



Pennsylvania Turnpike Commission

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JUL 14 2016

July 14, 2016

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Commonwealth of Pennsylvania
Pennsylvania Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17105-3265

CERTIFIED MAIL -
RETURN RECEIPT REQUESTED

Attention: Rosemary Chiavetta, Secretary

Re: PUC Docket No. A-2015-2473398
Mainline Turnpike Bridge Replacement Project
Bridge No. EB-103, Turnpike Milepost 228.54, Railroad Milepost 51-13.97
Carrying the Pennsylvania Turnpike over One Track of the Norfolk Southern Railroad
Middlesex Township, Cumberland County, Pennsylvania
Final Construction Plans and Proposal Booklet

Dear Ms. Chiavetta:

Enclosed is one (1) half-size set of construction plans and one (1) bound copy of the Proposal Booklet for the above-referenced Project for review and acceptance. Under separate cover, documents are being provided to interested parties for review. It was requested that objections raised by any party of interest be forwarded to the PUC, in writing, within 20 days from the date that each party received said documents.

If you have any questions, please call Mr. Walter Wimer, P.E., at 717-831-7590, or by e-mail at wwimer@paturnpike.com.

Sincerely,

Gary L. Graham, P.E.
Assistant Chief Engineer - Design

GLG/WWW/caw

Enclosures

cc: Dan Radle (AECOM, c/o Norfolk Southern Railroad) – w/att. – certified mail
Charlotte Krupa (PPL Electric Utilities Corporation) – w/att. – certified mail
Mark Shupe (Columbia Trans. Comm., c/o Midstream Energy) – w/att. – certified mail
Joseph Adams (PADEP, SC Regional Office) – w/att. – certified mail
Eileen Gault (Middlesex Township) – w/att. – certified mail



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COMMONWEALTH OF PENNSYLVANIA



PENNSYLVANIA TURNPIKE COMMISSION
HARRISBURG

CONTRACT NO. T-228.54S001-3-02
FOR
REPLACEMENT OF BRIDGE NO. EB-103
AT
MILEPOST 228.54
IN
CUMBERLAND COUNTY

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PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

SEPTEMBER 2016

PUC SUBMISSION 2016-07-13

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Harrisburg, PA

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SECRETARY'S BUREAU

Except as hereinafter modified, supplemented or changed, the Standard Specifications for this project are the Pennsylvania Department of Transportation SPECIFICATIONS, Publication 408/2016, effective date April 6, 2016, and the Commission Specifications listed herein.

INDEX OF CONTENTS

Notice to Bidders	NtoB (T-228.54S001-3-02)
Applicable Commission Specifications List	CS(T-228.54S001-3-02)
Special Provisions	SP(T-228.54S001-3-02)
Signature Page for Compact Disk Bids (Available Upon Request)	
Online Bid Documents:	
• Schedule of Prices	
• Bidder Certification of Prequalification Classification and Work Capacity	PTC-4311
• Form of Status of Contracts on Hand	PTC-4311
• Public Works Employment Verification Form	
• DB Subcontractor and Supplier Solicitation Sheet	PTC Form 22-94-16R
• DB Subcontractor and Supplier Commitment Sheet	PTC Form 22-95-32R
• Statement of Joint Venture Participation	PTC Form 22-97@
• Bid Bond – Electronic Bond from a Commission-Approved Vendor	

Prevailing Wage Predetermination

Attachment A	Minimum Lane Requirements to be Available During Working Hours
Attachment B	Holiday Restrictions
Attachment C	NPDES Permit
Attachment D	Norfolk Southern Railroad – Special Provision for Protection of Railway Interests
Attachment E	Norfolk Southern Railroad – Non-Environmental Right of Entry Application and Instructions

Attachment F

Norfolk Southern Railroad – Private Road Crossing
Application

Attachment G

Preparedness, Prevention and Contingency Plan
Requirements

Attachment H

Revision to Bulletin 27 Appendix J

Attachment J

PUC Order

PENNSYLVANIA TURNPIKE COMMISSION
Harrisburg, Pennsylvania

NOTICE TO BIDDERS

Online and compact disk bids will be received until 11:00 a.m., Local Time, on November 2, 2016. Compact disk bids will be received by the Contract Management Services Manager for the Pennsylvania Turnpike Commission, at the Administration Building, Ground Address: 700 South Eisenhower Boulevard, Middletown, Pennsylvania 17057 (Mailing Address: P.O. Box 67676, Harrisburg, Pennsylvania 17106-7676). Bids will be publicly opened for the following Contract:

CONTRACT NO. T-228.54S001-3-02 - REPLACEMENT OF BRIDGE NO. EB-103 AT MILEPOST 228.54 IN CUMBERLAND COUNTY

This project provides for the removal and replacement of dual mainline 3-span, steel beam structures with dual 3-span steel plate girder structures. Also included is the maintenance and protection of traffic.

Work items include, but are not limited to:

66,600	CY	Excavation, Various Classes
21,859	CY	Foreign Borrow Excavation
8,297	CY	Select Borrow Excavation Rock, Type A
15,872	CY	Select Borrow Excavation Rock, Type B
14,394	TON	Bituminous Material Various Types
7,902	TON	Subbase (No. 2A)
9,897	SY	Milling, Various Depths
1,460	LF	Pipe, Various Sizes, Various Types
7,288	LF	6" Pavement Base Drain
8,088	LF	Guiderail, Type 2-S and Type 2-SC
709	LF	Concrete Glare Screen
9,048	LF	Temporary Concrete Barrier
682	CY	Random Stone Slope Wall
1,704	CY	Class A Cement Concrete
283	CY	Class AA Cement Concrete
911	CY	Class AAAP Cement Concrete
493,885	LB	Reinforcement Bars, Epoxy Coated
2,732	EA	Mechanical Splice System, Various Types
11,085	LF	Micropiles, 9.625" x 0.545"
1,153,357	LB	Fabricated Structural Steel

Milepost 228.54 is located approximately 2.5 miles east of the Carlisle Interchange, Exit 226, in Cumberland County, Pennsylvania.

The proposal and plans are published electronically in EBS and are available to registered business partners for downloading and printing.

An electronic bid bond, from an approved vendor, with corporate surety, in the amount of five (5%) percent of the bid must be submitted with the proposal as bid security. The bid security of the three (3) low bidders will be retained until the execution of the contract. (The normal time for execution of the contract is approximately four [4] weeks.)

A Prequalification Certification and Applicable Capacity Rating assigned by the Prequalification Office of the Pennsylvania Department of Transportation is a necessary prerequisite for bidding on this project.

The opening and listing of bids not meeting all the terms and conditions of the bid advertisement or bid procedures does not act as a waiver or modification of any requirements contained in the bid advertisement or bid procedure.

The Provisions of the Pennsylvania Prevailing Wage Act of August 15, 1961, P.L. 987, as amended, together with the rates and regulations promulgated by the Secretary of Labor and Industry applicable thereto, shall apply to this contract.

Any questions for this project must be submitted electronically in EBS by registered business partners.

PENNSYLVANIA TURNPIKE COMMISSION SPECIFICATIONS

Preface	CS-PREFACE	04/01/16
Section 101 - Abbreviations and Definition of Terms	CS-101	04/01/16
Section 102 - Bidding Requirements and Conditions	CS-102	04/01/16
Section 103 - Award and Execution of Contract	CS-103	04/01/16
Section 104 - Scope of Work	CS-104	04/01/16
Section 105 - Control of Work	CS-105	04/01/16
Section 106 - Control of Material	CS-106	04/01/16
Section 107 - Legal Relations and Responsibility To the Public	CS-107	04/01/16
Section 108 - Performance and Progress	CS-108	04/01/16
Section 110 - Payment	CS-110	04/01/16
Section 112 - Project Records	CS-112	04/01/16
Section 115 - Reciprocal Limitations Act Requirements For Construction	CS-115	04/01/16
Section 116 - Contractor Integrity Provisions	CS-116	04/01/16
Section 201 - Clearing and Grubbing	CS-201	04/01/16
Section 203 - Class 1, Class 1A, and Class 1B Excavation	CS-203	04/01/16
Section 204 - Class 2, Class 3, and Class 4 Excavation	CS-204	04/01/16
Section 206 - Embankment	CS-206	04/01/16
Section 220 - Flowable Backfill	CS-220	04/01/16
Section 309 - Superpave Asphalt Mixture Design, Standard Construction, HMA Base Course	CS-309	04/01/16
Section 350 - Subbase	CS-350	04/01/16
Section 409 - Superpave Mixture Design, Standard Construction of Plant-Mixed HMA Courses	CS-409	04/01/16
Section 491 - Milling of Bituminous Pavement Surface	CS-491	04/01/16
Section 601 - Pipe Culverts	CS-601	04/01/16
Section 604 - Combination Storm Sewer and Underdrain	CS-604	04/01/16

Section 605 - Endwalls, Inlets, Manholes and Spring Boxes	CS-605	04/01/16
Section 609 - Inspector's Field Office and Inspection Facilities	CS-609	04/01/16
Section 610 - Pipe Underdrain and Pavement Base Drain	CS-610	04/01/16
Section 615 - Subsurface Drain Outlets	CS-615	04/01/16
Section 616 - End Sections and Slope Pipe Fittings	CS-616	04/01/16
Section 619 - Permanent Impact Attenuating Devices	CS-619	04/01/16
Section 620 - Guide Rail	CS-620	04/01/16
Section 622 - Concrete Glare Screen	CS-622	04/01/16
Section 624 - Right-of-Way Fence	CS-624	04/01/16
Section 627 - Temporary Concrete Barrier	CS-627	04/01/16
Section 628 - Reset Temporary Concrete Barrier	CS-628	04/01/16
Section 636 - Bituminous Concrete Curb	CS-636	04/01/16
Section 660 - Sonic Nap Alert Pattern (SNAP) and Shoulder Rumble Strips	CS-660	04/01/16
Section 667 - Cement Concrete Paving for Stream Beds	CS-667	04/01/16
Section 686 - Construction Surveying	CS-686	04/01/16
Section 696 - Temporary Impact Attenuating Devices	CS-696	04/01/16
Section 704 - Cement Concrete	CS-704	04/01/16
Section 711 - Concrete Curing Material and Admixtures	CS-711	04/01/16
Section 714 - Precast Concrete Products	CS-714	04/01/16
Section 802 - Topsoil Furnished and Placed	CS-802	04/01/16
Section 804 - Seeding and Soil Supplements	CS-804	04/01/16
Section 805 - Mulching	CS-805	04/01/16
Section 806 - Water Course and Slope Erosion Protection	CS-806	04/01/16
Section 810 - Selective Tree Removal and Trimming	CS-810	04/01/16
Section 845 - Erosion and Sedimentation Control During Construction	CS-845	04/01/16

Section 849 - Rock Construction Entrance	CS-849	04/01/16
Section 850 - Rock Lining	CS-850	04/01/16
Section 860 - Storm Inlet Protection	CS-860	04/01/16
Section 861 - Cleaning Sedimentation Structures	CS-861	04/01/16
Section 865 - Silt Barrier Fence	CS-865	04/01/16
Section 901 - Maintenance and Protection of Turnpike Traffic During Construction	CS-901	04/01/16
Section 931 - Post Mounted Signs, Type B	CS-931	04/01/16
Section 932 - Post Mounted Signs, Type C	CS-932	04/01/16
Section 937 - Delineation Devices	CS-937	04/01/16
Section 962 - Painting Traffic Lines and Markings	CS-962	04/01/16
Section 963 - Pavement Marking Removal	CS-963	04/01/16
Section 964 - Highly Reflectorized Epoxy Pavement Markings	CS-964	04/01/16
Section 1001 - Cement Concrete Structures	CS-1001	04/01/16
Section 1018 - Removal of Existing Bridges or Culverts	CS-1018	04/01/16
Section 1060 - Shop Painting Structural Steel	CS-1060	04/01/16
Section 1103 - Traffic Signing and Marking	CS-1103	04/01/16

PENNSYLVANIA TURNPIKE COMMISSION
Harrisburg, Pennsylvania

CONTRACT NO. T-228.54S001-3-02
FOR
REPLACEMENT OF BRIDGE NO. EB-103
AT
MILEPOST 228.54
IN
CUMBERLAND COUNTY

SPECIAL PROVISIONS INDEX

A.	GENERAL	PAGE NO.
A01.00	GENERAL	1
A02.00	PREQUALIFICATION OF BIDDERS	1
A03.00	PREVAILING WAGES	2
B.	TRAFFIC AND SAFETY	
B01.00	RESTRICTION OF OPERATIONS DURING HOLIDAY PERIODS	2
B02.00	CONSTRUCTION LIGHTING.....	2
B03.00	PINNING OF TEMPORARY CONCRETE BARRIER	2
B04.00	SLOTTED TEMPORARY CONCRETE BARRIER.....	3
C.	RIGHT-OF-WAY/UTILITIES/SURVEYS	
C01.00	PROTECTION AND COORDINATION OF UTILITIES	3
D.	ROADWAY AND RELATED PROVISIONS	
D01.00	CLASS 1A EXCAVATION UNDERCUTTING.....	4
D02.00	SEDIMENT FILTER BAG	5
E.	STRUCTURES	
E01.00	GEOCOMPOSITE DRAIN.....	5
F.	PROJECT SPECIFIC PROVISIONS	
F01.00	PROJECT MEETING AND SITE REVIEW.....	6
F02.00	TIME OF COMPLETION.....	6
F03.00	DIVERSE BUSINESS REQUIREMENTS.....	6
F04.00	PAYMENT ADJUSTMENT FOR ASPHALT MATERIALS	7
F05.00	LANE RENTAL FEE FOR EXTENDED USE OF LANE(S).....	7
F06.00	PROJECT COLLABORATION SYSTEM.....	8
F07.00	PLUG EXISTING PIPE	9
F08.00	RECESSED BRIDGE APPROACH SLAB	9
F09.00	ROCK ARMOR	10
F10.00	MAINTENANCE AND PROTECTION OF TRAFFIC.....	10

F11.00	MAINTENANCE AND PROTECTION OF RAILROAD TRAFFIC	15
F12.00	RELOCATION OF EXISTING SIGNS.....	18
F13.00	ROAD USER COSTS	19
F14.00	ANTI-GRAFFITI COATING	19
F15.00	CANTILEVERED COMBINATION WORK PLATFORMS AND PROTECTION SHIELDS	20
F16.00	PAINTING FABRICATED STRUCTURAL STEEL	21
F17.00	REMOVAL OF BRIDGE EB-103, MP 228.54	22
F18.00	UNDERDECK PROTECTIVE SHIELDS.....	23
F19.00	TOPSOIL FURNISHED AND PLACED	24
F20.00	COMPOST FILTER SOCK WASHOUT	24
F21.00	CONCRETE GLARE SCREEN MEDIAN TRANSITION TO SPLIT GLARE SCREEN	24
F22.00	4" CONDUIT IN STRUCTURE	25
F23.00	EXISTING CALL BOX FOUNDATION REMOVAL	25
F24.00	LAMINATED NEOPRENE BEARING PADS.....	25
F25.00	MICROPILES, 9.625" X 0.545" & MOBILIZATION AND DEMobilIZATION FOR MICROPILES	25
F26.00	MICROPILE STATIC PROOF LOAD TEST	32
F27.00	MICROPILE STATIC VERIFICATION LOAD TEST	35
F28.00	PRICE ADJUSTMENT FOR STEEL COST FLUCTUATIONS.....	39
F29.00	REMOVE AND DISPOSE EXISTING HAR, SIGN AND EQUIPMENT	44
F30.00	TEMPORARY SHORING.....	44
F31.00	ROCK CONSTRUCTION ENTRANCE WITH WASH RACK.....	48
F32.00	SINKHOLE TREATMENT IN SOIL	48
F33.00	SUMP PIT	49
F34.00	TEMPORARY RAILROAD CROSSING	50
F35.00	MILLED MATERIAL.....	50
F36.00	SPECIAL ROLLING.....	50
F37.00	ENUMERATION OF DRAWINGS	51

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Harrisburg, Pennsylvania

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SPECIAL PROVISIONS

A01.00 GENERAL

This project provides for the removal and replacement of dual mainline 3-span, steel beam structures with dual 3-span steel plate girder structures. Also included is the maintenance and protection of traffic.

Work items include, but are not limited to:

66,600	CY	Excavation, Various Classes
21,859	CY	Foreign Borrow Excavation
8,297	CY	Select Borrow Excavation Rock, Type A
15,872	CY	Select Borrow Excavation Rock, Type B
14,394	TON	Bituminous Material Various Types
7,902	TON	Subbase (No. 2A)
9,897	SY	Milling, Various Depths
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682	CY	Random Stone Slope Wall
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11,085	LF	Micropiles, 9.625" x 0.545"
1,153,357	LB	Fabricated Structural Steel

Milepost 228.54 is located approximately 2.5 miles east of the Carlisle Interchange, Exit 226, in Cumberland County, Pennsylvania.

A02.00 PREQUALIFICATION OF BIDDERS

04/01/16

A Prequalification Certification and Applicable Capacity Rating assigned by the Prequalification Office of the Pennsylvania Department of Transportation is a necessary prerequisite for bidding on this project.

The included Certificate (Bidder Certification of Prequalification and Work Capacity) must be executed and accompany the proposal.

Failure to comply with these requirements will be sufficient cause for rejection of the proposal.

A03.00 PREVAILING WAGES 04/01/16

The Provisions of the Pennsylvania Prevailing Wage Act of August 15, 1961, P.L. 987 as amended, together with the rates and regulations promulgated by the Secretary of Labor and Industry, are a part of these contract documents.

B01.00 RESTRICTION OF OPERATIONS DURING HOLIDAY PERIODS 04/01/16

Arrange schedule to provide maximum use of the roadway during holiday periods. Have all travel lanes, interchange ramps and toll lanes available to traffic and at same elevation during the holiday periods. Access to and from the construction area from or to the travel lanes, shoulders, interchange ramps and toll lanes is prohibited during the holiday periods. Applicable holiday periods are included as an attachment to the contract.

B02.00 CONSTRUCTION LIGHTING 04/01/16
(ITEM: 2901-0202)

B02.01 Description – This work is the furnishing, installation, maintenance, resetting and removal of Multi-Directional Lighting Devices (MDLD).

B02.02 Material – Meeting the requirements of Section 901.3(l) for Multi-Directional Lighting Devices.

B02.03 Construction – In lieu of the provisions of Section 901.3(l), Multi-Directional Lighting Devices are required for illumination of all work areas.

The number of units required will be indicated in the bid proposal for the project. The Contractor may furnish additional units at no additional cost to the Commission.

B02.04 Measurement and Payment – Each. The price includes all halogen bulbs and all materials, labor, and work for installing, maintaining, resetting and removing lighting devices.

B03.00 PINNING OF TEMPORARY CONCRETE BARRIER 04/01/16

B03.01 Description - This work is the drilling of holes in bituminous pavement and installation of steel reinforcement bars driven vertically behind the concrete barriers to limit the barriers from creeping into the work zone, removal of reinforcement bars, and plugging of drilled holes.

B03.02 Materials -

(a) No. 4 or larger Reinforcement Bars – Section 709

(b) PG 64-22 Asphalt – Section 702

B03.03 Construction - Drill holes directly behind the temporary concrete barrier at the locations noted to accommodate the installation of a No. 4 or larger reinforcement bar. Drill holes completely through the existing and/or proposed bituminous material and drive reinforcement bars 6 inches into pavement, leaving 6 inches of the reinforcement bars exposed above the

pavement surface. Locate holes a minimum of 18 inches and a maximum of 22 inches from each end of every barrier section (one on each side of the joint). Fill the holes with PG 64-22 asphalt when the reinforcement bars are removed.

Perform pinning of temporary concrete barrier at all locations where construction related drop-offs are in excess of 1 foot and the back edge of the temporary concrete barrier is less than 1 foot from the work area.

B03.04 Measurement and Payment - Incidental to the barrier.

B04.00 SLOTTED TEMPORARY CONCRETE BARRIER 04/01/16

B04.01 Description – This work is the furnishing, installation, maintenance, resetting and removal of Temporary Concrete Barrier with drainage slots.

B04.02 Material –

(a) Temporary Concrete Barrier – Section 627.2

B04.03 Construction – Section 627.3 and as follows:

Provide two 4”(H) x 2’(L) drainage slots for each 12-foot section of temporary concrete barrier. Locate the center of the drainage slots 3 feet in from the ends of the temporary concrete barrier section.

Keep drainage slots clear of debris to allow for water flow.

B04.04 Measurement and Payment – Incidental to temporary concrete barrier.

C01.00 PROTECTION AND COORDINATION OF UTILITIES 04/01/16

Ascertain and locate any utility lines including Commission owned facilities, in the vicinity of the entire project and take all precautions to fully protect the (utility) facility and service. Prior to performing any work in the vicinity of any underground or overhead line or service, advise the facility owner at least 72 hours in advance of initiating work and provide all measures for protection in accordance with the National Electric Safety Code, the Occupational Safety and Health Administration's Regulations and as deemed necessary by the facility owner with the Representative's concurrence. Coordinate protection and relocation of utilities with the facility owner.

Attention is directed to the Provisions of Act 287 of 1974 and subsequent amendments which specify the responsibilities in regard to public health and safety during excavation and demolition operations in areas of underground utilities. Contact the One Call System at 1-800-242-1776 for all facilities prior to performing underground work.

Immediately report to the facility owner including the Commission any break, leak or other damage to the lines or protective coatings made or discovered during the work and immediately alert the occupants of the premises and the employees of any emergency created or discovered.

Perform all work required for the location, replacement, adjustment or reconstruction of underground utilities in accordance with Section 105.06.

The Commission may have both underground and aerial utility facilities within the project limits, specifically the Maintenance, Interchange, Tunnel, and Service Plaza areas. In addition to service lines, the Commission has lighting and various other facilities throughout the Turnpike system. The Commission's Tradesman Superintendent may be able to provide information about these sites and can be contacted through the Representative.

No work by facility owners with identified utility facilities within the project limits or Turnpike right-of-way is anticipated. Known utilities are listed within the contract documents. The correctness of the information is not guaranteed and the Commission will not pay costs incurred by the contractor or facility owners for work performed for their convenience, unless prior written consent is obtained from the Commission.

This work is incidental to the project.

D01.00 CLASS 1A EXCAVATION, UNDERCUTTING 04/01/16
(ITEMS: 2203-0010 AND 2203-0011)

D01.01 Description - This work is the overexcavation for undercutting of unsuitable subgrade areas and backfilling, as indicated or directed. Refer to Section 203.1(b).

D01.02 Material -

(a) Geotextile, Class 4, Type B - Section 212.2.

(b) Rock, Type B - Section 206.2(a)1.d.2 and as follows:

- Reduce rock in size – through sorting and/or crushing – as required to meet lift thickness requirements specified below.
- Recycled concrete may be used as Rock, Type B upon authorization if it meets specification requirements other than rock type.

(c) No. 2A Coarse Aggregate, Type C – Section 703.2

D01.03 Construction - As per Section 203.3 and as follows:

- Overexcavation is to be to a depth as directed by the Representative, not to exceed 4 feet.
- Placement of Geotextile, Class 4, Type B, as directed, in accordance with Section 212.3(f).
- For undercuts 12 inches in depth or greater, backfill the overexcavated area with Rock, Type B in lifts not exceeding 18 inches. Limit the top lift to 12 inches, and fill voids with smaller pieces, spalls, or granular material to permit fine grading as specified by the requirements in Section 210. Alternatively, No. 2A Coarse Aggregate may be used in the top lift at a depth not to exceed 4 inches to permit fine grading.
- For undercuts less than 12 inches in depth, backfill the overexcavated area with No. 2A Coarse Aggregate in lifts not exceeding 8 inches.

D01.04 Measurement and Payment -

- (a) Geotextile, Class 4, Type B - Square Yard.
- (b) Class 1A Excavation, Undercutting (Backfilling with Rock, Type B) - Cubic Yard. Includes backfilling with Rock, Type B. No. 2A Coarse Aggregate in the top lift, if used, is incidental.
- (c) Class 1A Excavation, Undercutting (Backfilling with No. 2A Coarse Aggregate) - Cubic Yard. Includes backfilling with No. 2A Coarse Aggregate.

D02.00 SEDIMENT FILTER BAG 04/01/16
(ITEM: 2858-0010)

D02.01 Description - This work is the furnishing, installing, operation and removal of sediment filter bags for use in dewatering excavations at the option of the Contractor or as directed by the Representative.

D02.02 Material -

- (a) Geotextile Material, Class 4 - Section 212.
- (b) No. 57 Coarse Aggregate - Section 703.
- (c) Construct a 15' x 15' ± 3" bag with a seam using heat bonding or a 401 lock chain stitch with a 220 lb minimum breaking strength. Bags may also be purchased from an approved supplier. Attach a label to each bag indicated the maximum flow rate of the bag in gallons per minute.

D02.03 Construction - Place filter bag over 4 inches of No. 57 coarse aggregate on a stabilized area. Place filter bag as directed and in accordance with the manufacturer's recommendations. Use a pump with a rating in gallons per minute not to exceed 50% of the maximum flow rate listed on the bag label. Double clamp pump discharge hose firmly to bag. Monitor and evaluate entire pumping operation to assure that bag continues to function properly. Replace bag when contained silt reduces bag's flow to approximately 50% of initial discharge rate, or when directed by Representative. Dispose of sediment in manner satisfactory to the Representative. Restore area as specified in Section 105.14.

D02.04 Measurement and Payment - Each. Includes replacement and disposal of filter bag and contained sediment as required.

E01.00 GEOCOMPOSITE DRAIN 04/01/16
(ITEM: 2001-0700)

E01.01 Description - This work is furnishing, transporting and placing a geocomposite drain for use with flowable backfill. A geocomposite drain consists of a non-punched manufactured core with both sides covered with a layer of geotextile integrally bonded to the core material.

E01.02 Material -

- (a) Geocomposite Drain - 2" Manufactured Core. Preformed grid of non-punched, embossed plastic producing a drainage net consisting of a uniform pattern of polymeric strands forming 2 sets of continuous flow channels. The drain must produce a flow rate of at least 6 gallons per minute per yard of width at a hydraulic gradient of 1.0 and a minimum externally applied pressure of 25 PSI. Supply certification from the manufacturer that the drain produces the required flow rate and complies with this special

provision. The certification must be accompanied by a flow capability graph for the drain showing flow rates, externally applied pressure and hydraulic gradient.

(b) Geotextile – Section 735

1. Class 1 – Covering both sides of core
2. Class 4, Type A – Place between geocomposite drain and flowable backfill.

E01.03 Construction – As shown on PTS-700 and as follows:

- (a) Place geocomposite drain (core material and Class 1 Geotextile) at 100% coverage against the back of the abutment and U-type wingwalls, if present. Drain must extend from the top of the footing to the base of the approach slab. The core material and filter fabric must be capable of maintaining a drainage void for the entire height of geocomposite drain. Place core material with the corrugations approximately perpendicular to the drainage collection system. Verify the geocomposite drain has been installed in accordance with the manufacture's instructions.
- (b) Place Class 4 Geotextile between the drain and the flowable backfill. Overlap the geotextile facing the backfill a minimum of 3 inches at all joints and wrap around the exterior edges a minimum of 3 inches beyond the exterior edge. If additional geotextile is required to provide overlap at joints, provide at least 6 inches of overlap of the added geotextile with the geotextile of the composite drain and attach thereto.
- (c) Damaged or punctured drain and/or fabric must be replaced within the entire vertical section from the top of footing to the base of the approach slab. Provide a 6-inch overlap on each side of the replaced section. Damage to the geocomposite drain will be repaired to the satisfaction of the Representative at the Contractor's expense.

E01.04 Measurement and Payment - Square Yard. Computed from the payment lines shown on the plans and any additional area as directed by the Representative, excluding seam overlaps.

F01.00 PROJECT MEETING AND SITE REVIEW 04/01/16

A prebid meeting will not be held for this project.

Prospective bidders will thoroughly familiarize themselves with the work to be performed, the area and the conditions throughout the length of the project. Prospective bidders are encouraged to visit the site; however, they will abide by all rules and regulations pertinent to traffic safety during this visit to the site. U-turns are not permitted at anytime during such reviews. Non-revenue privileges are not extended to prospective bidders visiting the site.

F02.00 TIME OF COMPLETION 04/01/16

Complete all work under this contract on or before (---date---). Utilize all available time, including multiple shifts, to complete the contract within the required time limit.

F03.00 DIVERSE BUSINESS REQUIREMENTS 04/01/16

In accordance with Section 107.34 and as follows:

The Diverse Business minimum level of participation established for this project is:

DB 12 %

F04.00 PAYMENT ADJUSTMENT FOR ASPHALT MATERIALS 04/01/16
(ITEM: 2499-1000)

Modify payments in accordance with Section 110.04.

The items subject to price adjustment for this project are as follows:

<u>Item Number</u>	<u>Description</u>
2309-0637	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64-22, 10 TO < 30 MILLION ESALS, 25.0 MM MIX
2309-1622	RICH BOTTOM SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64-22, 10 TO < 30 MILLION ESALS, 25.0 MM MIX, 4" DEPTH
0360-0002	ASPHALT TREATED PERMEABLE BASE COURSE
2409-0761	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 76-22, 10 TO < 30 MILLION ESALS, 12.5 MM MIX, SRL-E
2409-6670	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BINDER COURSE, PG 64-22, 10 TO < 30 MILLION ESALS, 19.0 MM MIX

The Payment Adjustment for Asphalt Materials will be paid from a predetermined amount indicated in the proposal.

Adjustments will be based on the current monthly index price (IB) of \$XXX.00 per ton of asphalt cement.

F05.00 LANE RENTAL FEE FOR EXTENDED USE OF LANE(S) 04/01/16

A Lane Rental Fee for extended lane use will be assessed against the Contractor for each lane closure or traffic obstruction that results in the number of travel lanes being less than the minimum required by Attachment ___ or the specified holiday restrictions, when such lane closure or obstruction is caused by the Contractor's operations, whether or not work is being performed. The time periods set forth in Attachment ___ or the specified holiday restrictions outline the Contractor's working time limitations for traffic control and lane closure pattern(s). A "lane" is an unrestricted, active travel lane or ramp of at least 12 feet or as specified by the contract documents and includes all Interchange and Service Plaza ramps.

The Lane Rental Fee to be assessed per hour for each lane closure or obstruction that results in the number of travel lanes being less than the minimum required by Attachment ___ or the specified holiday restrictions is as follows:

LOCATION	1 LANE	2 LANES	3 LANES	4 LANES
MP 0.00 to MP 31.00	\$9,000	\$18,000	\$27,000	\$36,000
MP 31.00 to MP 75.39	\$23,000	\$32,000	\$41,000	\$50,000

MP 75.39 to MP 226.54	\$9,000	\$18,000	\$27,000	\$36,000
MP 226.54 to MP 247.38	\$15,000	\$24,000	\$33,000	\$42,000
MP 247.38 to MP 298.33	\$9,000	\$18,000	\$27,000	\$36,000
MP 298.33 to MP 359.01	\$55,000	\$64,000	\$73,000	\$82,000
MP A20.00 to MP A57.31	\$38,000	\$47,000	\$56,000	\$65,000
MP A57.31 to MP A130.40	\$9,000	\$18,000	\$27,000	\$36,000
MP M0.00 to MP M54.0	\$2,800	\$5,600	\$8,400	\$11,200
MP B14.50 to MP B31.50	\$2,800	\$5,600	\$8,400	\$11,200
MP G0.00 to MP G17.90	\$3,400	\$6,800	\$10,200	\$13,600
MP S0.00 to MP S05.63	\$1,600	\$3,200	\$4,800	\$6,400

Should a lane closure or obstruction overlap the areas indicated above, the higher Lane Rental Fee will be assessed for the entire area affected by the lane closure or obstruction.

The Contractor and the Commission recognize that extended lane use beyond that permitted by the contract documents results in damage to the Commission in terms of the effect of the delay on the use of the Project and upon the public convenience, and results in adverse revenue impacts to the Commission. By executing this contract, the Contractor acknowledges that the Lane Rental Fee is not a penalty but a reasonable per diem forecast of the damage incurred by the Commission due to the Contractor's failure to maintain the requisite minimum number of lanes open to unobstructed travel as called for by Attachment ___ or the specified holiday restriction. When it becomes evident that the Contractor's operation(s) will result in extended lane use and a Lane Rental Fee, the Representative will direct the Contractor to take immediate action to bring the Project into conformance with Attachment ___ or the specified holiday restriction. The Contractor's operations will be suspended until the Contractor demonstrates to the satisfaction of the Representative that proper measures, including adequate planning, scheduling and coordination, have been taken to complete the operations within working time and lane closure limitations. No contract time extension will be granted for suspension of any operation which resulted in a Lane Rental Fee assessment.

Any request for extension of allowable hours without assessment of the Lane Rental Fee must be pre-approved by the Representative prior to implementation of the lane closure. Approval of any individual request will not be considered a precedent for approval or denial of any future requests.

The Representative will be the sole authority for determination of Lane Rental Fees. The entire amount will be assessed for any portion of the hour for which a lane closure or obstruction exists. The Commission will have the right to apply as payment for such Lane Rental Fees any money which is due to the Contractor by the Commission. At the discretion of the Representative, the Lane Rental Fee may be waived or reduced for failure to open the minimum number of travel lanes if such cause is beyond the control of the Contractor, *i.e.*, Act of God, catastrophic events, accidents not related or caused by the Contractor's operations. The waiver or reduction of Lane Rental Fees will not operate as a waiver on the part of the Commission of any of its rights under the contract.

F06.00 PROJECT COLLABORATION SYSTEM

All submittals, documentation, meeting minutes, and correspondence will be handled electronically via the Commission's project collaboration system, Kahua.

