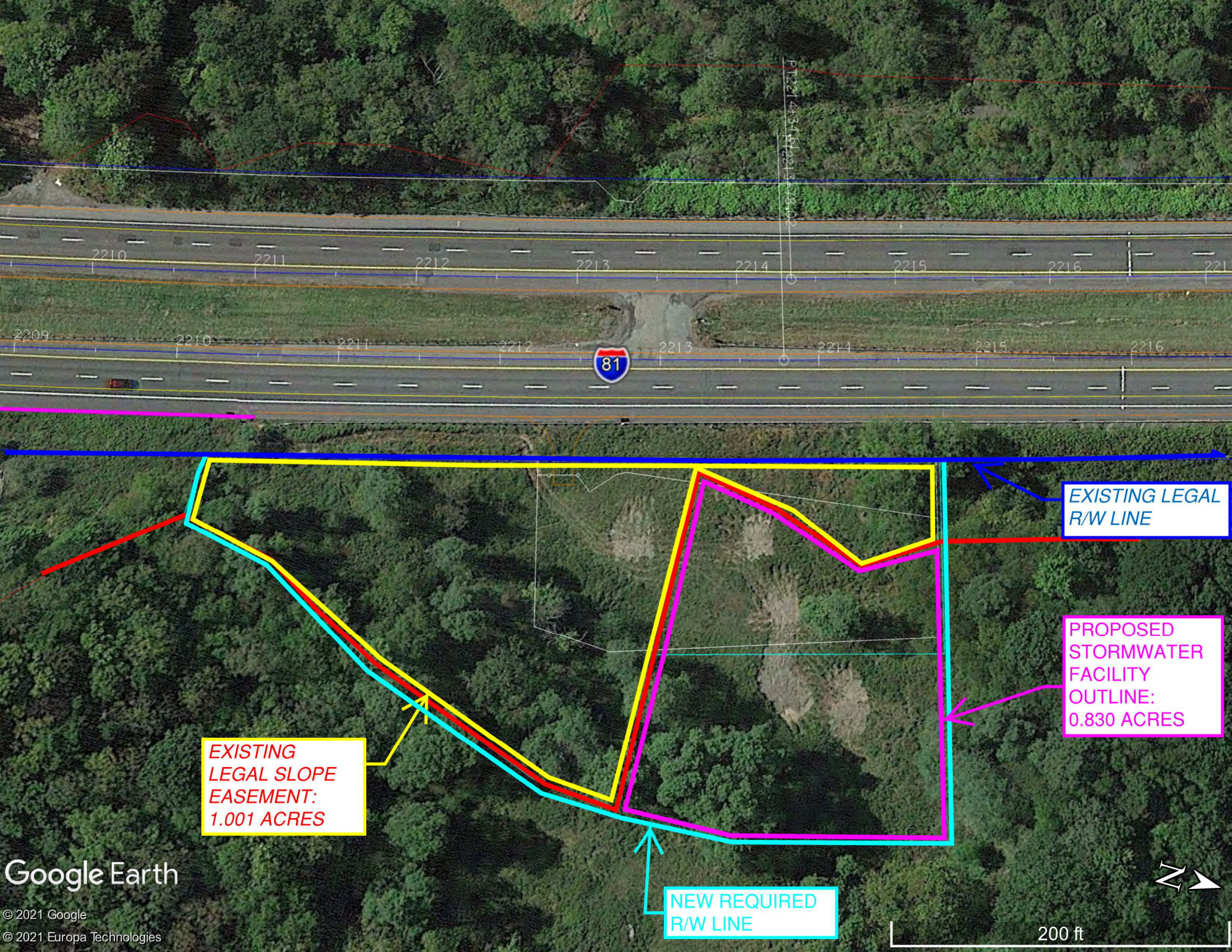
REQUIRED RIGHT-OF-WAY FOR LIMITED ACCESS ONLY

LOCATION	STATION	OFFSET	SIDE	LATITUDE	LONGITUDE	AREA (SF)	REASON FOR TAKE
1	1214+00	230	RT	41°56'6.61"N	75°43'52.13"W	36,177	TO CONSTRUCT NEW STORMWATER FACILITY
					REQUIRED ROW TOTAL	**36,177** **0.8305**	**SF** **ACRES** **(REQUIRED REPLACEMENT ROW)**
** A LARGE PORTION OF THE OVERALL REQUIRED ROW TAKE IS CONVERTING 43,618 SF OF LEGAL SLOPE EASEMENT.					**EXISTING SLOPE EASEMENT CONVERSION**	**43,618** **1.0013**	**SF** **ACRES** **(DID NOT REQUIRE REPLACEMENT ROW)**
					TOTAL AREA OF REQUIRED RIGHT-OF-WAY	**1.832**	**ACRES**

REQUIRED SLOPE EASEMENTS

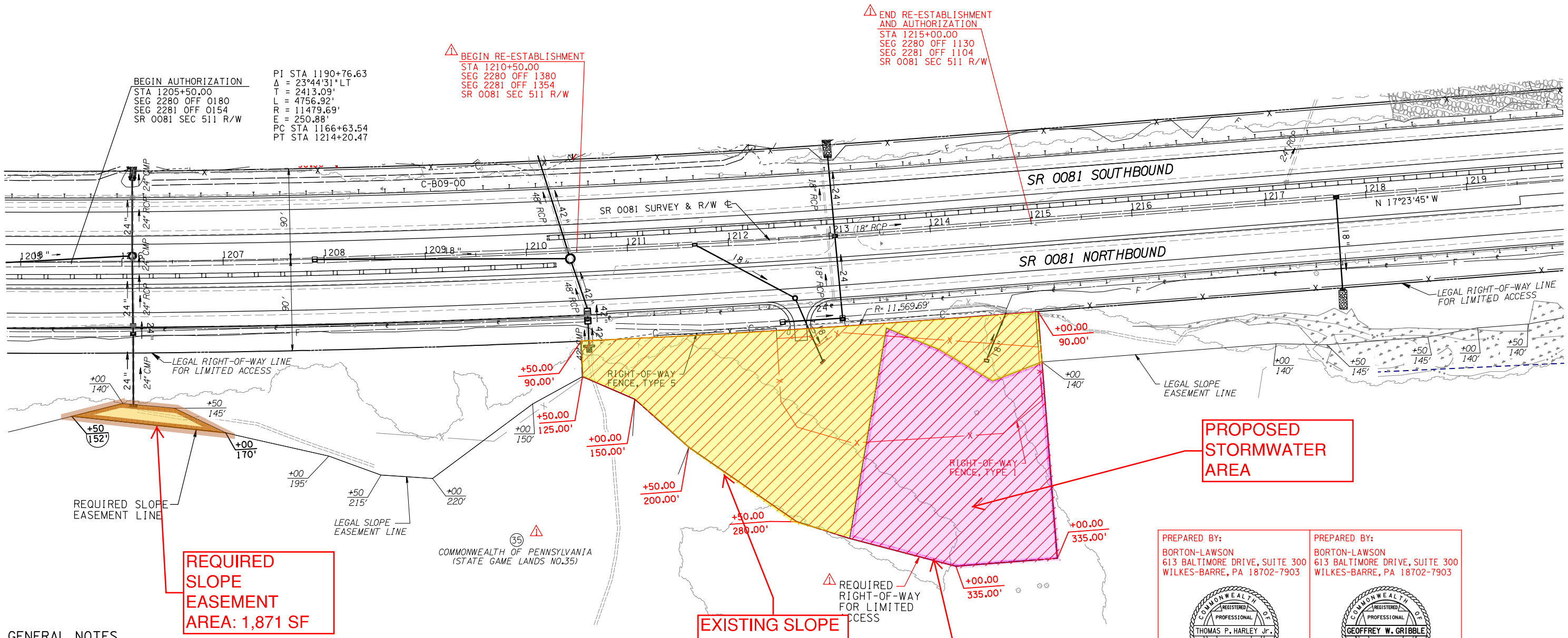
LOCATION	STATION	OFFSET	SIDE	LATITUDE	LONGITUDE	AREA (SF)	REASON FOR TAKE
2	1206+25	154	RT	41°55'38.63"N	75°43'50.91"W	1,871	TO CONSTRUCT NEW PIPE AT EXISTING LOCATION
3	1183+00	157	LT	41°55'36.06"N	75°43'50.78"W	1,425	TO REMOVE EXISTING PIPE & CONSTRUCT NEW PIPE AND OUTLET PROTECTION (ROCK)
4	1179+50	160	LT	41°55'32.62"N	75°43'50.81"W	1,580	TO CONSTRUCT NEW PIPE/ROCK CHUTE AT EXISTING LOCATION WITH OUTLET PROTECTION (ROCK)
5	1172+00	117	LT	41°55'25.19"N	75°43'50.88"W	26,138	TO CONSTRUCT ROADSIDE SWALE, INSTALL NEW PIPE/OUTLET
					EASEMENT TOTAL	**31,014** **0.7120**	**SF** **ACRES** **(REQUIRED REPLACEMENT ROW)**

REPLACEMENT ROW TOTAL = 0.8305 + 0.7120
= 1.542 ACRES OF REPLACEMENT ROW


EXISTING LEGAL R/W LINE
PROPOSED STORMWATER FACILITY OUTLINE: 0.830 ACRES
EXISTING LEGAL SLOPE EASEMENT: 1.001 ACRES
NEW REQUIRED R/W LINE
81
2209
2210
2211
2212
2213
2214
2215
2216
Google Earth
© 2021 Google
© 2021 Europa Technologies
200 ft

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511 R/W	227 OF 231
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY
1	ADDED PARCEL 35	7/15/21	GWG



GENERAL NOTES

ALL PROPERTIES ARE PLOTTED FROM DEEDS OF RECORD, RECORDED SUBDIVISION OR LOT PLANS, OR FROM FIELD SURVEY. PROPERTY LINES WERE SURVEYED ONLY WHEN DETERMINED NECESSARY BY THE PROFESSIONAL LAND SURVEYOR RESPONSIBLE FOR THE PROJECT. PROPERTY LINES NOT ESTABLISHED BY FIELD SURVEY WERE PLOTTED BASED ON EXISTING TOPOGRAPHICAL FEATURES AND LIMITED FIELD DATA.

THIS PROPERTY PLOT PLAN IS NOT TO BE SUBSTITUTED FOR A BOUNDARY SURVEY.

REQUIRED RIGHT-OF-WAY FOR LIMITED ACCESS

SLOPE EASEMENT. AN EASEMENT FOR THE SUPPORT AND PROTECTION OF THE HIGHWAY, INCLUDING THE RIGHT TO CONSTRUCT, INSPECT, MAINTAIN, REPAIR, RECONSTRUCT AND ALTER DRAINAGE FACILITIES AND THE CONTOUR OF THE LAND. THE EASEMENT SHALL NOT PREVENT THE PROPERTY OWNER FROM MAKING ANY LEGAL USE OF THE AREA WHICH IS NOT DETRIMENTAL TO THE NECESSARY SUPPORT AND PROTECTION OF THE HIGHWAY RIGHT-OF-WAY AND THE SAFETY OF THE TRAVELING PUBLIC.

LEGEND

- ROCK CHUTE
- ROCK APRON
- ROCK ARMORED SLOPE

PLOT PLAN SCALE

0 50 100 FEET

PREPARED BY:
BORTON-LAWSON
613 BALTIMORE DRIVE, SUITE 300
WILKES-BARRE, PA 18702-7903

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL THOMAS P. HARLEY Jr. LAND SURVEYOR NO. 0423228

Thomas P Harley Jr

REGISTERED PROFESSIONAL LAND SURVEYOR

DATE AUGUST 15, 2021

PREPARED BY:
BORTON-LAWSON
613 BALTIMORE DRIVE, SUITE 300
WILKES-BARRE, PA 18702-7903

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL GEOFFREY W. GRIBBLE ENGINEER NO. PE073596

REGISTERED PROFESSIONAL ENGINEER

DATE AUGUST 15, 2021

ENLARGEMENT C - SHEET 5 OF 5

RIGHT-OF-WAY INFORMATION

COMMONWEALTH OF PENNSYLVANIA-DEPARTMENT OF TRANSPORTATION

STATE RTE. 0081 SEC. NO. 511 R/W COUNTY: SUSQUEHANNA
PARCEL NO. 35 SHEET NO. - CLAIM NO. -
PROPERTY OWNER(S): COMMONWEALTH OF PENNSYLVANIA
GRANTOR(S): FLORENCE E. FLORANCE AND OTHERS

P:\2009\2558\00\DWGS\TRANS\PLAN SHEETS\ROW\Redline Revision Sheets\42-T7018D_255800 (PARCEL 35 GC PAGE 5)-R1A.dgn
8/10/2021 AT 11:51:53 AM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511 R/W	50 OF 224
GREAT BEND TOWNSHIP				

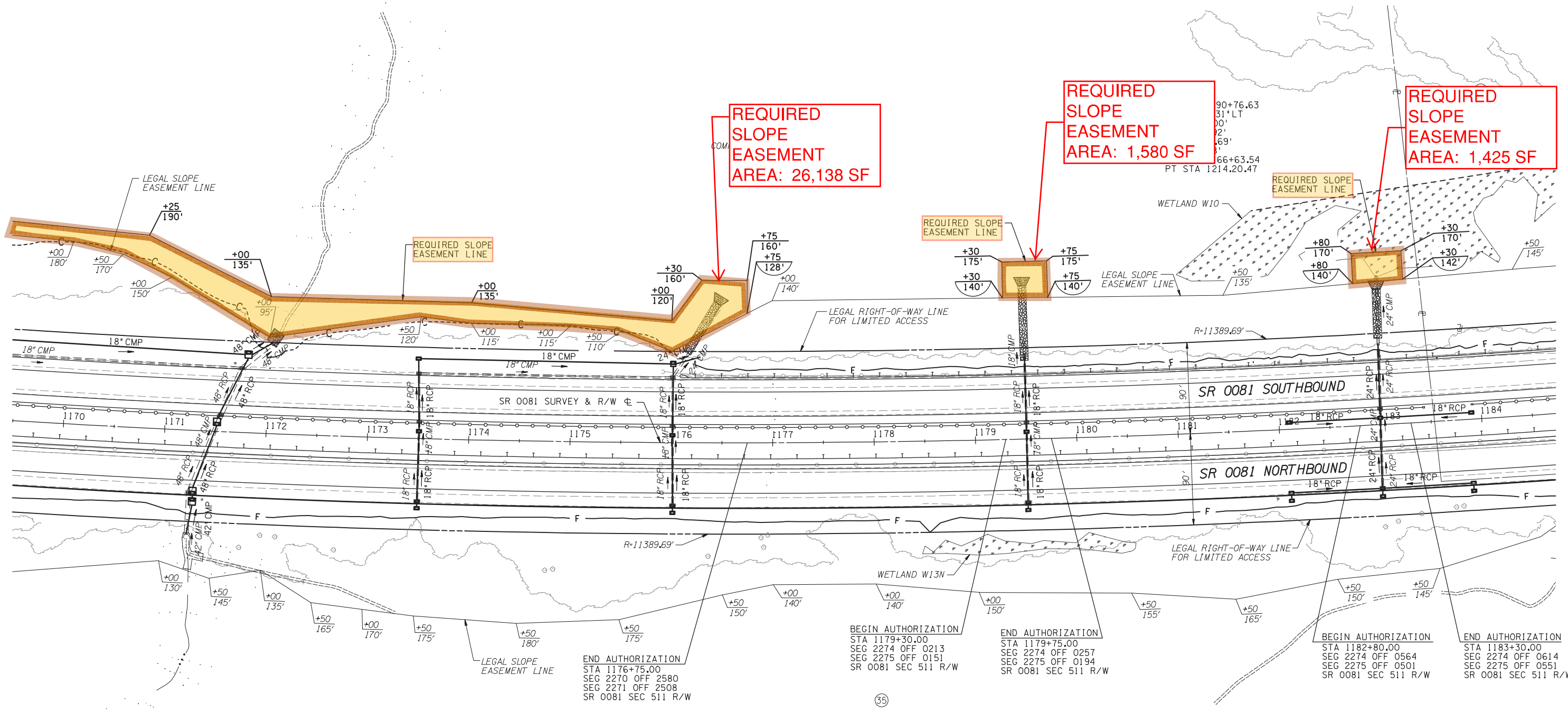
REVISION NUMBER	REVISIONS	DATE	BY

BM IN ELEV 992.38'
65'RT STA 1176+02
CHISEL SQUARE W/ MAG TOP CENTER INLET

REQUIRED SLOPE EASEMENT AREA: 26,138 SF

REQUIRED SLOPE EASEMENT AREA: 1,580 SF

REQUIRED SLOPE EASEMENT AREA: 1,425 SF



SEE SHEET 49

SEE SHEET 51

END AUTHORIZATION
STA 1176+75.00
SEG 2270 OFF 2580
SEG 2271 OFF 2508
SR 0081 SEC 511 R/W

BEGIN AUTHORIZATION
STA 1179+30.00
SEG 2274 OFF 0213
SEG 2275 OFF 0151
SR 0081 SEC 511 R/W

END AUTHORIZATION
STA 1179+75.00
SEG 2274 OFF 0257
SEG 2275 OFF 0194
SR 0081 SEC 511 R/W

BEGIN AUTHORIZATION
STA 1182+80.00
SEG 2274 OFF 0564
SEG 2275 OFF 0501
SR 0081 SEC 511 R/W

END AUTHORIZATION
STA 1183+30.00
SEG 2274 OFF 0614
SEG 2275 OFF 0551
SR 0081 SEC 511 R/W

LEGEND
- ROCK CHUTE
- ROCK APRON

PARCEL NO.	CLAIM SHEET NO.
35	188
36	193

SCALE
0 50 100 FEET

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 84
FOR SB PROFILE, SEE SHEET 120

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
THOMAS P. HARLEY Jr.
LAND SURVEYOR NO. 043328
PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
GEOFFREY W. GRIBBLE
ENGINEER NO. PE073596
PENNSYLVANIA

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9/28/2020 AT 3:49:52 PM

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511 R/W	49 OF 224
GREAT BEND TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

SEE SHEET 48

SEE SHEET 50

REQUIRED SLOPE EASEMENT AREA: 26,138 SF

32 SOMERVILLE LAND DEVELOPMENT. INC.

35 CCOMMONWEALTH OF PENNSYLVANIA

33 SIX PENNSE

WETLAND W9

REQUIRED SLOPE EASEMENT LINE

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

REQUIRED RIGHT-OF-WAY LINE FOR LIMITED ACCESS

WETLAND W1N

SR 0081 SURVEY & R/W ℄

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

TEMPORARY ACCESS ROAD 2163 NB SURVEY & R/W ℄

PI STA 1190+76.63
Δ = 23°44'31"LT
T = 2413.00'
L = 4756.92'
R = 11479.69'
E = 250.88'
PC STA 1166+63.54
PT STA 1214.20.47

BEGIN AUTHORIZATION
STA 1165+75.00
SEG 2270 OFF 1485
SEG 2271 OFF 1413
SR 0081 SEC 511 R/W

BEGIN RE-ESTABLISHMENT & AUTHORIZATION
STA 1163+00.00
SEG 2270 OFF 1210
SEG 2271 OFF 1138
SR 0081 SEC 511 R/W

BEGIN AUTHORIZATION
STA 1156+30.00
SEG 2270 OFF 0690
SEG 2271 OFF 0618
SR 0081 SEC 511 R/W

END AUTHORIZATION
STA 1156+75.00
SEG 2270 OFF 0735
SEG 2271 OFF 0663
SR 0081 SEC 511 R/W

BEGIN AUTHORIZATION
STA 1159+15.00
SEG 2270 OFF 0825
SEG 2271 OFF 0753
SR 0081 SEC 511 R/W

END AUTHORIZATION
STA 1159+60.00
SEG 2270 OFF 0870
SEG 2271 OFF 0798
SR 0081 SEC 511 R/W

END RE-ESTABLISHMENT & AUTHORIZATION
STA 1164+50.00
SEG 2270 OFF 1360
SEG 2271 OFF 1288
SR 0081 SEC 511 R/W

LEGEND

- ROCK CHUTE
- ROCK APRON

SCALE
0 50 100 FEET

PARCEL NO.	CLAIM SHEET NO.
32	179
33	183
35	188

SURVEY BOOKS
BL-267, 268, 270, 311, 401, 414, 415, 418, 430
PDOT-29904, 29905

FOR REFERENCE CIRCLES, SEE SHEET 12
FOR NB PROFILE, SEE SHEET 83
FOR SB PROFILE, SEE SHEET 119

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — THOMAS P. HARLEY Jr. — LAND SURVEYOR NO. 043328E

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — GEOFFREY W. GRIBBLE — ENGINEER NO. PE073596

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9/28/2020 AT 3:49:50 PM

Electric
Oil Pipeline; Gas Line
Other Line
Phone
Sewer Line; Water Line
Trail
Special Trails
Stream
Parking Area
Food & Cover Crew HQ
Garage
Headquarters
Other
Storage
Gate
Tower Site
Food Plot
Game Land Boundary
Other Game Lands
Wetland

N

Impact 1

Impact 2

Impact 3

Impact 4

Impact 5

PENNSYLVANIA GAME COMMSISSION

STATE GAME LANDS 035

SUSQUEHANNA COUNTY

Feet

0 2500 5000 7500 10000

1 inch = 4,000 feet

January 2014

Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed


Old Lackawanna Trail
Old Lackawanna Trail
Hallstead Farmers Market
Stone's Garage Inc
Dave's Buy-Rite Auto Sales
trailer park
5
4
3
DRAINAGE IMPROVEMENTS
STATE GAME LAND
35


Hallstead
Tim Hortons
Sienko Rd
Old Lackawanna Trail
Aldrich Trucking
Glezen's Power Equipment
Salt Lick Creek
1010
1010
Susquehanna
Hellstead Manor
1
STORWATER FACILITY
STATE GAME LAND
35


81
PROPOSED STORM
WATER BASIN
STATE GAME LAND
35
N
Google Earth
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© 2020 Europa Technologies

Google Maps M1<5



Mq eki$getxyvi>$Wit$645= > 6464Ksskpi

Lepwxieh($Tirrw}pzerme

Ksskpi

Wxviix$Zmi{

AREA OF PROPOSED STORM WATER BASIN. VIEW FROM I81 SOUTHBOUND TRAVEL LANE

PGC CORRESPONDENCE

Augustine, Gregory

From: Wandling, Donald
Sent: Tuesday, August 31, 2021 12:35 PM
To: Augustine, Gregory
Cc: Franzen, Lucas A; DiMatteo, Michael R; Neideigh, Dennis
Subject: RE: Update 8/26 - Final Signed Request --- Hoffman Bank Debit and Back Payments for Vargo Bank Debits
Attachments: I-81 N TIER 4(f).pdf

Hello Greg,

As I mentioned earlier on our call, I have completed the 4(f) form as requested, and it is attached here. It has been signed by one of our Deputy Executive Directors, Mr. Thomas Grohol.

Although I will still be the point of contact as indicated on the form for getting these processed, it will likely be one of our executive directors or their designee that will be signing them going forward. Thank you for your forbearance as we determine the appropriate course for the processing of these documents.

Regards,
Don

Donald E. Wandling, P.G.
Pennsylvania Game Commission
Environmental Planning and Habitat Protection
2001 Elmerton Ave
Harrisburg, PA 17110

717-787-4250

From: Augustine, Gregory <GAUGUSTINE@pa.gov>
Sent: Thursday, August 26, 2021 8:21 AM
To: Franzen, Lucas A <lfranzen@pa.gov>; Augustine, Gregory <GAUGUSTINE@pa.gov>
Cc: Wandling, Donald <dowandling@pa.gov>
Subject: Update 8/26 - Final Signed Request --- Hoffman Bank Debit and Back Payments for Vargo Bank Debits

Hi Luke,

The Form is a Game Commission for review / signature.

I will contact Don to check on Status.

Greg

From: Franzen, Lucas A <lfranzen@pa.gov>
Sent: Tuesday, August 24, 2021 9:31 AM
To: Augustine, Gregory <GAUGUSTINE@pa.gov>
Subject: RE: Final Signed Request --- Hoffman Bank Debit and Back Payments for Vargo Bank Debits

From:	Augustine, Gregory
To:	Augustine, Gregory
Subject:	PGC Reply --- Susquehanna Co., SGL 35 - SR 81, Section 511
Date:	Monday, April 12, 2021 3:48:27 PM

From: Librandi Mumma, Tracey <tlibrandi@pa.gov>
Sent: Thursday, October 29, 2020 10:43 AM
To: Williams, Susan (PENNDOT) <susawillia@pa.gov>; Augustine, Gregory <GAUGUSTINE@pa.gov>; Geoffrey W. Gribble, PE <ggribble@borton-lawson.com>
Subject: RE: Susquehanna Co., SGL 35 - SR 81, Section 511

Hi all –

After discussing this project with both PGC Harrisburg and region staff, the PGC has come to a consensus that we are ok with PennDOT moving forward with the SR 81-511 project as proposed. However, the 1.542 acres of slope easement impacts required are considered permanent impacts to SGL 35 and as such must be debited from an existing SGL bank (or replacement lands acquired). Is there any TCE associated with this project?