There are costs associated with a Kahua Platform License and Construction Document Management License, as well as with some of the other, optional Kahua Applications. In addition, there are costs associated with setting up and training people to use Kahua. Visit the Kahua kStore for pricing information (<http://www.kahua.com>).

With a paid Kahua Platform License and Document Management Suite of Applications, a business partner can perform the following functions:

- Store files online (25 GB per user)
- Submit files for review and acceptance (e.g. - Shop Drawings, Sources of Supply, Catalog Cuts)
- Create and track Requests for Information
- Create, send and track, Correspondence
- Set up and Review Meeting Minutes, Agenda, and Action Items
- Send Messages to other Kahua users

With a free Kahua license, a business partner can perform the following functions:

- Store files online (1GB per company)
- Respond to requests for documents
- Send Messages to other Kahua users

The Contractor will need at least one paid Kahua Platform License, and one license for the Construction Document Management Suite of Applications to do business with the Commission. However, the Contractor may require more paid licenses. Visit Kahua (<http://www.kahua.com>) for more information regarding Paid versus Free Licenses.

Costs associated with Kahua Platform and Document Management Licenses and Kahua site setup and training are incidental to the contract.

F07.00 PLUG EXISTING PIPE 04/01/16
(ITEM: 2616-9050)

F07.01 Description - This work is the plugging of an existing pipe at the locations indicated on the plans and/or as directed by the Representative.

F07.02 Material - Class C Cement Concrete – Section 704.2

F07.03 Construction –

Plug existing pipe with Class C Cement Concrete to the minimum depth of the diameter of the pipe to be plugged.

F07.04 Measurement and Payment – Each.

F08.00 RECESSED BRIDGE APPROACH SLAB
(ITEM: 4505-0002)

F08.01 Description - This work is the construction of recessed reinforced cement concrete bridge approach slabs, including the joint adjacent to bridge superstructures.

F08.02 Material -

- (a) Reinforced Concrete Pavement – Section 501.2
- (b) Reinforcement Bars, Epoxy Coated – Section 709.1
- (c) 6" Pavement Base Drain – Section 610.2
- (d) Bituminous Wearing Course - Section 409.2
- (e) Bituminous Binder Course - Section 409.2
- (f) Compression Seal – An approved compression seal as listed in Bulletin 15.
- (g) Geotextile Class 4, Type A – Section 212.2

F08.03 Construction – As shown on PTS-111, as indicated, and as follows:

When flowable fill is utilized for structure backfill (PTS-700), delete the Subbase shown on PTS-111 and construct the bridge approach slab directly on the flowable fill with Geotextile, Class 4, Type A as shown in Contract Drawings.

F08.04 Measurement and Payment - Square Yard.

**F09.00 ROCK ARMOR
(ITEM: 2850-0040)**

04/01/16

F09.01 Description- This work is the construction of rock armor to protect steep slopes along shoulders.

F09.02 Material – Rock, Class R-4 – Section 850.2

F09.03 Construction- Place rock armor in accordance with the details, PTS-124, Section 850.3 and as directed by the Representative.

F09.04 Measurement and Payment- Linear Foot, measured along the edge of the shoulder. Includes excavation and rock.

**F10.00 MAINTENANCE AND PROTECTION OF TRAFFIC
(ITEM: 2901-0001)**

F10.01 Description - This work is the furnishing, installing, maintaining, resetting, relocating, storing, and removal of all traffic control devices necessary for maintenance and protection of traffic during construction.

F10.03 Construction -

Perform maintenance and protection of traffic according to Section 901, PTS (900, 960, 980), the contract drawings and the special provisions.

Furnish, install and maintain all required lights, guides, sandbags and appurtenances as deemed necessary by the Representative for the proper maintenance and protection of traffic and to warn of any obstruction or hazard to traffic. Use Type A and Type B flasher units and Sequential Warning Lights on this project. Furnish, install and maintain all shadow vehicles. Shadow vehicles without a truck mounted attenuator must be a 33,000 lb GVW (Gross Vehicle Weight) or larger vehicle and loaded to weigh a minimum of 22,000 lbs. in addition

to meeting the requirements of Publication 212.

Provide signs with PennDOT approved Type XI reflectorized material.

Utilize the following general procedures for maintenance and protection of traffic:

A. For Pre-Construction Signing: Erect these signs prior to the performance of any work that may affect or alter the normal traffic pattern on the Turnpike.

1. Erect MPT-33, CAUTION - NEW TRAFFIC PATTERNS - NEXT X MILES at the approaches to the work zone. In addition, erect R22-1 signs, WORK ZONE STATE LAW TURN ON HEADLIGHTS, as the first sign approaching the work zone.

Furnish, install and maintain an adequate post-mounted sign support system that will retain the signs in-place during the course of the project. PennDOT approved Type III barricades may be used as conditions warrant and as directed by the Representative.

Maintain, relocate, and repair all signs, including necessary replacement. At the conclusion of the project, remove all temporary signs and mountings and properly repair and restore the area.

2. Erect W20-1 and other signs at the approaches (from 2 miles) to the work limits for each physical work zone with appropriate legends as indicated on PTS-900 to warn traffic of construction to be encountered. For physical work zones that are being worked on concurrently that are less than 2 miles apart, provide a portable changeable message sign approximately 1 mile in advance of the physical work zone; message as approved by the Representative. R2-1 sign at the end of the first work zone is to be 55 MPH when followed by additional work zones, only when the physical work zones are less than 2 miles apart. Erect W21-20 signs, END ACTIVE WORK ZONE, immediately at the end of the first active work zone. Post G20-2 sign at the end of the final work zone. Portable changeable message signs required for the approach signing are incidental to the Maintenance and Protection of Traffic. Post mount signs at locations designated by the Representative in such a manner as not to obstruct shoulders and be clear of work areas. Relocate approach signing as work progresses.

Erect W21-19 signs, ACTIVE WORK ZONE WHEN FLASHING INCREASED PENALTIES, when workers are present on the roadway, berm, or shoulder and not protected by concrete barrier. Do not erect the sign within a transition or at a location where workers are put at risk when they may need to turn the light on and off. When there is more than one active work zone separated by a distance of more than 1 mile, erect signs for each active work zone. Attach a PennDOT approved white Type B high-intensity flashing light to the upper portion of each W21-19 sign. Activate the white Type B high-intensity flashing light only when workers are present on the roadway, berm, or shoulder and not protected by concrete barrier and turn off the white Type B high-intensity flashing light when workers are not present on the roadway, berm, or shoulder for 60 minutes or more or are protected by concrete barrier. Cover the W21-19 and W21-20 signs during non-working hours.

Erect W21-20 signs, END ACTIVE WORK ZONE, immediately at the end of each

active work zone, except this sign is not necessary if the G20-2, END ROAD WORK, sign is installed at the end of the active work zone.

Provide a PennDOT approved Speed Display Sign ½ to 1 mile in advance of the physical work zone to advise motorists of their vehicle's speeds. Provide an additional PennDOT approved Speed Display Sign 500 to 900 feet in advance of the physical work zone to advise motorists of their vehicle's speeds. The Contractor may furnish additional units. Trim trees and vegetation, and remove all obstructions at each placement site. The locations and times of operation are as approved by the Representative.

The R22-1, W21-19, and W21-20 signs, the white Type B high-intensity flashing light, and the Speed Display Sign have been created by PennDOT in response to the requirements of Act 229. These signs and devices, as well as the associated guidelines, can be found in 67 PA Code, Chapter 212, Official Traffic Control Devices. Review, familiarize, and apply these guidelines and all its supplements to this construction project as required by Act 229.

- B. Do not exceed a maximum work zone of 2 miles in length for operations not behind barrier. In the event a 2 mile work zone for operations not behind barrier is not required or the work zone is not used in an efficient manner, the Representative will direct the length of the work zone be shortened to that length sufficient for the Contractor's operation and efficiency. Maintain a minimum of 2 miles of unrestricted roadway between patterns on the same side of the road.
 1. Furnish, operate, and maintain in the following manner, additional safety devices and controls for operation adjacent to traffic patterns:
 - a. Furnish equipment working adjacent to traffic with a yellow flashing light attached to the equipment to indicate its outer limit, visible 360 degrees. Lights are to be according to Section 901.
 - b. Mount vertical panels with Type A lights at the approach end, facing traffic, of all shoulder inlets, guide rail ends, and bridge parapet ends whenever traffic is using the shoulder or part of the shoulder as a travel lane.
 - c. Place vertical panels at 25 foot intervals for 150 feet in advance of each Vehicle Attenuating Terminal End Treatment (VATET) during traffic control stages in which traffic will operate on shoulders adjacent to guide rail and VATETs.
 2. Use PennDOT approved vertical panels with self-ballasting bases for channelizing devices. The entire face of the vertical panel visible to traffic is to be reflectorized with PennDOT approved Type XI reflectorized material. Completely remove channelizing devices from the roadway so they are not visible to motorists during non-working hours. Channelizing devices may be temporarily relocated to the minimum offset to allow for work to be performed, as directed by the Representative. The channelizing devices must remain between traffic and the work zone. Relocate channelizing devices to original position as work progresses.
 3. Lane restrictions will not be permitted during non-working hours for any operation requiring either a mobile lane restriction or a stationary lane or shoulder restriction.

4. The maximum pavement differential for this project is 2-inches.
5. If both lanes in one direction are open to traffic and a differential between right and left lane pavement exist, install W8-11 (UNEVEN LANES) signs on the left shoulder and the right shoulder 1,500 feet in advance of where the pavement differential begins. Locate W8-11 signs on the right shoulder at ½-mile intervals throughout the area where the pavement differential exists, as directed by the Representative. Program a message on the Portable Changeable Message Sign as shown on the PTS-900 located approximately 1 mile in advance of the work zone indicating the pavement differential. The suggested message is "UNEVEN LANES, MOTORCYCLES USE CAUTION".
6. Maintain the entrances and exits to Interchanges, Service Plazas, Maintenance Sheds and Access Ramps at all times.
7. All pavement patches must be backfilled with the specified patching material and to the level of the existing adjacent roadway surface during non-working hours.
8. Arrange construction operations so that no portion of the median (excluding slow speed ramps) is without barrier (concrete or MB-2B) between opposing travel lanes or that any blunt end of the median barrier is exposed to oncoming traffic.
9. Backfill the median in tangent areas so that the dropoff does not exceed 2 inches from the edge of adjacent pavement during periods when traffic is running adjacent to the median (hours requiring all lanes of traffic). Backfill the median in superelevated areas so that the dropoff does not exceed 3½ inches from the edge of adjacent pavement during periods when traffic is running adjacent to the median (hours requiring all lanes of traffic). Place vertical panels in the median during the non-working hours. Space vertical panels at 50-foot maximum spacing on the inside and outside of horizontal curves.
10. If the shoulder work zone is not behind temporary concrete barrier, backfill all shoulders and excavated areas adjacent to the right lane so that the dropoff does not exceed 2 inches from the existing adjacent pavement and complete any required slope improvements, guide rail, abutment transition piece, or concrete barrier installations prior to opening the right lanes for traffic. All inlet repairs, replacements or installations must be complete or covered with a single steel plate prior to opening the right lane to traffic. If the right lane must be opened to traffic and any of the aforementioned conditions are not met, install temporary concrete barrier per PTS-900 and as approved by the Representative, at the Contractor's expense, to separate motorists from these conditions.
11. Where the traffic will operate on shoulders adjacent to guide rail, install reflectors at permanent spacing, 75 feet on tangent and 37.5 feet on curves, before shifting traffic to the affected areas.
12. When traffic will operate on median or shoulder, secure all inlet grates in the travel lane or within 2 feet of the travel lane. Provide a grate securing system for approval. Ensure all inlets are accessible when traffic no longer uses the median or shoulder.

13. Install, reset, relocate, and remove any permanent and/or temporary concrete barrier so that no blunt end of the barrier is exposed to oncoming traffic. Temporary concrete barrier used must be manufactured after October 1, 2002.
14. Remove existing and/or temporary pavement markers that conflict with revised traffic patterns and may confuse motorists. Remove by methods that will cause the least damage to the pavement surface. Existing pavement marker types include Snowplowable Raised Pavement Markers (SRPM) and Recessed Reflective Pavement Markers (RRPM). Temporary pavement marker types include RRPM and non-plowable raised markers.
 - a. Removal of existing SRPMs, which includes both the reflector and the shoe, and removal of RRPMS will require patching of the roadway. Patch the roadway to the satisfaction of the Representative.
 - b. Removal of temporary RRPMS and non-plowable raised markers may require patching of the roadway. Patch the roadway to the satisfaction of the Representative.
 - c. Remove only the reflectors for existing SRPMs and RRPMS when traffic will be returned to their normal lanes at the end of the construction. Clean the area to allow for the proper installation of new reflectors for existing SRPMs and RRPMS.

- C. Utilize the following sequences to perform all work between M.P. 228.00 and M.P. 229.08.

Stage 1 – Right Lane and Shoulder Reconstruction

1. During allowable working hours, close the eastbound and/or westbound right lane by placing channelizing devices 2-feet into the right lane as shown on PTS-900.
2. As shown on the plan, reconstruct the eastbound and westbound lanes and/or shoulders adjacent to the roadway and within the limits of work in preparation for traffic in later stages. Only partial shoulder reconstruction four feet in width is required. The area beyond the four feet will be reconstructed in Stage 2.

Stage 2 – Eastbound and Westbound Bridge and Roadway Widening

1. Close the shoulders in the eastbound and westbound directions by placing temporary concrete barrier adjacent to the eastbound and westbound lanes. Provide two twelve foot lanes in each direction as shown on the plan.
2. Widen the eastbound and westbound portion of the roadway as shown on the plan and install permanent guide rail. Construct the outer portions of Bridge EB-103.

Stage 3 – Eastbound and Westbound Bridge Construction, Roadway Reconstruction, and Permanent Concrete Median Barrier Installation

1. During allowable working hours, close the eastbound and westbound right lane by placing channelizing devices 2-feet into the right lane as shown on PTS-900.

2. Mill and pave the eastbound and westbound lanes as shown on the contract documents from Station 100+00 to Station 106+50 and from Station 116+25 to Station 122+80.
3. Shift traffic onto the new Bridge and Roadway sections that were constructed in Stages 1 and 2, maintaining two twelve foot lanes in each direction as shown on the plan. Reset the temporary concrete barrier as necessary.
4. Demolish Bridge EB-103.
5. Construct center portions of Bridge EB-103
6. To perform the mill and overlay, upon completion of Stage 3, during allowable working hours, close the existing travel lanes by placing channelizing devices 2 feet into the right lane as shown on PTS-900.
7. Reconstruct the center portion of the roadway and median and install permanent concrete median barrier.
8. Remove temporary concrete barrier.
9. Shift traffic to its final position.

Stage 4 – Installation of Sonic Nap Alert Pattern (SNAP) and Highly Reflectorized Epoxy.

1. During allowable working hours, close the eastbound or westbound right lanes by placing channelizing devices 2-feet into the appropriate lane as shown on PTS-910.
2. Install SNAP and Highly Reflectorized Epoxy.
3. During allowable working hours, close the eastbound or westbound left lanes by placing channelizing devices 2-feet into the appropriate lane as shown on PTS-910.
4. Install SNAP and Highly Reflectorized Epoxy.

F10.04 Measurement and Payment - Lump sum.

**F11.00 MAINTENANCE AND PROTECTION OF RAILROAD TRAFFIC
(ITEM: 4000-7004)**

F11.01 Description - This work consists of all coordination, labor, equipment and materials necessary to provide for the safety and operational requirements of the Norfolk Southern Railroad (herein after referred to as "Railroad") and for the design, construction and maintenance of the railroad crossings within the project area.

The Railroad operates on one track crossing beneath Bridge No.EB-103 at Milepost 228.54.

F11.02 RAILROAD PROTECTION AND COORDINATION REQUIREMENTS

Any review of the Commission's drawings, plans, and specifications ("documents") by the Railroad shall be for the purpose of examining the general arrangement, design, and details of the proposed project for potential impact on railroad's operations. The Railroad assumes no responsibility for and makes no representations or warranties, express or implied, as to the design, condition, workmanship, or adequacy of the documents or of the Project.

Maintain the safety and interest of the Railroad when working on or around their property or operations. At all times protect and safeguard Railroad traffic and arrange project work accordingly. Ensure that Railroad personnel have access to the Railroad at all times.

After project is awarded, provide the Railroad with Contractor's name, address and telephone numbers, including a daily field contact and a 24 hour per day/7 day per week contact. The Contractor will not be allowed access to the Railroad's right-of-way until the following conditions are met: (1) the Railroad's Insurance requirements as specified herein have been satisfied, (2) a preconstruction meeting has been held with the Railroad and the Representative.

Contact the following Railroad representative to request a preconstruction meeting with the Railroad:

Mr. Daniel Radle, PE
AECOM
100 Sterling Parkway
Mechanicsburg, PA 17050 Phone: (717) 790-3465
Email: daniel.radle@aecom.com

Indemnify and hold harmless the Railroad from any and all claims resulting from the work to be performed under this contract.

Contractor shall maintain sufficient insurance to protect and indemnify the Railroad. Refer to Attachment D for required policy limits. The contractor shall include those listed in Section 107.31(f) as additional insured.

The Railroad schedule changes year-to-year and varies depending on the time of year. Non-regularly scheduled charter trains, also operate on the Railroad throughout the year. The Contractor must coordinate all construction activities adjacent to and over the Railroad without impacting the Railroad's schedule.

Notify the Railroad at least three (3) weeks prior to the start and the end of construction.

Keep all vehicles, false work, equipment and personnel at least thirteen (13) feet from the centerline of track and twenty-two (22) feet above the top of the highest track rail at all times except when crossing the tracks. All work adjacent to and above the Railroad shall cease when a train is passing through the work area. Maintain these tracks clearances at all time unless otherwise approved in writing by the Railroad.

Any violation of these specified clearances and safety requirements regarding the railroad will result in the ceasing of all construction activities by the Representatives until the Contractor can demonstrate adherence to these requirements.

Notify the Railroad two (2) weeks prior to commencing any and all work on Bridge EB-103, requiring the temporary suspension of train travel under the bridge, and obtain approval from Railroad for said work. This notification must be provided and approval obtained every time temporary suspension of train travel under the bridge is required.

The Railroad estimates that they will run trains past this site approximately 1000 times per calendar year. The Contractor is required to provide one flagman at one of the temporary crossings on days when the trains are active. The Railroad will also provide one flagman at the other crossing. The Railroad's flagman will be paid by the Commission.

The Railroad will perform track inspections at the temporary crossings, a maximum of 60 times per calendar year, for two hours per inspection, for a total of 120 (one hundred and twenty) man-hours. The temporary crossings may be utilized by the Contractor during these inspections. The Contractor will be required to provide one (1) flagman for these inspections for a maximum of one hundred and twenty (120) man-hours per calendar year. The Railroad's track inspector will be paid by the Commission.

Refer to Attachment D – Norfolk Southern Railroad – Special Provision for Protection of Railway Interest for additional details and requirements.

F11.03 Railroad Crossings

Contractor shall design the Railroad crossings and obtain approval from the Railroad before constructing the crossings. Once approved, construct and maintain two (2) Railroad track crossings at approximate locations shown in the contract documents, one north and one south of the Bridge EB-103. Both track crossings must allow for uninterrupted train movement. Contractor is responsible for materials and labor to construct, maintain and remove the crossings. Perform work in a manner that will maintain the stability of the existing railroad track and ballast section.

Use the Railroad crossings only for equipment, personnel, and material deliveries that cannot otherwise access the work location by other means. Maintain a 5 Miles Per Hour speed limit for vehicles and equipment crossing the tracks.

Inspect the Railroad crossings on a daily basis to insure the integrity of the crossing. Any settlement, damage, shifting, etc. shall be fixed before utilizing the crossing. Notify the Railroad in the event of any damage to the track, ties, ballast, etc. to determine appropriate remedial action. The Contractor shall be responsible for all costs of remedial work required to repair the track and or any other Railroad property damaged as a result of the construction project.

Special Equipment Crossings – Obtain specific permission after providing a work plan for Railroad review and approval prior to the use of the crossings by any vehicle or equipment that cannot travel on state highways. Such vehicles and equipment may include, but are not limited to, track mounted cranes, oversized earth moving equipment, or similar non-rubber tire vehicles or slow-moving equipment.

This contract includes no work for which the Railroad is to be billed. Therefore, do not bill the Railroad for any work which may be performed unless the Railroad gives a written request that such work be performed at the Railroad's expense.

Repair or replace any damage to the Railroad in a timely manner at no cost to the Railroad or to the Commission. The Commission will withhold final payment to the Contractor until all such repairs are satisfactorily completed in accordance with the Railroad.

Refer to Attachment E – Norfolk Southern Railroad – Private Road Crossing Application for additional details.

Railroad Protective Service Costs –

The Commission will make payment to Norfolk Southern Railroad for all costs associated with watchmen, operators, flagmen, clearance men, and similar protective services provided by the railroad company based on railroad regulations and the Contractor's construction schedule.

Actual costs will be assessed by the Commission whenever protective services are provided by the railroad at the request of the Contractor, but such requested services are not utilized due to a change in the Contractor's construction schedule, or if it is determined by the Commission that the requested services were not necessary, the actual costs to be assessed by the Commission against the Contractor will be the amount billed by the railroad to the Commission.

It will be the Contractor's responsibility to obtain the protective services from the railroads and the Commission assumes no liability for any delays caused by the failure of the Contractor to obtain such services.

The actual costs to be assessed above will be deducted from money due or that becomes due to the Contractor

F11.04 Measurement and Payment – Lump Sum.

The costs associated with this item include all coordination, labor, equipment and materials necessary to provide for the safety and operational requirements, of the Railroad. Also included with this item are the design, coordination, construction, maintenance and removal of the Railroad crossings.

F12.00 RELOCATION OF EXISTING SIGNS 04/01/16
(ITEM: 2931-1001)

F12.01 Description - This work consists of the removal of existing signs of the type specified and all associated installation material and reinstallation of existing signs with new associated installation material located within the project limits and as warranted by construction operations.

F12.02 Material –

(a) Post Mounted Signs, Type B - Section 931.2, except delete the first bullet in Section 931.2.

F12.03 Construction -

(a) Post Mounted Signs, Type B. Prepare the area prior to the relocation of the existing signs. Provide new breakaway steel posts and associated hardware to be set at the

location specified by the Representative. Remove the existing signs, breakaway steel posts, and associated hardware as directed by the Representative.

F12.04 Measurement and Payment -

- (a) Relocation of Post Mounted Signs, Type B - Each. Includes all hardware and breakaway steel posts.

F13.00 ROAD USER COSTS

04/01/16

(Coordinate with the MPT Special Provision and the Project Manager. Discuss the number of traffic stoppages, the times and days of the permitted stoppages as well as the dollar amount to be added to this Special Provision with the Project Manager.)

****Use the following paragraph for Plan X stoppages for bridges:***

The Contractor must utilize the _____ hour traffic stoppages according to the Maintenance and Protection of Traffic Special Provision, FXX.00, to perform the (*demolition and/or erection*) of Bridge No. _-_, MP _____. **(Adjust wording to allow for multiple bridges requiring demolition and/or erection as required by the project.)*

**** Use the following paragraph if other stoppages are permitted for specific operations:***

A total of __ traffic stoppages of a _____ minute maximum duration will be permitted during this project for _____ operations only. The traffic stoppages are permitted nightly between the hours of __ PM to __ AM, starting __ day evening and ending __ day morning on non-Holiday weeks. During a _____ operation both the _____ bound and _____ bound direction must be stopped. ****(Repeat paragraph for multiple operations to be performed using stoppages. For example, using 6 stoppages of 30 minutes for superstructure erection & 2 stoppages of 20 minutes for sign structure erection.)***

****Use the following paragraph for the non-Plan X stoppages only:***

Additional traffic stoppages for the _____ operation may be requested in writing to the Representative a minimum of 14 days prior to the requested operation.

****Use the following paragraph for any stoppage:***

The Commission will assess road user damages in the amount of \$____.00 _____ bound and \$____.00 _____ bound per each five (5) minutes beyond each permissible time period specified for traffic stoppages allotted to complete the operation and open to traffic. The time period exceeding the permissible time periods specified for stoppages will be rounded up to the next 5-minute increment. The Representative will be responsible for tracking the time.

****Use the following paragraph for stoppages of any duration for bridge demolition and erection:***

Should it become apparent that the demolition or erection of Bridge No. _____ will not be completed within the maximum time period(s) specified, the Representative will direct the Contractor to cease operations, stabilize the structure and open traffic as soon as possible. The stabilization of the structure will be at the direction of the Representative and will not be reimbursed by the Turnpike Commission. Additional traffic stoppages for the demolition or erection of the remaining portion(s) of the structure will be considered as time beyond the allotted stoppage and will be assessed road user costs accordingly. The

additional stoppage will not be permitted until the Contractor can demonstrate to the Representative an acceptable method and procedure sufficient to complete the demolition or erection in a safe and efficient manner.

F14.00 ANTI-GRAFFITI COATING 04/01/16
(ITEMS: 2001-0801 AND 2001-0802)

F14.01 Description – This item consists of the application of an anti-graffiti coating(s) to concrete surfaces on Bridge No. EB-103.

F14.02 Material –

Provide a three-coat epoxy/urethane/urethane anti-graffiti system. The first coat is to consist of 3-5 mils dry film thickness of a pigmented epoxy coating, the second coat is to consist of 3-5 mils dry film thickness of a pigmented urethane coating, and the third coat is to consist of 1-2 mils dry film thickness of a clear urethane coating, or per manufacturers' millage recommendations if it is greater.

Submit the proposed anti-graffiti coating system and a color chip of every color specified to the Representative for approval prior to ordering coating materials.

F14.03 Construction - All existing concrete surfaces that are to be coated must be power washed prior to application of the anti-graffiti coating with the use of a high-pressure hose having a minimum pressure of 2000 psi at the nozzle. In addition to the power washing, prepare the concrete surfaces and apply the anti-graffiti coating in accordance with the manufacturer's recommendations.

Perform a water bead test on the power washed concrete before applying the first coat of anti-graffiti system. If the water beads on the concrete, rewash until the water doesn't bead.

Coat the top and inside face (facing traffic) of both bridge deck parapets and wingwall parapets, if U-type wingwalls are present, using a pure white anti-graffiti coating with a high gloss finish. **DO NOT COAT** the top surface of the bridge deck.

Coat all exposed pier, crashwall, abutment and wingwall surfaces, including the vertical outside face of the superstructure parapets and wingwall parapets, if U-type wingwalls are present, and the top face of any flared wingwalls, using an anti-graffiti coating color of Beige, Federal Standard 595B Color No. 27778. **DO NOT COAT** the abutment backwalls or the horizontal bearing seat areas of the abutments or piers. If the substructure surfaces being coated are new construction, extend the anti-graffiti coating to two feet below final grade.

No thinning is permitted unless recommended by the coating manufacturer and approved by the Representative.

Do not apply the pigmented anti-graffiti coating to any architecturally treated surfaces.

F14.04 Measurement and Payment – Lump Sum, for the color and structure indicated. Price includes all surface preparation.

F15.00 CANTILEVERED COMBINATION WORK PLATFORMS AND 04/01/16
PROTECTION SHIELDS

(ITEM: 2090-0300)

F15.01 Description - This work is the design, installation, maintenance, and removal of cantilevered combination work platforms and protection shields for bridge parapet/deck demolition and removal, and new bridge parapet/deck construction.

F15.02 Material - In accordance with Section 115 for forest and lumber products. Use metal, plywood, or lumber shapes of proper size and dimension to provide sufficient strength to support the waste materials, equipment, and workmen necessary for the performance of the work.

F15.03 Construction - The limits of cantilevered combination work platforms and protection shields are as follows:

Stage 2 – Install along full length of deck along the outside of Girder 1 and Girder 16.

Submit the installation procedures, design calculations, and a detail of the shielding signed and sealed by a Professional Engineer registered in the Commonwealth of Pennsylvania, to the Representative for approval. Design and position bracing, platforms, and shielding as required to accommodate existing deck overhang demolition and new deck overhang forming and the deck finishing equipment. Design considerations are to include the applicable requirements of Section 1001.3(a)1 and Section 1001.3(k)5. The existing clearances over the roadway and shoulder areas must be maintained.

Do not begin installation of cantilevered combination work platforms and protection shields until the Representative approves the installation procedures, design calculations, and details. Do not begin the parapet/deck demolition or construction until the cantilevered combination work platforms and protection shields are in place.

The installation and removal of cantilevered combination work platforms and protection shields is to be performed using lane closure patterns as shown on PTS-900, and in accordance with the allowable lane hours in Attachment A.

Place and fasten protection material in such a manner as will prevent it from becoming loose or dislodged for any cause or for any reason during the entire time it is required to remain in place.

Inspect the cantilevered combination work platforms and protection shields and the underlying areas daily to insure that no debris is falling through. Dispose of daily, in accordance with the requirements of Section 104, the debris that accumulates on top of the cantilevered combination work platforms and protection shields, as well as any debris that is not retained by the shielding. Do not remove debris from the cantilevered combination work platforms and protection shields by pushing, brooming, or dropping the debris from the shielding.

Notify the Representative one week in advance of removal of any cantilevered combination work platforms and protection shields, and obtain approval before removing any of the work platforms and shielding. Remove all cantilevered combination work platforms and protection shields prior to the completion of the project.

F15.04 Measurement and Payment – Linear Foot. Includes installation and removal operations,

design drawings and computations.

F16.00 PAINTING FABRICATED STRUCTURAL STEEL

04/01/16

This work consists of the painting of new fabricated structural steel in accordance with Section 1060. On Bridge No. EB-103 at Milepost 228.54, provide a finish coat color of Brown, Federal Standard 595B Color No. 30045. Limits of paint shall include all structural steel within 5-ft of both abutments as measured from the centerline of bearings to include girders, end diaphragms and bearings. Submit a color chip to the Bridge Engineer Manager for approval prior to purchasing and application of paint.

**F17.00 REMOVAL OF BRIDGE NO. EB-103, MP 228.54
(ITEM: 2018-0001)**

04/01/16

F17.01 Description - This work is the demolition, removal, and satisfactory disposal of Bridge No. EB-103, MP. 228.54, in accordance with Section 1018, and as specified herein.

F17.02 Materials - In accordance with Section 115 for forest and lumber products. Use metal, plywood, or lumber shapes of proper size and dimension to provide sufficient strength to support the waste materials, equipment, and workmen necessary for the performance of the work.

F17.03 Construction - Submit the demolition plan to the Representative for approval a minimum of ten (10) days prior to the demolition meeting.

Remove the entire superstructure of the bridge. Remove the existing abutments, wingwalls and their foundations in their entirety. Steel H-piles shall be removed to 2-ft below finished ground line. Remove existing Pier 1 to Elev 461.00. Remove existing Pier 2 a minimum of 2 feet below existing ground.

Demolition methods are open except blasting is not permitted.

All demolition and removal must be performed in accordance with required maintenance and protection of traffic as specified in the Contract Documents.

Prior to the demolition of the existing structure, determine the existence of any USGS or USC&GS discs. If these discs are encountered, they must be removed and returned to the Commission. Provide the Representative three weeks advance notice of the intent to remove the disc.

Craning or work of any kind will not be permitted over open lanes of the Turnpike, Railroad or the local roads.

Install Underdeck Protection Shielding and Cantilevered Combination Work Platforms and Protection Shields in accordance with the Special Provisions prior to bridge deck and barrier removal or any work over open lanes of the Turnpike or the local roads or the railroad tracks.

Protect the Turnpike, local roadway and railroad property below the superstructure during demolition. Any damage to the Turnpike, local roadway or railroad property due to the demolition operations will be repaired by the Contractor at no cost to the Commission.

The removal of the existing protective fence, if present, is included with this work.

The existing bridge structural members may contain lead paint and other toxic materials. All items containing lead or other toxic materials shall be disposed of as a residual waste according to Pennsylvania and the local County Health Department requirements.

If additional utility relocations are required as part of the demolition and removal other than the utility relocations provided for in the Contract Documents, the Contractor will be responsible for the cost of those additional utility relocations. Additional contract time will not be considered for any additional utility relocation work.

F17.04 Measurement and Payment - Lump Sum, for the structure indicated.

Underdeck Protection Shields and Cantilevered Work Platforms and Protection Shields are paid for separately.

F18.00 UNDERDECK PROTECTION SHIELDS 04/01/16
(ITEM: 2090-2000)

F18.01 Description - This work is the design, installation, maintenance, and removal of underdeck protection shields, for bridge deck demolition and removal, bridge deck repairs, and new bridge deck construction.

F18.02 Material - In accordance with Section 115 for forest and lumber products. Use metal, plywood, or lumber shapes of proper size and dimension to provide sufficient strength to support the waste materials, equipment, and workmen necessary for the performance of the work.

F18.03 Construction - The limits of the Underdeck Protection Shields are as follows:

Stage 2 - Install along full length of deck between Girders 1 to 4 and Girders 13 to 16.

Stage 3A - Before any demolition, install along full length of the existing deck between girders. This is in addition to shielding currently in place tight to the underside of the existing bridge deck.

Stage 3B - Install along full length of deck between Girders 4 to 8 and Girders 9 to 13.

Submit the installation procedures, design calculations, and a detail of the shielding signed and sealed by a Professional Engineer registered in the Commonwealth of Pennsylvania, to the Representative for approval. Design the underdeck protection shields for deck removal and deck repairs to carry a load of 200 pounds per square foot. Design the underdeck protection shields for deck construction to carry a load of 100 pounds per square foot. The existing clearances over the roadway and shoulder areas must be maintained. Provide a layer of heavy plastic sheeting on top of the shielding to prevent demolition debris from dropping and concrete mix from dripping through the joints in the shielding.

Do not begin installation of underdeck protection shields until the Representative approves the installation procedures, design calculations, and details. Do not begin the deck demolition or construction until the underdeck protection shields are in place.

The installation and removal of underdeck protection shields is to be performed using lane closure patterns as shown on PTS-900, and in accordance with the allowable lane hours in Attachment A.

Place and fasten protection material in such a manner as will prevent it from becoming loose or dislodged for any cause or for any reason during the entire time it is required to remain in place.

Inspect the underdeck protection shields and the underlying areas daily to insure that no debris is falling through. Dispose of daily, in accordance with the requirements of Section 104, the debris that accumulates on top of the underdeck protection shields, as well as any debris that is not retained by the shielding.

Notify the Representative one week in advance of removal of the underdeck protection shields, and obtain approval before removing any of the shielding. Remove all underdeck protection shields prior to the completion of the project.

F18.04 Measurement and Payment -- Square Foot. Includes installation and removal operations, design drawings and computations.

**F19.00 TOPSOIL FURNISHED AND PLACED
(ITEM: 4802-0001)**

F19.01 Description - This work is the furnishing and placing of topsoil from outside the project, as indicated.

F19.02 Material – In accordance with Section 802.2, including:

Compost - as specified in the contract drawings.

F19.03 Construction – In accordance with Section 802.3 and the contract drawings.

F19.04 Measurement and Payment - Ton

**F20.00 COMPOST FILTER SOCK WASHOUT
(ITEM: 4867-0024)**

F20.01 Description – This work is furnishing, placing, maintaining, and removing a concrete washout as shown on the Erosion and Sediment Pollution Control Plans in the Contract Drawings and as directed.

F20.02 Material –

- Polyethylene, 6 mil - AASHTO - M171.
- Compost Filter Sock – Section 867.2

F20.03 Construction – Maintain the concrete washout as required to construct the project. When completed, remove the concrete washout, restore the area to its original condition, and suitably dispose of waste material.

F20.04 Measurement and Payment – Each.

**F21.00 CONCRETE GLARE SCREEN MEDIAN TRANSITION TO SPLIT GLARE
SCREEN**

(ITEM: 4622-0001)

F21.01 Description -- This work is the furnishing and installing of precast or cast-in-place concrete median barrier transition section.

F21.02 Material -- Section 623.02

F21.03 Construction -- Section 623.03 and as follows:

Provide cast-in-place or precast transition section at transition to bridge barrier as shown on the plans.

F21.04 Measurement and Payment -- Each.

**F22.00 4" CONDUIT IN STRUCTURE
(ITEM: 3910-5260)**

F22.01 Description -- This work is furnishing and installation of a 4-inch diameter conduit as indicated.

F22.02 Material -- In accordance with Section 910.2.

F22.03 Construction -- In accordance with Section 910.3 and as follows:

Provide Expansion and deflection joint fittings where required of the same design as shown on Standard Drawing BC-721M for 4-inch diameter conduits.

F22.04 Measurement and Payment -- Linear Foot. Conduits -- Section 910.4(k), for the type and size indicated.

F23.00 EXISTING CALL BOX FOUNDATION REMOVAL

Existing concrete call box foundations, approximately 18 inches in diameter and 4 feet in depth, are located as shown on the plans.

Previously, the existing 1-inch diameter anchor bolts and 3/4-inch diameter ground rod were cut flush with the top of the foundation. The remaining anchor bolts are embedded in the concrete foundation and the ground rod extends approximately 6 feet below the bottom of the foundation.

Removal of the existing foundations is incidental to excavation.

**F24.00 LAMINATED NEOPRENE BEARING PADS
(ITEMS: 3050-0085 AND 3050-0086)**

F24.01 Description - This work is the furnishing and installation of laminated neoprene bearings.

F24.02 Material -- In accordance with section 1113.

F24.03 Construction -- In accordance with Sections 1107.03 and 1113.03, and as indicated on the Contract Drawings.

Bearing pads will be sampled for testing according to PTM 312. One additional bearing pad will be provided for testing.

F24.04 Measurement and Payment – Each. For the type and size indicated.

**F25.00 MICROPILES, 9.625" X 0.545" & MOBILIZATION AND DEMOBILIZATION FOR MICROPILES
(ITEMS: 4000-0099 AND 4000-1101)**

F25.01 Description –

- a. General. This work is the furnishing of materials, tools, equipment, and labor for installing micropiles.

The Contractor will propose installation means and methods and must install a system of micropiles as shown on the contract plans. The micropile diameters, depths, locations, and required load capacities and tolerable deflections are shown on the contract plans.

- b. Specifications. The most recent edition of the following specifications governs the work unless specifically stated otherwise in this document:

American Society for Testing and Materials (ASTM)

- A 252 Specification for Welded and Seamless Steel Pipe Piles
- A 722 Specification for Uncoated High-Strength Steel Bars for Prestressing Concrete
- C 33 Specification for Concrete Aggregates
- C 109 Test Method for Compressive Strength of Hydraulic Cement Mortars
- C 144 Specification for Aggregate for Masonry Mortar
- C 150 Specification for Portland Cement
- C 494 Specification for Chemical Admixture for Concrete
- D 1143 Standard Test Method for Piles Under Static Axial Compressive Load
- D 3689 Method of Testing Individual Piles under Static Axial Tensile Load

American Welding Society (AWS)

- D.1.1 Structural Welding Code - Steel
- D.1.4 Structural Welding Code - Reinforcing Steel

American Association of State Highway and Transportation Officials (AASHTO)

- T26 Quality of water to be used in concrete.

F25.02 Material -

- a. Water - Provide potable water for mixing grout from a consistent source in accordance with Section 720.1.
- b. Admixtures - Section 711.3 and as follows:

Admixtures conforming to ASTM C494/AASHTO M194 which control bleed, improve

flowability, reduce water content and retard set may be used in the grout subject to the review and acceptance of the Representative. Use admixtures compatible with the grout and mixed in accordance with the manufacturer's recommendations. Admixture use will only be permitted after meeting the set grout specific gravity requirements (see ASTM D4380). Accelerators will not be permitted. Do not use admixtures containing chlorides.

- c. Cement - Section 701 for Type II Portland cement. All cement must be supplied by one manufacturer.
- d. Fillers - Type A sand, conforming to Section 703.1 may be used in the grout in special situations, i.e. presence of large voids in the ground or when grout take and travel are to be limited, when approved.
- e. Reinforcement - Reinforcing steel must be all-thread bars conforming with ASTM A615/AASHTO M31, Grade 75 or ASTM A722/AASHTO M275 Grade 150.

Threaded couplers, if required, must develop 125% of the ultimate tensile strength of the bars.

- f. Pipe/Casing - Steel Casing. Provide new domestic steel casing with a minimum yield strength of 80 ksi meeting ASTM A252 Grade 3. Domestic N80 prime or new mill secondary steel casing with a minimum yield strength of 80 ksi is acceptable, provided it meets or exceeds the requirements of ASTM A252 Grade 3 and is accompanied by coupon testing and pedigree certification required by the Commission.

The minimum casing size, thickness and type is indicated on the plans. If a cutting shoe is used, its maximum outside diameter is not to exceed the outside diameter of the casing plus 1/4". Use flush joint type casing.

Threaded casing joints must develop at least the required nominal resistance used in the design of the micropile, as called out on plans.

- g. Centralizers - Provide centralizers fabricated from plastic, steel, or material that is non-detrimental to the reinforcing steel or grout. Do not use wood or aluminum.

F25.03 Design Criteria - Compression design load and the estimated top of rock, estimated top of bond zone, and estimated micropile tip elevations for each pile are shown on the drawings. The micropile field load testing is to verify the design bond zone length only. The design bond zone length is based on a presumptive design bond stress of 90 psi (ultimate 150 psi x 0.6 resistance factor). If the actual bond stress determined through field load testing is less than 90 psi (ultimate 150 psi x 0.6 resistance factor), the bond length shall be recalculated. Submit the revisions to the Representative for approval.

The finished top of bond zone elevation must be no higher than shown on the drawings.

The wall thickness of the steel pipe designated for use as external casing of the micropiles includes an allowance of 1/16" thickness sacrificial steel for corrosion protection. Corrosion protection is not required in the central bar.

F25.04 Construction -

a. Submittals.

1. Preconstruction Submittals. At least 15 calendar days before the planned start of micropile construction, submit the completed project reference list and a personnel list for the Contractor. The project reference list must include a brief project description with the owner's name and current phone number. The personnel list must identify the drill rig operators and on-site foremen to be assigned to the project. The personnel list must contain a summary of each individual's experience.

The Contractor must have experience in the construction of micropiles and have successfully constructed at least five projects in the last five years involving construction totaling at least 100 micropiles of similar capacity to those required in these Plans and Specifications. The Contractor must have previous micropile drilling and grouting experience in soil/rock similar to project conditions.

The Contractor's on-site foreman and drill rig operators must have experience on at least three projects over the past five years installing micropiles of equal or greater capacity than required in these plans and specifications.

The Representative will approve or reject the Contractor's qualifications within 10 calendar days after receipt of a complete submission. Additional time due to incomplete or unacceptable submittals will not be cause for time extension or impact or delay claims. Costs associated with incomplete or unacceptable submittals shall be borne by the Contractor.

Do not order materials or start work until receiving the Commission's written approval of the Contractor's experience qualifications. The Representative may suspend the work if the Contractor uses non-approved personnel. If work is suspended, the Contractor will be fully liable for associated costs and no adjustment in contract time will result from the suspension of work.

Submit Bridge Shop Drawings, in accordance with Section 105.02(c), for details not shown on the plans such as casing threads, splice details and centralizer details.

Submit Working Drawings, in accordance with Section 105.02(c), showing the following:

- Proposed sequence of pile installation, including pile number and location.
- Detailed step-by-step description of the proposed micropile construction procedure, including personnel, testing and equipment to assure quality control, in sufficient detail to allow the Representative to monitor the construction and quality of the micropiles.
- Information on headroom and space requirements for installation equipment, which verify that the proposed installation equipment can perform at the site.
- Detailed plan describing how surface water, drilling slurry, and excess waste grout will be controlled and disposed.
- Detailed grouting plan, including mix designs listing intended specific gravity/density, and methods and equipment used to place the grout while accurately monitoring and recording grout depth, grout volume and grout pressure.

- Procedure and equipment that the Contractor will use to monitor grout quality.
- Procedures for advancing through boulders and other obstructions.

If there are any deviations from the contract drawings, submit Design Calculations prior to the construction, prepared by a licensed Professional Engineer in the Commonwealth of Pennsylvania, for the bond zone reinforcement structural capacity and reinforcement size for approval. Include calculations for core reinforcement for piles subject to tension as well as piles subject to only compression. Also submit calculations for the structural and geotechnical resistance of the piles, including bond zone capacities, which reflect the actual casing pipe size and wall thickness to be used for approval.

Submit Design Calculations, prepared by a licensed Professional Engineer in the Commonwealth of Pennsylvania, for any proposed modifications to the micropile details, including modifications to bond length or diameters, which may result from the Micropile Static Load Verification Tests along with the results of the load tests for approval. Do not proceed with any modified details for the production micropiles until receiving the Commission's written approval of the modifications.

Do not order materials or start work until receiving the Commission's written approval of the Contractor's experience qualifications, Shop Drawings, Working drawings, and Design Calculations. The Representative may suspend the work if the Contractor uses non-approved personnel or materials. If work is suspended, the Contractor will be fully liable for associated costs and no adjustment in contract time will result from the suspension of work.

2. Construction Submittals. Submit the following material quality information during construction:

- Testing for the reinforcing steel and permanent casing showing the ultimate strength, yield strength, elongation, and material properties.
- Grout compression test results.

Prepare and submit an installation record for each micropile. See the attached example Micropile Installation Record. The installation records will include the following minimum information:

- Pile Identification
- Pile drilling start and finish times
- Actual pile location
- Actual top of Rock Elevation
- Actual top of Competent Rock Elevation
- Rock type and relative hardness
- Drilling penetration rates (for regular intervals along depth of pile)
- Final tip elevation
- Cut-off elevation
- Description of unusual installation behavior or conditions
- Grout pressures attained
- Results of specific gravity testing with mud balance
- Grout quantities pumped, including start and finish times

- Pile materials and dimensions
 - Deviations from plans
- b. Installation. The Contractor must select the drilling method, the grouting procedure, and the grouting pressure used for the installation of the micropiles. Do not damage adjacent facilities or newly installed piles.

Use drilling equipment and methods to provide an open borehole free of loose material and of minimum diameter and length, as indicated, prior to placing grout and reinforcement. Provide a minimum hole diameter of the rock socket that is nominally equal to the outside diameter of the casing.

Drill through overburden soil and rock to the bottom of the bond zone. Maintain a record of voids, fractures, and weak zones in general as drilling advances in the scheduled bond zone. Also maintain a record of penetration rate, torque, and/or any other penetration resistance with depth. If voids, fractures, or weak zones are encountered in the bond zone, determine bond length based on the following criteria:

- (1) If a segment with a length equal to the design bond length has voids or fractures/weak zone that sum less than 6 inches in length, the bond zone would extend an additional 1 foot.
- (2) If voids or fractures/weak zones sum more than 6 inches, continue the drilling until criteria 1 is satisfied.

Based on the presence of voids and some variation in top of rock elevations for borings at the same substructures, place the top-of-bond-zone/bottom-of-casing 3 feet below the top of rock, soft rock zones, or voids, in order to reduce the likelihood of excess grout loss below the bottom of casing.

Hole-stabilizing drilling fluid may be used if used in the verification load test and degradable with time. Do not use Bentonite-based muds as drilling fluid. Borehole must be open to the defined nominal diameter, full length, prior to placing grout and reinforcement.

Provide centralizers on central reinforcement. Locate the uppermost centralizer 5' maximum from the top of the central reinforcement. Centralizers must permit the free flow of grout without causing misalignment of the reinforcement.

Lower the central reinforcement steel with centralizers in a controlled manner into the stabilized drill holes to the desired depth. Do not drive or force partially inserted reinforcing bars into the hole. If for any reason the reinforcing bar cannot be freely inserted, the hole is to be grouted and re-drilled.

After the completion of drilling, the hole shall be grouted within one work shift. Tremie or inject grout beginning at the lower end of the drilled borehole. Fill the pipe casing with a 4,000-psi minimum 28-day compressive strength grout without voids inside or outside from bottom to top of micropile.

Completely fill with grout in one continuous operation the entire rock socket and annulus above rock.

Do not leave drill hole open for more than one work shift. If micropile construction cannot be completed within one work shift, backfill hole with grout and redrill the hole once micropile can commence. Provide temporary grout and redrilling at no additional cost to the Commission.

Verify pile top elevations and adjust all installed micropiles to the specified elevations.

Centerline of piling must not be more than 6" from indicated plan position.

Centerline of reinforcing steel shall not be more than 1/2" from actual installed pile centerline.

Pile alignment must be within 2% of design alignment (vertical or specified batter).

Maintain the top elevation of the installed micropile as specified on the contract plans.

- c. Grouting. Use verifiable means and methods of measuring the grout quality, quantity and pumping pressure during the grouting operations. Keep and provide records for inspection by the Representative that show the quantities, test data, and grout pressures.

Use a stable neat cement grout with a minimum 28-day unconfined compressive strength of 4,000 psi. If used, mix admixtures in accordance with manufacturer's recommendations.

Provide a colloiddally mixed grout free of lumps and undispersed cement. Use a mixer capable of continuous agitation of the grout. Monitor grout pressures with a pressure gauge equipped pump. The pressure gauge must be capable of measuring pressure twice the actual grout pressures used. Place a second pressure gauge at the point of injection. Size the grouting equipment to enable the grout to be pumped in one continuous operation.

Place required reinforcement bars in the rock socket using centralizers spaced at maximum 10' center-to-center spacing as shown on the contract plans. Place the upper-most and lower-most centralizers a maximum of 5' from the top and bottom of reinforcement bar, respectively. Use only threaded couplers for reinforcement splices. Do not weld reinforcement bars.

Use a grout tube or drill rods to pump cement grout from the lowest point of the drill hole. Place cement grout from the bottom-up on the same day that the load-transfer bond length is drilled. Place cement grout in one continuous operation until uncontaminated grout flows from the top of micropile. Control grout takes and grout pressure to prevent excessive heave or fracturing of the underlying rock formation.

Control the grout pressures and grout takes to prevent heave or damage to existing facilities.

Upon completion of grouting, the grout tube (if used) may remain in the hole, but fill it with grout.

Make six cubes, 2" per side, for each batch of grout. Test two cubes after 7 days cure,

two cubes after 28 days cure, and keep two in reserve. Cure and test cubes according to ASTM C109. Provide test reports to the Representative. If 7-day test results meet 28 day strength requirements, then 28-day strength testing is not required for that grout batch.

Test each grout batch using mud balance (ASTM D4380) to verify grout is similar to submitted mix design.

- d. Pile Splices. Construct pile splices to develop the full strength of the pile section and without eccentricity or kink angle between the axes of the two lengths spliced. Submit proposed pile splice details for review as per Preconstruction Submittals.
- e. Pile Damage. Replace, in a manner acceptable to the Representative, micropiles deemed unacceptable by the Representative due to improper or inadequate construction or due to damage caused by the Contractor. Prior to making a modification which requires changes to the structure, the Commission must review the modification and accept in writing.

F25.05 Measurement and Payment –

- a. Mobilization and Demobilization for Micropiles – Lump Sum
- b. Micropiles – Linear Foot. Measured from the pile tip elevation to the cutoff elevation.

Includes associated costs of furnishing, drilling, grouting, cutting off, splicing, rebuilding or extending, and excavation necessary for splicing, rebuilding or extending.

The Representative will reject micropile(s) because of damage, mislocation, misalignment or failure to meet other installation criteria. Replace rejected micropiles as directed, at no additional cost to the Commission.

**F26.00 MICROPILE STATIC PROOF LOAD TEST
(ITEM: 4000-1102)**

F26.01 Description – This work is performing static proof load testing on production piles at locations indicated on the contract plans. Testing is to be completed to confirm that the installation procedure has remained constant and to assure adequate bearing resistance.

F26.02 Qualifications – Contractor must have experience in the design and construction of micropile foundations and meet the following requirements:

- a. The qualification requirements in the Special Provision F25.00 Micropiles, 9.625" X 0.545"
- b. Registration Requirements: A registered Professional Engineer in the Commonwealth of Pennsylvania with experience in all aspects of pile load testing, to supervise and inspect the load tests and to prepare the final report of test results, all to the satisfaction of the Commission. The Professional Engineer is to be at the test site at all times during load testing to record test data.

F26.03 Material –

- a. Production Test Micropile. F25.00 Micropiles, 9.625" X 0.545". Use centralized reinforcement of the same grade and diameter as in production piles. Use Full-length

centralized reinforcement for tension test piles.

- b. Reaction Elements and Reaction Frame. Selected by the Contractor to provide satisfactory results over the full-range of load test, and structurally designed to be sufficiently rigid and of adequate dimensions such that excessive deformation of the testing equipment does not occur.
- c. Loading Apparatus. Calibrated load cell, hydraulic jack and two pressure gages, graduated in 100 psi increments over an operating range of 500 tons (1,000 ton ultimate capacity), with sufficient ram stroke to perform the complete load test without resetting the equipment, all in accordance with ASTM D1143 and ASTM D3689.
- d. Movement Monitoring Apparatus and Reference Beam. Reference beam with independent support piles; a minimum of two dial gages with a precision of at least 0.01", each with a travel of at least 4" to allow the load test to be performed without having to reset the dial gages; plate glass set perpendicular to the direction of the gage-stem travel to reduce friction at the end of the dial gages; and redundant piano wire, mirror and scale, all in accordance with ASTM D1143 and ASTM D3689.

F26.04 Construction -

- a. General. Perform static proof load tests on production piles to confirm that the construction procedure has remained constant for installation of production micropiles. Perform compression load testing in accordance with ASTM D1143 or tension load testing in accordance with ASTM D3689, except as modified herein. The location of the proof load test piles are shown on the contract plans. For purposes of this load test special provision, "DL" is defined as the unfactored design load as shown on the Foundation Plans.

Load micropiles to 147% of the unfactored design load (100% of the FACTORED design load) for static proof load tests ($TL_{MAX} \geq 1.47 \times DL$).

- b. Submittals. Submit to the Representative for review and approval, Working Drawings in accordance with Section 105.02(c) showing the following:
 1. Calibration data for each test jack, two pressure gages, and load cell to be used. Calibration must have been certified by an independent testing laboratory within the last 30 calendar days. The hydraulic jack and pressure gages are to be calibrated together as a system. Allow five working days after receipt of the data for the Commission's approval. Do not begin testing until the Representative has approved the certified calibration results.
 2. Detailed plans for the micropile load testing method, including drawings, details and structural design calculations necessary to clearly describe the proposed test method, reaction load system capacity and equipment setup, types, and accuracy of apparatus to be used for applying and measuring test loads and pile top-movement.
 3. Example forms showing the logging of test data and the final report.
- c. Waiting Period. Observe a waiting period of at least seven calendar days between installing the last test/reaction pile in the load test system and commencing the load test. Neighboring production micropiles may be used as reaction piles. The load test system may be setup during this period. The primary and auxiliary systems of measurement may also be setup during this period.

- d. Protection Measures. Protect the test pile, reaction pile, reaction frame and reference beam from wind, direct sunlight, frost action and other disturbance. Provide heat and a suitable enclosure, if required, to maintain an ambient air temperature in the immediate vicinity of the test pile and reference beam of not less than 50°F throughout the duration of the load test. Provide adequate lighting and a thermostat to monitor temperature for the full-duration of the load test.
- e. Testing Equipment and Data Recording. Provide dial gages, reference beam, hydraulic jack and two pressure gages, load cell and a reaction frame. Use the load cell during the creep portion of the load test to measure small changes in load.
- f. Loading Procedure. Align the hydraulic jack, bearing plates and stressing anchorage such that unloading and repositioning of the loading equipment is not required during the load test. Apply and measure the test load with the hydraulic jack and pressure gages. Monitor the applied load during the creep test hold-period with both the pressure gages and the load cell. Use the load cell to accurately maintain a constant load during each test hold-period. Measure the applied load and pile movement using procedures and apparatus in accordance with relevant sections of ASTM D1143 or ASTM D3689. Measure the pile top-movement with a minimum of two independent dial gages. Visually align the dial gages to be parallel with the axis of the micropile and support the dial gages independently from the hydraulic jack, test pile or reaction frame.
- g. Proof Test Loading Schedule. Incrementally load the test micropile in accordance with the following schedule. Measure pile top-movement at each load increment. Start measuring the hold time as soon as each test load increment is applied. Hold the 1.30 DL for 60 minutes. Measure and record pile top movement during the creep test hold-period at 1, 2, 3, 4, 5, 6, 10, 20, 30, 50 and 60 minutes.

STEP	INTERVAL	LOAD	HOLD TIME (MINUTES)
1	1	AL	2.5
2	2	0.15 DL	2.5
	3	0.30 DL	2.5
	4	0.45 DL	2.5
	5	0.60 DL	2.5
	6	0.75 DL	2.5
	7	0.90 DL	2.5
	8	1.00 DL	2.5
	9	1.15 DL	2.5
3	10	1.30 DL	60
4	11	1.47 DL	2.5
	12	1.47 DL	2.5
5	13	1.30 DL	5
	14	1.00 DL	5
	15	0.75 DL	5
	16	0.50 DL	5
	17	0.25 DL	5
	18	AL	5

AL = Alignment Load = 5% of the DL

DL = Unfactored Design Load = May vary at each substructure unit, see plans.

Remove the load and compare the results to the acceptance criteria.

- h. Test Results. Provide the load test results to the Commission in accordance with ASTM D1143 (or ASTM D3689) within 24 hours of test completion. The Representative shall review the load test results and submit a copy to the Commission within 48 hours of receipt from the Contractor. Do not install production piles until the Representative has approved the results for the load test.
- i. Acceptance Criteria for Proof Load Test. The acceptance criteria for micropile "proof" load tests are:
 - 1. At 1.0 DL during Step 2, the micropile top-movement is less than or equal to 0.3", relative to the position of the micropile top prior to testing (discount elastic deformation based on $\Delta = PL/AE$ and maximum estimated cased length, "L"; "L" to be measured in test pile, Δ recalculated, and verified by the Representative).
 - 2. At 1.3 DL during the creep test hold period in Step 3, the micropile top-movement is less than or equal to 0.04" between the 1 minute and 10 minute readings, or less than or equal to 0.08" between the 6 and 60 minute readings.
 - 3. At 1.47 DL during Step 4, the slope of the load versus micropile top-movement is less than or equal to 0.025" per kip of applied load.
- j. Removal of Reaction Elements and Reference Beam Supports. Cut-off and remove the reaction elements and reference beam supports to at least one foot below bottom of footing elevation, or at least one foot below bottom of sub-ballast elevation if outside the footing area, after receipt of written acceptance of the load test results by the Commission.
- k. If the micropile load tests fail(s) to meet the acceptance criteria, the Contractor will correct, in a manner acceptable to the Commission, material and/or installation deficiencies that led to the failure for production piles represented by the static proof load test.
- l. Perform an additional static proof load test if directed by the Commission.

F26.05 Measurement and Payment – Each

Includes preparing production pile for testing, furnishing load testing equipment, reaction pile and frame, tools, labor, services, materials and incidental work required to perform, monitor and report the results for the load test along with assistance to the Commission related to test performance and interpretation of test results. Installation of production piles are measured and paid for separately.

The Commission will not pay for Micropile Static Proof Load Tests on piles that fail. Nor will the Commission pay for Micropile Static Proof Load Tests when the Contractor has not performed the Micropile Static Proof Load Tests in accordance with this specification.

The Commission will not pay for correction of deficiencies in production piles identified from the proof load tests.

**F27.00 MICROPILE STATIC VERIFICATION LOAD TEST
(ITEM: 4000-1103)**

F27.01 Description – This work is performing a pre-production, static verification load test on test piles at locations indicated on the contract plans. Testing is to be completed prior to installation of production piles to confirm the Contractor's installation methods and plan, and to provide the required bearing capacity of the production piles for foundations.

F27.02 Qualifications – Contractor must have experience in the design and construction of micropile foundations and meet the following requirements:

- a. The qualification requirements in the Special Provision F25.00 Micropiles, 9.625" X 0.545".
- b. Registration Requirements: A registered Professional Engineer in the Commonwealth of Pennsylvania with experience in all aspects of pile load testing, to supervise and inspect the load test(s) and to prepare the final report of test results, all to the satisfaction of the Commission. The Professional Engineer is to be at the test site at all times during load testing to record test data.

F27.03 Material –

- a. Pre-Production Test Micropile. F25.00 Micropiles, 9.625" X 0.545". Same type, length, cross-section, and details as the production micropile. Use the same grade of centralized reinforcement and of the same diameter as in production piles. Use full-length centralized reinforcement for tension test piles.
- b. Reaction Elements and Reaction Frame. Selected by the Contractor to provide satisfactory results over the full-range of load test, and structurally designed to be sufficiently rigid and of adequate dimensions such that excessive deformation of the testing equipment does not occur.
- c. Loading Apparatus. Calibrated load cell, hydraulic jack and two pressure gages, graduated in 100 psi increments over an operating range of 500 tons (1,000 ton ultimate capacity), with sufficient ram stroke to perform the complete load test without resetting the equipment, all in accordance with ASTM D1143 and ASTM D3689.
- d. Movement Monitoring Apparatus and Reference Beam. Reference beam with independent support piles; a minimum of two dial gages with a precision of at least 0.01", each with a travel of at least 4" to allow the load test to be performed without having to reset the dial gages; plate glass set perpendicular to the direction of the gage-stem travel to reduce friction at the end of the dial gages; and redundant piano wire, mirror and scale, all in accordance with ASTM D1143 and ASTM D3689.

F27.04 Construction –

- a. General. Use the static verification load test to confirm the bearing resistance and suitability of the installation method for production micropiles at the bridge foundations. Complete the verification load test prior to installation of any production micropiles, for each substructure. Perform compression load testing in accordance with ASTM D1143, or tension load testing in accordance with ASTM D3689 except as modified herein. The location of the verification load test piles are shown on the contract plans. For purposes of this load test special provision, "DL" is defined as the unfactored design load as shown

on the Foundation Plans.

Load micropile to 200% of the unfactored design load for the static verification load test ($TL_{MAX} \geq 2.0 \times DL$). Use no production piles in the verification load test, for either the load pile or the reaction piles.

- b. Submittals. Submit to the Representative for review and approval, working drawings in accordance with Section 105.02(c) showing the following:
 1. Calibration data for each test jack, two pressure gages, and load cell to be used. Calibration must have been certified by an independent testing laboratory within the last 30 calendar days. The hydraulic jack and pressure gages are to be calibrated together as a system. Allow five working days after receipt of the data for the Commission approval. Do not begin testing until the Representative has approved the certified calibration results.
 2. Detailed plans for the micropile load testing method, including drawings, details and structural design calculations necessary to clearly describe the proposed test method, reaction load system capacity and equipment setup, types, and accuracy of apparatus to be used for applying and measuring test loads and pile top-movement.
 3. Example forms showing the logging of test data and the final report.
- c. Waiting Period. Observe a waiting period of at least seven calendar days between installing the last test/reaction pile in the load test system and commencing the load test. The load test system may be setup during this period. The primary and auxiliary systems of measurement may also be setup during this period.
- d. Test Pile Installation. Install the test pile with the same equipment, criteria and procedures as that planned for the production micropiles. Use identical drilling and grouting methods, casing and reinforcement details, and depth of embedment for both the test pile and production pile, except where approved otherwise by the Commission. Use the same grade centralized reinforcement and of the same diameter as in production piles. Full-length centralized reinforcement is acceptable for tension load tests. Install the test pile and perform the verification load test prior to installation of the production micropiles. Install the test pile and reaction elements in locations that will not interfere with future construction and allow sufficient time for the cement grout to attain its design strength. After the test pile is installed, cut off the end of the test pile in such a manner as to ensure a planar cut-off surface that is perpendicular to the longitudinal axis of the test pile.
- e. Protection Measures. Protect the test pile, reaction pile, reaction frame and reference beam from wind, direct sunlight, frost action and other disturbance. Provide heat and a suitable enclosure, if required, to maintain an ambient air temperature in the immediate vicinity of the test pile and reference beam of not less than 50°F throughout the duration of the load test. Provide adequate lighting and a thermostat to monitor temperature for the full-duration of the load test.
- f. Testing Equipment and Data Recording. Provide dial gages, reference beam, hydraulic jack and two pressure gages, load cell and a reaction frame. Use the load cell during the creep portion of the load test to measure small changes in load.

- g. Loading Procedure. Align the hydraulic jack, bearing plates and stressing anchorage such that unloading and repositioning of the loading equipment is not required during the load test. Apply and measure the test load with the hydraulic jack and pressure gages. Monitor the applied load during the creep test hold-period with both the pressure gages and the load cell. Use the load cell to accurately maintain a constant load during each test hold-period. Measure the applied load and pile movement using procedures and apparatus in accordance with relevant sections of ASTM D1143 or ASTM D3689. Measure the pile top-movement with two independent dial gages. Visually align the dial gages to be parallel with the axis of the micropile and support the dial gages independently from the hydraulic jack, test pile or reaction frame.
- h. Verification Test Loading Schedule. Incrementally load the test micropile in accordance with the following schedule. Measure pile top-movement at the end of the hold time for each load increment. Start measuring the hold time as soon as each test load increment is applied. Hold the 1.30 DL for 60 minutes. Measure and record pile top-movement during this 1.30 DL hold-period at 1, 2, 3, 4, 5, 6, 10, 20, 30, 50 and 60 minutes.

STEP	INTERVAL	LOAD	HOLD TIME (MINUTES)
1	1	AL	2.5
	2	0.15 DL	2.5
2	3	0.30 DL	2.5
	4	0.45 DL	2.5
	5	AL	1
3	6	0.15 DL	1
	7	0.45 DL	1
	8	0.60 DL	2.5
	9	0.75 DL	2.5
	10	0.90 DL	2.5
	11	1.00 DL	2.5
4	12	AL	1
	13	0.15 DL	1
	14	1.00 DL	1
5	15	1.15 DL	2.5
	16	1.30 DL	60
6	17	1.45 DL	2.5
	18	AL	1
7	19	0.15 DL	1
	20	1.45 DL	1
	21	1.60 DL	1
	22	1.75 DL	2.5
	23	1.90 DL	2.5
	24	2.00 DL	10
	25	1.50 DL	5
	26	1.00 DL	5
	27	0.50 DL	5
28	AL	5	

AL = Alignment Load = 5% of the DL

DL = Unfactored Design Load = May vary at each substructure unit; see plans

Remove the load and compare the results to the acceptance criteria.

- i. Test Results. Provide the load test results to the Commission in accordance with ASTM D1143 (or ASTM D3689) within 24 hours of test completion. The Representative shall review the load test results and submit a copy to the Commission within 48 hours of receipt from the Contractor. Do not install production piles until the Representative has approved the results for the load test.
- j. Acceptance Criteria for Verification Load Test. The acceptance criteria for micropile "verification" load tests are:
 1. At 1.0 DL during Step 3, the micropile top-movement is less than or equal to 0.3", relative to the position of the micropile top prior to testing (discount elastic deformation based on $\Delta = PL/AE$ and maximum estimated cased length, "L"; "L" to be measured in test pile. Δ recalculated, and verified by the Representative).
 2. At 1.3 DL during Step 5 (the creep test hold period), the micropile top-movement is less than or equal to 0.04" between the 1 minute and 10 minute readings, or less than or equal to 0.08" between the 6 and 60 minute readings.
 3. At 2.0 DL during Step 7, the slope of the load versus micropile top-movement is less than or equal to 0.025" per kip of applied load.
- k. Removal of Reaction Elements and Reference Beam Supports. Cut-off and remove the reaction elements and reference beam supports to at least one foot below bottom of footing elevation, or at least one foot below bottom of sub-ballast elevation if outside the footing area, after receipt of written acceptance of the load test results by the Commission.
- l. If the micropile load tests fail(s) to meet the acceptance criteria, the cause(s) will be established and the micropile design and/or installation methods will be modified.
- m. Retest the modified system if directed by the Commission.