Currently the closes SGL is the Hoffman SGL bank in Tioga County, however the SGL bank that is located in the same PGC region as the project is the Vargo SGL Bank in Northumberland County. Both SGL banks are in PennDOT District 3-0 so permission from that District to debit from either bank is necessary. Likewise, the Vargo bank likely does not have enough credits remaining to debit for the entire 1.542 acres necessary for this project. Given the above, although the PGC would prefer the impacts be debited from the SGL bank in close proximity and in the same PGC region as the impacts, the PGC would not be opposed to the debits coming from the Hoffman SGL bank in Tioga County for this project.

Final, the PGC has not yet been provided with a Section 4(f) checklist to review and sign off on for this project. As such, please forward the draft checklist at your earliest convenience.

Thanks,

Tracey Librandi Mumma
Wildlife Biologist / Habitat Protection Section Chief
Environmental Planning & Habitat Protection Division
Bureau of Wildlife Habitat Management
Pennsylvania Game Commission
2001 Elmerton Avenue, Harrisburg, PA 17110
tlibrandi@pa.gov
*I am working remotely and can be reached through email.

From:	Librandi Mumma, Tracey
To:	Lynd, Alyssa R
Cc:	Augustine, Gregory; Deibert, Sarah J
Subject:	RE: D4 - Susquehanna County - SR 81, Section 511 -- SGL 35 --- 4(f) Update
Date:	Friday, March 26, 2021 8:12:28 AM

Hi Alyssa,

The parcels of SGL 35 that are proposed to be impacted from this project were not funded with LWCF, Project 70, nor Pittman-Roberts funds.

Happy Friday!

Tracey Librandi Mumma
Wildlife Biologist / Habitat Protection Section Chief
Environmental Planning & Habitat Protection Division
Bureau of Wildlife Habitat Management
Pennsylvania Game Commission
2001 Elmerton Avenue, Harrisburg, PA 17110
tlibrandi@pa.gov
*I am working remotely and can be reached through email.

From: Lynd, Alyssa R <alynd@skellyloy.com>
Sent: Thursday, March 25, 2021 10:50 AM
To: Librandi Mumma, Tracey <tlibrandi@pa.gov>
Cc: Augustine, Gregory <GAUGUSTINE@pa.gov>; Deibert, Sarah J <sdeibert@skellyloy.com>
Subject: [External] RE: D4 - Susquehanna County - SR 81, Section 511 -- SGL 35 --- 4(f) Update

ATTENTION: *This email message is from an external sender. Do not open links or attachments from unknown sources. To report suspicious email, forward the message as an attachment to CWOPA_SPAM@pa.gov.*

Hi Tracey,
I am working on the SR 81-511 Section 4(f) De Minimis Use form for PennDOT District 4-0 and just wanted to confirm that SGL 35 does not have any recreational grant funding such as P-70, P-500 or LWCF.

Thanks!
Alyssa Lynd
Staff Scientist I NEPA

Skelly and Loy, Inc., A Terracon Company
449 Eisenhower Boulevard, Suite 300 I Harrisburg, PA, 17111
D (717) 510 7770 I M (717) 574 3527
alynd@skellyloy.com I skellyloy.com I terracon.com

From: Augustine, Gregory <GAUGUSTINE@pa.gov>
Sent: Monday, March 15, 2021 9:21 PM
To: Librandi Mumma, Tracey <tlibrandi@pa.gov>; Franzen, Lucas A <lfranzen@pa.gov>; Augustine, Gregory <GAUGUSTINE@pa.gov>
Cc: Lynd, Alyssa R <alynd@skellyloy.com>; Fox, Sarah <c-sarahfox@pa.gov>; Geoffrey W. Gribble, PE <ggribble@borton-lawson.com>; Williams, Susan (PENNDOT) <susawillia@pa.gov>; Hendrickson, Kevin <kevhendric@pa.gov>; Rau, Donald W <drau@pa.gov>
Subject: D4 - Susquehanna County - SR 81, Section 511 -- SGL 35 --- 4(f) Update

Hi Tracey / Luke,

Update for Section 4(f) Form---

Skelly and Loy will assist the Environmental Unit by completing the Section 4(f) Form regarding impacts to SGL 35.

Alyssa Lynd from Skelly will :

- Assisting with coordination regarding District 4 request / District 3 approval to debit from Hoffman Bank site.
- Prepare Form.
- Complete necessary follow up regarding funds transfer to District 3.

We brought Skelly update about project so that they are familiar details and they will be sending information out shortly for review/comment starting with approval to use Hoffman bank (following District 5 example).

Alyssa's contact information:

Alyssa Lynd
Staff Scientist I NEPA
Skelly and Loy, Inc., A Terracon Company
449 Eisenhower Boulevard, Suite 200 I Harrisburg, PA 17111
D (717) 510 7770 I M (717) 574 3527
alynd@skellyloy.com I skellyloy.com I terracon.com

alynd@skellyloy.com

Thanks for eveyone's help.
If there are any questions please contact me.

Greg Augustine

Terracon provides environmental, facilities, geotechnical, and materials consulting engineering services delivered with responsiveness, resourcefulness, and reliability.

Private and confidential as detailed here (www.terracon.com/disclaimer). If you cannot access the hyperlink, please e-mail sender.

AGREEMENT TO DEBIT IMPACT FROM HOFFMAN SGL BANK

OS-600C (12-15)

pennsylvania
DEPARTMENT OF TRANSPORTATION

MEMO

DATE: April 19, 2021

SUBJECT: Susquehanna County
State Route 0081, Section 511
Interstate 81 Reconstruction
State Game Land Bank Request
MPMS# 75917

TO: Gerald C. Wertz, P.E.
Assistant District Executive – Design, Engineering District 3-0

FROM: Susan Hazelton, P.E.
Assistant District Executive – Design, Engineering District 4-0

Engineering District 4-0 is currently in the process of designing the reconstruction of approximately 9 miles of State Route 81 in Susquehanna County between the New Milford / Lakeside Interchange – Exit 223 and Great Bend / Susquehanna Interchange Exit 230 terminating at the Pennsylvania / New York State border.

State Game Land #35 (SGL #35) borders State Route 81 along a large portion of the northbound or eastern side of project limits. The proposed impacts to SGL #35 require Section 4(f) replacement lands be acquired. The total acreage needed for SGL replacement is 1.542 acres. We are requesting concurrence for the use of the District 3-0, Hoffman SGL Bank as replacement lands for this project. The PA Game Commission (PGC) has indicated they are not opposed to use of Hoffman SGL Bank as described in the attached email coordination. Upon review, please provide your concurrence so the Section 4(f) form can be signed as part of the project's NEPA environmental clearance.

We are willing to financially compensate District 3-0 for the use of your bank at the previously discussed $3,000 per acre. Total compensation for use of the Hoffman Bank for the State Route 81 Reconstruction project will total $4,626.

Date of Credit/Debit	County	SR-Sec	MPMS	Acreage	Bank	Calculation	Amount
May 2021	Susquehanna	81-511	75917	1.542	Hoffman	1.542 x $3,000.00 =	$4,626

The table below lists past District 4-0 projects that were debited from the District 3-0 SGL Vargo Bank. The dollar amount calculated below reflects District 4-0's reimbursement for use.

Date of Credit/Debit	County	SR-Sec	MPMS	Acreage	Bank	Calculation	Amount
10/24/2012	Luzerne	2035-350	9009	0.030	Vargo	0.030 x $5,000.00 =	$150
3/23/2015	Pike	739-ELR	92900	1.310	Vargo	1.310 x $5,000.00 =	$6,550
11/12/2015	Pike	739-ELR	92900	0.160	Vargo	0.160 x $5,000.00 =	$800
6/23/2016	Luzerne	2035-352	93032	0.031	Vargo	0.031 x $5,000.00 =	$155

Thank you very much for your coordinated efforts in helping us move this project forward. If you have any questions or require further information, please feel free to contact the District Environmental Manager, Gregory Augustine, at 570.963.4070.

Concurrence: Sandra Tosca _____ 4/19/2021
Sandra Tosca, P.E.
District Executive
Date

PUBLIC INVOLVEMENT

From: Geoffrey W. Gribble, PE
To: Augustine, Gregory; Williams, Susan (PENNDOT)
Subject: [External] RE: "EXTERNAL"Public Involvement - I81/511
Date: Wednesday, July 28, 2021 11:35:22 AM

__ATTENTION:__ This email message is from an external sender. Do not open links or attachments from unknown sources. To report suspicious email, forward the message as an attachment to CWOPA_SPAM@pa.gov.

Hey Greg,

The public comment period closed on July 15th.

There were no comments received,,,,via regular mail to the District Office, Project hotline OR project email.

Thanks,
Geoff

Geoff W. Gribble, PE || Senior Project Manager
Borton-Lawson Engineering
Phone: (570) 821-1994; 1273

From: Augustine, Gregory <GAUGUSTINE@pa.gov>
Sent: Wednesday, July 28, 2021 11:10 AM
To: Geoffrey W. Gribble, PE <GGribble@borton-lawson.com>; Williams, Susan (PENNDOT) <susawillia@pa.gov>; Augustine, Gregory <GAUGUSTINE@pa.gov>
Subject: 'EXTERNAL'Public Involvement - I81/511

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Geoff / Sue,

When did the public involvement period close for project.

Where there any comment regarding impacts to State Game Lands 35.

I am in process of completing Section 4(f) Form and need to summarize public involvement prior to sending Game Commission.

Thanks.

Greg

PUBLIC NOTICE/INVOLVEMENT

pennsylvania
DEPARTMENT OF TRANSPORTATION

Project Information

County:

Susquehanna County

Municipality:

New Milford Borough, New Milford Township
Great Bend Borough, Great Bend Township

Project Type:

Interstate Reconstruction

Designer:

Borton-Lawson Engineering
613 Baltimore Drive, Suite 300
Wilkes-Barre, PA 18702

Contact Information:

Project Hotline
570.821.1994, Extension 1575

Project Email
i81_Section511@borton-lawson.com

Public Comment Period

From July 1, 2021 to July 15, 2021

Resources

Plans Display (PDF)
Public Questionnaire to Complete Online
Public Questionnaire to Print and Return by Mail (PDF)

PUBLIC NOTICE/INVOLVEMENT

pennsylvania
DEPARTMENT OF TRANSPORTATION

Project Overview

The Pennsylvania Department of Transportation (PennDOT), Engineering District 4-0, invites the public to a virtual plans display that reflects upcoming changes to the Interstate 81, Section 511 Reconstruction Project in Great Bend Borough/Township and New Milford Borough/Township, Susquehanna County.

The main purpose of this project is to address the pavement, bridges, drainage, and ramp length deficiencies, thereby providing a safe and efficient Interstate 81 corridor. However, in Final Design, four separate areas will require environmental re-evaluation from the previously approved Categorical Exclusion Evaluation (CEE), Level 2 environmental document dated 03/21/2018. Those areas and reasons for the change are identified below.

The intent of the plans display is to introduce the changes to the project since the CEE approval obtained on 03/21/2018, and to receive public input regarding questions or concerns with these latest changes to the project. It is also an opportunity for the public to review and comment on the project's potential effect upon Cultural Resources pursuant to the Advisory Council on Historic Preservation's 36 CFR Part 800 regulations implementing Section 106 of the National Historic Preservation Act.

Areas 1 & 2 – Proposed Impacts to State Game Land No. 35

State Game Lands 35 is located in Great Bend, Harmony, Jackson and New Milford Townships in Susquehanna County. It contains 7,772 acres of mountainous and wooded land that is open to the public for passive recreation such as hunting, hiking, bird watching and fishing.

Proposed impacts to State Game Lands No. 35 were not included in the original Environmental Clearance in 2018. Therefore, a Section 4(f)/Section 2002 Evaluation is being conducted for the CEE Re-Evaluation. During Final Design, the proposed construction footprint along the interstate will be expanded to include new roadway features. Therefore, potential slope easements into Parcel 35 are proposed to acquire an additional 0.712 acres. This proposed acquisition would allow for the installation of new roadside swales and new drainage pipe adjustments. A right-of-way take of 1.311 acres is proposed for project construction and to allow for the installation of a new stormwater basin. See plan display attached denoted for Area 1 and 2.

State Game Lands 35 is protected under Section 4(f) of the U.S. Department of Transportation Act of 1966 and Section 2002 of Pennsylvania Act 120. This requires PennDOT to comply with certain regulations. PennDOT intends to process a Section 4(f) De Minimis Use/Section 2002 No Adverse Use form for this project. Public involvement is a required part of the Section 4(f)/Section 2002 evaluation process and this notice hereby provides the interested/affected public the opportunity to comment on the project, including its potential impact to Game Lands 35.

The proposed acquisition will not impact habitat for hunting opportunities or any other features of State Game Lands 35. The areas where work will occur are directly adjacent to I-81 and do not

contain any Game Land facilities such as parking areas or trails. Both during and after the proposed project, the Game Land will continue to function for its designated purposes.

PennDOT intends on completing the Environmental Clearance for the project by preparing a re-evaluation of the Categorical Exclusion Evaluation (CEE). This document will include a Section 4(f) De Minimis Use/Section 2002 No Adverse Use evaluation. Such an evaluation considers and evaluates PennDOT's action, which is the reconstruction of I-81, and its potential to adversely affect the activities, features, and attributes that qualify State Game Land No. 35 for protection under Section 4(f)/Section 2002. Based on the evaluation, PennDOT intends to make a finding that the project will not result in permanent adverse impacts to State Game Land No. 35, and will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f)/Section 2002.

Area 3 – Proposed Wetland Mitigation Site

The proposed construction footprint has accumulated approximately 1.5 acres of wetland impacts throughout the corridor. The Department is in the process of investigation two alternatives to comply with US Army Corps Engineers' Section 404 Permit and PA Department of Environmental Protections' Chapter 105 Permit requirements. The options are, determine if acceptable replacement credits are available for purchase or design and construct a replacement wetland mitigation site. During Final Design, PennDOT conducted research/field evaluation to determine if there was there was a parcel of property that had potential to create a wetland site to mitigate the project impacts. After evaluation, Parcel 62 was identified as a potential wetland mitigation site for the following reasons: hydrology, seasonal high water table, large enough to accommodate the wetland mitigation area, access and capacity for future wetland mitigation from other projects. See plan display attached denoted for Area 3.

Area 4 – Proposed Emerson Road Relocation & Proposed Basin

Through project coordination with the local residents of Great Bend Township in Final Design, re-routing of a proposed stormwater system is being considered to reduce the flooding potential in Great Bend Borough. The stormwater system change is proposed as a potential flooding remediation and would include a new stormwater basin located along the northbound side of Interstate 81. The new basin would collect runoff from the adjacent hillside east of I-81 as well as redirecting runoff from both northbound and southbound travel lanes and the grass median to new outlet on the northbound side. The basin installation would impact and partially sever existing Township Road 841 (Emerson Road). Therefore, possibly a portion of Township Road 841 (Emerson Road) would require relocation of approximately 900 linear feet into four adjacent private property owners. See plan display attached denoted for Area 4.

It is important to note that PennDOT has reviewed the project's potential effect to historic properties with the changes to the four areas listed above and determined that the project continues to have "no adverse effect".

In accordance with Governor Wolf's COVID-19 mitigation efforts, the comment period will be held online only and will be open from July 1, 2021 to July 15, 2021.

Those unable to access the information online may give feedback by contacting project hotline at 570.821.1994, Extension 1575 or i81_Section511@borton-lawson.com.

The plans display can be found by clicking on <INSERT PLANS LINK> (PDF). The public is encouraged to respond to the public questionnaire and provide comments on the plans display by clicking on the Public Questionnaire <INSERT LINK>.

If you prefer to download a printed survey form, use this link <INSERT PROJECT QUESTIONNAIRE.PDF> to print a PDF questionnaire to be completed by hand and mailed to the address at the bottom of the form. If you have any questions, or would like to request a paper survey, please contact the project hotline at 570.821.1994, Extension 1575 or email at i81_Section511@borton-lawson.com.

PennDOT District 4-0 understands bridge tolling is underway but statewide the tolling program has not yet been finalized. Therefore, PennDOT District 4-0 is not presenting information at this time on bridge tolling. If you would like to read more on the Major Bridge P3 Initiative, please go to this link:

https://www.penndot.gov/RegionalOffices/district-4/ConstructionsProjectsAndRoadwork/Pages/I-81-Northern-Tier.aspx

pennsylvania
DEPARTMENT OF TRANSPORTATION

INTERSTATE 81 SECTION 511 - PRELIMINARY

Borton Lawson
ENGINEERING | ARCHITECTURE

AREA 1

SR 0011

SALT LICK CREEK

GREAT BEND TOWNSHIP

35
COMMONWEALTH OF PENNSYLVANIA
(STATE GAME LANDS NO.35)

LEGAL SLOPE EASEMENT LINE

PROPOSED SLOPE EASEMENT LINE

SOUTH
81
227
.5

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

PROPOSED SLOPE EASEMENT LINE

LEGAL SLOPE EASEMENT LINE

SR 0081 SB SURVEY & CONST ℄

SR 0081 NB SURVEY & CONST ℄

92'

90'

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

35
COMMONWEALTH OF PENNSYLVANIA
(STATE GAME LANDS NO.35)

NORTH
81
227
.5

LEGEND

- **PROPOSED PAVEMENT**
- **EXISTING PAVEMENT**
- **EXISTING DRIVEWAY**
- **PROPOSED ROW**
- **PROPOSED EASEMENT**
- **EXISTING EASEMENT**

SCALE
0 75 150 FEET

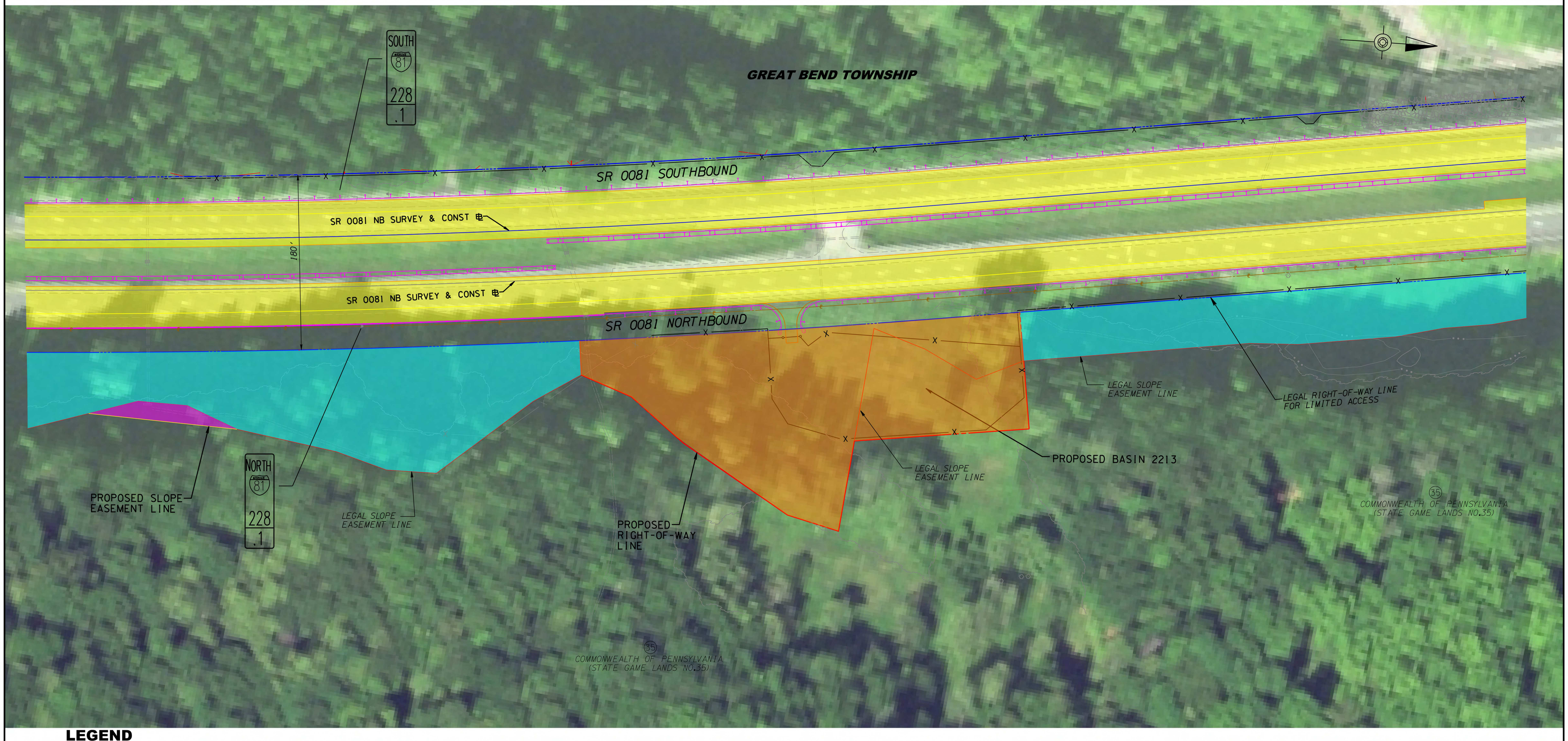
P:\2009\2558\02\REF - SR 0081 SEC 511 - FD\Task 20 - ENVIRONMENTAL ACTIVITIES\2021 Public Meeting Materials\41-T7016C_255802 (PARCEL 34 GC PAGE 41.dgn
6/1/2021 AT 9:11:04 AM

pennsylvania
DEPARTMENT OF TRANSPORTATION

INTERSTATE 81 SECTION 511 - PRELIMINARY

Borton Lawson
ENGINEERING | ARCHITECTURE

AREA 2



LEGEND

- PROPOSED PAVEMENT
- EXISTING PAVEMENT
- EXISTING DRIVEWAY
- PROPOSED ROW
- PROPOSED EASEMENT
- EXISTING EASEMENT

SCALE
0 50 100 FEET

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INTERSTATE 81 SECTION 511 - PRELIMINARY

pennsylvania DEPARTMENT OF TRANSPORTATION

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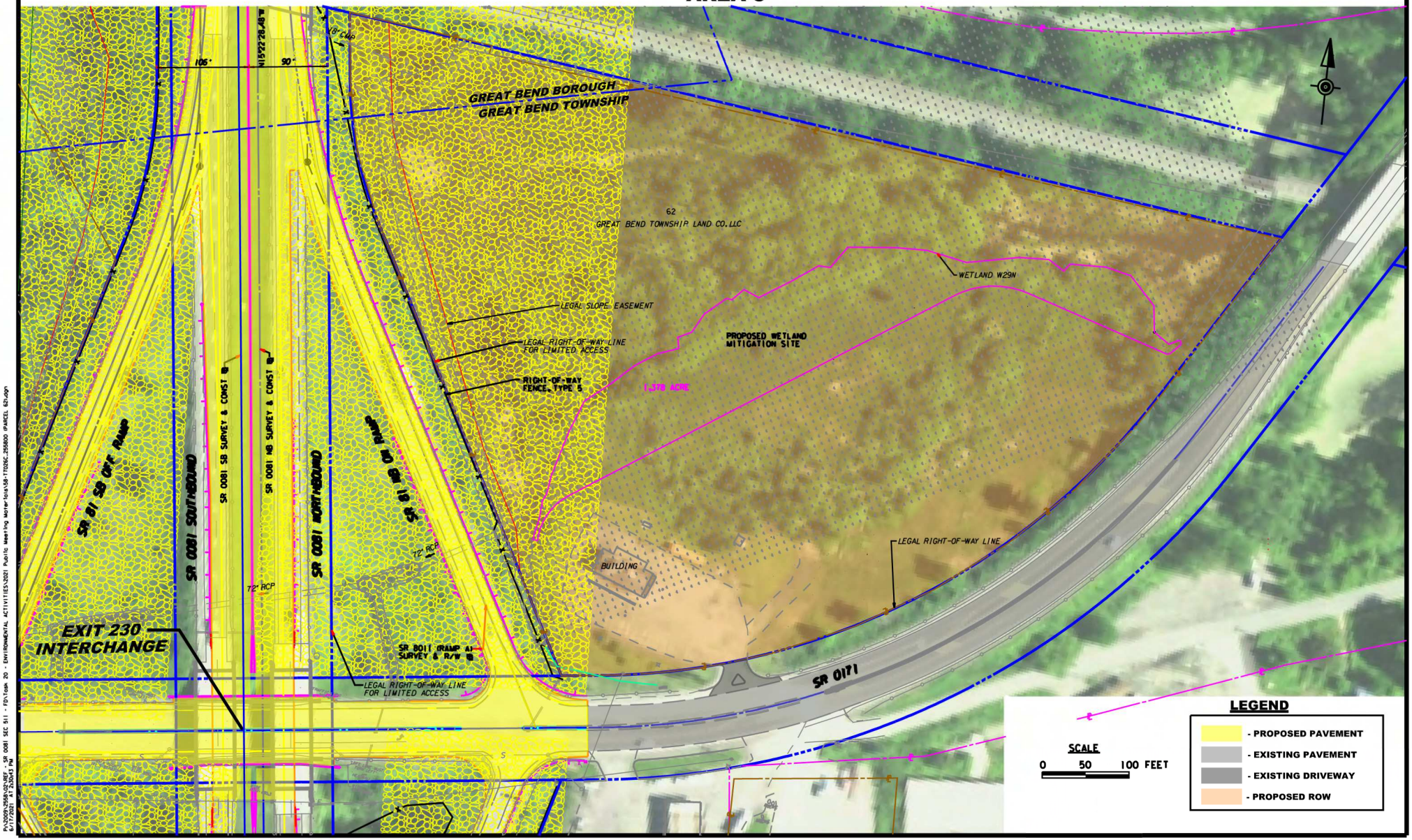
AREA 3



INTERSTATE 81 SECTION 511 - PRELIMINARY

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AREA 4

GREAT BEND TOWNSHIP

SR 1031 (RANDOLPH STREET)

GRANT STREET

78 DONALD J. FRANKS

82 FRED S. VISSER AND LORETTA DEBELLA

83 DAVID A. HINKLEY AND CARRIE L. HINKLEY

79 TERRY LEWIS VANVLECK

80 ERIC GRIFFIN & ALLISON GRIFFIN

81 ROBERT C. EMERSON AND BONNIE D. EMERSON

84 PATRICIA M. ALLEN

116 ERIC STEDMAN & AMY STEDMAN

SOUTH 81 231 .2

NORTH 81 231 .2

LEGAL SLOPE EASEMENT LINE

LEGAL RIGHT-OF-WAY LINE FOR LIMITED ACCESS

LEGAL RIGHT-OF-WAY LINE

RIGHT-OF-WAY FENCE, TYPE 5

PROPOSED RIGHT-OF-WAY LINE FOR TOWNSHIP ROAD

LEGAL RIGHT-OF-WAY LINE FOR TOWNSHIP ROAD

PROPOSED FILTER

PROPOSED BASIN

T-841 (EMERSON ROAD)

RELOCATED T-841 (EMERSON ROAD)

SR 0081 SOUTHBOUND

SR 0081 NORTHBOUND

90'

33'

54" RCP

18" RCP

15" CMP

HOUSE

GARAGE

POOL

SHED

POND

DRIVEWAY

UTILTY POLE NO NUMBERS

LEGEND

- PROPOSED PAVEMENT
- EXISTING PAVEMENT
- EXISTING DRIVEWAY
- PROPOSED ROW

SCALE

0 50 100 FEET

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6/1/2021 AT 9:35:13 AM

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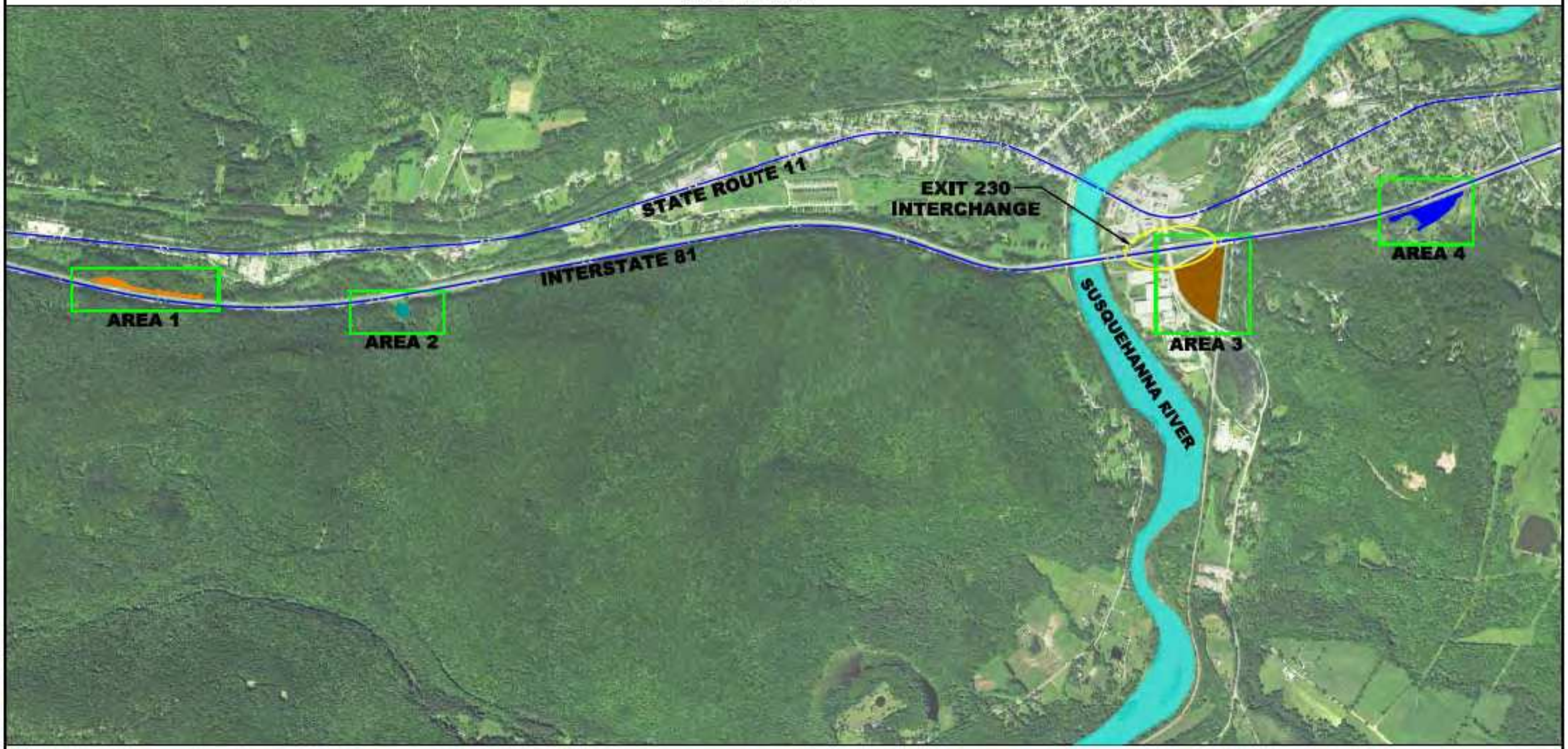
DEPARTMENT OF TRANSPORTATION

INTERSTATE 81 SECTION 511 - PRELIMINARY

Barton Lawson
ENGINEERING | ARCHITECTURE

INDEX MAP



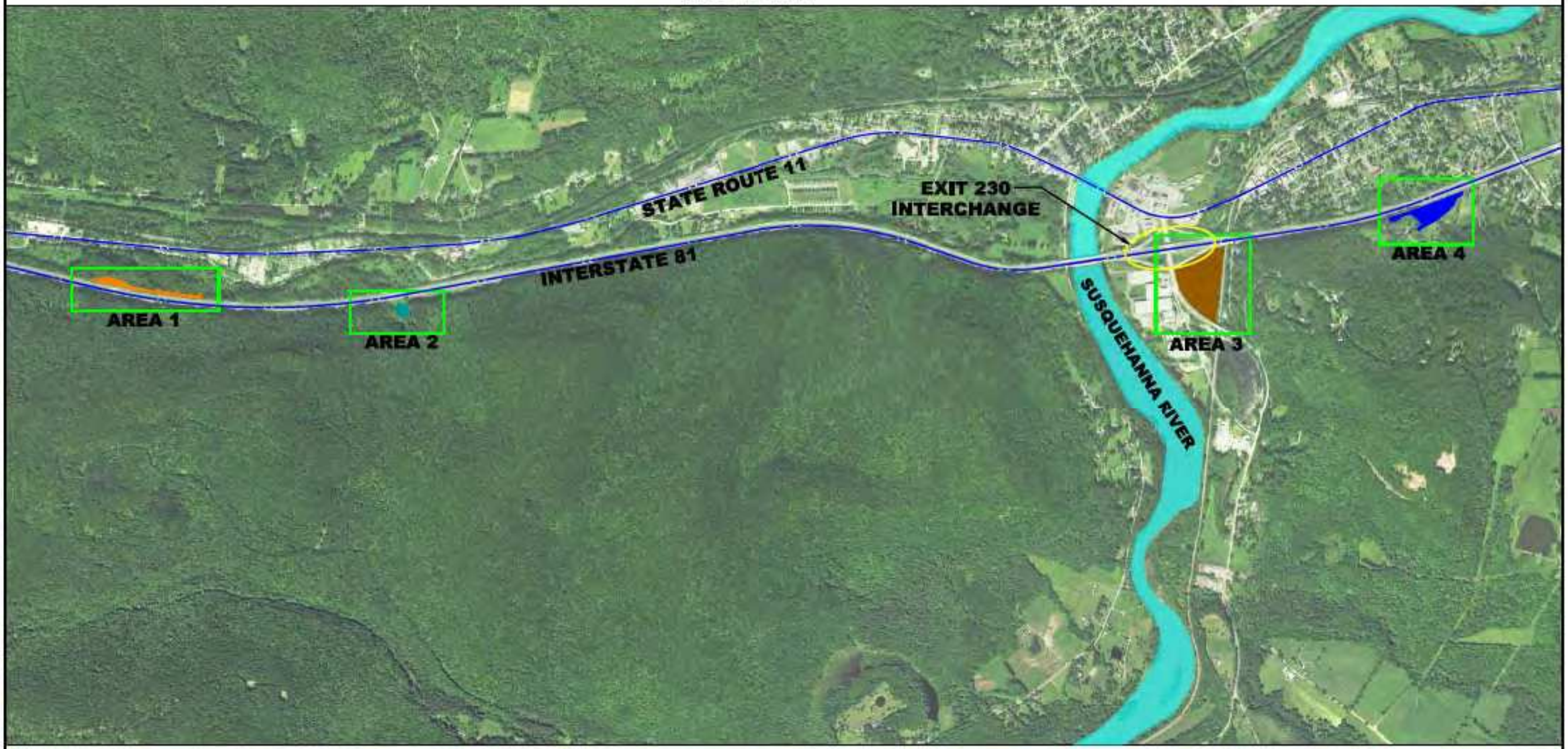
SCALE
0 750 1500 FEET

pennsylvania
DEPARTMENT OF TRANSPORTATION

INTERSTATE 81 SECTION 511 - PRELIMINARY

Barton Lawson
ENGINEERING | ARCHITECTURE

INDEX MAP



SCALE
0 750 1500 FEET

Interstate 81 Susquehanna Project
Great Bend Township/Great Bend Borough
New Milford Township / New Milford Borough

PUBLIC MEETING - QUESTIONNAIRE

July 1, 2021 to July 15, 2021

To assist PennDOT in the design of the Interstate 81, Section 511 Reconstruction Project, we would greatly appreciate your time in responding to the following questions to aid the design team in understanding your concerns and interests. The intent of the plans display is to introduce the changes to the project since the previously approved Categorical Exclusion Evaluation (CEE), Level 2 environmental document dated 03/21/2018 and to receive public input regarding questions or concerns with these latest changes to the project. Your responses are confidential and your name will not be associated with any information shared.

1. How did you find our about this meeting?
   - □ Newspaper
   - □ Word of Mouth
   - □ Township / Borough Meeting
   - □ Other (Please Specify)_____

2. Where do you live?
   - □ New Milford Borough
   - □ Great Bend Borough
   - □ Other (Please Specify)_____
   - □ New Milford Township
   - □ Great Bend Borough

3. Do you favor the proposed improvements shown on the project plans display?

□	□	□	□	□
Strongly Object	Somewhat Object	Neutral	Favor	Strongly Favor

4. Was the material presented at the meeting understandable and informative?
   - □ Yes
   - □ Somewhat
   - □ No

5. Please rate your overall satisfaction with the proposed project.
   - □ 5 - Strongly Agree
   - □ 4 - Moderately Agree
   - □ 3 - Neutral
   - □ 2 - Moderately Disagree
   - □ 1 - Strongly Disagree
   - □ No Comment

6. Please use the space below for additional comments or concerns you may have.

_____

_____

_____

_____

Please provide the following information in the event we wish to contact you for follow up information.

Name_____

Address_____

_____

Telephone / Email_____

_____

Thank you for attending this public meeting and taking the time to complete this questionnaire!

MAIL TO:

Interstate 81, Section 511 Project

PA Department of Transportation
Engineering District 4-0
55 Keystone Industrial Park
Dunmore, PA 18512

OR

EMAIL:

i81_Section511@borton-lawson.com

pennsylvania
DEPARTMENT OF TRANSPORTATION
On Behalf of the Federal Highway Administration–Pennsylvania Division Office

Determination of Section 4(f) Applicability Involving Temporary Occupancy

May 2014 Version

County:	Susquehanna	**State Route:**	0081	**Section:**	511
Project Name:	I-81 Susquehanna Bridges Project	**FPN:**	X045-248-L01E	**MPMS:**	75917

SELECT ONE: ☐ **EIS** ☐ **EA** ☒ **CE** ☐ **EER** ☐ **ED**

PROJECT DESCRIPTION:
(Provide a concise but thorough description of the proposed action.)

The Interstate 81 (I-81) bridges over the Susquehanna River are dual structures (one northbound and one southbound) that were built in 1961 and rehabilitated in 1979, 1993 and 2006. They cross the river between the boroughs of Hallstead and Great Bend and their replacement is at the heart of this corridor project. I-81 is a divided four-lane, interstate roadway within a rural setting. The terrain is classified as rolling. The majority of the project length has a bifurcated median with a width varying from 60 feet to 120 feet. The posted speed limit is 65 mph. Combined, the bridges carry about 27,000 vehicles per day, approximately 41 percent of which is truck traffic. The combined daily traffic is expected to more than double by 2045 to around 55,000.

Purpose: The purpose of the project is to address the pavement, structural, drainage, and ramp length deficiencies, providing a safer and more efficient corridor.

Needs:

- The underlying pavement in the corridor is nearly sixty years old and the Susquehanna River bridges and the pavement in the project area are approaching the end of their serviceable lifespan.
- All structures exceed the allowable limits for Chloride Ion content in reinforced concrete which accelerates corrosion of the reinforcing steel and deterioration of the concrete.
- The interchange ramps exhibit short acceleration and deceleration lengths and do not meet current design standards.
- The age of the storm system has exceeded its useful life.

The project is located in New Milford Township/Borough and Great Bend Township/Borough, Susquehanna County, Pennsylvania. This I-81 corridor is the primary route for north-south traffic serving a mix of both commuter and through traffic. A project location map is provided as Attachment 1.

County:	Susquehanna	**State Route:**	0081	**Section:**	511
Project Name:	I-81 Susquehanna Bridges Project	**FPN:**	X045-248-L01E	**MPMS:**	75917

IDENTIFICATION OF SECTION 4(f) PROPERTY:
(List the property and provide a description of the property as per Chapter 6 of the *Section 4(f)/Section 2002 Handbook*. Attach a map, photo(s), etc. as appropriate.)

This portion of the Susquehanna River is recognized as a PA Fish and Boat Commission (PFBC) Water Trail and as a National Park Service (NPS) National Recreation Trail. The Susquehanna River is over 400 miles in length and travels through three states. The PFBC water trail is broken into four distinct sections: North Branch, West Branch, Middle and the Lower Section. The project falls within the North Branch. The North Branch is further broken down into 12 sections. The project falls within Section 1- Great Bend. The Hallstead Boat Launch is located 1,000 feet downstream and will remain open during the duration of the project. The Pennsylvania Water Trail Program is managed by the Pennsylvania Environmental Council, funded by the PA Department of Conservation and Natural Resources, with ongoing partnership from the PFBC and NPS.

The Endless Mountains Heritage Region (EMHR) serves as the water trail management organization for the Susquehanna River Water Trail Upper North Branch, which extends 146 river miles across the Great Bend Area in Susquehanna County and then from Northern Bradford County down to the Luzerne/Columbia County line. With regard to the National Recreation Trail designation for this portion of the river, the NPS has delegated Section 4(f) review responsibility to the trail manager, EMHR.

The Susquehanna River Water Trail is considered open to the public; thereby, qualifying as a Section 4(f) Resource. Because the river is a public system for recreational boating, an Aids to Navigation (ATON) is required. An ATON plan for I-81 Reconstruction Project was prepared and approved by the PFBC on December 30, 2021. The approved ATON plan including photos and project plans is provided in Attachment 2.

Within the project area, the Susquehanna River Water Trail is primarily used by small motorized boats, canoes and kayaks. Two formal PFBC boater access points, Great Bend Access (RM348) 5-miles upstream of the I-81 bridge and Hallstead Access (RM 342) approximately 1,000 feet downstream, will remain open during construction. Coordination with the PFBC Water Conservation Officer from the project area indicates that the Great Bend Access is primarily used by canoeists and kayakers floating to the Hallstead Access. With deeper water at the Hallstead Access use includes motorboats in addition to canoes and kayaks. Boaters using the Hallstead Access typically travel downstream to the New York State area. Boating traffic during the boating season would be considered intermediate in the

County:	Susquehanna	**State Route:**	0081	**Section:**	511
Project Name:	I-81 Susquehanna Bridges Project	**FPN:**	X045-248-L01E	**MPMS:**	75917

project area. No substantial negative impacts to river access for boaters on this section are anticipated.

BRIEF DESCRIPTION OF THE TEMPORARY USE:
(Describe the temporary occupancy including size, location, activity, duration, etc. including temporary construction easements (TCEs) as per Chapter 6 of the *Section 4(f)/Section 2002 Handbook*.)

The new dual bridges are proposed to be lengthened to prevent conflicts with the existing and proposed piles that help support the substructure footings. The number of piers within the river will be reduced from six piers to four piers. Passage will be maintained through at least one of the three existing or the two proposed navigable spans during all eight stages of construction (no work activities proposed in the Susquehanna River during stages 1 and 2) over the course of the anticipated six-year construction schedule. During construction stages 3-8, a series of temporary causeways will be present within the Susquehanna River. However, there will be times between some construction stages where there will be no causeway in the river for several months at a time including approximately one year with no causeways within the river between construction stages 5 and 6. Impacts will be temporary in nature and last the duration of construction stages 3-8. Overall, in-stream work is anticipated to occur during approximately two-thirds of the total construction duration (approximately four-years of in-stream work over the course of six-years of overall construction). Descriptions of the proposed construction staging along with plans depicting each proposed temporary construction stage are included within the attached approved ATON plan (Attachment 2). Temporary construction easements are proposed to facilitate access to the proposed causeways in the northeast, southeast and southwest quadrants of the bridge.

OFFICIAL WITH JURISDICTION OVER SECTION 4(f) PROPERTY:
*(**Note:** historic sites fall to the jurisdiction of PHMC, BHP)*

1. Identify agency with jurisdiction:
   PA Fish and Boat Commission (PFBC
   Endless Mountains Heritage Region (EMHR))

2. Name and title of contact person at agency:
   Laurel Anders – Director, Bureau of Boating (PFBC)
   Cain Chamberlin – Executive Director (EMHR)

pennsylvania
DEPARTMENT OF TRANSPORTATION
On Behalf of the Federal Highway Administration–Pennsylvania Division Office

Determination of Section 4(f) Applicability Involving Temporary Occupancy

May 2014 Version

County:	Susquehanna	**State Route:**	0081	**Section:**	511
Project Name:	I-81 Susquehanna Bridges Project	**FPN:**	X045-248-L01E	**MPMS:**	75917

APPLICABILITY DETERMINATION:

1. Based on adequate documentation, including mapping, verify that all of the following are true. **(If any of the items below are not true, the project would result in an actual use, and this form cannot be used.):**

   ☒ The project involves no permanent right-of-way acquisition or other change in ownership or result in the retention of long-term or indefinite interests in the land for transportation purposes.

   ☒ Be of temporary duration; i.e. less than the time needed for construction of the project.

   ☒ Not result in any permanent adverse physical impacts or interfere with the protected activities, features, or attributes which are important to the purposes or functions that qualify the property for protection under Section 4(f) on a temporary or permanent basis.

   ☒ Be minor in that the nature and magnitude of the changes to the Section 4(f) property will be minimal.

   ☒ Be fully restored to a condition at least as good as that which existed prior to the project.

2. The official with jurisdiction over the Section 4(f) property agrees that the temporary occupancy would meet all of the above criteria. ☐

   (Either by signature of this checklist or agreement documentation in the following Attachment: Attachment 3)

3. Does the temporary occupancy involve a water trail designated by the PA Fish and Boat Commission, a federal wild and scenic river that qualifies as a Section 4(f) property, and/or a national recreational trail that is a water trail? ☒ YES ☐ NO

   If Yes, will a temporary causeway be constructed, and/or will the path of the water trail be affected (temporarily closed, altered, etc.)? ☒ YES ☐ NO

   If Yes, has coordination with the official with jurisdiction been conducted regarding the need for an Aid to Navigation (ATON) Plan? ☒ YES ☐ NO

   Explain. Appropriate correspondence and an ATON (if one is needed) is included in the following Attachment: ATON plan was approved by the PFBC on 12/30/2021. See Attachment 2.

County:	Susquehanna	**State Route:**	0081	**Section:**	511
Project Name:	I-81 Susquehanna Bridges Project	**FPN:**	X045-248-L01E	**MPMS:**	75917

4. The project does not involve any uses that would require an individual Section 4(f) evaluation. (It is acceptable if there are other Section 4(f) uses that are *de minimis* or covered by one of the nationwide programmatic Section 4(f) evaluations.) ☒ YES

If there are other Section 4(f) properties used, list them here, briefly describe the use, and identify which form(s) will be completed to address the use:

State Game Land 35 – 1.542 acres of ROW acquisition is required from SGL 35 documented via a Section 4(f) De minimis Use Form (completed).

Central New York Railroad (New York & Erie Railroad) – Dual bridges are being replaced over this railroad that has recently been determined to be eligible for listing on the National Register of Historic Places. The railroad is considered an historic district. As there are no known contributing elements to the district within the project area, there is no effect under Section 106 and no use under Section 4(f).

M-28 (11-15)

pennsylvania
DEPARTMENT OF TRANSPORTATION
On Behalf of the Federal Highway Administration–Pennsylvania Division Office

Determination of Section 4(f) Applicability Involving Temporary Occupancy

May 2014 Version

County:	Susquehanna	**State Route:**	0081	**Section:**	511
Project Name:	I-81 Susquehanna Bridges Project	**FPN:**	X045-248-L01E	**MPMS:**	75917

SUMMARY AND DETERMINATION:

PennDOT will provide a copy of this evaluation to the official with jurisdiction over the Section 4(f) property and to other parties, as requested, and maintain this documentation with the project files.

The temporary occupancy of Section 4(f) property does not constitute a use within the meaning of Section 4(f).

Concurrence by official with jurisdiction over the Section 4(f) property: Click here to enter text.