F27.05 Measurement and Payment – Each

Includes installing and preparing the test pile and test pile area, furnishing load testing equipment, reaction piles and frame, tools, labor, services, materials and incidental work required to perform, monitor and report the results for the load test along with assistance to the Commission related to test performance and interpretation of test results.

Commission will not pay for Micropile Static Verification Load Tests on piles that fail. Nor will the Commission pay for Micropile Static Verification Load Tests when the Contractor has not performed the Micropile Static Verification Load Tests in accordance with this specification.

F28.00 **PRICE ADJUSTMENT FOR STEEL COST FLUCTUATIONS**
(ITEM: 4000-0070)

These requirements provide for a price adjustment, in the form of a payment to the Contractor or a rebate to the Commission, for fluctuations in the cost of the steel used in the applicable materials placed as part of the construction work specified in Sections 948, 1005, 1050, 1056, 1080 and 1085.

- (a) **General.** These price adjustment provisions apply to items in the contract Schedule of Prices, as specified above, including any modified standard or non-standard item where the work to be performed includes incorporation of one or more of the applicable steel materials specified in the above Sections and addressed herein. Additionally, items in the lump sum breakdown for an "as-designed" or alternate design structure will be included when applying the specified price adjustment requirements, provided the work to be performed includes incorporation of one or more of the applicable steel materials specified in the above Sections and addressed herein. Steel hood plates for barriers; as well as pile tip reinforcement, high load multi-rotational bearings, expansion dams, shear connectors, and scuppers and downspouting; will not be subject to the price adjustment criteria and conditions specified herein.

The Department posts a monthly index price for steel (\$ per ton) based on data obtained from the U.S. Department of Labor (USDOL), Bureau of Labor Statistics, which publishes monthly Producer Price Index (PPI) values for various commodities. The statewide index price for steel will be based on the PPI value posted by USDOL for "Semi-finished Steel Mill Products" (Series ID: WPU101702). The Department will post its monthly index price for steel after the USDOL lists the PPI value on which it is based as final.

The "base/benchmark" index price, SB, will be the steel index price posted by the Department, determined as specified above, for the month in which project letting occurred.

The "invoice" index price, SI, will be the steel index price posted by the Department, determined as specified above, for the month in which applicable steel material is invoiced by the mill providing necessary raw steel materials.

Steel material will be considered invoiced as of the date when an invoice from a steel mill is sent to the Contractor or to a subcontractor, fabricator, manufacturer or supplier. The steel price adjustment provisions specified herein are not applicable to raw steel material having a mill invoice date that precedes the project letting date. On a quarterly basis, provide documentation of the invoice date for applicable steel material incorporated into the work during the prior 3-month period. Documentation is to be in the form of a tabulation that lists all material invoiced during the period, in chronological order by invoice date; the quantity invoiced; and the applicable contract item(s) and corresponding project location(s) where the invoiced quantity or portion thereof was incorporated, along with copies of supporting invoices. Have a representative of the Contractor, authorized to make such statements, certify that the information provided in the tabulation is complete and accurate and may be relied upon by the Commission.

Failure to provide the required tabulation within 10 calendar days of the end of each, applicable 3-month period will result in the Commission computing a price adjustment (rebate or increase) using a value for SI that results in the greatest possible price rebate or least possible price increase based on the monthly index prices posted by the Department, to date, since work on the project began.

- (b) **Price Adjustment Criteria and Conditions.** The following criteria and conditions will be considered in determining a price adjustment for steel cost fluctuations.

1. **No Price Adjustment.** When the ratio SI/SB falls within the range of 0.95 to 1.05, no price adjustment will be made for applicable steel material having an invoice date that falls within the

month for which the SI index price was posted.

2. **Price Rebate.** When the ratio SI/SB is calculated to be less than 0.95, the Commission will receive an automatic price rebate, for applicable steel material having an invoice date that falls within the month for which the SI index price was posted, to be determined in accordance with the following formula:

$$P.R. = (0.95 - SI / SB) (SB) (ST)$$

where:

- P.R. = Price Rebate
- SI = Index price for the month in which applicable steel material is invoiced.
- SB = Index price for the month in which project letting occurred.
- ST = Quantity (tons) of applicable steel material incorporated into the work during the applicable 3-month period.*

*Computed based on the quantity paid, under applicable contract items, on current estimates processed during the 3-month period addressed in the tabulation provided by the Contractor. Not to exceed the total tonnage of applicable steel material invoiced during the month for which the SI index price was posted, as shown on the Contractor's tabulation.

3. **Price Increase.** When the ratio SI/SB is calculated to be greater than 1.05, the Contractor will receive a price increase, for applicable steel material having an invoice date that falls within the month for which the SI index price was posted, to be determined in accordance with the following formula:

$$P.I. = (SI / SB - 1.05) (SB) (ST)$$

where:

- P.I. = Price Increase
- SI = Index price for the month in which applicable steel material is invoiced.
- SB = Index price for the month in which project letting occurred.
- ST = Quantity (tons) of applicable steel material incorporated into the work during the applicable 3-month period.*

* Computed based on the quantity paid, under applicable contract items, on current estimates processed during the 3-month period addressed in the tabulation provided by the Contractor. Not to exceed the total tonnage of applicable steel material invoiced during the month for which the SI index price was posted, as shown on the Contractor's tabulation.

4. **Equivalent Tonnage.** For applicable steel material furnished under a separate contract item, the equivalent steel tonnage will be computed as indicated in the following sections:

4.a Piles. For applicable steel beam bearing piles, cast-in-place concrete bearing piles, cast-in-place concrete piles, and steel pipe piles, furnished under a separate contract item or as an item associated with an alternate design structure, the equivalent tonnage is computed as follows:

4.a.1 Steel H-Piles.

$$\text{Steel Tonnage (ST)} = (\text{UW})(\text{Q}) / 2000$$

where:

- UW = Unit Weight of the Steel Beam* (pounds per foot)
- Q = Quantity (linear feet) of steel piles paid on current estimates processed during the applicable 3-month period.

* The unit weight of steel will be the second of the two numbers associated with the size designation for the beam as cited in the item description (i.e. If the item description is "Steel Beam Bearing Piles, HP12x74", the unit weight of the steel is 74 pounds per foot).

4.a.2 Cast-in-Place Concrete Piles.

$$\text{Steel Tonnage (ST)} = 2.80 (\text{D})(\text{Q}) / 2000$$

where:

- D = Diameter of the steel shell (inches)*
- Q = Quantity (linear feet) of cast-in-place concrete piles paid on current estimates processed during the applicable 3-month period.

* From the approved structure Plans or field measurements. For cylindrical shells of varying diameter, a weighted average diameter will be used, computed based on the number of shells of each diameter actually installed. For tapered shells, an average diameter will be used, computed as the average of the shell diameters at the butt end and at the tip.

4.a.3 Pipe Piles.

$$\text{Steel Tonnage (ST)} = 6.70 (\text{D})(\text{Q}) / 2000$$

where:

- D = Diameter of the steel pipe (inches)*
- Q = Quantity (linear feet) of pipe piles paid on current estimates processed during the applicable 3-month period.

* From the approved structure Plans or field measurements.

4.b Steel Sign Structure. For applicable steel sign structures constructed under a separate contract item, the equivalent tonnage is computed as follows:

$$\text{Steel Tonnage (ST)} = (\text{Q}) / 2000$$

where: Q = Quantity (pounds) of steel in each sign structure, or portion thereof, paid on current estimates processed during the applicable 3-month period.*

*Not to exceed the estimated weight of each sign structure as indicated on the structure Plans.

4.c Fabricated Structural Steel. For applicable fabricated structural steel; furnished under a separate contract item or as an item associated with an "as-designed" or alternate design structure; the equivalent tonnage is computed as follows:

$$\text{Steel Tonnage (ST)} = (Q) / 2000$$

where: Q = Quantity (pounds) of fabricated structural steel girders, rolled beams, angle, and plate paid on current estimates processed during the applicable 3-month period.

4.d Precast Reinforced Concrete Box Culverts and Prestressed Concrete Bridge Beams. For applicable precast reinforced concrete box culvert segments and prestressed concrete bridge beams, furnished under a separate contract item or as an item associated with an "as-designed" or alternate design structure, the equivalent tonnage is computed as follows:

$$\text{Steel Tonnage (ST)} = (UW)(Q)/2000$$

where:

UW = Unit Weight (pounds per foot) of reinforcing steel in a box culvert segment or of reinforcing steel and prestressing strands in a prestressed bridge beam.*

Q = Quantity (linear feet) of precast reinforced concrete box culvert segments and prestressed concrete bridge beams paid on current estimates processed during the applicable 3-month period.

* Submit documentation indicating the weight (pounds) of reinforcing steel included in and the length (feet) of each box culvert segment, and the weight (pounds) of mild reinforcing steel and prestressing strands included in and the length (feet) of each prestressed bridge beam. UW will be computed as the average of the unit weight of steel (i.e. weight of steel divided by length) in each box culvert segment, or as the average of the unit weight of steel (i.e. weight of steel divided by length) in each prestressed bridge beam. Documentation must be submitted at the time required shop drawings are submitted for approval.

5. **Payment/Rebate.** A predetermined amount will be included in the Schedule of Prices for Price Adjustment for Steel Cost Fluctuations to provide for the necessary adjustment in the cost of steel used in applicable construction work and for which adjustment is appropriate. Any and all adjustments for the increased or decreased cost of steel used during the course of the contract and applicable to the aforementioned items will be provided under this item.
6. **Expiration of Contract Time.** When eligible materials are purchased after expiration of contract time and liquidated damages are chargeable, the value for SI used to compute the price adjustment will be either the index price for the month in which applicable steel material is invoiced or the index price at the time contract time expired, whichever is less.
7. **Final Quantities.** Upon completion of the work and determination of final pay quantities, a final contract adjustment may be prepared to reconcile any difference between estimated quantities previously paid and the final quantities. In this situation, the value for SI used in the price adjustment formula will be the average of all SI values previously used for computing price adjustments.

8. **Inspection of Records.** The Commission, through the Office of Inspector General, reserves the right to inspect the records of the prime contractor and its subcontractors and material fabricators and suppliers to ascertain actual invoicing dates and quantity information for the steel material used in the performance of applicable items of work.
9. **Extra Work.** When applicable items of work, as specified herein, are added to the contract as Extra Work, in accordance with the provisions of Section 110.03, no price adjustment will be made for fluctuations in the cost of the steel used in manufacturing the materials placed during performance of the extra work. The current price for steel is to be used when preparing required backup data for extra work to be performed at a negotiated price. For extra work performed on a force account basis, reimbursement of actual material costs, along with the specified overhead and profit markup, will be considered to include full compensation for the current cost of steel.

**F29.00 REMOVE AND DISPOSE EXISTING HAR, SIGN AND EQUIPMENT
(ITEM: 4000-0027)**

F29.01 Description - This work is the removal and disposal of existing Highway Advisory Radio (HAR) equipment, cabinets, signs, posts, and foundations.

F29.03 Construction - Seven calendar days before any demolition work begins, contact Mr. Ray Zanzinger of Transcore at (717) 939-9551 ext. 7630 to inform him of the schedule for removal to allow them to remove salvageable equipment from the site. Receive express permission by the Representative prior to taking any equipment out of service or removing it.

Safely disconnect and permanently terminate any electrical service that will not be needed for the final conditions.

Remove all foundations that do not conflict with the new construction to at least 1 foot below finished grade. If foundations conflict with new construction, remove them completely. Safely remove HARs, sign assemblies, beacons, structures, foundations and all other appurtenances and properly dispose of all items outside of the Turnpike right-of-way.

F29.04 Measurement and Payment - Lump Sum. Includes all labor, materials, hardware, and delivery costs

**F30.00 TEMPORARY SHORING
(ITEM: 2203-2101)**

F30.01 Description - This work is the geotechnical investigation, design, construction, maintenance, monitoring, and removal of temporary shoring. This specification applies to all temporary shoring identified on the plans and any shoring required by the Contractor's means and methods.

F30.02 Materials - Materials need not be new but must be in serviceable condition. Provide certification or laboratory test results verifying material properties. For used steel, the salvage design values from the AASHTO Guide Design Specifications for Bridge Temporary Works may be used in lieu of testing. Any temporary shoring material used does not have to be from a Bulletin 15 source, but must meet the following:

- Structural SteelAASHTO M270 (ASTM A709)(Grade 36, Grade 50 or Grade 50W)
- Steel Sheet PilingASTM A328 (ASTM A572)
- Sheet H-Piles.....AASHTO M270 (ASTM A709)(Grade 36)
- Wood LaggingRough Cut Species in AASHTO Guide Spec Appendix A and AASHTO Construction Handbook for Bridge Temporary Works Appendix C.
- CementAASHTO M85 and AASHTO M 240
- Pre-Stressing SteelASTM A416 Grade 270 and ASTM A722 Grade 150
- Welding Wire Fabric .AASHTO M55 (ASTM A185)
- Reinforcement Bars ...AASHTO M31 (ASTM A615), ASHTO M42 (ASTM A616, ASTM A617)(Grade 60)
- Other Material.....In accordance with applicable sections of Publication 408

F30.03 Construction –

- (a) Qualifications – Superintendent or Foreman – Experienced in the construction of the approved temporary shoring system constructed in similar subsurface conditions. Submit a resume showing at least 5 projects which demonstrate a minimum of 5 years of the required experience. Include a brief description of each project, including location and project contract value, and the name and phone number of the owner's representative knowledgeable in each project listed.

Professional Engineer – Licensed in Pennsylvania and experienced in the design of a temporary shoring system in similar subsurface conditions. Submit a resume showing at least 5 projects which demonstrate a minimum of 5 years of the required experience. Include a brief description of each project, including location and project contract value, and the name and phone number of the owner's representative knowledgeable in each project listed.

Inspector – Submit for review and approval the name and certification number of the PennDOT certified drilling inspector responsible for boring inspection and relogging of existing borings.

Drilling Contractor – Must possess PennDOT prequalification work class code C2.

- (b) Geotechnical Investigation – No historic data review, geotechnical reconnaissance, investigation of static groundwater conditions or geotechnical laboratory testing has been performed for the specific purpose of supporting the temporary shoring design. A limited number of borings have been drilled in the vicinity of the locations where temporary shoring is anticipated. Coordinate with the Commission's Drilling Manager for access to core boxes; allow for a minimum of 3 days advance notice. Testing of soil and rock samples from any existing core boxes is permitted after the contract has been awarded. Have any soil, rock, and water sample testing performed by an AMRL certified laboratory.

It is the Contractor's responsibility to fully characterize the relevant site conditions and to perform any needed additional investigation or testing. This includes performing additional borings, at locations and to depths recommended by the Contractor's engineer, to support the design of the Contractor's shoring system. Borings are to be advanced by an approved drilling contractor and in accordance with the drilling procedures of

PennDOT Publication 222. Provide a PennDOT certified drilling inspector to relog any existing borings from the core boxes which the Contractor's engineer intends to use for the shoring design. Also provide a PennDOT certified drilling inspector to inspect any new borings. Boring logs from the additional borings performed by the Contractor will become property of the Commission.

The subsurface investigation, boring logs from relogged borings and any new boring logs are to be prepared, signed and sealed in accordance with PennDOT Publication 222 requirements, by a Professional Engineer licensed in the Commonwealth of Pennsylvania.

Traffic control required for the additional borings will be in accordance with the Maintenance and Protection of Traffic special provision.

(c) Design – Allowable shoring types for the locations indicated are:

Cut, top down walls, such as but not limited to soldier pile and lagging walls, soil nail walls, sheet pile walls, etc.

Cut slopes in lieu of structural shoring are not permitted at locations where temporary shoring is indicated.

Design the temporary shoring in accordance with AASHTO LRFD Bridge Design Specifications, Design Manual Part 4, current FHWA guidelines, and AASHTO Guide Specifications. The temporary shoring calculations and drawings will be prepared, signed and sealed by a Professional Engineer licensed in the Commonwealth of Pennsylvania. Design shoring to resist both earth and water forces. Design temporary shoring for all construction conditions, including groundwater influences and potential pore pressure variations (e.g. dewatering activities, perched water conditions, etc.). Include measures to prevent infiltration of surface water run-off from entering backfill behind shoring and excavated area. Where appropriate in the design, include surcharge loads due to vehicle traffic and other construction equipment and/or other conditions identified by the Contractor's engineer during the design. In the design calculations, include all material properties, design loads, and design assumptions. On the completed detailed drawings of the temporary shoring system, include all design dimensions, limits of work, elevations, ground profiles, cross sections, materials, member sizes and the construction sequence. Provide cutoff elevations of steel and wooden components for work in streambeds. As a part of the design submission, include all results of investigations performed to support the design. This includes boring logs for the Contractor's subsurface investigation, relogged borings, laboratory testing data, piezometric data, subsurface profiles and cross sections, etc.

Submit the temporary shoring calculations and drawings to the Representative for approval 21 days prior to beginning temporary shoring work. The submission will only be reviewed by the Commission for compliance with the requirements of this specification and for recognition that the design was completed and sealed by a Professional Engineer licensed in the Commonwealth of Pennsylvania. The suitability and performance of the temporary shoring system is solely the responsibility of the Contractor.

(d) Installation and Monitoring – The work must be supervised by a Superintendent or

Foreman that will be on site during the installation of the temporary shoring.

Install temporary shoring in accordance with the applicable sections of Publication 408, current FHWA guidelines, AASHTO Guide Specifications, and the approved temporary shoring drawings. Install temporary shoring no closer to any paved roadway or shoulder than allowed by the Traffic Control Plan.

Have a Professional Engineer, registered in the State, certify that the temporary shoring system has been installed as shown on the Professional Engineer's approved signed and sealed Temporary Shoring plans. Submit the certification to the Representative prior to beginning work in the shored area. The Contractor is responsible for the adequacy and safety of the temporary shoring, and its compliance with the traffic control for the project.

Monitor the temporary shoring for vertical and horizontal movement on a weekly basis, or at a shorter frequency as determined by the Contractor's engineer, throughout the construction duration of the project. Ensure the safety of the motoring public as well as project workers.

1. Establish a survey pattern of ground surface points to include points both at the wall face spaced a maximum of 20 feet in profile and in cross section as necessary to detect movements on the order of 0.001H (where 'H' is equal to the maximum exposed wall height in feet at any time during construction).
2. Record baseline readings prior to performing any excavation.
3. The monitoring program shall include, as a minimum, the following:
 - a. Measurement of vertical and horizontal deflection at the top of wall, as well as the ground surface and/or roadway behind the wall.
 - b. Measurement and recording of the location and width of ground cracks and other signs of disturbance in the ground behind the top of wall, through weekly visual inspection during construction. Repair cracks in bituminous surfaces on a weekly basis with infilling of bitumastic material.
 - c. Record and report measurements to an accuracy of a tenth of an inch.

Permissible horizontal and/or vertical deflections include the following, unless more stringent criteria are determined to be required by the Contractor's engineer:

- 1.0 inch or 0.005H, whichever is less, (where 'H' is equal to the maximum exposed wall height in feet at any time during construction) at top of wall supporting traffic.
- No (zero) ground movement is permitted at the limit of right of way or limit of temporary construction easement.

When detected movement exceeds 75% of the permissible movement criteria, notify the Representative and monitor the temporary shoring at a frequency determined by the Representative. In the event that any of the monitoring program locations identify horizontal and/or vertical deflections exceeding the permissible movement criteria, immediately stop work in the areas adjacent to the temporary shoring and notify the Representative. Perform an evaluation of the condition and submit a report to the Representative. Prepare and implement remediation plan to resolve the issues. Work cannot resume until all necessary actions, as determined by the Contractor's engineer and accepted by the Representative, are taken to stabilize the temporary shoring. Remediation actions and costs are the responsibility of the Contractor.

At no cost to the Commission, repair any damage to roadway surfaces or other facilities

that are adversely affected as the result of the installation, movement, and/or instability of the temporary shoring.

- (e) Maintenance and Removal – Maintain the temporary shoring in a serviceable condition.

Remove the temporary shoring when no longer required, unless otherwise indicated or approved to remain in place. Where temporary shoring is allowed to remain in place, at a minimum, remove all temporary shoring within 3 feet of the finished grade or roadway surfaces. The limits of removal may be ordered to any depth or limits by the Representative, based on site conditions or needs of the project.

No adjustments in contract time will be allowed as the result of delays due to incomplete submissions, subsurface investigation, temporary shoring design, failure of the shoring system, and/or for repair of the failed shoring system and affected roadway or other improvements.

- F30.04 Measurement and Payment – Lump Sum, for the structure(s) and/or location(s) indicated.

Temporary shoring required by the Contractor's means and methods is incidental to the class of excavation where the temporary shoring is needed.

**F31.00 ROCK CONSTRUCTION ENTRANCE WITH WASH RACK
(ITEM: 4849-0002)**

- F31.01 Description – This work is the construction, maintenance and removal of a temporary construction entrance with wash rack (RCE-WR) in accordance with this special provision and as indicated on the construction drawings.

- F31.02 Material – In accordance with Section 849.2 and as follows:

Wash Rack –

Reinforced Concrete, Section 704 & Section 709.

Welded Steel Pipe, Section 601.2(a).4.d

- F31.03 Construction – As shown on the standard drawings, as indicated and as follows:

Clear and grub the footprint of the rock construction entrances as specified in Section 201.3.

Construct the rock construction entrance within the legal right-of-way by excavating as specified in Section 203.3.

Place the geotextiles, as specified in Section 212.3(e).

Provide satisfactory drainage through the rock construction entrance.

When directed, place additional aggregate to satisfactorily maintain the rock construction entrance.

When the rock construction entrance with wash rack is no longer needed, as directed, remove the entrance and restore the area as specified in Section 105.14.

F31.04 Measurement and Payment – Each.

**F32.00 SINKHOLE TREATMENT IN SOIL
(ITEM: 4000-00100)**

F32.01 Description – This work is the repairing of sinkholes in soil, encountered during proposed construction as directed by the Representative as shown on Special Detail “Sinkhole Repair in Soil Detail”. This work is intended to be consistent with DM-4 (2015) and Strike-off Letter 421-08-05 dated July 17, 2008 titled Ground Subsidence Management Guidelines. References to “shot rock” in the strike-off-letter will be implemented following “rock” in accordance with Section 206.

F32.02 Material –

- (a) Rock Class R-3 – Section 850.2
- (b) Coarse Aggregate, No. 2A –Section 703.2
- (c) Coarse Aggregate, No. 2RC – Section 703.3
- (d) Geotextile, Class 4, Type C – Section 735.1

F32.03 Construction –

- (a) Repair the sinkhole as directed by the Representative. Typical repairs for a sinkhole in soil with infiltration desired are as follows:
- (b) Excavate the soft soils and loose rock from the central portion of the sinkhole and place in nearby stockpile. Remove any boulders and loose rock pieces present in the stockpiled soil. These soils may be used for backfilling after scarifying and drying to suitable moisture content.
- (c) Flush hole with water as directed by the Representative.
- (d) Excavate soft/wet material. Remove the slumping soils, if any, to a nearby stockpile and remove any boulders and loose rock pieces present in the stockpiled soil. These soils may be used for backfilling after scarifying and drying to suitable moisture content.
- (e) Backfill with rock to within 6-feet of the ground surface in a fashion consistent with CS-206. Compact the rock loads with the backhoe or track-hoe bucket as directed by the Representative.
- (f) Choke rock with 2A or 2RC coarse aggregate as directed by the Representative. A minimum of 2-feet thick coarse aggregate layer should be placed in the excavation in a fashion similar to a base course, and compacted in accordance with Section 320.3(c) of Publication 408.
- (g) Place Class 4, Type C Geotextile over the coarse aggregate, extending a minimum of 2-feet beyond the limits of the soft soil and loose rock excavated in (2) and (4) above.
- (h) Backfill the excavation with on-site excavated soil, with a minimum thickness of 4-feet on a fashion consistent with CS-206.

F32.04 Measurement and Payment – Predetermined Amount

**F33.00 SUMP PIT
(ITEM: 4000-0800)**

F33.01 Description – This work is furnishing, placing, maintaining, and removing a sump pit as shown on the Erosion and Sediment Pollution Control Plans in the Contract Drawings and as directed.

F33.02 Material –

- (a) Aggregate – AASHTO No. 57 Stone
- (b) Perforated CMP or PVC Pipe – Section 601

F33.03 Construction – Maintain the sump pit as required to construct the project. When completed, remove the perforated pipe, restore the area to its original condition, and suitably dispose of waste material.

Excavation necessary to construct the sump pit is incidental to this item of work. Suitably dispose of excavated material.

F33.04 Measurement and Payment – Each

**F34.00 TEMPORARY RAILROAD CROSSING
(ITEM: 4000-0001)**

F34.01 Description - This work is the design, installation, maintenance, and removal of a temporary at-grade railroad crossing as required to complete the new bridge construction.

F34.02 Materials – As specified or approved by Norfolk Southern Railroad.

F34.03 Construction – Submit a Private Road Crossing Application and required attachments and application fees to Norfolk Southern Railroad for review and approval.

F34.04 Measurement and Payment – Lump Sum to include application fees for the number of temporary crossing proposed by the Contractor.

F35.00 MILLED MATERIAL 04/01/16

F35.01 Description - Incorporate milled material into various areas throughout the project that include, but are not limited to recycled bituminous mixes. The use of RAP must be in accordance with PaDEP's RAP Industry-wide Coproduct determination. Deliver approximately ___ tons of milled material to the _____ Maintenance Building at Milepost _____. Remove from the Commission right-of-way any surplus milled material not incorporated into these various areas.

F35.04 Measurement and Payment -

Payment for all labor, material, equipment, and work to use milled material in various areas throughout the project including recycled bituminous mixes will be as specified for those items of work. No separate or additional payment will be made to deliver to

_____ Maintenance Building or to remove from Commission right-of-way.

**F36.00 SPECIAL ROLLING
(ITEM: 3208-0001)**

F36.01 Description – This work is the as directed special rolling of areas of embankment foundations, pavement subgrade, stormwater management basins, sinkhole areas and any other areas suspected of being unstable even after normal stabilization procedures have been performed. This work is separate from the compaction effort to prepare embankments and subgrade as required by Sections 206 and 210.

F36.03 Construction –

- (a) Use acceptable pneumatic-tired equipment for special rolling, capable of applying a load of 50 tons. Use a roller with tires capable of operating at inflation pressures ranging from 90 to 150 pounds per square inch. Provide charts or tabulations showing the contact areas and contact pressures for the full range of tire inflation pressures and loadings for the particular tires furnished.
- (b) Special Rolling. Operate the equipment in a systematic manner, performing a minimum of three passes over the entire designated area. Normally operate the roller at a speed of not less than 2.5 miles per hour.

Perform special rolling only in the presence of Representative who will approve or disapprove the stability of the prepared surface.

F36.04 Measurement and Payment – Hour. No measurement or payment will be made for time equipment is idle because of repairs, servicing, loading or unloading ballast, increasing or decreasing tire pressure, bad weather, or for any other similar reason.

F37.00 ENUMERATION OF DRAWINGS

SHEET NO.	DESCRIPTION
1	Title Sheet
2	Index Sheet and List of Contract Drawings
3	General Notes
4	Reference Circles and Benchmark Information
5-6	Roadway Typical Sections
7-12	Miscellaneous Details
13-14	Summary of Items
15-23	Tabulation of Roadway Items
24-29	Tabulation of Drainage Items
30-31	Tabulation of Traffic Control Items
32-33	Tabulation of Signing and Pavement Marking Items
34-37	Tabulation of Erosion and Sediment Pollution Control Items
38-46	Roadway Plan Sheets
47-55	Roadway Profile Sheets
56-78	Traffic Control Plan
79-87	Signing and Pavement Marking Plan
88-129	Erosion and Sediment Pollution Control Plan

130-145 Post-Construction Stormwater Management Plan
 146-246 Structure Plans – EB-103
 247-315 Cross Sections

FOR INFORMATION ONLY

1-29 SHEETS EXISTING BRIDGE PLANS

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS

<u>STANDARD DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>APPLICABLE DATE</u>
RC-10M	CLASSIFICATION OF EARTHWORK	JUNE, 2010
RC-11M	CLASSIFICATION OF EARTHWORK FOR STRUCTURES	JUNE, 2010
RC-12M	BACKFILL AT STRUCTURES	JUNE, 2010
RC-13M	PAY LIMIT OF SUBBASE	JUNE, 2010
RC-28M	OVERLAY TRANSITIONS AND PAVING NOTCHES	JUNE, 2013
RC-30M	SUBSURFACE DRAINS	JUNE, 2010
RC-31M	ENDWALLS	JUNE, 2010
RC-32M	SLOPE PIPE FITTINGS, PIPE CONNECTORS AND CONCRETE COLLAR FOR PIPE EXTENSION	JUNE, 2010
RC-33M	END SECTIONS FOR PIPE CULVERTS	JUNE, 2010
RC-39M	STANDARD MANHOLES	JUNE, 2010
RC-40M	SLOPE PROTECTION	JUNE, 2010
RC-45M	INLET TOPS, GRATES AND FRAME	JUNE, 2010
RC-46M	INLET BOXES	JUNE, 2010
RC-50M	GUIDE RAIL TO BRIDGE BARRIER TRANSITIONS	JUNE, 2010
RC-52M	TYPE 2 STRONG POST GUIDE RAIL	JUNE, 2010
RC-59M	CONCRETE GLARE SCREEN	JUNE, 2010
RC-60M	RIGHT-OF-WAY FENCE	JUNE, 2010
RC-61M	RIGHT-OF-WAY GATES AND REMOVABLE FENCE SECTIONS	JUNE, 2010
RC-70M	PERIMETER CONTROL DEVICES	JUNE, 2010
RC-72M	INLET AND OUTLET PROTECTION	JUNE, 2010
RC-73M	CHANNEL AND SLOPE PROTECTION	JUNE, 2010
RC-77M	ROCK CONSTRUCTION ENTRANCE	JUNE, 2010
TC-8600	PAVEMENT MARKINGS	JUNE, 2013
TC-8604	DELINEATION	JUNE, 2013
BC-721M	ELECTRICAL DETAILS	OCT, 2010
BC-732M	PERMANENT METAL DECK FORMS	OCT, 2010
BC-734M	ANCHOR SYSTEMS	OCT, 2010
BC-735M	WALL CONSTR. & EXP. JOINT DETAILS	OCT, 2010
BC-736M	REINFORCEMENT BAR FABRICATION DETAILS	MAY, 2012
BC-739M	BRIDGE BARRIER TO GUIDE RAIL TRANSITION	MAY, 2012

BC-751M	BRIDGE DRAINAGE	NOV, 2014
BC-752M	CONCRETE DECK SLAB DETAILS	NOV, 2014
BC-753M	STEEL GIRDER DETAILS	NOV, 2013
BC-754M	STEEL DIAPHRAGMS FOR STEEL BEAM/GIRDER STRUCTURES	OCT, 2010
BC-755M	BEARINGS	NOV, 2013
BC-757M	STEEL PILE TIP REINFORCEMENTS & SPLICES	NOV, 2013
BC-767M	NEOPRENE STRIP SEAL DAM FOR PRESTRESSED CONCRETE & STEEL I-BEAM BRIDGES	NOV, 2013
BC-781M	RANDOM STONE SLOPE WALL	MAY, 2012
BC-788M	TYPICAL WATERPROOFING AND EXPANSION DETAILS	NOV, 2014

PENNSYLVANIA TURNPIKE COMMISSION STANDARD DRAWINGS

<u>STANDARD DRAWING NO.</u>	<u>DESCRIPTION</u>	<u>APPLICABLE DATE</u>
PTS-100	WIDENED EMBANKMENT DETAILS	JAN, 2015
PTS-111	RECESSED BRIDGE APPROACH SLAB	OCT, 2011
PTS-112	LOCATION OF JOINT SEALING, PAVEMENT MARKINGS AND SNAP	JAN, 2015
PTS-121	MEDIAN INLET CONSTRUCTION & REPLACEMENT	OCT, 2011
PTS-122	CAPPING OF MEDIAN INLETS	OCT, 2011
PTS-124	STANDARD DRAINAGE DETAILS	OCT, 2011
PTS-125	INLET PLACEMENT	OCT, 2011
PTS-130	TYPE 2-S GUIDE RAIL INSTALLATION	OCT, 2011
PTS-140	CONCRETE MEDIAN BARRIER & CONCRETE GLARE SCREEN (TRANSITION SECTIONS)	OCT, 2011
PTS-192	SONIC NAP ALERT PATTERN (SNAP)	JAN, 2015
PTS-700	FLOWABLE BACKFILL AT STRUCTURES	FEB, 2016
PTS-710	BRIDGE DECK TEMPORARY BARRIER	OCT, 2007
PTS-715	PERMANENT CONCRETE GLARE SCREEN AND CONCRETE MEDIAN BARRIER, STRUCTURE MOUNTED – F-SHAPE	OCT, 2007
PTS-900	CONSTRUCTION, MAINTENANCE AND PROTECTION OF TRAFFIC	DEC, 2015
PTS-910	CONSTRUCTION SHORT TERM, MAINTENANCE AND PROTECTION OF TRAFFIC	DEC, 2015
PTS-960	CONSTRUCTION AND MAINTENANCE, MAINTENANCE AND PROTECTION OF TRAFFIC	MAR, 2016
PTS-980	CONSTRUCTION AND MAINTENANCE, MISCELLANEOUS DETAILS	DEC, 2015

ATTACHMENT A

MINIMUM LANE REQUIREMENTS TO BE AVAILABLE DURING WORKING HOURS

RECEIVED

JUL 14 2016

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

ATTACHMENT B

HOLIDAY RESTRICTIONS

RECEIVED

JUL 14 2016

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

ATTACHMENT C

NPDES PERMIT

RECEIVED

JUL 14 2016

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

JUN 01 2016

Mr. Walter Wimer
Pennsylvania Turnpike Commission
P.O. Box 67676
Harrisburg, PA 17106

Re: Permit Approval Cover Letter for Individual NPDES Permit
for Stormwater Discharges Associated with Construction Activities
Replacement of Mainline Bridge No. EB-103, MP 228.54
DEP File No. PAI032115006
Middlesex Township, Cumberland County

Dear Mr. Wimer:

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 et seq. ("the Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. §§ 691.1 et seq., the Department of Environmental Protection (DEP) hereby approves the application for the NPDES permit for Stormwater Discharges Associated with Construction activities (NPDES Permit) from Replacement of Mainline Bridge No. EB-103, MP 228.54, I-76 Mile Post 228.54, Carlisle, PA to Letort Spring Run (Designated Use = CWF, MF; Existing Use = HQ-CWF, MF), Hogestown Run (Designated Use = CWF, MF) & Conodoguinet Creek (Designated Use = WWF, MF).