Official with Jurisdiction: PFBC – Laurel Anders; EMHR – Cain Chamberlin Date: 9/14/2022

(Optional: other documentation such as attached letters or meeting minutes may be used in replacement of signing this page[1]) Check here if other documentation is attached. ☐

Name and Organization of Preparer: Claire Woleslagle, Gannett Fleming, Inc. Date: 9/23/2022

Project Manager: Susan Williams Date: 9/27/22

Environmental Manager: Gregory P Angustine Date: 9-27-2022

PennDOT, BOPD: Brian Shunk Digitally signed by Brian Shunk Date: 2022.09.27 13:01:24 -04'00' Date: 9/27/22

FHWA: JONATHAN P CRUM Digitally signed by JONATHAN P CRUM Date: 2022.09.27 14:32:11 -04'00' Date:

[1]Documentation of the SHPO's (PHMC's) concurrence is acceptable with the no effect or no adverse effect finding as long as the temporary occupancy was described in the effects submission. **If the temporary occupancy was not specified, then separate SHPO written agreement is required.**

pennsylvania
DEPARTMENT OF TRANSPORTATION
On Behalf of the Federal Highway Administration–Pennsylvania Division Office

Determination of Section 4(f) Applicability Involving Temporary Occupancy

May 2014 Version

County:	Susquehanna	**State Route:**	0081	**Section:**	511
Project Name:	I-81 Susquehanna Bridges Project	**FPN:**	X045-248-L01E	**MPMS:**	75917

List Section 4(f) mitigation measures associated with this temporary occupancy that are part of this project:

The contractor will be required to implement the PFBC approved ATON Plan prior to and during construction to ensure boater safety through and around the project area.

The ATON Plan will be amended as per request of the PFBC to include the following:

i. Two lighted "Closed Area/Boats Keep Out" buoys immediately upstream of the causeway in each phase that includes pipes.
ii. One lighted "Closed Area/Boats Keep Out" buoy immediately downstream of the causeway in each phase that includes pipes.
iii. A floating boat barrier and debris catch to ensure boats and floating debris do not enter the pipes."

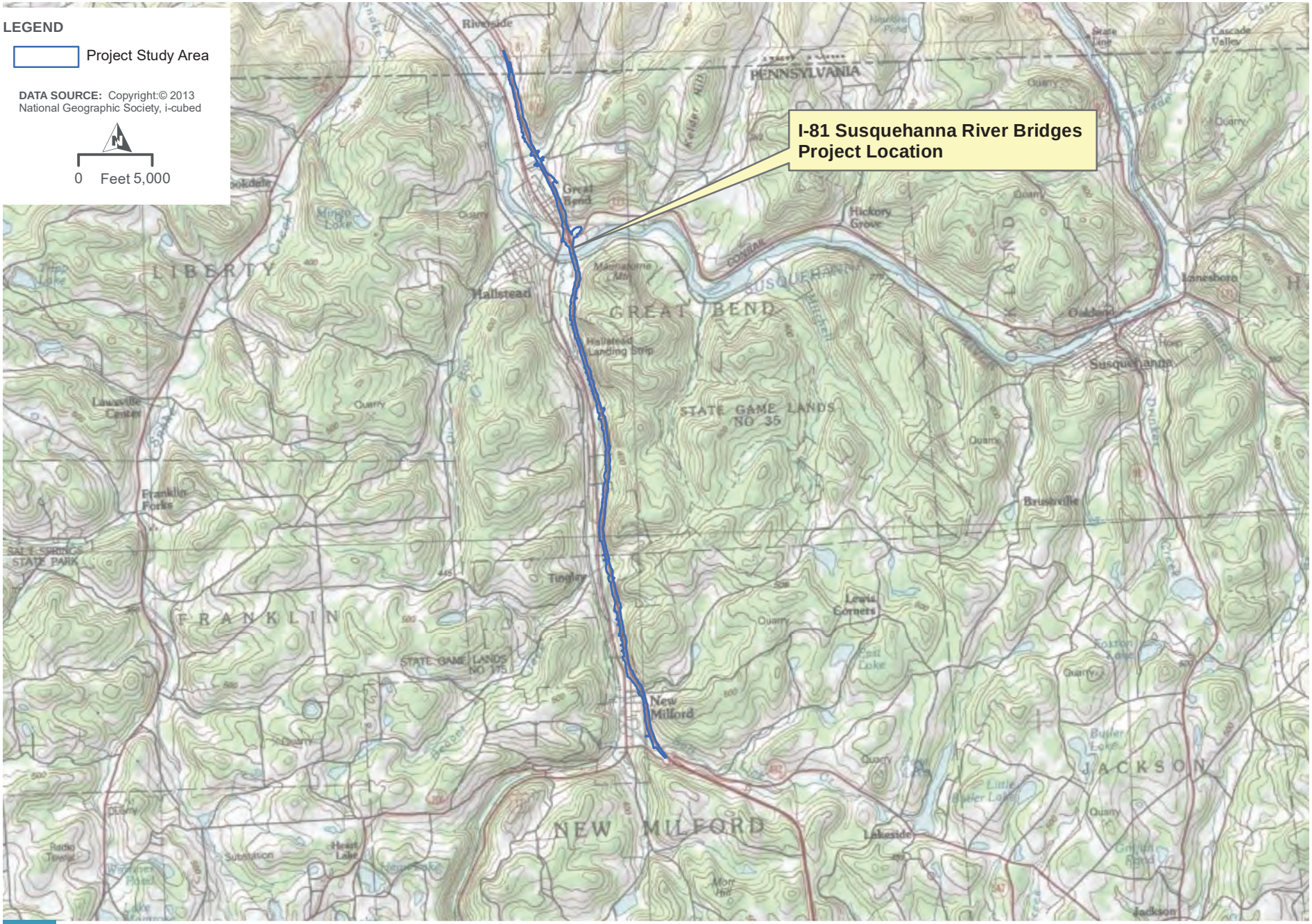
The contractor will be required to coordinate with the EMHR Water Trail manager annually during construction to inform them of upcoming project plans.

It is also noteworthy that, as a measure to offset navigating past the various causeway configurations at the I-81 bridges during construction of the replacement of the bridges, PennDOT commits to repave the Hallstead boat access parking area. This commitment is discussed in the Navigable Waters section of the CE Reevaluation being prepared for the project and will be entered in the ECMTS database to be tracked through construction. Repaving will be completed prior to the first causeway being constructed.

Typical attachments for this form include, but are not limited to:

- Project location map
- Map of affected Section 4(f) property and other Section 4(f) property(ies) in the project vicinity
- Photographs of the Section 4(f) property
- Project plan sheet to show impacts
- Correspondence with the official with jurisdiction
- ATON plan, if applicable

ATTACHMENT 1
Project Location Map



I-81 SUSQUEHANNA BRIDGE REPLACEMENT PROJECT

PROJECT LOCATION MAP

PATH: G:\JOBS\PENNDOT\I81_SUSQRIVER_TOLLGANTRY\MAP_DOCS\DRAFT\NEWMAPS\PENNDOT_I-81SUSQUEHANNA_FIG1PROJLOCMAP_REV07282022.MXD - USER: LSMITHHA - DATE: 8/4/2022

FIGURE 1

ATTACHMENT 2
ATON Plan
(Including Photos and Plans)

Pennsylvania Fish & Boat Commission

BUREAU OF BOATING
P.O. BOX 67000
HARRISBURG, PA 17106-7000
717-836-3294
RMORDER@PA.GOV

30 December 2021

Erin Feichtner P.E.
Transportation Engineer
Barton Lawson
613 Baltimore Drive
Suite 300
Wilkes-Barre, PA 18702

Dear Erin Feichtner P.E.:

I have reviewed your recently submitted Aids to Navigation Plan SR 0081 I-81Reconstruction Project over the Susquehanna River in Great Bend Township, Susquehanna County. The plan is acceptable as submitted and has been approved. All signage/buoys must be installed prior to construction and inspected frequently to ensure it is always visible to boaters. Any changes to this plan must be submitted directly to this office for further review. If buoys are to be utilized, a PFBC-277 Application to Install Floating Structures/Private Aids to Navigation must be submitted and approved prior to installation.

I will share the approved ATON plan with the PA Fish & Boat Commission Division of Environmental Services and the Regional Law Enforcement Office to ensure they are aware of the project. Please advise the contractor that the project site may be inspected at any time by Bureau of Law Enforcement personnel for compliance with this plan. A copy of the approved plan along with this letter must be available for inspection, if requested.

Please feel free to contact me if you have any questions concerning this project or the PA Fish & Boat Commission Aids to Navigation program, in general.

Sincerely,

Richard Morder
Waterways and Marina Management Division

CC: NE Region Bureau of Law Enforcement
Division of Environmental Services

BORTON LAWSON

Making Our Client's Vision a Reality

December 27, 2021

Paul Fawcett
Waterways and Marina Management Division Chief,
Pennsylvania Fish and Boat Commission
Bureau of Boating
PO Box 67000
Harrisburg, PA 17106-7000

RE: S.R. 0081 Section 511 (I-81 Reconstruction Project)
Great Bend Township and Great Bend Borough, Susquehanna County

Dear Mr. Fawcett:

Please find the enclosed ATON Plan for replacement of dual bridges carrying SR 0081 over Susquehanna River in Great Bend Township, Susquehanna County for your review, comment and approval. Enclosed for your review please find the ATON Plan:

1. Project Description
2. USGS Location maps of project area and surrounding area including upstream and downstream boat access.
3. Color photos of the upstream and downstream waterway and a photo location map.
4. Color coded plans depicting obstructions caused by bridge construction, safe waterway openings, and approximate sign locations.
5. An example sign and buoy template.
6. PFBC-277 Application for Permit
7. An example Aids to Navigation Plan specification.

If you have any further questions, please contact me at 724-935-3110, ext. 4962 or e-mail me at efeichtner@borton-lawson.com.

Sincerely,

Erin Feichtner

Erin Feichtner P.E.
Transportation Engineer

Author: elf/GWG

Lehigh Valley
Pittsburgh
Wilkes-Barre

Wilkes-Barre
613 Baltimore Drive
Suite 300
Wilkes-Barre, PA 18702

P: 570.821.1999
F: 570.821.1990

borton-lawson.com

Project Description
SR 0081 Replacement
Over the Susquehanna River
Great Bend Township, Susquehanna County, Pennsylvania

Project Description

Full reconstruction of dual structures that carries S.R. 0081 over S.R. 1010 (Harmony Road) and the Susquehanna River is part of the larger Pennsylvania Department of Transportation S.R. 0081 Section 511 project. The SR 0081 project is scoped as an Interstate 4R Roadway Project, which will include full depth pavement replacement, full drainage replacement, guide rail updates and safety enhancements including lengthening of both the acceleration/deceleration lanes at Exit 230 Interchange. The project will be constructed using staged construction. Updating the ramps required the existing bridge over the Susquehanna River to be widened to accommodate the additional ramp lane and required outside shoulder width(s) of 12'. The acceleration/deceleration lanes will extend, full width, the entirety of the bridge.

The existing 5-span continuous steel I-beam bridges were built in 1961. Existing 669'-6" bridge span geometry is 119'-6", 143'-6", 143'-6", 143'-6", 119'-6".

Proposed 680'-0" bridge consist of four span continuous Composite Prestressed Concrete PA Bulb-Tee consisting of 165'-0", 175'-0", 175'-0", 165'-0". The new bridge was lengthened to prevent conflicts with the existing and prposed piles that help support the substructure footings. Two new abutments and three new piers will be constructed per structure. Existing Pier substructure units will be removed in their entirety, however Pier 3 to be removed to a minimum 4ft below stream bed. Additionally, the roadway has been elevated through this area, including the Exit 230 interhcange to provide standard underclearance where this bridge crosses over Harmony Road.

Susquehanna River

The headwaters to Susquehanna River are situated approximately 95 miles northeast of the SR 0081. The river flows through Great Bend Township, Great Bend Borough, and Hallstead Borough, in the project area, as a part of the North Branch Susquehanna; then on through Northeastern and southeast Pennsylvania and discharges into the Chesapeake Bay in Maryland. The Susquehanna River at the SR 0081 Bridge crossing is a perennial stream. According to Pennsylvania Code Title 25 Environmental Protection, Chapter 93 Water Quality Standards, Susquehanna River is classified as a Warm Water Water Fishery with Migratory Fishes (WWF, MF). The Pennsylvania Fish and Boat Commission does not classify the Susquehanna River, therefore, no instream work restrictions apply to the project. The Susquehanna River has been declared a navigable river and therefore an Aids to Navigation (ATON) plan is needed to warn waterway users of the changing conditions ahead as well as help guide users through and around the construction. Susquehanna River has the potential for power boat activity, requiring water-based Aids during boating season, generally defined as April 1st through Nov 1st. Average water depth through channel center is approximately 12 to 14ft.

PNDI Impact Resolution

October 2021 response to Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review for the project site resulted in knowledge of rare or protected freshwater mussel species in vicinity. Based on project scope, in-stream disturbances are proposed that may adversely impact freshwater mussels. PAFBC requested to be notified at least six weeks prior to construction date to complete an on-site survey. If species are identified, mussel translocations are to be completed prior to the start of any work in disturbance area. Note that mussel survey season begins on May 15th and concludes on October 1st. As of December of 2021, the notice to proceed for mussel salvage is anticipated to be May of 2024. Similarly, the beginning of the initial stage of bridge construction (Stage 3) is anticipated to be July of 2024. See additional detail under ATON signage on following page.

Obstruction and Impacts

Bridge replacement is proposed to be completed using half-width construction. Permanent stream impacts due to proposed construction and temporary stream impacts due to partial width causeways. Impacts by stage are as follows (stages based on project Maintenance and Protection of Traffic stages):

Temporary Stream Impacts:

- Stage 3 = 223 LF
- Stage 4 = 203 LF
- Stage 5 = 258 LF
- Stage 6 = 218 LF
- Stage 7 = 223 LF
- Stage 8 = 263 LF

Permanent Stream Impacts:

- Stage 3 = 93 LF total
- Stage 4 = 59.5 LF total
- Stage 5 = 80 LF total
- Stage 6 = 66.5 LF total
- Stage 7 = 93 LF total
- Stage 8 = 59.5 LF total

Water depth through navigable opening during all stages of construction is approximately 10ft based on low flow (92% annual dry working days). The minimum historic water depth is about 5ft through channel center based on minimum mean daily flow (historically min. flow occurred in August).

Place rigid containment/protection systems to protect the river during deck removal activities. Temporary causeways will be maintained within a portion of the river to complete removal of existing piers, construction of proposed piers and erection of beams. Due to the project Maintenance and Protection of Traffic requirements, construction and causeway work will occur in six different stages. River passage will be maintained through at least one of the three existing or of the two proposed navigable spans during all stages. Staging will generally follow the following sequence;

- Stage 3 = Construct partial causeway, extending from left bank of the stream (facing downstream) to midway existing span 3. Remove southern inside portion of SB and NB bridge superstructure, Abutment 1, Piers 1 and 2 with foundations. Construct inside, SB bridge portion of Abutment 1, Piers 1 and 2, and set span 1 and 2 beams with crane placed on causeway. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans.
- Stage 4 = Construct partial causeway, extending from right bank of the stream to approximately ¼ of span 3. Remove northern inside portion of SB and NB bridge superstructure, Abutment 2, Piers 3 and 4 with foundations. Construct inside, SB bridge portion of Abutment 2, Pier 3, and set span 3 and 4 beams with crane placed on causeway.

Causeway can remain in place or be removed during deck placement. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans.

- Stage 5 = Place eleven, sixty-inch, temporary pipes in existing span 4 under the causeway to help maintain normal flows in the river. Construct partial causeway, extending from right bank of the stream to midway existing span 3. Remove NB bridge superstructure, Abutment 2, Piers 4 and 3 with foundations. Construct NB bridge Abutment 2, Piers 4 and 3, and set span 3 and 4 beams with crane placed on causeway. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans.
- Stage 6 = Construct partial causeway, extending from left bank of the stream (facing downstream) to midway existing span 3 (proposed pier 2). Remove NB bridge superstructure, Abutment 1, Piers 1 and 2 with foundations. Construct NB bridge Abutment 1, Pier 1, and set span 1 and 2 beams with crane placed on causeway. Causeway can remain in place or be removed during deck placement. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans.
- Stage 7 = Construct partial causeway, extending from left bank of the stream (facing downstream) to midway existing span 3. Remove remaining southern portion of SB bridge superstructure, Abutment 1, Piers 1 and 2 with foundations. Construct SB bridge Abutment 1, Pier 1 and 2, and set span 1 and 2 beams with crane placed on causeway. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans.
- Stage 8 = Place eleven, sixty-inch, temporary pipes in existing span 4 under the causeway to help maintain normal flows in the river. Construct partial causeway, extending from right bank of the stream to midway existing span 3 (proposed pier 2). Remove remaining northern portion of SB bridge superstructure, Abutment 2, Piers 3 and 4 with foundations. Construct SB bridge Abutment 2, Pier 3, and set span 3 and 4 beams with crane placed on causeway. Causeway can remain in place or be removed during deck placement. Remove causeway and temporary protection and support of excavation in entirety; restoring streambed and placing backfill and scour protection around piers as indicated in Contract Structure Plans. Complete full bridge area clean up and restoration. Verify no obstructions from construction activities left in channel.

The existing boat launches 1,000 feet downstream and 5 miles upstream from the project will remain open throughout construction. Construction warning signs will be posted at boat access sites throughout construction. PFBC information maps note river access at Abutment 1 side of I-81 bridge. During construction at the bridge, parking and canoe access will be closed to the public with signs and temporary traffic control barrels or barricades.

Aids to Navigation (ATON) Signage

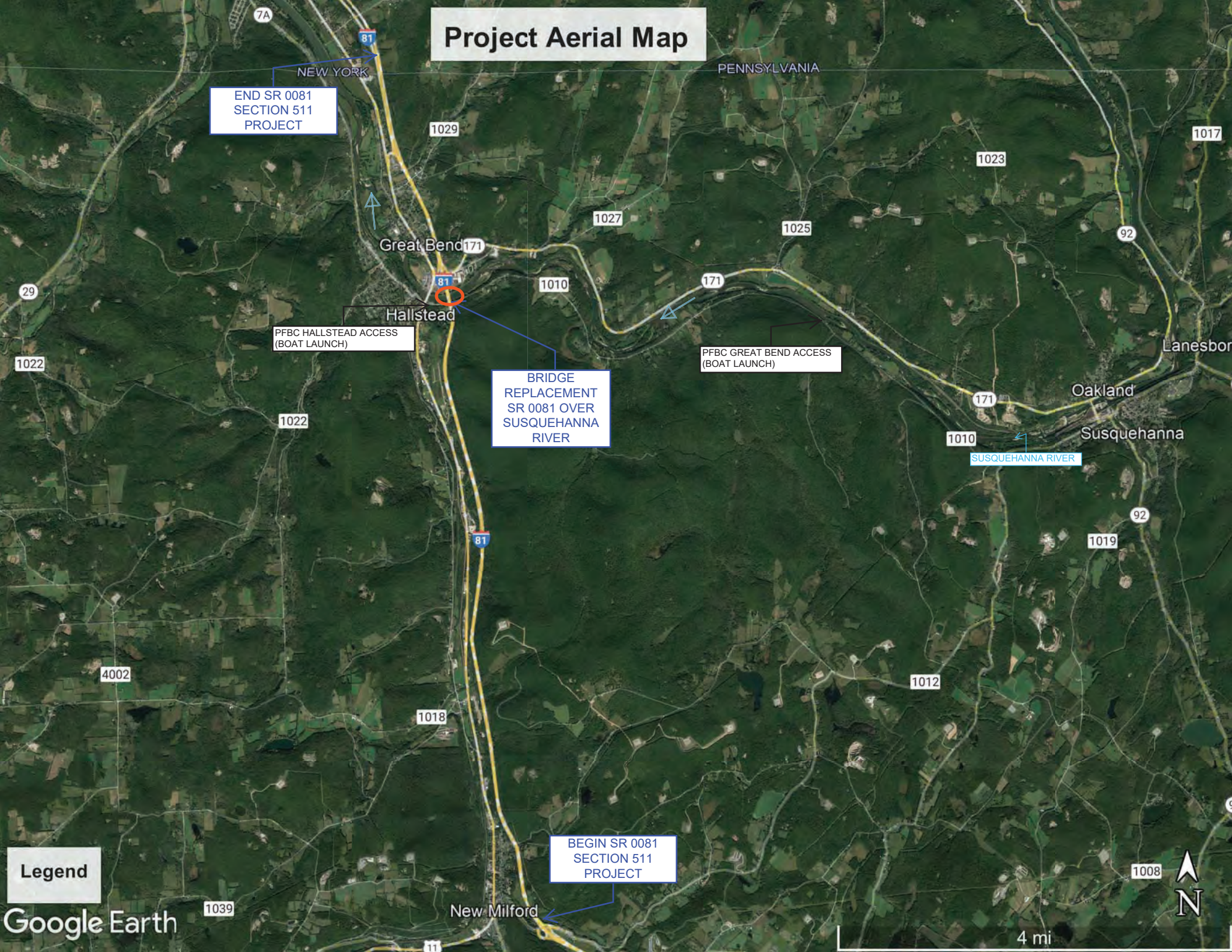
With at least a portion of the waterway blocked throughout construction, the primary Aid to Navigation provided for this project will take the form of warning signs, placed on both the streambanks, upstream and downstream within 200 feet of the bridge. Bushes and trees on the banks will be trimmed to expose and ensure the signs are clearly visible from the watercourse. To ensure safe passage through the work zone during construction a Boat Safety Coordinator

will be designated and water-based ATON (buoys) will be placed during boating season. Safe "Channel" signs will be placed to indicate open route for the appropriate stage of construction.

The anticipated SR 0081 project let date is Summer 2022. Construction activities are anticipated to span from 2022 to 2031. Schedule associated with Susquehanna River work activities is as follows;

1. Construction Notice to Proceed October 2022.
2. SR 81 over Susquehanna River bridge shop drawing review and approval May 2023.
3. Request to PAFBC for Susquehanna River survey and salvage of mussels April 2024.
4. Submit PFBC-277 "Application to Install Floating Structure(s) or Private Aids to Navigation" May 1, 2024. **PFBC-277 to be renewed each year following December 31st.**
5. Susquehanna River survey and salvage of mussels completed June 2024 (note survey and salvage activities limited to May 15 through October 1.)
6. Install ATON controls at boat launches and in channel, July 1, 2024. **Adjust ATON signs in channel as indicated before and after each stage of work.**
7. Install Stage 3 causeway, complete associated bridge work and remove causeway July 2024 to May 2025.
8. Install Stage 4 causeway, complete associated bridge work and remove causeway June 2025 to January 2026.
9. Install Stage 5 causeway, complete associated bridge work and remove causeway July 2026 to February 2027.
10. Install Stage 6 causeway, complete associated bridge work and remove causeway April 2028 to October 2028.
11. Install Stage 7 causeway, complete associated bridge work and remove causeway April 2029 to October 2029.
12. Install Stage 8 causeway, complete associated bridge work and remove causeway April 2030 to September 2030.

It should be noted that all dates are anticipated and subject to change based on obtainment of the appropriate waterway permits, the availability of funding, selection of a contractor to complete the replacement, and the owner's needs and constraints.