PAI032115006 is effective on **JUN 01 2016** and will expire on **MAY 31 2021**
All dischargers are required by Sections 402 and 611 of The Clean Streams Law, 35 P.S. §§ 691.402 and 691.611 to comply with the terms and conditions and any special conditions of their permit.

In addition to the NPDES Permit authorization, the permittee, and any subsequent co-permittees, has additional responsibilities related to this authorization. NPDES Permit requirements and federal regulations at 40 C.F.R. 122.21(b) require "when a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit" (see permit condition Part B (1) (d) (1) and (3) for transfer of permit or co-permittee requirements.) Please be advised that once an operator/contractor has been selected for the project, the NPDES Permit must either be transferred to the operator/contractor or the operator/contractor must be made a co-permittee and enter into an agreement with the permittee. Please use the enclosed Transferee/Co-Permittee Application form to transfer the permit or to add a co-permittee. This form must be received by the Cumberland County Conservation District at their office, 310 Allen Road, Suite 301, Carlisle, PA 17013, at least 30 days prior to the co-permittee/transferee action taking place.

A pre-construction conference is required as specified in 25 Pa. Code § 102.5(e). The purpose of this conference is to review all aspects of the permit with the permittee, co-permittees, operators, consultants, the DEP inspectors and licensed professionals or their designees who will be responsible for the implementation of the critical stages of the approved PCSM plan.

It is a condition of NPDES permit that as part of the maintenance program for the operation and maintenance of Best Management Practices (BMPs) the permittee or co-permittee must conduct inspections of the BMPs on a weekly basis and after each stormwater event to include the repair or replacement of BMPs to ensure effective and efficient operation [see permit condition part A, 2 (a)]. The Visual Site Inspection Report Form is enclosed and must be used to document these required site inspections.

For any property containing a PCSM BMP, the permittee or co-permittee shall record an instrument with the recorder of deeds which will assure disclosure of the PCSM BMP and the related obligations in the ordinary course of a title search of the subject property. The recorded instrument must identify the PCSM BMP, provide for necessary access related to long-term operation and maintenance for PCSM BMPs and provide notice that the responsibility for long-term operations and maintenance of the PCSM BMP is a covenant that runs with the land that is binding upon and enforceable by subsequent grantees. Unless a later date is approved by the Department in writing, the permittee shall record an instrument as required under 25 Pa. Code § 102.8(m)(2) and condition 15b of this permit within 45 days from the date of issuance of this permit or authorization. The permittee shall provide the conservation district and the Department with the date and place of recording along with a reference to the docket, deed book or other record, within 90 days from the date of issuance of this permit or authorization.

The Notice of Termination (NOT) form is also enclosed and must be completed and filed when construction activities have ceased and final stabilization has been achieved as a condition of this permit as specified in Section 4 of the permit regarding Notice of Termination. The NOT is a NPDES permit requirement, as well as a regulatory requirement under 25 PA Code §102.7. The NOT must identify the responsible person(s) for the long term operation and maintenance of the Post Construction Stormwater Management (PCSM) BMPs. Please be advised that the permittee and/or co-permittee remain responsible for all operational maintenance for this project site until the NOT has been filed and acknowledged.

Persons aggrieved by an action may appeal that action to the Environmental Hearing Board (Board) under section 4 of the Environmental Hearing Board Act (35 P.S. § 7514) and 2 Pa.C.S. §§ 501-508 and 701-704 (relating to Administrative Agency Law). The appeal should be sent to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, PO Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Board within 30 days of publication of this notice in the Pennsylvania Bulletin unless

JUN 01 2016

the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in Braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create a right of appeal beyond that permitted by applicable statutes and decisional law.

For individuals who wish to challenge an action, the appeal must reach the Board within 30 days. A lawyer is not needed to file an appeal with the Board.

Important legal rights are at stake, however, so individuals should contact a lawyer at once. Persons who cannot afford a lawyer may qualify for free pro bono representation. Call the Secretary to the Board at 717.787.3483 for more information.

If you have any questions, please call Mr. Nathan Crawford at 717.705.4798.

Sincerely,



Scott R. Williamson
Program Manager
Waterways & Wetlands Program

Enclosures

cc: Mr. Joshua B. Weidler, P.E., WBCM
Cumberland County Conservation District
Middlesex Township, Cumberland County



**APPROVAL OF COVERAGE UNDER
 THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) INDIVIDUAL
 PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

NPDES PERMIT NO: PAI032115006 PRIMARY FACILITY ID: 805621
 AUTHORIZATION NO: 1096523 SUBFACILITY ID: 1197390
 APS NO.: 883151

SITE/PROJECT NAME & ADDRESS		PERMITTEE NAME & ADDRESS	
Name:	Replacement of Mainline Bridge No. EB-103, MP 228.54	Name:	Pennsylvania Turnpike Commission
Location:	Lat. 40° 13' 27"; Long. -77° 06' 51"	Client ID:	310629
Address:	I-76 Mile Post 228.54	Address:	PO Box 67676
City, State, Zip:	Carlisle, PA	City, State, Zip:	Harrisburg, PA 17106
Phone:		Phone:	717.939.7676

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 *et seq.* ("the Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 *et seq.*, the Department of Environmental Protection hereby approves the Notice of Intent (NOI)/application submitted for coverage to discharge stormwater from an earth disturbance activity that involves equal to or greater than one acre of earth disturbance on any portion, part, or during any stage of, a larger common plan of development or sale that involves equal to or greater than one acre of earth disturbance, to the following surface water(s) of this Commonwealth:

Letort Spring Run (Designated Use = CWF, MF; Existing Use = HQ-CWF, MF), Hogestown Run (Designated Use = CWF, MF) & Conodoguinet Creek (Designated Use = WWF, MF)

subject to the Department's effluent limitations, monitoring and reporting requirements, and other terms, conditions, criteria, and special requirements for the discharge of stormwater associated, in whole or in part, with construction activity, as defined in this individual permit, to surface waters of this Commonwealth, including through municipal separate storm sewers and nonmunicipal separate storm sewers. Authorization to discharge is subject to the implementation of the plans and additional associated information submitted as part of the application.

APPROVAL TO DISCHARGE IN ACCORDANCE WITH THE TERMS AND CONDITIONS HEREIN MAY COMMENCE ON THE DATE OF THE APPROVAL OF COVERAGE, AND IS VALID FOR A PERIOD OF FIVE YEARS WHEN CONDUCTED PURSUANT TO SUCH TERMS AND CONDITIONS. COVERAGE MAY BE EXTENDED BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT IF A TIMELY, COMPLETE AND ACCEPTABLE APPLICATION FOR RENEWAL IS SUBMITTED TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT AT LEAST 180 DAYS PRIOR TO DATE OF COVERAGE TERMINATION. THE PERMIT MAY BE TERMINATED PRIOR TO THE EXPIRATION DATE UPON RECEIPT AND ACKNOWLEDGEMENT OF A NOTICE OF TERMINATION FORM AND APPROVAL BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. NO CONDITION OF THIS PERMIT SHALL RELEASE THE PERMITTEE OR CO-PERMITTEE FROM ANY RESPONSIBILITY OR REQUIREMENT UNDER PENNSYLVANIA, OR FEDERAL ENVIRONMENTAL STATUTES, REGULATIONS, OR LOCAL ORDINANCES

COVERAGE APPROVAL DATE: JUN 01 2016

COVERAGE EXPIRATION DATE: MAY 31 2021

AUTHORIZED BY: [Signature]

TITLE: Program Manager

Table of Contents

<u>Subject</u>	<u>Page</u>
1. Definitions	1-3
2. Authority and Responsibilities of the Department or Authorized Conservation Districts	3
3. Permit Application Submittal	4
4. Notice of Termination (NOT)	5
PART A – EFFLUENT LIMITATIONS, MONITORING, REPORTING AND REPORTING REQUIREMENTS	6
1. Effluent Limitations	6
2. Monitoring Inspection and Reporting Requirements	6
3. Prohibitions	7
4. Record Keeping	8
5. Discharges Consistent with Terms and Conditions of the Permit.....	8
PART B – STANDARD CONDITIONS.....	9
1. Management Requirements.....	9
2. Compliance Responsibilities	10
PART C – OTHER CONDITIONS	13
1. Prohibition of NonStormwater Discharges.....	13
2. Antidegradation Implementation Requirements.....	13
3. Erosion and Sediment Control Plans.....	13
4. Recycling and Disposal of Building Materials and Wastes	14
5. Preparedness, Prevention and Contingency (PPC) Plans	14
6. PostConstruction Stormwater Management Plans	14
7. PreConstruction Conferences.....	15
8. Spoil or Borrow Area	15
9. Phased Projects	15
10. Clarification Assistance	15
11. Wetland Protection.....	15
12. Infiltration BMPs	15
13. Stabilization.....	15
14. Sewage Facilities	16
15. Long Term Operation and Maintenance	16
16. Riparian Buffer Requirements.....	16
17. Municipal Separate Storm Sewer Systems (MS4) MCM Fulfillment	18

**INDIVIDUAL NPDES
PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

This permit applies to earth disturbance activities that disturb equal to or greater than one (1) acre, or an earth disturbance on any portion, part, or during any stage of, a larger common plan of development or sale that involves equal to or greater than one (1) acre of earth disturbance.

This permit does not apply to agricultural plowing and tilling, animal heavy use areas, timber harvesting activities, and road maintenance activities.

Earth disturbance activities associated with oil and gas exploration, production, processing or treatment operations, or transmission facilities may be required to obtain permit coverage under the Erosion and Sediment Control General Permit (ESCGP).

1. DEFINITIONS

Note: Terms used in this permit not otherwise defined herein shall have the meaning attributed to them in 40 CFR Part 122 and 25 Pa. Code Chapters 92a, 93, 96, 102 or 105.

Administrator – The Environmental Protection Agency (EPA) regional administrator.

Antidegradation Best Available Combination of Technologies (ABACT) – Environmentally sound and cost effective treatment, land disposal, pollution prevention and stormwater re-use BMPs that individually or collectively manage the difference in the net change in stormwater volume, rate, and quality for storm events up to and including the 2 year/24 hour storm when compared to the stormwater rate, volume, and quality prior to the earth disturbance activities to maintain and protect the existing quality of the receiving surface waters of this Commonwealth.

Accelerated Erosion – The removal of the surface of the land through the combined action of human activities and the natural processes, at a rate greater than would occur because of the natural process alone.

Authorized Conservation District – A conservation district, as defined in Section 3(c) of The Conservation District Law (3 P.S. § 851(c), as amended) that has the authority under a delegation agreement executed with the Department to administer and enforce all or a portion of the erosion, sediment, and stormwater management program in the Commonwealth of Pennsylvania.

Best Management Practices (BMPs) – Activities, facilities, measures, planning, or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim, and restore the quality of waters and the existing and designated uses of waters of this Commonwealth before, during, and after earth disturbance activities.

Clean Fill – Uncontaminated, nonwater soluble, nondecomposable, inert, solid material to include soil, rock, stone, dredged material, used asphalt, and brick, block, or concrete from construction and demolition activities that is separate from other waste and is recognizable as such. The term does not include materials placed in or on the waters of this Commonwealth unless otherwise authorized. The term "used asphalt" does not include milled asphalt or asphalt that has been processed for re-use.

Co-Permittee – Person(s) identified in this permit as responsible for the discharges of stormwater associated with construction activity who is jointly and individually responsible together with the permittee for compliance with all conditions of this permit and applicable laws.

Critical Stages – The installation of underground treatment BMPs, structurally engineered BMPs, or other BMPs as deemed appropriate by the Department or the authorized conservation district.

CSO – Abbreviation for Combined Sewer Overflows

Department – The Department of Environmental Protection of this Commonwealth.

Director – The Director of the Bureau of Waterways Engineering and Wetlands, or any authorized employee thereof.

Earth Disturbance Activity – A construction or other human activity which disturbs the surface of the land, including land clearing and grubbing, grading, excavations, embankments, land development, agricultural plowing or tilling, operation of animal heavy use areas, timber harvesting activities, road maintenance activities, oil and gas activities, well drilling, mineral extraction, and the moving, depositing, stockpiling, or storing of soil, rock, or earth materials.

Effluent Limitation or Standard – A restriction established by the Department or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into surface waters including BMPs and schedules of compliance.

EPA – Abbreviation for the Environmental Protection Agency

Erosion – The natural process by which the surface of the land is worn away by water, wind, or chemical action.

Erosion and Sediment Control Plan (E&S Plan) – A site-specific plan consisting of both drawings and a narrative that identifies BMPs to minimize accelerated erosion and sedimentation before, during, and after earth disturbance activities.

Licensed Professional – Professional engineers, landscape architects, geologists, and land surveyors licensed to practice in the Commonwealth.

Long-term Operation and Maintenance – The routine inspection, maintenance, repair, or replacement of a BMP to ensure proper function for the duration of time that the BMP is needed.

MCM – Abbreviation standing for Minimum Control Measure.

MS4 – Abbreviation standing for Municipal Separate Storm Sewer System. A separate storm sewer (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels or storm drains) which is all of the following:

- (i) Owned or operated by a State, city, town, borough, county, district, association or other public body (created by or under state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater or other wastes, including special districts under state law such as a sewer district, flood control district, or drainage district, or similar entity, or a designated and approved management agency under Section 208 of the Federal Act (33 U.S.C.A. § 1288) that discharges to surface waters of this Commonwealth.
- (ii) Designed or used for collecting or conveying stormwater.
- (iii) Not a combined sewer.
- (iv) Not part of a POTW.

Municipality – A county, city, borough, town, township, school district, institution, or authority, or another public body created by or pursuant to State Law. For the purposes of this definition, town includes an incorporated town.

Notice of Termination (NOT) – A request, on a form provided by the Department, to terminate coverage under an Individual NPDES Permit for Stormwater Discharges Associated with Construction Activities.

Nondischarge Alternative – Environmentally sound and cost effective BMPs that individually or collectively eliminate the net change in stormwater volume, rate, and quality for stormwater events up to and including the 2 year/24 hour storm when compared to the stormwater rate, volume, and quality prior to the earth disturbance activities to maintain and protect the existing quality of the receiving surface waters of this Commonwealth.

Operator – A person who has one or more of the following:

- (i) Oversight responsibility of earth disturbance activity on a project site or a portion thereof, who has the ability to make modifications to the E&S Plan, PCSM Plan, or site specifications.
- (ii) Day-to-day operational control over earth disturbance activity on a project site or a portion thereof to ensure compliance with the E&S Plan or PCSM Plan.

Owner – A person(s) who holds the legal title to the land subject to construction activity. This term also includes the person(s) who held legal title to the land subject to construction activity at the time such activity was commenced on a site.

Permanent Stabilization – Long-term protection of soil and water resources from accelerated erosion.

Permit Application – A request, on a form provided by the Department, for coverage under an Individual NPDES Permit for Stormwater Discharges Associated with Construction Activities.

Person – Any operator, individual, public or private corporation, partnership, association, municipality or political subdivision of this Commonwealth, institution, authority, firm, trust, estate, receiver, guardian, personal representative, successor, joint venture, joint stock company, fiduciary, Department, agency or instrumentality of state, federal, or local government, or an agent or employee thereof; or any other legal entity. Whenever used in any clause prescribing and imposing a penalty, or imposing a fine or imprisonment or both, the term "person" shall not exclude the members of an association and the directors, officers, or agents of a corporation.

Point Source – Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, or vessel, or other floating craft, from which pollutants are or may be discharged.

Post Construction Stormwater – Stormwater associated with a project site after the earth disturbance activity has been completed and the project site is permanently stabilized.

Post Construction Stormwater Management Plan (PCSM Plan) – A site-specific plan consisting of both drawings and a narrative that identifies BMPs to manage changes in stormwater runoff volume, rate, and water quality after earth disturbance activities have ended and the project site is permanently stabilized.

Preparedness, Prevention, and Contingency Plan (PPC Plan) – A written plan that identifies an emergency response program, material and waste inventory, spill and leak prevention and response, inspection program, housekeeping program, security and external factors, and that is developed and implemented at the construction site to control potential discharges of pollutants other than sediment into waters of this Commonwealth.

Project site – The entire area of activity, development, lease, or sale including:

- (i) The area of the earth disturbance activity.
- (ii) The area planned for the earth disturbance activity.
- (iii) Other areas which are not subject to earth disturbance activity.

Riparian Buffer – A BMP that is an area of permanent vegetation along surface waters.

Riparian Forest Buffer – A type of riparian buffer that consists of permanent vegetation that is predominantly native trees, shrubs, and forbs along surface waters that is maintained in a natural state or sustainably managed to protect and enhance water quality, stabilize stream channels and banks, and separate land use activities from surface waters.

Runoff Coefficient – The fraction of total rainfall that will appear at the conveyance as runoff.

Stabilization – The proper placing, grading, constructing, reinforcing, lining, and covering of soil, rock, or earth to ensure their resistance to erosion, sliding, or other movement.

Stormwater – Runoff from precipitation, snow melt runoff, surface runoff, and drainage.

Surface Waters – Perennial and intermittent streams, rivers, lakes, reservoirs, ponds, wetlands, springs, natural seeps, and estuaries, excluding water at facilities approved for wastewater treatment such as wastewater treatment impoundments, cooling water ponds, and constructed wetlands used as part of a wastewater treatment process.

Total Maximum Daily Load (TMDL) – The sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources, a margin of safety and natural background. TMDLs can be expressed in mass per time, toxicity, or other appropriate measures.

Transferee – Person(s) identified through the co-permittee/transferee form as having new responsibility for the discharges of stormwater during construction activities and responsibility for compliance with all conditions of this permit and all applicable laws for discharges of stormwater during the construction activity.

Waters of this Commonwealth – Rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs, and other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

Wetlands – Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas.

2. AUTHORITY AND RESPONSIBILITIES OF THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICTS

- a. The Department or authorized conservation district may notify the permittee at any time that the permit terms and conditions are not being met. Upon plan review or site inspection, the Department or authorized conservation district, may require E&S Plan revisions or other appropriate action to ensure compliance with the conditions of this permit.
- b. The Department or authorized conservation district has the right to enter onto the site to conduct inspections, conduct monitoring, or require monitoring where necessary in appropriate circumstances such as where a danger of water pollution or degradation is present, or water pollution or degradation is suspected to be occurring from a construction activity subject to this permit. The permittee and co-permittee shall commence

such monitoring upon notification from the Department or authorized conservation district. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

- c. The Department or authorized conservation district may request copies of records required by this permit, which could include the records required under Part A, Section 3 of this permit.

3. PERMIT APPLICATION SUBMITTAL

a. General Information and Requirements

- (1) Persons proposing to discharge stormwater associated with construction activities and eligible persons proposing to expand the scope of a previously authorized construction activity which discharges stormwater, who wish to be covered by this individual permit, must submit a complete and acceptable permit application to the Department or authorized conservation district and receive authorization from the Department prior to commencing the construction activity. The application shall be filed in accordance with the detailed instructions specified in the application instruction package.
 - (2) Operators of all construction activities shall develop, implement, and maintain erosion and sediment (E&S) and post construction stormwater management (PCSM) BMPs and other pollution prevention measures required by this permit to minimize accelerated erosion and sedimentation before, during, and after construction activities.
 - (3) E&S control BMPs shall be designed and implemented to meet the standards and specifications identified in the Department's regulations, including 25 Pa. Code § 102.4 (relating to Erosion and Sediment Control requirements) and 102.11(a)(1) (relating to general requirements), and listed in the Department's *Erosion and Sediment Pollution Control Program Manual*, No. 363-2134-008, as amended and updated, or an approved alternative that is at least as effective or better, when legally authorized.
 - (4) PCSM BMPs shall be designed and implemented to meet the standards and specifications identified in the Department's regulations, including 25 Pa. Code § 102.8 (relating to PCSM requirements) and 102.11(a)(2), and listed in the Department's *Pennsylvania Stormwater Best Management Practices Manual*, No. 363-0300-002, as amended and updated, or approved alternative that is as at least as effective or better, when legally authorized.
 - (5) The E&S Plan, PCSM Plan, and PPC Plan shall identify appropriate BMPs that will be implemented to ensure that existing and designated uses of surface waters are protected and maintained.
 - (6) The permittee or co-permittee shall have the E&S Plan, PCSM Plan, PPC Plan, and other documents required by this permit maintained at the site and available for review by the Department, authorized conservation district, or other authorized local, state, or federal agent or representative.
- b. Persons requesting a renewal of coverage under this Permit must submit to the Department or authorized conservation district, a complete and acceptable application, at least 180 days prior to the expiration date of the coverage, unless permission has been granted by the Department or authorized conservation district for submission at a later date. In the event that a timely, complete, and acceptable application for renewal of coverage has been submitted and the Department or authorized conservation district is unable, through no fault of the permittee, to reissue the approval of coverage before the expiration date of the approved coverage, the terms and conditions of the approved coverage will be automatically continued and will remain fully effective and enforceable pending the issuance or denial of the renewal of coverage, provided the permittee is, and has been, operating in compliance with the terms and conditions of the permit. The permittee shall be responsible for complying with the final renewed, reissued, or amended Permit.
 - c. Applications for which a payment (check, electronic transfer, etc.) for either a base permit fee or a disturbed acreage fee have been processed as part of an complete application that are returned for insufficient funds will be suspended until sufficient funds are provided. Any earth disturbance activity that has been authorized by the permit but the Department or conversation district is notified at a later date that the permit application fee(s) were not paid will be immediately suspended and the site must be immediately stabilized until the fees or sufficient funds are received. If the fees/funds are not received and paid in full within 30 days, the permit authorization will be revoked.
 - d. No condition of this permit shall release the permittee or co-permittee from any responsibility or requirement under other federal or Pennsylvania environmental statutes or regulations or local ordinances.

- e. The approval of coverage is granted based, in part, on information provided by the applicant in the application. The information provided by the applicant, including all appendices, attachments, plans, and supporting documentation, are incorporated by reference as a part of the approval and are enforceable as a condition of the approval. If there is any conflict between the permit and the application, including any appendices, attachments, plans, and other supporting documentation, the more environmentally protective provision applies.

4. NOTICE OF TERMINATION

a. Termination of Coverage

- (1) Upon permanent stabilization of earth disturbance activity under 25 Pa. Code § 102.22(a)(2) (relating to permanent stabilization) and installation of BMPs in accordance with the approved plan prepared and implemented in accordance with 25 Pa. Code § 102.4 and 102.8, the permittee and/or co-permittee shall submit a NOT to the Department or authorized conservation district. The NOT must include:

- i. The facility name, address, and location;
- ii. The operator name and address;
- iii. The permit number;
- iv. The reason for the permit termination; and
- v. Identification of the persons who have agreed to and will be responsible for the long-term operation and maintenance of PCSM BMPs.

- (2) Until the permittee or co-permittee has received written approval of the NOT, the permittee or co-permittee will remain responsible for compliance with the permit terms and conditions, including long-term operation and maintenance of all PCSM BMPs on the project site in accordance with 25 Pa. Code § 102.8(m) The Department or authorized conservation district will conduct a follow up inspection and approve or deny the NOT within 30 days of receipt in accordance with 25 Pa. Code § 102.7(c) (relating to permit termination).

b. Final Certification

- (1) The permittee shall enclose with the NOT "Record Drawings" a final certification statement from a licensed professional, which reads as follows:

"I (name) do hereby certify pursuant to the penalties of 18 Pa. C.S.A. § 4904 to the best of my knowledge, information, and belief, that the accompanying record drawings accurately reflect the as built conditions, are true and correct, and are in conformance with Chapter 102 of the rules and regulations of the Department of Environmental Protection and that the project site was constructed in accordance with the approved PCSM Plan, all approved plan changes, and accepted construction practices."

- (2) The permittee shall retain a copy of the record drawings as part of the approved PCSM Plan. The permittee shall also provide a copy of the record drawings as part of the approved PCSM Plan to the persons identified as responsible for the long term operation and maintenance of PCSM BMPs. Permittees shall also provide copies of both the record drawings and the long-term operation and maintenance plan to the Department, authorized conservation district, and municipality.

PART A

EFFLUENT LIMITATIONS, MONITORING, AND REPORTING REQUIREMENTS

1. EFFLUENT LIMITATIONS

a. BMPs

Except as required by 25 Pa. Code §102.11(c), this permit establishes narrative performance based effluent limitations in the form of BMPs identified in E&S Plans, PCSM Plans, and PPC Plans, which control the volume, rate, and quality of stormwater runoff and associated pollutants from being discharged into surface waters, and which replicate preconstruction infiltration and runoff conditions to the maximum extent practicable. Section 102.11(c) incorporates by reference federal Effluent Limitation Guidelines in 40 CFR Part 450 (relating to the construction and development point source category).

b. Applicable Effluent Limitations

Activities covered under this permit must comply with applicable effluent limitations established in 25 Pa. Code Chapters 91, 92a, 93, 96, 102, and 105 and any applicable federal law or regulation, including the effluent guidelines for construction at 40 CFR Part 450.

c. Water Quality Based Effluent Limitations

Water quality based effluent limitations are applicable to activities conducted under this permit when required under applicable state and federal law or regulation to ensure that the water quality standards of the receiving water are attained. Activities conducted under this permit shall not result in a violation of such water quality standards.

2. MONITORING, INSPECTION, AND REPORTING REQUIREMENTS

a. Visual Inspections

The permittee and co-permittee(s) must ensure that visual site inspections are conducted weekly, and within 24 hours after each measurable stormwater event throughout the duration of construction and until the receipt and acknowledgement of the NOT by the Department or authorized conservation district. The visual site inspections and reports shall be completed on a form developed by the Department, and conducted by qualified personnel, trained and experienced in erosion and sediment control, to ascertain that E&S, PCSM and PPC BMPs are properly constructed and maintained to effectively minimize pollution to the waters of this Commonwealth. A written report of each inspection shall be kept and include at a minimum:

- (1) A summary of the site conditions, E&S and PCSM BMPs, implementation and maintenance and compliance actions; and
- (2) The date, time, name and signature of the person conducting the inspection.

b. Licensed Professional Oversight of Critical Stages

A licensed professional or a designee shall be present onsite and responsible during critical stages of implementation of the approved PCSM Plan. The critical stages may include the installation of underground treatment or storage BMPs, structurally engineered BMPs, or other BMPs as deemed appropriate by the Department or authorized conservation district.

c. Noncompliance Reporting

Where E&S, PCSM or PPC BMPs are found to be inoperative or ineffective during an inspection or any other time the permittee becomes aware of any incident causing or threatening pollution as described in 25 Pa. Code § 91.33 (relating to incidents causing or threatening pollution), as required by 25 Pa. Code § 92a.41(b) (relating to conditions applicable to all permits), the permittee and co-permittee(s) shall, within 24 hours, contact the Department or authorized conservation district, by phone or personal contact, followed by the submission of a written report within five (5) days of the initial contact. Noncompliance reports shall include the following information:

- (1) Any condition on the project site which may endanger public health, safety, or the environment, or involve incidents which cause or threaten pollution;
- (2) The period of noncompliance, including exact dates and times and/or anticipated time when the activity will return to compliance;
- (3) Steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance; and
- (4) The date or schedule of dates, and identifying remedies for correcting noncompliance conditions.

d. Supplemental Monitoring

The Department or authorized conservation district may require additional monitoring where an increased risk of potential water pollution is present, or water pollution is suspected to be occurring from a construction activity subject to this Individual Permit, or for any reason in accordance with 25 Pa. Code § 92a.61 (relating to monitoring). The permittee or co-permittee shall commence such monitoring upon notification from the Department or authorized conservation district.

e. Availability of Reports

Except for data determined to be confidential under Section 607 of the Clean Streams Law, all reports and other information prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate Department Regional Office or authorized conservation district.

f. Public Notice

Public notice of every complete application for an NPDES permit will be published in the *Pennsylvania Bulletin*. The contents of public notice of applications for NPDES permits will include at least the following:

- (1) The name and address, including county and municipality, of each applicant.
- (2) The permit number and type of permit applied for.
- (3) The stream name of the waterway to which each discharge is proposed.
- (4) The address of the State or interstate agency premises at which interested persons may obtain further information, request a copy of the NPDES forms and related documents.

g. Public Notice at Facility or Location Where Discharge Exists

A public notice of every new draft individual permit, or major amendment to an individual permit, will be published in the *Pennsylvania Bulletin*. This public notice will also be posted by the applicant near the entrance to the premises of the applicant, and at the facility or location where the discharge exists, if the facility or location is remote from the premises of the applicant. The contents of public notice for draft NPDES permits will include at least the following in addition to those specified in subsection 1-4 above.

- (1) A brief description of each applicant's activities or operations that result in the discharge described in the application.
- (2) The name and existing use protection classification of the receiving surface water under § 93.3 (relating to protected water uses) to which each discharge is made and a short description of the location of each discharge on the waterway indicating whether the discharge is a new or an existing discharge.
- (3) A statement of the tentative determination to issue or deny an NPDES permit for the discharge described in the application. If there is a tentative determination to issue a permit, the determination will include proposed effluent limitations for those effluents proposed to be limited, a proposed schedule of compliance including interim dates and requirements for meeting the proposed effluent limitations and a brief description of any proposed special conditions that will have a significant impact upon the discharge described in the application.
- (4) A brief description of the procedures for making final determinations, including the 30-day comment period required by subsection (d) and any other means by which interested persons may influence or comment upon those determinations.

3. PROHIBITIONS

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under §307(a) of the Federal Clean Water Act (CWA) for a toxic pollutant which is present in the permittee's or co-permittee's discharge, and such standard or prohibition is more stringent than any limitation upon such pollutant in the NPDES permit, the Department shall revise or modify the permit in accordance with the toxic effluent standard or prohibition and so notify the permittee or co-permittee. In the absence of a departmental action to modify or to revoke and reissue this permit, the toxic effluent standard or prohibition

established under §307(a) of the CWA is considered to be effective and enforceable against the permittee or co-permittee.

4. RECORD KEEPING

a. Retention of Records

The permittee and co-permittee(s) shall retain records of all monitoring information including copies of all monitoring and inspection reports required by this permit, all monitoring information (including site log book, calibration and maintenance records) and records of data used to complete the NOI/application for this permit, for a period of three years from the date of the termination of coverage under this permit as required by 25 Pa. Code § 92a.61(f)(2). This period of retention must be extended during the course of any unresolved compliance, enforcement, or litigation or when requested by the Department or authorized conservation district.

b. Reporting of Monitoring Results

Visual inspection monitoring results shall be submitted to the Department or authorized conservation district upon request.

5. DISCHARGES CONSISTENT WITH TERMS AND CONDITIONS OF THE PERMIT

All discharges authorized by this NPDES permit shall be consistent with the terms and conditions of this permit.

PART B
STANDARD CONDITIONS

1. MANAGEMENT REQUIREMENTS

a. Permit Modification, Termination, or Revocation and Reissuance

- (1) The Individual Permit will expire five (5) years from the date of its issuance.
- (2) This permit may be modified, suspended, revoked, reissued, or terminated during its term for any of the causes specified in 25 Pa. Code Chapters 92a and 102 (relating to erosion and sediment control), or to require compliance with updated effluent limitation guidelines, water quality standards, impaired water listings, or new TMDLs.
- (3) The filing of a request by the permittee or co-permittee for a permit or coverage modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated non-compliance, does not stay any permit condition.
- (4) Permit modification or revocation will be conducted according to 25 Pa. Code Chapters 92a and 102.

b. Duty to Provide Information

- (1) The permittee or co-permittee(s) shall furnish to the Department or authorized conservation district within thirty (30) days of the date of request, any information that the Department or authorized conservation district may request to determine whether cause exists for modifying, revoking, reissuing, or terminating this permit or coverage approved under this permit or to determine compliance with this permit.
- (2) The permittee or co-permittee shall furnish, upon request, to the Department or authorized conservation district, copies of records required to be kept by this permit.
- (3) When the permittee or co-permittee becomes aware that they failed to submit any relevant facts or submitted incorrect information in the NOI, E&S Plan, PCSM Plan, or PPC Plan or in any other report to the Department or authorized conservation district, the permittee or co-permittee shall within 24 hours of becoming aware of the deficiency submit or correct such facts or information.
- (4) The permittee or co-permittee shall give seven (7) calendar days advance notice to the Department or authorized conservation district of any planned physical alterations or additions to the permitted facility which could, in any way, substantially affect the quality and/or quantity of stormwater discharged from the activity.

c. Signatory Requirements

Documents required, submitted, or maintained under this permit shall be signed in accordance with the following:

- (1) Notices of Intent, Transferee/Co-permittee Form, and Notices of Termination.
 - (a) Corporations: (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (2) the manager of one or more manufacturing, production, or operating facilities, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - (b) Partnerships or sole proprietorships: a general partner or the proprietor, respectively; or
 - (c) Municipalities, state, federal, or other public agencies: either a principal executive officer or ranking elected official such as: (1) the chief executive officer or secretary of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
- (2) All reports, plans, documents, and other information required by the permit or requested by the Department or authorized conservation district shall be signed by a duly authorized representative of the permittee.
- (3) If there is a change in the duly authorized representative of the permittee or co-permittee, respectively, the permittee or co-permittee shall notify the Department or authorized conservation district within thirty (30) days of the change.

d. Transfer of Ownership or Control

- (1) This permit is not transferable to any person except after notice and acknowledgment by the Department or authorized conservation district.
 - (a) In the event of any pending change in control or ownership of facilities from which the authorized discharges emanate, the permittee or co-permittee shall notify the Department or authorized conservation district using the form entitled "Transferee/Co-permittee Application" of such pending change at least thirty (30) days prior to the change in ownership or control.
 - (b) The Transferee/Co-permittee Application form shall be accompanied by a written agreement between the existing permittee and the new owner or operator stating that the existing permittee shall be liable for violations of the permit up to and until the date of coverage transfer and that the new owner or operator shall be jointly and individually liable for permit violations under the permit from that date on.
 - (c) After receipt of an administratively complete and acceptable transferee/co-permittee application form, the Department or authorized conservation district shall notify the existing permittee and the new owner or operator of its decision concerning approval of the transfer of ownership or control. Such requests shall be deemed approved unless the Department or authorized conservation district notifies the applicant otherwise within thirty (30) days.
- (2) For purposes of this permit, operators shall include general contractors. If prior to construction activities, the owner is the permittee and an operator/general contractor is later identified to become a co-permittee, the owner shall:
 - (a) Notify the Department or authorized conservation district by submitting an administratively complete and acceptable Transferee/Co-permittee Application form; and
 - (b) Ensure that monitoring reports and any other information requested under this permit shall reflect all changes to the permittee and the co-permittee name.
- (3) After receipt of the documentation described in (1) above, the permit will be considered modified by the Department or authorized conservation district. For the purposes of this permit, this modification is considered to be a minor permit modification.
- (4) Upon authorization of a change in ownership or control, the existing permittee shall provide a copy of the permit and approved plans to the new owner and/or co-permittee.

e. Removed Substances

Solids, sediments, and other pollutants removed in the course of treatment or control of stormwater shall be disposed in accordance with federal and state law and regulations, in order to prevent any pollutant in such materials from adversely affecting the environment.

f. BMP Construction, Operation and Maintenance

The permittee and co-permittee(s) are responsible for the design, installation, operation, and maintenance of the BMPs identified in the E&S Plan, PCSM Plan, and PPC Plan.

g. Adverse Impact

The permittee and co-permittee(s) shall take all reasonable steps to prevent, minimize, or cease any discharge in violation of this permit.

h. Reduction, Loss, or Failure of BMP

Upon reduction, loss, or failure of any BMP, the permittee and co-permittee shall take immediate action to restore, repair, or replace the BMP or provide an alternative method of treatment. Such restored BMP or alternative treatment shall be at least as effective as the original BMP when properly installed. These actions should be undertaken to ensure that there are no pollutional discharges to the waters of the Commonwealth. This requirement is applicable in situations where the BMP is rendered ineffective, whether the cause or source of the reduction, loss or failure is within or beyond the control of the permittee or co-permittee.

2. COMPLIANCE RESPONSIBILITIES

a. Duty to Comply

The permittee and co-permittee must comply with all terms and conditions of this Individual Permit. Any permit noncompliance constitutes a violation of the Pennsylvania Clean Streams Law and the federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation, reissuance, or modification; or for denial of a permit or permit renewal.

b. Penalties for Violations of Permit Conditions

Any person who violates a permit condition, fails to take corrective action to abate violations or falsifies report or other documents may be subject to criminal and/or civil penalties or other appropriate action for violations of the terms and conditions of this Individual Permit under Sections 602 and 605 of the Clean Streams Law (35 P.S. § 691.602 and 691.605), and under the Clean Water Act as specified in 40 CFR § 122.41(a) (2) and (3), which are incorporated by reference.

c. Need to Halt or Reduce Activity Not a Defense

The permittee and/or co-permittee may not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit.

d. Penalties and Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee or co-permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act (33 U.S.C. §1321) or Section 106 of Comprehensive Environmental Response, Compensation, and Liability Act (Act 42 U.S.C. § 9601).

e. Property Rights

This permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

f. Severability

The provisions of this permit are severable; and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

g. Other Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee or co-permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

h. Right of Entry

Pursuant to Sections 5(b) and 305 of the Pennsylvania Clean Streams Law (35 P.S. §§691.5(b) and 691.305), 25 Pa. Code Chapter 92a, and §1917-A of the Administrative Code of 1929, the permittee and co-permittee shall allow the Director of the Department, the EPA Regional Administrator, and/or an authorized representative of EPA, or the Department, conservation district or, in the case of a facility which discharges to a municipal separate storm sewer, an authorized representative of the municipal operator or the separate storm sewer receiving the discharge, upon the presentation of credentials and other documents, as may be required by law, to:

- (1) Enter upon the permittee's or co-permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;
- (3) Inspect any facilities or equipment (including monitoring and control equipment); and
- (4) Observe or sample any discharge of stormwater.

i. Availability of Reports

Except for data determined to be confidential under Section 607 of the Clean Streams Law (35 P.S. §691.607), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department or authorized conservation district. As required by the Clean Water Act, the Clean Streams Laws, and the Department's regulations at 25 Pa. Code § 92a.8 (relating to confidentiality of information), permit applications, permits, and other documents related to this permit shall not be considered confidential.

Streams Laws, and the Department's regulations at 25 Pa. Code § 92a.8 (relating to confidentiality of information), permit applications, permits, and other documents related to this permit shall not be considered confidential.

j. Penalties for Falsification of Reports

Section 309(c)(4) of the Clean Water Act provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years or by both. In addition, criminal sanctions are set forth for false swearing and unsworn falsification at 18 Pa.C.S. §§ 4903-4904.

PART C
OTHER CONDITIONS

1. PROHIBITION OF NONSTORMWATER DISCHARGES

All discharges covered by this permit shall be composed entirely of stormwater. Discharges of material other than stormwater must be in compliance, when required, with an NPDES permit (other than this permit) issued for the discharge. Discharge of sewage or industrial waste (other than sediment under this permit) to an E&S BMP is not permitted.

The permittee/co-permittee may not discharge floating materials, oil, grease, scum, foam, sheen, and substances which produce odor, taste, or turbidity or settle to form deposits in concentrations or amounts sufficient to be, or create a danger of being, inimical to the water uses to be protected or human, animal, plant, or aquatic life.

2. ANTIDEGRADATION IMPLEMENTATION REQUIREMENTS

To satisfy the antidegradation implementation requirements in § 93.4(b), 102.4(b)(6), and 102.8(h) (relating to implementation of antidegradation requirements), for an earth disturbance activity that requires a permit under this chapter and for which any receiving surface water of the Commonwealth that is classified as High Quality or Exceptional Value under Chapter 93, the person proposing the activity shall, in the permit application, do the following:

- (i) Evaluate and include nondischarge alternatives in the E&S Plan and PCSM Plan, unless a person demonstrates that nondischarge alternatives do not exist for the project.
- (ii) If the person makes the demonstration that nondischarge alternatives do not exist for the project, the E&S Plan and PCSM Plan must include ABACT, except as provided in § 93.4c(b)(iii).
- (iii) For the purposes of Chapter 102, nondischarge alternatives and ABACT and their design standards are listed in the Erosion and Sediment Pollution Control Program Manual and the Pennsylvania Stormwater Best Management Practices Manual, both as amended and updated.

3. EROSION AND SEDIMENT CONTROL PLANS

- a. Unless otherwise authorized by the Department or conservation district after consultation with the Department, earth disturbance activities shall be planned and implemented to the extent practicable in accordance with the following:
 - (1) Minimize the extent and duration of earth disturbance.
 - (2) Maximize protection of existing drainage features and vegetation.
 - (3) Minimize soil compaction.
 - (4) Utilize other measures or controls that prevent or minimize the generation of increased stormwater runoff.
- b. An E&S Plan shall be prepared in accordance with the requirements of 25 Pa. Code Chapter 102 and by a person trained and experienced in erosion and sediment control methods and techniques applicable to the size and scope of the project being designed. Each E&S Plan must be submitted to and approved by the Department or authorized conservation district. The BMPs shall be designed to minimize the potential for accelerated erosion and sedimentation in order to protect, maintain, reclaim, and restore water quality and existing and designated uses. Various BMPs and their design standards are listed in the *Erosion and Sediment Pollution Control Program Manual*, No. 363-2134-008, as amended and updated. The manual is available from the Department or authorized conservation district or can be downloaded from the Department's website at www.dep.state.pa.us. E&S Plans and BMPs, and revisions thereto, which meet the requirements of 25 Pa. Code Chapters 93, 96 (relating to water quality standards implementation), and 102, are conditions of this permit and are incorporated by reference.
- c. E&S Control Plans required under this permit are considered reports that shall be available to the public under Section 607 of the Clean Streams Law and 25 Pa. Code Chapter 92a of the Department's regulations. The owner or operator of a facility with stormwater discharges covered by this permit shall make E&S Plans available to the public upon request. E&S Plans must be made available at the site of the construction activity at all times.
- d. The staging of earth disturbance activities and maintenance requirements contained in the approved E&S Plan must be followed.
- e. Upon the installation or stabilization of all perimeter sediment control BMPs and at least three (3) days prior to proceeding with the bulk earth disturbance activities, the permittee or co-permittee shall provide notification to

the Department or authorized conservation district.

- f. The E&S Plan must be consistent with the assumptions and requirements of any assigned Wasteload Allocations (WLAs) for the discharges as set forth in any applicable Total Maximum Daily Loads (TMDLs) established for the receiving waters.

4. RECYCLING AND DISPOSAL OF BUILDING MATERIALS AND WASTES

All building materials and wastes must be removed from the site and recycled or disposed in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code Ch. 260a (relating to hazardous waste management system: general), Ch. 271 (related to municipal waste management system – general provisions), and Ch.287 (relating to residual waste management system – general provisions). No building material or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site.

5. PREPAREDNESS, PREVENTION, AND CONTINGENCY (PPC) PLANS

If toxic, hazardous, or other polluting materials will be on site, the permittee or co-permittee(s) must develop a PPC Plan for use while those materials are on site in accordance with 25 Pa. Code § 91.34 (relating to activities utilizing pollutants). The PPC Plan shall identify areas which may include, but are not limited to, waste management areas, raw material storage areas, fuel storage areas, temporary and permanent spoils storage areas, maintenance areas, and any other areas that may have the potential to cause noncompliance with the terms and conditions of this permit due to the storage, handling, or disposal of any toxic or hazardous substances such as oil, gasoline, pesticides, herbicides, solvents, concrete washwaters, etc. BMPs shall be developed and implemented for each identified area. The PPC Plan shall be maintained on site at all times and shall be made available for review at the Department's or authorized conservation district's request.

6. POST CONSTRUCTION STORMWATER MANAGEMENT PLANS

- a. The management of post construction stormwater shall be planned and conducted to the extent practicable in accordance with the following:
 - (1) Preserve the integrity of stream channels and maintain and protect the physical, biological, and chemical qualities of the receiving stream.
 - (2) Prevent an increase in the rate of stormwater runoff.
 - (3) Minimize any increase in stormwater runoff volume.
 - (4) Minimize impervious areas.
 - (5) Maximize the protection of existing drainage features and existing vegetation.
 - (6) Minimize land clearing and grading.
 - (7) Minimize soil compaction.
 - (8) Utilize other structural or nonstructural BMPs that prevent or minimize changes in stormwater runoff.
- b. A PCSM Plan shall be prepared in accordance with the requirements of 25 Pa. Code Chapter 102 and by a person trained and experienced in PCSM design methods and techniques applicable to the size and scope of the project being designed. The management of post construction stormwater shall be planned and conducted in accordance with 25 Pa. Code §102.8. Various BMPs and their design standards are listed in the *Pennsylvania Stormwater Best Management Practices Manual*, No. 363-0300-002, as amended and updated. The manual is available from the Department or authorized conservation district or can be downloaded from the Department's website at www.dep.state.pa.us. Each PCSM Plan must be submitted to the Department or authorized conservation district. The PCSM plan must employ stormwater management BMPs to control the volume, rate, and water quality of the post construction stormwater runoff so as to protect and maintain the chemical, physical, biological properties, and existing and designated uses of the waters of this Commonwealth.
- c. PCSM Plans required under this permit are considered reports that shall be available to the public under Section 607 of the Clean Streams Law and 25 Pa. Code Chapter 92a of the Department's regulations. The owner or operator of a facility with stormwater discharges covered by this permit shall make PCSM Plans available to the public upon request. The PCSM Plans must be made available at the site of the construction activity at all times.
- d. A licensed professional or their designee shall be present onsite and be responsible for oversight of critical stages of implementation of the approved PCSM Plan. The licensed professional will be responsible to provide a final certification, pursuant to 25 Pa. Code § 102.8(l) along with the required NOT and record drawings, indicating that the project site was constructed in accordance with the approved or modified PCSM Plan.

- e. The PCSM Plan must be consistent with the assumptions and requirements of any available WLAs for the discharges as set forth in any applicable TMDLs established for the receiving waters.
- f. The portion of a site reclamation or restoration plan that identifies PCSM BMPs to manage stormwater from pipelines or other similar utility infrastructure may be used to satisfy the PCSM requirements if the PCSM reclamation, or restoration plan meets the requirements of 25 Pa. Code § 102.8(b), (c), (e), (f), (h), (i) and (l), and when applicable, (m).

7. PRECONSTRUCTION CONFERENCES

For earth disturbance activities authorized by this permit, a preconstruction meeting is required, unless the permittee has been notified otherwise in writing by the Department or authorized conservation district. The permittee shall invite the Department or authorized conservation district to attend the preconstruction meeting and provide at least seven (7) days' notice of the preconstruction meeting to all invited attendees. Permittees, co-permittees operators, and licensed professionals, or designees responsible for earth disturbance activity, including implementation of E&S, PCSM and PPC Plans and critical stages of implementation of the approved PCSM Plan, shall attend the preconstruction meeting. Permittees, Co-permittees, Operators and Licensed Professionals are responsible for ensuring that all activities on the site comply with the requirements of the permit.

8. SPOIL OR BORROW AREA

An E&S Plan or other authorization meeting the regulatory requirements detailed in 25 Pa. Code § 102.4(b) shall be received and approved by the Department or authorized conservation district and implemented for all spoil and borrow areas, regardless of their location.

Clean Fill Requirements

Any person placing clean fill that has been affected by a spill or release of a regulated substance must use Department Form FP-001 (Certification of Clean Fill) to certify the origin of the fill material and the results of the analytical testing to qualify the materials as clean fill. The form must be retained by the owner of the property receiving the fill. Fill material not qualifying as clean fill is regulated fill and must be managed in accordance with the Department's municipal or residual waste regulations based on 25 Pa. Code Chapters 271 or 287, whichever is applicable.

9. PHASED PROJECTS

Prior to the commencement of earth disturbance activities for subsequent phases of the project, the permittee or co-permittee shall submit an E&S Plan and PCSM Plan and supporting information for each additional phase or portion of the project to the Department or authorized conservation district for approval. Coverage under this permit is only granted for those phases or portions of a project for which an E&S Plan and PCSM Plan has been submitted and approved by the Department or authorized conservation district.

10. CLARIFICATION ASSISTANCE

The permittee or co-permittee shall contact the Department or authorized conservation district for clarification of any requirements contained in the E&S Plan, PCSM Plan, PPC Plan, or other documents related to this permit.

11. WETLAND PROTECTION

If hydric soils or other wetland features are present, a wetland determination must be conducted in accordance with Department procedures. A copy of the wetland determination should be provided to the Department or authorized conservation district as part of the NOI/application. All wetlands identified must be included on the E&S Plan and PCSM Plan. Special precautions must be taken to protect wetlands and other water resources identified in the NOI, plans, and other supporting documents.

12. INFILTRATION BMPs

Where infiltration BMPs are being utilized, the permittee and co-permittee must ensure that soil compaction is avoided or minimized in those areas. If the areas planned for infiltration BMPs are compromised through compaction or other means, additional soil testing must be performed to verify that the BMP will perform as planned.

13. STABILIZATION

Upon final completion of an earth disturbance activity or any stage or phase of an activity; or temporary cessation of the earth disturbance activity, or any stage or phase of an activity where the cessation of earth disturbance will exceed four (4) days, the project site shall be immediately stabilized in accordance with the requirements of 25 Pa. Code §102.22(a) or (b) (relating to site stabilization), as applicable. E&S BMPs shall be implemented and maintained until permanent stabilization is completed. Once permanent stabilization has been established the

temporary E&S BMPs shall be removed. Any areas disturbed in the act of removing temporary E&S BMPs shall be permanently stabilized upon completion of the temporary E&S BMP removal activity.

14. SEWAGE FACILITIES

Earth disturbance may not commence until all related Act 537 Sewage Facilities Planning approvals have been obtained.

15. LONG-TERM OPERATION AND MAINTENANCE

- a. The permittee or co-permittee shall be responsible for long-term operation and maintenance of PCSM BMPs unless a different person is identified in the NOT and that person has agreed to long-term operation and maintenance of PCSM BMPs.
- b. For any property containing a PCSM BMP, the permittee or co-permittee shall record an instrument with the Recorder of Deeds which will assure disclosure of the PCSM BMP and the related obligations in the ordinary course of a title search of the subject property. The recorded instrument must identify the PCSM BMP, provide for necessary access related to long-term operation and maintenance for PCSM BMPs, and provide notice that the responsibility for long-term operation and maintenance of the PCSM BMPs is a covenant that runs with the land that is binding upon and enforceable by subsequent grantees, and provide proof of filing with the NOT under 25 Pa. Code § 102.8(m)(2).
- c. For Commonwealth owned property, a covenant that runs with the land is not required until the transfer of the land containing a PCSM BMP occurs. Upon transfer of the Commonwealth-owned property containing the PCSM BMP, the deed must comply with 25 Pa. Code § 102.8(m)(3). An agency of the federal government shall not be required to make or record a declaration of covenants on its property until transfer of the property to a non-federal or non-commonwealth entity or individual. Upon transfer of the Commonwealth owned or federally owned property containing the PCSM BMP, the deed must comply with 25 Pa. Code § 102.8(m)(3).
- d. The person responsible for performing long-term operation and maintenance may enter into an agreement with another person, including a conservation district, nonprofit organization, municipality, authority, private corporation, or other person, to transfer the responsibility for PCSM BMPs or to perform long-term operation and maintenance and provide notice thereof to the Department.
- e. A permittee or co-permittee that fails to transfer long-term operation and maintenance of the PCSM BMPs or otherwise fails to comply with this requirement, shall remain jointly and severally responsible with the landowner for long-term operation and maintenance of the PCSM BMPs located on the property.
- f. Unless a later date is approved by the Department in writing, the permittee shall record an instrument as required under 25 Pa. Code Subsection 102.8(m)(2) and condition 15b of this permit within 45 days from the date of issuance of this permit or authorization. Unless the Department authorizes a different procedure, the long-term operation and maintenance plan shall be recorded along with the instrument. Unless a later date is approved by the Department in writing, the permittee shall provide the conservation district and the Department with the date and place of recording along with a reference to the docket, deed book or other record, within 90 days from the date of issuance of this permit or authorization.
- g. Unless an alternative process is approved by the Department in writing, upon the sale or other transfer of any parcel, lot, road or other real property included within the permit boundary, the permittee shall notify the purchaser, grantee, or transferee of the long-term PCSM BMP operation and maintenance requirements. The permittee shall expressly identify the PCSM BMPs on each property, the schedule for inspection and reporting, the person or entity responsible for long-term operation and maintenance of the PCSM BMPs and how access to the BMPs will be achieved and shall obtain approval from the purchaser, grantee or transferee. Unless a later date is approved by the Department in writing, the permittee shall provide the conservation district and the Department with notice of compliance with this section within 45 days from the date of transfer of the property and at the time the permittee files a Notice of Termination.

16. RIPARIAN BUFFER REQUIREMENTS

- a. Persons proposing or conducting earth disturbance activities under this permit may not conduct earth disturbance activities within 150 feet of a perennial or intermittent river, stream, or creek, or lake, pond, or reservoir when the project site is located in an exceptional value or high quality watershed attaining its designated use as listed by the Department at the time of application and shall protect any existing riparian buffer in accordance with Section 102.14(a)(1).
- b. Persons proposing or conducting earth disturbance activities under this permit, where the project is located in an exceptional value or high quality watershed where there are waters failing to attain one or more designated uses as listed in Category 4 or 5 on Pennsylvania's Integrated Water Quality Monitoring and Assessment report, as amended and updated, at the time of application, and the project site contains, is along or within

150 feet of a perennial or intermittent river, stream, or creek, lake, pond, or reservoir shall do one of the following: (1) protect an existing riparian forest buffer, (2) convert an existing riparian buffer to a riparian forest buffer, or (3) establish a new riparian forest buffer.

- c. To qualify as a riparian forest buffer, an existing, converted, or newly established riparian forest buffer, whether mandatory or voluntary, must meet the requirements related to composition, width and management contained in 25 Pa. Code § 102.14(b).
- d. All riparian buffers must meet the following management requirements:
 - (1) ensure that stormwater enters the riparian buffer as sheet flow or shallow concentrated flow during storm events up to and including the 2 year/24 hour storm.
 - (2) Wetlands located in the riparian buffer shall be protected and maintained consistent with Chapter 105 (relating to dam safety and waterway management.)
 - (3) Riparian buffers must be measured horizontally and perpendicularly to the bank with no more than 10% variation below the minimum width from the normal pool elevation for lake, pond or reservoir and from top of streambank.
- e. Activities exempt from riparian buffer requirements are listed in 25. Pa. Code § 102.14(d)(1).
- f. Earth disturbance activities listed under 25 Pa. Code § 102.14(d)(2), may request a waiver of the riparian buffer requirements, upon a demonstration by the applicant that there are reasonable alternatives for compliance, so long as any existing riparian buffer is undisturbed to the extent practicable and the activity will meet all other requirements. Applicants requesting a waiver shall submit a written request for a waiver to the Department or Conservation district. Projects qualifying for a waiver must comply with all other requirements of Chapter 102.
- g. Riparian forest buffers meeting all regulatory requirements will prevent thermal impacts and are a nondischarge alternative. Credits may be available for trading or offsets in accordance with any procedures established by the Department or any regulations related to trading or offsetting developed under the Title 25 of the Pennsylvania Code regulations.
- h. The following practices and activities are prohibited within the riparian buffer:
 - (1) Soil disturbance by grading, stripping of topsoil, plowing, cultivating or other practices except as allowed in paragraph 102.14(j)(1).
 - (2) Draining by ditching, underdrains or other drainage systems.
 - (3) Housing, grazing or otherwise maintaining animals for agricultural or commercial purposes.
 - (4) Storing or stockpiling materials.
 - (5) Off- road vehicular travel.
- i. The following practices and activities are allowable in the riparian buffer when authorized by the Department:
 - (1) Construction or placement of roads, bridges, trails, storm drainage, utilities or other structures.
 - (2) Water obstructions or encroachments.
 - (3) Restoration projects.
- j. The following practices and activities are allowed within the riparian buffer:
 - (1) Activities or practices used to maintain the riparian buffer including the disturbance of existing vegetation, and tree and shrub removal, as needed to allow for natural succession of native vegetation and protection of public health and safety.
 - (2) Timber harvesting activities in accordance with the riparian forest buffer management plan as part of the PCSM Plan.
 - (3) Passive or low impact recreational activities so long as the functioning of the riparian buffer is maintained.
 - (4) Emergency response and other similar activities.
 - (5) Research and data collection activities, which may include water quality monitoring and stream gauging.
- k. Permittees and co-permittees who protect an existing riparian buffer or convert or establish a riparian buffer shall provide permanent protection for the riparian buffer which must be protected in perpetuity through deed restriction, conservation easement, local ordinance, permit conditions or any other mechanisms that ensure the long term functioning and integrity of the riparian buffer as a PCSM BMP. The boundary limit of the riparian buffer must be identified and clearly marked.

- I. Permittees and co-permittees who protect an existing riparian buffer or convert or establish a riparian buffer shall complete data forms provided by the Department and submit the forms to the Department or Conservation district within one year of establishment or protection.

17. MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) MCM FULFILLMENT

MS4s subject to PAG-13 permit coverage requirements may choose to rely on Pennsylvania's Chapter 102 permitting program and this permit to satisfy their MS4 NPDES permit obligations related to their MCM 4 (Construction) and MCM 5 (Post Construction), BMPs 1 through 3 obligations as part of a qualified local program.



**NOTICE OF TERMINATION FOR
A GENERAL OR INDIVIDUAL NATIONAL POLLUTANT DISCHARGE ELIMINATION
SYSTEM PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH
CONSTRUCTION ACTIVITIES**

- OR -

AN EROSION AND SEDIMENT CONTROL PERMIT

- OR -

**AN EROSION AND SEDIMENT CONTROL GENERAL PERMIT FOR EARTH DISTURBANCE
ASSOCIATED WITH OIL AND GAS EXPLORATION, PRODUCTION, PROCESSING OR
TREATMENT OPERATIONS OR TRANSMISSION FACILITIES**

Regulatory Requirement: This form serves to fulfill the obligations referenced in 25 PA Code §102.7 (related to Permit Termination).

Applicability: A permittee or co-permittee presently covered under an Individual National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges Associated with Construction Activities, the General NPDES Permit for Stormwater Discharges Associated with Construction Activities (PAG-02), an Erosion and Sediment Control Permit (ESCP), or an Erosion and Sediment Control General Permit for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities (ESCGP) shall submit this Notice of Termination (NOT) form to the Department of Environmental Protection (Department) or conservation district for permits submitted *after November 19, 2010*.

Per 25 PA Code §102.7, the NOT form is to be submitted once the following have been achieved: permanent stabilization, per 25 PA Code §102.22(a)(2), of earth disturbance activities; removal of all erosion and sediment control best management practices (BMPs) per the approved Erosion and Sediment Control Plan; and, implementation of post construction stormwater management (PCSM) BMPs per the approved PCSM Plan or site restoration/reclamation via the approved Reclamation/Restoration Plan.

A copy of the project's record drawings/as-builts shall be attached to this NOT. The permittee shall retain a copy of the record drawings/as-builts and shall also provide a copy, as part of the approved PCSM Plan, to the person(s) identified in Appendix B, as being responsible for the long-term operation and maintenance of the PCSM BMP(s). Additional copies of this NOT and record drawings/as-builts shall also be provided to the local municipality.

1.	<p>PERMIT INFORMATION:</p> <p>Permit No.: _____</p>												
2.	<p>EARTH DISTURBANCE SITE LOCATION:</p> <p>Facility/Development Name: _____</p> <p>Address: _____</p> <p>Municipality: _____ County: _____</p> <p>Latitude: ____°/ ____'/ ____" Longitude: ____°/ ____'/ ____"</p> <p>U.S.G.S. Quad Map Name: _____</p>												
3.	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center; vertical-align: top; padding-bottom: 5px;">PERMITTEE</td> <td style="width: 50%; text-align: center; vertical-align: top; padding-bottom: 5px;">CO-PERMITTEE</td> </tr> <tr> <td style="padding: 5px;">Name: _____</td> <td style="padding: 5px;">Name: _____</td> </tr> <tr> <td style="padding: 5px;">Address: _____</td> <td style="padding: 5px;">Address: _____</td> </tr> <tr> <td style="padding: 5px;">City: _____</td> <td style="padding: 5px;">City: _____</td> </tr> <tr> <td style="padding: 5px;">State: _____ Zip Code: _____</td> <td style="padding: 5px;">State: _____ Zip Code: _____</td> </tr> <tr> <td style="padding: 5px;">Telephone Number: _____</td> <td style="padding: 5px;">Telephone Number: _____</td> </tr> </table>	PERMITTEE	CO-PERMITTEE	Name: _____	Name: _____	Address: _____	Address: _____	City: _____	City: _____	State: _____ Zip Code: _____	State: _____ Zip Code: _____	Telephone Number: _____	Telephone Number: _____
PERMITTEE	CO-PERMITTEE												
Name: _____	Name: _____												
Address: _____	Address: _____												
City: _____	City: _____												
State: _____ Zip Code: _____	State: _____ Zip Code: _____												
Telephone Number: _____	Telephone Number: _____												
4.	<p>LONG-TERM OPERATION AND MAINTANENCE AND RESTORATION/RECLAMATION:</p> <p>This project involves: (check the appropriate box)</p> <p><input type="checkbox"/> - Installation and subsequent long-term operation and maintenance of PCSM BMPs.</p> <p>OR</p> <p><input type="checkbox"/> - Restoration or reclamation activities per 25 PA Code §102.8(n).</p> <p><i>Note: For projects solely involving restoration or reclamation activities, proceed to Section 7.</i></p>												
5.	<p>FINAL CERTIFICATION OF LICENSED PROFESSIONAL:</p> <p>This section is to be completed by the licensed professional who was onsite and responsible during critical stages of implementation associated with the approved PCSM Plan. The licensed professional is also to complete Appendix A.</p> <p><i>I, _____, do hereby certify pursuant to the penalties of 18 Pa. C.S.A. § 4904 to the best of my knowledge, information and belief, that the accompanying record drawings accurately reflect the as-built conditions, are true and correct, and are in conformance with Chapter 102 of the rules and regulations of the Department of Environmental Protection and that the project site was constructed in accordance with the approved PCSM Plan, all approved plan changes and accepted construction practices.</i></p> <p><i>Name and Official Title of Licensed Professional</i></p> <p>_____</p> <p>_____</p> <p>Signature: _____</p>												

6. PROOF OF INSTRUMENT FILING WITH THE RECORDER OF DEEDS OFFICE:

Per 25 PA Code §102.8(m)(2), the instrument will assure disclosure of the PCSM BMP(s) and the related obligations in the ordinary course of a title search of the subject property. The recorded instrument must identify the PCSM BMP(s), provide for the necessary access related to long-term operation and maintenance of the PCSM BMP(s) and provide notice that the responsibility for long-term operation and maintenance of the PCSM BMP(s) is a covenant that runs with the land that is binding upon and enforceable by subsequent grantees.

For either Commonwealth or federally-owned property, a covenant that runs with the land is not required until the transfer of the land containing the PCSM BMP(s) occurs. Upon said transfer, the deed must then comply with 25 PA Code § 102.8(m)(2).

a. Is the project on Commonwealth or federally-owned property? Yes No

If the answer to question a. above, is Yes, proceed to Section 7. If the project is not on Commonwealth or federally-owned property, continue with this Section and attach copies of the notice provided to all landowners who have bought, accepted ownership or other legal responsibility for parcels containing PCSM BMPs. In addition, as required by 25 PA Code §102.7 (b)(5), a copy of the Recorder of Deeds Office receipt must be attached to this NOT as proof of instrument filing along with completed Appendices A and B.

I certify, under penalty of law, that I have recorded an instrument with the Recorder of Deeds Office which will assure disclosure of the PCSM BMP(s) and the related obligations in the ordinary course of a title search of the subject property, and which meets the requirements of 25 PA Code §102.8(m)(2).

Name and Official Title of person listed under Section 3:

Signature: _____

7. **Permit Termination Certification:**

This Section is to be completed by the person listed in Section 3 and, when applicable, Section 6.

I, _____, certify under penalty of law that permanent stabilization, under 25 PA Code §102.22(a)(2), of the earth disturbance activities has occurred and either the installation of BMPs in accordance with an approved plan prepared and implemented per §§ 102.4 and 102.8 (relating to erosion and sediment control requirements; and PCSM requirements) has occurred or all approved restoration/reclamation activities have been completed. I understand that by submitting this NOT, I am no longer authorized to conduct earth disturbance activities under the referenced permit and that discharging stormwater from earth disturbance activities to waters of the Commonwealth is unlawful where the discharge is not authorized by a permit. I also understand that the submittal of this NOT does not release a permittee or co-permittee from liability for any violations of the permit, the federal Clean Water Act (if applicable), the Pennsylvania Clean Streams Law and the rules and regulations promulgated thereunder, or from liability for any environmental damages occurring as a result of any earth disturbance activities conducted at the site. I understand that there are significant penalties for submitting false information, including possible fines and imprisonment for knowing violations.

Name and Official Title of person listed under Section 3 and, when applicable, Section 6:

Signature: _____

Acknowledgement:

Commonwealth of Pennsylvania
County of _____

On this, the _____ day of _____, 20____, before me, a Notary Public, personally appeared _____, having a title of _____ within the business entity of _____, known to me (or satisfactorily proven) to be the person whose name is subscribed to the foregoing document, and acknowledged that he/she executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and notarial seal.

NOTARY SEAL

Notary Public My Commission Expires: _____

APPENDIX A

Summary Table of Installed PCSM BMPs

Check all applicable PCSM BMPs that have been installed or will be implemented as part of the approved PCSM Plan along with their associated function(s).