Project Aerial Map
NEW YORK
PENNSYLVANIA
END SR 0081
SECTION 511
PROJECT
Great Bend
Hallstead
PFBC HALLSTEAD ACCESS
(BOAT LAUNCH)
BRIDGE
REPLACEMENT
SR 0081 OVER
SUSQUEHANNA
RIVER
PFBC GREAT BEND ACCESS
(BOAT LAUNCH)
Oakland
Susquehanna
SUSQUEHANNA RIVER
BEGIN SR 0081
SECTION 511
PROJECT
New Milford
Legend
Google Earth
4 mi
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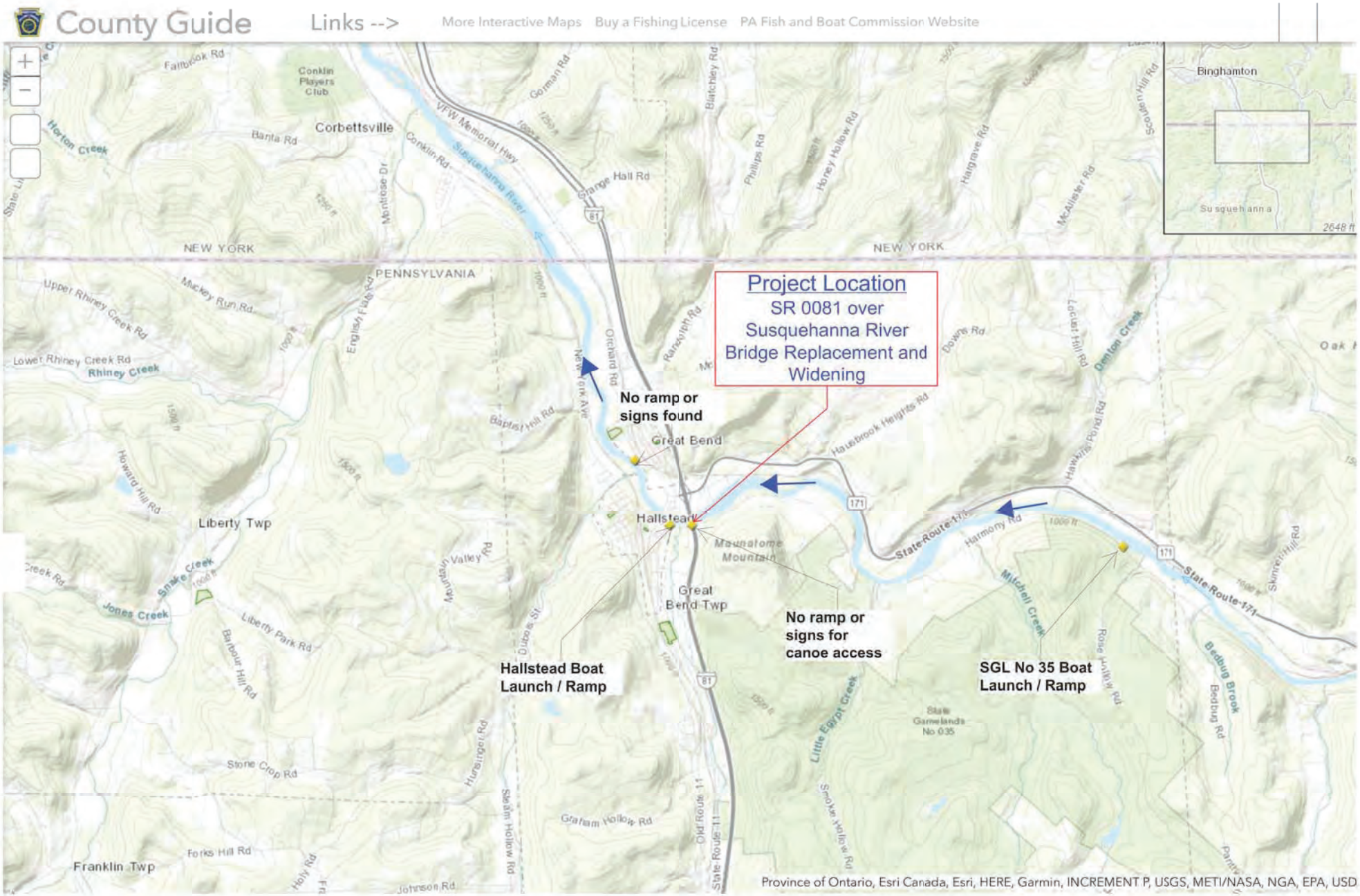
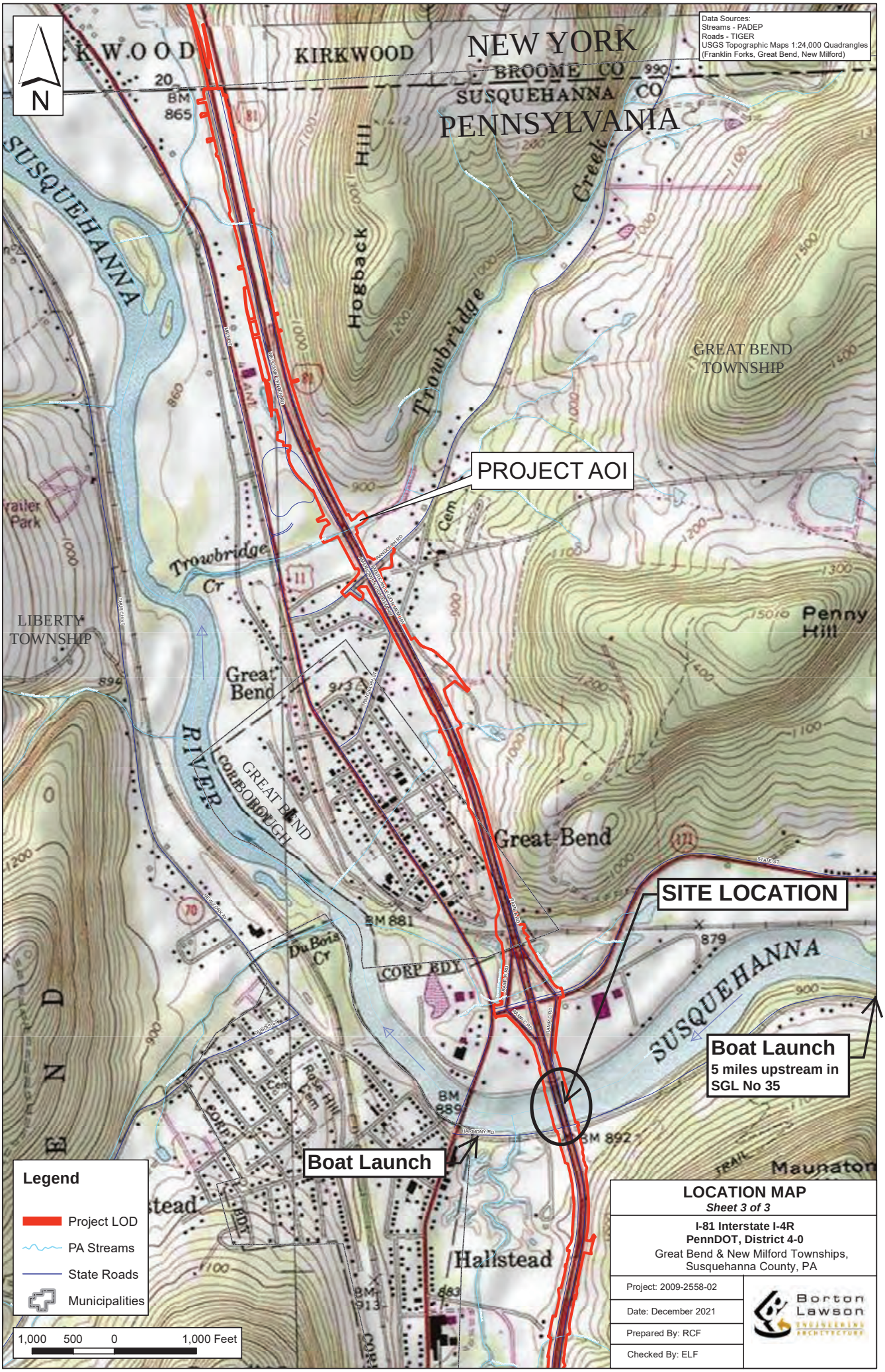

County Guide
Links -->
More Interactive Maps
Buy a Fishing License
PA Fish and Boat Commission Website
Project Location
SR 0081 over Susquehanna River Bridge Replacement and Widening
No ramp or signs found
Great Bend
Hallstead
No ramp or signs for canoe access
Hallstead Boat Launch / Ramp
SGL No 35 Boat Launch / Ramp
Great Bend Twp
Liberty Twp
Franklin Twp
Corbettsville
NEW YORK
PENNSYLVANIA
Binghamton
Susquehanna
Province of Ontario, Esri Canada, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA, EPA, USD
1mi
-75.670 42.022 Degrees


Data Sources:
Streams - PADEP
Roads - TIGER
USGS Topographic Maps 1:24,000 Quadrangles
(Franklin Forks, Great Bend, New Milford)
N
NEW YORK
BROOME CO
SUSQUEHANNA CO
PENNSYLVANIA
KIRKWOOD
SUSQUEHANNA RIVER
Hogback Hill
Trowbridge Creek
GREAT BEND TOWNSHIP
PROJECT AOI
Trowbridge Cr
LIBERTY TOWNSHIP
Great Bend
Penny Hill
GREAT BEND CORBOROUGH
Great Bend
SITE LOCATION
Boat Launch
5 miles upstream in SGL No 35
SUSQUEHANNA
Du Bois Cr
CORP BDY
BM 881
BM 889
BM 892
Boat Launch
Hallstead
Maunaton
Legend
Project LOD
PA Streams
State Roads
Municipalities
1,000 500 0 1,000 Feet
LOCATION MAP
Sheet 3 of 3
I-81 Interstate I-4R
PennDOT, District 4-0
Great Bend & New Milford Townships,
Susquehanna County, PA
Project: 2009-2558-02
Date: December 2021
Prepared By: RCF
Checked By: ELF
Borton Lawson
ENGINEERING
ARCHITECTURE


Project Aerial Map
Photo 1
Photo 2
Photo 3
Photo 4
Photo 5
Photo 6
Susquehanna River
Susquehanna Ave
William St
Main St
Ave
1010
1010
1010
81
81
81
11
Legend
Google Earth
N
900 ft


Photo Location Map
Boat Launch - 5 miles upstream from project site
Susquehanna River
Woodbridge Island
Susquehanna River
SR1010
Photo 7 & 8
Harmony Rd
1010
Legend
Google Earth
N
600 ft

SR 0081 over Susquehanna River Bridge Replacement
Susquehanna County, PA



Photo 1 – View of boaters traveling upstream

(Concept of Stage 3, 6 & 7 obstruction with ATONs)



Photo 2 – PFBC Hallstead Access entrance looking downstream towards SR 11

(Concept placement of construction warning sign)



Photo 3 – Looking upstream from Hallstead Access at SR 81 SB Bridge

(Concept of Stage 8, 5 & 4 obstruction with ATONs)

SR 0081 over Susquehanna River Bridge Replacement
Susquehanna County, PA



Photo 4 – Looking towards North river bank between SR 81 bridges

(Concept stage 3 causeway)

SR 0081 over Susquehanna River Bridge Replacement
Susquehanna County, PA



Photo 5 – Looking downstream at SR 81 NB Bridge, South bank Abutment 1

(Concept of Stage 3, 6 & 7 obstruction with ATONs)



Photo 6 – Looking upstream from South bank at SR 81 NB bridge

(Concept ATONs)



Photo 7 – Information signs at PFBC Great Bend Access

(Concept placement of warning sign)



Photo 8 – PFBC Information Map for reference

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	1 OF 6

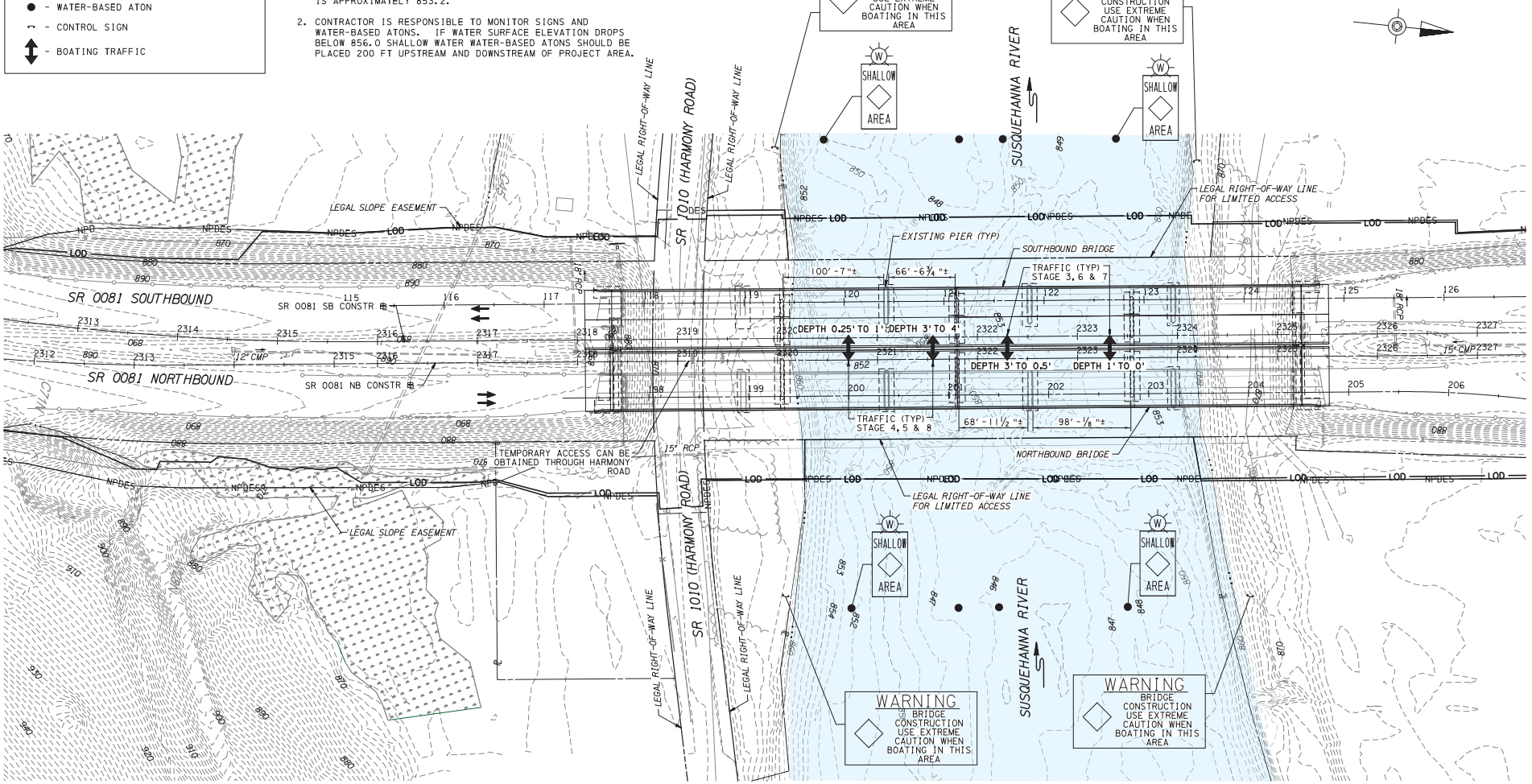
REVISION NUMBER	REVISIONS	DATE	BY

ATON PLAN LEGEND

- WATERWAY OPENING (NWSE)
- WATER-BASED ATON
- CONTROL SIGN
- BOATING TRAFFIC

NOTES:

1. DEPTHS INDICATED BELOW BASED ON HISTORICAL MINIMUM MEAN DAILY FLOW, MEASURED IN AUGUST, AT 800 CFS. THE MINIMUM MEAN DAILY FLOW WATER SURFACE ELEVATION AT THE PROJECT SITE DURING ALL STAGES OF CONSTRUCTION IS APPROXIMATELY 853.2.
2. CONTRACTOR IS RESPONSIBLE TO MONITOR SIGNS AND WATER-BASED ATONS. IF WATER SURFACE ELEVATION DROPS BELOW 856.0 SHALLOW WATER WATER-BASED ATONS SHOULD BE PLACED 200 FT UPSTREAM AND DOWNSTREAM OF PROJECT AREA.



SCALE

0 50 100 FEET

MINIMUM FLOW CONDITION
AIDS TO NAVIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	1 OF 6

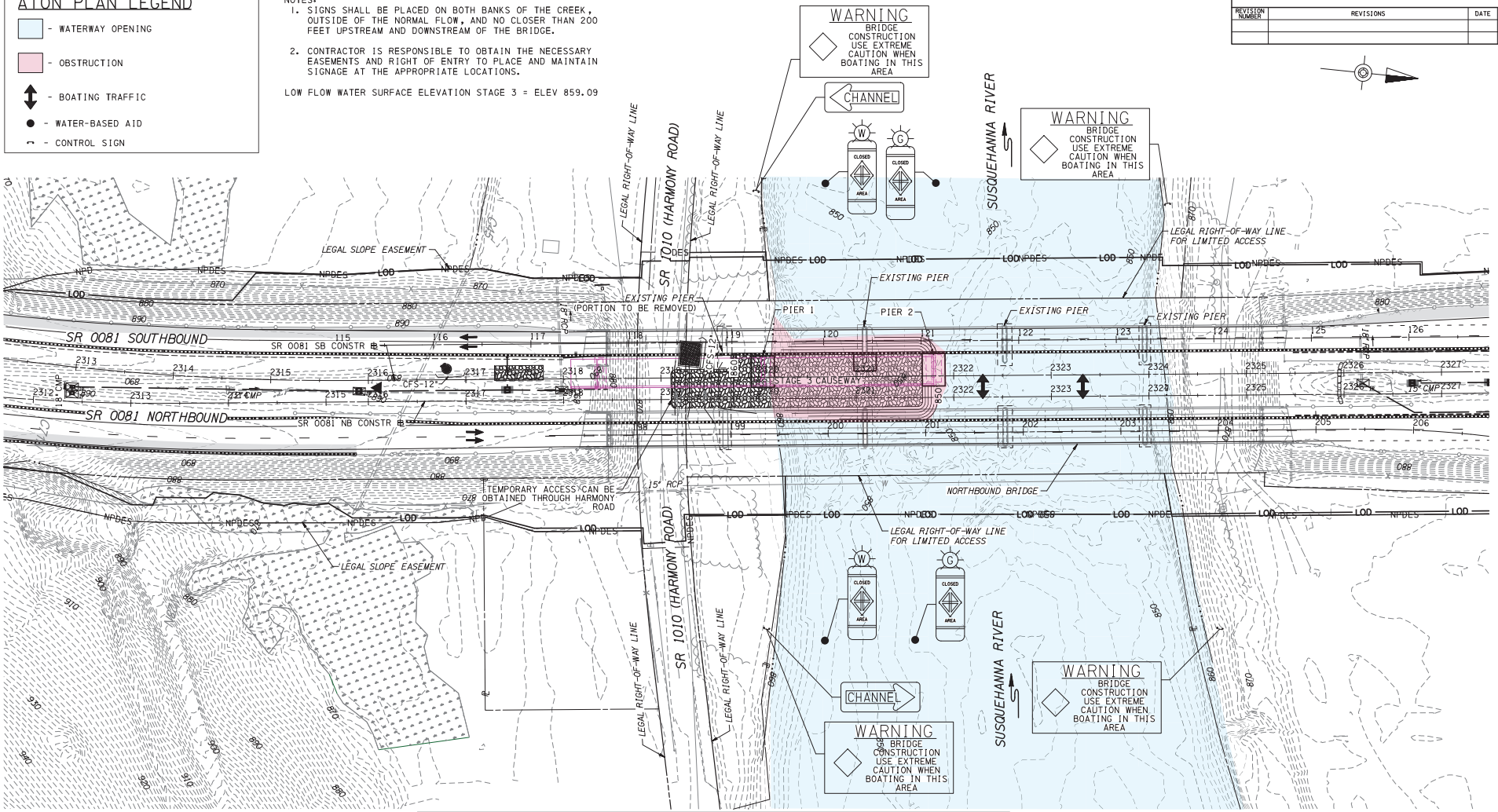
REVISION NUMBER	REVISIONS	DATE	BY

ATON PLAN LEGEND

- WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:
1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 3 = ELEV 859.09



DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	2 OF 6

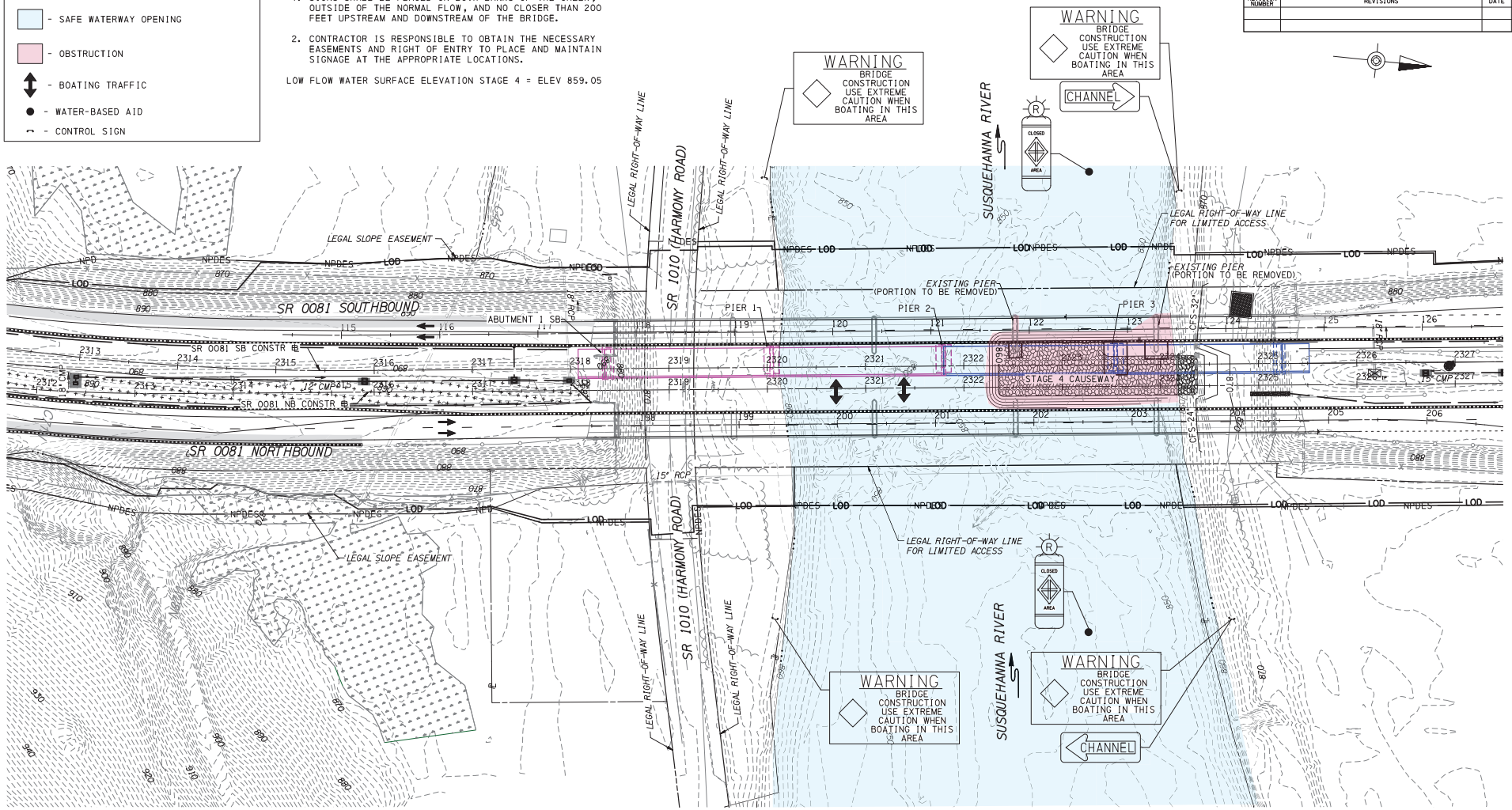
REVISION NUMBER	REVISIONS	DATE	BY

ATON PLAN LEGEND

- SAFE WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:
1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 4 = ELEV 859.05



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOKED WITH R-3

STAGE 3 CONSTRUCTION
STAGE 4 CONSTRUCTION
STAGE 5 CONSTRUCTION
STAGE 6 CONSTRUCTION
STAGE 7 CONSTRUCTION
STAGE 8 CONSTRUCTION
COLOR-CODED STAGED BRIDGE CONSTRUCTION

WORK COMPLETED IN STAGE 4

- PLACE CAUSEWAY FROM BETWEEN PIER 2 AND EXISTING PIER 3 TO NORTH BANK (MEDIAN), AS SHOWN BELOW.
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT PROPOSED PIER 3 LOCATION, AS SHOWN.
- SB TRAFFIC REMAINS ON TEMP SB LANES & NB TRAFFIC REMAINS ON THE EXISTING NB STRUCTURE.
- SAW CUT EXISTING SB DECK AT CL GIRDER 4.(IF NOT COMPLETED IN PREVIOUS STAGE)
- DEMOLISH A PORTION OF EXISTING SB PIERS 3 & 4 & ABUT 2. REMOVE REMAINDER OF SB GIRDER 5.
- PARTIALLY CONSTRUCT SB PIER 3 & ABUT 2, INCLUDING BEAMS 4-7 TO SB ABUT 2.
- BEAMS WILL BE DELIVERED VIA TEMPORARY NB LANES (TEMPORARY NIGHT CLOSURE) AND LIFTED BY CRANES FROM THE CAUSEWAY AND FROM BEHIND THE SB ABUTMENT.
- REMOVE A PORTION OF THE STAGE 4 CAUSEWAY.