Note: VC = Volume Control, RC = Rate Control and WQ = Water Quality

BMP	Function(s)			No. of BMPs	Total Acres Treated	Total Volume Treated
<input type="checkbox"/> Wet Ponds	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Constructed Wetlands	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Retention Basins	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Detention Basins	<input type="checkbox"/> VC	<input type="checkbox"/> RC				
<input type="checkbox"/> Underground Detention	<input type="checkbox"/> VC	<input type="checkbox"/> RC				
<input type="checkbox"/> Dry Extended Detention Basin	<input type="checkbox"/> VC	<input type="checkbox"/> RC				
<input type="checkbox"/> Sediment Fore Bay	<input type="checkbox"/> VC		<input type="checkbox"/> WQ			
<input type="checkbox"/> Infiltration Trench	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Infiltration Berm/Retentive Grading	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Subsurface Infiltration Bed	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Infiltration Basin	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Pervious Pavement	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Dry Well/Seepage Pit	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Bio-Infiltration Areas	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Rain Gardens/Bio-Retention	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Vegetated Swales	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Constructed Filters	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Protect Sensitive & Special Value Features	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Protect/Convert/Establish Riparian Buffers	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Restoration: Buffers/Landscape/Floodplain	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Disconnection From Storm Sewers	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Rooftop Disconnections	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Vegetated Roofs	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Runoff Capture/Reuse	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Oil/Grit Separators			<input type="checkbox"/> WQ			
<input type="checkbox"/> Water Quality Inserts/Inlets			<input type="checkbox"/> WQ			
<input type="checkbox"/> Street Sweeping			<input type="checkbox"/> WQ			
<input type="checkbox"/> Soil Amendment/Soil Restoration	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Other	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Other	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			
<input type="checkbox"/> Other	<input type="checkbox"/> VC	<input type="checkbox"/> RC	<input type="checkbox"/> WQ			

APPENDIX B

Person(s) Responsible for Long-Term Operation and Maintenance of PCSM BMPs:					
Statement: I understand and agree with the long-term operation and maintenance responsibilities outlined in the new property owner notification form or other landowner notice and as they apply to the PCSM BMP(s) on the property I am purchasing.					
Name	Signature	Phone #	Address	Responsible for the Following PCSM BMPs	Location, including Latitude and Longitude, of each PCSM BMP

Attach additional Appendix B Forms as needed.

Page ____ of ____



VISUAL SITE INSPECTION REPORT

Note: It is a condition of National Pollutant Discharge Elimination System and Erosion and Sediment permits that a maintenance program be conducted to provide for the operation and maintenance of all BMPs to be inspected on a weekly basis and after each stormwater event. Please list in the space provided comments to note if repairs or replacement are needed or have been made for BMPs as a result of the inspection. Failure to conduct the required inspection may result in permit suspension or the imposition of civil penalties. If supplemental monitoring is required as part of a permit condition this form may be used to meet those monitoring requirements.

Project Site Name: _____ Date: _____ Inspection #: _____

Time: _____ Weather: _____

Permit #: _____ Photos Taken: Yes No

Inspector/Title: _____

Municipality(s): _____

County(s): _____

Inspection Type (check one): Weekly Stormwater Event

- | | | |
|---|--------------------------|--------------------------|
| | Y | N |
| 1. Are the approved (Stamped) E & S plan and PCSM plan present on site? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Are there activities occurring outside of the limits of disturbance shown on the plan drawings?
(If yes, notify conservation district and explain.) | <input type="checkbox"/> | <input type="checkbox"/> |

- | | | |
|---|--------------------------|--------------------------|
| 3. Is Construction Sequence being followed?
(If No, notify conservation district and explain.) | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|

4. E & S BMPs (List BMPs and note if installed and maintained as per the plan.)	Y	N		
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>

Were repairs/maintenance/replacement BMPs necessary (if so, describe): _____

5. **Site Conditions**

- Sediment Discharge is occurring to waters or wetlands from earth disturbance activity? Y N
- Stabilization of inactive disturbed areas, stockpiles, or at final grade? (exceeding 4 days inactive) Y N
- Are slopes 3:1 and greater stabilized with appropriate BMPs? Y N

6. **PCSM BMPs**

Are areas intended for PCSM BMPs being protected from compaction? Y N

PCSM BMPs (List BMPs and note if installed and maintained as per the plan.)

	Y	N		Y	N
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>

Were repairs/maintenance/replacement BMPs necessary (if so, describe): _____

7. Department/Conservation District has been notified within 24 hours of non-compliance, including discharge to waters or wetlands? Y N

8. Identify all remedial measures that have been taken or will be taken on this site.

Inspector's Signature: _____ Date: _____

Company Name: _____

Attach additional sheets for comments/repairs/remedial measures if necessary.



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERWAYS ENGINEERING AND WETLANDS

OFFICIAL USE ONLY
PA _____

**TRANSFeree/CO-PERMITTEE APPLICATION FOR A GENERAL OR
INDIVIDUAL NPDES PERMIT FOR STORMWATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

TYPE OR PRINT IN BLOCK LETTERS

A. PERMIT INFORMATION				
<input type="checkbox"/> Check here if applying for permit transfer.		<input type="checkbox"/> Check here if applying to be added as a co-permittee.		
GENERAL OR INDIVIDUAL NPDES PERMIT FOR DISCHARGES OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES FOR WHICH APPLYING AS TRANSFEREE/CO-PERMITTEE.				
PERMIT NO.: _____		DATE ISSUED: _____		
B. CURRENT PERMITTEE INFORMATION				
DEP Client ID# (if known)		Applicant Type / Code (if known)		
Organization Name or Registered Fictitious Name		Employer ID# (EIN)	Contact Person	
Individual Last Name	First Name	MI	Suffix	
Additional Individual Last Name	First Name	MI	Suffix	
Mailing Address Street				
City	State	ZIP+4	County	Phone
C. SITE INFORMATION				
DEP Site ID# (if known)		Site Name		
DEVELOPMENT NAME (IF APPLICABLE):				
SITE ADDRESS/LOCATION:				
COUNTY: _____		MUNICIPALITY: _____		
DATE OF TRANSFER OF PERMIT RESPONSIBILITY, COVERAGE AND LIABILITY: _____, 20____				
CO-PERMITTEE/TRANSFEREE AGREEMENT: Attach a written agreement signed by all parties involved with the change of operational control. The letter should provide a specific date (not less than 30 days after the date this application is submitted) for the transfer or sharing of permit responsibility, coverage, and liability between the current and new permittee/co-permittee. A SAMPLE Co-Permittee Agreement letter and a SAMPLE Transferee Agreement letter are attached for reference.				

D. TRANSFEREE/CO-PERMITTEE INFORMATION				
DEP Client ID# (if known)		Applicant Type / Code (if known)		
Organization Name or Registered Fictitious Name		Employer ID# (EIN)	Contact Person	
Individual Last Name	First Name	MI	Suffix	
Additional Individual Last Name	First Name	MI	Suffix	
Mailing Address Street				
City	State	ZIP+4	County	Phone

E. COMPLIANCE REVIEW				
Yes <input type="checkbox"/>	No <input type="checkbox"/>	Does the applicant (owner and/or operator) have or require other environmental permits issued by the Department for this project? If yes, list each permit and the compliance history of the permitted facility or operation.		
		Permit Program:	_____	
		Permit Number:	_____	
		Brief Description:	_____	
		Compliance History:	_____	
<p>If the applicant is not in compliance with any environmental law or regulation, or Department permit, order or schedule of compliance, or has failed and continues to fail to comply, or has shown a lack of ability or intent to comply with environmental laws or regulations or any Department permit, order, or schedule of compliance, as indicated by past or continuing violations, provide a narrative description of how the applicant will achieve compliance including the appropriate milestones.</p>				

F. CERTIFICATION AND SIGNATURE OF APPLICANT	
<u>Applicant Certification</u>	
<p>I certify under penalty of law that this application and all related attachments were prepared by me or under my direction or supervision by qualified personnel to properly gather and evaluate the information submitted. Based on my own knowledge and on inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. The responsible official's signature also verifies that the activity is eligible to participate in the General or Individual NPDES Permit, and BMPs and other controls are or will be implemented to ensure that water quality standards and effluent limits are attained. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment or both for knowing violations.</p>	

Print Name and Title of Person Signing	
() _____	
Telephone Number of Person Signing	

Signature of Applicant	

Date of Application Signed	
Notarization:	Commonwealth of Pennsylvania
Sworn to and Subscribed to Before Me This	County of _____
_____ Day of _____, 20_____	
_____	My Commission Expires: _____
Notary Public	

**NOTARY
SEAL**

**CO-PERMITTEE AGREEMENT
ASSUMPTION OF RESPONSIBILITY UNDER A GENERAL OR
INDIVIDUAL NPDES PERMIT FOR STORMWATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

_____ (Permit Number)

_____ (Name of Facility/Project)

_____ (Municipality)
_____ (County)

The following parties agree to a change in ownership and/or operational control under the above referenced permit effective _____ (date) _____

_____ (New Co-Permittee name and address) hereby assumes joint and severable responsibility, coverage, and liability under the permit for any obligations, duties, responsibilities and violations under said permit. _____ (Current Permittee) shall remain liable under the permit for violations of the permit conditions up to and including the above referenced date AND until a Notice of Termination is filed and acknowledged by the (Conservation District OR DEP Regional Office).

[The following paragraph should be used for multiple co-permittees.]

Attached is a description of site responsibilities and a map or plan drawing depicting the limits of permit responsibility, coverage, and liability for each co-permittee.

_____ (Current Permittee(s))
(Company Name, if applicable)

_____ (New Co-permittee(s))

INSTRUCTIONS FOR THE TRANSFeree/CO-PERMITTEE APPLICATION FORM FOR A GENERAL OR INDIVIDUAL NPDES PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

Who may file the Transferee/Co-Permittee Application Form: This form may be used by an applicant seeking to apply for either complete or partial operational control of earth disturbance activities at a site which are already authorized by either an Individual or General NPDES Permit. Federal NPDES Regulations at 40 C.F.R. §122.21(b) require that Operator(s) must become a permittee. An operator is a person who meets either of the following criteria: 1.) You have operational control of construction project plans and specifications, including the ability to make modifications to those plans and specifications; OR 2.) You have day-to-day operational control (supervision) of those activities at the project that are necessary to ensure compliance with the Erosion and Sediment Control Plan for the site or ensure compliance with other permit conditions, i.e., General Contractors. Subcontractors generally do not have supervisory control over earth disturbance activities and therefore usually should not become a permittee or co-permittee. If prior to construction activities, there is no operator, the owner must apply for the permit. Once the operator has been selected, the operator must use this application either to be made a co-permittee or to have the permit transferred to the contractor. **Failure of the operator to be added to the permit is a violation of federal and state law and regulation.**

Where to file the Transferee/Co-Permittee Application Form: Send this form to the reviewing entity, either to the local county conservation district that is participating as the reviewing entity or, if the Department is the reviewing entity, to the appropriate DEP Regional Office, Permitting and Technical Services Section.

When to file the Application: This application must be filed at least 30 days prior to the proposed change of ownership and/or operational control which will result in the transfer of permit responsibility, coverage and liability.

Completing the Application: TYPE OR PRINT IN BLOCK LETTERS IN THE APPROPRIATE SPACES

- Section A. Permit Information** - Check the appropriate box and enter the Permit Number and date of issuance of the existing Individual or General NPDES Permit assigned to the construction activity at the site identified in Section C below.
- Section B. Current Permittee Information** - Enter the full name, address and telephone number of the individual or organization and contact person that is the current permittee. The Regional Office can supply the Client ID # and Applicant Code, if known.
- Section C. Site Information** - Enter the DEP Site ID#, site name, site address/location, county and municipality of the site where the construction activity authorized by the NPDES Permit is located. Include the date on which the transfer of Permit responsibility, coverage and liability will occur. The Regional Office can supply the Site ID #.
- Section D. Transferee/Co-Permittee Information** - Enter the full name, address and telephone number of the individual or organization and contact person that is applying to assume operational control of construction activities at the site. The Regional Office can supply the Client ID # and Applicant Code, if known.
- Section E. Compliance Review** - The individual or organization referenced in Section D must indicate if any other environmental permits have been received or are pending from DEP as well as their past compliance history and if they are currently in compliance with environmental laws, rules and regulations, permits, orders and schedules of compliance.
- Section F. Certification and Signature of Applicant** - The new Transferee/Co-Permittee Applicant (named in Section D) must complete the required certification that the information contained in this application is true, accurate, and complete; the BMPs are or will be designed and fully implemented in accordance with the NPDES Permit requirements and will meet the applicable standards and limitations of the permit; and further that the applicant has read, understands and agrees to abide by the terms and conditions of the permit. The application shall be signed as follows:
- a. **For a corporation** - By a responsible corporate officer, which means: (1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (2) The manager of one or more manufacturing, production or operating facilities if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. **For a partnership or sole proprietorship** - By a general partner or the proprietor, respectively; or
 - c. **For a municipality, State, Federal or other public agency** - by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

The application shall be notarized in the space provided.

ATTACHMENT D

**NORFOLK SOUTHERN RAILROAD –
SPECIAL PROVISION FOR PROTECTION OF RAILWAY INTERESTS**

RECEIVED

JUL 14 2016

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

E. Norfolk Southern – Special Provisions for Protection of Railway Interests

1. AUTHORITY OF RAILROAD ENGINEER AND SPONSOR ENGINEER:

Norfolk Southern Railway Company, hereinafter referred to as "Railroad", and their authorized representative shall have final authority in all matters affecting the safe maintenance of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks. For Public Projects impacting the Railroad, the Railroad's Public Projects Engineer, hereinafter referred to as "Railroad Engineer", will serve as the authorized representative of the Railroad.

The authorized representative of the Project Sponsor ("Sponsor"), hereinafter referred to as the "Sponsor's Engineer", shall have authority over all other matters as prescribed herein and in the Project Specifications.

The Sponsor's Prime Contractor, hereinafter referred to as "Contractor" shall be responsible for completing any and all work in accordance with the terms prescribed herein and in the Project Specifications. These terms and conditions are subject to change without notice, from time to time in the sole discretion of the Railroad. Contractor must request from Railroad and follow the latest version of these provisions prior to commencing work.

2. NOTICE OF STARTING WORK:

A. The Contractor shall not commence any work on railroad rights-of-way until he has complied with the following conditions:

1. Signed and received a fully executed copy of the required Norfolk Southern Contractor Right of Entry Agreement.
2. Given the Railroad written notice in electronic format to the Railroad Engineer, with copy to the Sponsor's Engineer who has been designated to be in charge of the work, at least ten days in advance of the date he proposes to begin work on Railroad rights-of-way.
3. Obtained written approval from the Railroad of Railroad Protective Liability Insurance coverage as required by paragraph 14 herein. It should be noted that the Railroad does not accept notation of Railroad Protective insurance on a certificate of liability insurance form or Binders as Railroad must have the full original countersigned policy. Further, please note that mere receipt of the policy is not the only issue but review for compliance. Due to the number of projects system-wide, it typically takes a minimum of 30-45 days for the Railroad to review.
4. Obtained Railroad's Flagger Services as required by paragraph 7 herein.
5. Obtained written authorization from the Railroad to begin work on Railroad's rights-of-way, such authorization to include an outline of specific conditions with which he must comply.
6. Furnished a schedule for all work within the Railroad's rights-of-way as required by paragraph 7.B.1.

- B. The Railroad's written authorization to proceed with the work shall include the names, addresses, and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

3. INTERFERENCE WITH RAILROAD OPERATIONS:

- A. The Contractor shall so arrange and conduct his work that there will be no interference with Railroad's operations, including train, signal, telephone and telegraphic services, or damage to the property of the Railroad or to poles, wires, and other facilities of tenants on the rights-of-way of the Railroad. Whenever work is liable to affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor which requires flagging service or inspection service shall be deferred by the Contractor until the flagging service or inspection service required by the Railroad is available at the job site.
- B. Whenever work within Railroad's rights-of-way is of such a nature that impediment to Railroad's operations such as use of runaround tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct his operations so that such impediment is reduced to the absolute minimum.
- C. Should conditions arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of the Railroad, the Contractor shall make such provisions. If in the judgment of the Railroad Engineer, or in his absence, the Railroad's Division Engineer, such provisions is insufficient, either may require or provide such provisions as he deems necessary. In any event, such unusual provisions shall be at the Contractor's expense and without cost to the Railroad or the Sponsor.
- D. "One Call" Services do not locate buried Railroad utilities. The contractor shall contact the Railroad's representative 2 days in advance of work at those places where excavation, pile driving, or heavy loads may damage the Railroad's underground facilities. Upon request from the Contractor or Sponsor, Railroad forces will locate and paint mark or flag the Railroad's underground facilities. The Contractor shall avoid excavation or other disturbances of these facilities. If disturbance or excavation is required near a buried Railroad facility, the contractor shall coordinate with the Railroad to have the facility potholed manually with careful hand excavation. The facility shall be protected by the Contractor during the course of the disturbance under the supervision and direction of the Railroad's representative.

4. TRACK CLEARANCES:

- A. The minimum track clearances to be maintained by the Contractor during construction are shown on the Project Plans. If temporary clearances are not shown on the project plans, the following criteria shall govern the use of falsework and formwork above or adjacent to operated tracks.
 - 1. A minimum vertical clearance of 22'-0" above top of highest rail shall be maintained at all times.
 - 2. A minimum horizontal clearance of 13'-0" from centerline of tangent track or 14'-0" from centerline of curved track shall be maintained at all times. Additional horizontal

clearance may be required in special cases to be safe for operating conditions. This additional clearance will be as determined by the Railroad Engineer.

3. All proposed temporary clearances which are less than those listed above must be submitted to Railroad Engineer for approval prior to construction and must also be authorized by the regulatory body of the State if less than the legally prescribed clearances.
4. The temporary clearance requirements noted above shall also apply to all other physical obstructions including, but not limited to: stockpiled materials, parked equipment, placement or driving of piles, and bracing or other construction supports.

B. Before undertaking any work within Railroad right-of-way, and before placing any obstruction over any track, the Contractor shall:

1. Notify the Railroad's representative at least 72 hours in advance of the work.
2. Receive assurance from the Railroad's representative that arrangements have been made for flagging service as may be necessary.
3. Receive permission from the Railroad's representative to proceed with the work.
4. Ascertain that the Sponsor's Engineer has received copies of notice to the Railroad and of the Railroad's response thereto.

5. CONSTRUCTION PROCEDURES:

A. General:

1. Construction work and operations by the Contractor on Railroad property shall be:
 - a. Subject to the inspection and approval of the Railroad Engineer or their designated Construction Engineering Representative.
 - b. In accordance with the Railroad's written outline of specific conditions.
 - c. In accordance with the Railroad's general rules, regulations and requirements including those relating to safety, fall protection and personal protective equipment.
 - d. In accordance with these Special Provisions.
2. Submittal Requirements
 - a. The Contractor shall submit all construction related correspondence and submittals electronically to the Railroad Engineer.
 - b. The Contractor shall allow for 30 days for the Railroad's review and response.
 - c. All work in the vicinity of the Railroad's property that has the potential to affect the Railroad's train operations or disturb the Railroad's Property must be submitted and approved by the Railroad prior to work being performed.

- d. All submittals and calculations must be signed and sealed by a registered engineer licensed in the state of the project work.
- e. All submittals shall first be approved by the Sponsor's Engineer and the Railroad Engineer, but such approval shall not relieve the Contractor from liability.
- f. For all construction projects, the following submittals, but not limited to those listed below, shall be provided for review and approval when applicable:
 - (1) General Means and Methods
 - (2) Ballast Protection
 - (3) Construction Excavation & Shoring
 - (4) Pipe, Culvert, & Tunnel Installations
 - (5) Demolition Procedure
 - (6) Erection & Hoisting Procedure
 - (7) Debris Shielding or Containment
 - (8) Blasting
 - (9) Formwork for the bridge deck, diaphragms, overhang brackets, and protective platforms
 - (10) Bent Cap Falsework. A lift plan will be required if the contractor want to move the falsework over the tracks.
- g. For Undergrade Bridges (Bridges carrying the Railroad) the following submittals in addition to those listed above shall be provided for review and approval:
 - (1) Shop Drawings
 - (2) Bearing Shop Drawings and Material Certifications
 - (3) Concrete Mix Design
 - (4) Structural Steel, Rebar, and/or Strand Certifications
 - (5) 28 day Cylinder Test for Concrete Strength
 - (6) Waterproofing Material Certification
 - (7) Test Reports for Fracture Critical Members
 - (8) Foundation Construction Reports

Fabrication may not begin until the Railroad has approved the required shop drawings.

- h. The Contractor shall include in all submissions a detailed narrative indicating the progression of work with the anticipated timeframe to complete each task. Work will not be permitted to commence until the Contractor has provided the Railroad with a satisfactory plan that the project will be undertaken without scheduling, performance or safety related issues. Submission shall also provide a listing of the anticipated equipment to be used, the location of all equipment to be used and insure a contingency plan of action is in place should a primary piece of equipment malfunction.

B. Ballast Protection

- 1. The Contractor shall submit the proposed ballast protection system detailing the specific filter fabric and anchorage system to be used during all construction activities.

2. The ballast protection is to extend 25' beyond the proposed limit of work, be installed at the start of the project and be continuously maintained to prevent all contaminants from entering the ballast section of all tracks for the entire duration of the project.

C. Excavation:

1. The subgrade of an operated track shall be maintained with edge of berm at least 10'-0" from centerline of track and not more than 24-inches below top of rail. Contractor will not be required to make existing section meet this specification if substandard, in which case existing section will be maintained.
2. Additionally, the Railroad will require the installation of an OSHA approved handrail and orange construction safety fencing for all excavations of the Railroad right-of-way.

D. Excavation for Structures and Shoring Protection:

1. The Contractor will be required to take special precaution and care in connection with excavating and shoring pits, and in driving piles or sheeting for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which they carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material.
2. All plans and calculations for shoring shall be prepared, signed, and sealed by a Registered Professional Engineer licensed in the state of the proposed project, in accordance with Norfolk Southern's Overhead Grade Separation Design Criteria, subsection H.1.6.E-Construction Excavation (Refer to Norfolk Southern Public Projects Manual Appendix H). The Registered Professional Engineer will be responsible for the accuracy for all controlling dimensions as well as the selection of soil design values which will accurately reflect the actual field conditions.
3. The Contractor shall provide a detailed installation and removal plan of the shoring components. Any component that will be installed via the use of a crane or any other lifting device shall be subject to the guidelines outlined in section 5.G of these provisions.
4. The Contractor shall be required to survey the track(s) and Railroad embankment and provide a cross section of the proposed excavation in relation to the tracks.
5. Calculations for the proposed shoring should include deflection calculations. The maximum deflection for excavations within 18'-0" of the centerline of the nearest track shall be 3/8". For all other cases, the max deflection shall not exceed 1/2".
6. Additionally, the Railroad will require the installation of an OSHA approved handrail and orange construction safety fencing for all excavations of the Railroad right-of-way.
7. The front face of shoring located to the closet NS track for all shoring set-ups located in Zone 2 as shown on NS Typical Drawing No. 4 – Shoring Requirements (Appendix I) shall remain in place and be cut off 2'-0" below the final ground elevation. The remaining shoring in Zone 2 and all shoring in Zone 1 may be removed and all voids must be backfilled with flowable fill.

E. Pipe, Culvert, & Tunnel Installations

1. Pipe, Culvert, & Tunnel Installations shall be in accordance with the appropriate Norfolk Southern Design Specification as noted below:
 - a. For Open Cut Method refer to Norfolk Southern Public Projects Manual Appendix H.4.6.
 - b. For Jack and Bore Method refer to Norfolk Southern Public Projects Manual Appendix H.4.7.
 - c. For Tunneling Method refer to Norfolk Southern Public Projects Manual Appendix H.4.8.
2. The installation methods provided are for pipes carrying storm water or open flow run-off. All other closed pipeline systems shall be installed in accordance Norfolk Southern's Pipe and Wire Program and the NSCE-8

F. Demolition Procedures

1. General

- a. Demolition plans are required for all spans over the track(s), for all spans adjacent to the track(s), if located on (or partially on) Railroad right-of-way; and in all situations where cranes will be situated on, over, or adjacent to Railroad right-of-way and within a distance of the boom length plus 15'-0" from the centerline of track.
- b. Railroad tracks and other Railroad property must be protected from damage during the procedure.
- c. A pre-demolition meeting shall be conducted with the Sponsor, the Railroad Engineer or their representative, and the key Contractor's personnel prior to the start of the demolition procedure.
- d. The Railroad Engineer or his designated representative must be present at the site during the entire demolition procedure period.
- e. Existing, obsolete, bridge piers shall be removed to a sufficient depth below grade to enable restoration of the existing/proposed track ditch, but in no case less than 2'-0" below final grade.

2. Submittal Requirements

- a. In addition to the submittal requirements outlined in Section 5.A.2 of these provisions, the Contractor shall submit the following for approval by the Railroad Engineer:
 - (1) A plan showing the location of cranes, horizontally and vertically, operating radii, with delivery or disposal locations shown. The location of all tracks and other Railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must also be shown.

- (2) Rating sheets showing cranes or lifting devices to be adequate for 150% of the actual weight of the pick, including all rigging components. A complete set of crane charts, including crane, counterweight, and boom nomenclature is to be submitted. Safety factors that may have been "built-in" to the crane charts are not to be considered when determining the 150% factor of safety.
- (3) Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the existing structure showing complete and sufficient details with supporting data for the demolition the structure. If plans do not exist, lifting weights must be calculated from field measurements. The field measurements are to be made under the supervision of the Registered Professional Engineer submitting the procedure and calculations.
- (4) The Contractor shall provide a sketch of all rigging components from the crane's hook block to the beam. Catalog cuts or information sheets of all rigging components with their lifting capacities shall be provided. All rigging must be adequate for 150% of the actual weight of the pick. Safety factors that may have been "built-in" to the rating charts are not to be considered when determining the 150% factor of safety. All rigging components shall be clearly identified and tagged with their rated lifting capacities. The position of the rigging in the field shall not differ from what is shown on the final plan without prior review from the Sponsor and the Railroad.
- (5) A complete demolition procedure, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.
- (6) Design and supporting calculations for the temporary support of components, including but not limited to the stability of the superstructure during the temporary condition, temporary girder tie-downs and falsework.

3. Overhead Demolition Debris Shield

- a. The demolition debris shield shall be installed prior to the demolition of the bridge deck or other relevant portions of the superstructure over the track area to catch all falling debris.
- b. The demolition debris shield shall provide a minimum vertical clearance as specified in Section 4.A.1 of these provisions or maintain the existing vertical clearance if the existing clearance is less than that specified in Section 4.A.1.
- c. The Contractor shall include the demolition debris shield installation/removal means and methods as part of the proposed Demolition procedure submission.
- d. The Contractor shall submit the demolition debris shield design and supporting calculations for approval by the Railroad Engineer.

- e. The demolition debris shield shall have a minimum design load of 50 pounds per square foot plus the weight of the equipment, debris, personnel, and other loads to be carried.
- f. The Contractor shall include the proposed bridge deck removal procedure in its demolition means and methods and shall verify that the size and quantity of the demolition debris generated by the procedure does not exceed the shield design loads.
- g. The Contractor shall clean the demolition debris shield daily or more frequently as dictated either by the approved design parameters or as directed by the Railroad Engineer.

4. Vertical Demolition Debris Shield

- a. A vertical demolition debris shield may be required for substructure removals in close proximity to the Railroad's track and other facilities, as determined by the Railroad Engineer.

G. Erection & Hoisting Procedures

1. General

- a. Erection plans are required for all spans over the track(s), for all spans adjacent to the track(s), if located on (or partially on) Railroad right-of-way; and in all situations where cranes will be situated on, over, or adjacent to Railroad right-of-way and within a distance of the boom length plus 15'-0" from the centerline of track.
- b. Railroad tracks and other Railroad property must be protected from damage during the erection procedure.
- c. A pre-erection meeting shall be conducted with the Sponsor, the Railroad Engineer or their representative, and the key Contractor's personnel prior to the start of the erection procedure.
- d. The Railroad Engineer or his designated representative must be present at the site during the entire erection procedure period.
- e. For field splices located over Railroad property, a minimum of 50% of the holes for each connection shall be filled with bolts or pins prior to releasing the crane. A minimum of 50% of the holes filled shall be filled with bolts. All bolts must be appropriately tightened. Any changes to previously approved field splice locations must be submitted to the Railroad for review and approval. Refer to Norfolk Southern's Overhead Grade Separation Design Criteria for additional splice details (Norfolk Southern Public Projects Manual Appendix H.1, Section 4.A.3.).

2. Submittal Requirements

- a. In addition the submittal requirements outlined in Section 5.A.2 of these provisions, the Contractor shall submit the following for approval by the Railroad Engineer:
- (1) As-built beam seat elevations - All as-built bridge seats and top of rail elevations shall be furnished to the Railroad Engineer for review and verification at least 30 days in advance of the erection, to ensure that minimum vertical clearances as approved in the plans will be achieved.
 - (2) A plan showing the location of cranes, horizontally and vertically, operating radii, with delivery or staging locations shown. The location of all tracks and other Railroad facilities as well as all obstructions such as wire lines, poles, adjacent structures, etc. must also be shown.
 - (3) Rating sheets showing cranes or lifting devices to be adequate for 150% of the actual weight of the pick, including all rigging components. A complete set of crane charts, including crane, counterweight, and boom nomenclature is to be submitted. Safety factors that may have been "built-in" to the crane charts are not to be considered when determining the 150% factor of safety.
 - (4) Plans and computations showing the weight of the pick must be submitted. Calculations shall be made from plans of the proposed structure showing complete and sufficient details with supporting data for the erection of the structure. If plans do not exist, lifting weights must be calculated from field measurements. The field measurements are to be made under the supervision of the Registered Professional Engineer submitting the procedure and calculations.
 - (5) The Contractor shall provide a sketch of all rigging components from the crane's hook block to the beam. Catalog cuts or information sheets of all rigging components with their lifting capacities shall be provided. All rigging must be adequate for 150% of the actual weight of the pick. Safety factors that may have been "built-in" to the rating charts are not to be considered when determining the 150% factor of safety. All rigging components shall be clearly identified and tagged with their rated lifting capacities. The position of the rigging in the field shall not differ from what is shown on the final plan without prior review from the Sponsor and the Railroad.
 - (6) A complete erection procedure, including the order of lifts, time required for each lift, and any repositioning or re-hitching of the crane or cranes.
 - (7) Design and supporting calculations for the temporary support of components, including but not limited to temporary girder tie-downs and falsework.

H. Blasting:

1. The Contractor shall obtain advance approval of the Railroad Engineer and the Sponsor Engineer for use of explosives on or adjacent to Railroad property. The request for permission to use explosives shall include a detailed blasting plan. If permission for use of explosives is granted, the Contractor will be required to comply with the following:
 - a. Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the Contractor and a licensed blaster.
 - b. Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way radios.
 - c. No blasting shall be done without the presence of the Railroad Engineer or his authorized representative. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed (see paragraph 2.B) will be required to arrange for the presence of an authorized Railroad representative and such flagging as the Railroad may require.
 - d. Have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting at his expense any track misalignment or other damage to Railroad property resulting from the blasting as directed by the Railway's authorized representative. If his actions result in delay of trains, the Contractor shall bear the entire cost thereof.
 - e. The blasting Contractor shall have a copy of the approved blasting plan on hand while on the site.
 - f. Explosive materials or loaded holes shall not be left unattended at the blast site.
 - g. A seismograph shall be placed on the track shoulder adjacent to each blast which will govern the peak particle velocity of two inches per second. Measurement shall also be taken on the ground adjacent to structures as designated by a qualified and independent blasting consultant. The Railroad reserves the option to direct the placement of additional seismographs at structures or other locations of concern, without regard to scaled distance.
 - h. After each blast, the blasting Contractor shall provide a copy of their drill log and blast report, which includes number of holes, depth of holes, number of decks, type and pounds of explosives used per deck.
 - i. The Railroad may require top of rail elevations and track centers taken before, during and after the blasting and excavation operation to check for any track misalignment resulting from the Contractor's activities.
2. The Railroad representative will:
 - a. Determine approximate location of trains and advise the Contractor the appropriate amount of time available for the blasting operation and clean up.

- b. Have the authority to order discontinuance of blasting if, in his opinion, blasting is too hazardous or is not in accord with these special provisions.
3. The Contractor must hire, at no expense to the Railroad, a qualified and independent blasting consultant to oversee the use of explosives. The blasting consultant will:
 - a. Review the Contractor's proposed drilling and loading patterns, and with the blasting consultant's personnel and instruments, monitor the blasting operations.
 - b. Confirm that the minimum amounts of explosives are used to remove the rock.
 - c. Be empowered to intercede if he concludes that the Contractor's blasting operations are endangering the Railway.
 - d. Submit a letter acknowledging that he has been engaged to oversee the entire blasting operation and that he approves of the blasting plan.
 - e. Furnish copies of all vibration readings to the Railroad representative immediately after each blast. The representative will sign and date the seismograph tapes after each shot to verify the readings are for that specific shot.
 - f. Advise the Railroad representative as to the safety of the operation and notify him of any modifications to the blasting operation as the work progresses.
4. The request for permission to use explosives on the Railroad's Right-of-Way shall include a blasting proposal providing the following details:
 - a. A drawing which shows the proposed blasting area, location of nearest hole and distance to Railway structures, all with reference to the centerline of track.
 - b. Hole diameter.
 - c. Hole spacing and pattern.
 - d. Maximum depth of hole.
 - e. Maximum number of decks per hole.
 - f. Maximum pounds of explosives per hole.
 - g. Maximum pounds of explosives per delay.
 - h. Maximum number of holes per detonation.
 - i. Type of detonator and explosives to be used. (Electronic detonating devices will not be permitted). Diameter of explosives if different from hole diameter.
 - j. Approximate dates and time of day when the explosives are to be detonated.
 - k. Type of flyrock protection.

- l. Type and patterns of audible warning and all clear signals to be used before and after each blast.
- m. A copy of the blasting license and qualifications of the person directly in charge of the blasting operation, including their name, address and telephone number.
- n. A copy of the Authority's permit granting permission to blast on the site.
- o. A letter from the blasting consultant acknowledging that he has been engaged to oversee the entire blasting operation and that he approves of the blasting plan.
- p. In addition to the insurance requirements outlined in Paragraph 14 of these Provisions, A certificate of insurance from the Contractor's insurer stating the amount of coverage for XCU (Explosive Collapse and Underground Hazard) insurance and that XCU Insurance is in force for this project.
- q. A copy of the borings and Geotechnical information or report.

i. Track Monitoring

- 1. At the direction of the Railroad Engineer, any activity that has the potential to disturb the Railroad track structure may require the Contractor to submit a detailed track monitoring program for approval by the Railroad Engineer.
- 2. The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. Railroad reserves the right to modify the survey locations and monitoring frequency as necessary during the project.
- 3. The survey data shall be collected in accordance with the approved frequency and immediately furnished to the Railroad Engineer for analysis.
- 4. If any movement has occurred as determined by the Railroad Engineer, the Railroad will be immediately notified. Railroad, at its sole discretion, shall have the right to immediately require all Contractor operations to be ceased and determine what corrective action is required. Any corrective action required by the Railroad or performed by the Railroad including the monitoring of corrective action of the Contractor will be at project expense.

J. Maintenance of Railroad Facilities:

- 1. The Contractor will be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from his operations and provide and maintain any erosion control measures as required. The Contractor will promptly repair eroded areas within Railroad rights-of-way and repair any other damage to the property of the Railroad or its tenants.
- 2. If, in the course of construction, it may be necessary to block a ditch, pipe or other drainage facility, temporary pipes, ditches or other drainage facilities shall be installed to maintain adequate drainage, as approved by the Railroad Engineer. Upon completion

of the work, the temporary facilities shall be removed and the permanent facilities restored.

3. All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

K. Storage of Materials and Equipment:

1. Materials and equipment shall not be stored where they will interfere with Railroad operations, nor on the rights-of-way of the Railroad without first having obtained permission from the Railroad Engineer, and such permission will be with the understanding that the Railroad will not be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor's expense, such material and equipment.
2. All grading or construction machinery that is left parked near the track unattended by a watchman shall be effectively immobilized so that it cannot be moved by unauthorized persons. The Contractor shall protect, defend, indemnify and save Railroad, and any associated, controlled or affiliated corporation, harmless from and against all losses, costs, expenses, claim or liability for loss or damage to property or the loss of life or personal injury, arising out of or incident to the Contractor's failure to immobilize grading or construction machinery.

L. Cleanup:

1. Upon completion of the work, the Contractor shall remove from within the limits of the Railroad rights-of-way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the Contractor, and leave said rights-of-way in a neat condition satisfactory to the Railroad Engineer or his authorized representative.

6. DAMAGES:

- A. The Contractor shall assume all liability for any and all damages to his work, employees, servants, equipment and materials caused by Railroad traffic.
- B. Any cost incurred by the Railroad for repairing damages to its property or to property of its tenants, caused by or resulting from the operations of the Contractor, shall be paid directly to the Railroad by the Contractor.

7. FLAGGING SERVICES:

A. Requirements:

1. Flagging services will not be provided until the Contractor's insurance has been reviewed & approved by the Railroad.
2. Under the terms of the agreement between the Sponsor and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect its operations. In general, the requirements of such services will be whenever the Contractor's personnel or equipment are or are likely to be, working on the Railroad's right-of-way, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a Railroad structure or the Railroad roadbed or

surface and alignment of any track to such extent that the movement of trains must be controlled by flagging.

3. Normally, the Railroad will assign one flagman to a project; but in some cases, more than one may be necessary, such as yard limits where three (3) flagmen may be required. However, if the Contractor works within distances that violate instructions given by the Railroad's authorized representative or performs work that has not been scheduled with the Railroad's authorized representative, a flagman or flagmen may be required full time until the project has been completed.
4. For Projects exceeding 30 days of construction, Contractor shall provide the flagmen a small work area with a desk/counter and chair within the field/site trailer, including the use of bathroom facilities, where the flagman can check in/out with the Project, as well as to the flagman's home terminal. The work area should provide access to two (2) electrical outlets for recharging radio(s), and a laptop computer; and have the ability to print off needed documentation and orders as needed at the field/site trailer. This should aid in maximizing the flagman's time and efficiency on the Project.

B. Scheduling and Notification:

1. The Contractor's work requiring Railroad flagging should be scheduled to limit the presence of a flagman at the site to a maximum of 50 hours per week. The Contractor shall receive Railroad approval of work schedules requiring a flagman's presence in excess of 40 hours per week.
2. Not later than the time that approval is initially requested to begin work on Railroad right-of-way, Contractor shall furnish to the Railroad and the Sponsor a schedule for all work required to complete the portion of the project within Railroad right-of-way and arrange for a job site meeting between the Contractor, the Sponsor, and the Railroad's authorized representative. Flagman or Flagmen may not be provided until the job site meeting has been conducted and the Contractor's work scheduled.
3. The Contractor will be required to give the Railroad representative at least 10 working days of advance written notice of intent to begin work within Railroad right-of-way in accordance with this special provision. Once begun, when such work is then suspended at any time, or for any reason, the Contractor will be required to give the Railroad representative at least 3 working days of advance notice before resuming work on Railroad right-of-way. Such notices shall include sufficient details of the proposed work to enable the Railroad representative to determine if flagging will be required. If such notice is in writing, the Contractor shall furnish the Engineer a copy; if notice is given verbally, it shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagman, or flagmen are present at the job site. It may take up to 30 days to obtain flagging initially from the Railroad. When flagging begins, the flagman is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, it may take up to 30 days to again obtain from the Railroad. Due to Railroad labor agreements, it is necessary to give 5 working days notice before flagging service may be discontinued and responsibility for payment stopped.

4. If, after the flagman is assigned to the project site, an emergency arises that requires the flagman's presence elsewhere, then the Contractor shall delay work on Railroad right-of-way until such time as the flagman is again available. Any additional costs resulting from such delay shall be borne by the Contractor and not the Sponsor or Railroad.

C. Payment:

1. The Sponsor will be responsible for paying the Railroad directly for any and all costs of flagging which may be required to accomplish the construction.
2. The estimated cost of flagging is the current rate per day based on a 10-hour work day. This cost includes the base pay for the flagman, overhead, and includes a per diem charge for travel expenses, meals and lodging. The charge to the Sponsor by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required.
3. Work by a flagman in excess of 8 hours per day or 40 hours per week, but not more than 12 hours a day will result in overtime pay at 1 and 1/2 times the appropriate rate. Work by a flagman in excess of 12 hours per day will result in overtime at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 and 1/2 times the normal rate.
4. Railroad work involved in preparing and handling bills will also be charged to the Sponsor. Charges to the Sponsor by the Railroad shall be in accordance with applicable provisions of Subchapter B, Part 140, Subpart I and Subchapter G, Part 646, Subpart B of the Federal-Aid Policy Guide issued by the Federal Highway Administration on December 9, 1991, including all current amendments. Flagging costs are subject to change. The above estimates of flagging costs are provided for information only and are not binding in any way.

D. Verification:

1. Railroad's flagman will electronically enter flagging time via Railroad's electronic billing system. Any complaints concerning flagging must be resolved in a timely manner. If the need for flagging is questioned, please contact the Railroad Engineer. All verbal complaints will be confirmed in writing by the Contractor within 5 working days with a copy to the Sponsor's Engineer. Address all written correspondence electronically to Railroad Engineer.
2. The Railroad flagman assigned to the project will be responsible for notifying the Sponsor Engineer upon arrival at the job site on the first day (or as soon thereafter as possible) that flagging services begin and on the last day that he performs such services for each separate period that services are provided. The Sponsor's Engineer will document such notification in the project records. When requested, the Sponsor's Engineer will also sign the flagman's diary showing daily time spent and activity at the project site.

8. HAUL ACROSS RAILROAD TRACK:

- A. Where the plans show or imply that materials of any nature must be hauled across Railroad's track, unless the plans clearly show that the Sponsor has included arrangements for such

haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad's track. The Contractor or Sponsor will be required to bear all costs incidental to such crossings whether services are performed by his own forces or by Railroad personnel.

- B. No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the Railroad unless specific authority for its installation, maintenance, necessary watching and flagging thereof and removal, until a temporary private crossing agreement has been executed between the Contractor and Railroad. The approval process for an agreement normally takes 90 days.

9. WORK FOR THE BENEFIT OF THE CONTRACTOR:

- A. All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the Sponsor and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the Sponsor and/or the Railroad.
- B. Should the Contractor desire any changes in addition to the above, then he shall make separate arrangements with the Railroad for same to be accomplished at the Contractor's expense.

10. COOPERATION AND DELAYS:

- A. It shall be the Contractor's responsibility to arrange a schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging his schedule he shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore.
- B. No charge or claim of the Contractor against either the Sponsor or the Railroad will be allowed for hindrance or delay on account of railroad traffic; any work done by the Railroad or other delay incident to or necessary for safe maintenance of railroad traffic or for any delays due to compliance with these special provisions.

11. TRAINMAN'S WALKWAYS:

- A. Along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 10 feet from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railroad's protective service is provided shall be removed before the close of each work day. If there is any excavation near the walkway, a handrail, with 10'-0" minimum clearance from centerline of track, shall be placed and must conform to AREMA and/or FRA standards.

12. GUIDELINES FOR PERSONNEL ON RAILROAD RIGHT-OF-WAY:

- A. The Contractor and/or the Sponsor's personnel authorized to perform work on Railroad's property as specified in Section 2 above are not required to complete Norfolk Southern Roadway Worker Protection Training; However the Contractor and the Sponsor's personnel must be familiar with Norfolk Southern's standard operating rules and guidelines, should conduct themselves accordingly, and may be removed from the property for failure to follow these guidelines.

- B. All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip-on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots or boots cinched up with straps which fit snugly about the ankle are adequate. Wearing of safety boots is strongly recommended. In the vicinity of at-grade crossings, it is strongly recommended that reflective vests be worn.
- C. No one is allowed within 25' of the centerline of track without specific authorization from the flagman.
- D. All persons working near track while train is passing are to lookout for dragging bands, chains and protruding or shifted cargo.
- E. No one is allowed to cross tracks without specific authorization from the flagman.
- F. All welders and cutting torches working within 25' of track must stop when train is passing.
- G. No steel tape or chain will be allowed to cross or touch rails without permission from the Railroad.

13. GUIDELINES FOR EQUIPMENT ON RAILROAD RIGHT-OF-WAY:

- A. No crane or boom equipment will be allowed to set up to work or park within boom distance plus 15' of centerline of track without specific permission from Railroad official and flagman.
- B. No crane or boom equipment will be allowed to foul track or lift a load over the track without flag protection and track time.
- C. All employees will stay with their machines when crane or boom equipment is pointed toward track.
- D. All cranes and boom equipment under load will stop work while train is passing (including pile driving).
- E. Swinging loads must be secured to prevent movement while train is passing.
- F. No loads will be suspended above a moving train.
- G. No equipment will be allowed within 25' of centerline of track without specific authorization of the flagman.
- H. Trucks, tractors or any equipment will not touch ballast line without specific permission from Railroad official and flagman. Orange construction fencing may be required as directed.
- I. No equipment or load movement within 25' or above a standing train or Railroad equipment without specific authorization of the flagman.

- J. All operating equipment within 25' of track must halt operations when a train is passing. All other operating equipment may be halted by the flagman if the flagman views the operation to be dangerous to the passing train.
- K. All equipment, loads and cables are prohibited from touching rails.
- L. While clearing and grubbing, no vegetation will be removed from Railroad embankment with heavy equipment without specific permission from the Railroad Engineer and flagman.
- M. No equipment or materials will be parked or stored on Railroad's property unless specific authorization is granted from the Railroad Engineer.
- N. All unattended equipment that is left parked on Railroad property shall be effectively immobilized so that it cannot be moved by unauthorized persons.
- O. All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.
- P. Prior to performing any crane operations, the Contractor shall establish a single point of contact for the Railroad flagman to remain in communication with at all times. Person must also be in direct contact with the individual(s) directing the crane operation(s).

14. INSURANCE:

- A. In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, the Prime Contractor will be required to carry insurance of the following kinds and amounts:
 - 1. a. Commercial General Liability Insurance having a combined single limit of not less than \$2,000,000 per occurrence for all loss, damage, cost and expense, including attorneys' fees, arising out of bodily injury liability and property damage liability during the policy period. Said policy shall include explosion, collapse, and underground hazard (XCU) coverage, shall be endorsed to name Railroad specified in item A.2.c. below both as the certificate holder and as an additional insured, and shall include a severability of interests provision.
 - b. Automobile Liability Insurance with a combined single limit of not less than \$1,000,000 each occurrence for injury to or death of persons and damage to or loss or destruction of property. Said policy or policies shall be endorsed to name Railroad specified in item A.2.c. below both as the certificate holder and as an additional insured and shall include a severability of interests provision.
 - 2. Railroad Protective Liability Insurance having a combined single limit of not less than \$2,000,000 each occurrence and \$6,000,000 in the aggregate applying separately to each annual period. If the project involves track over which passenger trains operate, the insurance limits required are not less than a combined single limit of \$5,000,000 each occurrence and \$10,000,000 in the aggregate applying separately to each annual period. Said policy shall provide coverage for all loss, damage or expense arising from bodily injury and property damage liability, and physical damage to property attributed to acts or omissions at the job site.

The standards for the Railroad Protective Liability Insurance are as follows:

a. The insurer must be rated A- or better by A.M. Best Railroad, Inc.
NOTE: NS does not accept from insurers Chartis (AIG or Affiliated Company including Lexington Insurance Company), Hudson Group or ACE or Affiliated Company.

b. The policy must be written using one of the following combinations of Insurance Services Office ("ISO") Railroad Protective Liability Insurance Form Numbers:

- (1) CG 00 35 01 96 and CG 28 31 10 93; or
- (2) CG 00 35 07 98 and CG 28 31 07 98; or
- (3) CG 00 35 10 01; or
- (4) CG 00 35 12 04; or
- (5) CG 00 35 12 07; or
- (6) CG 00 35 04 13.

c. The named insured shall read:

(As named in the Project Agreement with Project Sponsor)
Three Commercial Place
Norfolk, Virginia 23510-2191
Attn: S. W. Dickerson Risk Management

(NOTE: Railroad does not share coverage on RRPL with any other entity on this policy)

d. The description of operations must appear on the Declarations, must match the project description in this agreement, and must include the appropriate Sponsor project and contract identification numbers.

e. The job location must appear on the Declarations and must include the city, state, and appropriate highway name/number. **NOTE: Do not include any references to milepost, valuation station, or mile marker on the insurance policy.**

f. The name and address of the prime Contractor must appear on the Declarations.

g. The name and address of the Sponsor must be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party."

h. Other endorsements/forms that will be accepted are:

- (1) Broad Form Nuclear Exclusion – Form IL 00 21
- (2) 30-day Advance Notice of Non-renewal or cancellation
- (3) Required State Cancellation Endorsement
- (4) Quick Reference or Index Form CL/IL 240

i. Endorsements/forms that are NOT acceptable are:

- (1) Any Pollution Exclusion Endorsement except CG 28 31
- (2) Any Punitive or Exemplary Damages Exclusion
- (3) Known injury or Damage Exclusion form CG 00 59
- (4) Any Common Policy Conditions form
- (5) Any other endorsement/form not specifically authorized in item no. 2.h above.

- B. If any part of the work is sublet, similar insurance, and evidence thereof as specified in A.1 above, shall be provided by or on behalf of the subcontractor to cover its operations on Railroad's right of way.
- C. All insurance required under the preceding subsection A shall be underwritten by insurers and be of such form and content, as may be acceptable to the Company. Prior to entry on Railroad right-of-way, the original Railroad Protective Liability Insurance Policy shall be submitted by the Prime Contractor to the Sponsor at the address below for its review and transmittal to the Railroad. In addition, certificates of insurance evidencing the Prime Contractor's and any subcontractors' Commercial General Liability Insurance shall be issued to the Railroad and the Sponsor at the addresses below, and forwarded to the Department for its review and transmittal to the Railroad. The certificates of insurance shall state that the insurance coverage will not be suspended, voided, canceled, or reduced in coverage or limits without (30) days advance written notice to Railroad and the Sponsor. No work will be permitted by Railroad on its right-of-way until it has reviewed and approved the evidence of insurance required herein.

SPONSOR:

RAILROAD:

Risk Management
Norfolk Southern Railway Company
Three Commercial Place
Norfolk, Virginia 23510-2191

- D. The insurance required herein shall in no way serve to limit the liability of Sponsor or its Contractors under the terms of this agreement.
- E. Insurance Submission Procedures
1. Railroad will only accept initial insurance submissions via US Mail or Overnight carrier to the address noted in C above. Railroad will NOT accept initial insurance submissions via email or faxes. **Please provide point of contact information with the submission including a phone number and email address.**
 2. Railroad requires the following two (2) forms of insurance in the initial insurance submission to be submitted under a cover letter providing details of the project and contact information:
 - a. The full original or certified true countersigned copy of the railroad protective liability insurance policy in its entirety inclusive of all declarations, schedule of forms and endorsements along with the policy forms and endorsements.
 - b. The Contractor's commercial general, automobile, and workers' compensation liability insurance certificate of liability insurance

evidencing a combined single limit of a minimum of \$2M per occurrence of general and \$1M per occurrence of automobile liability insurance naming Norfolk Southern Railway Company, Three Commercial Place, Norfolk, VA 23510 as the certificate holder and as an additional insured on both the general and automobile liability insurance policy.

3. It should be noted that the Railroad does not accept notation of Railroad Protective insurance on a certificate of liability insurance form or Binders as Railroad must have the full original countersigned policy. Further, please note that mere receipt of the policy is not the only issue but review for compliance. Due to the number of projects system-wide, it typically takes a minimum of 30-45 days for the Railroad to review.

15. FAILURE TO COMPLY:

- A. In the event the Contractor violates or fails to comply with any of the requirements of these Special Provisions:
 1. The Railroad Engineer may require that the Contractor vacate Railroad property.
 2. The Sponsor's Engineer may withhold all monies due the Contractor on monthly statements.
- B. Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Sponsor's Engineer.

16. PAYMENT FOR COST OF COMPLIANCE:

- A. No separate payment will be made for any extra cost incurred on account of compliance with these special provisions. All such costs shall be included in prices bid for other items of the work as specified in the payment items.

17. PROJECT INFORMATION

- A. Date: _____
- B. NS File No.: BR0026981
- C. NS Milepost: S1-13.97
- D. Sponsor's Project No.: Bridge No. EB-103 at MP 228.54 over NSRR

ATTACHMENT E

**NORFOLK SOUTHERN RAILROAD –
NON-ENVIRONMENTAL RIGHT OF ENTRY
APPLICATION FORM AND INSTRUCTIONS**

NORFOLK SOUTHERN CORPORATION NON-ENVIRONMENTAL RIGHT OF ENTRY APPLICATION FORM

APPLICANT INFORMATION The Application fee of \$1,250 is enclosed (mail-in applications only). Check # _____

Legal Name of Applicant (party to agreement) _____ Tax ID _____

Mailing Information

Street Address _____

City _____

State _____ Zip _____

Name of Contact _____

Title _____

Phone # (_____) _____ Fax # (_____) _____

E-Mail Address _____

Billing Information (if same leave blank)

Street Address _____

City _____

State _____ Zip _____

Billing Contact _____

Title _____

Phone # (_____) _____ Fax # (_____) _____

E-Mail Address _____

Applicant is a: (Provide state of formation for Corporation and Partnerships, and name of owner for Sole Proprietorship)

<input type="checkbox"/> Corporation- State _____	<input type="checkbox"/> Non-Profit _____	<input type="checkbox"/> Contractor Working Solely for Applicant SubContractor: _____
<input type="checkbox"/> Limited Partnership- State _____	<input type="checkbox"/> Individual _____	
<input type="checkbox"/> General Partnership- State _____	<input type="checkbox"/> Other (specify) _____	
<input type="checkbox"/> Sole Proprietorship - State _____ Owner _____	<input type="checkbox"/> Government Entity- State _____ Gov't Dep't: _____	<input type="checkbox"/> Contractor Working Solely for NS NS Dept: _____

PROPERTY INFORMATION

Location of property Street Address (if applicable) _____ Railroad Milepost _____

Nearest Town _____ County _____ State _____ Latitude/Longitude _____ / _____

Railroad Line Name _____ Division (if known) _____

A sketch of the property you wish to enter is REQUIRED. Provide Lat/Long coordinates if available.

Time period to occupy From ____/____/____ To ____/____/____

Work to be performed is within _____ Ft of the tracks. (If within 25ft of center of the rail, a flagman is required at your expense.)

Applicant's intended purpose for this right-of-entry (be specific) _____

Approximate area of property to be occupied (specify square feet or acres) _____ SQFT _____ AC

Were services to be performed requested by Norfolk Southern Corporation or its subsidiaries? Yes No

Requested by whom? _____

Are there railroad tracks located on the land? Yes No

How will property be accessed? Public road adjacent Across Railroad Property not covered by this license

Across Railroad tracks Other (specify) _____

Are you aware of any existing or former agreements covering this property? Yes No

If yes, provide licensee's name & company _____

Are there any existing improvements (buildings, pavement, fences, billboards, etc.) on the property? Yes No

If yes, specify _____ Who owns them? _____

*I/We understand that submission of this application does not authorize occupation of or entry on the property.
Exact fees and insurance requirements will be forwarded after the application has been reviewed and approved by NS.*

Signed _____

Date ____/____/____



Non-environmental Right of Entry Instructions

Fee Schedule
Non-environmental ROE application review by Norfolk Southern: \$1,250.00

Following are the instructions and forms for applying for right of entry onto Norfolk Southern property. **Submit your application and check for fee payment to the appropriate address.**

1. You must submit a fully completed **Application Form**. Please be sure you provide the complete legal name of the applicant, are explicit in the proposed use of the property, and that you sign the application. Please send the original application to NS and retain a copy for your records.
2. Any **application fees must be paid** at the time of submission of your application. All fees are non-refundable. Please **make your check payable to Norfolk Southern Corporation.**
3. An **exhibit** representing the location of the proposed access of property, with dimensions, should be attached to your application. See the Sample Exhibit provided in this section for an example of what this item should look like, and the kind of information it should include.
4. A **general location map** of the property must also accompany your application. Examples include such data as county highway maps with the location marked, USGS topographical maps with the location marked, or applicable county tax maps with the area highlighted, etc. The proposed leased or licensed property should be highlighted.
5. Please read the **insurance overview** and make certain you can comply with all requirements.
6. **Be sure to submit any attachments** specifically called for with the application such as agreement copies, sketches of the property, or agreements with any NS departments or contractors to enter NS property.

Processing of your application requires NS management review and approval and may involve several departments at NS.

The proposed site may not be used prior to the execution of a separate formal agreement with NS and verification that all insurance requirements have been met. Environmental rights of entry may require fees and information in addition to that required by the application form for approval to enter the property.

Insurance

Each tenant/licensee shall be required to obtain, at its sole cost and expense, various types of insurance coverage with various limits. These insurance coverages must be of a form and be underwritten by insurance companies that meet with the NS' approval. In addition, the tenant/licensee may be required to pay NS a risk-financing fee in certain instances. The types of insurance typically required by NS include:

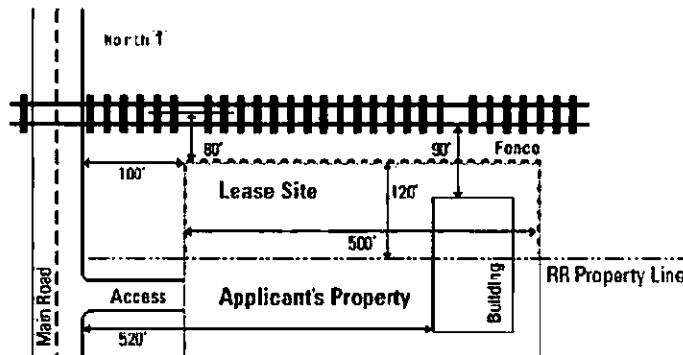
Commercial General Liability Insurance
Worker's Compensation Insurance

Automobile Liability Insurance
Railroad Protective Liability Insurance (during construction or maintenance only)

Norfolk Southern generally requires a policy of Commercial General Liability Insurance with a combined single limit of not less than \$2,000,000 per occurrence for injury to or death of persons and damage to or loss or destruction of property. Specific insurance requirements will be provided to you in the agreement covering your request when it is approved by the Railroad.

Exhibit/Sketch

An exhibit/sketch of the proposed leased property, with dimensions, should accompany all applications. Any planned improvements on the property, with dimensions from the nearest track, should also be depicted. Below is an example of what the sketch might look like, and some of the dimensions it could include.



Try to provide as many details or landmarks that identify the premises as possible. Mileposts generally exist along every mile of the RR and are similar in appearance to the mile markers found along interstates. If you have a GPS (Global Positioning System), please include property latitude and longitude.

If milepost markers are readily accessible or visible on the property, we appreciate your including the details but your safety is our foremost concern.

Maps

Examples include such data as county highway maps with the location marked, USGS topographical maps with the location marked, or applicable county tax maps with the area highlighted, etc. The proposed lease or licensed area should be highlighted. Please indicate which direction is north.

Hazardous Materials

Prohibition of Certain Potentially Environmentally Damaging Operations On Company Property:

Electronics, electrical transformer repair or reconditioning, asbestos manufacturing, blast furnaces, steel works, rolling and finishing mills, smelting and/or refining, wood treatment or tie plants, salvage operations, junk yards, scrap dealers, drum or barrel reconditioners, battery recycling, tire storage or recycling, waste disposal operations of any kind including landfills, surface impoundments and waste piles, incinerators, sewage systems, electroplating operations, fuel blending, waste or used oil recycling or reclamation, explosives disposal, manufacturing or detonation, bulk oil storage or any facility requiring a TSD hazardous waste permit or any hazardous waste transloading facility.

The foregoing list of prohibited activities on company property is not exclusive. All proposed leases, licenses and permits will be carefully evaluated to determine if the proposed activities pose an unreasonable environmental risk.

ATTACHMENT F

NORFOLK SOUTHERN RAILROAD – PRIVATE ROAD CROSSING APPLICATION

RECEIVED

JUL 14 2016

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Private Road Crossing Application

Application Fee: \$500.00 (non-refundable)

Instructions:

Following are the instructions, and forms for applying for a private road crossing on Norfolk Southern property. Please complete the trailing **Private Road Crossing Application** and **required attachments**. Once complete please **email** the entire application package to privatexing@nscorp.com . Each application should contain the following documents:

1. **Private Road Crossing Application:** Complete and sign the attached Private Road Crossing Application. Please be sure to provide the requesting party's complete legal name, a detailed description of the proposed use of the crossing and your signature on the application. A digital signature for this application is acceptable.

2. **Copy of application check:** All applications must be accompanied by an application check per referenced fee above. Please make your checks payable to Norfolk Southern Corporation. Add a scanned copy of the check to the application packages. Send the original check to the following address:


Norfolk Southern Corporation
 Real Estate Department
 Attn: Private Crossing Application
 1200 Peachtree Street, NE, 12th Floor
 Atlanta, Georgia 30309

3. **Exhibit:** We need to know where the crossing is located. Include in your application a completed exhibit highlighting the crossing (i.e. aerial image). Save the exhibit in any standard format (PDF, JPEG) and attach to the email.

If available, applications with the following information are processed more efficiently:

- Property address or closest property address of crossing
- GPS coordinates of the crossing, latitude and longitude
- Railroad Milepost

Example of Email format:

	To...	privatexing@nscorp.com
	Cc...	
	Subject:	Crossing Application, Fred Smith, Dunwoody GA
	Attached:	Crossing Application.pdf (1 MB); Copy of Application Check.pdf (1 MB); Exhibit.pdf (1 MB)

Processing of your application requires NS Transportation review and approval and may also involve several departments at NS. The private road crossing may not be used prior to the execution of a separate formal agreement with NS and verification that all insurance requirements have been met. Please be advised that the application fee of \$500.00 is non-refundable and does not guarantee approval. If private road crossing requires multiple locations additional fees may apply.

Insurance:

Each tenant/licensee shall be required to obtain, at its sole cost and expense, various types of insurance coverage with various limits. These insurance coverage's must be of a form and underwritten by insurance companies that meet with the NS' approval. In certain instances the licensee may be required to pay NS a risk-financing fee. The types of insurance typically required by NS include:

- Commercial General Liability Insurance
- Automobile Liability Insurance
- Worker's Compensation Insurance
- Railroad Protective Liability Insurance (during construction or maintenance only)

Norfolk Southern generally requires a policy of Commercial General Liability Insurance with a combined single limit of not less than \$2,000,000 per occurrence for injury to or death of persons and damage to or loss or destruction of property. Individual and Residential private crossings will be required to have a policy of Personal Liability Insurance with a combined single limit of not less than \$1,000,000 per occurrence of injury to death of persons and damage to or loss or destruction of property. Specific insurance requirements will be provided to you in the agreement covering your request when it is approved by the Railroad.



PRIVATE ROAD CROSSING APPLICATION FORM

APPLICANT INFORMATION: Application fee of \$500 is enclosed along with this form (Mail in completed application to: Norfolk Southern Real Estate Department, 1200 Peachtree Street, NE, 12th Floor, Atlanta, GA 30309)

Legal Name of Applicant (party to agreement) _____ Tax ID _____

Mailing Address Street _____
Street _____
City _____
State _____ Zip _____

Billing Address Street _____
Street _____
City _____
State _____ Zip _____

Name of Contact _____

Billing Contact _____

Title _____

Title _____

Phone # (____) _____ Fax # (____) _____

Phone # (____) _____ Fax # (____) _____

E-Mail Address _____

E-Mail Address _____

Applicant is a (Provide state of formation for Corporation and Partnerships, and name of owner for Sole Proprietorship)

- | | |
|--|--|
| <input type="checkbox"/> Corporation - State _____ | <input type="checkbox"/> Non-Profit _____ |
| <input type="checkbox"/> Limited Partnership - State _____ | <input type="checkbox"/> Individual _____ |
| <input type="checkbox"/> Limited Liability Company - State _____ | <input type="checkbox"/> Other (specify) _____ |
| <input type="checkbox"/> Sole Proprietorship / Owner - State _____ | <input type="checkbox"/> Government Entity - State _____ |

CROSSING INFORMATION:

Location of Crossing:

Nearest Town _____

County _____

State _____

Railroad Milepost Reference _____ ft
 North South East West

Nearest Street _____

Lat/Long (if known) _____

Crossing:

to be constructed already exists
DOT No. _____

If already existing: Are other parties presently using the crossing? Yes No
 If yes, specify: _____
 Are there any agreements covering the crossing? Yes No Do not know
 If yes, identify and attach copies: _____
 Do improvements have to be made at the crossing? Yes No
 If yes, explain: _____

Crossing to be: Temporary Permanent
If temporary, when is it to expire? _____

For what purpose is the crossing to be used? _____

Type of Crossing: Commercial Residential Farm

PRIVATE ROAD CROSSING APPLICATION FORM FOR

Legal Name of Applicant (Tenant): _____ Date: _____

Crossing to be used by: Pedestrians Vehicles Both

If crossing is to be used by vehicles:

List type of vehicles: _____

What is the expected volume of vehicular traffic? _____ vehicles per Day Month

What will be the width of the roadway at the crossing? _____ ft.

Will the crossing be open to the public? Yes No

Will the crossing involve an: Overpass Yes No

Underpass Yes No

Parallel Roadway Yes No

List any additional provisions or conditions not mentioned above: _____

I/We understand that submission of this application does not authorize use of the private road crossing and that all road crossing agreements are contingent upon Transportation approvals. Fees, charges and other requirements will be forwarded to Applicant after the application has been reviewed and approved by Norfolk Southern.

Signed: _____ Date: _____

For Railroad use only:

Milepost: _____

Division: _____

DOT/AAR #: _____

Date Received: _____ Date Forwarded: _____

ATTACHMENT G

PREPAREDNESS, PREVENTION AND CONTINGENCY PLAN REQUIREMENTS

RECEIVED

JUL 14 2015

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

ATTACHMENT H

REVISION TO BULLETIN 27 APPENDIX J

RECEIVED

JUL 14 2016

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

ATTACHMENT J

PUC ORDER

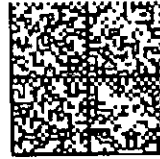
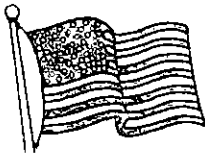
RECEIVED

JUL 14 2016

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU



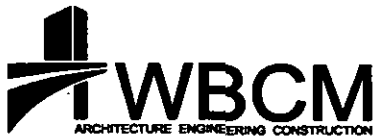
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UNITED STATES POSTAGE
PITNEY BOWES
02 1P \$019.45⁰
0007170153 JUL 14 2016
MAILED FROM ZIP CODE 17050

TM

From



WHITNEY BAILEY COX & MAGNANI, LLC
One Sterling Place
100 Sterling Parkway Suite 108 Mechanicsburg, PA 17050

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
ATTN: ROSEMARY CHIAVETTA
400 NORTH STREET
HARRISBURG PA 17120