SCALE
0 50 100 FEET

STAGE 4
AIDS TO NAVIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	3 OF 6

REVISION NUMBER	REVISIONS	DATE	BY

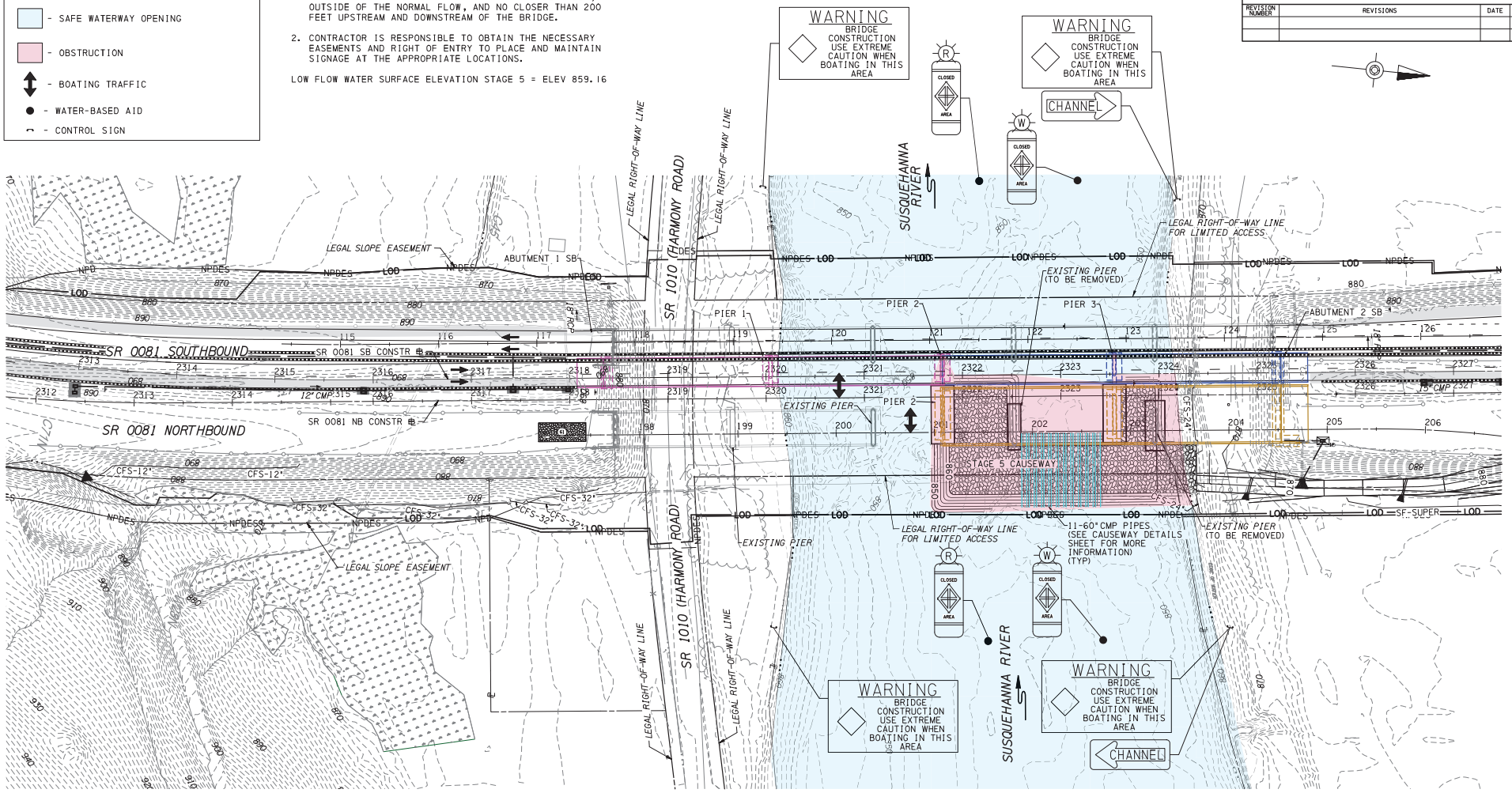
ATON PLAN LEGEND

- SAFE WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:

1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 5 = ELEV 859.16



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOKED WITH R-3

STAGE 3 CONSTRUCTION	STAGE 6 CONSTRUCTION	COLOR-CODED STAGED BRIDGE CONSTRUCTION
STAGE 4 CONSTRUCTION	STAGE 7 CONSTRUCTION	
STAGE 5 CONSTRUCTION	STAGE 8 CONSTRUCTION	

WORK COMPLETED IN STAGE 5

- PLACE STAGE 5 CAUSEWAY FROM PROPOSED PIER 2 TO NORTH BANK (UPSTREAM).
- PLACE TEMP BARRIER ON NEW SB BRIDGE STRUCTURE AS SHOWN IN THE TYPICAL SECTIONS.
- SB TRAFFIC WILL REMAIN ON THE EXISTING SB TEMP LANES. NB TRAFFIC WILL BE ON THE NEW SB BRIDGE STRUCTURE (NB TRAFFIC WILL BE SHIFTED OVER BY CROSSOVER PRIOR TO STRUCTURE).
- DEMOLISH EXISTING NB SUPERSTRUCTURE FROM PIER 2 TO ABUT 2.
- DEMOLISH EXISTING NB PIER 3 & 4 AND ABUT 2.
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AROUND PROPOSED PIER 2 & 3 LOCATIONS.
- CONSTRUCT PIERS 2 & 3, ABUTMENT 2.
- AFTER SUBSTRUCTURE IS CONSTRUCTED, REMOVE TESPS.
- CONSTRUCT STAGE 5 SUPERSTRUCTURE. PROPOSED BEAMS WILL BE DELIVERED VIA THE ACCESS ROAD LOCATED UPSTREAM OF NB ABUTMENT 2. THEY WILL BE LIFTED BY CRANES FROM THE CAUSEWAY OR BEHIND THE PROPOSED ABUTMENT AND PLACED INTO THEIR FINAL POSITION.
- REMOVE STAGE 5 CAUSEWAY AND TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEMS.

SCALE

0 50 100 FEET

STAGE 5

AIDS TO NAVIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	4 OF 6

REVISION NUMBER	REVISIONS	DATE	BY

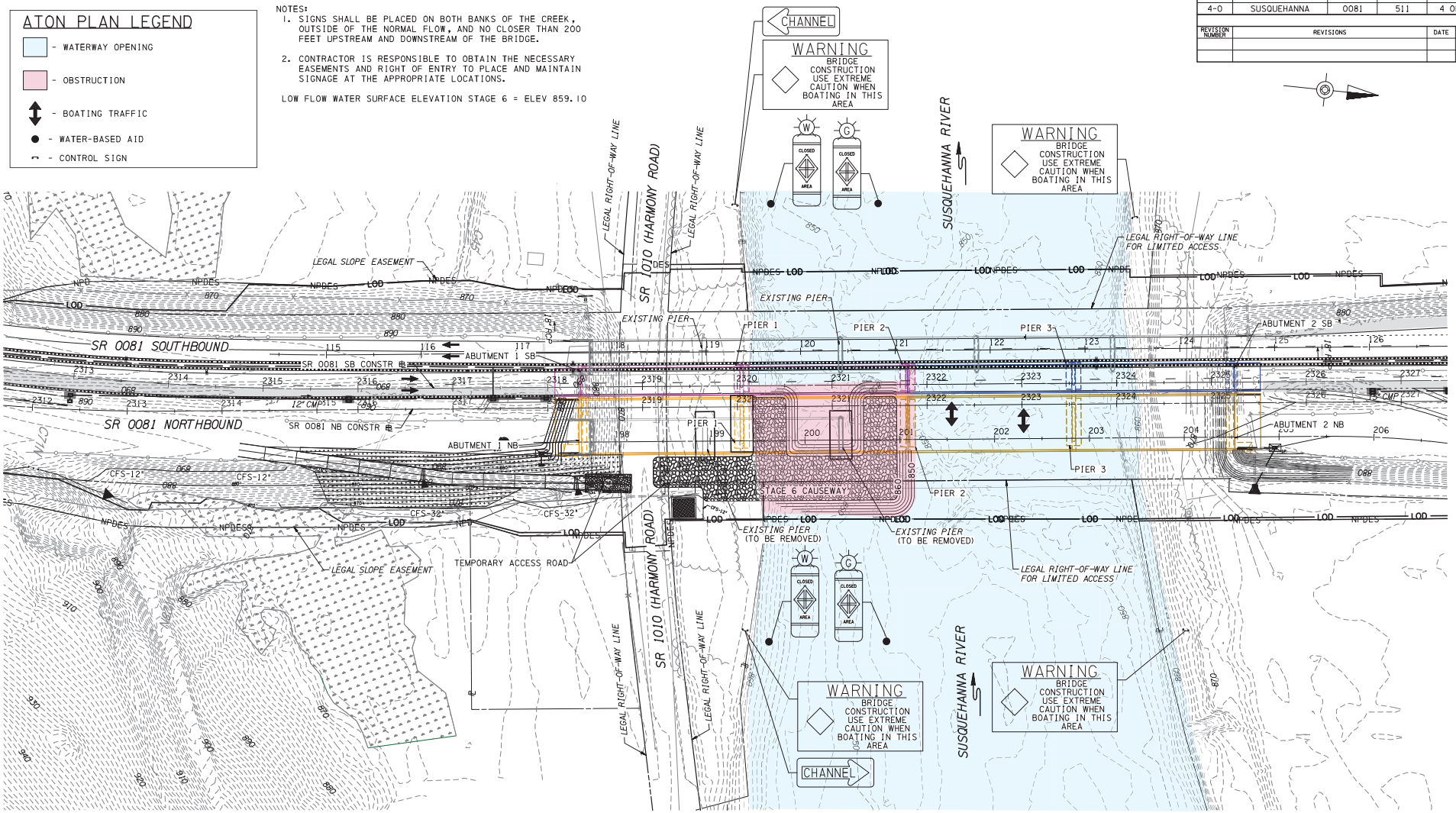
ATON PLAN LEGEND

- WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:

1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 6 = ELEV 859.10



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOKED WITH R-3

STAGE 3 CONSTRUCTION
STAGE 4 CONSTRUCTION
STAGE 5 CONSTRUCTION
STAGE 6 CONSTRUCTION
STAGE 7 CONSTRUCTION
STAGE 8 CONSTRUCTION
COLOR-CODED STAGED BRIDGE CONSTRUCTION

WORK COMPLETED IN STAGE 6

- INSTALL THE STAGE 6 CAUSEWAY FROM SOUTH BANK TO PROPOSED NB PIER 2.
- SB TRAFFIC REMAINS ON EXISTING SB TEMP LANES. NB TRAFFIC WILL REMAIN ON THE NEW SB BRIDGE STRUCTURE (NB TRAFFIC IS SHIFTED OVER VIA A CROSSOVER PRIOR TO THE STRUCTURE).
- DEMOLISH THE EXISTING NB SUPERSTRUCTURE FROM ABUTMENT 1 TO PIER 2.
- DEMOLISH EXISTING PIER 1 & 2 AND ABUTMENT 1.
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT PROPOSED NB PIER 1 LOCATION.
- CONSTRUCT NB PIER 1 AND ABUTMENT 1.
- REMOVE THE TESPS AROUND PROPOSED NB PIER 1.
- CONSTRUCT THE REMAINING NB SUPERSTRUCTURE.
- BEAMS WILL BE DELIVERED VIA THE NB ACCESS RD (UPSTREAM). THEY WILL BE LIFTED BY CRANES LOCATED ON THE CAUSEWAY AND BEHIND THE NEW NB ABUTMENT 1.
- REMOVE STAGE 6 CAUSEWAY.

SCALE

0 50 100 FEET

STAGE 6
AIDS TO NAVIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	5 OF 6

REVISION NUMBER	REVISIONS	DATE	BY

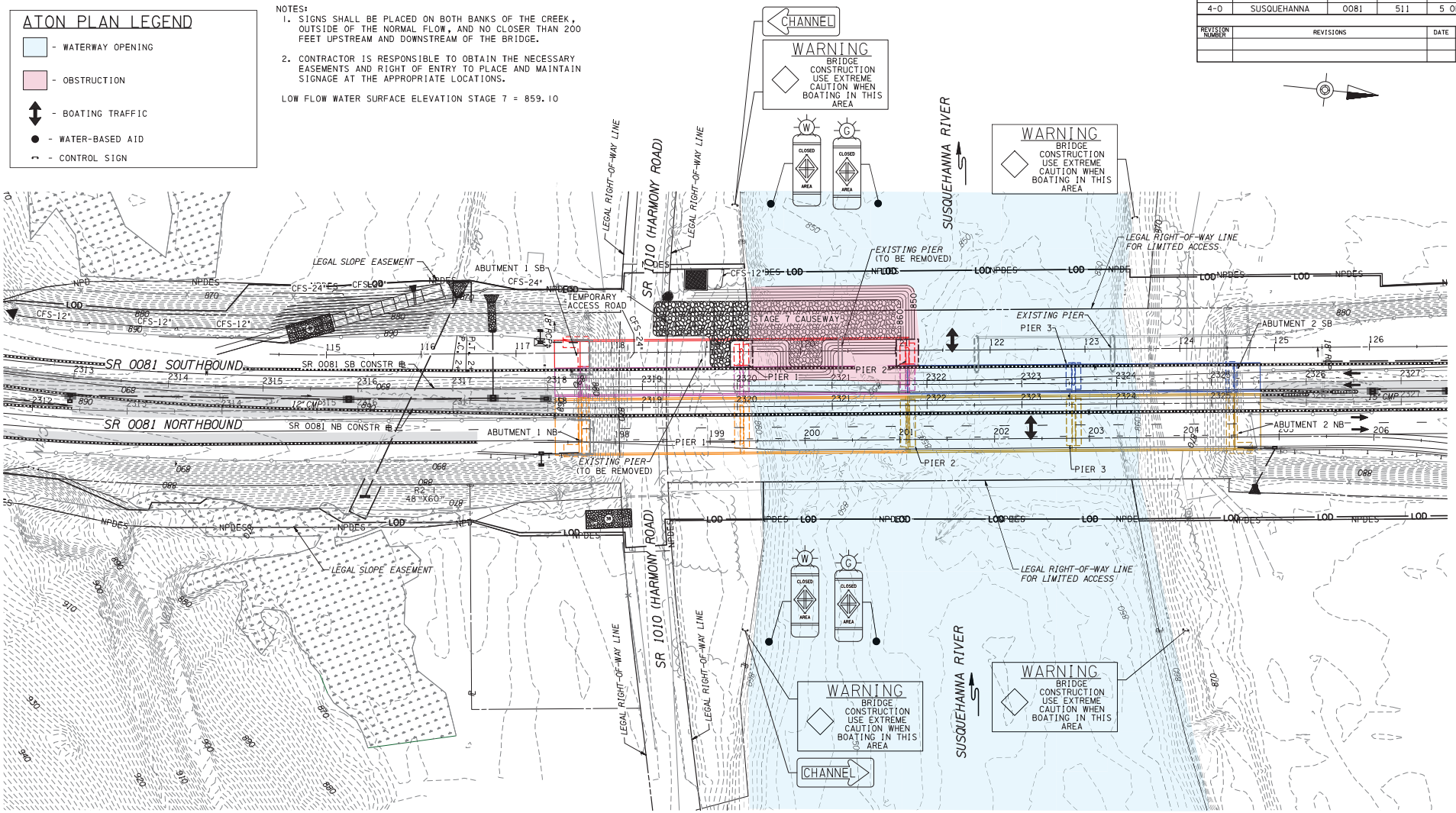
ATON PLAN LEGEND

- WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:

1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 7 = 859.10



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOCKED WITH R-3

STAGE 3 CONSTRUCTION
STAGE 4 CONSTRUCTION
STAGE 5 CONSTRUCTION
STAGE 6 CONSTRUCTION
STAGE 7 CONSTRUCTION
STAGE 8 CONSTRUCTION
COLOR-CODED STAGED BRIDGE CONSTRUCTION

WORK COMPLETED IN STAGE 7

- PLACE CAUSEWAY FROM SOUTH BANK TO PROPOSED PIER 2 (DOWNSTREAM).
- SB TRAFFIC SWITCHES TO THE NEW SB LANES AND THE NB TRAFFIC MOVES TO NEWLY CONSTRUCTED NB STRUCTURE.
- DEMOLISH EXISTING SB SUPERSTRUCTURE FROM ABUTMENT 1 TO EXISTING PIER 3. DEMOLISH EXISTING SB PIER 1 & 2 AND ABUTMENT 1.
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT SB PIERS 1 & 2.
- CONSTRUCT THE REMAINDER OF SB PIER 1 & 2 AND ABUTMENT 1.
- COMPLETELY REMOVE ANY TESPS AROUND SB PIER 1 & 2.
- CONSTRUCT THE REMAINING SUPERSTRUCTURE FOR SB SPANS 1 & 2.
- BEAMS WILL BE DELIVERED VIA THE NEW SB LANES (TEMPORARY NIGHT LANE CLOSURE) AND WILL BE LIFTED BY CRANES FROM THE CAUSEWAY OR BEHIND SB ABUTMENT 1.
- REMOVE STAGE 7 CAUSEWAY AND ANY TESPS AT SB ABUTMENT 1.

SCALE

0 50 100 FEET

STAGE 7

AIDS TO NAVIGATION PLAN

P:\2009\2558\DD\DWGS\TRANS\PLAN SHEETS\ATON Plan\17058E_255800_STAGE_7.dgn
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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	6 OF 6

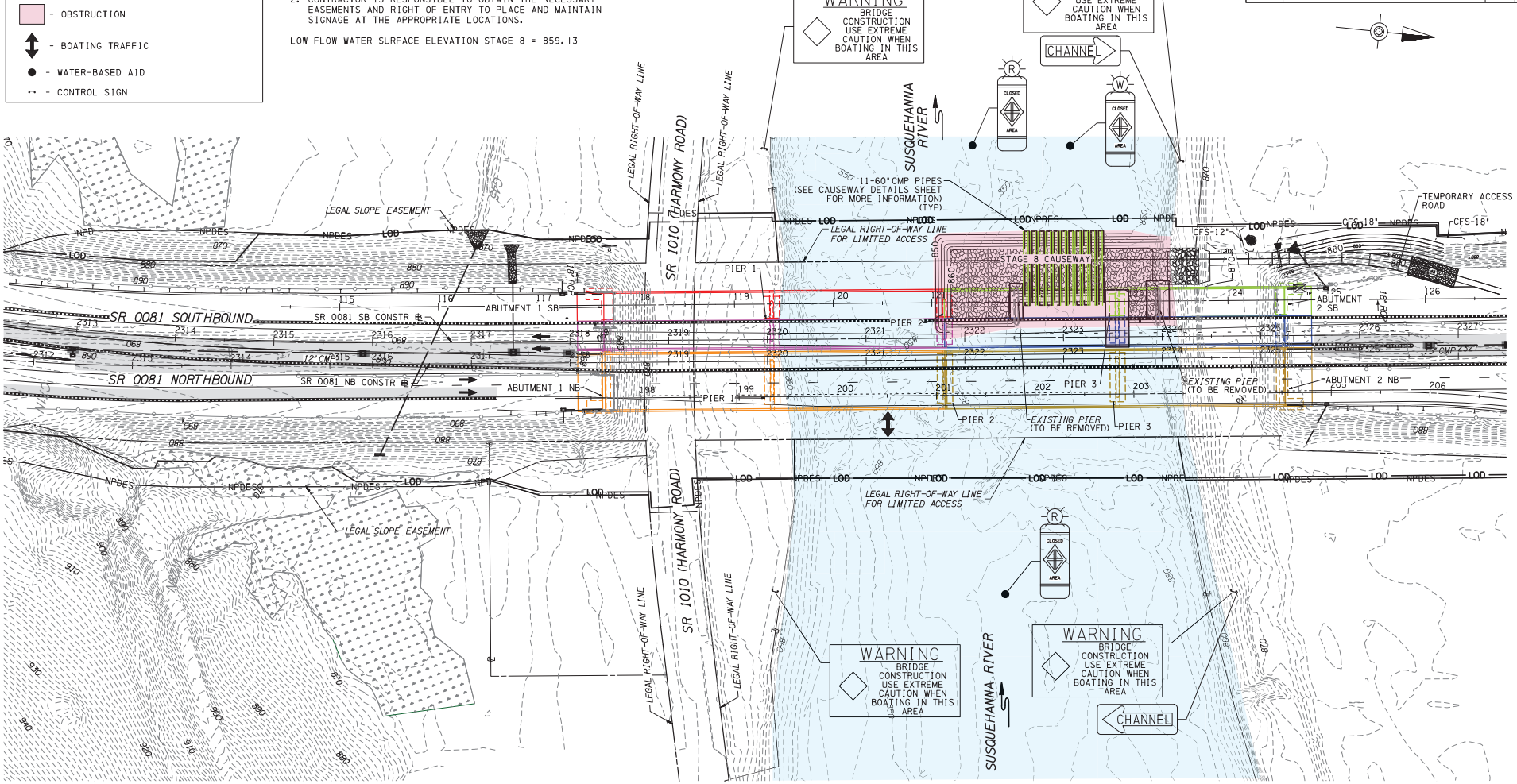
REVISION NUMBER	REVISIONS	DATE	BY

ATON PLAN LEGEND

- SAFE WATERWAY OPENING
- OBSTRUCTION
- BOATING TRAFFIC
- WATER-BASED AID
- CONTROL SIGN

NOTES:
1. SIGNS SHALL BE PLACED ON BOTH BANKS OF THE CREEK, OUTSIDE OF THE NORMAL FLOW, AND NO CLOSER THAN 200 FEET UPSTREAM AND DOWNSTREAM OF THE BRIDGE.
2. CONTRACTOR IS RESPONSIBLE TO OBTAIN THE NECESSARY EASEMENTS AND RIGHT OF ENTRY TO PLACE AND MAINTAIN SIGNAGE AT THE APPROPRIATE LOCATIONS.

LOW FLOW WATER SURFACE ELEVATION STAGE 8 = 859.13



LEGEND

- TEMPORARY EXCAVATION AND SUPPORT SYSTEM
- ROCK, CLASS R-6 CHOKED WITH R-3

COLOR-CODED STAGED BRIDGE CONSTRUCTION:
STAGE 3 CONSTRUCTION
STAGE 4 CONSTRUCTION
STAGE 5 CONSTRUCTION
STAGE 6 CONSTRUCTION
STAGE 7 CONSTRUCTION
STAGE 8 CONSTRUCTION

WORK COMPLETED IN STAGE 8

- CONSTRUCT STAGE 8 CAUSEWAY FROM PROPOSED PIER 2 TO NORTH BANK (DOWNSTREAM).
- SB TRAFFIC REMAINS ON NEW SB LANES AND NB TRAFFIC WILL BE ON NB STRUCTURE.
- DEMOLISH EXISTING SB SUPERSTRUCTURE FROM SB PIER 3 TO ABUTMENT 2.
- DEMOLISH EXISTING PIERS 3 & 4.
- INSTALL TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM AT PROPOSED SB PIER 3.
- CONSTRUCT SB PIER 3 AND ABUTMENT 2.
- REMOVE ALL REMAINING TEMPORARY EXCAVATION SUPPORT.
- CONSTRUCT PROPOSED SB SUPERSTRUCTURE.
- BEAMS WILL BE DELIVERED VIA THE NEW SB LANES (TEMPORARY NIGHT LANE CLOSURE) AND WILL BE LIFTED BY CRANES FROM THE CAUSEWAY OR BEHIND SB ABUTMENT 2.
- REMOVE STAGE 8 CAUSEWAY.

SCALE
0 50 100 FEET

STAGE 8
AIDS TO NAVIGATION PLAN

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12/16/2021 AT 4:08:58 PM

FIGURE 10.5.1
EXAMPLE OF ATON SIGN SPECIFICATION FOR PLACEMENT UPSTREAM AND DOWNSTREAM OF PROJECT AREA



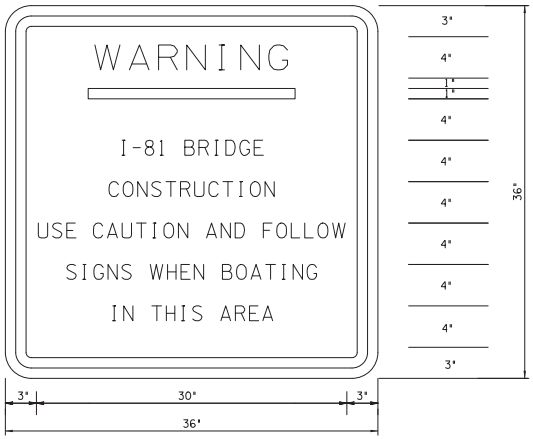
2.5" Radius, 1.0" Border, 1.0" Indent, Orange on White;
"WARNING" Black B; Horizontal Line White; "BRIDGE" Black B; "CONSTRUCTION" Black B;
"USE EXTREME" Black B; "CAUTION WHEN" Black B; "BOATING IN THIS" Black B;
"AREA" Black B;
Table of widths and spaces.

| | | |

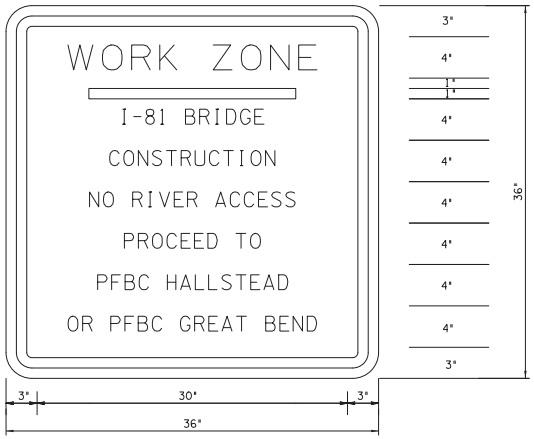
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
4-0	SUSQUEHANNA	0081	511	1 OF 1

REVISION NUMBER	REVISIONS	DATE	BY

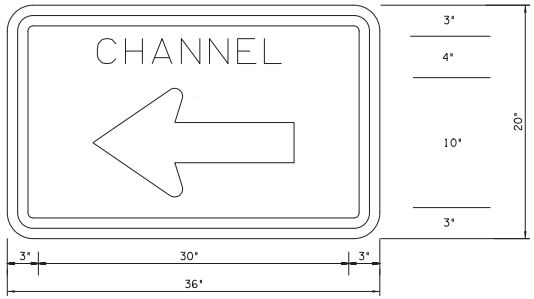
SP-2
36"X 36"



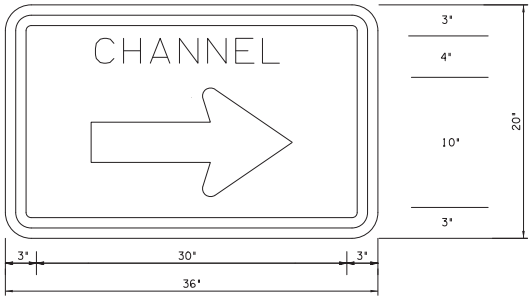
SP-3
36"X 36"



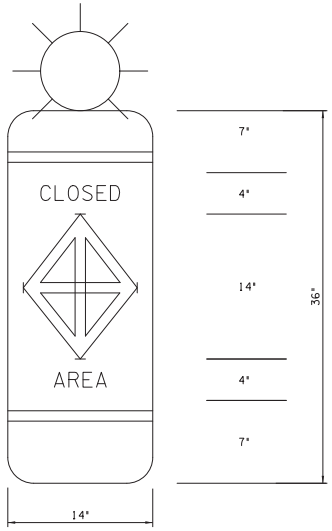
SP-4
20"X 36"



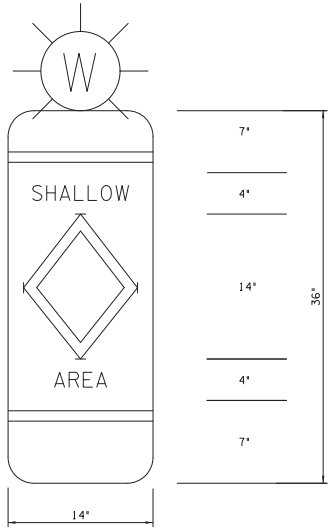
SP-5
20"X 36"



SP-6
36"X 14"



SP-7
36"X 14"



NOTES:
THESE ARE TEMPORARY SIGNS THAT ARE TO BE IN PLACE DURING CONSTRUCTION. AFTER CONSTRUCTION IS COMPLETE REMOVE THE SIGNS AND RESTORE THE GROUND TO ORIGINAL CONDITIONS.

SIGN DETAILS
AIDS TO NAVIGATION PLAN

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PA Fish and Boat Commission PFBC-277 (01/2015)	APPLICATION FOR PERMIT TO INSTALL FLOATING STRUCTURES AND PRIVATE AIDS TO NAVIGATION	Date Submitted

INSTRUCTIONS Read regulations on reverse side before completing this form. Complete all blocks. Indicate N/A when items do not apply. **Enclosed check or money order for $10.00 with this application, payable to the Pennsylvania Fish and Boat Commission**

REASON FOR APPLICATION ❑ New Application *(See Block #14)* ❑ Renewal_____ *(Permit #)* ❑ Change _____ *(Permit #)*

1. Name and Address of Applicant

Telephone No. ( ) _____ - _____

Signature:

2. Name and Address of Applicant's Organization: *(If none, leave blank)*

Telephone: (_____) - _____ - _____

3. Type of Structure or Aid Requested: *(Buoy – Number & Type, Slalom Course, Float, etc.)*

4. Installation Date:

5. Removal Date:

6. County Structure or Aid Installed:

6. Body of Water:

7. Specific Area Structure or Aid Installed:

8. Reason for Structure or Aid:

9. What Provisions are made for safety of persons using structure?

10. No Persons Using Structure

11. Are You aware of any objections from area land owners, local government officials, or other persons to the placing of this floating structure/aid? If yes, please list.
❑ Yes ❑ No

12. Have there been any changes to your original permit?
❑ Yes ❑ No ❑ N/A

13. If "yes" to item #12, indicate item number changed and comply with Item #14. Item(s) changed:

14. With original application, amended renewal or change, **ATTACH** an accurate section of chart, map, or draw a detailed sketch of the waterway upon which proposed structure or aid is to be placed. Indicate position of structure or aid, distance from shore, other floating objects in vicinity, existing docks, roads, address, and adjacent property owner, as well as any other pertinent information.

DO NOT WRITE BELOW THIS LINE – PA FISH AND BOAT COMMISSION USE ONLY

Waterways Conservation Officer:	WCO No.	Comments or Additional Conditions:
Date:	❑ Approved ❑ Disapproved	
Agency, Municipality, Organization, Association:		Comments or Additional Conditions:
Date:	❑ Approved ❑ Disapproved	
Regional Manager:		Comments or Additional Conditions:
Date:	❑ Approved ❑ Disapproved	

Type of Structure/Aid Approved:

Effective this date, you are authorized a permit for the above structure or aid indicated in accordance with the application, any attachments hereto, and the regulations on the reverse side.

Permit is valid until _____unless terminated by the Pennsylvania Fish and Boat Commission.

Permit Number Issued: (See § 113.10(e) reverse)	Date:	Signature

(MAIL TO: PFBC BLE P.O. Box 67000 Harrisburg PA 17106)

REGULATIONS APPLICABLE TO PRIVATE AIDS TO NAVIGATION AND FLOATING STRUCTURES

(Chapter 113 Pennsylvania Fishing and Boating Regulations)

Section 113.1. General.

(a) The Coast Guard administers the U.S. Aids to Navigation System (33 CFR Part 62.) The System consists of federal aids to navigation operated by the Coast Guard, aids to navigation operated by other armed services, and private aids to navigation operated by other persons. This system is adopted by the Commission for use in Pennsylvania and is administered on waters not marked by the Coast Guard.

(b) An aid to navigation is a device external to a vessel intended to assist a boater in determining position or safe course or warn of dangers or obstruction to navigation.

Section 113.2. Prohibited Acts.

(a) Aids, other than those placed by the United States government, may not be placed on or along waters of this Commonwealth unless authorized by the Commission under Section 113.4. Permits.

(b) A person may not moor or fasten watercraft to an authorized and lawfully placed state or federal buoys, beacon or bridge. This section does not prohibit mooring of boats to authorized mooring buoys.

(c) It is unlawful for an unauthorized person to move, remove, tamper or injure a State or Federal aid or marker.

(d) No person shall place an aid to navigation that is incompatible with the United States Aids to Navigation System.

Section 113.4 Permits.

(a) Persons, including clubs, individual, state agencies, municipalities and other groups, wishing to establish an aid shall apply for permission from the Commission on Form PFBC-277 at least 30 days prior to the intended date of installation. Application forms are available from and should be submitted to the Pennsylvania Fish and Boat Commission, Bureau of Law Enforcement, PO Box 67000, Harrisburg, PA 17106-7000.

(a) The authorization of the placement of a private aid to navigation does not grant exclusive privileges nor does it eliminate the necessity to comply with other Federal or State permitting requirements.

Section 113.5. Responsibilities of Permittees.

(a) A permittee is solely responsible for placement and maintenance of private aids to navigation placed in waters of this Commonwealth under this Chapter. Private aids to navigation are the property of the permittee only and are not the property of the Commission or the Commonwealth. The permittee alone is responsible for claims related to the placement or maintenance of private aids to navigation. The permit will contain appropriate terms and conditions setting forth the responsibility of the permittee.

Section 113.6. Maintaining Aids to Navigation.

(a) Permittee shall maintain private aids to navigation throughout the period specified in the permit in accordance with permit requirements. If, during the period specified in the permit, the private aid is not in place, the permittee shall notify the Commission in writing within 5 days, stating the status of the aid.

Section 113.7. Transfer of Permit.

(a) Aids to navigation permits are not transferable. The party, or the successor in interest to the party, relinquishing responsibility for maintenance of the private aid to navigation shall advise the Commission in writing. The party accepting responsibility shall submit a new application.

Section 113.8 Accidents Involving Aids or Markers.

(a) Accidents involving and aid or marker shall be reported to the Commission as soon as possible, but not more than 5 days after the accident.

Section 113.9 Marking of Wrecks & Sunken Vessels

(a) When a sunken or submerged object creates a hazard to navigation, the owner of the boat, barge, raft or other craft, or of a motor vehicle or other obstruction which as sunk in waters of this Commonwealth is required to notify the Commission within 24 hours and to mark the hazard with a buoy or daymark during the day and with a light at night as the Commission directs.

(b) Buoys established by the Commission to mark wrecks may be lighted and placed on the channel side of the wreck and as near to the wreck as conditions will permit.

(c) Required markings shall be established and maintained until the wreck is removed or otherwise directed by the Commission.

Section 113.10. Permits for Installation and Lighting of Floats, Ski Ramps and Other Floating Structures.

(a) A person may not place a float, ski ramp or other floating structure on or along the waters of this Commonwealth unless authorized by the Commission, or an authorized representative of the Federal Government.

(b) Application shall be made on forms provided by the Commission at least 30 days prior to the intended date of installation of the structure.

(c) A ski ramp, floating dock, swim dock or other floating structure shall be lighted between sunset and sunrise and at other times when restricted visibility warrants it. Each structure shall show at least one all around white flashing or oscillating light visible for a distance of at least 1 mile. “Visible” means visible on a dark night with clear atmosphere.

(d) The permittee shall maintain the floating structure in accordance with permit requirements. The permittee shall notify the Commission in writing within 5 days if the floating structure is not in place or lighted during the period when the permit specifies that it shall be in place or lighted.

(e) **A STRUCTURE PERMITTED UNDER THIS SECTION SHALL DISPLAY THE PERMIT NUMBER IN CHARACTERS AT LEAST 3 INCHES IN HEIGHT IN A POSITION WHERE IT MAY BE OBSERVED EASILY BY AN OFFICER EMPOWERED TO ENFORCE THIS SECTION.**

Section 113.11. Unpermitted Buoys and Floating Structures.

(a) It is unlawful to place or maintain buoys and floating structures on the waters of this Commonwealth without proper permits. The owner of a buoy or structure is responsible for obtaining the necessary permits prior to placing or maintaining the buoys or structure on Commonwealth waters.

(b) Unpermitted buoys and structures shall be removed by the owner upon order of the Commission. If they are not removed, the Commission will remove or order their removal. The owner will be held responsible for the costs of the removal, in addition to payment of fines resulting from violation of this section.

ITEM 9000-0XXX AIDS TO NAVIGATION PLAN

DESCRIPTION – This item is the implementation and maintenance of an Aids To Navigation Plan (ATON) boat safety and recreational angler plan for the duel structure replacement of SR 0081 over Susquehanna River in Susquehanna County. The ATON Plan is to include boat signing and channel markers as approved by the Pennsylvania Fish and Boat Commission (PAFBC). All signs are to be in accordance with approved ATON Plan included in the contract drawings with bold face lettering contrasting from background sign color.

All buoys or similar devices placed in Susquehanna River are to contain illuminated flashing beacon on top of device with 1 - 2 nautical mile marine lighting.

Use buoys or devices acceptable to PA Fish and Boat Commission that have ability to property float in minimum water depth of 2.0 feet as well water depths greater than 2.0 feet. Buoys or acceptable devices that do not float in correct upright position are not acceptable since information will not be visible to River users. Monitor River levels and remove all ATON signs located in Susquehanna River due to predicted elevated River level conditions. Reset all ATON signs removed due to elevated River levels 24 hours after acceptable River levels are reached. It may be necessary to remove, reset or retrieve ATON plan components that are dislodged by elevated River levels numerous times during every construction season.

Complete required sections of PA Fish and Boat Commission – Form - PFBC-277, located as attachment in contract document. The Department completed a portion of Form PFBC-277. Complete remaining sections and submit to PAFBC to obtain permit approval to install ATON plan in Susquehanna River. Submit completed Form PFBC-277, applicable fee and entire ATON plan information package to PA Fish and BoatCommission one day after contract notice to proceed.

Allow 75 workdays to order, fabricate and receive on work site all signs and devices for use in approved ATON Plan. Do not begin any work associated with replacement or demolition of Susquehanna River Bridge without having approved ATON Plan in place.

CONSTRUCTION – Place and maintain all signs for length of bridge construction alerting users of construction project at SR 0081 bridges over Susquehanna River. Place buoys in Susquehanna River with sufficient anchorage to prevent dislodging or disorienting by waterway currents or wind damage. Locate warning signs on both banks of the project, above the normal water line, 200 feet upstream and downstream of bridge construction. The location of the signage, with respect to the distance from the construction, will need to be adjust in the field to obtain the minimum distance from the bridge construction activities specified.

Obtain permission from adjoining parcel owners to place and maintain signs throughout construction. Check all ATON Plan components on daily basis to verify they are correctly positioned and not require maintenance.

Trim brush and trees on banks to expose and make signs visible from stream.

Designate an individual as Boat Safety Coordinator for the project. This person is to be available 24 hours a day, seven days a week should the ATON Plan need maintenance during or after normal work-day is complete. Provide theft resistant hardware for all signs placed. Complete utility mark out and PA One Call as necessary to install each boat sign and associated portage. Provide sufficient anchorage if sign is placed on free standing post(s).

Place ATON signs and buoys in accordance with approved plan at the following locations:

- Route 0081 SB Bridge – West side of Bridge (Downstream).
- Route 0081 NB Bridge – East side of Bridge (Upstream).
- Upstream Boat Launch Facility --- State Game Lands 35.
- Downstream Boat Launch Facility --- Hallstead Boat Launch.

Place and maintain rigid shielding beneath underside of existing of both Susquehanna River Bridges – North and South bound directions for all phase of work to contain material from work area.

Maintain minimum of 12 feet of under clearance between underside of containment and Susquehanna River water surface for all phases of bridge construction or demolition. Depth of temporary containment cannot interfere with safe boat passage or restrict under clearance.

The Hallstead Boat Launch can be used to launch boat for installation and maintenance ATON Plan buoys only. Wear proper personal floatation jackets when operating boat. Do not interfere with boat launch or operations. Do not store equipment or materials within Hallstead Boat Launch facility or any other boat launch facility.

Provide warning vests, orange shirts or orange jackets at all times to all employees engaged in daylight work operation. Provide high visibility Type III Personal Floatation Devices to all construction personnel at the bridge construction site at all times when working on or near the river. Provide a registered motorized well maintained, flat bottom boat – minimum of 16 feet with sufficient horsepower to operate in river environment including oars and furnished with the following equipment: throw bags, Throwable Type IV Personal Floatation Device, Flashlight, Loud Hailer, air horn and whistle. Provide at least one person exclusively assigned to the boat whenever contractor operations have overhead operations that can affect safe passage of River users through work area.

Closure of Susquehanna River to recreational users is not allowed without approval from PA Fish and Boat Commission. Closure requests are to be submitted and coordinated 60 days in advance with PA Fish and Boat Commission. Prepare, submit, and complete all documentation (including coordination or approval from New York State and newspaper advertisements if necessary) to revise approved ATON Plan including new or additional ATON Sign(s) to convey proposed River conditions. Satisfactorily address all Department and PA Fish and Boat Commission comments or questions. Closure request(s) must demonstrate that all measures were taken to avoid or minimize impacts to River passage prior to making request to close River passage through work area. All work necessary to prepare and complete request to revise approved ATON Plan to close Susquehanna River passage is incidental to project.

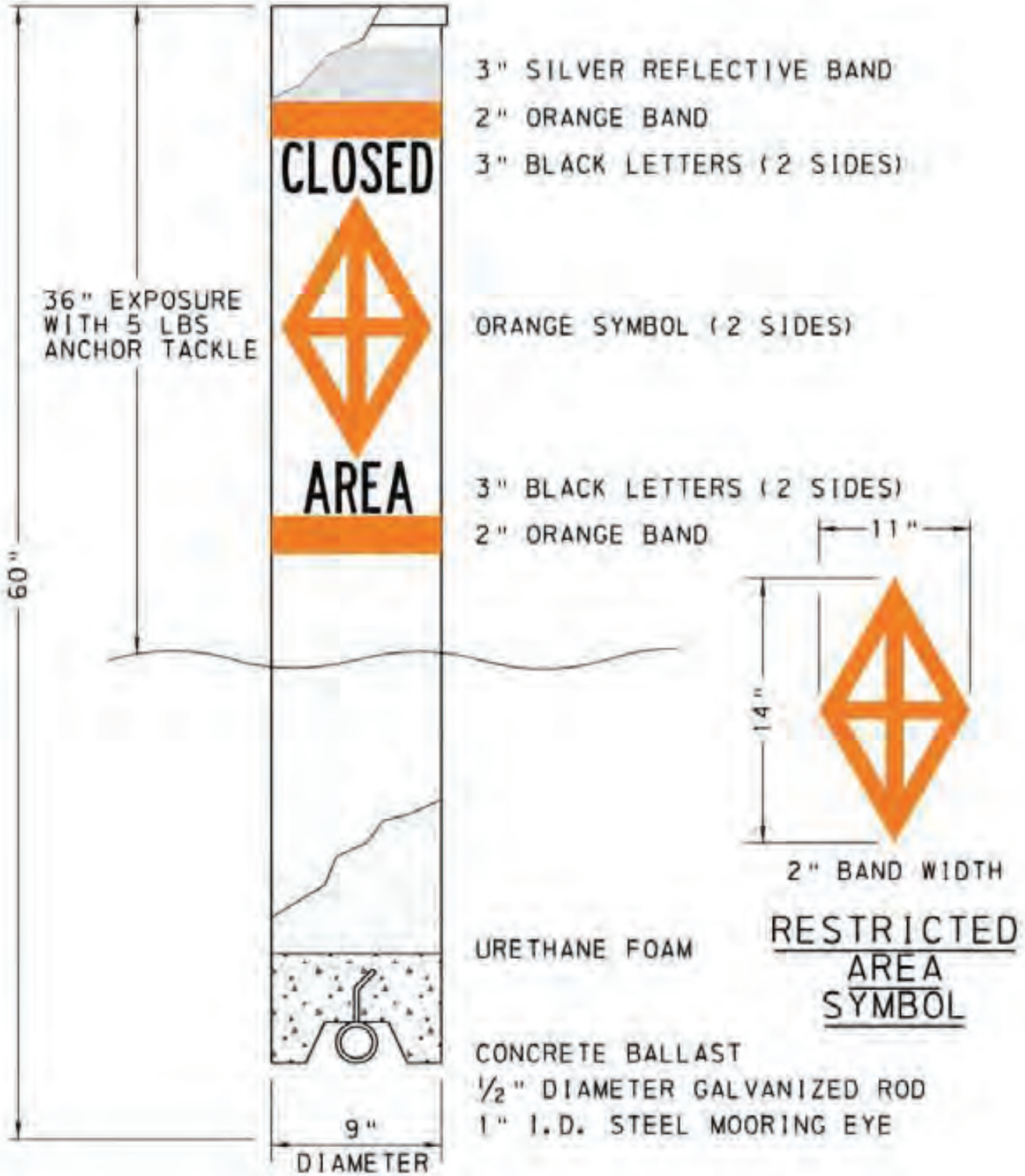
Maintain constant surveillance of the boat safety operation and replace any missing, stolen, vandalized, ineffective or misaligned equipment. Do not deviate from the ATON Plan without approval from the Department. Remove all signs at completion of work.

Check all ATON Plan components on daily basis to verify they are correctly positioned and not require maintenance. Any dislodged ATON device must be recovered and reinstalled as soon as possible.

MEASUREMENT AND PAYMENT – Lump Sum

BUOY

NOT TO SCALE



RESTRICTED AREA SYMBOL

SKU: 1428

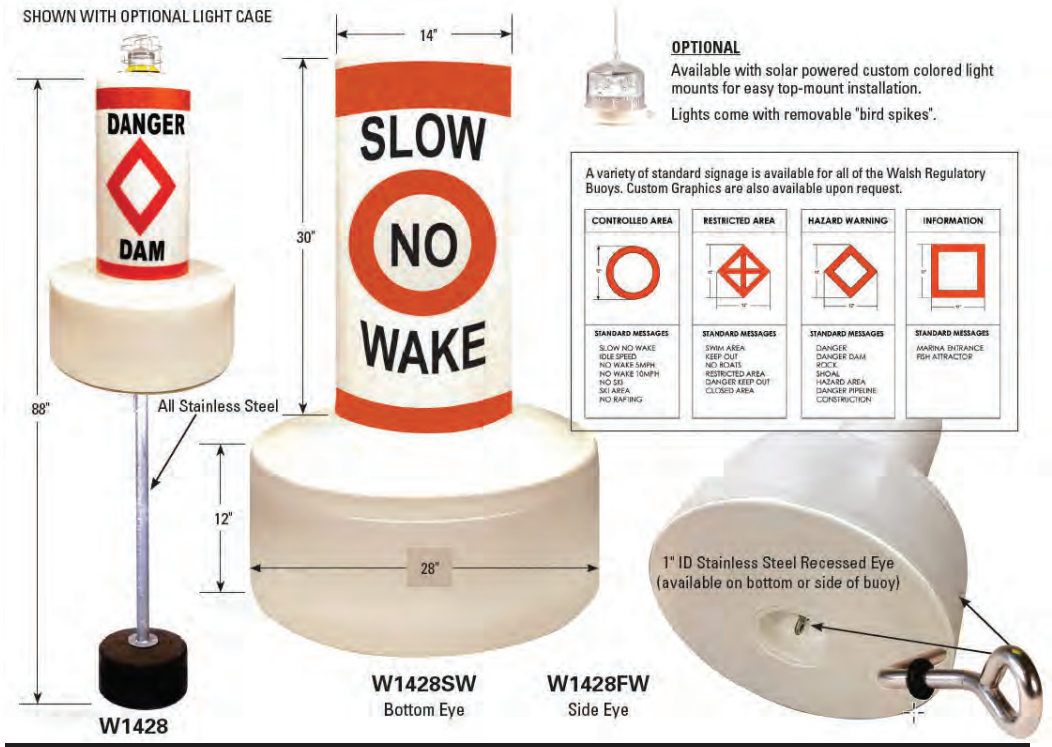
Category: 1428 Float Collar Buoys

DESCRIPTION ADDITIONAL INFORMATION

Tough Seal™ Rotationally-Molded Buoy Construction

Seamless Manufacturing: when durability matters

Our premium products are made from pollution resistant high-density polyethylene resin with a leak-proof, seamless design and vinyl marking graphics for maximum durability and fade protection.



Float Collar Buoys		
Model #	**Product Description**	**Size and Specs**
W1428	Tough Seal™ Float Collar Can: External Ballast	28" Diameter x 88" Tall - White
W1428SW	Tough Seal™ Shallow Water Float Collar Can Bottom Eye	28" Diameter x 42" Tall - White
W1428FW	Tough Seal™ Fast Water Float Collar Single Side Eye (1)	28" Diameter x 42" Tall - White

1428 Float Collar Buoy Details

- Our Float Collar Buoys are all one piece, rotational molded high-density polyethylene polymer shell with UV inhibitors
- High stability design with external ballast, side-eye, or bottom eye

- Standard symbols and messages. Graphics are solid vinyl with a 5-year factory no-fade warranty. No Silk-screening
- 3" (7.62cm) reflective orange band
- Completely foam filled, with urethane foam that meets or exceeds United States Coast Guard requirements
- Impervious to chemicals, fuels, and solvents
- Super Tough! No cracking, chipping, or peeling
- Self-righting without tackle
- Equipped with standard 1" diameter stainless steel mooring eye

Float Collar Buoys Customization Options

- Reflective symbols and bands: available in both standard and high intensity
- Owner or agency identification and/or permit numbers – vinyl lettering
- Solar lights
- Channel Markers
- Heavier wall thickness
- Custom colors: Green, Yellow, Red
- Multiple mooring eyes
- Pickup Eyes

W1428
Submerged buoyancy .....350 lbs.
Net weight.....130 lbs.

W1428SW / W1428FW
Submerged buoyancy .....350 lbs.
Net weight.....128 lbs.

ABOUT US

Walsh Marine Products was founded in Brookfield, Wisconsin in 2004 with one simple mission: become the world's leading manufacturer of buoys and floats, while providing the best pricing in the market.

LATEST

 Buoy Maintenance & Restoration Kit

 Long Float Buoy

 Mooring Buoys (spherical)

 1428 Float Collar Buoys - made w/ Tough Seal™

LATEST NEWS

GET GIFTS DELIVERED BY CHRISTMAS 30,000+ Items Eligible from Our Store to You ›

Internet #203677524 Model #14107

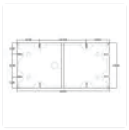
15

Eagle Floats

24 in. x 48 in. x 12 in. Foam Filled Dock Float Drum distributed by Multinautic

★★★★★ (12) Questions & Answers (5)







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— or —

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Frequently Bought Together



+

Top Rated



+



Price for all three:

$215.17

Add all three to cart

- This item: 24 in. x 48 in. x 12 in. Foam Filled Dock Float Drum distributed by Multinautic **$119.50**
- Multinautic Heavy Duty Floating Dock Hinges Kit **$69.99**
- PermaFloat 5 in. x 8.75 in. x 5 in. Metal Inside Corner **$25.68**

Product Overview

Eagle Floats relies on Multinautic to distribute its sturdy floats to US residents. Multinautic's excellent customer service, years of experience with waterfront property owners and recreational boaters, and wide range of top-quality docks and marine accessories will meet your expectations. This floating drum is rotational molded with .15 in. thick walls. Top quality virgin polyethylene with ultraviolet inhibitors guaranty sturdiness and long lasting use. This premium float can be used as replacement with existing docks or the key element to a brand-new dock. Whether you install it on a wood dock or an aluminum or steel structure, the heavy duty fabrication of this float will resist the saltwater, sun, oil and gaz spills, hence our 15-year limited warranty. These floats are filled with closed-cell expanded polystyrene (EPS).

Info & Guides

You will need Adobe® Acrobat® Reader to view PDF documents. Download a free copy from the Adobe Web site.

× Get Everything You Need (1)



TechStar
Floating Dock Anchor Mold
Distributed by Tommy Docks

★★★★★ (10)

Live Chat

Feedback

ATTACHMENT 3
Correspondence with Officials with Jurisdiction

pennsylvania
DEPARTMENT OF TRANSPORTATION

September 14, 2022

Laurel Anders
Director, Bureau of Boating
PA Fish and Boat Commission, Office of Administration
PO Box 67000
Harrisburg, PA 17106-7000

Re: I-81 Susquehanna Bridge Project
Great Bend Township, Susquehanna County, PA
Requesting Concurrence with Section 4(f) Determination

Dear Ms. Anders:

The Pennsylvania Department of Transportation (PennDOT) proposes to replace the Interstate 81 (I-81), Section 511 Susquehanna River Bridges. The dual bridges (one northbound and one southbound) were built in 1961, rehabilitated in 1979, 1993 and 2006, and carry I-81 over the Susquehanna River, in Great Bend Township, Susquehanna County, Pennsylvania.

I-81 is a divided four-lane, interstate roadway with a posted speed limit of 65 mph. Combined, the bridges carry about 27,000 vehicles per day, approximately 41 percent of which is truck traffic. The combined daily traffic is expected to more than double by 2045 to around 55,000. The I-81 Susquehanna Bridges Project is a 9-mile corridor reconstruction project along I-81 from the New Milford Interchange with SR 492 (Exit 223) through the Great Bend Interchange with SR 171 (Exit 230) to the New York border. The project involves the replacement of five dual I-81 mainline bridges and one overpass structure; construction along cross streets (Susquehanna Street, SR 171 and SR 1029); and varying degrees of rehabilitation work for three box culverts. Proposed roadway work includes full depth pavement reconstruction for the northbound and southbound lanes, lengthening substandard interchange ramp acceleration/deceleration lanes, improving substandard vertical alignments, guide rail and signing replacement, shoulder widening, and drainage improvements.

Purpose: The purpose of the project is to address the pavement, structural, drainage, and ramp length deficiencies, providing a safer and more efficient corridor.

Needs:

- The underlying pavement in the corridor is nearly sixty years old and the Susquehanna River bridges and the pavement in the project area are approaching the end of their serviceable lifespan.

- All structures exceed the allowable limits for Chloride Ion content in reinforced concrete which accelerates corrosion of the reinforcing steel and deterioration of the concrete.

- The interchange ramps exhibit short acceleration and deceleration lengths and do not meet current design standards.

- The age of the storm system has exceeded its useful life.

The project is located in New Milford Township/Borough and Great Bend Township/Borough, Susquehanna County, Pennsylvania. This I-81 corridor is the primary route for north-south traffic serving a mix of both commuter and through traffic. A project location map is provided as **Attachment 1** within the enclosed draft Section 4(f) Temporary Occupancy form. Project construction will occur in eight stages. A series of causeways will be used to do the half-width construction. River passage will vary but will be maintained through at least one of the three existing or the two proposed navigable spans during all eight stages of construction (no work activities are proposed in the Susquehanna River during stages 1 and 2) over the course of the anticipated six-year construction schedule. In-stream work is anticipated to occur during approximately two-thirds of the total construction duration (approximately four-years of in-stream work over the course of six-years of overall construction).

Two formal PFBC boater access points, Great Bend Access (RM348) 5-miles upstream of the I-81 bridge and Hallstead Access (RM 342) approximately 1,000 feet downstream, will remain open during construction. Coordination with the PFBC Water Conservation Officer from the project area indicates that the Great Bend Access is primarily used by canoeists and kayakers floating to the Hallstead Access. With deeper water at the Hallstead Access, use includes motorboats in addition to canoes and kayaks. Boaters using the Hallstead Access typically travel downstream to the New York State area. Boating traffic during the boating season would be considered intermediate in the project area. An Aids to Navigation (ATON) Plan has been prepared and approved by Richard Morder, PFBC Waterways and Marina Management Division. Under Section 4(f) of the U.S. Department of Transportation Act of 1966, the Susquehanna River Water Trail is considered a Section 4(f) property as a publicly owned recreation area that serves a significant recreation purpose. Under 23 CFR 774.13(d), a temporary occupancy of a Section 4(f) resource is not considered to be a use (impact) if specific criteria are met.

The Project is not expected to adversely affect the recreational activities, features, and attributes that qualify the Susquehanna River Water Trail for protection under Section 4(f). Implementation of the ATON plan will ensure passage under the bridge is maintained throughout construction. Based on this information, the FHWA and PennDOT intend to make a temporary occupancy determination for the proposed project.

In accordance with 23 CFR 774.13(d), the following stipulations will be met:

- The duration of impacts will be temporary, i.e. less than the time needed for construction of the project, and there will be no change in ownership of the land;

- The scope of work is minor, i.e. both the nature and the magnitude of the changes to the Section 4(f) property is minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities, features, or attributes of the property, on either a temporary or permanent basis;
- The land being used will be fully restored, i.e. the property will be returned to a condition which is at least as good as that which existed prior to the project, and;
- There is documented agreement of the officials with jurisdiction over the Section 4(f) resource regarding the above conditions.

Please note that with regard to the first bullet point above, the replacement of the dual structures over the Susquehanna River are part of a larger project that includes roadway reconstruction. In-stream work is anticipated to occur during approximately two-thirds of the total construction duration (approximately four-years of in-stream work over the course of six-years of overall construction). With regard to the second, third and fourth bullets, the dual bridges are to be replaced on existing alignment and the number of bridge piers within the river will be reduced from 6 to 4 piers. In accordance with the approved ATON plan, boating access will be maintained throughout construction of the replacement bridges and river passage fully restored upon completion of bridge construction; therefore, the project would not temporarily or permanently interfere with the recreational activities, features, or attributes of the water trail.

The PFBC, in an email dated 8/24/2022, recommended revisions to the approved ATON Plan to address additional boater safety concerns during construction stages 5 and 8 which include causeways with several 60-inch pipes which could be hazardous to small boats (e.g., canoes and kayaks). The PFBC, in the same email, also requested that an update be provided to the North Branch Susquehanna River Water Trail manager at the beginning of each year of the project term to inform them of upcoming project plans that may impact their special events and the safety of water trail users. During a meeting to discuss the project on 8/31/2022, PennDOT agreed to incorporate the PFBC recommended ATON Plan recommendations into the approved ATON Plan and future design plan revisions along with annual coordination with the water trail manager. Revisions to and implementation of the ATON Plan will be included as a mitigation commitment for the project and will be tracked through PennDOT's Environmental Commitments and Mitigation Tracking System (ECMTS). After the construction of the bridge is complete, the Susquehanna River Water Trail will once again span the full width of the river under I-81.

It is also noteworthy that, as a measure to offset navigating past the various causeway configurations at the I-81 bridges during construction of the replacement of the bridges, PennDOT commits to repave the Hallstead boat access parking area. This commitment is discussed in the Navigable Waters section of the CE Reevaluation being prepared for the project and will be entered in the ECMTS database to be tracked through construction. Repaving will be completed prior to the first causeway being constructed.

If you agree that the project as proposed meets the conditions listed above, please sign and date below.

We have attached for your review a draft copy of the Section 4(f) Temporary Occupancy form, which provides details of the anticipated impacts to the Susquehanna River Water Trail and proposed mitigation measures.

Thank you for your assistance in this matter. If you have any questions, please feel free to contact me at 717-705-1481 or via email, johname@pa.gov

Sincerely,

Drew Ames

Drew Ames
Environmental Planning Manager
Environmental Policy and Development Division

Enclosures: Susquehanna River Draft Section 4(f) Temporary Occupancy Form

Concurrence: Laurel L Anders Date: 9/14/2022
Laurel Anders
Director, Bureau of Boating
PA Fish and Boat Commission

cc: Jon Crum, FHWA
Brian Shunk, PennDOT HDTS

DS-2C (12-15)

pennsylvania
DEPARTMENT OF TRANSPORTATION

September 14, 2022

Cain Chamberlin
Executive Director
Endless Mountains Heritage Region
602 Main Street, Suite 7
Towanda PA, 18848

Re: I-81 Susquehanna Bridge Project
Great Bend Township, Susquehanna County, PA
Requesting Concurrence for Section 4(f) Temporary Occupancy

Dear Mr. Chamberlin:

As noted during our call on September 9, 2022, the Pennsylvania Department of Transportation (PennDOT), in coordination with the Federal Highway Administration (FHWA), proposes to replace the Interstate 81 (I-81), Section 511 Susquehanna River Bridges. The dual bridges (one northbound and one southbound) were built in 1961, rehabilitated in 1979, 1993 and 2006, and carry I-81 over the Susquehanna River, in Great Bend Township, Susquehanna County, Pennsylvania.

I-81 is a divided four-lane, interstate roadway with a posted speed limit of 65 mph. Combined, the bridges carry about 27,000 vehicles per day, approximately 41 percent of which is truck traffic. The combined daily traffic is expected to more than double by 2045 to around 55,000. The I-81 Susquehanna Bridges Project is a 9-mile corridor reconstruction project along I-81 from the New Milford Interchange with SR 492 (Exit 223) through the Great Bend Interchange with SR 171 (Exit 230) to the New York border. The project involves the replacement of five dual I-81 mainline bridges and one overpass structure; construction along cross streets (Susquehanna Street, SR 171 and SR 1029); and varying degrees of rehabilitation work for three box culverts. Proposed roadway work includes full depth pavement reconstruction for the northbound and southbound lanes, lengthening substandard interchange ramp acceleration/deceleration lanes, improving substandard vertical alignments, guide rail and signing replacement, shoulder widening, and drainage improvements.

Purpose: The purpose of the project is to address the pavement, structural, drainage, and ramp length deficiencies, providing a safer and more efficient corridor.

Needs:

- The underlying pavement in the corridor is nearly sixty years old and the Susquehanna River bridges and the pavement in the project area are approaching the end of their serviceable lifespan.

- All structures exceed the allowable limits for Chloride Ion content in reinforced

concrete which accelerates corrosion of the reinforcing steel and deterioration of the concrete.

- The interchange ramps exhibit short acceleration and deceleration lengths and do not meet current design standards.

- The age of the storm system has exceeded its useful life.

The project is located in New Milford Township/Borough and Great Bend Township/Borough, Susquehanna County, Pennsylvania. This I-81 corridor is the primary route for north-south traffic serving a mix of both commuter and through traffic. A project location map is provided as **Attachment 1** within the enclosed ATON Plan.

Project construction will occur in eight stages. A series of causeways will be used to do the half-width construction. River passage will vary but will be maintained through at least one of the three existing or the two proposed navigable spans during all eight stages of construction (no work activities are proposed in the Susquehanna River during stages 1 and 2) over the course of the anticipated six-year bridge construction schedule. In-stream work is anticipated to occur during approximately two-thirds of the total bridge construction duration (approximately four-years of in-stream work over the course of six-years of overall construction).

Two formal PFBC boater access points, Great Bend Access (RM348) 5-miles upstream of the I-81 bridge and Hallstead Access (RM 342) approximately 1,000 feet downstream, will remain open during construction. Coordination with the PFBC Water Conservation Officer from the project area indicates that the Great Bend Access is primarily used by canoeists and kayakers floating to the Hallstead Access. With deeper water at the Hallstead Access, use includes motorboats in addition to canoes and kayaks. Boaters using the Hallstead Access typically travel downstream to the New York State area. Boating traffic during the boating season would be considered intermediate in the project area. An Aids to Navigation (ATON) Plan has been prepared and approved by Richard Morder, PFBC Waterways and Marina Management Division. Under Section 4(f) of the U.S. Department of Transportation Act of 1966, the Susquehanna River Water Trail is considered a Section 4(f) property as a publicly owned recreation area that serves a significant recreation purpose. Under 23 CFR 774.13(d), a temporary occupancy of a Section 4(f) resource is not considered to be a use (impact) if specific criteria are met.

The Project is not expected to adversely affect the recreational activities, features, and attributes that qualify the Susquehanna River Water Trail for protection under Section 4(f). Implementation of the ATON plan will ensure passage under the bridge is maintained throughout construction. After the construction of the bridge is complete, the Susquehanna River Water Trail will be fully accessible for public use. Based on this information, the FHWA and PennDOT intend to make a temporary occupancy determination for the proposed project.

In accordance with 23 CFR 774.13(d), the following stipulations will be met:

- The duration of impacts will be temporary, i.e. less than the time needed for construction of the project, and there will be no change in ownership of the land;

- The scope of work is minor, i.e. both the nature and the magnitude of the changes to the Section 4(f) property is minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities, features, or attributes of the property, on either a temporary or permanent basis;
- The land being used will be fully restored, i.e. the property will be returned to a condition which is at least as good as that which existed prior to the project; and,
- There is documented agreement of the officials with jurisdiction over the Section 4(f) resource regarding the above conditions.

Please note that with regard to the first bullet point above, the replacement of the dual structures over the Susquehanna River is part of a larger project that includes roadway reconstruction. In-stream work is anticipated to occur during approximately two-thirds of the total bridge construction duration (approximately four-years of in-stream work over the course of six-years of overall construction). With regard to the second, third and fourth bullets, the dual bridges are to be replaced on existing alignment and the number of bridge piers within the river will be reduced from 6 to 4 piers. In accordance with the approved ATON plan, boating access will be maintained throughout construction of the replacement bridges and river passage fully restored upon completion of bridge construction; therefore, the project would not temporarily or permanently interfere with the recreational activities, features, or attributes of the water trail.

Recent coordination with the PFBC identified the following additional commitments that PennDOT has agreed to:

- Revisions to the approved ATON Plan to address additional boater safety concerns during construction stages 5 and 8 which include causeways with several 60-inch pipes which could be hazardous to small boats (e.g., canoes and kayaks).

- Annual coordination with the North Branch Susquehanna River Water Trail manager (Endless Mountains Heritage Region) to inform them of upcoming project plans that may impact their special events and the safety of water trail users.

It is also noteworthy that, as a measure to offset navigating past the various causeway configurations at the I-81 bridges during construction of the replacement of the bridges, PennDOT commits to repave the Hallstead boat access parking area. This commitment is discussed in the Navigable Waters section of the Categorical Exclusion Reevaluation being prepared for the project and will be entered into PennDOT's Environmental Commitments and Mitigation Tracking System database to be tracked through construction. Repaving will be completed prior to the first causeway being constructed.

If you agree that the project as proposed meets the conditions listed above, please sign and date below.

We have attached for your review a copy of the approved ATON Plan, which provides a project location map, color photos, and proposed navigational signs and buoys.

Thank you for your assistance in this matter. If you have any questions, please feel free to contact me at 717-705-1481 or via email, johname@pa.gov

Sincerely,

Drew Ames

Drew Ames
Environmental Planning Manager
Environmental Policy and Development Division

Enclosures: PFBC Approved ATON Plan

Concurrence: _____ Date: 9/14/22
Cain Chamberlin
Executive Director
Endless Mountains Heritage Region

cc: Jon Crum, FHWA
Brian Shunk, PennDOT HDTS

Woleslagle, Claire E.

From: Duncanson, Scott W.
Sent: Wednesday, September 28, 2022 8:20 AM
To: Woleslagle, Claire E.
Subject: FW: [EXTERNAL] FW: I-81 Susquehanna Bridge Project (Susquehanna County, PA): National Recreation Trail Coordination.

From: Bonsall, Peter W <Peter_Bonsall@nps.gov>
Sent: Wednesday, August 31, 2022 1:41 PM
To: Crum, Jonathan (FHWA) <jonathan.crum@dot.gov>; Mahan, Helen <Helen_Mahan@nps.gov>; Waters, Corita <Corita_Waters@nps.gov>
Subject: Re: [EXTERNAL] FW: I-81 Susquehanna Bridge Project (Susquehanna County, PA): National Recreation Trail Coordination.

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Jon,

I talked with some water trail colleagues and we do not see an issue proceeding with this project as it relates to national recreation trail designation status.

National recreation trail designation is simply a recognition program. There is no additional Federal oversight for activities that take part on a designated trail. Any action remains with existing land owner. Since this project is not on NPS land, The NPS does not have any authority to respond to the 4(f) report or findings. Rather, the responsibility for response falls to the entity with "official jurisdiction". That would be the land owner or trail manager.

I appreciate and commend your efforts to keep the trail open for public use, and provide alternative methods to continue to provide access.

Thank you and please let me know if you have any questions.

Peter Bonsall
National Trails Program Specialist
(he/him/his)

12795 W. Alameda Parkway
Suite 215
Lakewood, CO 80228

303-969-2620 (o)
202-763-3450 (c)

Learn more about the National Trails System

Appendix F
List of Preparers

Name	Organization	EA Role	Education	Years
Camille Otto Director of Planning, Environment, and Finance	FHWA PA Division	FHWA Approver	B.S. Biology	25
Jon Crum Senior Environmental Specialist	FHWA PA Division	FHWA Environmental Reviewer	B.S. Biology M.S. Environmental Science and Management	17
Sarah Cordek Transportation Engineer	FHWA PA Division	FHWA Engineering Reviewer	B. S. Civil Engineering Technology	9
Greg Augustine, PE District Environmental Manager	PennDOT District 4-0	Environmental Reviewer	B.S. Environmental Engineering Technology	30
Heather Gerling Architectural Historian	PennDOT Central Office	Above Ground Cultural Properties	B.S. History M.A. Historic Preservation	5
Drew Ames Environmental Planning Manager	PennDOT Central Office	Environmental Reviewer	B.H. Communications M.S. Community and Regional Planning	26
Kenda Gardner Deputy Chief Counsel	PennDOT Office of Chief Counsel	Legal Review	B.S. Chemistry J.D.	28
Neal Brofee Environmental Counsel	PennDOT Office of Chief Counsel	Legal Review	B.A. Mathematics J.D.	24
Kristina Thompson Architectural Historian	PennDOT Central Office	Above Ground Cultural Resources	B.S. Historic Preservation M.A. Anthropology	28
Kevin Mock Archaeology Group Leader	PennDOT Central Office	Archaeology	B.A. Anthropology M.A. History	28
Ryan Shiffler, PE Project Development Engineer	PennDOT Central Office	Engineering Reviewer	B.S. Civil Engineering	18
Heather Heeter Transportation Business Unit Leader	Borton-Lawson	Project Manager	B.S. Civil Engineering	20
Brian Derenick, PWS Environmental Services Leader	Borton-Lawson	Sr. Environmental Scientist	B.S. Environmental Resource Management	24
Jason Moses, PWS Environmental Technical Leader	Borton-Lawson	Environmental Scientist	B.S. Wildlife & Fisheries Science	20
Diane Nulton Environmental Project Manager	HDR	EA Project Manager	B.S. Biology/Ecology	35
Jean-Philippe (JP) Magron Environmental Planning Manager	HDR	Environmental Lead	M.S. Coastal Zone Management B.S. Biological/Chemical Oceanography	25
Kathleen Krommes, ENV SP Environmental Project Manager	HDR	EA Technical Writer/Editor	B.S. Chemical Engineering	35
Katherine Markowitz Environmental Scientist	HDR	EA Technical Writer/Editor; Hazardous Materials	B.S. Marine and Environmental Biology and Policy	8
Jonathan Calderon-Brandt, WPIT Environmental Scientist	HDR	Aquatic Resources	B.S. Environmental Science	4
John McPherson, AICP Environmental Services Director	HDR	EA, Cumulative Impacts	B.A. Math/Economics M.U.P.	30
Jenn Walsh, PE Traffic & Planning Section Manager	HDR	Traffic Diversion Analysis	B.S. Civil Engineering M.S. Civil Engineering	28

Name	Organization	EA Role	Education	Years
Ken O'Brien, PE Senior Project Manager	HDR	Traffic Diversion Analysis	B.S. Civil Engineering	27
Audrey Heffernan Senior Environmental Planner	HDR	Environmental Justice	B.A. Math; M.A. Math; M.S. City & Regional Planning	28
Connie Eskin Administrative Coordinator	HDR	Technical Editor	Pennsylvania State University	25
Tina Adair Technical Editor	HDR	Technical Editor	B.S. Communications	35
Frank Brilhante GIS Manager	HDR	GIS Analysis	B.S. Engineering M.S Environmental Engineering	28
Keith Johnson, ENV SP Senior Project Manager	Gannett Fleming	Traffic Diversion Analysis	B.S. Physics B.S. Civil Engineering	35
Scott Duncanson, AICP, LEED, ENV SP Senior Environmental Planner	Gannett Fleming	EA Reviewer/Editor; Section 4(f)	B.A. Political Science M.U.A. Urban Affairs	37
Claire Woleslagle, ENV SP Environmental Specialist	Gannett Fleming	EA Reviewer/Editor; Section 4(f)	B.S. Geography	5
Terri Slack National Discipline Lead, Transportation Revenue Systems & Operations	CDM Smith	Traffic Forecasting	BA Economics BA Political Science M.B.A Management	33
Tarannum Rima Travel Demand Modeler	CDM Smith	Traffic Forecasting	B.S. Civil Engineering M.S Transportation Engineering M.S. Computer Systems Engineering	16
Tyler Moyer, PE, CBSI Senior Transportation Engineer	Navarro & Wright	Engineering	B.S. Civil Engineering	14
Robert Eiswert Senior Archaeologist	Navarro & Wright	Archaeology	M.A. American Studies	23
Nathaniel Weinstock Air Quality and Acoustical Group Leader, Sr. Air Quality and Acoustical Scientist	Navarro & Wright	Diversion Route Noise Analysis	B.S. Public Service	22
Robert C. Kolmansberger Director of Environmental Services, Sr. Air Quality & Acoustical Scientist	Navarro & Wright	Diversion Route Noise Analysis, QA/QC	B.A. Geography & Environmental Planning	30

Appendix G
References

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